

5.1. PROPOSED DOUGLAS SHIRE PLANNING SCHEME AMENDMENT - LOCAL GOVERNMENT INFRASTRUCTURE PLAN

**REPORT AUTHOR(S)
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DEPARTMENT Sustainable Communities

RECOMMENDATION

That Council resolves:

1. To consider the submissions as raised in the Submission Review report and for each submission adopt the respective action as outlined in the Submission Review Report;
2. To note that the publicly exhibited proposed Local Government Infrastructure Plan included changes as required by the Minister's advice, received by letter dated 7 March 2018;
3. To not adopt any changes to the Local Government Infrastructure Plan, other than those as required by the Minister's advice, received by letter dated 7 March 2018, and amend the Local Government Infrastructure Plan Maps to delete the reference to "public notification issue only" and consider such amendment not to result in a significantly different version to that released for public notification;
4. To advise each submitter in writing about how Council has dealt with their submission, and also advise each submitter of part 10 below;
5. To appoint a pre-approved LGIP panel reviewer to undertake a second compliance check of the Local Government Infrastructure Plan, as required under the *Minister's Guidelines and Rules* under the *Planning Act 2016*, and provide the reviewer of all material as required under the *Minister's Guidelines and Rules*;
6. That on the receipt of the appointed Reviewer's Checklist and Statement, write to the Minister for State Development, Manufacturing, Infrastructure and Planning, seeking approval to adopt the proposed Local Government Infrastructure Plan and provide the Minister with the information as nominated under the *Minister's Rules and Guidelines*;
7. That on receipt of responding advice from the Minister, delegate to the Mayor and Chief Executive Officer, the decision under section 10, *Minister's Guidelines and Rules*, and sections 17-21 inclusive of the *Planning Act 2018*, to:
 - a. Adopt the proposed Local Government Infrastructure Plan, subject to the conditions or requirements as nominated by the Minister, publish notices and undertake any further steps necessary for the adoption, including the decision to nominate a date of effect, or
 - b. Not adopt the proposed Local Government Infrastructure Plan. Where a decision is made not to adopt the proposed Local Government Infrastructure Plan, a further report is to be provided to Council;
8. To adopt the following:
 - a. Douglas Shire Council Infrastructure Charges Resolution 2018 made under sections 113 and 114 of the *Planning Act 2016*;
 - b. The infrastructure charges for development are as the "Levied Charges" as listed in the LGIP Table 3.1.4 – Existing and projected residential dwellings, including nominated Levied Charges; and LGIP Table 3.1.4 – Existing and projected non-residential floor space, including nominated

- Levied Charges and have regard to the Priority Infrastructure Areas of the proposed Local Government Infrastructure Plan;
- c. Delegate to the Chief Executive Officer the date from which the Adopted Infrastructure Charges will have effect, whereby the adopted charges are to read in conjunction with the adopted proposed Local Government Infrastructure Plan;
9. That other than specifically stated above, delegates authority to the Chief Executive Officer in accordance with the *Local Government Act 2009* and the *Planning Act 2016* to finalise any and all matters associated with the implementation of the above items.
 10. That after the adoption of the Local Government Infrastructure Plan, require the preparation of a further report to amend the Local Government Infrastructure Plan and Planning Scheme to clarify existing infrastructure, consider the timing of the provision of future infrastructure, include consistency with current land zone types, clarify priority infrastructure areas (PIA) boundaries having regard to current approvals, a review of nominated charges and other pertinent matters as identified in undertaking the report.
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EXECUTIVE SUMMARY

The Local Government Infrastructure Plan (LGIP) and the associated resolution that nominates charges will replace Council's current Adopted Infrastructure Charges Resolution (AICR) which is the current mechanism for collecting infrastructure charges in the Douglas Shire.

BACKGROUND

Under State Government planning legislation Council is required to prepare a Local Government Infrastructure Plan (LGIP). The LGIP is a section of the Council's Planning Scheme which identifies and outlines the type, size, location and cost of trunk infrastructure which is required to service the expected population and non-residential sector envisaged by the Planning Scheme.

At the Ordinary Council Meeting held on 19 April 2016, Council resolved to prepare a LGIP for the Douglas Shire. The resolution to commence work on preparing the LGIP occurred under the now repealed *Sustainable Planning Act 2009*. The current *Planning Act 2016* requires continuing work on the LGIP to follow provisions of the *Ministerial Guidelines* under the *Planning Act 2016*, rather than the *Statutory Guideline 04/14 – Making and amending local planning instruments*.

At the Ordinary Council Meeting held on 31 October 2017 Council resolved to:

1. Endorse the draft LGIP as Council's proposed LGIP;
2. Appoint a pre-approved external panel reviewer to undertake a review of the proposed LGIP, as required under the Ministerial Guidelines;
3. Following the external review, refer the LGIP to the State Government for the *First State Interest Check*; and
4. Following completion of the State Interest Check, undertake public notification of the LGIP.

The proposed LGIP considers trunk infrastructure for reticulated water, reticulated sewerage, parks and road networks and maps priority infrastructure areas. The proposed LGIP has been prepared on Council's behalf by Trinity Engineering and Consulting.

COMMENT

External Reviewer

The external reviewer found the LGIP sufficient and reviewer's assessment formed part of the information forwarded to the Minister for the First State Interest Check.

First State Interest Check

On the weekend preceding the Council's Ordinary Meeting in October 2017, the State Government called for a State election and the Government went into caretaker responsibilities. The LGIP was referred to the State Government on the 18 December 2017.

On the 7 March 2108 the Minister for State Development, Manufacturing, Infrastructure and Planning, the Hon Cameron Dick, advised Council that the LGIP had been assessed and that Council could proceed to publicly consult the proposed LGIP. The Minister's correspondence included advice to assist Council in revising and refining the proposed LGIP. The refinements sought minor changes focusing on the need to adjust the SoW (Schedule of Works) and the proposed charges to respect the prescribed amounts in the *Planning Regulation 2017* (i.e., the maximum charge). The advice also suggested the inclusion of the Technical Briefing report in the extrinsic section of the LGIP.

Public Notification

The minor refinements, as nominated by the Minister, were included and the LGIP underwent public notification from Tuesday 27 March 2018 to Monday 14 May 2018 inclusive. The public notification period met the minimum, statutory, business day requirement having regard to the non-business days of the Easter Holiday period. The LGIP was publicly exhibited for thirty-one (31) business days.

Submissions

Council received four (4) properly made submissions.

In accordance with Chapter 5 Minister's rules for reviewing, making or amending a Local Government Infrastructure Plan (LGIP), of the *Minister's Guidelines and Rules*, prescribed by the *Planning Regulation 2017*, Council must consider every properly made submission.

"7.5 After considering the submissions, the local government –

- a) *may make changes to the proposed LGIP or amendment or interim LGIP amendment to –*
 - i. *address the issue raised in the submission;*
 - ii. *amend a drafting error; or*
 - iii. *address new or changed planning circumstances or information;*
- b) *must ensure any changes continue to comply with and address the requirements identified in Part 4 of this chapter; and*
- c) *must advise each person in writing who made a properly made submission about how the local government has dealt with their submission."*

7.6 The local government must update the Review checklist to reflect any changes made to the proposed LGIP, LGIP amendment or interim LGIP amendment.

7.7 If the local government makes changes under 7.5(a) and the local government considers the changes result in the proposed LGIP, LGIP amendment or interim LGIP amendment being significantly different to the version released for public consultation, the local government must repeat the public consultation process.

- 7.8 *The local government may choose to limit the public consultation to those aspects of the proposed LGIP, LGIP amendment or interim LGIP amendment that have changed.*
- 7.9 *After complying with sections 7.4 to 7.7 for the proposed LGIP, LGIP amendment or interim LGIP amendment, the local government must decide to –*
- a) *proceed with no change;*
 - b) *proceed with changes if it reasonably believes the changes do not result in the proposed LGIP, LGIP amendment or interim LGIP amendment being significantly different to the version released for public consultation; or*
 - c) *not proceed with the proposed LGIP, LGIP amendment or interim LGIP amendment.”*

As detailed in the Submissions Review Report, included in Attachment 1, the concerns raised with the stormwater in the Reef Park Estate at Port Douglas have been previously identified by Council to be further investigated and options identified to resolve this matter.

The consideration of future development to the west of the Captain Cook Highway, west of Port Douglas, is identified on the Strategic Framework Map, of the current Planning Scheme as an Investigation Area. Significant research is necessary prior to further consideration to develop this area.

The considerations of clarifying the status of infrastructure, the timing of the provision of future infrastructure, the inclusion of the current land zone types, the clarification of priority infrastructure areas (PIA) boundaries (having regard to current approvals) can be undertaken through a separate planning scheme and LGIP amendment.

It is recommended that Council complete a further report regarding these issues giving confidence to the community that these issues are to be resolved expediently. The review can also consider the nominated adopted charges and other pertinent matters as identified in undertaking the report.

Next Steps

Where Council proceeds with the proposed LGIP, Council must engage an approved reviewer to conduct a second compliance check. The appointed reviewer undertakes a review as per Section 8.3 of Chapter 5, Minister’s Guidelines, and provides Council with an updated Review checklist and Reviewer statement. Upon the completion of the external Reviewer’s actions, Council must give written notice to the Minister seeking approval to adopt the proposed LGIP and furnishes the Minister with a copy of the proposed LGIP and other documentation. After the Minister receives the written notice and reviews the lodged documentation the Minister must write to Council, under Chapter 5, section 9.7, advising that Council may-

- a) *adopt the proposed LGIP or amendment;*
- b) *adopt the proposed LGIP or amendment subject to conditions; or*
- c) *not adopt the proposed CIP or amendment.”*

The adoption process is outlined under the *Minister’s Guidelines* as follows.

“10. Adoption

10.1. If the local government is notified by the Minister that it may adopt the proposed LGIP or amendment, or after making a decision under section 7.9 for an interim LGIP amendment, the local government must—

- a) *decide to adopt the proposed LGIP or amendment; or*
- b) *decide not to proceed with the proposed LGIP or amendment; and*

- c) *publish a notice in accordance with the requirements prescribed in Schedule 5.*
- 10.2. *If the local government decides to adopt an LGIP, amendment or interim LGIP amendment under section 10.1(a), the local government must also—*
- a) *comply with any conditions imposed by the Minister that must be undertaken prior to adoption; and*
 - b) *include on its website—*
 - i) *a copy of the LGIP, amendment or interim LGIP amendment, including the SOW model (the content, function and calculations of the SOW model must remain visible and accessible to all stakeholders);*
 - ii) *the Review checklist;*
 - iii) *the Appointed reviewer statement; and*
 - iv) *extrinsic material.*
- 10.3. *The local government must, as soon as possible after adopting the LGIP, amendment or interim LGIP amendment, give the chief executive—*
- a) *a copy of the public notice; and*
 - b) *a certified copy of the LGIP or amendment.”*

FINANCIAL/RESOURCE IMPLICATIONS

A budget allocation has been included in the 2017/18 financial year to complete the LGIP. Once adopted, the LGIP will give Council a mechanism to collect developer contributions towards the upgrade of trunk infrastructure.

