DA Form 1 – Development application details

Approved form (version 1.3 effective 28 September 2020) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development (i.e. material change of use, operational work or reconfiguring a lot)**, use this form (*DA Form 1*) **and** parts 4 to 6 of *DA Form 2 – Building work details.*

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008.* For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: *All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).*

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (*individual or company full name*)	Dean Charles Mahoney Marie Frances Mahoney
Contact name *(only applicable for companies)*	Dean Mahoney
Postal address *(P.O. Box or street address)*	4069 Captain Cook Highway
Suburb	Wangetti
State	Queensland
Postcode	4877
Country	Australia
Contact number	0447232666
Email address *(non-mandatory)*	Deantalk@iig.com.au
Mobile number *(non-mandatory)*	As above
Fax number *(non-mandatory)*	N/A
Applicant's reference number(s) *(if applicable)*	N/A

2) Owner's consent
2.1) Is written consent of the owner required for this development application?
☐ Yes – the written consent of the owner(s) is attached to this development application x No – proceed to 3)

PART 2 – LOCATION DETAILS

3) Location of the premises *(complete 3.1) or 3.2), and 3.3) as applicable)*

***Note**: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.*

3.1) Street address and lot on plan

x Street address **AND** lot on plan (*all lots must be listed*), ***or***

☐ Street address **AND** lot on plan for an adjoining or adjacent property of the premises *(appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).*

a)	Unit No.	Street No.	Street Name and Type	Suburb
	-	4069	Captain Cook Highway	Wangetti
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	4877	12	NR7187	Douglas Shire
b)	Unit No.	Street No.	Street Name and Type	Suburb
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)

3.2) Coordinates of premises *(appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay)*

***Note**: Place each set of coordinates in a separate row.*

☐ Coordinates of premises by longitude and latitude

Longitude(s)	Latitude(s)	Datum	Local Government Area(s) *(if applicable)*
		☐ WGS84 ☐ GDA94 ☐ Other:	

☐ Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) *(if applicable)*
		☐ 54 ☐ 55 ☐ 56	☐ WGS84 ☐ GDA94 ☐ Other:	

3.3) Additional premises

☐ Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application

x Not required

4) Identify any of the following that apply to the premises and provide any relevant details

☐ In or adjacent to a water body or watercourse or in or above an aquifer

Name of water body, watercourse or aquifer:

☐ On strategic port land under the *Transport Infrastructure Act 1994*

Lot on plan description of strategic port land:

Name of port authority for the lot:

☐ In a tidal area

Name of local government for the tidal area *(if applicable)*:

Name of port authority for tidal area *(if applicable)*:

☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*

Name of airport:

☐ Listed on the Environmental Management Register (EMR) under the *Environmental Protection Act 1994*	
EMR site identification:	
☐ Listed on the Contaminated Land Register (CLR) under the *Environmental Protection Act 1994*	
CLR site identification:	

5) Are there any existing easements over the premises?

Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see DA Forms Guide.

☐ Yes – All easement locations, types and dimensions are included in plans submitted with this development application

X No

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

6.1) Provide details about the first development aspect

a) What is the type of development? *(tick only one box)*

X Material change of use ☐ Reconfiguring a lot ☐ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

X Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

X Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

Dwelling House (Secondary Dwelling)

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms guide: Relevant plans.*

X Relevant plans of the proposed development are attached to the development application

6.2) Provide details about the second development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☐ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☐ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☐ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*

☐ Relevant plans of the proposed development are attached to the development application

6.3) Additional aspects of development

☐ Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application

x Not required

Section 2 – Further development details

7) Does the proposed development application involve any of the following?	
Material change of use	☐ Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	☐ Yes – complete division 2
Operational work	☐ Yes – complete division 3
Building work	☐ Yes – complete *DA Form 2 – Building work details*

Division 1 – Material change of use

***Note**: This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.*

8.1) Describe the proposed material change of use			
Provide a general description of the proposed use	Provide the planning scheme definition *(include each definition in a new row)*	Number of dwelling units *(if applicable)*	Gross floor area (m^2) *(if applicable)*
Secondary Dwelling	Dwelling House	1	30m2

8.2) Does the proposed use involve the use of existing buildings on the premises?
☐ Yes
X No

Division 2 – Reconfiguring a lot

***Note**: This division is only required to be completed if any part of the development application involves reconfiguring a lot.*

9.1) What is the total number of existing lots making up the premises?

9.2) What is the nature of the lot reconfiguration? *(tick all applicable boxes)*	
☐ Subdivision *(complete 10))*	☐ Dividing land into parts by agreement *(complete 11))*
☐ Boundary realignment *(complete 12))*	☐ Creating or changing an easement giving access to a lot from a constructed road *(complete 13))*

10) Subdivision				
10.1) For this development, how many lots are being created and what is the intended use of those lots:				
Intended use of lots created	Residential	Commercial	Industrial	Other, please specify:
Number of lots created				

10.2) Will the subdivision be staged?	
☐ Yes – provide additional details below ☐ No	
How many stages will the works include?	
What stage(s) will this development application apply to?	

11) Dividing land into parts by agreement – how many parts are being created and what is the intended use of the parts?				
Intended use of parts created	Residential	Commercial	Industrial	Other, please specify:
Number of parts created				

12) Boundary realignment			
12.1) What are the current and proposed areas for each lot comprising the premises?			
Current lot		Proposed lot	
Lot on plan description	Area (m^2)	Lot on plan description	Area (m^2)
12.2) What is the reason for the boundary realignment?			

13) What are the dimensions and nature of any existing easements being changed and/or any proposed easement? *(attach schedule if there are more than two easements)*				
Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? *(e.g. pedestrian access)*	Identify the land/lot(s) benefitted by the easement

Division 3 – Operational work

***Note**: This division is only required to be completed if any part of the development application involves operational work.*

14.1) What is the nature of the operational work?		
☐ Road work	☐ Stormwater	☐ Water infrastructure
☐ Drainage work	☐ Earthworks	☐ Sewage infrastructure
☐ Landscaping	☐ Signage	☐ Clearing vegetation
☐ Other – please specify:		
14.2) Is the operational work necessary to facilitate the creation of new lots? *(e.g. subdivision)*		
☐ Yes – specify number of new lots:		
☐ No		
14.3) What is the monetary value of the proposed operational work? *(include GST, materials and labour)*		
$		

PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application
Douglas Shire Council
16) Has the local government agreed to apply a superseded planning scheme for this development application?
☐ Yes – a copy of the decision notice is attached to this development application
☐ The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached
X No

PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements?
***Note**: A development application will require referral if prescribed by the* Planning Regulation 2017.

X No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6

Matters requiring referral to the **Chief Executive of the *Planning Act 2016*:**

- ☐ Clearing native vegetation
- ☐ Contaminated land *(unexploded ordnance)*
- ☐ Environmentally relevant activities (ERA) *(only if the ERA has not been devolved to a local government)*
- ☐ Fisheries – aquaculture
- ☐ Fisheries – declared fish habitat area
- ☐ Fisheries – marine plants
- ☐ Fisheries – waterway barrier works
- ☐ Hazardous chemical facilities
- ☐ Heritage places – Queensland heritage place *(on or near a Queensland heritage place)*
- ☐ Infrastructure-related referrals – designated premises
- ☐ Infrastructure-related referrals – state transport infrastructure
- ☐ Infrastructure-related referrals – State transport corridor and future State transport corridor
- ☐ Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels
- ☐ Infrastructure-related referrals – near a state-controlled road intersection
- ☐ Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas
- ☐ Koala habitat in SEQ region – key resource areas
- ☐ Ports – Brisbane core port land – near a State transport corridor or future State transport corridor
- ☐ Ports – Brisbane core port land – environmentally relevant activity (ERA)
- ☐ Ports – Brisbane core port land – tidal works or work in a coastal management district
- ☐ Ports – Brisbane core port land – hazardous chemical facility
- ☐ Ports – Brisbane core port land – taking or interfering with water
- ☐ Ports – Brisbane core port land – referable dams
- ☐ Ports – Brisbane core port land – fisheries
- ☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*
- ☐ SEQ development area
- ☐ SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
- ☐ SEQ regional landscape and rural production area or SEQ rural living area – community activity
- ☐ SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
- ☐ SEQ regional landscape and rural production area or SEQ rural living area – urban activity
- ☐ SEQ regional landscape and rural production area or SEQ rural living area – combined use
- ☐ Tidal works or works in a coastal management district
- ☐ Reconfiguring a lot in a coastal management district or for a canal
- ☐ Erosion prone area in a coastal management district
- ☐ Urban design
- ☐ Water-related development – taking or interfering with water
- ☐ Water-related development – removing quarry material *(from a watercourse or lake)*
- ☐ Water-related development – referable dams
- ☐ Water-related development –levees *(category 3 levees only)*
- ☐ Wetland protection area

Matters requiring referral to the **local government:**

- ☐ Airport land
- ☐ Environmentally relevant activities (ERA) (*only if the ERA has been devolved to local government)*

☐ Heritage places – Local heritage places

Matters requiring referral to the **Chief Executive of the distribution entity or transmission entity:**
☐ Infrastructure-related referrals – Electricity infrastructure

Matters requiring referral to:
- The **Chief Executive of the holder of the licence**, if not an individual
- The **holder of the licence**, if the holder of the licence is an individual

☐ Infrastructure-related referrals – Oil and gas infrastructure

Matters requiring referral to the **Brisbane City Council:**
☐ Ports – Brisbane core port land

Matters requiring referral to the **Minister responsible for administering the *Transport Infrastructure Act 1994*:**
☐ Ports – Brisbane core port land *(where inconsistent with the Brisbane port LUP for transport reasons)*
☐ Ports – Strategic port land

Matters requiring referral to the **relevant port operator**, if applicant is not port operator**:**
☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*

Matters requiring referral to the **Chief Executive of the relevant port authority:**
☐ Ports – Land within limits of another port *(below high-water mark)*

Matters requiring referral to the **Gold Coast Waterways Authority:**
☐ Tidal works or work in a coastal management district *(in Gold Coast waters)*

Matters requiring referral to the **Queensland Fire and Emergency Service:**
☐ Tidal works or work in a coastal management district *(involving a marina (more than six vessel berths))*

18) Has any referral agency provided a referral response for this development application?

☐ Yes – referral response(s) received and listed below are attached to this development application
X No

Referral requirement	Referral agency	Date of referral response

Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application *(if applicable).*

PART 6 – INFORMATION REQUEST

19) Information request under Part 3 of the DA Rules

X I agree to receive an information request if determined necessary for this development application
☐ I do not agree to accept an information request for this development application

***Note**: By not agreeing to accept an information request I, the applicant, acknowledge:*

- *that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties*
- *Part 3 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules.*

Further advice about information requests is contained in the DA Forms Guide.

PART 7 – FURTHER DETAILS

20) Are there any associated development applications or current approvals? *(e.g. a preliminary approval)*

☐ Yes – provide details below or include details in a schedule to this development application

X No

List of approval/development application references	Reference number	Date	Assessment manager
☐ Approval ☐ Development application			
☐ Approval ☐ Development application			

21) Has the portable long service leave levy been paid? *(only applicable to development applications involving building work or operational work)*

☐ Yes – a copy of the receipted QLeave form is attached to this development application

☐ No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid

X Not applicable *(e.g. building and construction work is less than $150,000 excluding GST)*

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
$		

22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?

☐ Yes – show cause or enforcement notice is attached

X No

23) Further legislative requirements

Environmentally relevant activities

23.1) Is this development application also taken to be an application for an environmental authority for an **Environmentally Relevant Activity (ERA)** under section 115 of the *Environmental Protection Act 1994*?

☐ Yes – the required attachment (form ESR/2015/1791) for an application for an environmental authority accompanies this development application, and details are provided in the table below

X No

***Note**: Application for an environmental authority can be found by searching "ESR/2015/1791" as a search term at www.qld.gov.au. An ERA requires an environmental authority to operate. See www.business.qld.gov.au for further information.*

Proposed ERA number:		Proposed ERA threshold:	
Proposed ERA name:			

☐ Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.

Hazardous chemical facilities

23.2) Is this development application for a **hazardous chemical facility**?

☐ Yes – *Form 69: Notification of a facility exceeding 10% of schedule 15 threshold* is attached to this development application

X No

***Note**: See www.business.qld.gov.au for further information about hazardous chemical notifications.*

Clearing native vegetation

23.3) Does this development application involve **clearing native vegetation** that requires written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing is for a relevant purpose under section 22A of the *Vegetation Management Act 1999*?

☐ Yes – this development application includes written confirmation from the chief executive of the *Vegetation Management Act 1999* (s22A determination)

X No

***Note**: 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development.*

2. See https://www.qld.gov.au/environment/land/vegetation/applying for further information on how to obtain a s22A determination.

Environmental offsets

23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a **prescribed environmental matter** under the *Environmental Offsets Act 2014*?

☐ Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter

X No

***Note**: The environmental offset section of the Queensland Government's website can be accessed at www.qld.gov.au for further information on environmental offsets.*

Koala habitat in SEQ Region

23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?

☐ Yes – the development application involves premises in the koala habitat area in the koala priority area

☐ Yes – the development application involves premises in the koala habitat area outside the koala priority area

X No

***Note**: If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at www.des.qld.gov.au for further information.*

Water resources

23.6) Does this development application involve **taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the *Water Act 2000***?

☐ Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the *Water Act 2000* may be required prior to commencing development

X No

***Note**: Contact the Department of Natural Resources, Mines and Energy at www.dnrme.qld.gov.au for further information.*

DA templates are available from https://planning.dsdmip.qld.gov.au/. If the development application involves:

- *Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1*
- *Taking or interfering with water in a watercourse, lake or spring: complete DA Form1 Template 2*
- *Taking overland flow water: complete DA Form 1 Template 3.*

Waterway barrier works

23.7) Does this application involve **waterway barrier works?**

☐ Yes – the relevant template is completed and attached to this development application

X No

DA templates are available from https://planning.dsdmip.qld.gov.au/. For a development application involving waterway barrier works, complete DA Form 1 Template 4.

Marine activities

23.8) Does this development application involve **aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants?**

☐ Yes – an associated *resource* allocation authority is attached to this development application, if required under the *Fisheries Act 1994*

X No

***Note**: See guidance materials at www.daf.qld.gov.au for further information.*

Quarry materials from a watercourse or lake

23.9) Does this development application involve the **removal of quarry materials from a watercourse or lake** under the *Water Act 2000?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

X No

***Note**: Contact the Department of Natural Resources, Mines and Energy at www.dnrme.qld.gov.au and www.business.qld.gov.au for further information.*

Quarry materials from land under tidal waters

23.10) Does this development application involve the **removal of quarry materials from land under tidal water** under the *Coastal Protection and Management Act 1995?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

X No

***Note**: Contact the Department of Environment and Science at www.des.qld.gov.au for further information.*

Referable dams

23.11) Does this development application involve a **referable dam** required to be failure impact assessed under section 343 of the *Water Supply (Safety and Reliability) Act 2008* (the Water Supply Act)?

☐ Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the Water Supply Act is attached to this development application

X No

***Note**: See guidance materials at www.dnrme.qld.gov.au for further information.*

Tidal work or development within a coastal management district

23.12) Does this development application involve **tidal work or development in a coastal management district**?

☐ Yes – the following is included with this development application:

- ☐ Evidence the proposal meets the code for assessable development that is prescribed tidal work *(only required if application involves prescribed tidal work)*
- ☐ A certificate of title

X No

***Note**: See guidance materials at www.des.qld.gov.au for further information.*

Queensland and local heritage places

23.13) Does this development application propose development on or adjoining a place entered in the **Queensland heritage register** or on a place entered in a local government's **Local Heritage Register**?

☐ Yes – details of the heritage place are provided in the table below

X No

***Note**: See guidance materials at www.des.qld.gov.au for information requirements regarding development of Queensland heritage places.*

Name of the heritage place:		Place ID:	

Brothels

23.14) Does this development application involve a **material change of use for a brothel**?

☐ Yes – this development application demonstrates how the proposal meets the code for a development application for a brothel under Schedule 3 of the *Prostitution Regulation 2014*

X No

Decision under section 62 of the *Transport Infrastructure Act 1994*

23.15) Does this development application involve new or changed access to a state-controlled road?

☐ Yes – this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)

X No

Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation

23.16) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?

☐ Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered

X No

***Note**: See guidance materials at www.planning.dsdmip.qld.gov.au for further information.*

PART 8 – CHECKLIST AND APPLICANT DECLARATION

24) Development application checklist	
I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17 ***Note**: See the Planning Regulation 2017 for referral requirements*	X Yes
If building work is associated with the proposed development, Parts 4 to 6 of *DA Form 2 – Building work details* have been completed and attached to this development application	☐ Yes X Not applicable
Supporting information addressing any applicable assessment benchmarks is with the development application ***Note**: This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see DA Forms Guide: Planning Report Template.*	X Yes
Relevant plans of the development are attached to this development application ***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*	X Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued *(see 21)*	☐ Yes X Not applicable

25) Applicant declaration

X By making this development application, I declare that all information in this development application is true and correct

X Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001*

***Note**: It is unlawful to intentionally provide false or misleading information.*

Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website.

Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where:

- such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or
- required by other legislation (including the *Right to Information Act 2009*); or
- otherwise required by law.

This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002.*

PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received: | Reference number(s):

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

QLeave notification and payment *Note: For completion by assessment manager if applicable*			
Description of the work			
QLeave project number			
Amount paid ($)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

TOWN PLANNING REPORT – DEVELOPMENT APPLICATION FOR A MATERIAL CHANGE OF USE FOR A DWELLING HOUSE (SECONDARY DWELLING) LOCATED AT 4069 CAPTAIN COOK HIGHWAY, WANGETTI ON LOT12 CPNR7187

The below is a town planning report to accompany the Development Application seeking a Development Permit for a Material Change of Use for a Dwelling House (Secondary Dwelling) located at 4069 Captain Cook Highway, Wangetti on Lot 12 CPNR7187.

The report contains a description of the proposed development (including plans) and the subject premises and an assessment of the proposed development against the relevant matters contained in the Douglas Shire Planning Scheme 2018.

The report concludes that the proposed development complies with the planning requirements and is therefore considered appropriate and that Council favourably consider the proposed development and approve the Development Application, subject to reasonable and relevant conditions.

STATUTORY FRAMEWORK

Under the *Planning Act 2016*, the Development Application is required to be made for a Material Change of Use for a Dwelling House (Secondary Dwelling). Secondary Dwellings are included in the definition for a Dwelling House under the Douglas Shire Planning Scheme 2018.

The proposed development (Dwelling House) is development made assessable (Code Assessment) under a local categorising instrument (Douglas Shire Planning Scheme 2018).

The Assessment Manager for this development application is Douglas Shire Council as determined by Schedule 8 of the *Planning Regulation 2017*.

The proposed development does not require public notification or trigger referral to any referral agency.

THE PROPOSED DEVELOPMENT

The Development Application seeks a Development Permit for a Material Change of Use for a Dwelling House (Secondary Dwelling) located at 4069 Captain Cook Highway, Wangetti on Lot 12 CPNR7187.

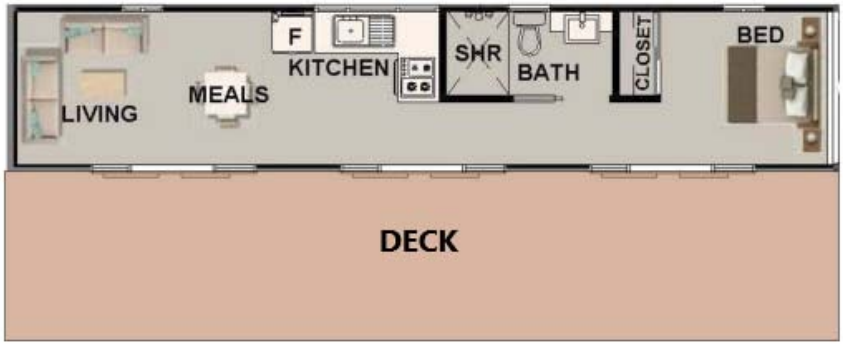
Site and design plans shown in the below report are contained in Attachment 1 for reference.

The proposed development involves the establishment of a secondary dwelling for Mrs M Mahoney so that she can reside on the same premises as her son Mr D Mahoney.

The proposed dwelling is a repurposed 40-foot container with an area of 30m2 (being 12.2m long, 2.4m wide, 2.6m high) shown in the photos below.

Proposed secondary dwelling – front and side view

The proposed dwelling contains 1 bedroom, a living area with kitchen and bathroom as shown in the indicative floor plan below. A 30m^2 deck area is proposed to be constructed to the front of the dwelling also shown in the indicative floor plan below.



Proposed secondary dwelling – Indicative floor plan

The proposed dwelling is to be located approximately 40m to the west of the existing dwelling and approximately 15m from Hartley's Creek (which is indicatively the northern boundary of the premises) shown in the location plan below.

Proposed location of Secondary Dwelling

Proposed location of Secondary Dwelling (including indicative access)

A 9m2 carport is proposed to be constructed to the rear of the proposed dwelling, accessed from the existing driveway as shown on the above location plan.

The proposed dwelling is to be located on an existing, benched and cleared part of the premises setback on the top of the bank approximately 15m from Hartley's Creek, shown in the below photo. The proposed dwelling will be mounted on concrete foundations raised approximately 400mm above ground. No further excavation or fill or clearing or disturbance of vegetation is required to establish the secondary dwelling.

Cleared area in the proposed location of the Secondary Dwelling

The proposed development will connect to the existing onsite water supply and wastewater treatment and disposal systems, indicatively located as shown in blue and red respectively also on the plan below.

Location of proposed accesses and existing onsite water supply and wastewater

The existing onsite water supply is via an intake from Hartley's Creek, treatment and storage in two 40,000L storage tanks located on land to the south of the premises. The proposed secondary dwelling will be connected to the internal reticulation network through the site.

The existing wastewater treatment and disposal systems is an underground anaerobic treatment and disposal system for a hydraulic flow of 3000L/day or organic loading or organic loading of 800 grams/day. The wastewater system overview and onsite sewerage facility site and soil report is contained in Attachment 4.

There is a sufficient capacity within the existing onsite water supply and wastewater systems to accommodate the anticipated minor demand generated by the proposed secondary dwelling. For reference, the estimated daily use for a household (3 bedrooms) is 200-300L of water and production of wastewater.

The site was the former Hartley's Creek Zoo and Crocodile Farm and as such there are a number of buildings and structures on the premises. The existing / main residence is shown on the plans above. In addition to the existing dwelling (and garage) there are two class 1a habitable buildings on the premises. These have been intermittently used since the owners purchased the property and are currently unused and in varying state of repair.

It is not considered appropriate to use any of the existing buildings on site given their state of repair and, in particular their location to the existing dwelling. The establishment of a modern secondary dwelling in the location proposed is preferred as this location offers a high amenity, prominent creek front on an existing cleared area adjacent to the existing dwelling.

THE PREMISES

The subject premises is located at 4069 Captain Cook Highway, Wangetti on Lot 12 CPNR7187 as shown below. The applicant is the registered owner of the premises. A Smart Map of the premises and a title search is contained in Attachment 2.

The subject premises - 4069 Captain Cook Highway, Wangetti - Lot 12 CPNR7187

The premises has an area of 18000m^2, with frontage to the Captain Cook Highway and is unencumbered by any easements or covenants. The premises are bounded to the east, west and south by the Wet Tropics World Heritage Area. Hartley's Creek approximately forms the northern boundary to the site.

The broader site is relatively flat (located within the 0-10m contour). The site primarily drains to the front and north of the premises towards Hartley's Creek. Anecdotally, the premises is not significantly impacted by flood or erosion.

The proposed location of the secondary dwelling is on and existing cleared and benched area on top of the bank approximately 15m from Hartley's Creek. The existing cleared and benched area is approximately 7m above Hartley's Creek. The profile from Hartley's Creek to the proposed location of the secondary dwelling is indicatively illustrated on the photo below.

Indicative profile from Hartley's Creek to top of bank

As discussed in the above section, the site was the former Hartley's Creek Zoo and Crocodile Farm and as such there are a number of buildings and structures existing on the premises. The existing main residence (occupied by Mr D Mahoney) is an expansive dwelling with large garage to the south. In addition to the existing dwelling there are two class 1a habitable 1 bedroom buildings on the premises. These have been intermittently used since the owners purchased the property and are currently unused and in varying state of repair. Existing buildings are shown on the below plan.

Existing buildings on the premises

A popular recreational trail to Wangetti Falls accessed from the Captain Cook Highway at the entrance to the premises. As such, the entrance to the premises is often used as an informal carpark to the trail.

The premises are wholly located within the Environmental Management Zone in the Douglas Shire Planning Scheme 2018, as shown below.

THE PLANNING FRAMEWORK

The statutory planning framework that requires the development application to be made is described previously in this report. The following describes the State and Local planning framework relevant to the consideration and assessment of this application.

State Planning Framework

The following State Planning elements are applicable to the proposed premises and development: MSES Wildlife Habitat and Regulated Vegetation, Coastal Management District, Bushfire Prone Area, Erosion Prone Area and Storm Tide Inundation Area.

These State Planning elements have been appropriately incorporated into the Douglas Shire Planning Scheme 2018 and therefore it is considered that an assessment against the Planning Scheme will appropriately respond to any State Planning Policy matters.

Local Planning Framework

The local planning instrument is the Douglas Shire Planning Scheme 2018. The following are the aspects of the Douglas Shire Planning Scheme 2018 relevant to the assessment of the proposed development:

Zone - the proposed development is located on a premises within the **Environmental Management Zone.**

Local Plan - the proposed development is not located on a premises within the a Local Plan area.

Level of assessment - The level of assessment specified in Part 5 – Tables of Assessment for the proposed development of a Dwelling House in the Environmental Management Zone is **Code Assessment**.

Overlays - The premises are identified within the extents of the following overlays:

Acid Sulfate Soils	Acid Sulfate Soils (5-20m AHD) Acid Sulfate Soils (< 5m AHD)
Bushfire	Potential Impact Buffer
Coastal Environment	Coastal Management District Erosion Prone Area
Flood and Storm Tide Hazard	Medium Storm Tide Hazard Floodplain Assessment Overlay
Hillslopes	Area affected by Hillslopes
Landscape Values	Scenic route buffer High landscape values
Natural Areas	MSES - Regulated Vegetation MSES - Wildlife Habitat
Transport Network	Transport Noise Corridor Road Hierarchy - Arterial Road and Major Transport Corridor Buffer Area (State Controlled Road) Pedestrian and Cycle Network - Iconic Recreation Route

Assessment benchmarks – The assessment benchmarks (identified in the applicable elements above and in Part 5 - Tables of Assessment) contained in the following codes are relevant to the assessment of the proposed development:

Environmental Management Zone Code
Acid Sulfate Soils Overlay Code
Bushfire Overlay Code
Coastal Environment Overlay Code
Flood and Storm Tide Hazard Overlay Code
Hillslopes Overlay Code
Landscape Values Overlay Code
Natural Areas Overlay Code
Dwelling House Code
Access, Parking and Servicing Code
Infrastructure works Code
Vegetation Management Code

*It is noted that the premises are identified within the extents of the Transport Noise Corridors and the Transport Network Overlay Code, the Overlay Code is not identified as an applicable code for consideration in the assessment of the proposed development identified in the Tables of Assessment for the Environmental Management Zone.

PLANNING ASSESSMENT OF THE PROPOSED DEVELOPMENT

The proposed development has been assessed against the relevant provisions of the Douglas Shire Planning Scheme 2018. This application and attached material demonstrate that the proposed development complies with the applicable provisions of the Douglas Shire Planning Scheme 2018. As

such, it is considered appropriate that Council favourably consider the proposed development and approve the Development Application, subject to reasonable and relevant conditions.

The full assessment of the proposed development against the relevant provisions of the Douglas Shire Planning Scheme 2018 is contained in Attachment 3 to this application. The discussion below highlights the key matters for the consideration of this application.

Summary

The proposed secondary dwelling is subordinate to the existing dwelling and is to be occupied by a member of the same household as the existing dwelling house. As secondary dwellings are considered as part of, and included in the definition of a Dwelling House, the establishment of the proposed secondary dwelling on the premises is consistent with the purpose and outcomes sought for the zone (a Dwelling House, including Secondary Dwelling is a preferred development outcome for this zone) and there is no increase in residential density, as there remains one dwelling house on the premises (particularly given that the two other existing dwellings on the premises are currently unused).

It is not considered appropriate to use any of the existing buildings on site given their state of repair and, in particular their location to the existing dwelling. The establishment of a modern secondary dwelling in the location proposed is preferred as this location offers a high amenity, prominent creek front on an existing cleared area adjacent to the existing dwelling.

Additionally, the proposed development has been designed and located to consider and respond to the constraints present over the premises and ensures that it is appropriately serviced to the required standards.

Zone and Use Codes

The proposed development is consistent with the purpose and outcomes sought for the Environmental management zone and Dwelling house codes.

The proposed development reflects the preferred development outcomes for the Environmental management zone (a dwelling house is a preferred development outcome for the zone).

The proposed secondary dwelling is subordinate to the existing dwelling and is to be occupied by a member of the same household as the existing dwelling house. As secondary dwellings are considered as part of, and included in the definition of a Dwelling House, there is no increase in residential density as there remains one dwelling house on the premises (particularly given that the two other existing dwellings on the premises are currently unused).

The proposed secondary dwelling is located on an area of the site which is already cleared and benched so no further major works are required to establish the dwelling. Also, the lot is of appropriate size to accommodate the proposed secondary dwelling and is of a scale (70m2 in area including deck and carport area) that ensures that it:

- has a negligible impact on existing site coverage on the premises, particularly given the former use of the site and significant number of existing buildings and structures on site; and

- does not adversely affect the amenity of the zone and adjoining land uses.

The proposed secondary dwelling also complies with the required design requirements contained in the codes, regarding setbacks, car parking and exterior finishes and colours (conditions maybe placed on the Development Permit regarding exterior finishes and colours requirements if required).

Consideration of constraints

Acid Sulfate Soils

The proposed development is located within the < 5m AHD and 5-20m AHD area of the Acid Sulfate Soils Overlay mapping present over the premises.

No bulk excavation or fill will be required to prepare the site for the establishment of the proposed secondary dwelling therefore avoiding the disturbance of any potential acid sulfate soils or actual acid sulfate soils present on the premises.

Bushfire

The proposed development is located within the Potential Impact Buffer area of the Bushfire Overlay mapping present on the premises. As it is not located within a Bushfire Hazard area the proposed development does not materially intensify vulnerable uses to the risk associated with Bushfire. Any risk of bushfire on people, property and the environment is minimised as the development is located on existing cleared and benched area located approximately 60m from the nearest bushfire hazard area on the premises.

Coastal Environment

The proposed development is located within the Coastal Management District and Erosion Prone Area of the Coastal Environment Overlay mapping present on the premises. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek. Hartley's Creek is a well-established waterway corridor with no erosion or movement of the channel experienced in the locality to date.

The development is also located on and existing cleared and benched area on top of the bank approximately 7m above and 15m from Hartley's Creek. As such, the proposed development is of a scale and is located and designed to:

- avoid areas of coastal erosion risks; and
- maintain the natural processes operating in the area consistent with the intent of the overlay code; and
- not impact on natural coastal landscapes, views and vistas.

In addition, the proposed development reflects the preferred development outcomes in accordance with the zoning of the site (i.e. in the Environmental Management Zone where a dwelling house is a preferred development outcome in accordance with the zoning of the site) that satisfies the requirements of the overlay code.

Flood and Storm Tide Hazard

The Medium Storm Tide Hazard and Floodplain Assessment Overlay area of the Flood and Storm Tide Hazard Overlay mapping is present over the premises. Upon closer analysis of the overlay mapping it is considered that the proposed development is only located within the Floodplain Assessment Overlay area, as shown below.

Extent of the Flood and Storm Tide Hazard Overlay mapping

The proposed development is located on top of the bank of Hartley's Creek approximately 7m above and 15m from Hartley's Creek. There is no existing flood or storm tide data for the premises.

Anecdotally, the site is not significantly impacted by flood or storm tide during flood events with floodwaters primarily being contained within the channel of Hartley's Creek, having never breached the top of bank where the development is proposed to be located. It is important to note that the location and level of the proposed secondary dwelling is identical to that of the existing dwelling which has not been impacted by floods. In addition, the proposed dwelling is raised an additional 400mm above the ground.

It is therefore considered that the proposed secondary dwelling is not impacted by or will interfere with any floodwaters or storm tide. It is noted that the overlay code states that development within the Flood plain assessment sub-category need not be designed to provide immunity to the Defined Inundation Event (AO1.2 of the Flood and Storm Tide Hazard Overlay Code).

<u>Hillslopes</u>

The proposed development is located on parts of the site that are not within the Hillslopes constraint, as shown below.

Extent of the Hillslopes Overlay mapping

The proposed secondary dwelling is located on an area of the site which is already cleared and benched. No further excavation or fill or clearing or disturbance of vegetation is required to establish the secondary dwelling.

The proposed secondary dwelling is also of a scale that ensures that it does not adversely affect the amenity of the zone and adjoining land uses. The proposed secondary dwelling also complies with the required design requirements contained in the code, regarding access, disturbance of vegetation and exterior finishes and colours. Conditions may be placed on the Development Permit regarding these aspects and the standards required.

Landscape Values

The proposed development is located within the Scenic route buffer and High landscape values areas of the Landscape Values Overlay mapping present over the premises.

The proposed development is of a scale, is designed and located so that any impacts on the landscape values are negligible and do not adversely affect the amenity of the zone and adjoining land uses or scenic corridors. The proposed development is screened from view by an existing native vegetation buffer.

Natural Areas

The location of the proposed development is only located within the extent of the mapped MSES - Regulated Vegetation areas of the Natural Areas Overlay mapping present over the premises.

The establishment of a secondary dwelling is consistent with the planning intent for the zone for the premises. The minor scale, design and siting of the proposed development further minimises any adverse direct or indirect impacts on areas of environmental significance. Also, the proposed secondary dwelling is located on an area of the site which is already cleared and benched so no further major works are required to establish the dwelling.

Other development requirements

Access, parking, infrastructure and vegetation management

Vehicular access to the secondary dwelling (and car port) is to be provided from the existing driveway via an unsealed driveway, approximately 40m in length (shown in the plan below). The driveway will be constructed and maintained to comply with the relevant requirements of Planning Scheme Policy 5 – FNQROC Development Manual.

The existing onsite water supply is via an intake from Hartley's Creek, treatment and storage in two 40,000L storage tanks located on land to the south of the premises. The proposed secondary dwelling will be connected to the internal reticulation network through the site.

The existing wastewater treatment and disposal systems is an underground anaerobic treatment and disposal system for a hydraulic flow of 3000L/day or organic loading or organic loading of 800 grams/day. The wastewater system overview and onsite sewerage facility site and soil report is contained in Attachment 4. The proposed secondary dwelling will be connected to the onsite wastewater treatment and disposal system.

There is a sufficient capacity within the existing onsite water supply and wastewater systems to accommodate the anticipated minor demand generated by the proposed secondary dwelling. For reference, the estimated daily use for a household (3 bedrooms) is 200-300L of water and production of wastewater.

The proposed development provides the required number car parking spaces (1 spaces) in accordance with the requirements of the Access, parking and servicing code.

The proposed secondary dwelling is located on an area of the site which is already cleared and benched. No further excavation or fill or clearing or disturbance of vegetation is required to establish the secondary dwelling.

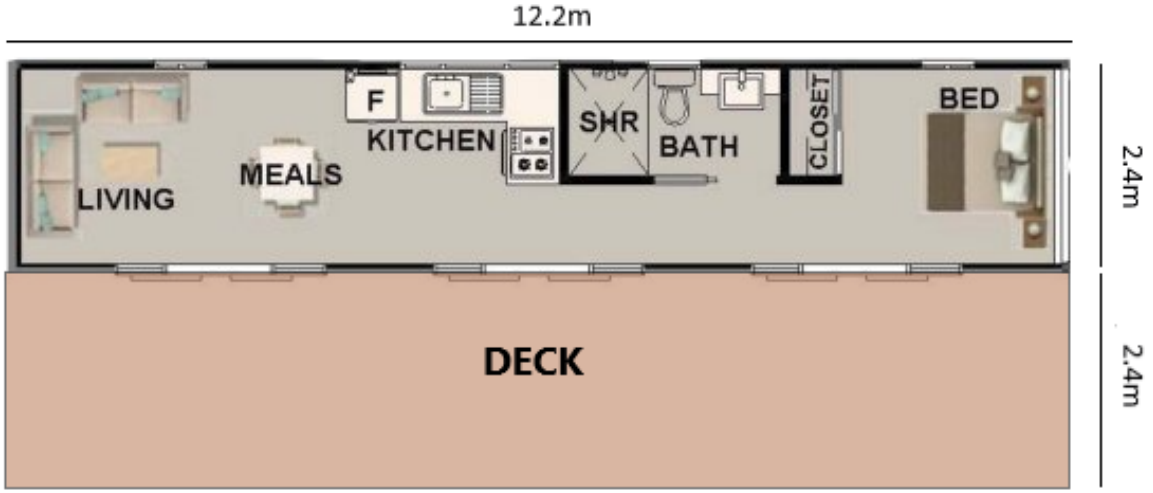
Conditions may be placed on the Development Permit regarding the standards at which access, parking, water supply and wastewater infrastructure provision is required.

ATTACHMENTS

Attachment 1 - Proposed site and design plans
Attachment 2 – Smart map and title search for the premises
Attachment 3 – Full code assessment
Attachment 4 – Onsite wastewater system overview and onsite sewerage facility site and soil report

Attachment 1 - Proposed site and design plans

PROPOSED SECONDARY DWELLING



Proposed Secondary Dwelling

Length: 40ft - 12.2m
Width: 8ft - 2.4m
Height: 8.6ft - 2.6m

Floor Area: 29.28m2

Deck: 12.2m x 2.4m - 29.28m2
Carport: 3m x 3m - 9m2

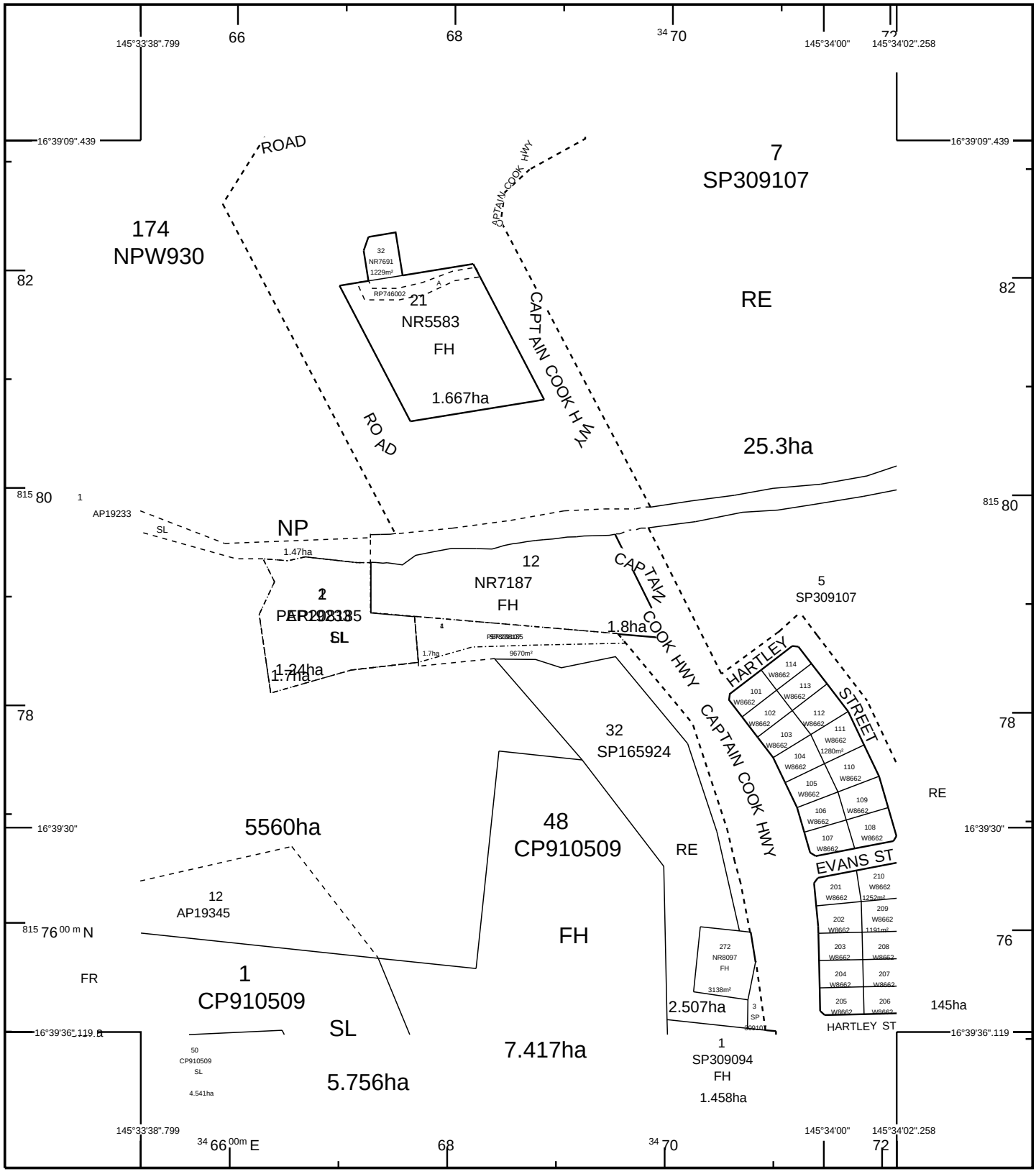
PROPOSED LOCATION OF SECONDARY DWELLING

2ND DWELLING
CAR
Indicative access
EXISTING DWELLING

LOCATION OF EXISTING ONSITE WATER SUPPLY AND WASTEWATER

EXISTING BUILDINGS ON THE PREMISES

Attachment 2 – Smart map and title search for the premises



STANDARD MAP NUMBER
8064-43134

0 100 200 300 400 500 m

HORIZONTAL DATUM:GDA94 ZONE:55 SCALE 1 : 5000

SmartMap

An External Product of
SmartMap Information Services

Based upon an extraction from the
Digital Cadastral Data Base

MAP WINDOW POSITION & NEAREST LOCATION

145°33'50".529
16°39'22".779
WANGETTI
0.39 KM

SUBJECT PARCEL DESCRIPTION

DCDB

Lot/Plan	12/NR7187
Area/Volume	1.8ha
Tenure	FREEHOLD
Local Government	DOUGLAS SHIRE
Locality	WANGETTI
Segment/Parcel	9868/51

CLIENT SERVICE STANDARDS

PRINTED (dd/mm/yyyy) 01/02/2021

DCDB 30/01/2021

GDA

LAND TITLE ACT 1994

REGISTRATION CONFIRMATION STATEMENT

NATURAL RESOURCES & MINES, QUEENSLAND

Title Reference : 50168624

This is the current status of the title as at 13:58 on 27/07/2005

REGISTERED OWNER

Dealing No: 708853132 26/07/2005

DEAN CHARLES MAHONEY
MARIE FRANCES MAHONEY JOINT TENANTS

ESTATE AND LAND

Estate in Fee Simple

LOT 12 CROWN PLAN NR7187
County of NARES Parish of DULANBAN
Local Government: DOUGLAS SHIRE

EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
Deed of Grant No. 40010011 (Lot 12 on CP NR7187)

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - No

DEALINGS REGISTERED
708853130 RELEASE 708853132 TRANSFER

** End of Confirmation Statement **

M G Locke
Registrar Of Titles and Registrar Of Water Allocations

Lodgement No: 1957638

Email: tanya.pringle@farrellys.com.au
FARRELLYS
Office: CAIRNS
Box: 31

Attachment 3 – Full code assessment

6.2.4 Environmental management zone code

Performance outcomes	Acceptable outcomes	Comment
For self-assessable and assessable development		
PO1 The height of all buildings and structures is in keeping with the natural characteristics of the site. Buildings and structures are low-rise and not unduly visible from external sites.	**AO1.1** Buildings and structures are not more than 8.5 metres and two storeys in height. Note – Height is inclusive of the roof height. **AO1.2** Buildings have a roof height not less than 2 metres.	**Complies.** The proposed secondary dwelling is a single storey 2.6m in height, with a roof height of less than 2 metres.
PO2 Buildings and structures are set back to: (a) maintain the natural character of the area; (b) achieve separation from neighbouring buildings and from road frontages.	**AO2** Buildings and structures are set back not less than: (a) 40 metres from the frontage of a state controlled road; (b) 25 metres from the frontage to Cape Tribulation Road; (c) 6 metres from any other road; (d) 6 metres from the side and rear boundaries of the site.	**Complies.** The proposed secondary dwelling is set back approximately 80m from the frontage of a state controlled road (Captain Cook Highway) and approximately 15m from the nearest side boundaries of the site (to the north).
For assessable development		
PO3 Development is consistent with the purpose of the Environmental management zone and protects the zone from the intrusion of inconsistent uses.	**AO3** Inconsistent uses as identified in Table 6.2.4.3.b are not established in the Environmental management zone.	**Complies.** The proposed use Dwelling House is consistent with the purpose of the Environmental management zone and is not listed in Table 6.2.4.3.b.
PO4 The site coverage of all buildings and structures and associated services do not have an adverse effect on the environmental or scenic values of	**AO4** No acceptable outcomes are prescribed.	**Complies.** The establishment of the proposed secondary dwelling of 69m2 in area (including deck and carport area) will have negligible impact on existing site coverage on the premises

the site.		given the former use of the site and significant number of existing buildings and structures on site. Additionally, there is no adverse effect on the environmental or scenic values of the site given the highly degraded nature of these values on the premises.
PO5 Development is located, designed, operated and managed to respond to the characteristics, features and constraints of the site and its surrounds. Note - Planning scheme policy – Site assessments provides guidance on identifying the characteristics, features and constraints of a site and its surrounds.	**AO5.1** Buildings, structures and associated access, infrastructure and private open space are sited: (a) within areas of the site which are already cleared; or (b) within areas of the site which are environmentally degraded; (c) to minimise additional vegetation clearing. **AO5.2** Buildings and structures and associated infrastructure are not located on slopes greater than 1 in 6 (16.6%) or on a ridgeline.	**Complies.** The proposed secondary dwelling is located in an area of the site which is already cleared and benched and not located on a slope.
PO6 Buildings and structures are responsive to steep slope through innovative construction techniques so as to: (a) maintain the geotechnical stability of slopes; (b) minimise cut and/or fill; (c) minimise the overall height of development.	**AO6.1** Where development on land steeper than 1 in 6 (16.6%) cannot be avoided, development follows the natural contours of the land and single plane concrete slab on-ground methods of construction are not utilised. **AO6.2** Access and vehicle manoeuvring and parking areas are constructed and maintained to: (a) minimise erosion; (b) minimise cut and fill;	**Complies.** The proposed secondary dwelling is located in an area of the site which is already cleared and benched and not located on a slope. Provision of access and vehicle manoeuvring and parking areas will be constructed and maintained to minimise erosion and follow the natural contours of the site. No cut or fill is required to facilitate the construction of the proposed secondary dwelling.

	(c) follow the natural contours of the site.	
PO7 The exterior finishes of buildings and structures are consistent with the surrounding natural environment.	**PO7** The exterior finishes and colours of buildings and structures are non-reflective and are moderately dark to darker shades of grey, green, blue and brown or the development is not visible external to the site.	**Complies.** The proposed development is not visible external to the site. However, proposed exterior finishes and colours of the dwelling is a non-reflective and dark in colour.
PO8 Development does not adversely affect the amenity of the zone and adjoining land uses in terms of traffic, noise, dust, odour, lighting or other physical or environmental impacts.	**AO8** No acceptable outcomes are prescribed.	**Complies.** The proposed development is of a scale that does not adversely affect the amenity of the zone and adjoining land uses.
PO9 The density of development ensures that the environmental and scenic amenity values of the site and surrounding area are not adversely affected.	**AO9** The maximum residential density is one dwelling house per lot.	**Complies.** Secondary dwellings are considered as part of, and included in the definition of a Dwelling House. Because of this there is no increase in residential density as there remains one dwelling house per lot. The site is heavily developed, various buildings and structures exist on site associated with the former use of the site as a Zoo. Various transient and temporary uses have occurred on site since the applicant purchased the land. Currently the site is used primarily as the residence of the applicant.