RISK MANAGEMENT IMPLICATIONS

Whereby Council resolves not to proceed with the proposed planning scheme amendment, Council would be unable to issue Infrastructure Charges Notices in relation to Development Approvals post 30 June 2018. There is a significant risk in modifying the LGIP beyond what has been identified by the Minister's advice at this point in time, undertaking a second external review and achieving a Second State Interest Check prior to the 30 June 2018.

If Council resolves to adopt the LGIP then some time in the future Council has the ability to commence a separate, new amendment to the Planning Scheme to clarify existing infrastructure, consider the timing of the provision of future infrastructure, include consistency with current land zone types, clarify priority infrastructure areas (PIA boundaries) having regard to current approvals and a review of nominated charges.

SUSTAINABILITY IMPLICATIONS

Economic: The proposed planning scheme LGIP amendment has significant implications for the future economic prosperity of the Shire.

Environmental: The proposed planning scheme LGIP amendment has significant implications for the future environmental sustainability of the Shire.

Social: The proposed planning scheme LGIP amendment has significant implications for the future social and community development of the Shire.

CORPORATE/OPERATIONAL PLAN, POLICY REFERENCE

This report has been prepared in accordance with the following:

Corporate Plan 2014-2019 Initiatives:

Theme 2 - Building a Sustainable Economic Base

2.1.1 - Develop management plans for all Council assets and adequately resource their implementation.

Theme 3 - Improve Environmental Performance

3.1.3 - Develop management plans for Council's parks and reserves including coastal reserves and foreshore areas.

Theme 5 - Governance

5.1.1 - Establish and develop long term financial, resource and infrastructure planning to ensure ongoing capacity to fund operations and capital works programs.

5.2.1 - Provide Councillors and community with accurate, unbiased and factual reporting to enable accountable and transparent decision-making.

Operational Plan 2017-2018 Actions:

5.1.5 - Finalise Local Government Infrastructure Plan including preparation, forecasting, mapping, public notifications, independent consultant review, state review, adoption

COUNCIL'S ROLE

Council can play a number of different roles in certain circumstances and it is important to be clear about which role is appropriate for a specific purpose or circumstance. The implementation of actions will be a collective effort and Council's involvement will vary from information only through to full responsibility for delivery.

The following areas outline where Council has a clear responsibility to act:

Asset-Owner	Meeting the responsibilities associated with owning or being the custodian of assets such as infrastructure; and
Regulator	Meeting the responsibilities associated with regulating activities through legislation or local law.

CONSULTATION

Internal: In developing the LGIP documentation, the following teams were consulted:

- Finance – Manager Accounting.
- Water and Wastewater Operations
- Infrastructure
- Public Spaces
- Development Assessment and Coordination

External: In developing the LGIP documentation, the following external stakeholders were consulted:

- Appointed External Reviewer and the Department of State Development, Manufacturing, Infrastructure and Planning for the First State Interest Check.

The proposed LGIP must also undergo a second assessment by the External Reviewer and a further review by the Department of State Development, Manufacturing, Infrastructure and Planning.

COMMUNITY ENGAGEMENT


The proposed LGIP was placed on public exhibition for a six week period from the Tuesday 27 March 2018 to Monday 14 May 2018 inclusive. Four submissions were received, all of which were properly made.

ATTACHMENTS

1. Attach 1 Submissions Review Report **[5.1.1]**
2. Attach 2 Planning Scheme Wording **[5.1.2]**
3. Attach 3 LGIP Planning Localities **[5.1.3]**
4. Attach 4 LGIP Priority Infrastructure Areas **[5.1.4]**
5. Attach 5 LGIP Water Trunk Infrastructure **[5.1.5]**
6. Attach 6 LGIP Sewerage Trunk Infrastructure **[5.1.6]**
7. Attach 7 LGIP Transport Trunk Infrastructure **[5.1.7]**
8. Attach 8 LGIP Trunk Footpath Infrastructure **[5.1.8]**
9. Attach 9 LGIP Stormwater Trunk Infrastructure **[5.1.9]**
10. Attach 10 LGIP Parks and Reserves Infrastructure **[5.1.10]**
11. Attach 11 Schedule of Works **[5.1.11]**
12. Attach 12 Technical Briefing Report **[5.1.12]**
13. Attach 13 LGIP Proposed Levied Charges **[5.1.13]**
14. Attach 14 External Reviewer Checklist **[5.1.14]**
15. Attach 15 External Reviewer Statement **[5.1.15]**
16. Attach 16 Minister's correspondence and advice **[5.1.16]**

Submission Review Report

Response to submissions on the proposed Local Government Infrastructure Plan for the Douglas Shire Planning Scheme (Statutory consultation 27 March 2018 to 14 May 2018).

No	Property/ Location	Grounds	Planning commentary	Action
1.	<p>Properties off Ferrero Road, Craiglie, in which IPDG (84) Pty Ltd has an interest as included in the <i>Residential Investigation Area</i> on the Strategic Framework Mapping within the Douglas Shire Planning Scheme 2018.</p>	<p>1.1 Residential Investigation Area</p> <p>The submitter advises that it is undertaking technical assessments and a Structure Plan for the growth area and intends to lodge a draft Structure Plan in the coming months and that the Planning Scheme nominates the land as a <i>Residential Investigation Area</i>.</p> <p>The submitter notes that the life of the infrastructure nominated in the LGIP exceeds the life of the Planning Scheme, yet the LGIP mapping disregards the <i>Residential Investigation Area</i>. No infrastructure is nominated for the Area. The submitter seeks the LGIP mapping reasonably and appropriately give regard to infrastructure planning in this Area.</p>	<p>1.1 No application has been lodged or determined by Council for the <i>Residential Investigation Area</i>.</p>  <p>The LGIP applies data relative to existing and planned infrastructure. There is no specific infrastructure as yet identified or planned to service the <i>Residential Investigation Area</i>. There is sufficient reference, at this point in time, to the Area, by inclusion in the Strategic Framework map. Inclusion, as suggested by the submitter, is precipitate at this point in time.</p>	<p>1.1 No change to the proposed Local Government Infrastructure Plan in regards to the <i>Residential Investigation Area</i>.</p>

No	Property/ Location	Grounds	Planning commentary	Action
		<p>1.2 Planning Zones</p> <p>The submitter notes the zonings in the LGIP mapping reflects those of the superseded Planning Scheme. Some land previously included within residential and other urbanised designations has been removed from those designations, therefore impacting ultimately infrastructure demand and other assumptions from which infrastructure planning has been completed.</p>	<p>1.2 Planning Zones</p> <p>Research and development of the LGIP commenced under the 2006 Douglas Shire Planning Scheme (as amended). Council adopted the proposed LGIP while the 2006 Planning Scheme was still in effect.</p> <p>To undertake changes, to reflect current zones, urban areas may produce a different LGIP to the version that has undergone public exhibition. A different LGIP would require a new public notification. These considerations are worthy of separate investigation and review.</p>	<p>1.2.2 No change to the Local Government Infrastructure Plan at this point in time in regards to the Planning Zones.</p> <p>1.2.2 Investigate further and report to Council on a separate amendment to utilise current planning zones, urban areas and development approvals.</p>
		<p>1.3 Water Supply</p> <p>The LGIP mapping does not appropriately include or reference the 20ML reservoir currently undertaken in the Schedule of Works (SoW). The infrastructure is included in the Future Supply Trunk Infrastructure Plans , but not listed on the SoW for the Future Trunk Assets. Given the infrastructure is under construction and due for completion in July 2018, the submitter requests the infrastructure be fully included.</p>	<p>1.3 Water Supply</p> <p>The water reservoir project is unfinished and supply is not as yet online. The LGIP documentation can be clarified to include the infrastructure in all respective areas as a Future Asset.</p>	<p>1.3 Clarify all components of the LGIP documentation to reflect the 20ML water reservoir as a Future Asset. This clarification is not considered to result in a different version of the LGIP to the version that was publically exhibited.</p>

No	Property/ Location	Grounds	Planning commentary	Action
		<p>1.4 Waste Water</p> <p>Discussion with Council officers has identified deficiencies with the port Douglas / Craiglie Waste Water Treatment Plant insofar as peak season is concerned. No reference or mention of any planned upgrades or assessments to resolve or respond to this known issue have been included within the LGIP.</p> <p>The submitter requests the LGIP be amended to contemplate future management or action to respond to this issue.</p>	<p>1.4 Waste Water</p> <p>There is no specific infrastructure as yet identified or planned to service the <i>Residential Investigation Area</i>. The detailed assessment of the <i>Residential Investigation Area</i> will be undertaken by the applicant/ submitter to research this issue. There is sufficient reference, at this point in time, to the <i>Area</i>, by inclusion in the Strategic Framework map. Inclusion, as suggested by the submitter, is precipitate at this point in time.</p> <p>Council is completing a separate report investigating the current capacity of the Port Douglas Waste Water treatment Plant, the Upgrade Status and Reuse report. The report considers current capacity to service demand and includes consideration of using recycled water. The outcomes from this report, together with a current status on network capacity, are considerations are worthy of separate investigation and review.</p>	<p>1.4.1 No change to the Local Government Infrastructure Plan at this point in time in regards to the waste water components of the LGIP.</p> <p>1.4.2 Investigate further and report to Council on a separate amendment to the LGIP considering outcomes of the Upgrade Status and Reuse report of the Port Douglas Waste Water Treatment Plant and further clarification of network capacity.</p>
		<p>1.5 Population Projections and Assumptions</p> <p>The submitter notes the methodology used to determine population and dwelling projections and asserts that these are underestimated and a wider scope of methodology should be applied, in particular given the high proportion of tourist accommodation in the catchment.</p>	<p>1.5 Population Projections and Assumptions</p> <p>Various data was used to estimate future population and dwellings, following prescribed methodology that was reviewed by the External Reviewer and the State Government. The methodology is considered sufficient.</p>	<p>1.5 No change to the Local Government Infrastructure Plan in regards to the population project and assumption methodology.</p>

No	Property/ Location	Grounds	Planning commentary	Action
2 & 3	Development of Port Gardens and impact on Jewel Close and Opal Street, Reef Park Residential Area as submitted by david Kinnear and supported by submitters J & L Pesersen.	<p>2-3 Port Gardens and Reef Park Stormwater</p> <p>Concern is raised by the residents regarding existing stormwater concerns and flooding in the Reef Park Residential Area as a result of the development of the Port Gardens residential area. The submission suggests a number of issues has resulted in downstream stormwater flooding and identifies possible actions to mitigate these flooding events.</p>	<p>2-3 Port Gardens and Reef Park Stormwater</p> <p>The LGIP has minimal inclusion of stormwater due to the vast area of the Shire and extent of natural drainage systems.</p> <p>The concerns raised by the submitters follow the recent greater than 1% AEP rainfall incident. At the Council's Ordinary Meeting held on 15 May 2018 through a closed session report regarding stormwater at Ribbon and St Crispins Avenues Council resolved to</p> <ol style="list-style-type: none"> 1. <i>note the recommendations of the Concept Design Report – Stormwater Upgrades for Ribbon Avenue;</i> 2. <i>adopt Option 8 as the preferred upgrade option; and</i> 3. <i>proceed to final detailed design and documentation for construction."</i> <p>The concerns raised by the submitters are particular to the safety of persons and property for existing development and are better addressed through separate investigation by Council's Engineers.</p>	<p>2.1 No change to proposed Local Government Infrastructure Plan in regards to stormwater infrastructure to the Reef Park / Port Gardens residential areas.</p> <p>2.2 Advise the submitter's that the concerns are noted, that Council has undertaken initial investigation of the area following the recent greater than 1% AEP rainfall event and that Council will include the concerns in a broader investigation of the stormwater in the area.</p>