8.2.1 Acid sulfate soils overlay code

Performance outcomes	Acceptable outcomes	Comment
For assessable development		
PO1 The extent and location of potential or actual acid sulfate soils is accurately identified.	**AO1.1** No excavation or filling occurs on the site. Or **AO1.2** An acid sulfate soils investigation is undertaken. Note - Planning scheme policy SC 6.12– Potential and actual acid sulfate soils provides guidance on preparing an acid sulfate soils investigation.	**Complies.** The proposed location of the secondary dwelling is on and existing cleared and benched area. No bulk excavation or fill will be required to prepare the site for the construction of the proposed dwelling house, therefore avoiding the disturbance of any potential acid sulfate soils or actual acid sulfate soils present on the premises.
PO2 Development avoids disturbing potential acid sulfate soils or actual acid sulfate soils, or is managed to avoid or minimise the release of acid and metal contaminants.	**AO2.1** The disturbance of potential acid sulfate soils or actual acid sulfate soils is avoided by: (a) not excavating, or otherwise removing, soil or sediment identified as containing potential or actual acid sulfate soils; (b) not permanently or temporarily extracting groundwater that results in the aeration of previously saturated acid sulfate soils; (c) not undertaking filling that results in: (d) actual acid sulfate soils being moved below the water table; (e) previously saturated acid sulfate soils being aerated. Or AO2.2 The disturbance of potential acid sulfate soils or actual acid sulfate soils is undertaken in	**Complies.** The proposed location of the secondary dwelling is on and existing cleared and benched area. No bulk excavation or fill will be required to prepare the site for the construction of the proposed dwelling house, therefore avoiding the disturbance of any potential acid sulfate soils or actual acid sulfate soils present on the premises.

	accordance with an acid sulfate soils management plan and avoids the release of metal contaminants by: (a) neutralising existing acidity and preventing the generation of acid and metal contaminants; (b) preventing the release of surface or groundwater flows containing acid and metal contaminants into the environment; (c) preventing the in situ oxidisation of potential acid sulfate soils and actual acid sulfate soils through ground water level management; (d) appropriately treating acid sulfate soils before disposal occurs on or off site; (e) documenting strategies and reporting requirements in an acid sulfate soils environmental management plan. Note - Planning scheme policy SC 6.12 – Acid sulfate soils provides guidance on preparing an acid sulfate soils management plan.	
PO3 No environmental harm is caused as a result of exposure to potential acid sulfate soils or actual acid sulfate soils.	AO3 No acceptable outcomes are prescribed.	**Complies.** The proposed location of the secondary dwelling is on and existing cleared and benched area. No bulk excavation or fill will be required to prepare the site for the construction of the proposed dwelling house, therefore avoiding the disturbance of any potential acid sulfate soils or actual acid sulfate soils present on the premises.

8.2.2 Bushfire hazard overlay code

Performance outcomes	Acceptable outcomes	
For self-assessable and assessable development		**Comment**
Compatible development		
PO1 A vulnerable use is not established or materially intensified within a bushfire hazard area (bushfire prone area) unless there is an overriding need or other exceptional circumstances. Note - See the end of this code for examples of vulnerable uses.	**AO1** Vulnerable uses are not established or expanded. Note – Where, following site inspection and consultation with Council, it is clear that the mapping is in error in identifying a premises as being subject to a medium, high, very high bushfire hazard or potential impact buffer sub-category, Council may supply a letter exempting the need for a Bushfire Management Plan. Note – Where the assessment manager has not previously approved a Bushfire Management Plan (either by condition of a previous development approval), the development proponent will be expected to prepare such a plan. Note – Planning scheme policy SC6.9 - Natural hazards, provides a guide to the preparation of a Bushfire Management Plan.	**Complies.** The proposed development is not located within the Potential Impact Buffer area of the Bushfire Overlay mapping present on the premises. As such, the proposed development does not materially intensify vulnerable uses. Any risk of bushfire on people, property and the environment is minimized as the development is located on existing cleared and benched area located approximately 60m from the nearest bushfire hazard area on the premises.
PO2 Emergency services and uses providing community support services are able to function effectively during and immediately after a bushfire hazard event.	**AO2** Emergency Services and uses providing community support services are not located in a bushfire hazard sub-category and have direct access to low hazard evacuation routes.	**Complies.** The proposed development is not located within the Potential Impact Buffer area of the Bushfire Overlay mapping present on the premises. As such, the proposed development does not materially intensify vulnerable uses and will not impede Emergency services and uses providing community support services.

PO3 Development involving hazardous materials manufactured or stored in bulk is not located in bushfire hazard sub-category.	**AO3** The manufacture or storage of hazardous material in bulk does not occur within bushfire hazard sub-category.	**Complies.** The proposed development does not involve the manufacture or storage of hazardous material.
Development design and separation from bushfire hazard – reconfiguration of lots		
PO4.1 Where reconfiguration is undertaken in an urban area or is for urban purposes or smaller scale rural residential purposes, a separation distance from hazardous vegetation is provided to achieve a radiant heat flux level of 29kW/m^2 at the edge of the proposed lot(s). Note - "Urban purposes" and "urban area" are defined in the *Sustainable Planning Regulations 2009*. Reconfiguration will be taken to be for rural residential purposes where proposed lots are between 2000m^2 and 2ha in area. "Smaller scale" rural residential purposes will be taken to be where the average proposed lot size is 6000m2 or less. Note - The radiant heat levels and separation distances are to be established in accordance with method 2 set out in AS3959-2009. **PO4.2** Where reconfiguration is undertaken for other purposes, a building envelope of reasonable dimensions is provided on each lot which achieves radiant heat flux level of 29kW/m^2 at any point.	**AO4.1** No new lots are created within a bushfire hazard sub-category. or **AO4.2** Lots are separated from hazardous vegetation by a distance that: (a) achieves radiant heat flux level of 29kW/m^2 at all boundaries; and (b) is contained wholly within the development site. Note - Where a separation distance is proposed to be achieved by utilising existing cleared developed areas external to the site, certainty must be established (through tenure or other means) that the land will remain cleared of hazardous vegetation. For staged developments, temporary separation distances, perimeter roads or fire trails may be absorbed as part of subsequent stages. Note - The achievement of a cleared separation distance may not be achievable where other provisions within the planning scheme require protection of certain ecological, slope, visual or	N/A N/A N/A N/A

	character features or functions.	

Performance outcomes	Acceptable outcomes	
PO5 Where reconfiguration is undertaken in an urban area or is for urban purposes, a constructed perimeter road with reticulated water supply is established between the lots and the hazardous vegetation and is readily accessible at all times for urban fire fighting vehicles. The access is available for both fire fighting and maintenance/defensive works.	**AO5.1** Lot boundaries are separated from hazardous vegetation by a public road which: (a) has a two lane sealed carriageway; (b) contains a reticulated water supply; (c) is connected to other public roads at both ends and at intervals of no more than 500m; (d) accommodates geometry and turning radii in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; (e) has a minimum of 4.8m vertical clearance above the road; (f) is designed to ensure hydrants and water access points are not located within parking bay allocations; and (g) incorporates roll-over kerbing. **AO5.2** Fire hydrants are designed and installed in accordance with AS2419.1 2005, unless otherwise specified by the relevant water entity. Note - Applicants should have regard to the relevant standards set out in the reconfiguration of a lot code and works codes in this planning scheme.	N/A

PO6 Where reconfiguration is undertaken for smaller scale rural residential purposes, either a constructed perimeter road or a formed, all weather fire trail is established between the lots and the hazardous vegetation and is readily accessible at all times for the type of fire fighting vehicles servicing the area. The access is available for both fire fighting and maintenance/hazard reduction works.	**AO6** Lot boundaries are separated from hazardous vegetation by a public road or fire trail which has: (a) a reserve or easement width of at least 20m; (b) a minimum trafficable (cleared and formed) width of 4m capable of accommodating a 15 tonne vehicle and which is at least 6m clear of vegetation; (c) no cut or fill embankments or retaining walls adjacent to the 4m wide trafficable path; (d) a minimum of 4.8m vertical clearance; (e) turning areas for fire-fighting appliances in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; (f) a maximum gradient of 12.5%; (g) a cross fall of no greater than 10 degrees; (h) drainage and erosion control devices in accordance with the standards prescribed in a planning scheme policy; (i) vehicular access at each end which is connected to the public road network at intervals of no more than 500m; (j) designated fire trail signage; (k) if used, has gates locked with a system authorised by Queensland Fire and Emergency Services; and (l) if a fire trail, has an access easement that is granted in favour of Council and Queensland Fire and Emergency Services.	N/A

Performance outcomes	Acceptable outcomes	
PO7 Where reconfiguration is undertaken for other purposes, a formed, all weather fire trail is provided between the hazardous vegetation and either the lot boundary or building envelope, and is readily accessible at all times for the type of fire fighting vehicles servicing the area. However, a fire trail will not be required where it would not serve a practical fire management purpose.	**AO7** Lot boundaries are separated from hazardous vegetation by a public road or fire trail which has: (a) a reserve or easement width of at least 20m; (b) a minimum trafficable (cleared and formed) width of 4m capable of accommodating a 15 tonne vehicle and which is at least 6m clear of vegetation; (c) no cut or fill embankments or retaining walls adjacent to the 4m wide trafficable path; (d) a minimum of 4.8m vertical clearance; (e) turning areas for fire-fighting appliances in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; (f) a maximum gradient of 12.5%; (g) a cross fall of no greater than 10 degrees; (h) drainage and erosion control devices in accordance with the standards prescribed in a planning scheme policy; (i) vehicular access at each end which is connected to the public road network; (j) designated fire trail signage; (k) if used, has gates locked with a system authorised by Queensland Fire and Emergency Services; and (l) if a fire trail, has an access easement that is granted in favour of Council and Queensland Fire and Emergency Services.	N/A

PO8 The development design responds to the potential threat of bushfire and establishes clear evacuation routes which demonstrate an acceptable or tolerable risk to people.	**AO8** The lot layout: (a) minimises the length of the development perimeter exposed to, or adjoining hazardous vegetation; (b) avoids the creation of potential bottle-neck points in the movement network; (c) establishes direct access to a safe assembly /evacuation area in the event of an approaching bushfire; and (d) ensures roads likely to be used in the event of a fire are designed to minimise traffic congestion. Note - For example, developments should avoid finger-like or hour-glass subdivision patterns or substantive vegetated corridors between lots. In order to demonstrate compliance with the performance outcome, a bushfire management plan prepared by a suitably qualified person may be required. The bushfire management plan should be developed in accordance with the Public Safety Business Agency (PSBA) guideline entitled "Undertaking a Bushfire Protection Plan. Advice from the Queensland Fire and Emergency Services (QFES) should be sought as appropriate	N/A
PO9 Critical infrastructure does not increase the potential bushfire hazard.	**AO9** Critical or potentially hazardous infrastructure such as water supply, electricity, gas and telecommunications are placed underground.	N/A

Performance outcomes	Acceptable outcomes	
Development design and separation from bushfire hazard – material change of use		
PO10 Development is located and designed to ensure proposed buildings or building envelopes achieve a radiant heat flux level at any point on the building or envelope respectively, of: (a) 10kW/m^2 where involving a vulnerable use; or (b) 29kW/m^2 otherwise. The radiant heat flux level is achieved by separation unless this is not practically achievable. Note - The radiant heat levels and separation distances are to be established in accordance with method 2 set out in AS3959-2009.	**AO10** Buildings or building envelopes are separated from hazardous vegetation by a distance that: (a) achieves a radiant heat flux level of at any point on the building or envelope respectively, of 10kW/m^2 for a vulnerable use or 29kW/m^2 otherwise; and (b) is contained wholly within the development site. Note - Where a separation distance is proposed to be achieved by utilising existing cleared developed areas external to the site, certainty must be established (through tenure or other means) that the land will remain cleared of hazardous vegetation. For staged developments, temporary separation distances, perimeter roads or fire trails may be absorbed as part of subsequent stages. Note - The achievement of a cleared separation distance may not be achievable where other provisions within the planning scheme require protection of certain ecological, slope, visual or character features or functions.	Complies. The location of the proposed development is not located within the Potential Impact Buffer area of the Bushfire Overlay mapping present on the premises.

PO11 A formed, all weather fire trail is provided between the hazardous vegetation and the site boundary or building envelope, and is readily accessible at all times for the type of fire fighting vehicles servicing the area. However, a fire trail will not be required where it would not serve a practical fire management purpose. Note - Fire trails are unlikely to be required where a development site involves less than 2.5ha	**AO11** Development sites are separated from hazardous vegetation by a public road or fire trail which has: (a) a reserve or easement width of at least 20m; (b) a minimum trafficable (cleared and formed) width of 4m capable of accommodating a 15 tonne vehicle and which is at least 6m clear of vegetation; (c) no cut or fill embankments or retaining walls adjacent to the 4m wide trafficable path; (d) a minimum of 4.8m vertical clearance; (e) turning areas for fire-fighting appliances in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; (f) a maximum gradient of 12.5%; (g) a cross fall of no greater than 10 degrees; (h) drainage and erosion control devices in accordance with the standards prescribed in a planning scheme policy; (i) vehicular access at each end which is connected to the public road network which is connected to the public road network at intervals of no more than 500m; (j) designated fire trail signage; (k) if used, has gates locked with a system authorised by Queensland Fire and Emergency Services; and (l) if a fire trail, has an access easement that is granted in favour of Council and Queensland Fire and Emergency Services.	Complies. The location of the proposed development is not located within the Potential Impact Buffer area of the Bushfire Overlay mapping present on the premises.

Performance outcomes	Acceptable outcomes	
All development		
PO12 All premises are provided with vehicular access that enables safe evacuation for occupants and easy access by fire fighting appliances.	**AO12** Private driveways: (a) do not exceed a length of 60m from the street to the building; (b) do not exceed a gradient of 12.5%; (c) have a minimum width of 3.5m; (d) have a minimum of 4.8m vertical clearance; (e) accommodate turning areas for fire-fighting appliances in accordance with Queensland Fire and Emergency Services' Fire Hydrant and Vehicle Access Guidelines; and (f) serve no more than 3 dwellings or buildings.	Complies. The location of the proposed development is not located within the Potential Impact Buffer area of the Bushfire Overlay mapping present on the premises.

PO13 Development outside reticulated water supply areas includes a dedicated static supply that is available solely for fire fighting purposes and can be accessed by fire fighting appliances.	**AO13** A water tank is provided within 10m of each building (other than a class 10 building) which: (a) is either below ground level or of non- flammable construction; (b) has a take off connection at a level that allows the following dedicated, static water supply to be left available for access by fire fighters: (i) 10,000l for residential buildings Note – A minimum of 7,500l is required in a tank and the extra 2,500l may be in the form of accessible swimming pools or dams. (ii) 45,000l for industrial buildings; and (iii) 20,000l for other buildings; (c) includes shielding of tanks and pumps in accordance with the relevant standards; (d) includes a hardstand area allowing medium rigid vehicle (15 tonne fire appliance) access within 6m of the tank; (e) is provided with fire brigade tank fittings – 50mm ball valve and male camlock coupling and, if underground, an access hole of 200mm (minimum) to accommodate suction lines; and (f) is clearly identified by directional signage provided at the street frontage.	Complies. The proposed development provides on-site water storage in accordance with the requirements of the AO.
PO14 Landscaping does not increase the potential bushfire risk.	**AO14** Landscaping uses species that are less likely to exacerbate a bushfire event, and does not increase fuel loads within separation areas.	Complies. Landscaping will not increase the potential bushfire risk.

PO15 The risk of bushfire and the need to mitigate that risk is balanced against other factors (such as but not limited to, biodiversity or scenic amenity).	**AO15** Bushfire risk mitigation treatments do not have a significant impact on the natural environment or landscape character of the locality where this has value.	Complies. The location of the proposed development is not located within the Potential Impact Buffer area of the Bushfire Overlay mapping present on the premises.

Note – 'Vulnerable activities' are those involving:

(1) the accommodation or congregation of vulnerable sectors of the community such as child care centres, community care centre, educational establishments, detention facilities, hospitals, rooming accommodation, retirement facilities or residential care facilities; or

(2) the provision of essential services including community uses, emergency services, utility installation, telecommunications facility, substations and major electricity infrastructure.

8.2.3 Coastal environment overlay code

Performance outcomes	Acceptable outcomes	Comment
For self-assessable and assessable development		
PO1 No works other than coastal protection works extend seaward of the coastal building line.	**AO1.1** Development (including all buildings and other permanent structures such as swimming pools and retaining walls) does not extend seaward of a coastal building line. Note – Coastal building lines are declared under the Coastal Protection and Management Act 1995 and are administered by the State Department of Environment and Heritage Protection. **AO1.2** Coastal protection works are only undertaken as a last resort where coastal erosion presents an immediate threat to public safety or existing buildings or structures and the property cannot be relocated or abandoned. **AO1.3** Coastal protection works are as far landward as practicable on the lot containing the property to the maximum extent reasonable. **AO1.4** Coastal protection work mitigates any increase in the coastal hazard.	**Complies.** The proposed development does not extend seaward of a coastal building line. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek.

PO2 Where a coastal building line does not exist on a lot fronting the coast or a reserve adjoining the coast, development is setback to maintain the amenity and use of the coastal resource.	AO2 Where a coastal building line does not exist on a lot fronting the coast or a reserve adjoining the coast, development (including all buildings and structures such as swimming pools) and retaining walls are set back not less than 6 metres from the seaward boundary of the lot.	**Complies.** The proposed development does not extend seaward of a coastal building line. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek.
For assessable development **Erosion prone areas**		
PO3 Development identifies erosion prone areas (coastal hazards).	AO3 No acceptable outcomes are prescribed.	**Complies.** The proposed development is located within the Erosion Prone Area. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek. Hartley's Creek is a well-established waterway corridor with no erosion or movement of the channel experienced in the locality to date.
PO4 Erosion prone areas are free from development to allow for natural coastal processes.	AO4.1 Development is not located within the Erosion prone area, unless it can be demonstrated that the development is for: (a) community infrastructure where no suitable alternative location or site exists for this infrastructure; or (b) development that reflects the preferred development outcomes in accordance with the zoning of the site (i.e. in the Low density residential zone, a dwelling house is a preferred development outcome in accordance with the zoning of the site) AO4.2 Development involving existing permanent	**Complies.** The proposed development is located within the Erosion Prone Area. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek. Hartley's Creek is a well-established waterway corridor with no erosion or movement of the channel experienced in the locality to date. The proposed development avoids areas of coastal erosion risks and maintains the natural processes operating in the area. In addition, the proposed development reflects the preferred development outcomes in accordance with the zoning of the site (i.e. in the Environmental Management Zone where a

	buildings and structures within an erosion prone area does not increase in intensity of its use by: (a) adding additional buildings or structures; or (b) incorporating a land use that will result in an increase in the number of people or employees occupying the site.	dwelling house is a preferred development outcome in accordance with the zoning of the site) that satisfies the requirements of the overlay code.
Coastal management districts		
PO5 Natural processes and protective functions of landforms and vegetation are maintained.	PO5.1 Development within the coastal management district: (a) maintains vegetation on coastal land forms where its removal or damage may: (i) destabilise the area and increase the potential for coastal erosion, or (ii) interrupt the natural sediment trapping processes or dune or land building processes; (b) maintains sediment volumes of dunes and near-shore coastal landforms, or where a reduction in sediment volumes cannot be avoided, increased risks to development from coastal erosion are mitigated by location, design and construction and operating standards; (c) minimises the need for erosion control structures or riverine hardening through location, design and construction standards; (d) maintains physical coastal processes outside the development footprint for the development, including longshore transport of sediment along the coast; (e) reduces the risk of shoreline erosion for areas adjacent to the development footprint to the	**Complies.** The proposed development is located within the Coastal management district. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek. The development is located on existing cleared and benched area and avoids areas of coastal erosion risks and maintains the natural processes operating in the area. No erosion control structures area required.

	maximum extent feasible in the case of erosion control structures. PO5.2 Where development proposes the construction of an erosion control structure: (a) it is demonstrated that it is the only feasible option for protecting permanent structures from coastal erosion; and (b) those permanent structures cannot be abandoned or relocated in the event of coastal erosion occurring. PO5.3 Development involving reclamation: (a) does not alter, or otherwise minimises impacts on, the physical characteristics of a waterway or the seabed near the reclamation, including flow regimes, hydrodynamic forces, tidal water and riverbank stability; (b) is located outside active sediment transport area, or otherwise maintains sediment transport processes as close as possible to their natural state; (c) ensures activities associated with the operation of the development maintain the structure and condition of vegetation communities and avoid wind and water runoff erosion.	
PO6 Development avoids or minimises adverse impacts on coastal resources and their values to the maximum extent reasonable.	AO6.1 Coastal protection work that is in the form of beach nourishment uses methods of placement suitable for the location that do not interfere with	**Complies.** The proposed development is of a scale and is located and designed to avoid adverse impacts on coastal resources and their values.

	the long-term use of the locality, or natural values within or neighbouring the proposed placement Douglas Shire Planning Scheme 2018 Version 1.0 Part 8: Overlays Part 8: Page 14 Performance outcomes Acceptable outcomes site. and AO6.2 Marine development is located and designed to expand on or redevelop existing marine infrastructure unless it is demonstrated that it is not practicable to co-locate the development with existing marine infrastructure; and AO6.3 Measures are incorporated as part of siting and design of the development to maintain or enhance water quality to achieve the environmental values and water quality objectives outlined in the Environmental Protection (Water) Policy 2009. and AO6.4 Development avoids the disturbance of acid sulfate soils, or where it is demonstrated that this is not possible, the disturbance of acid sulfate soils is carefully managed to minimise and mitigate the adverse effects of disturbance on	

	coastal resources. and AO6.4 Design and siting of development protects and retains identified ecological values and underlying ecosystem processes within the development site to the greatest extent practicable.	
PO7 Development is to maintain access to and along the foreshore for general public access.	AO7.1 Development provides for regular access points for pedestrians including approved walking tracks, boardwalks and viewing platforms. and AO7.2 Development provides for regular access points for vehicles including approved roads and tracks. or AO7.3 Development demonstrates an alternative solution to achieve an equivalent standard of performance.	N/A. The proposed development is not located adjacent to the foreshore or coast. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek.
PO8 Public access to the coast is appropriately located, designed and operated.	AO8.1 Development maintains or enhances public access to the coast. or AO8.2 Development is located adjacent to state coastal land or tidal water and minimises and offsets any loss of access to and along the foreshore within 500 metres. or	N/A. The proposed development is not located adjacent to the foreshore or coast. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek.

	AO8.3 Development adjacent to state coastal land or tidal water demonstrates an alternative solution to achieve an equivalent standard and quality of access.	
PO9 Development adjacent to state coastal land or tidal water is located, designed and operated to: (a) maintain existing access to and along the foreshore; (b) minimise any loss of access to and along the foreshore, or (c) offset any loss of access to and along the foreshore by providing for enhanced alternative access in the general location.	AO9.1 Development adjacent to state coastal land or tidal water: (a) demonstrates that restrictions to public access are necessary for: (i) the safe and secure operation of development; (ii) the maintenance of coastal landforms and coastal habitat; or (a) maintains public access (including public access infrastructure that has been approved by the local government or relevant authority) through the site to the foreshore for: (i) pedestrians via access points including approved walking tracks, boardwalks and viewing platforms; (ii) vehicles via access points including approved roads or tracks. AO9.2 Development adjacent to state coastal land or tidal water: (a) is located and designed to: (i) allow safe unimpeded access to, over, under or around built infrastructure located on, over or along the foreshore, for example through the provision of esplanades or easement corridors to preserve future access;	N/A. The proposed development is not located adjacent to the foreshore or coast. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek.

	(ii) ensure emergency vehicles can access the area near the development. or (a) minimises and offsets any loss of access to and along the foreshore within 500m of existing access points and development is located and designed to: (i) allow safe unimpeded access to, over, under or around built infrastructure located on, over or along the foreshore, and (ii) ensure emergency vehicles can access Douglas Shire Planning Scheme 2018 Version 1.0 Part 8: Overlays Part 8: Page 16 Performance outcomes Acceptable outcomes the area near the development.	
AO10 Development that involves reconfiguring a lot for urban purposes adjacent to the coast is designed to ensure public access to the coast in consideration of public access demand from a whole-of-community basis and the maintenance of coastal landforms and coastal habitat.	AO10.1 Development complies if consideration of public access demand from a whole-of-community basis and the maintenance of coastal landforms and coastal habitat is undertaken. or AO10.2 Development demonstrates an alternative solution to achieve an equivalent standard and quality of access.	N/A. The proposed development is not located adjacent to the foreshore or coast. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek.
PO11 Development maintains public access to State coastal land by avoiding private marine development attaching to, or extending across, non-tidal State coastal land.	AO11 Private marine access structures and other structures such as decks or boardwalks for private use do not attach to or extend across State coastal land that is situated above high	N/A. The proposed development is not located adjacent to the foreshore or coast. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek.

	water mark	
PO12 Development in connection with an artificial waterway enhances public access to coastal waters.	AO12 The artificial waterway avoids intersecting with or connection to inundated land or leased land where the passage, use or movement of vessels in water on the land could be restricted or prohibited by the registered proprietor of the inundated land or leased land.	N/A. The proposed development is not connected to an artificial waterway. The proposed development is located approximately 500m inland from the coastline on the banks of Hartley's Creek.
Coastal landscapes, views and vistas		
PO13 Development maintains and / or enhances natural coastal landscapes, views and vistas.	AO13 No acceptable outcomes are prescribed.	**Complies.** The proposed development is of a scale and is located and designed so that no impact on natural coastal landscapes, views and vistas.
PO14 Coastal settlements are consolidated through the concentration of development within the existing urban areas through infill and conserving the natural state of the coastal area outside existing urban areas.	AO14 No acceptable outcomes are prescribed.	N/A.
Private marine development		
PO15 Private marine development is to avoid attaching to, or extending across, non-tidal State coastal land.	AO15 Private marine development and other structures such as decks or boardwalks for private use do not attach to, or extend across, State coastal land that is situated above high water mark. Note – For occupation permits or allocations of State land, refer to the Land Act 1994.	N/A.
PO16 The location and design of private marine development does not adversely affect the safety	AO16 Private marine development does not involve the erection or placement of any physical barrier	N/A.

of members of the public access to the foreshore.	preventing existing access, along a public access way to the foreshores.	
PO17 Private marine development is of a height and scale and size compatible with the character and	AO17 Private marine development has regard to: (a) the height, scale and size of the natural amenity of the location. features of the immediate surroundings and locality; (b) the height, scale and size of existing buildings or other structures in the immediate surroundings and the locality; (c) if the relevant planning scheme states that desired height, scale or size of buildings or other structures in the immediate surroundings or locality – the stated desired height, scale or size. Note – The prescribed tidal works code in the Coastal Protection and Management Regulation 2003 outlines design and construction requirements that must be complied with.	N/A.
PO18 Private marine development avoids adverse impacts on coastal landforms and coastal processes.	AO18 Private marine development does not require the construction of coastal protection works, shoreline or riverbank hardening or dredging for marine access	N/A.
For dry land marinas and artificial waterways		
PO19 Dry land marinas and artificial waterways: (a) avoid impacts on coastal resources; (b) do not contribute to the degradation of water	AO19 No acceptable solutions are prescribed.	N/A.

quality; (c) do not increase the risk of flooding; (d) do not result in the degradation or loss of MSES; (e) do not result in an adverse change to the tidal prism of the natural waterway to which development is connected. (f) does not involve reclamation of tidal land other than for the purpose of: (i) coastal dependent development, public marine development; or (ii) community infrastructure, where there is no feasible alternative; or (iii) strategic ports, boat harbours or strategic airports and aviation facilities in accordance with a statutory land use plan; or (iv) coastal protection works or works necessary to protect coastal resources and processes.		

8.2.4 Flood and storm tide hazard overlay code

Performance outcomes	Acceptable outcomes	
For assessable and self assessable development		**Comment**
PO1 Development is located and designed to: ensure the safety of all persons; minimise damage to the development and contents of buildings; provide suitable amenity; minimise disruption to residents, recovery time, and rebuilding or restoration costs after inundation events. Note – For assessable development within the flood plain assessment sub-category, a flood study by a suitably qualified professional is required to identify compliance with the intent of the acceptable outcome.	**AO1.1** Development is sited on parts of the land that is not within the Flood and Storm tide hazards overlay maps contained in Schedule 2; or For dwelling houses, **AO1.2** Development within the Flood and Storm Tide hazards overlay maps (excluding the Flood plain assessment sub-category) is designed to provide immunity to the Defined Inundation Event as outlined within Table 8.2.4.3.b plus a freeboard of 300mm. **AO1.3** New buildings are: (a) not located within the overlay area; (b) located on the highest part of the site to minimise entrance of flood waters; (c) provided with clear and direct pedestrian and vehicle evacuation routes off the site. **AO1.4** In non urban areas, buildings and infrastructure are set back 50 metres from natural riparian corridors to maintain their	**Complies.** The Medium Storm Tide Hazard and Floodplain Assessment Overlay area of the Flood and Storm Tide Hazard Overlay mapping is present over the premises. Upon closer analysis of the overlay mapping it is considered that the location of the proposed development is not located within the Floodplain Assessment Overlay area only. As such, the proposed development need not be designed to a Defined Inundation Event as outlined within AO1.2. In addition, the premises are not known to be significantly impacted by flood or storm tide. The proposed development is located on top of the bank of Hartley's Creek approximately 7m above and 15m from Hartley's Creek. There is no existing flood or storm tide data for the premises. Anecdotally, the site is not impacted by flood or storm tide during flood events with floodwaters primarily being contained within the channel of Hartley's Creek, having never breached the top of bank where the development is proposed to be located. It is important to note that the location and level of the proposed secondary dwelling is identical to that of the existing dwelling which has not been impacted by floods. In addition, the proposed dwelling is raised above the ground by 400mm.

	natural function of reducing velocity of floodwaters.	
For assessable development		
PO2 The development is compatible with the level of risk associated with the natural hazard.	**AO2** The following uses are not located in land inundated by the Defined Flood Event (DFE) / Storm tide: (a) Retirement facility; (b) Community care facility; (c) Child care centre.	N/A.
PO3 Development siting and layout responds to flooding potential and maintains personal safety	For Material change of use **AO3.1** New buildings are: (d) not located within the overlay area; (e) located on the highest part of the site to minimise entrance of flood waters; (f) provided with clear and direct pedestrian and vehicle evacuation routes off the site. or	**Complies.** The Medium Storm Tide Hazard and Floodplain Assessment Overlay area of the Flood and Storm Tide Hazard Overlay mapping is present over the premises. Upon closer analysis of the overlay mapping it is considered that the location of the proposed development is not located within the Floodplain Assessment Overlay area only. As such, the proposed development need not be designed to a Defined Inundation Event as outlined within AO1.2. In addition, the premises are not known to be significantly impacted by flood or storm tide. The proposed development is located on top of the bank of Hartley's Creek approximately 7m above and 15m from Hartley's Creek. There is no existing flood or storm tide data for the premises. Anecdotally, the site is not impacted by flood or storm tide during flood events with floodwaters primarily being contained within the channel of Hartley's Creek, having never breached the top of bank where the development is proposed to be located. It is important to note that the location and level of the proposed secondary dwelling is identical to that of the existing dwelling

		which has not been impacted by floods. In addition, the proposed dwelling is raised above the ground by 400mm. It is therefore considered that the proposed secondary dwelling is not impacted by or will interfere with any floodwaters or storm tide Clear and direct pedestrian and vehicle access and is provided via the existing and proposed driveway off the site.
	AO3.2 The development incorporates an area on site that is at least 300mm above the highest known flood inundation level with sufficient space to accommodate the likely population of the development safely for a relatively short time until flash flooding subsides or people can be evacuated. or **AO3.3** Where involving an extension to an existing dwelling house that is situated below DFE /Storm tide, the maximum size of the extension does not exceed 70m2 gross floor area. Note – If part of the site is outside the Hazard Overlay area, this is the preferred location of all	**Complies.** The Medium Storm Tide Hazard and Floodplain Assessment Overlay area of the Flood and Storm Tide Hazard Overlay mapping is present over the premises. Upon closer analysis of the overlay mapping it is considered that the location of the proposed development is not located within the Floodplain Assessment Overlay area only. As such, the proposed development need not be designed to a Defined Inundation Event as outlined within AO1.2. In addition, the premises are not known to be significantly impacted by flood or storm tide. The proposed development is located on top of the bank of Hartley's Creek approximately 7m above and 15m from Hartley's Creek. There is no existing flood or storm tide data for the premises. Anecdotally, the site is not impacted by flood or storm tide during flood events with floodwaters primarily being contained within the channel of Hartley's Creek, having never breached the top of bank where the development is

	buildings. For Reconfiguring a lot **AO3.4** Additional lots: (a) are not located in the hazard overlay area; or (b) are demonstrated to be above the flood level identified for the site. Note - If part of the site is outside the Hazard Overlay area, this is the preferred location for all lots (excluding park or other open space and recreation lots). Note – Buildings subsequently developed on the lots will need to comply with the relevant building assessment provisions under the Building Act 1975.	proposed to be located. It is important to note that the location and level of the proposed secondary dwelling is identical to that of the existing dwelling which has not been impacted by floods. In addition, the proposed dwelling is raised above the ground by 400mm. It is therefore considered that the proposed secondary dwelling is not impacted by or will interfere with any floodwaters or storm tide Clear and direct pedestrian and vehicle access and is provided via the existing and proposed driveway off the site.
	AO3.5 Road and/or pathway layout ensures residents are not physically isolated from adjacent flood free urban areas and provides a safe and clear evacuation route path: (a) by locating entry points into the reconfiguration above the flood level and avoiding culs-de-sac or other non-permeable layouts; and (b) by direct and simple routes to main carriageways.	

	AO3.6 Signage is provided on site (regardless of whether the land is in public or private ownership) indicating the position and path of all safe evacuation routes off the site and if the site contains, or is within 100m of a floodable waterway, hazard warning signage and depth indicators are also provided at key hazard points, such as at floodway crossings or entrances to low-lying reserves. Or **AO3.7** There is no intensification of residential uses within the flood affected areas on land situated below the DFE/Storm tide. For Material change of use (Residential uses) **AO3.1** The design and layout of buildings used for residential purposes minimise risk from flooding by providing: (a) parking and other low intensive, non-habitable uses at ground level; Note - The high-set 'Queenslander' style house is a resilient low-density housing solution in floodplain areas. Higher density residential development should ensure only non- habitable rooms (e.g. garages, laundries) are located on the ground floor.	

PO4 Development is resilient to flood events by ensuring design and built form account for the potential risks of flooding.	For Material change of use (Non-residential uses) **AO4.2** Non residential buildings and structures allow for the flow through of flood waters on the ground floor. Note - Businesses should ensure that they have the necessary contingency plans in place to account for the potential need to relocate property prior to a flood event (e.g. Allow enough time to transfer stock to the upstairs level of a building or off site). Note - The relevant building assessment provisions under the Building Act 1975 apply to all building work within the Hazard Area and need to take into account the flood potential within the area. **AO4.3**	N/A

	Materials are stored on-site: (a) are those that are readily able to be moved in a flood event; (b) where capable of creating a safety hazard by being shifted by flood waters, are contained in order to minimise movement in times of flood. Notes - (a) Businesses should ensure that they have the necessary contingency plans in place to account for the potential need to relocate property prior to a flood event (e.g. allow enough time to transfe stock to the upstairs level of a building or off site). (b) Queensland Government Fact Sheet 'Repairing your House after a Flood' provides information about water resilient products and building techniques.	
PO5 Development directly, indirectly and cumulatively avoids any increase in water flow velocity or flood level and does not increase the potential flood damage either on site or on other properties. Note – Berms and mounds are considered to be an undesirable built form outcome and are not supported.	For Operational works **AO5.1** Works in urban areas associated with the proposed development do not involve: (a) any physical alteration to a watercourse or floodway including vegetation clearing; or (b) a net increase in filling (including berms and mounds). **AO5.2** Works (including buildings and earthworks) in non urban areas either: (a) do not involve a net increase in filling greater	**N/A.** The Medium Storm Tide Hazard and Floodplain Assessment Overlay area of the Flood and Storm Tide Hazard Overlay mapping is present over the premises. Upon closer analysis of the overlay mapping it is considered that the location of the proposed development is not located within the Storm Tide Hazard area.

	than 50m3 ; or (b) do not result in any reductions of on-site flood storage capacity and contain within the subject site any changes to depth/duration/velocity of flood waters; or (c) do not change flood characteristics outside the subject site in ways that result in: (i) loss of flood storage; (ii) loss of/changes to flow paths; (iii) acceleration or retardation of flows or any reduction in flood warning times elsewhere on the flood plain. For Material change of use **AO5.3** Where development is located in an area affected by DFE/Storm tide, a hydraulic and hydrology report, prepared by a suitably qualified professional, demonstrates that the development maintains the flood storage capacity on the subject site; and (a) does not increase the volume, velocity, concentration of flow path alignment of stormwater flow across sites upstream, downstream or in the general vicinity of the subject site; and (b) does not increase ponding on sites upstream,	

	downstream or in the general vicinity of the subject site. For Material change of use and Reconfiguring a Lot **AO5.4** In non urban areas, buildings and infrastructure are set back 50 metres from natural riparian corridors to maintain their natural function of reducing velocity of floodwaters. Note – Fences and irrigation infrastructure (e.g. irrigation tape) in rural areas should be managed to minimise adverse the impacts that they may have on downstream properties in the event of a flood.	
PO6 Development avoids the release of hazardous materials into floodwaters.	For Material change of use **AO6.1** Materials manufactured or stored on site are not hazardous or noxious, or comprise materials that may cause a detrimental effect on the environment if discharged in a flood event; or **AO6.2** If a DFE level is adopted, structures used for the manufacture or storage of hazardous materials are: (a) located above the DFE level; or (b) designed to prevent the intrusion of	N/A.

	floodwaters. **AO6.3** Infrastructure is designed and constructed to resist hydrostatic and hydrodynamic forces as a result of inundation by the DFE. **AO6.4** If a flood level is not adopted, hazardous materials and their manufacturing equipment are located on the highest part of the site to enhance flood immunity and designed to prevent the intrusion of floodwaters. Note – Refer to Work Health and Safety Act 2011 and associated Regulation and Guidelines, the Environmental Protection Act 1994 and the relevant building assessment provisions under the Building Act 1975 for requirements related to the manufacture and storage of hazardous materials.	

PO7 The development supports, and does not unduly burden, disaster management response or recovery capacity and capabilities.	**AO7** Development does not: (a) increase the number of people calculated to be at risk of flooding; (b) increase the number of people likely to need evacuation; (c) shorten flood warning times; and (d) impact on the ability of traffic to use evacuation routes, or unreasonably increase traffic volumes on evacuation routes	N/A. The proposed development does not increase the number of people calculated to be at risk of flooding.
PO8 Development involving community infrastructure: (a) remains functional to serve community need during and immediately after a flood event; (b) is designed, sited and operated to avoid adverse impacts on the community or environment due to impacts of flooding on infrastructure, facilities or access and egress routes; (c) retains essential site access during a flood event; (d) is able to remain functional even when other infrastructure or services may be compromised in a flood event.	AO8.1 The following uses are not located on land inundated during a DFE/Storm tide: (a) community residence; and (b) emergency services; and (c) residential care facility; and (d) utility installations involving water and sewerage treatment plants; and (e) storage of valuable records or items of historic or cultural significance (e.g. archives, museums, galleries, libraries). or **AO8.2** The following uses are not located on land inundated during a 1% AEP flood event: (a) community and cultural facilities, including facilities where an education and care service under the Education and care Services	N/A.

	National law (Queensland) is operated or child care service under the Child Care Act 2002 is conducted, (b) community centres; (c) meeting halls; (d) galleries; (e) libraries. The following uses are not located on land inundated during a 0.5% AEP flood event. (a) emergency shelters; (b) police facilities; (c) sub stations; (d) water treatment plant The following uses are not located on land inundated during a 0.2% AEP flood event: (a) correctional facilities; (b) emergency services; (c) power stations; (d) major switch yards. and/or **AO8.3** The following uses have direct access to low hazard evacuation routes as defined in Table 8.2.4.3.c: (a) community residence; and (b) emergency services; and (c) hospitals; and (d) residential care facility; and (e) sub stations; and	

	(f) utility installations involving water and sewerage treatment plants. **AO8.4** Any components of infrastructure that are likely to fail to function or may result in contamination when inundated by flood, such as electrical switch gear and motors, telecommunications connections, or water supply pipeline air valves are: (a) located above DFE/Storm tide or the highest known flood level for the site; (b) designed and constructed to exclude floodwater intrusion / infiltration. **AO8.5** Infrastructure is designed and constructed to resist hydrostatic and hydrodynamic forces as a result of inundation by a flood.	

Table 8.2.4.3.b - Minimum immunity (floor levels) for development

Minimum immunity to be achieved (floor levels)	Uses and elements of activities acceptable in the event
20% AEP level	• Parks and open space.
5% AEP level	• Car parking facilities (including car parking associated with use of land).
1% AEP level	• All development (where not otherwise requiring an alternative level of minimum immunity).
0.5% AEP level	• Emergency services (if for a police station); • Industry activities (if including components which store, treat or use hazardous materials); • Substation; • Utility installation.
0.2% AEP level	• Emergency services; • Hospital; • Major electricity infrastructure; • Special industry.

Table 8.2.4.3.c - Degree of flood

Criteria	Low	Medium	High	Extreme
Wading ability	If necessary children and the elderly could wade. (Generally, safe wading velocity depth product is less than 0.25)	Fit adults can wade. (Generally, safe wading velocity depth product is less than 0.4)	Fit adults would have difficulty wading. (Generally, safe wading velocity depth product is less than 0.6)	Wading is not an option.
Evacuation distances	< 200 metres	200-400 metres	400-600 metres	600 metres

Maximum flood depths	< 0.3 metre	< 0.6 metre	< 1.2 metres	1.2 metres
Maximum flood velocity	< 0.4 metres per second	< 0.8 metres per second	< 1.5 metres per second	1.5 metres per second
Typical means of egress	Sedan	Sedan early, but 4WD or trucks later	4WD or trucks only in early stages, boats or helicopters	Large trucks, boats or helicopters
Timing Note: This category cannot be implemented until evacuation times have been established in the Counter Disaster Plan (Flooding)	Ample flood forecasting. Warning and evacuation routes remain passable for twice as long as evacuation time.	Evacuation routes remain trafficable for 1.5 times as long as the evacuation.	Evacuation routes remain trafficable for only up to minimum evacuation time.	There is insufficient evacuation time.

Note: The evacuation times for various facilities or areas would (but not necessarily) be included in the Counter Disaster Plan. Generally safe wading conditions assume even walking surfaces and no obstructions, steps, soft underfoot etc.

8.2.5 Hillslopes overlay code

Performance outcomes	Acceptable outcomes	Comment
For self-assessable development		
PO1 The landscape character and visual amenity quality of hillslopes areas is retained to protect the scenic backdrop to the region.	AO1.1 Development is located on parts of the site that are not within the Hillslopes constraint subcategory as shown on the Hillslopes overlay Maps contained in schedule 2.	N/A.
For assessable development		
PO2 The landscape character and visual amenity quality of hillslopes areas is retained to protect the scenic backdrop to the region.	AO2.1 Development does not occur on land with a gradient in excess of 1 in 6 (16.6%) or AO2.2 Where development on land steeper than 1 in 6 (16.6%) cannot be avoided, development follows the natural contours of the site. AO2.3 Access ways and driveways are: (a) constructed with surface materials that blend with the surrounding environment; (b) landscaped with dense planting to minimise the visual impact of the construction; (c) provided with erosion control measures immediately after construction. AO2.4 The clearing or disturbance of vegetation is limited to clearing and disturbance that: (a) is necessary for the construction of driveways;	**Complies.** The proposed development is located on parts of the site that are not within the Hillslopes constraint and does not occur on land with a gradient in excess of 1 in 6 (16.6%). The proposed secondary dwelling is also of a scale that ensures that it does not adversely affect the amenity of the zone and adjoining land uses. No further excavation or fill or clearing or disturbance of vegetation is required to establish the secondary dwelling. Access ways and driveways will be constructed with surface materials that blend with the surrounding environment.

	(b) is necessary to contain the proposed development; (c) minimises canopy clearing or disturbance; (d) minimises riparian clearing or disturbance. AO2.5 On land with slopes greater than 1 in 6 (16.6%) or greater, alternative construction methods to concrete slab on ground are utilised (i.e. split level or post and beam constructed buildings that minimise modification to the natural terrain of the land). AO2.6 Development does not alter the sky line. AO2.7 Buildings and structures: (a) are finished predominantly in the following exterior colours or surfaces: (i) moderately dark to darker shades of olive green, brown, green, blue, or charcoal; or (ii) moderately dark to darker wood stains that blend with the colour and hues of the surrounding vegetation and landscape; (b) are not finished in the following exterior colours or surfaces: (i) pastel or terracotta colours, reds, yellows, shades of white or beige, or other bright colours that do not blend with the surrounding vegetation and landscape; (ii) reflective surfaces. AO2.8	

	Exterior colour schemes limit the use of white or other light colours to exterior trim and highlighting of architectural features AO2.9 Areas between the first floor (including outdoor deck areas) and ground level are screened from view. AO2.10 Recreational or ornamental features (including tennis courts, ponds or swimming pools) do not occur on land: (a) with a gradient of 1 in 6 (16.6%) or more; (b) are designed to be sited and respond to the natural constraints of the land and require minimal earthworks.	
PO3 Excavation or filling does not have an adverse impact on the amenity, safety, stability or function of the site or adjoining premises through: (a) loss of privacy; (b) loss of access to sunlight; (c) intrusion of visual or overbearing impacts; (d) complex engineering solutions.	AO3 Excavation or fill: (a) is not more than 1.2 metres in height for each batter or retaining wall; (b) is setback a minimum of 2 metres from property boundaries; (c) is stepped with a minimum 2 metre wide berm to incorporate landscaping in accordance with Planning scheme policy SC6.7 – Landscaping; (d) does not exceed a maximum of 3 batters and 3 berms (i.e. not greater than 3.6 metres in height) on any one lot.	**Complies.** The proposed secondary dwelling is located on an area of the site which is already cleared and benched. No further excavation or fill or clearing or disturbance of vegetation is required to establish the secondary dwelling.
Lot reconfiguration		
PO4 For development that involves reconfiguring a lot,	AO4.1 The frontage and depth of all lots is of sufficient width to:	N/A

lot layout and design is responsive to the natural constraints of the land and each lot is capable of being used for its intended purpose.	(a) allow driveways to follow the natural contours of the site and not exceed a gradient of 1 in 6 (16.6%); (b) accommodate any changes in gradient between the road and lot within the lot boundary and not within the road reserve. AO4.2 Development does not create new lots containing land of greater than 1 in 6 (16.6%), except where a rectangular area of land of lesser grade is contained within the new lots to accommodate the intended land use, with the balance left in its natural state to the greatest extent possible. Note – The size of rectangular areas is outlined within each zone code. AO4.3 Development does not alter ridgelines. AO4.4 Lots are designed to ensure rooflines of future buildings and structures do not protrude above a ridgeline.	