No	Property/ Location	Grounds	Planning commentary	Action
4	Council's own submission	<p>4.1 Transport</p> <p>Remove all state infrastructure from the LGIP Future Transport Plans, as these reflect the State infrastructure and are not Council's responsibility.</p> <p>Remove</p> <ul style="list-style-type: none"> ○ ISF001 – Priority Intersection. Intersection identified on State Controlled Road (TMR infrastructure requirement) ○ SCF011 - Upgrade of Existing Sub-standard Culvert Structures to meet flow requirements : Removed from Mapping – as Council does not expect to replace existing culvert ○ TRF009 -> TRF011: Upgrade Wabul Street, Millman Drive and Downing Street respectively: Removed from Mapping – as Council does not expect to upgrade infrastructure links to Major Collector ○ FPBF001 – Junction Creek Pedestrian Bridge: Included in the Transport Mapping – as Infrastructure Item is noted in the Future Transport SoW Table. ○ 	<p>4.1 Transport</p> <p>The changes are considered appropriate, however, are likely to result in a different version of the LGIP that was publically exhibited. A different LGIP would require a new public notification. These considerations are worthy of separate investigation and review.</p>	<p>4.1.1 No change to the Local Government Infrastructure Plan at this point in time in regards to Transport considerations.</p> <p>4.1.2 Investigate further and report to Council on a separate amendment in regards to the transport considerations.</p>

No	Property/ Location	Grounds	Planning commentary	Action
	Council's own submission (continued).	<p>Modified Timings of</p> <ul style="list-style-type: none"> ○ TRF043 – Changed date of expected delivery from 2026 to 2031, to align with the expected continued development from the Northern Section of the Development South <p>TRF044 – Changed date of expected delivery from 2031 to 2026, to align with the expected continued development from the Northern Section of the Development South.</p>		
		<p>4.2 Water Infrastructure</p> <p><u>Exclusion of Trunk Water Infrastructure Items</u></p> <p>Remove all Proposed Infrastructure to beyond the life of the LGIP (beyond 2031+) including but not limited to</p> <ul style="list-style-type: none"> ○ WMF004_Water Main_450 mm dia Finlayvale Raw water intake line duplication.. (Currently an investigate underway as to the required need. Insufficient evidence to support the inclusion in the current LGIP - expected 2045 ○ WMF008_Water Main_225 mm dia -Water Main extension to Mossman WTP - expected 2031+ 	<p>4.2 Water Infrastructure</p> <p>The changes are considered appropriate, however, are likely to result in a different version of the LGIP that was publically exhibited. A different LGIP would require a new public notification. These considerations are worthy of separate investigation and review.</p>	<p>4.2.1 No change to the Local Government Infrastructure Plan at this point in time in regards to water infrastructure considerations.</p> <p>4.2.2 Investigate further and report to Council on a separate amendment in regards to the water infrastructure considerations.</p>

No	Property/ Location	Grounds	Planning commentary	Action
	<p>Council's own submission (continued).</p>	<ul style="list-style-type: none"> ○ WMF010_Water Main_450 mm dia -Wyanbeel – Miallo Water Main Connection - expected 2031+ ○ WMF011_Water Main_450 mm dia -Wyanbeel – Miallo Water Main Connection - expected 2031+ <p>There is also the Drumsara-Finleyvale line – which is currently under review (Modelling and Feasibility Study). If this line is determined to be required prior to 2031- then it would form part of the Trunk Water network, and should be included in the LGIP. (expected costs ~\$8M). Consider whether there is insufficient supporting information for the inclusion of this trunk network element into the DSC LGIP.</p>		

No	Property/ Location	Grounds	Planning commentary	Action
	<p>Council's own submission (continued).</p>	<p><u>Inclusion of Trunk Water Infrastructure Items</u></p> <p>In the original PFTI WRF002 – identified the Wyanbeel reservoir (unused), but was labelled and costed in the SoW as the Future Port Douglas Reservoir (20+ ML). In the attached PFTI – the correct location of the reservoir has been identified. The infrastructure items WMF002_(i) and WMF002_(ii) refer to the dedicated inlet and outlet mains – which are required to connect the reservoir to the wider Trunk Water Network.</p> <ul style="list-style-type: none"> ○ WMF002_(i)_Water Main_450 mm dia_dedicated water inlet main (the Wyanbeel Reservoir was incorrectly identified as the Port Douglas Reservoir, ○ WMF002_(ii)_Water Main_450 mm dia_dedicated water inlet main. 		

No	Property/ Location	Grounds	Planning commentary	Action
	Council's own submission (continued).	<p>4.3 Waste Water Infrastructure</p> <p><u>Exclusion of Trunk Infrastructure Items</u></p> <p>Remove all Proposed Infrastructure to beyond the life of the LGIP (beyond 2031+).</p> <p>With the Exception of the Trunk Infrastructure Items</p> <ul style="list-style-type: none"> ○ SPSF001 : SPSF001_Andreassen Road Pump Station ○ STPF001 : STPF001_Interim Mossman WWTP Upgrade - Regulate flows UPGRADE ○ STPF002 : STPF002_Interim Mossman WWTP Upgrade - Alternative sludge infrastructure UPGRADE ○ RMF068 : RMF068_Rising Mains_150 mm dia_Craiglie_Trunk. <p>The exclusions of significant portions of the Waste water infrastructure Trunk plans are to reflect the Councils re-consideration of timing for the provision of trunk waste water infrastructure to the more remote communities of the shire.</p>	<p>4.3 Waste Water Infrastructure</p> <p>The changes are considered appropriate, however, are likely to result in a different version of the LGIP that was publically exhibited. A different LGIP would require a new public notification. These considerations are worthy of separate investigation and review.</p>	<p>4.3.1 No change to the Local Government Infrastructure Plan at this point in time in regards to waste water infrastructure considerations.</p> <p>4.3.2 Investigate further and report to Council on a separate amendment in regards to the waste water infrastructure considerations.</p>

No	Property/ Location	Grounds	Planning commentary	Action
		<p>This re-consideration has been based on a rational assessment of Council's financial position and the focus of the delivery of infrastructure to the expected growth hubs of Port Douglas, Mossman and Cooya Beach. The change reflects the Council's position to become a Financially Sustainable Council by expending public funds in a efficient and fiscally responsible manner.</p> <p><u>Modified Timings</u></p> <p>RMF068 : Timings have been modified from 2031 to 2026 to Align with the expected timings for the provision of the Andreassen Road Pump Station.</p>		

Part 4 Local government infrastructure plan

4.1 Preliminary

- (1) This local government infrastructure plan has been prepared in accordance with the requirements of the *Planning Act 2016*.
- (2) The purpose of the local government infrastructure plan is to:
 - integrate infrastructure planning with the land use planning identified in the planning scheme
 - provide transparency regarding a local government's intentions for the provision of trunk infrastructure
 - enable a local government to estimate the cost of infrastructure provision to assist its long term financial planning
 - ensure that trunk infrastructure is planned and provided in an efficient and orderly manner.
 - provide a basis for the imposition of conditions about infrastructure on development approvals.
- (3) The local government infrastructure plan:
 - (a) states in Section 4.2 (planning assumptions) the assumptions about future growth and urban development including the assumptions of demand for each trunk infrastructure network
 - (b) identifies in Section 4.3 (priority infrastructure area) the prioritised area to accommodate urban growth up to 15 years
 - (c) states in Section 4.4 (desired standards of service) for each trunk infrastructure network the desired standard of performance
 - (d) identifies in Section 4.5 (plans for trunk infrastructure) the existing and future trunk infrastructure for the following networks:
 - (i) water supply
 - (ii) sewerage
 - (iii) transport
 - (iv) parks and land for community facilities
 - (e) provides a list of supporting documents that assist in the interpretation of the local government infrastructure plan in the Editor's note – Extrinsic material at the end of Section 4

4.2 Planning assumptions

- (1) The planning assumptions state the assumptions about:
 - (a) population and employment growth
 - (b) the type, scale, location and timing of development including the demand for each trunk infrastructure network
- (2) The planning assumptions together with the desired standards of service form a basis for the planning of the trunk infrastructure networks and the determination of the priority infrastructure area.
- (3) The planning assumptions have been prepared for:
 - (a) the base date 2011 and the following projection years to accord with future Australian Bureau of Statistics census years:
 - (i) mid (2016);
 - (ii) mid (2021);
 - (iii) mid (2026);
 - (iv) mid (2031).
 - (b) the LGIP development types in column 2 that include the uses in column 3 of Table .
 - (c) the projection areas identified on Local Government Infrastructure Plan, Priority Infrastructure Area plan, Drawing numbers 1100-010 to 1100-017” in Schedule 3—Local government infrastructure plan mapping and tables.

Table 4.2.1—Relationship between LGIP development categories, LGIP development types and uses

Column 1 LGIP development category	Column 2 LGIP development type	Column 3 Uses
Residential development	Attached dwelling	Dual occupancy Dwelling unit Multiple dwelling Short term accommodation Retirement Facility
	Detached dwelling	Caretaker’s accommodation Dwelling house
	Other dwelling	Home based business Relocatable home park and Tourist Park Rooming Accommodation Community Residence # Residential care facility
Non-residential development	Retail	Centre Facilities Food and drink outlet Nightclub entertainment facility Parking Station Shop

Column 1 LGIP development category	Column 2 LGIP development type	Column 3 Uses
		Shopping centre Showroom Service Station
	Commercial	Relevant uses may include: Office Sales Office
	Community purpose	Relevant uses may include: Child Care Centre Community care centre Place of worship Educational establishment Hospital
	Industry	Relevant uses may include: Industry Activities Extractive Industries
	Other	Relevant uses may include: Animal husbandry Animal keeping Cropping Rural Activities Sport and Recreation activities Telecommunications Facility Forestry for wood production code #

State-wide development code definition

- (4) Details of the methodology used to prepare the planning assumptions are stated in the extrinsic material.

4.2.1 Population and employment growth

- (1) A summary of the assumptions about population and employment growth for the planning scheme area is stated in Table 4.2.2—Population and employment assumptions summary.

Table 4.2.2—Population and employment assumptions summary

COLUMN 1 DESCRIPTION	COLUMN 2 ASSUMPTIONS					
	Base date 2011	2016	2021	2026	2031	Ultimate development ¹
POPULATION	15,546	17,591	18,785	19,875	21,022	27,122
EMPLOYMENT	3,179	3,205	3,370	3,560	3,759	4,857

- (2) Detailed assumptions about growth for each projection area and LGIP development type category are identified in the following tables in Schedule 3 Local government infrastructure plan mapping and tables:
- (a) for population, Table SC3.1.1 — Existing and projected population
- (b) for employment, Table SC3.1.2 — Existing and projected employees

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4.2.2 Development

- (1) The developable area is identified on Local Government Infrastructure Plan Drawings 1100-010 to 1100-017 in Schedule 3—Local government infrastructure plan mapping and tables.
- (2) The planned density for future development is stated in Table SC3.1.3 in Schedule 3—Local government infrastructure plan mapping and tables.
- (3) A summary of the assumptions about future residential and non-residential development for the planning scheme area is stated in Table 4.2.1—Residential dwellings and non-residential floor space assumptions summary.

Table 4.2.1—Residential dwellings and non-residential floor space assumptions summary

Column 1 Description	Column 2 Assumptions					
	Base date (2011)	2016	2021	2026	2031	Ultimate development
Residential dwellings ²	7779	8,330	8,925	9,549	10,161	14,328
Non-residential floor space (m ² GFA) ³	136,860	143,690	150,670	157,290	164,205	205,157

- (1) Detailed assumptions about future development for each projection area and LGIP development type are identified in the following tables in Schedule 3 Local government infrastructure plan mapping and tables:

¹ Ultimate Development occurs in the year 2061 (approximately)

² Total number of residential dwellings

³ Total non-residential floor space (m2 GFA)

- (a) for residential development, Table SC3.1.4.
- (b) for non-residential development, Table SC3.1.5.

4.2.3 Infrastructure demand

- (1) The demand generation rate for a trunk infrastructure network is stated in Column 4 of Table SC 3.1.2 in Schedule 3 Local government infrastructure plan mapping and tables.
- (2) A summary of the projected infrastructure demand for each service catchment is stated in:
 - (a) for the water supply network, Table 4.2.3.1 – Water Supply Network Demand Summary
 - (b) for the sewerage network, Table 4.2.3.2 – Waste water Supply Network Demand Summary
 - (c) for the transport network, Table 4.2.3.3 – Transport (Road and Path) Network Demand Summary
 - (d) for the parks and land for community facilities network, Table 4.2.3.4 and Table 4.2.3.5 – Public Parks and Land for Community Land Network Demand Summary.

Table 4.2.3.1 – Water Supply Network Demand Summary

Column 1 Service catchment ⁴	Column 2 Existing and projected demand (EP)					
	2011 (Base date)	2016	2021	2026	2031	Ultimate ₅
PORT DOUGLAS (W1)	16,328	18,752	21,195	23,535	25,969	31,673
MOSSMAN (W2)	6,278	6,572	6,888	7,214	7,519	10,323
WHYANBEEL (W3)	1,702	1,975	2,241	2,492	2,762	4,151
DAINTREE (W4)	192	223	257	301	334	620
SHARED TREATMENT (W1&W2)	22,605	25,324	28,083	30,749	33,488	41,996

⁴ Column 1 The service catchments for the sewerage network are identified on Local Government Infrastructure Plan Map LGIP Drawing Number 1100-101 (Plan for trunk sewerage infrastructure) in Schedule 3 (local government infrastructure mapping and tables).

⁵ Ultimate demand occurs in the year 2061 (approximately)

Table 4.2.3.2 – Waste Water Supply Network Demand Summary

Column 1 Service catchment ⁶	Column 2 Existing and projected demand (EP)					
	2011 (Base date)	2016	2021	2026	2031	Ultimate ⁷
PORT DOUGLAS (S1)	15,073	16,591	18,135	19,622	21153	23,224
MOSSMAN (S2)	5,544	5,847	6,179	6,523	6841	7,640
COOYA BEACH (S3)	267	1,117	1,244	1,361	1850	1,415
NEWELL BEACH (S4)		488	533	570	612	551
WONGA BEACH / ROCKY POINT (S5)		965	1,401	1,815	2,244	2,840
SHARED TREATMENT (S2-S5)	5,811	8,417	9,357	10,269	11,546	12,446

Table 4.2.3.3 – Transport (Roads & Paths) Network Demand Summary

Column 1 Service catchment ⁸	Column 2 Existing and projected demand (vpd)					
	2011 (base date)	2016	2021	2026	2031	Ultimate ⁹
Douglas Shire South (TR1)	93,412	102,917	112,600	121,945	131,539	169,192
Douglas Shire North (TR2)	3,970	3,793	3,616	3,438	3,261	4,934

3. Table 4.2.3.2 Column 1 The service catchments for the sewerage network are identified on Local Government Infrastructure Plan Map LGIP Drawing Number 1100-201 (Plan for trunk sewerage infrastructure) in Schedule 3 (local government infrastructure mapping and tables).

7Ultimate demand occurs in the year 2061 (approximately)

3. Table 4.2.3.4 Column 1 The service catchments for the Transport network are identified on Local Government Infrastructure Plan Map LGIP Drawing Number 1100-301 and 401 (Plans for Road and Path Network infrastructure respectively) in Schedule 3 (local government infrastructure mapping and tables).

9Ultimate demand occurs in the year 2061 (approximately)

Table 4.2.3.4 – Public Parks and Land for Community Land Network Demand Summary

Column 1 Service catchment ¹⁰	Column 2 Existing and projected demand (persons)					
	2011 (base date)	2016	2021	2026	2031	Ultimate
Port Douglas (PPLC1)	9,757	11,041	11,789	12,474	13194	17,022
Mossman (PPLC2)	1,531	1,733	1,850	1,958	2071	2,672
Cooya Beach (PPLC3)	667	754	806	852	902	1,163
Newell Beach (PPLC4)	329	373	398	421	445	575
Wonga Beach (PPLC5)	751	849	907	960	1015	1,310
Rural Area - South of Mowbray River (PPLC6)	382	432	462	488	516	666
Rural Area - Mowbray River to Mossman River (PPLC7)	418	473	505	535	565	730
Rural Area - Mossman River to Daintree River (PPLC8)	968	1,095	1,170	1,237	1309	1,688
Rural Area - North of Daintree River (PPLC9)	743	841	898	950	1005	1,297
<i>District Shared Catchments (1,2,3,4,6&7)</i>	<i>13,084</i>	<i>14,806</i>	<i>15,810</i>	<i>16,728</i>	<i>17,693</i>	<i>22,827</i>
<i>District Shared Catchments (5,8&9)</i>	<i>2,462</i>	<i>2,785</i>	<i>2,975</i>	<i>3,147</i>	<i>3,329</i>	<i>4,295</i>
<i>Regional Shared Catchments (1-9)</i>	<i>15,546</i>	<i>17,591</i>	<i>18,785</i>	<i>19,875</i>	<i>21,022</i>	<i>27,122</i>

NOTES: Values reflect provision of public parks and Land for Community Purposes for total single and multi-catchment parks (excluding Pre-1990 Land).

6. Table 4.2.3. Column 1 The service catchments for the parks and land for community facilities network are identified on Local Government Infrastructure Plan Map LGIP Drawing Numbers 1100-601 to 1100-601 (Plan for trunk parks and land for community facilities infrastructure) in Schedule 3 (local government infrastructure mapping and tables).

4.3 Priority infrastructure area

- (1) The priority infrastructure area identifies the area prioritised for the provision of trunk infrastructure to service the existing and assumed future urban development up to 2031.
- (2) The priority infrastructure area is identified on Local Government Infrastructure Plan Map LGIP—Drawings **1100-130 to 1100-137**.

4.4 Desired standards of service

- (1) This section states the key standards of performance for a trunk infrastructure network.
- (2) Details of the standard of service for a trunk infrastructure networks are identified in the extrinsic material.

4.4.1 Water supply network

The Desired Standards for water supply trunk infrastructure are shown in Table

4.4.1.1 – Desired Standards of Service – Water Supply.

Table 4.4.1.1 – Desired Standards of Service – Water Supply

Planning Standard	Community Outcomes
Ensure drinking water complies with the NHMRC Australian Drinking Water Guidelines for colour, turbidity and microbiology.	<ul style="list-style-type: none"> • Provides uniform quality of water monitored in relation to recognised standards. • Provide a safe and reliable water supply. • Safeguards community health.
Water infrastructure provides for system operation and monitoring in accordance with recognised standards.	<ul style="list-style-type: none"> • Ensures environmental controls are maintained. • Ensures potable water is provided in a manner consistent with environmental standards.
Reduce non-revenue water.	<ul style="list-style-type: none"> • Extend asset life. • Improve environmental flows. • Reduced greenhouse gas emissions. • Reduce extraction of water from source.
Provide infrastructure which minimises power usage.	<ul style="list-style-type: none"> • Reduced cost of energy. • Cost effective service for community. • Reduced greenhouse gas emission.
Develop and maintain excellence in appropriate new technologies.	<ul style="list-style-type: none"> • Reduced cost of energy and chemicals. • Cost effective service for community. • Reduced greenhouse gas emissions. • Reduced environmental effects from chemical production.

Planning Standard	Community Outcomes
Provide infrastructure which minimises whole of life costs.	<ul style="list-style-type: none"> • Cost effective service for community. • Reduced energy cost. • Reduced maintenance costs. • Reduced overall operation costs. • Reduced replacement costs. • Reduction in disposal of waste. • Reduced environmental effects from chemical production.
Design Standards	Community Outcome
Design water supply infrastructure to comply with: <ul style="list-style-type: none"> • FNQROC Development Manual; • EPA Requirements; • DNR Requirements; • SAMP Customer Service Standards; • Water Act 2000; • Plans for Trunk Infrastructure – Water Supply. 	<ul style="list-style-type: none"> • Provides uniform quality of water monitored in relation to recognised standards. • Provide a safe and reliable water supply. • Safeguards community health.

4.4.2 Sewerage network

The Desired Standards for water supply trunk infrastructure are shown in Table 4.4.2.1 – *Desired Standards of Service – Sewerage*.

Table 4.4.2.1— Desired Standards of Service – Sewerage

Planning Standard	Community Outcomes
Ensure wastewater collection, transportation and treatment system remains effective.	<ul style="list-style-type: none"> • Reduced impact from blockages, overflows and spills. • Reduced impact on residents. • Reduced lease of Nitrogen and phosphorous to aquatic ecosystems. • Improved community health. • Reduced greenhouse gas emissions.
Provide infrastructure which minimises energy usage.	<ul style="list-style-type: none"> • Reduced cost of energy. • Cost effective service for community. • Greenhouse gas reduction.