8.2.6 Landscape values overlay code

Performance outcomes	Acceptable outcomes	Comment
For assessable development		
Development in a High landscape value area		
PO1 Development within High landscape value areas identified on the Landscape values overlay maps contained in Schedule 2: (a) avoids detrimental impacts on the landscape values of forested skylines, visible hillslopes, ridgelines, the coastal foreshore or the shoreline of other water bodies through the loss of vegetation; (b) is effectively screened from view from a road, lookout or other public place by an existing natural landform or native vegetation, or will be effectively screened by native vegetation within 3 years of construction; (c) retains existing vegetation and incorporates new landscaping to enhance existing vegetation and visually soften built form elements; (d) incorporates development of a scale, design, height, position on site, construction materials and external finishes that are compatible with the landscape values of the locality; (e) avoids detrimental impacts on landscape values and excessive changes to the natural landform as a result of the location, position on	AO1.1 Buildings and structures are not more than 8.5 metres and two storeys in height. Note - Height is inclusive of roof height. AO1.2 Buildings and structures are setback not less than 50 metres from ridgelines or peaks. AO1.3 Development is screened from view from roads or other public places by an existing natural landform or an existing native vegetation buffer. AO1.4 Where development on land steeper than 1 in 6 (16.6%) cannot be avoided: (a) development follows the natural; contours of the site; (b) buildings are split level or suspended floor construction, or a combination of the two; (c) lightweight materials are used to areas with suspended floors.	**Complies.** No buildings and structures are more than 8.5 metres in height. The proposed secondary dwelling is: - not located near any ridgelines or peaks; - is screened from view by an existing native vegetation buffer; - is not on land steeper than 1 in 6 (16.6%). The proposed external features, walls and roofs of buildings and structures have a subdued and non-reflective palette.

site, scale, design, extent and alignment of earthworks, roads, driveways, retaining walls and other on-ground or in-ground infrastructure; (f) avoids detrimental impacts on landscape values and views as a result of the location, position on site, scale, design and alignment of telecommunications facilities, electricity towers, poles and lines and other tall infrastructure; (g) extractive industry operations are avoided. Note - A visual impact assessment is undertaken in accordance with Planning scheme policy SC6.6 – Landscape values in order to satisfy performance outcomes.	Note - Examples of suitable lightweight materials include timber or fibre cement boards or sheeting for walls and factory treated metal sheeting for walls and roofs. AO1.5 The external features, walls and roofs of buildings and structures have a subdued and non-reflective palette. Note - Examples of suitable colours include shades of green, olive green, blue green, grey green, green blue, indigo, brown, blue grey, and green yellow. AO1.6 No clearing of native vegetation occurs on land with a slope greater than 1 in 6 (16.5%). AO1.7 Where for accommodation activities or reconfiguration of a lot in a High landscape value area, development demonstrates that the height, design, scale, positioning on-site, proposed construction materials and external finishes are compatible with the landscape values. Note - A visual impact assessment undertaken in accordance with Planning scheme policy SC6.6 – Landscape values may be required.	

	AO1.8 Advertising devices do not occur.	
Development within the Medium landscape value area		
PO2 Development within Medium landscape value areas identified on the Landscape values overlay maps contained in Schedule 2: (a) avoids detrimental impacts on the landscape values of forested skylines, visible hillslopes, ridgelines, the coastal foreshore or the shoreline of other water bodies through the loss of vegetation; (b) is effectively screened from view from a road, lookout or other public place by an existing natural landform or native vegetation, or will be effectively screened by native vegetation within 5 years of construction; (c) retains existing vegetation and incorporates new landscaping to enhance existing vegetation and visually soften built form elements; (d) incorporates development of a scale, design, height, position on site, construction materials and external finishes that are compatible with the landscape values of the locality; (e) avoids detrimental impacts on landscape values and excessive changes to the natural landform as a result of the location, position on site, scale, design and alignment of earthworks, roads, driveways, retaining walls and other on-ground or in-ground infrastructure;	AO2.1 Buildings and structures are not more than 8.5 metres and two storeys in height. Note - Height is inclusive of the roof height. AO2.2 Development is screened from view from roads or other public places by an existing natural landform or an existing native vegetation buffer. AO2.3 Where development on land steeper than 1 in 6 (16.6%) cannot be avoided: (a) development follows the natural; contours of the site; (b) buildings are split level or suspended floor construction, or a combination of the two; (c) lightweight materials are used to areas with suspended floors. Note - Examples of suitable lightweight materials include timber or fibre cement boards or sheeting for walls and factory treated metal sheeting for walls and roofs. AO2.4 The external features, walls and roofs of buildings	N/A.

(f) avoids detrimental impacts on landscape values and views as a result of the location, position on site, scale, design and alignment of telecommunications facilities, electricity towers, poles and lines and other tall infrastructure; (g) extractive industry operations are avoided, or where they cannot be avoided, are screened from view. Note - A visual impact assessment is undertaken in accordance with Planning scheme policy SC6.6 – Landscape values in order to satisfy performance outcomes.	and structures have a subdued and non-reflective palette. Note - Examples of suitable colours include shades of green, olive green, blue green, grey green, green blue, indigo, brown, blue grey, and green yellow. AO2.5 No clearing of native vegetation occurs on land with a slope greater than 1 in 6 (16.6%). AO2.6 Advertising devices do not occur.	
Development within a Scenic route buffer / view corridor area		
PO3 Development within a Scenic route buffer / view corridor area as identified on the Landscape values overlay maps contained in Schedule 2: (a) retains visual access to views of the surrounding landscape, the sea and other water bodies; (b) retains existing vegetation and incorporates landscaping to visually screen and soften built form elements whilst not impeding distant views or view corridors; (c) incorporates building materials and external finishes that are compatible with the visual amenity and the landscape character; (d) minimises visual impacts on the setting	AO3.1 Where within a Scenic route buffer / view corridor area, the height of buildings and structures is not more than identified within the acceptable outcomes of the applicable zone code. AO3.2 No clearing of native vegetation is undertaken within a Scenic route buffer area. AO3.3 Where within a Scenic route buffer / view corridor area development is set back and screened from view from a scenic route by existing native vegetation with a width of at least 10 metres and landscaped in accordance with the requirements	**Complies.** No buildings and structures are more than 8.5 metres in height. The proposed secondary dwelling does not involve any clearing of native vegetation within a Scenic route buffer area and is screened from view by an existing native vegetation buffer. The proposed external features, walls and roofs of buildings and structures have a subdued and non-reflective palette.

and views in terms of: (i) the scale, height and setback of buildings; (ii) the extent of earthworks and impacts on the landform including the location and configuration of access roads and driveways; (iii) the scale, extent and visual prominence of advertising devices. Note - A visual impact assessment is undertaken in accordance with Planning scheme policy SC6.6 – Landscape values in order to satisfy performance outcomes.	of the landscaping code. AO3.4 Development does not result in the replacement of, or creation of new, additional, or enlarged advertising devices.	
Development within the Coastal scenery area		
PO4 The landscape values of the Coastal scenery zone as identified on the Landscape values overlay maps contained in Schedule 2 are managed to integrated and limit the visual impact of development. Note - A visual impact assessment is undertaken in accordance with Planning scheme policy SC6.6 – Landscape values in order to satisfy performance outcomes.	AO4.1 The dominance of the natural character of the coast is maintained or enhanced when viewed from the foreshore. AO4.2 Where located adjacent to the foreshore buildings and structures are setback: (a) Where no adjoining development, a minimum of 50 metres from the coastal high water mark and the setback area is landscaped with a native vegetation buffer that has a minimum width of 25 metres; or (b) Where there is adjoining development, setbacks will be consistent with that of adjoining buildings and structures, but not less than 10 metres from the coastal high water mark. The setback area is landscaped in accordance with the	N/A.

	requirements of the Landscaping code. AO4.3 Where separated from the foreshore by land contained within public ownership (e.g. unallocated State land, esplanade or other public open space), buildings and structures area setback: (a) where no adjoining development, a minimum of 6 metres from the coastward property boundary. The setback area is landscaped in accordance with the requirements of the Landscaping code; or (b) where there is adjoining development, setbacks will be consistent with that of adjoining buildings and structures. The setback area is landscaped in accordance with the requirements of the Landscaping code.	
PO5 Development is to maximise opportunities to maintain and/or enhance natural landscape values through the maintenance and restoration of vegetated buffers between development and coastal waters, where practical. Note – A visual impact assessment is undertaken in accordance with Planning scheme policy SC6.6 – Landscape values in satisfaction of a performance outcome.	AO5 No clearing of native vegetation is undertaken within a Coastal scenery area zone, except for exempt vegetation damage undertaken in accordance with the Vegetation management code	N/A.

8.2.7 Natural areas overlay code

Performance outcomes	Acceptable outcomes	Applicant response
For self-assessable and assessable development		
Protection of matters of environmental significance		
PO1 Development protects matters of environmental significance.	**AO1.1** Development avoids significant impact on the relevant environmental values. or **AO1.2** A report is prepared by an appropriately qualified person demonstrating to the satisfaction of the assessment manager, that the development site does not contain any matters of state and local environmental significance. or **AO1.3** Development is located, designed and operated to mitigate significant impacts on environmental values. For example, a report certified by an appropriately qualified person demonstrating to the satisfaction of the assessment manager, how the proposed development mitigates impacts, including on water quality, hydrology and biological processes.	**Complies.** The development of a scale, is designed and located so that any impacts on matters of environmental significance are minimised. The establishment of a secondary dwelling is consistent with the planning intent for the zone for the premises.

Performance outcomes	Acceptable outcomes	Applicant response
Management of impacts on matters of environmental significance		
PO2 Development is located, designed and constructed to avoid significant impacts on matters of environmental significance.	**AO2** The design and layout of development minimises adverse impacts on ecologically important areas by: (a) focusing development in cleared areas to protect existing habitat; (b) utilising design to consolidate density and preserve existing habitat and native vegetation; (c) aligning new property boundaries to maintain ecologically important areas; (d) ensuring that alterations to natural landforms, hydrology and drainage patterns on the development site do not negatively affect ecologically important areas; (e) ensuring that significant fauna habitats are protected in their environmental context; and (f) incorporating measures that allow for the safe movement of fauna through the site.	**Complies.** The development of a scale, is designed and located so that any impacts on matters of environmental significance are minimised, by complying with the requirements of the AO (a-f).
PO3 An adequate buffer to areas of state environmental significance is provided and maintained.	**AO3.1** A buffer for an area of state environmental significance (Wetland protection area) has a minimum width of: (a) 100 metres where the area is located outside Urban areas; or (b) 50 metres where the area is located within a Urban areas. or **AO3.2**	N/A.

Performance outcomes	Acceptable outcomes	Applicant response
	A buffer for an area of state environmental significance is applied and maintained, the width of which is supported by an evaluation of environmental values, including the function and threats to matters of environmental significance.	
PO4 Wetland and wetland buffer areas are maintained, protected and restored. Note – Wetland buffer areas are identified in AO3.1.	**AO4.1** Native vegetation within wetlands and wetland buffer areas is retained. **AO4.2** Degraded sections of wetlands and wetland buffer areas are revegetated with endemic native plants in patterns and densities which emulate the relevant regional ecosystem.	N/A.
PO5 Development avoids the introduction of non-native pest species (plant or animal), that pose a risk to ecological integrity.	**AO5.1** Development avoids the introduction of non-native pest species. **AO5.2** The threat of existing pest species is controlled by adopting pest management practices for long-term ecological integrity.	N/A.
Ecological connectivity		
PO6 Development protects and enhances ecological connectivity and/or habitat extent.	**AO6.1** Development retains native vegetation in areas large enough to maintain ecological values, functions and processes. And	**Complies.** The development of a scale, is designed and located so that any impacts on matters of environmental significance are minimised.

Performance outcomes	Acceptable outcomes	Applicant response
	AO6.2 Development within an ecological corridor rehabilitates native vegetation. and **AO6.3** Development within a conservation corridor mitigates adverse impacts on native fauna, feeding, nesting, breeding and roosting sites and native fauna movements.	
PO7 Development minimises disturbance to matters of state environmental significance (including existing ecological corridors).	**AO7.1** Development avoids shading of vegetation by setting back buildings by a distance equivalent to the height of the native vegetation. and **AO7.2** Development does not encroach within 10 metres of existing riparian vegetation and watercourses.	**Complies.** The development of a scale, is designed and located so that any impacts on matters of environmental significance are minimised.
Waterways in an urban area		
PO8 Development is set back from waterways to protect and maintain: (a) water quality; (b) hydrological functions; (c) ecological processes; (d) biodiversity values;	**AO8.1** Where a waterway is contained within an easement or a reserve required for that purpose, development does not occur within the easement or reserve; or **AO8.2**	N/A.

Performance outcomes	Acceptable outcomes	Applicant response
(e) riparian and in-stream habitat values and connectivity; (f) in-stream migration	Development does not occur on the part of the site affected by the waterway corridor. Note – Waterway corridors are identified within Table 8.2.7.3.b.	
Waterways in a non-urban area		
PO9 Development is set back from waterways to protect and maintain: (a) water quality; (b) hydrological functions; (c) ecological processes; (d) biodiversity values; (e) riparian and in-stream habitat values and connectivity; (f) in-stream migration.	**AO9** Development does not occur on that part of the site affected by a waterway corridor. Note – Waterway corridors are identified within Table 8.2.7.3.b.	**Complies.** The proposed development is located on top of the bank of Hartley's Creek approximately 7m above and 15m from Hartley's Creek and does not occur on the part of the site affected by the waterway corridor.

Table 8.2.7.3.b — Widths of waterway corridors for waterways

Waterways classification	Waterway corridor width
Waterways in Urban areas	10 metres measured perpendicular from the top of the high bank.
Waterways in Other areas	For a dwelling house, 10 metres measured perpendicular from the top of the high bank. For all other development, 20 metres measured perpendicular from the top of the high bank.

9.3.8 Dwelling house code

Performance outcomes	Acceptable outcomes	Comment
For self-assessable and assessable development		
PO1 Secondary dwellings: (a) are subordinate, small-scaled dwellings; (b) contribute to a safe and pleasant living environment; (c) are established on appropriate sized lots; (d) do not cause adverse impacts on adjoining properties.	**AO1** The secondary dwelling: (a) has a total gross floor area of not more than 80m2, excluding a single carport or garage; (b) is occupied by 1 or more members of the same household as the dwelling house.	**Complies.** The proposed secondary dwelling has a total gross floor area of 60m2 (including deck and excluding the single carport) and is to be occupied by a member of the same household as the dwelling house. Additionally, the proposed scale and location of the proposed secondary dwelling ensures that it is subordinate to the existing dwelling and the lot is of appropriate size to accommodate the dwelling.
PO2 Resident's vehicles are accommodated on- site.	**AO2** Development provides a minimum number of onsite car parking spaces comprising: (a) 2 car parking spaces which may be in tandem for the dwelling house; (b) 1 car parking space for any secondary dwelling on the same site.	**Complies.** The proposed development provides a minimum number of onsite car parking spaces (1 space).
PO3 Development is of a bulk and scale that: (a) is consistent with and complements the built form and front boundary setbacks prevailing in the street and local area; (b) does not create an overbearing development for adjoining dwelling houses and their private open space; (c) does not impact on the amenity and privacy of residents in adjoining dwelling houses;	**AO3** Development meets the acceptable outcome for building height in the applicable Zone code associated with the site.	**Complies. The proposed d**evelopment meets the acceptable outcome for building height (1 storey and 8.5m) in the applicable Environmental Management Zone Code.

(d) ensures that garages do not dominate the appearance of the street		

9.4.1 Access, parking and servicing code

Performance outcomes	Acceptable outcomes	Comment
For self-assessable and assessable development		
PO1 Sufficient on-site car parking is provided to cater for the amount and type of vehicle traffic expected to be generated by the use or uses of the site, having particular regard to: (a) the desired character of the area; (b) the nature of the particular use and its specific characteristics and scale; (c) the number of employees and the likely number of visitors to the site; (d) the level of local accessibility; (e) the nature and frequency of any public transport serving the area; (f) whether or not the use involves the retention of an existing building and the previous requirements for car parking for the building (g) whether or not the use involves a heritage building or place of local significance; (h) whether or not the proposed use involves the retention of significant vegetation.	**AO1.1** The minimum number of on-site vehicle parking spaces is not less than the number prescribed in Table 9.4.1.3.b for that particular use or uses. Note - Where the number of spaces calculated from the table is not a whole number, the number of spaces provided is the next highest whole number. **AO1.2** Car parking spaces are freely available for the parking of vehicles at all times and are not used for external storage purposes, the display of products or rented/sub-leased. **AO1.3** Parking for motorcycles is substituted for ordinary vehicle parking to a maximum level of 2% of total ordinary vehicle parking. **AO1.4** For parking areas exceeding 50 spaces parking, is provided for recreational vehicles as a substitute for ordinary vehicle parking to a maximum of 5% of total ordinary vehicle parking rate.	**Complies.** The proposed development provides the required number of car parking spaces 1 space for a secondary dwelling.

PO2 Vehicle parking areas are designed and constructed in accordance with relevant standards.	**AO2** Vehicle parking areas are designed and constructed in accordance with Australian Standard: (a) AS2890.1; (b) AS2890.3; (c) AS2890.6.	**Complies.** Vehicle parking areas will be designed and constructed in accordance with Australian Standard.

PO3 Access points are designed and constructed: (a) to operate safely and efficiently; (b) to accommodate the anticipated type and volume of vehicles (c) to provide for shared vehicle (including cyclists) and pedestrian use, where appropriate; (d) so that they do not impede traffic or pedestrian movement on the adjacent road area; (e) so that they do not adversely impact upon existing intersections or future road or intersection improvements; (f) so that they do not adversely impact current and future on-street parking arrangements; (g) so that they do not adversely impact on existing services within the road reserve adjacent to the site; (h) so that they do not involve ramping, cutting of the adjoining road reserve or any built structures (other than what may be necessary to cross over a stormwater channel).	**AO3.1** Access is limited to one access cross over per site and is an access point located, designed and constructed in accordance with: (a) Australian Standard AS2890.1; (b) Planning scheme policy SC6.5 – FNQROC Regional Development Manual - access crossovers. **AO3.2** Access, including driveways or access crossovers: (c) are not placed over an existing: • telecommunications pit; • stormwater kerb inlet; • sewer utility hole; • water valve or hydrant. (d) are designed to accommodate any adjacent footpath; (e) adhere to minimum sight distance requirements in accordance with AS2980.1. **AO3.3** Driveways are: (f) designed to follow as closely as possible to the existing contours, but are no steeper than the gradients outlined in Planning scheme policy SC6.5 – FNQROC Regional Development Manual; (g) constructed such that where there is a grade shift to 1 in 4 (25%), there is an area with a grade of no more than 1 in in 6 (16.6%) prior to this area, for a distance of at least 5 metres;	**Compiles.** Access to the dwelling is to be provided from the existing driveway via an unsealed driveway, approximately 40m in length constructed and maintained to comply with the relevant requirements of Planning Scheme Policy 5 – FNQROC Development Manual.

	(h) on gradients greater than 1 in 6 (16.6%) driveways are constructed to ensure the cross-fall of the driveway is one way and directed into the hill, for vehicle safety and drainage purposes; (i) constructed such that the transitional change in grade from the road to the lot is fully contained within the lot and not within the road reserve; (j) designed to include all necessary associated drainage that intercepts and directs storm water runoff to the storm water drainage system. **AO3.4** Surface construction materials are consistent with the current or intended future streetscape or character of the area and contrast with the surface construction materials of any adjacent footpath.	

PO4 Sufficient on-site wheel chair accessible car parking spaces are provided and are identified and reserved for such purposes.	**AO4** The number of on-site wheel chair accessible car parking spaces complies with the rates specified in AS2890 Parking Facilities.	N/A
PO5 Access for people with disabilities is provided to the building from the parking area and from the street.	**AO5** Access for people with disabilities is provided in accordance with the relevant Australian Standard.	N/A
PO6 Sufficient on-site bicycle parking is provided to cater for the anticipated demand generated by the development.	**AO6** The number of on-site bicycle parking spaces complies with the rates specified in Table 9.4.1.3.b.	N/A

PO7 Development provides secure and convenient bicycle parking which: (a) for visitors is obvious and located close to the building's main entrance; (b) for employees is conveniently located to provide secure and convenient access between the bicycle storage area, end-of-trip facilities and the main area of the building; (c) is easily and safely accessible from outside the site.	**AO7.1** Development provides bicycle parking spaces for employees which are co-located with end-of-trip facilities (shower cubicles and lockers); **AO7.2** Development ensures that the location of visitor bicycle parking is discernible either by direct view or using signs from the street. **AO7.3** Development provides visitor bicycle parking which does not impede pedestrian movement.	N/A
PO8 Development provides walking and cycle routes through the site which: (a) link to the external network and pedestrian and cyclist destinations such as schools, shopping centres, open space, public transport stations, shops and local activity centres along the safest, most direct and convenient routes; (b) encourage walking and cycling; (c) ensure pedestrian and cyclist safety.	**AO8** Development provides walking and cycle routes which are constructed on the carriageway or through the site to: (a) create a walking or cycle route along the full frontage of the site; (b) connect to public transport and existing cycle and walking routes at the frontage or boundary of the site.	N/A
PO9 Access, internal circulation and on-site parking for service vehicles are designed and constructed: (a) in accordance with relevant standards;	**AO9.1** Access driveways, vehicle manoeuvring and on-site parking for service vehicles are designed and constructed in accordance with AS2890.1 and	N/A

(b) so that they do not interfere with the amenity of the surrounding area; (c) so that they allow for the safe and convenient movement of pedestrians, cyclists and other vehicles.	AS2890.2. **AO9.2** Service and loading areas are contained fully within the site. **AO9.3** The movement of service vehicles and service operations are designed so they: (a) do not impede access to parking spaces; (b) do not impede vehicle or pedestrian traffic movement.	
PO10 Sufficient queuing and set down areas are provided to accommodate the demand generated by the development.	**AO10.1** Development provides adequate area on-site for vehicle queuing to accommodate the demand generated by the development where drive through facilities or drop-off/pick-up services are proposed as part of the use, including, but not limited to, the following land uses: (a) car wash; (b) child care centre; (c) educational establishment where for a school; (d) food and drink outlet, where including a drive- through facility; (e) hardware and trade supplies, where including a drive-through facility; (f) hotel, where including a drive-through facility; (g) service station. **AO10.2** Queuing and set-down areas are designed and constructed in accordance with AS2890.1.	N/A

9.4.5 Infrastructure works code

Performance outcomes	Acceptable outcomes	Comment
For self-assessable and assessable development		
Works on a local government road		
PO1 Works on a local government road do not adversely impact on footpaths or existing infrastructure within the road verge and maintain the flow, safety and efficiency of pedestrians, cyclists and vehicles.	**AO1.1** Footpaths/pathways are located in the road verge and are provided for the hierarchy of the road and located and designed and constructed in accordance with Planning scheme policy SC5 – FNQROC Regional Development Manual. **AO1.2** Kerb ramp crossovers are constructed in accordance with Planning scheme policy SC 5 – FNQROC Regional Development Manual. **AO1.3** New pipes, cables, conduits or other similar infrastructure required to cross existing footpaths: (a) are installed via trenchless methods; or (b) where footpath infrastructure is removed to install infrastructure, the new section of footpath is installed to the standard detailed	N/A. No works on a local government road are proposed.

Performance outcomes	Acceptable outcomes	
	in the Planning scheme policy SC5 – FNQROC Regional Development Manual, and is not less than a 1.2 metre section. **AO1.4** Where existing footpaths are damaged as a result of development, footpaths are reinstated ensuring: (a) similar surface finishes are used; (b) there is no change in level at joins of new and existing sections; (c) new sections are matched to existing in terms of dimension and reinforcement. Note – Figure 9.4.5.3.a provides guidance on meeting the outcomes. **AO1.5** Decks, verandahs, stairs, posts and other structures located in the road reserve do not restrict or impede pedestrian movement on footpaths or change the level of the road verges.	
Accessibility structures		

PO2 Development is designed to ensure it is accessible for people of all abilities and accessibility features do not impact on the efficient and safe use of footpaths. Note – Accessibility features are those features required to ensure access to premises is provided for people of all abilities and include ramps and lifts.	**AO2.1** Accessibility structures are not located within the road reserve. **AO2.2** Accessibility structures are designed in accordance with AS1428.3. **AO2.3** When retrofitting accessibility features in existing buildings, all structures and changes in grade are contained within the boundaries of the lot and not within the road reserve.	N/A
Water supply		
PO3 An adequate, safe and reliable supply of potable, fire fighting and general use water is provided.	**AO3.1** The premises is connected to Council's reticulated water supply system in accordance with the Design Guidelines set out in Section D6 of the Planning scheme policy SC5 – FNQROC Regional Development Manual; or **AO3.2** Where a reticulated water supply system is not available to the premises, on site water storage tank/s with a minimum capacity of 10,000 litres of stored water, with a minimum 7,500 litre tank, with the balance from other sources (e.g. accessible swimming pool, dam etc.) and access to the tank/s for fire trucks is provided for each new house or other development. Tank/s are to be fitted with a 50mm ball valve with a camlock fitting and installed and connected prior to	**Complies.** The existing onsite water supply is via an intake from Hartley's Creek, treatment and storage in two 40,000L storage tanks located on land to the south of the premises. The proposed secondary dwelling will be connected to the internal reticulation network through the site. There is a sufficient capacity within the existing onsite water supply system to accommodate the anticipated minor demand generated by the proposed secondary dwelling. For reference, the estimated daily use for a household (3 bedrooms) is 200-300L of water.