Planning Standard	Community Outcomes
Provide infrastructure which minimises whole of life costs.	<ul style="list-style-type: none"> • Cost effective service for community. • Reduced energy cost. • Reduced maintenance costs. • Reduced overall operation costs. • Reduced replacement costs. • Reduction in disposal of waste. • Reduced greenhouse gas emissions. • Reduced environmental effects from chemical production.
Achieve excellence in appropriate new technologies.	<ul style="list-style-type: none"> • Reduced cost of energy and chemicals. • Cost effective service for community. • Reduced greenhouse gases. • Reduced environmental effects from chemical production.
Maximise opportunities for re-use of effluent.	<ul style="list-style-type: none"> • Beneficial use of reclaimed water and biosolids. • Opportunity for cost recovery for reclaimed water treatment. • Reduction in use of potable water supply and treatment. • Reduced release of nitrogen and phosphorous to aquatic ecosystems. • Reduction of raw water extraction from source.
Design Standards	Community Outcome
<p>Design wastewater infrastructure to comply with:</p> <p>FNQROC Development Manual; EPA Requirements; DNR Requirements; SAMP Customer Service Standards; Water Act 2000 Plans for Trunk Infrastructure - Wastewater</p>	<ul style="list-style-type: none"> • Noise control. • No adverse visual effect. • Control of overflows from system. • Improves community health. • Reduction in contaminated discharges. • Reduced odour emissions.
<p>Ensure infiltration and inflow in new wastewater collection and transportation systems remain within industry acceptable limits (compliance with Environmental licences, IEMS and associated EMPs) and is minimised to a practical extent in existing systems.</p>	<ul style="list-style-type: none"> • Reduced cost of energy for effluent transport, treatment and disposal. • Minimise customer overflow issues. • Maximise life of system. • Reduced overflows to local waterways.

4.4.3 Transport network

The Desired Standards for water supply trunk infrastructure are shown in Table 4.4.3.1 – *Desired Standards of Service – Transport*.

Table 4.4.3.1— *Desired Standards of Service – Transport*

Planning Standard	Community Outcomes
Road Network	
Define the road network as a functional road hierarchy of State Controlled Roads, Sub-arterial Roads, and Major and Minor Urban and Rural Collectors which support the Local government's urban and rural settlement patterns as well as commercial and economic activities.	<ul style="list-style-type: none"> • Protects the amenity of residential communities by removing non-local traffic. • Improves local safety by removing "through" traffic. • Reduces fuel consumption and emission levels by sustaining efficient operating speeds. • Maintains travel speeds in off-peak periods. • Reduces vehicle operating costs. • Improves public transport operation by improving travel speeds. • Supports economic growth by developing efficient and integrated transport networks. • Minimises through traffic and heavy vehicles in residential areas. • Limits community severance.
Path Network	
Define the trunk path network which provide improved access and alternative options for the travel mode.	<ul style="list-style-type: none"> • Protects the amenity of residential communities by providing an alternative mode of transport between locations • Provides a network of paths for recreational and commuter use • Provides facilities and access within the LGA which are not accessible by alternative transport options. • Provides a basis for a healthy and active community.
Design Standards	Community Outcome
Road Network	
<p>Road network system is designed and provided in accordance with:</p> <ul style="list-style-type: none"> • Queensland Streets, Queensland Residential Design Guidelines, FNQROC Development Manual, TMR and Australian Standards; and • Plans for Trunk Infrastructure – Road Network. 	<ul style="list-style-type: none"> • Reduce delays during peak periods. • Improve safety by reducing vehicle speed differentials. • Supports efficient and integrated freight movement network.

Planning Standard	Community Outcomes
Path Network	
<p>Path network system is designed and provided in accordance with:</p> <ul style="list-style-type: none"> Queensland Streets, Queensland Residential Design Guidelines, FNQROC Development Manual, TMR and Australian Standards; and Plans for Trunk Infrastructure –Path Network. 	<p>Provide a choice in mode of transport</p> <ul style="list-style-type: none"> Improve safety by providing dedicated Path networks. Supports efficient, integrated and diverse modes of movement across the Path network.

4.4.4 Public parks and land for community facilities network

The Desired Standards for water supply trunk infrastructure are shown in *Table 4.4.4.1– Desired Standards of Service – Transport*.

Table 4.4.4.1— Desired Standards of Service – Public Parks and land for Community Facilities

Planning Standard	Community Outcomes
<p>Provide a connected and accessible network of parks, open space, and community facilities that meet the needs of the Local government’s residents and visitors.</p>	<ul style="list-style-type: none"> Provides opportunities for access and increased usage of open space, recreational and community facilities. Provides for an appropriate balance of land uses and ensures high levels of amenity in the urban form. Provides a basis for a healthy and active community.
<p>Ensure strong linkages and, where possible, co-location of existing and future parks, open space and community facilities.</p>	<ul style="list-style-type: none"> Ensures utilisation of existing and future assets while maintaining maximum access.
<p>Provide embellishments to public parks, commensurate with the range of activities envisaged.</p>	<ul style="list-style-type: none"> Provides open space embellishments that meet the needs of the community by providing a range of facilities for social activities and/or fitness/recreational pursuits. Ensures activities are met and contained within designated areas - reducing potential off-site impacts to other more sensitive areas in the Local government.
<p>Ensure that existing and future parks, open space and community facilities with significant environmental, waterway or cultural heritage value are managed appropriately.</p>	<ul style="list-style-type: none"> Protects and enhances items of cultural interest in the Local government for the benefit of current and future communities in the Local government. Provides a basis for tourism opportunities. Protection of the natural landscape ensures maintenance of quality of air, water and land resources reducing negative impacts requiring amelioration. Recreational and sporting parks promote the health and wellbeing of the Local government’s residents.

Design Standards	Community Outcome
<p>Public parks and land for community facilities areas are provided in accordance with the preferred quantity, distribution (ShireWide, district, local, sporting, community), quality and level of development specified in Council's 'Public Parks and Land for Community Purposes Trunk Infrastructure Planning Study' and Plans for Trunk Infrastructure – Public Parks and Land for Community Facilities.</p>	<ul style="list-style-type: none"> • Provides a standard of service reflecting the communities' needs as identified by the local government's adopted strategies. • Provides recreation and sporting parks with a diverse range of activity opportunities and landscape settings to encourage healthy lifestyles and maximise opportunities for activity. • Recreation and open space facilities are managed in the most efficient and cost-effective way. • Recreation and open space facilities can be safely and conveniently accessed by all existing and potential users.
<p>Land provided for parks, recreation, and sport is not constrained by physical, environmental or other hazards.</p>	<ul style="list-style-type: none"> • Ensure adequate provision of safe, accessible and usable facilities.
<p>Ensure land is accessible, of suitable quality and integrated with the urban and open space networks. Provide an accessible network of parks, open space, and community facilities that meets the needs of residents and visitors in accordance with the rate of provision identified in Table 4.4.4.2 and accessibility standards outlined in Table 4.4.4.3. Ensure land for public parks and community facilities has minimum land size as identified in Table 4.4.4.4.</p>	<ul style="list-style-type: none"> • Provides community access to a range of park, open space and community facilities.
<p>Public park embellishments are provided in accordance with Council's 'Public Parks and Land for Community Purposes Trunk Infrastructure Planning Study' and the Plans for Trunk Infrastructure – Public Parks and Land for Community Facilities. Embellish public parks to complement the type and purpose of the public park as identified in Table 4.4.4.5.</p>	<ul style="list-style-type: none"> • Provides a range of park types that are suitably embellished to meeting their purpose within the park hierarchy.

Table 4.4.4.2— Rate of Land Provision for Public Parks and Land for Community Facilities

Infrastructure Item	Rate of Provision (Ha / 1000 people)		
	Local	District	Local Government Wide
Recreation park (2.5 Ha/1000)	1 Ha/1000	1.3 Ha/1000	0.2 Ha/1000
Sport park (2 Ha/1000)	0	1.6 Ha/1000	0.4 Ha/1000
Land for community facilities (0.3 Ha/1000)	0	0.15 Ha/1000	0.15 Ha/1000

Table 4.4.4.3— Accessibility standards for Public Parks and Land for Community Facilities

Infrastructure Item	Accessibility Standard (km)		
	Local	District	Local Government Wide
Recreation park	500m	2-3km	10-15km
Sport park	N/A	2-5km	15km
Land for community facilities	N/A	5km	20km

Table 4.4.4.4— Size of public parks and land for community facilities

Infrastructure Item	Minimum size (Ha)		
	Local	District	Local Government Wide
Recreation park	1 Ha pref – 0.5 Ha min	2-5 Ha	2-5 Ha
Sport park	N/A	10 Ha Minimum 7 Ha (allows for 3 fields and ancillary)	20 Ha
Land for community facilities	N/A	Cultural Activity Space (CAS) 1500m ²	CAS 1 Ha
		Community Meeting & Activity Space (CMS) 2000m ²	CMS 1 Ha
		Community Service Facility (CSF) 1000m ²	CSF 1 Ha
		Formal Memorial Space (FMS) 1000m ²	FMS 10 Ha

Table 4.4.4.5— Standard facilities/embellishments for public parks

Embellishment Type	Recreation Park			Sports Park	
	Local	District	LGA - wide	District	LGA - wide
Water connection/tap	✓	✓	✓	✓	✓
Drinking Fountain	✓	✓	✓		
Lighting	✓	✓	✓	✓	✓
Fencing (bollard/post and top rail)	✓	✓	✓	✓	✓
Playground equipment (incl. Soft fall)	✓	✓	✓		
Seating	✓	✓	✓	✓	
Picnic Shelter	✓	✓	✓		
BBQ	✓	✓	✓		
Earthworks – Field preparation/Kickabout	✓	✓	✓	✓	✓
Spectator facilities	✓	✓	✓	✓	✓
Landscaping	✓	✓	✓	✓	✓
Power	✓	✓	✓	✓	✓
Irrigation (new parks)	✓	✓		✓	✓
Public Toilet	✓	✓	✓	✓	✓
Path/bikeways	✓	✓	✓	✓	✓
Car parking and access works	✓	✓	✓	✓	✓

4.5 Plans for trunk infrastructure

- (1) The plans for trunk infrastructure identify the trunk infrastructure networks intended to service the existing and assumed future urban development at the desired standard of service.

4.5.1 Plans for trunk infrastructure maps

- (1) The existing and future trunk infrastructure networks are shown on the following maps in Schedule 3—Local government infrastructure plan mapping and tables:
- (a) Local Government Infrastructure Plan drawings 1100-100 to 1100-126 - LGIP Plans for trunk water supply infrastructure;
 - (b) Local Government Infrastructure Plan drawings 1100-200 to 1100-211 Plans for trunk waste water infrastructure;
 - (c) Local Government Infrastructure Plan drawings for trunk transport infrastructure, including:
 1. Drawings 1100-300 to 1100-316 (Trunk Road Infrastructure)
 2. Drawings 1100-400 to 1100-417 (Trunk Path Infrastructure)
 - (d) Local Government Infrastructure Plan Drawings 1100-600 to 1100-623 - LGIP Plan for trunk parks and land for community facilities infrastructure

- (2) The State infrastructure forming part of transport trunk infrastructure network has been identified using information provided by the relevant State infrastructure supplier.

4.5.2 Schedules of works

- (1) Details of the existing and future trunk infrastructure networks are identified in the electronic Excel schedule of works model which can be viewed here: [<insert link to the website where the file can be found>](#).
- (2) The future trunk infrastructure is identified in the following tables <in Schedule 3—Local government infrastructure plan mapping and tables> :
- for the water supply network, Table SC3.2.1;
 - for the sewerage network, Table SC3.2.2;
 - for the transport network, Table SC3.2.3;
 - for the parks and land for community facilities network, Table SC3.2.4.