Performance outcomes	Acceptable outcomes	
	occupation of the house and sited to be visually unobtrusive.	
Treatment and disposal of effluent		
PO4 Provision is made for the treatment and disposal of effluent to ensure that there are no adverse impacts on water quality and no adverse ecological impacts as a result of the system or as a result of increasing the cumulative effect of systems in the locality.	**AO4.1** The site is connected to Council's sewerage system and the extension of or connection to the sewerage system is designed and constructed in accordance with the Design Guidelines set out in Section D7 of the Planning scheme policy SC5 – FNQROC Regional Development Manual; or **AO4.2** Where not in a sewerage scheme area, the proposed disposal system meets the requirements of Section 33 of the *Environmental Protection Policy (Water) 1997* and the proposed on site effluent disposal system is designed in accordance with the *Plumbing and Drainage Act (2002).*	**Complies.** The existing wastewater treatment and disposal systems is an underground anaerobic treatment and disposal system for a hydraulic flow of 3000L/day or organic loading or organic loading of 800 grams/day. The wastewater system overview and onsite sewerage facility site and soil report is contained in Attachment 4. There is a sufficient capacity within the existing onsite water supply and wastewater systems to accommodate the anticipated minor demand generated by the proposed secondary dwelling. For reference, the estimated daily use for a household (3 bedrooms) is 200-300L of water and production of wastewater.
Stormwater quality		

PO5 Development is planned, designed, constructed and operated to avoid or minimise adverse impacts on stormwater quality in natural and developed catchments by: (a) achieving stormwater quality objectives; (b) protecting water environmental values; (c) maintaining waterway hydrology.	**AO5.1** A connection is provided from the premises to Council's drainage system; or **AO5.2** An underground drainage system is constructed to convey stormwater from the premises to Council's drainage system in accordance with the Design Guidelines set out in Sections D4 and D5 of the Planning scheme policy SC5 – FNQROC Regional Development Manual. **AO5.3** A stormwater quality management plan is prepared, and provides for achievable stormwater quality treatment measures meeting design objectives listed in Table 9.4.5.3.b and Table 9.4.5.3.c, reflecting land use constraints, such as: (a) erosive, dispersive and/or saline soil types; (b) landscape features (including landform); (c) acid sulfate soil and management of nutrients of concern; (d) rainfall erosivity. **AO5.4** Erosion and sediment control practices are designed, installed, constructed, monitored, maintained, and carried out in accordance with an erosion and sediment control plan. **AO5.5**	**Complies.** The proposed development is designed and located to ensure the proposed dwelling is not impacted by or will interfere with any drainage across the premises.

	Development incorporates stormwater flow control measures to achieve the design objectives set out in Table 9.4.5.3.b and Table 9.4.5.3.c, including management of frequent flows, peak flows, and construction phase hydrological impacts. Note – Planning scheme policy SC5 – FNQROC Regional Development Manual provides guidance on soil and water control measures to meet the requirements of the Environmental Protection Act 1994. Note – During construction phases of development, contractors and builders are to have consideration in their work methods and site preparation for their environmental duty to protect stormwater quality.	

Non-tidal artificial waterways	

PO6 Development involving non-tidal artificial waterways is planned, designed, constructed and operated to: (a) protect water environmental values; (b) be compatible with the land use constraints for the site for protecting water environmental values; (c) be compatible with existing tidal and non-tidal waterways; (d) perform a function in addition to stormwater management; (e) achieve water quality objectives.	**AO6.1** Development involving non-tidal artificial waterways ensures: (a) environmental values in downstream waterways are protected; (b) any ground water recharge areas are not affected; (c) the location of the waterway incorporates low lying areas of the catchment connected to an existing waterway; (d) existing areas of ponded water are included. **AO6.2** Non-tidal artificial waterways are located: (a) outside natural wetlands and any associated buffer areas; (b) to minimise disturbing soils or sediments; (c) to avoid altering the natural hydrologic regime in acid sulfate soil and nutrient hazardous areas. **AO6.3** Non-tidal artificial waterways located adjacent to, or connected to a tidal waterway by means of a weir, lock, pumping system or similar ensures: (a) there is sufficient flushing or a tidal range of >0.3 m; or (b) any tidal flow alteration does not adversely impact on the tidal waterway; or (c) there is no introduction of salt water into freshwater environments.	N/A

	AO6.4 Non-tidal artificial waterways are designed and managed for any of the following end-use purposes: (a) amenity (including aesthetics), landscaping or recreation; or (b) flood management, in accordance with a drainage catchment management plan; or (c) stormwater harvesting plan as part of an integrated water cycle management plan; or (d) aquatic habitat.	

Performance outcomes	Acceptable outcomes	
	AO6.5 The end-use purpose of the non-tidal artificial waterway is designed and operated in a way that protects water environmental values. **AO6.6** Monitoring and maintenance programs adaptively manage water quality to achieve relevant water quality objectives downstream of the waterway. **AO6.7** Aquatic weeds are managed to achieve a low percentage of coverage of the water surface area, and pests and vectors are managed through design and maintenance.	N/A
Wastewater discharge		

PO7 Discharge of wastewater to waterways, or off site: (a) meets best practice environmental management; (b) is treated to: (i) meet water quality objectives for its receiving waters; (ii) avoid adverse impact on ecosystem health or waterway health; (iii) maintain ecological processes, riparian vegetation and waterway integrity; (iv) offset impacts on high ecological value waters.	**AO7.1** A wastewater management plan is prepared and addresses: (a) wastewater type; (b) climatic conditions; (c) water quality objectives; (d) best practice environmental management. **AO7.2** The waste water management plan is managed in accordance with a waste management hierarchy that: (a) avoids wastewater discharge to waterways; or (b) if wastewater discharge cannot practicably be avoided, minimises wastewater discharge to waterways by re-use, recycling, recovery and treatment for disposal to sewer, surface water and ground water. **AO7.3** Wastewater discharge is managed to avoid or minimise the release of nutrients of concern so as to minimise the occurrence, frequency and intensity of algal blooms. **AO7.4** Development in coastal catchments avoids or minimises and appropriately manages soil disturbance or altering natural hydrology and: (a) avoids lowering ground water levels where potential or actual acid sulfate soils are present; (b) manages wastewater so that:	N/A

	(i) the pH of any wastewater discharges is maintained between 6.5 and 8.5 to avoid mobilisation of acid, iron, aluminium and other metals; (ii) holding times of neutralised wastewater ensures the flocculation and removal of any dissolved iron prior to release; (iii) visible iron floc is not present in any	

Performance outcomes	Acceptable outcomes	
	discharge; (iv) precipitated iron floc is contained and disposed of; (v) wastewater and precipitates that cannot be contained and treated for discharge on site are removed and disposed of through trade waste or another lawful method.	
Electricity supply		
PO8 Development is provided with a source of power that will meet its energy needs.	**AO8.1** A connection is provided from the premises to the electricity distribution network; or **AO8.2** The premises is connected to the electricity distribution network in accordance with the Design Guidelines set out in Section D8 of the Planning scheme policy SC5 – FNQROC Regional Development Manual. Note - Areas north of the Daintree River have a different standard.	**Complies.** The premises are connected to the electricity distribution network.

PO9 Development incorporating pad-mount electricity infrastructure does not cause an adverse impact on amenity.	**AO9.1** Pad-mount electricity infrastructure is: (a) not located in land for open space or sport and recreation purposes; (b) screened from view by landscaping or fencing; (c) accessible for maintenance. **AO9.2** Pad-mount electricity infrastructure within a building, in a Town Centre is designed and located to enable an active street frontage. Note – Pad-mounts in buildings in activity centres should not be located on the street frontage.	
Telecommunications		
PO10 Development is connected to a telecommunications service approved by the relevant telecommunication regulatory authority.	**AO10** The development is connected to telecommunications infrastructure in accordance with the standards of the relevant regulatory authority.	**Complies.** The premises are connected to telecommunications infrastructure.
PO11 Provision is made for future telecommunications services (e.g. fibre optic cable).	**AO11** Conduits are provided in accordance with Planning scheme policy SC5 – FNQROC Regional Development Manual.	N/A
Road construction		
PO12 The road to the frontage of the premises is constructed to provide for the safe and efficient movement of: (a) pedestrians and cyclists to and from the site;	**AO12.1** The road to the frontage of the site is constructed in accordance with the Design Guidelines set out in Sections D1 and D3 of the Planning scheme policy SC5 – FNQROC Regional	N/A

	Development	

Performance outcomes	Acceptable outcomes	
(b) pedestrians and cyclists adjacent to the site; (c) vehicles on the road adjacent to the site; (d) vehicles to and from the site; (e) emergency vehicles.	Manual, for the particular class of road, as identified in the road hierarchy. **AO12.2** There is existing road, kerb and channel for the full road frontage of the site. **AO12.3** Road access minimum clearances of 3.5 metres wide and 4.8 metres high are provided for the safe passage of emergency vehicles.	
Alterations and repairs to public utility services		
PO13 Infrastructure is integrated with, and efficiently extends, existing networks.	**AO13** Development is designed to allow for efficient connection to existing infrastructure networks.	**Complies.** The proposed development is designed to allow for efficient connection to existing infrastructure networks.
PO14 Development and works do not affect the efficient functioning of public utility mains, services or installations.	**AO14.1** Public utility mains, services and installations are not required to be altered or repaired as a result of the development; or **AO14.2** Public utility mains, services and installations are altered or repaired in association with the works so that they continue to function and satisfy the relevant Design Guidelines set out in Section D8 of the Planning scheme policy SC5 – FNQROC Regional Development Manual.	**N/A**. Any public utility mains, services and installations are not required to be altered or repaired as a result of the development.
Construction management		

PO15 Work is undertaken in a manner which minimises adverse impacts on vegetation that is to be retained.	**AO15** Works include, at a minimum: (a) installation of protective fencing around retained vegetation during construction; (b) erection of advisory signage; (c) no disturbance, due to earthworks or storage of plant, materials and equipment, of ground level and soils below the canopy of any retained vegetation; (d) removal from the site of all declared noxious weeds.	**Complies.** No further excavation or fill or clearing or disturbance of vegetation is required to establish the secondary dwelling.
PO16 Existing infrastructure is not damaged by construction activities.	**AO16** Construction, alterations and any repairs to infrastructure is undertaken in accordance with the Planning scheme policy SC5 – FNQROC Regional Development Manual. Note - Construction, alterations and any repairs to State- controlled roads and rail corridors are undertaken in accordance with the Transport Infrastructure Act 1994.	**Complies.** Any repairs to infrastructure will be undertaken in accordance with the Planning scheme policy SC5 – FNQROC Regional Development Manual.

Performance outcomes	Acceptable outcomes	
For assessable development		
High speed telecommunication infrastructure		
PO17 Development provides infrastructure to facilitate the roll out of high speed telecommunications infrastructure.	**AO17** No acceptable outcomes are prescribed.	N/A
Trade waste		
PO18 Where relevant, the development is capable of providing for the storage, collection treatment and disposal of trade waste such that: (a) off-site releases of contaminants do not occur; (b) the health and safety of people and the environment are protected; (c) the performance of the wastewater system is not put at risk.	**AO18** No acceptable outcomes are prescribed.	N/A
Fire services in developments accessed by common private title		

PO19 Hydrants are located in positions that will enable fire services to access water safely, effectively and efficiently.	**AO19.1** Residential streets and common access ways within a common private title places hydrants at intervals of no more than 120 metres and at each intersection. Hydrants may have a single outlet and be situated above or below ground. **AO19.2** Commercial and industrial streets and access ways within a common private title serving commercial properties such as factories and warehouses and offices are provided with above or below ground fire hydrants located at not more than 90 metre intervals and at each intersection. Above ground fire hydrants have dual-valved outlets.	N/A
PO20 Hydrants are suitable identified so that fire services can locate them at all hours. Note – Hydrants are identified as specified in the Department of Transport and Main Roads Technical Note: 'Identification of street hydrants for fire fighting purposes' available under 'Publications'.	**AO20** No acceptable outcomes are prescribed.	N/A

9.4.9 Vegetation management code

Performance outcomes	Acceptable outcomes	Comment
For self-assessable and assessable development		
PO1 Vegetation is protected to ensure that: (a) the character and amenity of the local area is maintained; (b) vegetation damage does not result in fragmentation of habitats; (c) vegetation damage is undertaken in a sustainable manner; (d) the Shire's biodiversity and ecological values are maintained and protected; (e) vegetation of historical, cultural and / or visual significance is retained; (f) vegetation is retained for erosion prevention and slope stabilisation.	**AO1.1** Vegetation damage is undertaken by a statutory authority on land other than freehold land that the statutory authority has control over; or **AO1.2** Vegetation damage is undertaken by or on behalf of the local government on land controlled, owned or operated by the local government; or **AO1.3** Vegetation damage, other than referenced in AO1.1 or AO1.2 is the damage of: (a) vegetation declared as a pest pursuant to the *Land Protection (Pest and Stock Route Management) Act 2002*; or (b) vegetation identified within the local govern- ment's register of declared plants pursuant to the local government's local laws; or (c) vegetation is located within a Rural zone and the trunk is located within ten metres of an existing building; or (d) vegetation is located within the	**N/A.** The proposed secondary dwelling is located on an area of the site which is already cleared and benched. No further excavation or fill or clearing or disturbance of vegetation is required to establish the secondary dwelling.

	Conservation zone or Environmental management zone	

	remove one tree in order to protect an adjacent more significant tree (where they are growing close to one another). **AO1.12** Private property owners may only remove dead, dying, structurally unsound vegetation following receipt of written advice from, at minimum, a fully qualified Certificate V Arborist. A copy of the written advice is to be submitted to Council for its records, a minimum of seven business days prior to the vegetation damage work commencing.	
PO2 Vegetation damaged on a lot does not result in a nuisance	**AO2.1** Damaged vegetation is removed and disposed of at an approved site; or **AO2.2** Damaged vegetation is mulched or chipped if used onsite.	
For assessable development		
PO3 Vegetation damage identified on the Places of significance overlay lot does not result in a negative impact on the site's heritage values.	**AO3** No acceptable outcomes are prescribed.	

Attachment 4 – Onsite wastewater system overview and onsite sewerage facility site and soil report

Non-chemical waste water treatment, re-use and monitoring systems

urban solutions
home and garden
industry and food processing
commercial buildings and
cooling towers
rural industry and farming
boating and marine
resort and recreation
sustainable schools

H2O Pure Plus®

Installation, Operation and Maintenance Manual

Wastewater Treatment

Congratulations!

You are now in possession of the finest wastewater treatment and re-use system available today.

The H2O Pure Plus® system has undergone the most rigorous water quality testing regime in Australia and has set new wastewater quality standards and achieving international quality assurance accreditation.

The following certification applies:

NATA Accredited Laboratory – Ipswich City Council Environmental Laboratory

QLD. GOVT LOGO: Advanced Secondary Quality Effluent – approval by Queensland Plumbers & Drainers Board and Building Codes Queensland, July 2008

JAS-ANZ **Joint Accreditation System – Australia and New Zealand**

•AS/NZS 1546.1:1998	Australian/New Zealand Standard On-site domestic wastewater treatment units Part 1: Septic tanks.
•AS/NZS 1546.3:2001	Australian/New Zealand Standard On-site domestic wastewater treatment units Part 3: Aerated wastewater treatment systems.
•AS 4020:2005	Australian Standard for Testing of products for use in contact with drinking water, including types of water other than drinking water.
•AS/NZS ISO 9001:2000	Quality Management System applicable to manufacture of pressed, injection moulded parts and assemblies for general industries.
•ISO14001: 2004	The international Environmental Management Standard (EMS) relating to the environmental impact of corporate activities, products or services

Five ticks Standard Mark™ Australian Standard Certified Product independently quality assured by SAI Global.

The H2O Pure Plus® system is internationally patented and uses state-of-the-art natural media and technology to purify wastewater to the highest standards yet possible without harming you or your environment. With proper handling, installation, and maintenance, your H2O Pure Plus® system will provide many years of faithful service, and will probably outlast the internal and other fittings to which it is attached.

Please review the material in this manual thoroughly before unpacking, handling and installing your H2O Pure Plus® system. Damage to your system through improper handling, installation, or maintenance will void your warranty.

System Overview

The H2O Pure Plus® system works through the anaerobic (free of oxygen) breakdown of solids and impurities within a sealed module (or modules), which contain a natural filtration media (not membrane). The system includes a submersible electric pump, which is used to transfer purified water to storage tanks for later use or for direct internal and external applications, such as irrigation. Also included is a proprietary real-time Monitoring unit, which measures water quality and other performance indicators of the system on a continuous basis. Some H2O Pure Plus® systems will also include a Zeta Rod™, an internationally patented ceramic electrode, which exposes particles suspended in water to electrostatic charges to minimise the build-up of fine deposits and bio-fouling. Please refer to separate Zeta Rod™ Installation, Operation and Maintenance Manual.

Depending on the H2O Pure Plus® system ordered, your system may include some or all of the following:

System Modules & Components

System:

- **SAPS – AWT** (Sealed Anaerobic Purification System – All Waste Treatment)
- **SAPS – GWT** (Sealed Anaerobic Purification System – Grey Water Treatment)
- **SAPS – BGSWT** (Sealed Anaerobic Purification System – Black/Grey Split Waste Treatment)

Modules:

- **SAPS – PTM** (Primary Treatment Module)
- **SAPS – STM** (Secondary Treatment Module)

Monitoring:

- **SAPS – MON-C** (Monitoring Unit - Commercial)
- **SAPS – MON-D** (Monitoring Unit - Domestic)

Submersible Pump:

H2O Pure Plus® supplies Feka 600 and Nova 600 submersible pumps with each system. DAB PUMPS S.p.a of Italy manufactures the pumps. Manufacturers Technical and Installation data sheets and Warranty are provided with each H2O Pure Plus® installation.

Ultraviolet (UV)

H2O Pure Plus® supplies the Sterilight Ultraviolet Water Sterilizer UV S12Q-PA made by R-CAN Environmental Inc of Ontario, Canada. The UV S12Q-PA disinfects up to 90 litres per minute and achieves 99.9% destruction of any bacteria and viruses.

Zeta Rod™ (Optional)

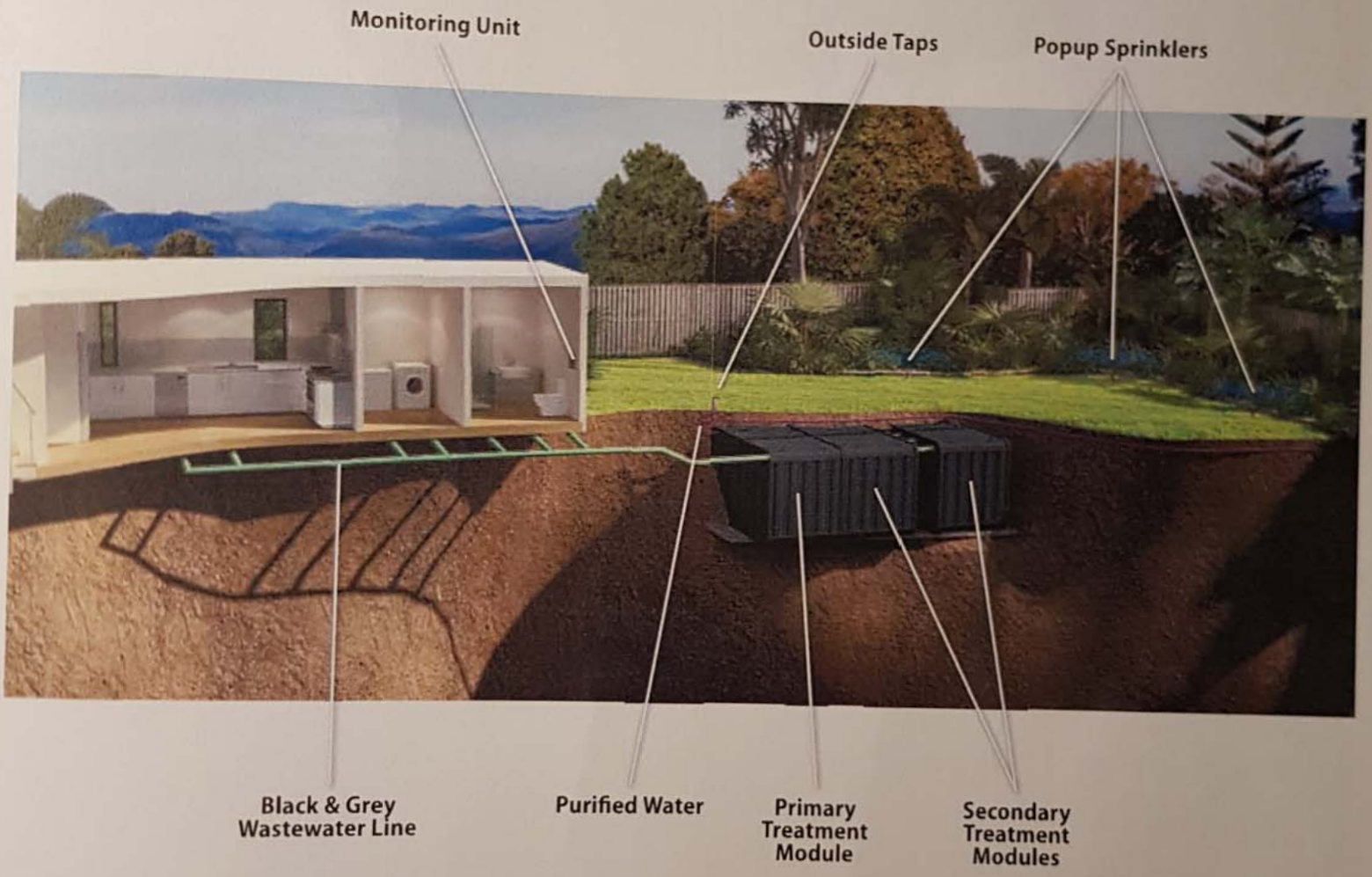
The Zeta Rod™ is a patented ceramic electronic biofouling and deposit control system manufactured by Zeta Corporation of Tucson Arizona in the U.S.

ATTENTION: Your H2O Pure Plus® system is comprised of carefully selected components that have been tested and proven reliable and compatible. Substitution or combination of non H2O Pure Plus® supplied components may result in improper operation or system failure, and may void your warranty. In case of doubt, contact H2O Pure Plus®.

System Modules & Components

System:

The H2O Pure Plus® system naturally treats both grey and black (from the toilet/sanitation closet) water either contemporaneously or separately to the highest standards of purification available today. The system does not use artificial membranes or chemicals, such as chlorine, and requires no mechanical assistance or electrified blower for aeration of the wastewater. There is no requirement for monthly maintenance. In some jurisdictions government regulation requires the application of UV (Ultra Violet) sterilisation as a final fluid disinfectant prior to dispersal and use, though the system does not depend on UV for the high levels of water quality and purification delivered.



The H2O Pure Plus® system usually comprises three separate models, which have been designed to suit most, if not all, domestic and commercial applications. Each installation is subject to individual application and fee and is subject to assessment and approval by the relevant approving authority. They are described on the following pages.