Editors note – Extrinsic material

The below table identifies the documents that assist in the interpretation of the local government infrastructure plan and are extrinsic material under the *Statutory Instruments Act 1992*.

List of extrinsic material

Column 1 Title of document	Column 2 Date	Column 3 Author
Planning		
Douglas Shire Council Planning Scheme	2006	Douglas Shire Council & Cairns Regional Council
Proposed Douglas Shire Council Planning	2016	Douglas Shire Council
CRC Asset Registers and Data (During amalgamation)	Various (circa 2009)	Cairns Regional Council
DSC Asset Registers and Data	2016 (part)	Douglas Shire Council
QGSO Estimated Residential Population and Population Forecasts by LGA, 2011 – 2036	2013	QGSO
FNQROC Development Manual – Issue 6	2014	FNQROC
Review of Owners Project Cost and Contingency Allowances, Evans and Peck	2009	Evans and Peck
Douglas Shire Council (DRAFT) Priority Infrastructure Plan and associated briefing notes	2010	Integran – Infrastructure Management
Douglas Shire Council - Technical briefing report – LGIP key assumptions and methodology	2017	Trinity Engineering and Consulting Pty Ltd

Column 1 Title of document	Column 2 Date	Column 3 Author
Water		
DNRM Planning guidelines for water supply and sewerage	2014	Department of Energy and Water Supply
NHMRC Australian Drinking Water Guidelines, V6	2011	Australian Government, National Health and Medical Research Council
FNQROC Development Manual – Issue 6 Works Design Guidelines D6 – Water Reticulation,	2014	FNQROC
WSAA Codes,	2011	Water Services Association of Australia.
Planning Guidelines for Water and Sewage,	2014	QLD Department of Energy and Water Supply
Mossman WWTP Interim Upgrade Report Mossman WWTP Supplementary Report Mossman WWTP Supplementary Report – Addendum	2009	Maunsell Australia Pty Ltd (Now AECOM)
Division 10 (Former Douglas Shire) Water Supply Planning Report	2009	MWH (now Stantec)
Division 10 (Former Douglas Shire) Water Supply Planning Report	2010	MWH (now Stantec)
Water and Wastewater As Constructed Plans	various	Douglas Shire Council
Water Supply and Sewerage Asset Register and Capital Works Programs	2017	Douglas Shire Council
Water and Sewerage Asset Valuations Report	2006 2016 (part)	Cardno
Douglas Shire Council – Total Management Plan	2007	Douglas Shire Council
Douglas Shire Council – Water Treatment Plants – Planning Report	1999	GHD
Douglas Shire Council – Water Treatment Plants – Planning Report	1999	Kinhill Cameron McNamara
Far North Queensland (DRAFT) Regional Water Supply Strategy	2007	Qld Government Department of Natural Resources and Water

Column 1	Column 2	Column 3
Title of document	Date	Author
Douglas Shire Council (DRAFT) Priority Infrastructure Plan (Population and Demand Model) Desired Standards of Service	2010	Integrant : Infrastructure Management
Douglas Shire Council Rex Creek Intake Upgrade Options Assessment Report	2017	GHD
Waste Water		
DNRM Planning guidelines for water supply and sewerage	2014	Department of Energy and Water Supply
Mossman and Port Douglas WWTP – Catchments Sewerage Infrastructure – Growth Management Plan	2013	MWH (now Stantec)
Douglas Shire Council Mossman Water Security Planning Report Reliability Assessment	2016	GHD
Maunsell (2007) Mossman Sewerage Treatment Planning Report	2007	Maunsell Australia Pty Ltd (Now AECOM)
FNQROC Development Manual – Issue 6 Works Design Guidelines D6 – Water Reticulation,	2014	FNQROC
WSAA Codes,	2011	Water Services Association of Australia.
Planning Guidelines for Water and Sewage,	2014	QLD Department of Energy and Water Supply
Mossman WWTP Interim Upgrade Report Mossman WWTP Supplementary Report Mossman WWTP Supplementary Report – Addendum	2009	Maunsell Australia Pty Ltd (Now AECOM)
Division 10 (Former Douglas Shire) Water Supply Planning Report	2009	MWH (now Stantec)
Water and Wastewater As Constructed Plans	various	Douglas Shire Council
Water Supply and Sewerage Asset Register and Capital Works Programs	2017	Douglas Shire Council
Water and Sewerage Asset Valuations Report	2006 2016 (part)	Cardno

Column 1 Title of document	Column 2 Date	Column 3 Author
Douglas Shire Council (DRAFT) Priority Infrastructure Plan (Population and Demand Model) Desired Standards of Service	2010	Integran : Infrastructure Management
Transport		
Douglas Shire Council (DRAFT) Priority Infrastructure Plan	2010	Integran : Infrastructure Management
FNQROC Development Manual – Issue 6 Works Design Guidelines D1 – Road Geometry D3 – Road Pavements D8 – Utilities D9 – Landscaping FNQROC - Standard Drawings	2014	FNQROC
Douglas Shire Council Critical Bridge Information	2007	Texcel
DSC GIS Asset Data sets	2016	Douglas Shire Council
Douglas Shire Council Report on Bitumen Sealing he Cape Tribulation Road Through World Heritage Listed Property.		
Unit Rate Book for Council Assets (#646604- v6)	2009	Cairns Regional Council
Unit Rates for Transport Network Plans (#854357)	2009	Cairns Regional Council
DSC Bridges Strategy	2009	Cairns Regional Council / Douglas Regional Council (Amalgamated)
CRC Register of Bridges	2009	Cairns Regional Council
Bridge Data	various	Department of Transport and Main Roads

Column 1	Column 2	Column 3
Title of document	Date	Author
TMR Bridge Cost Information (#2432888)	2009	Department of Transport and Main Roads (TMR)
Junction Creek Pedestrian Bridge – Detailed Design and Costing Report	2017	GHD
LGIP Wharf St Intersection Preliminary Cost Schedule	2017	Trinity Engineering and Consulting
(Future) Area of Investigation: The area of land to the West of the Highway, shown on Drawing 110-317, identifies an area currently under investigation.	To be completed	TBA
Far North Queensland Principal Cycle Network Plan	2016	Department of Transport and Main Roads (TMR)
Far North Queensland Principal Cycle Network Plan Addendum – Priority Route Maps	2017	Department of Transport and Main Roads (TMR)
Strategy Report (DRAFT) Port Douglas to Newell Beach Cycle Route	2017	Point 8 (in association with Zwart Transport Planning)
Public Parks and Land for Community Purposes P		
Douglas Shire Council (DRAFT) Priority Infrastructure Plan	2010	Integran : Infrastructure Management
Former Douglas Shire Public Parks and Land for Community Purposes Trunk Infrastructure Planning Study	2009	Strategic Leisure
FNQROC Development Manual – Issue 6 Works Design Guidelines D9 – Landscaping FNQROC - Standard Drawings	2014	FNQROC
DSC GIS Asset Data sets	2016	Douglas Shire Council
PDSLIVE – Extract of Property Sale	2017	PDS Live
DSC Park Embellishment Data	2010	CRC
Modelling		
Appendix C – Schedule of Works Model user manual	2016	DILGP

Column 1 Title of document	Column 2 Date	Column 3 Author
Queensland Department of Local Government and Planning, "Update on National Competition Policy Issues", Local Government Bulletin Ref 06/01; 6 th June 2001	June 2001	Queensland Department of Local Government and Planning

Schedule 3 – Local government infrastructure plan mapping and tables

SC3.1 Planning assumption tables

Table SC3.1.1 — Existing and projected population

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected population					
		Base date					Ultimate development
		2011	2016	2021	2026	2031	
Port Douglas and Environs	Separate House	4,823	5,071	5,316	5,552	5799	6,777
	Semi, Detached, Flats	4,065	4,273	4,479	4,679	4886	5,733
	Other	1,189	1,249	1,312	1,369	1431	1,671
	Total	10,077	10,593	11,107	11,600	12,115	14,181
Mossman and Environs	Separate House	743	778	819	860	898	1,056
	Semi, Detached, Flats	626	656	691	726	759	896
	Other	182	191	201	212	222	260
	Total	1,551	1,625	1,711	1,798	1878	2,212
Coastal Suburbs, Villages and Townships (Cooya Beach)	Separate House	280	326	369	411	456	636
	Semi, Detached, Flats	235	275	312	348	387	541
	Other	68	81	91	101	113	157
	Total	583	682	772	860	954.5	1,334
Coastal Suburbs, Villages and Townships (Daintree Township)	Separate House	39	40	44	49	52	66
	Semi, Detached, Flats	33	34	37	42	44	57
	Other	10	11	11	12	13	16
	Total	82	85	92	103	108	139
Coastal Suburbs, Villages and Townships (Newell Beach)	Separate House	197	201	202	204	207	215
	Semi, Detached, Flats	167	168	171	171	173	179

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected population					
		Base date					Ultimate development
		2011	2016	2021	2026	2031	
	Other	49	50	50	50	51	50
	Total	413	419	423	425	430	444
Coastal Suburbs, Villages and Townships (Wonga Beach)	Separate House	334	361	389	416	444	555
	Semi, Detached, Flats	282	305	329	350	374	467
	Other	82	90	96	103	110	139
	Total	698	756	814	869	927	1,161
Inside priority infrastructure area (total)	Separate House	6,416	6777	7139	7,492	7854	9305
	Semi, Detached, Flats	5408	5711	6019	6316	6622	7873
	Other	1580	1672	1761	1847	1938	2293
	Total	13,404	14,160	14,919	15,655	16,413	19,471
Outside priority infrastructure area (total)	Separate House	1,025	1,642	1,851	2,020	2,206	3,662
	Semi, Detached, Flats	864	1,384	1,559	1,702	1,859	3,086
	Other	253	406	456	498	544	904
	Total	2,142	3,431	3,866	4,220	4,609	7,651
Douglas Shire Council	Separate House	7,441	8,419	8,990	9,512	10,059	12,967
	Semi, Detached, Flats	6,272	7,095	7,578	8,018	8,480	10,959
	Other	1,833	2,078	2,217	2,345	2,482	3,197
	Total	15,546	17,591	18,785	19,875	21,022	27,122

Table SC3.1.2 — Existing and projected employees

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected employees					
		2011	2016	2021	2026	2031	Ultimate development
Port Douglas and Environs	Industry	211	213	224	238	252	334
	Commercial	902.57	910	956	1,010	1,066	1,376
	Retail	192.04	194	204	215	228	299
	Community Services	76.81	77	81	86	91	119
	Other (incl. home based business, mining, construction, agriculture etc.) -	-	-	-	-	-	
	Total	1,383	1,394	1,466	1,549	1,637	2,128
Mossman and Environs	Industry	246	248	260	274	288	357
	Commercial	360	363	382	404	428	563
	Retail	76	76	80	85	90	118
	Community Services	38	38	40	43	45	59
	Other (incl. home based business, mining, construction, agriculture etc.) -						
	Total	719	725	763	806	851	1,098
Coastal Suburbs, Villages and Townships	Industry						
	Commercial	322	324	341	359	378	476
	Retail	76	76	80	85	90	118