8/146 Anderson Street, Cairns 4870
PO Box 135 Bungalow, Qld 4870
Ph: (07) 40321468 Fax: (07) 40321754
Mobile: 0417 726656
Email: admin@h2oconsultants.com.au

- Hydraulic Design & Consulting
- Fire Protection Systems
- Backflow Prevention Certification
- Alternate Fire Solutions
- Wastewater Management

ON SITE SEWERAGE FACILITY
SITE AND SOIL EVALUATION REPORT

A: SITE EVALUATOR

Name: Shane Barnes

Signature: _____ Date: 19.03.2010

B: SITE INFORMATION (desk-top evaluation)

Location Details,

Locality: **Lot 12, Captain Cook Highway, WANGETTI**

Owner: **Dean Mahoney**

Phone No:

Survey Plan Details: **SP** Lot No: **12**

Local Government: Parish: **Cairns** County: **Nares**

Site Plan Details Attached, Ref. No. or Description: **Proposed Residence, Site plan attached**

Soil Type from Soil Maps etc: **N/A**

Climate

Annual Rainfall: **2028** mm Annual Potential Evapotranspiration: **2239** mm

Intended Water Supply Source:

Town Water Supply	✓	Rainwater (Roof Collection)	☐
Dam	☐	Bore/Well	☐
Other	☐		

SITE AND SOIL EVALUATION REPORT

C: SITE ASSESSMENT

Topography

Slope: **Minimal Sloping Site**

Ground Cover: **Grass/Forestry**

Geology: **N/A**

Drainage Patterns: (Site Plan details attached) **HARTELYS CREEK**

Available Clearances: (Site Plan details attached

Boundaries: **4 Meters from All Boundaries**

Wells, Bores: **30 Meters Available**

Embankments: **30 Meters Available**

Stands of Trees, Shrubs: **30 Meters Available**

Buildings: **4 Meters from All Buildings**

Other: _____

Site History (Land Use): **Unknown**

Environmental Concerns: **N/A**

Site Stability:

Is expert Evaluation Necessary? ~~Yes~~ / No

If Yes, attach stability report and give details here of:

Author: _____ Designation: _____

Company: _____ Date: _____

Drainage Controls

Depth of Seasonal water table:

WINTER: **N\A** SUMMER: **N\A**

Need for groundwater cut-off drains? ~~Yes~~ / No

Need for surface water collection / cut-off drains? Yes / ~~No~~

Availability of Reserve / Setback Areas

Reserve Area available for disposal: **100 %** of design area:

Setback area: **100 %**
(between site development and on-site disposal design reserve area % of total area)

Evaluator's Photographs attached ~~Yes~~ / No

SITE AND SOIL EVALUATION REPORT

D: SUBSOIL INVESTIGATION

Soil Profile Determination

Method:

Falling Water	✓	
Test Pit	☐	
Other	✓	**Soil Texture Test \ Soil Classification Test**

Report:

Estimated Soil Category:

Soil Category	Description	Tick One
1.	Gravels and Sand	☐
2.	Loamy Sand	☐
3.	Sandy Loams	☐
4.	Loams	☐
5.	Clay Loams	✓
6.	Light Clays	☐
7.	Medium to Heavy Clays	☐

Reasons for placing in Stated Soil Category: **On Site Test**

Reasons for Design Loading Rate (DLR) recommendation: **Based on Test and have assumed DLR of 10 to AS 1547:2000**

General Comments

Need for Groundwater Quality Protection: ~~Yes~~ / No

Type of Land Application Facility considered best suited to site: **Secondary Treated Effluent with Absorption Area or Irrigation.**

Evaluator's preliminary assessment of minimum Land Application Area for the site:

30m² of Absorption Area or 200m² of Irrigation – Using Water Saving Devices

Estimated Daily Flow: **Based on a 6 bed home = 10 people x 180 litres per day = 1800 lit**

Design Considerations: **6 Bedrooms**

Consultation with other parties:

Neighbours	☐	Local Environment Groups	☐
Environment Agencies	☐	Not Applicable	✓
Report Attached		Yes / No	

DISPOSAL SYSTEMS for EFFLUENT from DOMESTIC PREMISES A.S 1547-2000
SIZING OF DISPOSAL AREA CALCULATIONS

1. ABSORPTION AREA OR TRENCH

Aw = Q / LTAR

Aw = wetted area in square meters
Q = daily flow in litres
DLR = Design Loading Rate in mm per day

Aw = (6 bedroom = 10 persons x 180 lit per person per day) / 10

Aw = 1800 / 10

Aw = 180m² of wetted area required

2. LEGTH OF TRENCH

L = Aw / B

L = trench length in meters
Aw = wetted area in square meters
B = trench width in meters

L = 180 / 0.6

L = 300 meters 3 x (6 x 20 meters) of 600mm wide x 600mm deep absorption trench.

3. CONCLUSION

Area is available on-site for this amount of absorption trench plus 100% replacement

With the use of Water Reduction Fixtures, 6/3 Toilets, Flow Restricted Showers and Aerated spouts on Basins, Baths and Sinks the Length of Absorption Trench would be reduced to **240 meters** this is based on 10 people with the effluent being reduced from 180 litres per person to 145 litres per person per day.

THIS METHOD OF TREATMENT IS AVAILABLE / VIABLE

DISPOSAL SYSTEMS for EFFLUENT from DOMESTIC PREMISES A.S 1547-2000
SIZING OF DISPOSAL AREA CALCULATIONS

1. EVAPOTRANSPIRATION – ABSORPTION AREA

$$Ae = Nq / Ec - (1-C) \times R + N \times (DLR)$$

Ae = area in square meters
N = number of days in month
Q = daily flow in litres
Ec = average monthly pan evaporation in millimetres
C = rainfall run off co-efficient
R = average monthly rainfall in millimetres
DLR = Design Loading Rate

$Ae = 30 \times 1800$ lit $/ 187 - ((1-0.2) \times 168) + (30 \times 6)$

$Ae = 540000 / 187 - 135.2 + 180$

$Ae = 54000 / 232$

$Ae = 93m^2$ of area required

2. LENGTH OF TRENCH

$L = Ae / Be$

L = trench length in meters
Ae = area in square meters

$L = 232 / 3$

L = 77 meters of 3 meter wide x 600 deep Evapotranspiration Bed

3. CONCLUSION

Area is available on-site for this amount of Evapotranspiration – Absorption Area plus 100% replacement.

With the use of Water Reduction Fixtures, 6/3 Toilets, Flow Restricted Showers and Aerated spouts on Basins, Baths and Sinks the Length of Absorption area would be reduced to 60 meters this is based on 10 people with the effluent being reduced from 180 litres per person to 145 litres per person per day.

THIS METHOD OF TREATMENT IS AVAILABLE / VIABLE

DISPOSAL SYSTEMS for EFFLUENT from DOMESTIC PREMISES A.S 1547-2000
SIZING OF DISPOSAL AREA CALCULATIONS

1. IRRIGATION AREA

$Ai = Qw / DIR$

Ai = Irrigation Area required
Qw = quantity of effluent generated per week in litres
DIR = Design Irrigation Rate in millimetres per week

$Ai = 7 \times 1800 / 25$

$Ai = 12600 / 25$

$Ai = 500\ m^2$ of landscaped irrigation area.

2. CONCLUSION

Area is available on-site for this amount of irrigation plus 100% replacement.

With the use of Full Water Reduction Fixtures include the combined use of reduced flush 6/3 litre water closets, shower-flow restrictors, aerator faucets, front-load washing machines and flow/pressure control valves on all water-use outlets the Irrigation Area would be reduced to **400m²** this is based on 10 people with the effluent being reduced from 180 litres per person to 145 litres per person per day.

THIS METHOD OF TREATMENT IS AVAILABLE / VIABLE

DISPOSAL SYSTEMS for EFFLUENT from DOMESTIC PREMISES A.S 1547-2000
SIZING OF DISPOSAL AREA CALCULATIONS

1. ABSORPTION AREA OR TRENCH

Aw = Q / DLR

Aw = wetted area in square meters
Q = daily flow in litres
DLR = Design Loading Rate in mm per day

Aw = (6 Bed Home x 10 People x 145 lit per person per day) / 20

Aw = 1450 / 20

Aw = 73m² of wetted area required

3. LEGTH OF TRENCH

L = Aw / B

L = trench length in meters
Aw = wetted area in square meters
B = trench width in meters

L = 73 / 0.6

L = 120 Meters of 600mm Wide x 500mm Deep Absorption Trench.
or 2 x 20 Meters Long x 3 Meters Wide x 500 Deep Absorption Bed

3. CONCLUSION

Area is available on-site for this amount of Absorption Trench\Bed.

This Calculation is based on Table 4.2A1 on page 116 of AS 1547.2002, using Secondary Treated Effluent with a DLR of 20.

THIS IS USING A SECONDARY TREATMENT PROCESS.

NOTICE TO LAND OWNER

Your sanitary drainage installation consists of a septic tank and land application system. To ensure the operational effectiveness of this installation the following advise should be adhered to.

OPERATION AND MAINTENANCE: GENERALLY

On-site sewerage treatment plants and the associated land application facilities are complex systems that are prone to failure if operated and maintained incorrectly. All on-site sewerage facilities require a high degree of user dedication in terms of operation and maintenance to ensure that the design performance of the facility is achieved for the expected life of the facility.

All on-site sewerage facilities or components of the facility have a finite life. For instance, septic tanks may have an expected life of 25 years, whilst the associated land application facility may have an expected life of 5 to 15 years depending on the nature of the specific site.

OPERATION & MAINTENANCE PROCEDURES

Operation and maintenance procedures are undertaken to a regular schedule appropriate to the nature and type of treatment and land application facility and in accordance with any manufacturers instructions; and

Continuity of operation and maintenance is achieved throughout changes of ownership and\or changes in use or development of the site.

OPERATION

- Practice water conservation, and avoid exceeding the hydraulic capacity of the facility.
- Minimise the input of cleaning agents, detergents, disinfectants, bleaches, alkalis, oil, petrol, acids, degreasers, photography chemicals, cosmetics, lotions, pesticides and herbicides into the facility.
- Not place materials such as disposal nappies, female napkins, paper towels, cigarette butts, bones and coffee grounds into the facility.
- Be observant regarding signs of unsatisfactory performance, including unusual odours, leaks from the facility or choking.
- Contact the service agent following observation of unsatisfactory performance or breakdown.
- Protect facility components from structural damage, such as from vehicles.
- Be familiar with safety procedures.
- Establish a time pattern of desludging.
- Keep the area in the vicinity of the on-site sewerage facility tidy to facilitate ease of operation and maintenance.
- Where appropriate, or required by a condition of approval, enter into an annual service contract with a service agent
- Retain copies of all service reports.

SEPTIC TANKS

It is recommended that septic tanks be inspected at two yearly intervals. The inspection should include an assessment of the sludge and scum levels and checking of the outlet and inlet square junctions for blockages.

Septic Tanks should be desludged when:

- The scum layer is within 100mm of the bottom of the inlet square junction or the sludge layer is within 200mm from the bottom of the inlet.
- The sludge occupies the basic allowance of the septic tank; or
- The sludge scum occupy two-thirds the volume of the tank (or first stage of a two stage system).

The desludging procedure should ensure that 400-500mm of liquid is retained in the tank, and that the tank is immediately refilled with water to the outlet level.

LAND APPLICATION SYSTEMS

Regular visual checking of correct system operation by households, and an annual inspection by service contractors should be undertaken. Signs of system failure include:

- Surface ponding and run-off of treated effluent;
- Degrading of soil structure (Sheet or Rill erosion, surface crusts, hard surface);
- Poor vegetation growth; and
- Unusual odours.

SUITABLE VEGETATION FOR WET SOILS
(Informative)

TYPES OF VEGETATION

(a) **CLIMBERS**

Bougainvillea
Hardenbergia
Hibbertia Scandens
Kennedia
Lonicera Japonica
Pandorea Jasminoides

(b) **GRASSES**

Buffalo
Kikuyu

(c) **GROUND COVER**

Acanthus Mollis
Coprosma X Kirki
Grevillea Poorinda
Liriope Muscari
Ophiopogon
Royal Mantle

(d) **PERENNIALS**

Agapanthus Preaecox
Astor Novi-Belgii
Canna X Generalis
Chrysanthemum Maximum
Gazania X Hybrida
Salvia X Superba
Stokesia Laevis
Viola Hederacea

(e) **SHRUBS**

Abelia X Grandiflora
Acacia Longifolia
Callistemon Citrinus
Cassia Bicapsularis
Ceratostigma
Chaenomeles Lagenaria
Correa Alba
Cotoneaster Glaucophyllus
Cotoneaster Lacteus
Cotoneaster Pannosus
Caphea Ignea
Euonymus Japonicus
Euphorbia Millii
Euphorbia Pulcherrima
Hebe Speciosa
Jasminum Mesnyi
Jasminum Officinale
Jasminum Polyanthum
Lantana Camara
Lantana Montevidensis
Leptospermum Flavescens
Narium Oleander
Plumbago Auriculate
Pyracantha Fortuneana
Thunbergia Alata
Westringia Fruticosa

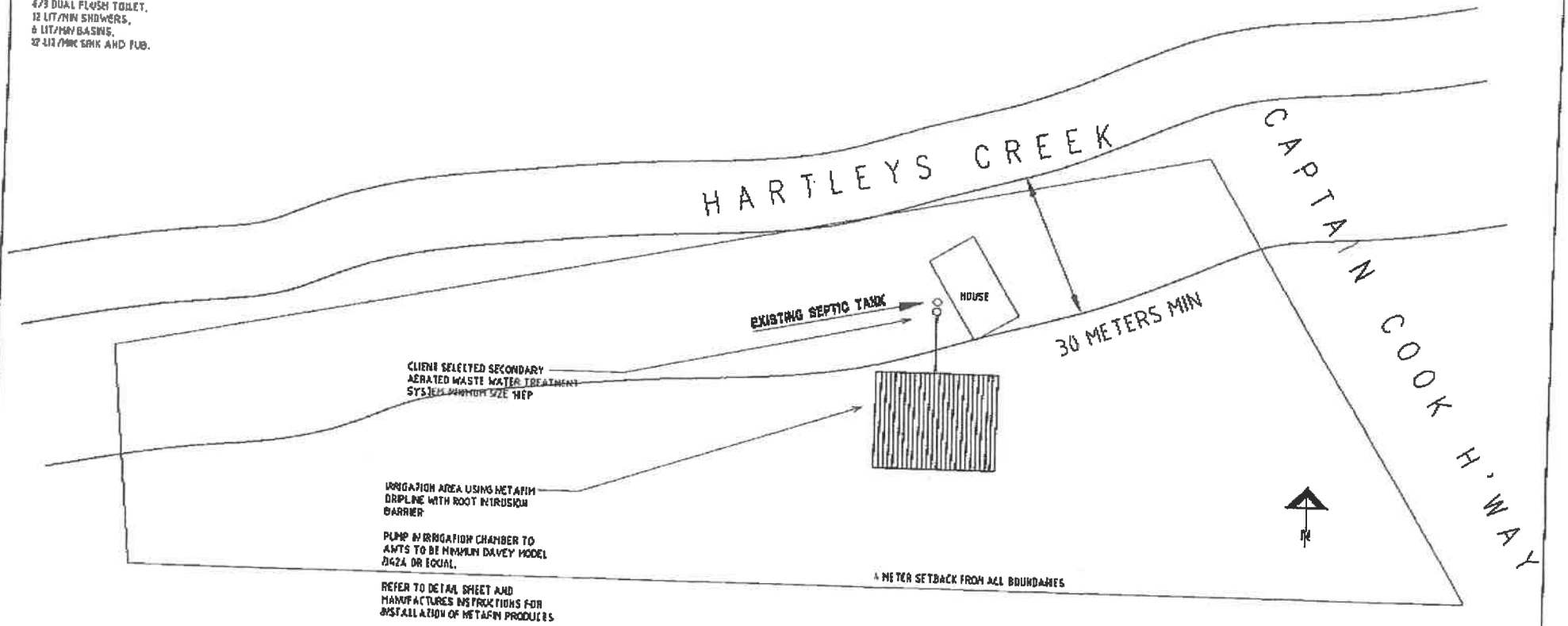
(f) **TREES**

Angophora Costata
Banksia Integrifolia
Callistemon Salignus
Callistemon Viminalis
Casuarina Glauca
Casuarina Stricta
Eucalyptus Botryoides
Eucalyptus Robusta
Hakea Salicifolia
Hakea Saligna
Leptospermum Laevigatum
Leptospermum Petersonii
Melaleuca Armillaris – Sandy Soil
Melaleuca Linariifolia – Clay Soil
Melaleuca Quinquenervia – Sandy Soil
Melaleuca Styphelioides – Clay Soil
Nyssa Sylvatica
Photinea X Frasieri 'Robusta'
Tristaniopsis Laurina

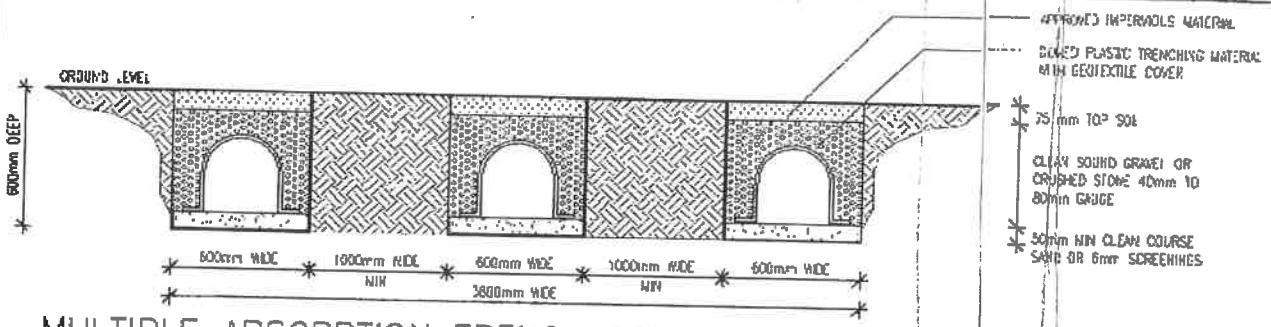
All vegetation should be checked with Local Authorities and Nurseries prior to installation for suitability to each region.

NOTE:

- REQUIRED SETBACK'S
  4 METERS FROM BOUNDARIES
  4 METERS FROM BUILDINGS
  6 METERS FROM FUTURE POOL
  30 M FROM CREEK BANK
- ALL WORK MUST BE CONSTRUCTED IN ACCORDANCE WITH AS 1547-2000.
- THE FOLLOWING WATER REDUCTION FIXTURS MUST BE USED.
  4/3 DUAL FLUSH TOILET.
  12 LIT/MIN SHOWERS.
  6 LIT/MIN BASINS.
  12 LIT/MIN SINK AND TUB.

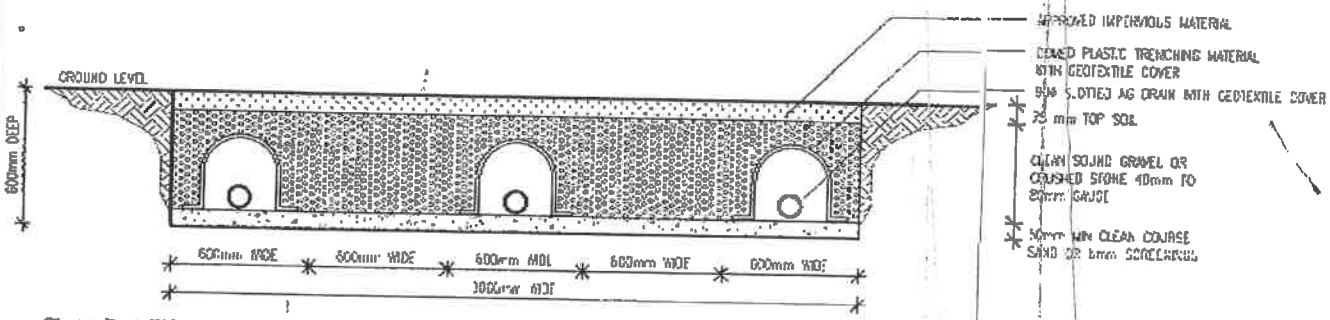


H2O CONSULTANTS
A.B.N. No. 24 [illegible]
AIBON
8/146 ANDERSON St. CAIRNS
PO BOX 1360 CLIFTON QLD
PH: 07 40321968
FAX: 07 40321754
MOBILE: 0412 726656
EMAIL: [illegible]



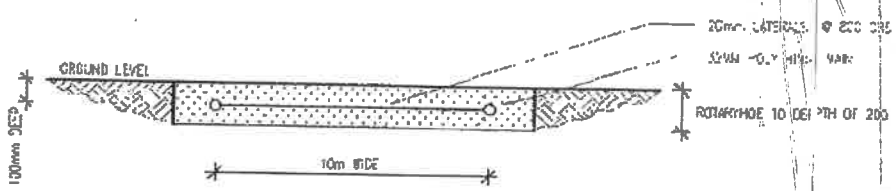
MULTIPLE ABSORPTION TRENCH DETAIL n.t.s

NOTE:
REFER TO SOIL EVALUATION REPORT FOR DISPOSAL METHOD AND QUANTITY.

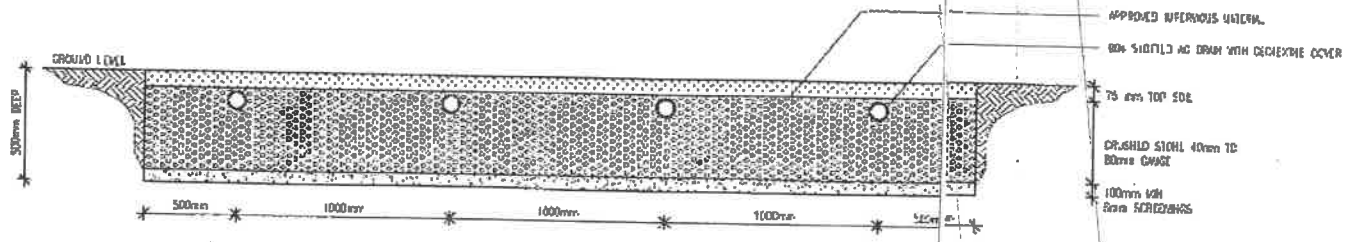


EVAPOTRANSPIRATION – ABSORPTION AREA DETAIL n.t.s

NOTE:
ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE LOCAL AUTHORITY REQUIREMENTS AND THE FOLLOWING CODES:
* AS 3500 – NATIONAL PLUMBING & DRAINAGE CODE
* AS 1546 – SMALL SEPTIC TANKS
* AS 1547 – DISPOSAL SYSTEMS FROM DOMESTIC PREMISES
* CODE OF PRACTICE FOR ON-SITE SEWERAGE FACILITIES