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected employees					
		2011	2016	2021	2026	2031	Ultimate development
	Community Services	38	38	40	43	45	59
	Other (incl. home based business, mining, construction, agriculture etc.) -						
	Total	435	439	461	487	513	653
Rural Areas & Rural Settlements	Industry						
	Commercial						
	Retail						
	Community Services						
	Other (incl. home based business, mining, construction, agriculture etc.) -						
	Total	584	589	619	654	690	888
Settlement Areas North of the Daintree River	Industry						
	Commercial						
	Retail						
	Community Services						
	Other (incl. home based business, mining,	58	58	62	65	69	90

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected employees					
		2011	2016	2021	2026	2031	Ultimate development
	construction, agriculture etc.) -						
	Total	58	58	62	65	69	90
Inside priority infrastructure area (total)	Industry	457	461	484	511	539	691
	Commercial	1,584	1,597	1,679	1,773	1,872	2,415
	Retail	343	346	364	386	408	536
	Community Services	153	154	162	171	181	238
	Other (incl. home based business, mining, construction, agriculture etc.) -						
	Total	2,537	2,558	2,690	2,842	3,000	3,879
Outside priority infrastructure area (total)	Industry						
	Commercial						
	Retail						
	Community Services						
	Other (incl. home based business, mining, construction, agriculture etc.) -	642	647	681	719	759	978
	Total	642	647	681	719	759	978
Douglas Shire Council	Industry	457	461	484	511	539	691
	Commercial	1,584	1,597	1,679	1,773	1,872	2,415

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected employees					
		2011	2016	2021	2026	2031	Ultimate development
	Retail	343	346	364	386	408	536
	Community Services	153	154	162	171	181	238
	Other (incl. home based business, mining, construction, agriculture etc.) -	642	647	681	719	759	978
	Total	3,179	3,205	3,370	3,560	3,759	4,857

Table SC3.1.3—Planned density and demand generation rate for a trunk infrastructure network

Column 1 Area classification	Column 2 LGIP development type	Developable Ha	Column 3 Planned density		Column 4 Demand generation rate for a trunk infrastructure network				
			Non-residential plot ratio	Residential density (dwellings/dev ha)	Water supply network (EP/dev ha)	Sewerage network (EP/dev ha)	Transport network (vpd/dev ha)	Parks and land for community facilities network (ha/1000 persons)	Stormwater network (imp ha/dev ha)
(Broad Hectare Rates)	Residential development								
	Rural	22,113.78	N/A	0.02	0.5	0.5	10	4.8	0.05
	Rural Settlement	982.56	N/A	2	5.2	5.2	10	4.8	0.2
	Residential 1	480.63	N/A	10	25.9	25.9	100	4.8	0.6
	Residential 2	83.75	N/A	40	44.0	44.0	150	4.8	0.8
	Non-residential development and mixed development¹¹								
	Tourist and Residential	115.98	0.51	40	88.8	88.8	300	4.8	0.8
	Commercial/ Retail	36.62	0.75	40	25.9	25.9	400	4.8	0.9
	Industry	72.45	0.50	12	31.1	31.1	200	4.8	0.9
	Community and Recreational Facilities	355.40	0.5	10	25.9	25.9	120	4.8	0.2
Conservation	187,722.42	N/A	1.5	3.9	3.9	10	4.8	0.0	
Coastal Suburbs, Villages and Townships	Residential development								
	Rural	49.14	N/A	0.02	0.0518	0.0518	0.2	4.8	0.05
	Rural Settlement	13.90	N/A	2	5.18	5.18	20	4.8	0.2

Note—¹¹ 1. Mixed development is development that includes residential development and non-residential development.

Column 1 Area classification	Column 2 LGIP development type	Developable Ha	Column 3		Column 4				
			Planned density		Demand generation rate for a trunk infrastructure network				
			Non-residential plot ratio	Residential density (dwellings/dev ha)	Water supply network (EP/dev ha)	Sewerage network (EP/dev ha)	Transport network (vpd/dev ha)	Parks and land for community facilities network (ha/1000 persons)	Stormwater network (imp ha/dev ha)
	Residential 1	148.59	N/A	7	18.13	18.13	70	4.8	0.6
	Residential 2	4.08	N/A	7	18.13	18.13	70	4.8	0.8
	Non-residential development and mixed development								
	Tourist and Residential	11.89	0.35	6	15.54	13.3	45	4.8	0.8
	Commercial/ Retail	4.25	0.75	40	103.6	103.6	400	4.8	0.9
	Industry	-	0.50	12	31.08	31.08	120	4.8	0.9
	Community and Recreational Facilities	69.17	0.5	10	25.9	25.9	100	4.8	0.2
	Conservation	16.98	N/A	1.5	3.885	3.885	15	4.8	0.0
Mossman & Environs	Residential development								
	Rural	147.12	N/A	0.02	0.0518	0.0518	0.2	4.8	0.05
	Rural Settlement	33.99	N/A	2	5.18	5.18	20	4.8	0.2
	Residential 1	158.61	N/A	9	23.31	23.31	90	4.8	0.6
	Residential 2	26.64	N/A	9	23.31	23.31	90	4.8	0.8
	Non-residential development and mixed development								
	Tourist and Residential	0	0.51	40	88.8	88.8	300	4.8	0.8
	Commercial/ Retail	12.28	0.75	40	103.6	103.6	400	4.8	0.9

Column 1 Area classification	Column 2 LGIP development type	Developable Ha	Column 3 Planned density		Column 4 Demand generation rate for a trunk infrastructure network				
			Non-residential plot ratio	Residential density (dwellings/dev ha)	Water supply network (EP/dev ha)	Sewerage network (EP/dev ha)	Transport network (vpd/dev ha)	Parks and land for community facilities network (ha/1000 persons)	Stormwater network (imp ha/dev ha)
				Industry	48.66	0.50	12	31.08	31.08
	Community and Recreational Facilities	50.65	0.5	10	25.9	25.9	100	4.8	0.2
	Conservation	93.74	N/A	1.5	3.885	3.885	15	4.8	0.0
Port Douglas & Environs	Residential development								
	Rural	0.26	N/A	0.02	0.0518	0.0518	0.2	4.8	0.05
	Rural Settlement		N/A	2	5.18	5.18	20	4.8	0.2
	Residential 1 (Low Scale - Special Management Area_Flagstaff Hill) ¹²		N/A	7	17.094	17.094	66	4.8	0.4
	Residential 1 (Low Scale - Special Management Area Residential Growth Area) ¹⁴		N/A	12	31.08	31.08	120	4.8	0.4
	Residential 1 (Low Scale - Specific Overlay Reef Park Residential Estate) ¹⁴		N/A	10	25.9	25.9	100	4.8	0.4
	Residential 1 (Low Scale - Specific Overlay Solander Residential Estate) ¹⁴		N/A	10	25.9	25.9	100	4.8	0.4

¹² Special Planning Overlay requirement

Column 1 Area classification	Column 2 LGIP development type	Developable Ha	Column 3		Column 4				
			Planned density		Demand generation rate for a trunk infrastructure network				
			Non-residential plot ratio	Residential density (dwellings/dev ha)	Water supply network (EP/dev ha)	Sewerage network (EP/dev ha)	Transport network (vpd/dev ha)	Parks and land for community facilities network (ha/1000 persons)	Stormwater network (imp ha/dev ha)
	Residential 1 (High Scale) ¹⁴		N/A	12	31.08	31.08	120	4.8	0.6
	Residential 1 (Other) ¹⁴	170.36	N/A	9	23.31	23.31	90	4.8	0.6
	Residential 2 (Medium Scale) ¹⁴	53.03	N/A	34	88.8	76.1	257.1	4.8	0.75
	Non-residential development and mixed development								
	Tourist and Residential (High Scale) ¹⁴		0.8	51	133.2	114.2	385.7	4.8	1
	Tourist and Residential (Medium Scale) ¹⁴	100.73	0.45	26	66.6	57.1	192.9	4.8	0.9
	Tourist and Residential (Other) ¹⁴	20.08	0.45	34	88.8	76.1	257.1	4.8	0.8
	Commercial (High Scale - Tourist Centre) ¹⁴	23.18	1	51	133.2	114.2	385.7	4.8	1
	Industry	171.94	N/A	0.5	31.08	31.08	120	4.8	0.9
	Community and Recreational Facilities	44.21	0.5	0.8	2.072	2.072	8	4.8	0.2
	Conservation	100.73		1	2.59	2.59	10	4.8	0.0
Rural Areas and Rural Settlement	Residential development								
	Rural	19,871.93	N/A	0.02	0.0518	0.0518	0.2	4.8	0.05
	Rural Settlement	544.76	N/A	2	5.18	5.18	20	4.8	0.2

Column 1 Area classification	Column 2 LGIP development type	Developable Ha	Column 3		Column 4				
			Planned density		Demand generation rate for a trunk infrastructure network				
			Non-residential plot ratio	Residential density (dwellings/dev ha)	Water supply network (EP/dev ha)	Sewerage network (EP/dev ha)	Transport network (vpd/dev ha)	Parks and land for community facilities network (ha/1000 persons)	Stormwater network (imp ha/dev ha)
	Residential 1	3.07	N/A	7	18.13	18.13	70	4.8	0.6
	Residential 2	-		9	23.31	23.31	90	4.8	0.8
	Non-residential development and mixed development								
	Tourist and Residential	3.36	0.35	6	15.54	13.3	45	4.8	0.8
	Commercial/ Retail	-	0.75	40	103.6	103.6	400	4.8	0.9
	Industry	0.61	0.50	12	31.08	31.08	120	4.8	0.9
	Community and Recreational Facilities	63.64	0.5	10	25.9	25.9	100	4.8	0.2
	Conservation	684.56	N/A	1.5	3.885	3.885	15	4.8	0.0
Settlement Areas North of the Daintree	Residential development								
	Rural	2,045.32	N/A	0.25	0.6475	0.6475	2.5	4.8	0.05
	Rural Settlement	389.91	N/A	2.5	6.475	6.475	25	4.8	0.2
	Residential 1		N/A	7	18.13	18.13	70	4.8	0.6
	Residential 2		N/A	9	23.31	23.31	90	4.8	0.8
	Non-residential development and mixed development								
	Tourist and Residential		0.51	40	103.6	88.8	300	4.8	0.8
	Commercial/ Retail		0.75	40	103.6	103.6	400	4.8	0.9
	Industry		0.50	12	31.08	31.08	120	4.8	0.9