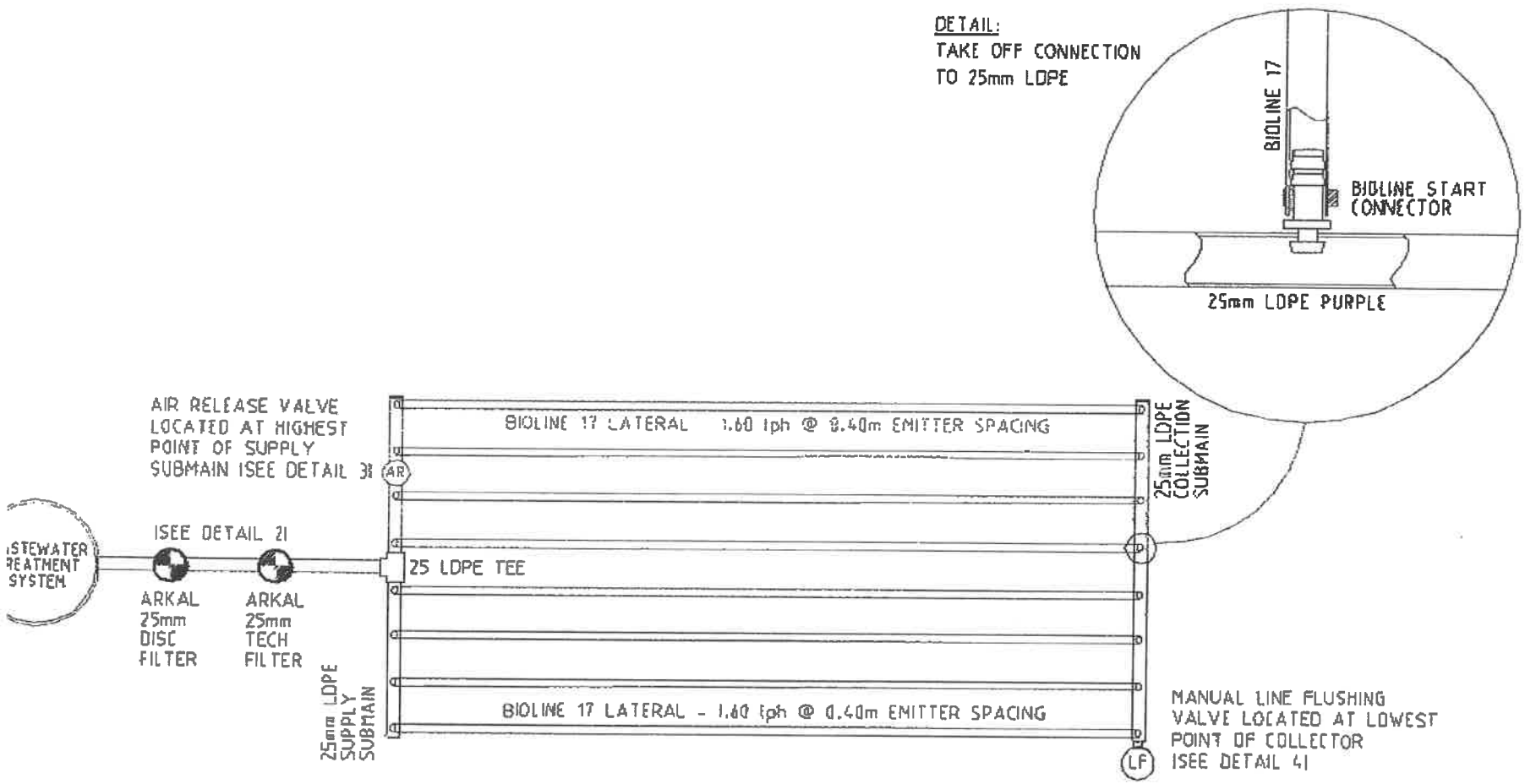


IRRIGATION – SUB SURFACE n.t.s



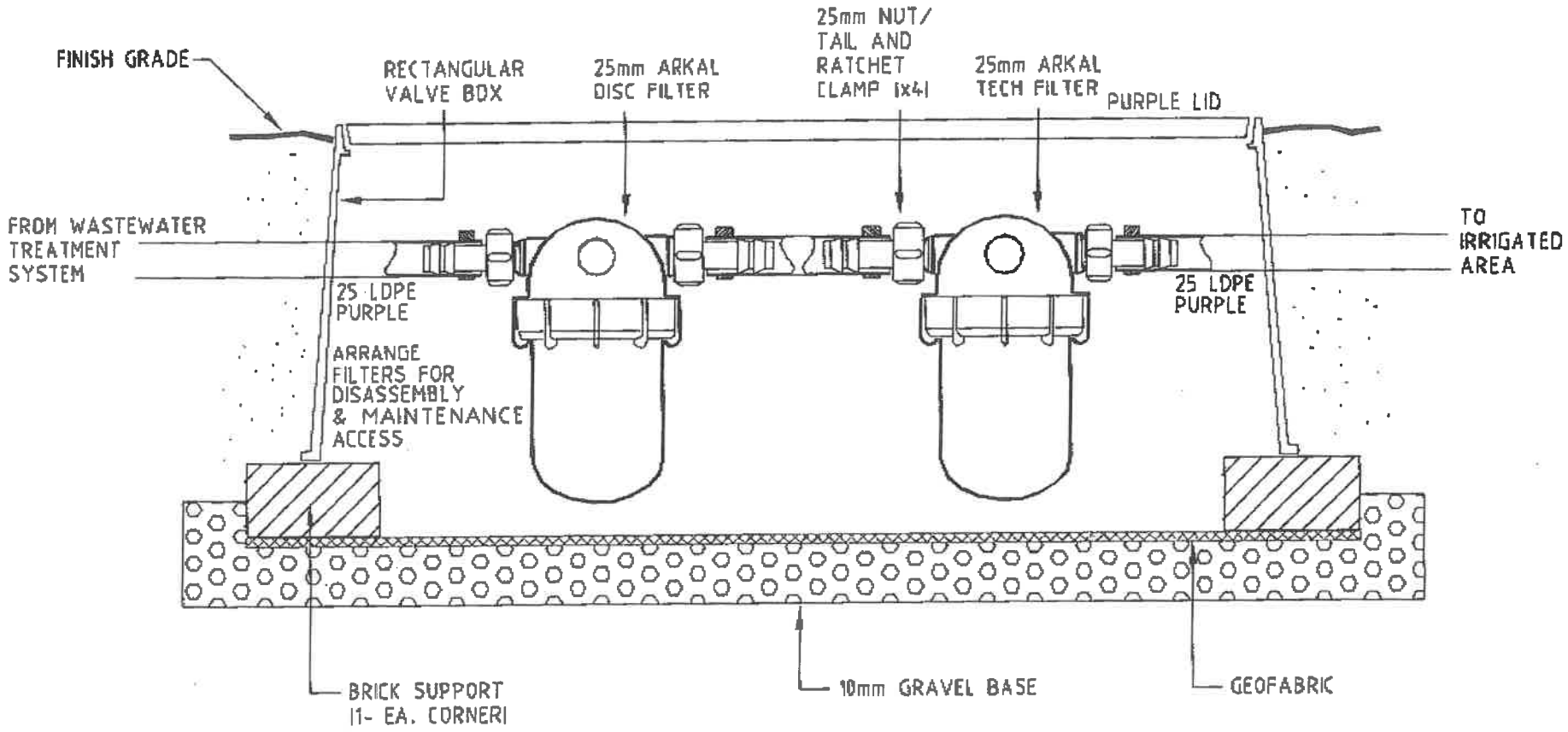
EVAPOTRANSPIRATION – ABSORPTION AREA DETAIL n.t.s

H2O
CONSULTANTS
B.S.A No. 745652
8/146 ANDERSON ST. CAIRNS
PO BOX 1358 BUNGALOW QLD
PH: 07 40321468
FAX: 07 40321754
MOBILE: 0417 726656
EMAIL: admin@h2oconsultants.com.au



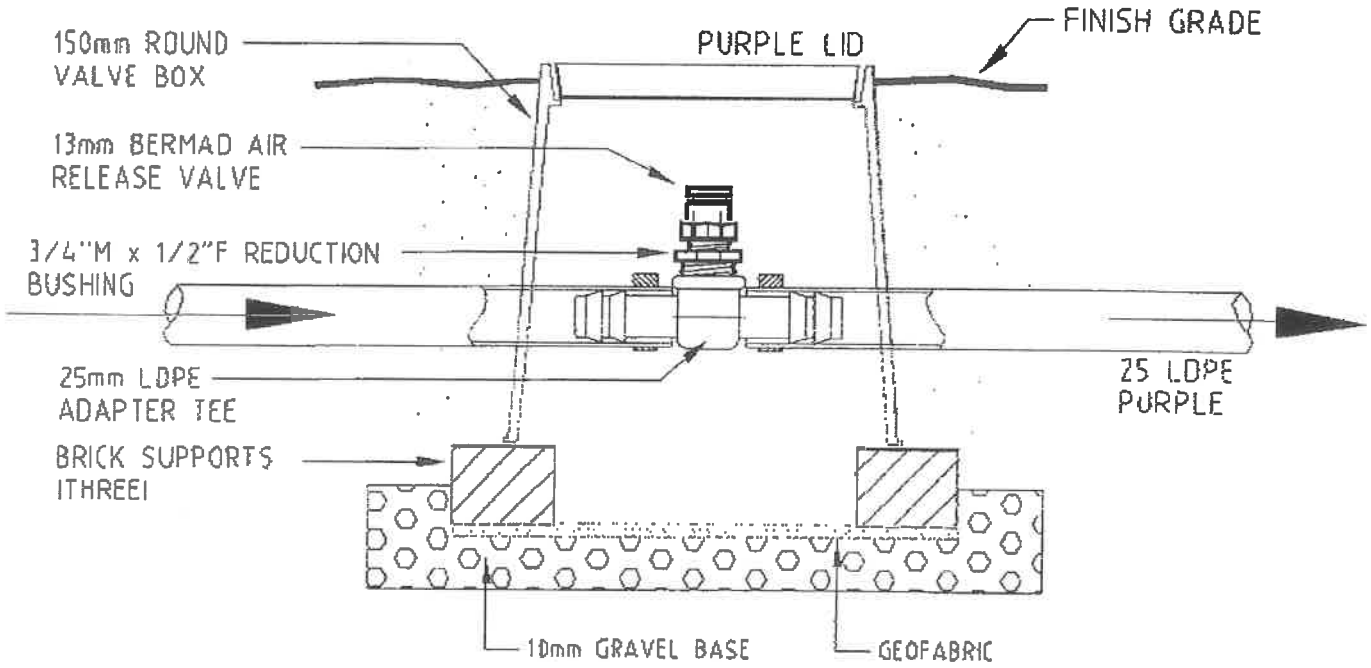
NETAFIM
Australia Pty. Ltd.
TECH - SERVICES

PROJECT NAME: WASTEWATER DISPOSAL SYSTEM			SCALE: N.T.S.	DATE: 28/05/03
CLIENT:	DRAWN BY: HBH	DESIGNED BY: GH	CHECKED BY:	APPROVED BY:
DRAWING TITLE: SYSTEM LAYOUT & LATERAL CONNECTION DETAIL	JOB NUMBER:	DRAWING No: DETAIL 1	REVISION No:	SHEET : 1 OF 7



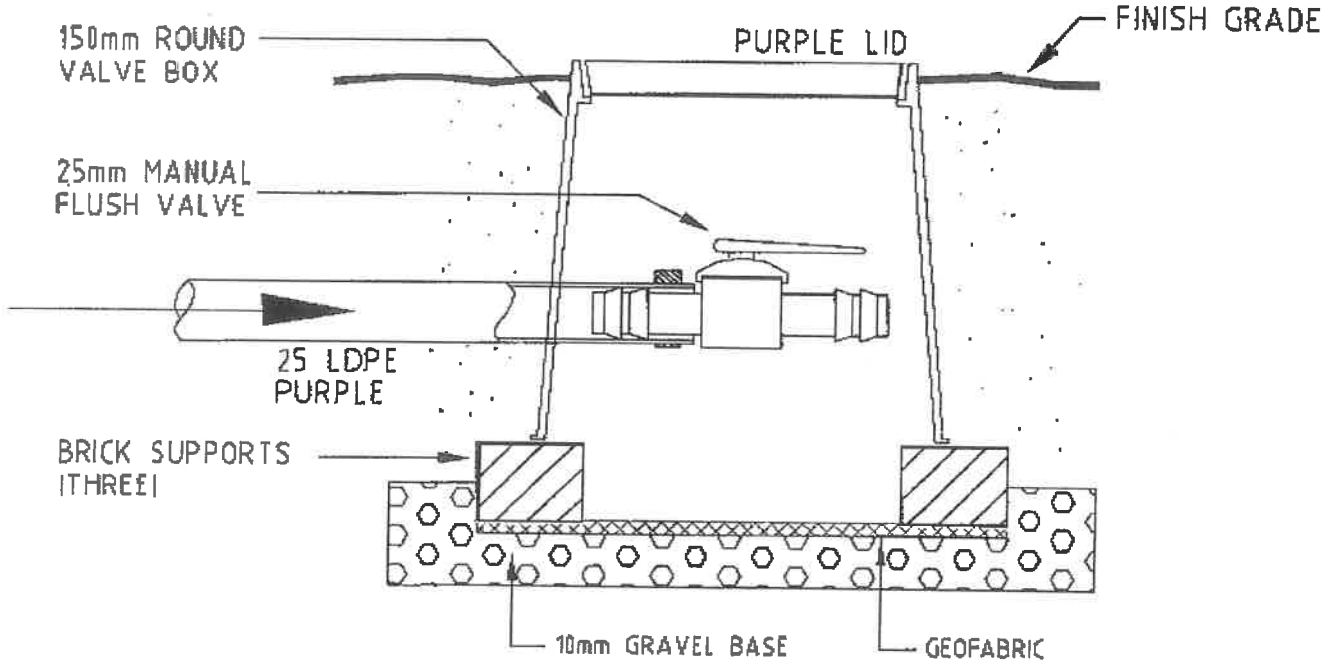
NETAFIM Australia Pty. Ltd.
TECH-SERVICES
A.C.N. 066 229 756

PROJECT NAME: WASTEWATER DISPOSAL SYSTEM			SCALE: N.T.S.	DATE: 28/05/03
CLIENT:	DRAWN BY: HBH	DESIGNED BY: GH	CHECKED BY:	APPROVED BY:
DRAWING TITLE: 25 ARKAL DISC AND TECH FILTER ASSEMBLY	JOB NUMBER:	DRAWING No: DETAIL 2	REVISION No:	SHEET : 2 OF 7



NETAFIM
Australia Pty. Ltd.
TECH-SERVICES
A.C.N. 056 339 765

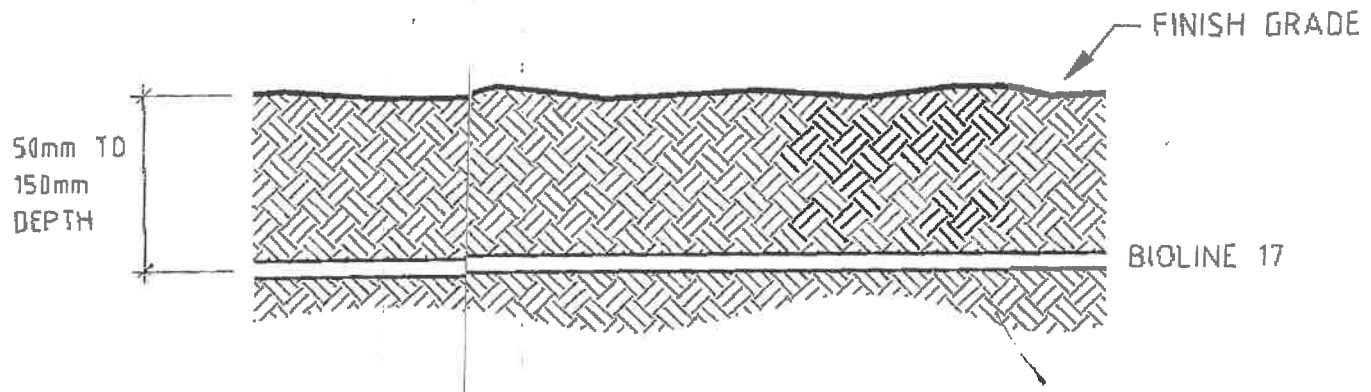
PROJECT NAME: WASTEWATER DISPOSAL SYSTEM			SCALE: N.T.S.	DATE: 28/05/03
CLIENT:	DRAWN BY: HBH	DESIGNED BY: GH	CHECKED BY:	APPROVED BY:
DRAWING TITLE: AIR RELEASE VALVE ASSEMBLY	JOB NUMBER:	DRAWING No: DETAIL 3	REVISION No:	SHEET : 3 OF 7



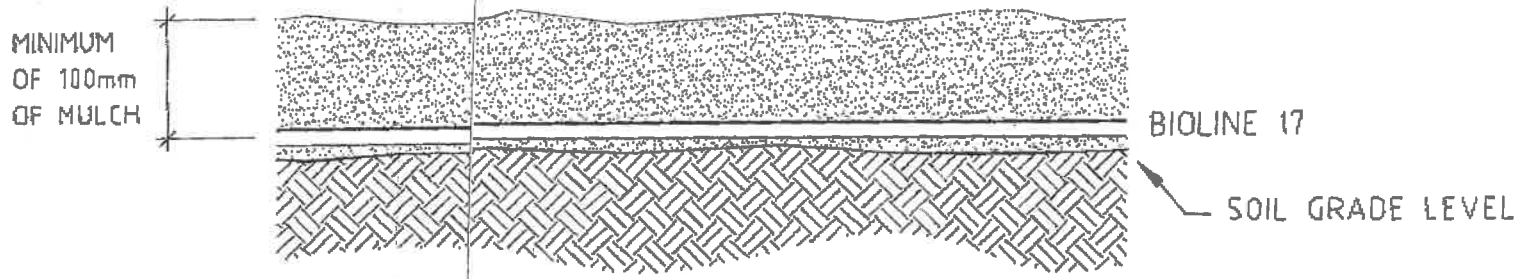
NETAFIM
Australia Pty. Ltd.
TECH-SERVICES
A.C.N. 058 283 166

PROJECT NAME: WASTEWATER DISPOSAL SYSTEM				SCALE: N.T.S.	DATE: 28/05/03
CLIENT:		DRAWN BY: HBH	DESIGNED BY: GH	CHECKED BY:	APPROVED BY:
DRAWING TITLE: MANUAL FLUSH VALVE ASSEMBLY		JOB NUMBER:	DRAWING No: DETAIL 4	REVISION No:	SHEET : 4 OF 7

EXAMPLE ONE: BIOLINE 17 SUB-SURFACE INSTALLATION

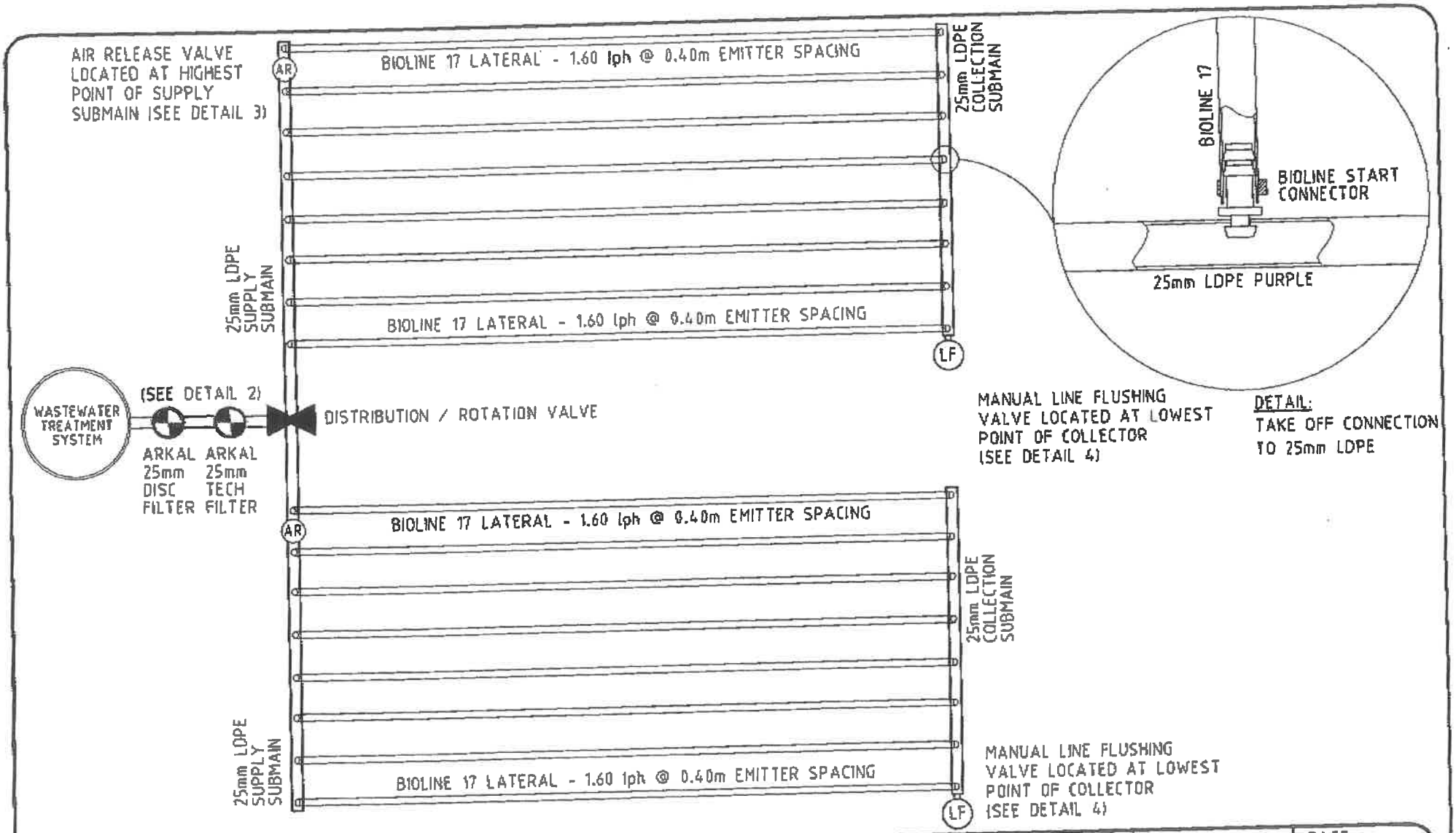


EXAMPLE TWO: BIOLINE 17 SURFACE (UNDER MULCH) INSTALLATION



NETAFIM
Australia Pty. Ltd.
TECH - SERVICES
ACN 096 229 795

PROJECT NAME: WASTEWATER DISPOSAL SYSTEM			SCALE: N.T.S.	DATE: 28/05/03
CLIENT:	DRAWN BY: HBH	DESIGNED BY: GH	CHECKED BY:	APPROVED BY:
DRAWING TITLE: BIOLINE 17 INSTALLATION DEPTH	JOB NUMBER:	DRAWING No: DETAIL 5	REVISION No:	SHEET : 5 OF 7



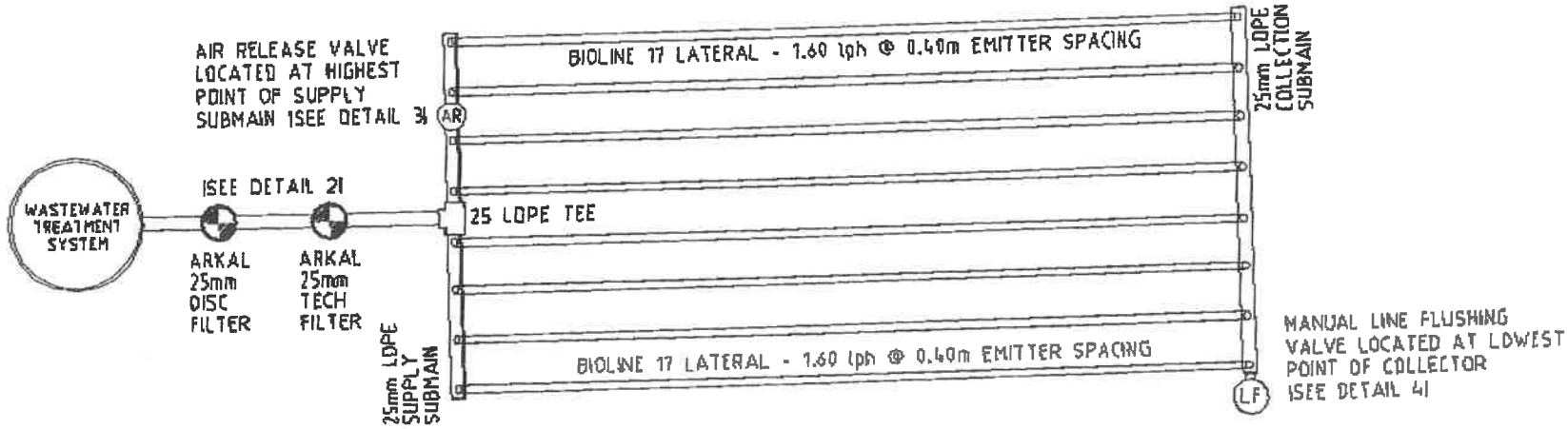
NETAFIM
Australia Pty. Ltd.
??????????????
A.C.N. 056 229 755

PROJECT NAME: WASTEWATER DISPOSAL SYSTEM

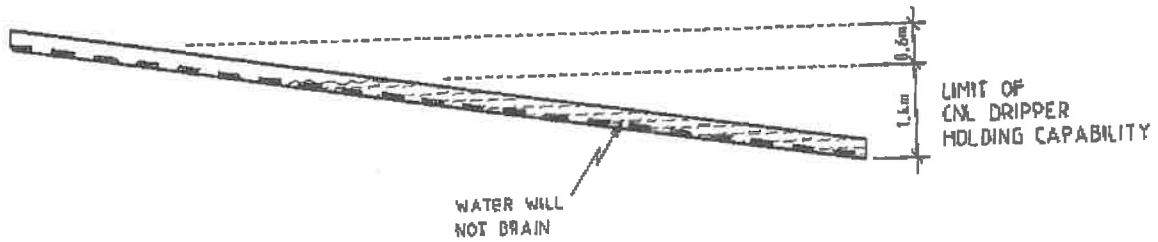
CLIENT:

DRAWING TITLE: MULTIPLE BLOCK DISPERSAL SYSTEM

DRAWN BY: NWD	DESIGNED BY: GH	SCALE: N.T.S.	DATE: 14/01/04	
JOB NUMBER:	DRAWING No: DETAIL 6	CHECKED BY:	APPROVED BY:	
		REVISION No:	SHEET 6 OF 7	



PLAN



LATERAL ELEVATION

NETAFIM Australia Pty. Ltd. TECH-SERVICES ACN 091 229 709

PROJECT NAME: WASTEWATER DISPOSAL SYSTEM			SCALE: N.T.S.	DATE: 30.12.03
CLIENT:	DRAWN BY: NWD	DESIGNED BY: GH	CHECKED BY:	APPROVED BY:
DRAWING TITLE: DISPERSAL SYSTEM WITH LATERAL ELEVATION	JOB NUMBER:	DRAWING No: DETAIL 7	REVISION No:	SHEET : 7 OF 7