Column 1 Area classification	Column 2 LGIP development type	Developable Ha	Column 3 Planned density		Column 4 Demand generation rate for a trunk infrastructure network				
			Non-residential plot ratio	Residential density (dwellings/dev ha)	Water supply network (EP/dev ha)	Sewerage network (EP/dev ha)	Transport network (vpd/dev ha)	Parks and land for community facilities network (ha/1000 persons)	Stormwater network (imp ha/dev ha)
	Community and Recreational Facilities		0.5	10	25.9	25.9	100	4.8	0.2
	Conservation	2,441.17	N/A	1.5	3.885	3.885	15	4.8	0.0
World Heritage Areas and Environs	Residential development								
	Rural		N/A	0	0	0	0	4.8	0.05
	Rural Settlement		N/A	2.5	6.475	6.475	25	4.8	0.2
	Residential 1		N/A	7	18.13	18.13	70	4.8	0.6
	Residential 2		N/A	9	23.31	23.31	90	4.8	0.8
	Non-residential development and mixed development								
	Tourist and Residential								
	Commercial/ Retail								
	Industry								
	Community and Recreational Facilities								
Conservation		184,441.76							

Table SC3.1.4—Existing and projected residential dwellings

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected residential dwellings					
		Base Date					
		2011	2016	2021	2026	2031	Ultimate development
Port Douglas and Environs	Separate House	1,862	2,020	2,188	2,362	2545	3,709
	Semi, Detached, Flats	1,831	1,987	2,154	2,328	2509	3,669
	Other	626	679	737	796	852	1,256
	Total	4,319	4,686	5,079	5,486	5905	8,634
Mossman and Environs	Separate House	287	310	337	366	391	582
	Semi, Detached, Flats	282	305	332	361	386	577
	Other	96	104	113	123	132	197
	Total	665	719	782	850	909	1,356
Coastal Suburbs, Villages and Townships (Cooya Beach)	Separate House	108	130	152	175	197	354
	Semi, Detached, Flats	106	128	150	173	195	352
	Other	36	44	51	59	67	119
	Total	250	302	353	407	459	825
Coastal Suburbs, Villages and Townships (Daintree Township)	Separate House	15	16	18	21	23	39
	Semi, Detached, Flats	15	16	18	21	23	39
	Other	5	6	6	7	8	11

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected residential dwellings					
		Base Date					
		2011	2016	2021	2026	2031	Ultimate development
	Total	35	38	42	49	53	88
Coastal Suburbs, Villages and Townships (Newell Beach)	Separate House	76	80	83	87	91	115
	Semi, Detached, Flats	75	78	82	85	89	113
	Other	26	27	28	29	30	37
	Total	177	185	193	201	209	265
Coastal Suburbs, Villages and Townships (Wonga Beach)	Separate House	129	144	160	177	193	307
	Semi, Detached, Flats	127	142	158	174	190	301
	Other	43	49	54	60	66	104
	Total	299	335	372	411	448	711
Inside priority infrastructure area (total)	Separate House	2,477	2,700	2,938	3,188	3439	5,105
	Semi, Detached, Flats	2,436	2,656	2,894	3,142	3390	5,050
	Other	832	909	989	1,074	1153	1,724
	Total	2,034	2,066	2,103	2,145	7981	11879
Outside priority infrastructure area (total)	Separate House	877	890	906	924	939	1,054
	Semi, Detached, Flats	862	876	892	910	925	1,041
	Other	295	300	305	311	316	354

Table SC3.1.4—Existing and projected residential dwellings

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected residential dwellings					
		Base Date 2011	2016	2021	2026	2031	Ultimate development
	Total	2,034	2,066	2,103	2,145	2180	2,449
Douglas Shire Council	Separate House	3,354	3,590	3,844	4,112	4377	6,159
	Semi, Detached, Flats	3,298	3,532	3,786	4,052	4315	6,091
	Other	1,127	1,209	1,294	1,385	1469	2,078
	Total	7,779	8,331	8,924	9,549	10161	14,328

Table SC3.1.5 Existing and projected non-residential floor space

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected non-residential floor space (m ² GFA)					
		2011	2016	2021	2026	2031	Ultimate development
Port Douglas and Environs	Industrial	35,064	36,714	38,514	40,164	41,892	52,149
	Commercial	27,895.81	29,306	30,716	32,096	33,508	41,912
	Retail	6,339.47	6,639	6,939	7,239	7,539	9,339
	Community Services	2,166.67	2,267	2,367	2,467	2,567	3,167
	Others (incl. home based business)	-	-	-	-	-	-
	Total	71,466	74,926	78,536	81,966	85,506	106,567
Mossman and Environs	Industrial	37,986	39,936	41,886	43,686	45,639	57,066
	Commercial	11,386.05	11,956	12,526	13,096	13,667	17,086
	Retail	2,305.26	2,425	2,545	2,665	2,785	3,505
	Community Services	866.67	917	967	1,017	1,067	1,367
	Others (incl. home based business)	-	-	-	-	-	-
	Total	52,544	55,234	57,924	60,464	63,158	79,024
Coastal Suburbs, Villages and Townships	Industrial	-	-	-	-	-	-
	Commercial	9,678.14	10,188	10,698	11,178	11,689	14,694
	Retail	2,305.26	2,425	2,545	2,665	2,785	3,505
	Community Services	866.67	917	967	1,017	1,067	1,367
	Others (incl. home based business)	-	-	-	-	-	-
	Total	12,850	13,530	14,210	14,860	15,541	19,566
	Industrial	73,050	76,650	80,400	83,850	87,530	109,215

Table SC3.1.5 Existing and projected non-residential floor space

Column 1 Projection area	Column 2 LGIP development type	Column 3 Existing and projected non-residential floor space (m ² GFA)					
		2011	2016	2021	2026	2031	Ultimate development
Inside priority infrastructure area (total)	Commercial	48,960	51,450	53,940	56,370	58,864	73,692
	Retail	10,950	11,490	12,030	12,570	13,109	16,349
	Community Services	3,900	4,100	4,300	4,500	4,702	5,901
	Others (incl. home based business)	-	-	-	-	0	0
	Total	136,860	143,690	150,670	157,290	164,205	205,157
Outside priority infrastructure area (total)	Industrial	-	-	-	-	-	-
	Commercial	-	-	-	-	-	-
	Retail	-	-	-	-	-	-
	Community Services	-	-	-	-	-	-
	Others (incl. home based business)	-	-	-	-	-	-
Total	-	-	-	-	-	-	
Douglas Shire Council	Industrial	73,050	76,650	80,400	83,850	87,530	109,215
	Commercial	48,960	51,450	53,940	56,370	58,864	73,692
	Retail	10,950	11,490	12,030	12,570	13,109	16,349
	Community Services	3,900	4,100	4,300	4,500	4,702	5,901
	Others (incl. home based business)	-	-	-	-	0	-
	Total	136,860	143,690	150,670	157,290	164,205	205,157

SC3.2 Schedules of works

Table SC3.2.1—Water supply network schedule of works

Column 1 Map reference	Column 2 Trunk infrastructure	Column 3 Estimated timing	Column 4 Establishment cost ¹³
WIF001	WIF001_Raw Water Intake_Existing Mossman Intake 2-Stage 1 (Upgrade)	2016	\$ 242,298
WIF001	WIF001_Raw Water Intake_Existing Mossman Intake 2-Stage2 (Upgrade)	2018	\$ 1,296,011
WRF001	WRF001_Reservoir_Cooya Reservoir 2 (1.8 ML)	2009	\$ 2,854,125
WRF002	WRF002_Reservoir_Future Reservoir (20+ ML)	2015	\$ 16,770,000
WRF003	WRF003_Reservoir_Wonga Beach (1.3 ML)	2014	\$ 560,381
WRF004	WRF004_Reservoir_Mossman Reservoir (3.3 ML)	2031	\$ 2,001,732
WMF001	WMF001_Water Main_225 mm dia_UPVC	2011	\$ 631,798
WMF002	WMF002_Water Main_225 mm dia_DICL	2011	\$ 155,902
WMF003(i)	WMF003(i)_Water_Main_Interim_150 mm dia_UPVC_Teamster Park to Caravan Park	2014	\$ 27,482
WMF003(ii)	WMF003(ii)_Water_Main_Interim_150 mm dia_UPVC_Caravan Park to Creek	2017	\$ 196,009
WMF003(iii)	WMF003(iii)_Water_Main_Interim_150 mm dia_UPVC_Creek to Reservoir	2019	\$ 270,489
WMF003	WMF003_Water Main_225 mm dia_UPVC (Ultimate Upgrade)	2011	\$ 618,193
WMF004	WMF004_Water Main_450 mm dia_DICL	2011	\$ 943,147
WMF005	WMF005_Water Main_225 mm dia_UPVC	2014	\$ 317,021
WMF006	WMF006_Water Main_225 mm dia_UPVC	2017	\$ 200,393
WMF007(i)	WMF007_Water Main_150 mm dia_UPVC	2019	\$ 1,001,689
WMF007(ii)	WMF007A_Water Main_225 mm dia_UPVC	2012	\$ 323,996
WMF008	WMF008_Water Main_225 mm dia_DICL	2026	\$ 1,195,903
WMF009	WMF009_Water Main_300 mm dia_DICL	2011	\$ 1,402
WMF010	WMF010_Water Main_450 mm dia_DICL	2011	\$ 2,641,785
WMF011	WMF011_Water Main_450 mm dia_DICL	2011	\$ 5,100,774
WMF012	WMF012_Water Main_225 mm dia_DICL	2011	\$ 71,343
WMF013	WMF013_Water Main_225 mm dia_DICL	2011	\$ 67,029
WMF014	WMF014_Water Main_225 mm dia_DICL	2026	\$ 529,927
WMF015	WMF015_Water Main_225 mm dia_DICL	2026	\$ 99,366

Note—The establishment cost is expressed as gross cost

Table SC3.2.1—Water supply network schedule of works

Column 1 Map reference	Column 2 Trunk infrastructure	Column 3 Estimated timing	Column 4 Establishment cost¹³
TOTAL			\$38,118,195

Table SC3.2.2—Sewerage network schedule of works

Column 1 Map reference	Column 2 Trunk infrastructure	Column 3 Estimated timing	Column 4 Establishment cost
SPSF001	SPSF001_Andreassen Road Pump Station	2021	\$ 549,887
SPSF004	SPSF004_Newell Road Pump Station	2021	\$ 549,887
SPSF006	SPSF006_Mossman WWTP Reuse Pump Station Stage 2	2031	\$ 573,795
SPSF007	SPSF007_Mossman Golf Course Reuse Pump Station	2031	\$ 573,795
SPSF008	SPSF008_Existing Mossman WWTP PS Upgrade	2031	\$ 573,795
SSFF001	SSFF001_Mossman Golf Club Reuse Storage Facility - 3 ML	2031	\$ 491,824
SSFF002	SSFF002_Mossman WWTP reuse Storage Facility - 1 ML	2031	\$ 1,639,415
STPF001	STPF001_Interim Mossman WWTP Upgrade - Regulate flows UPGRADE	2011	\$ 345,061
STPF002	STPF002_Interim Mossman WWTP Upgrade - Alternative sludge infrastructure UPGRADE	2015	\$ 1,305,324
STPF003	STPF003_Mossman WWTP Upgrade Stage 1 including Effluent reuse PS Stage 1 UPGRADE	2027	\$ 23,234,332
STPF004	STPF004_Mossman WWTP Upgrade Stage 2 UPGRADE	2031	\$ 5,885,893
EMF001	EMF001_Effluent Rising Main_100 mm dia_Trunk	2031	\$ 1,113,350
RMF004	RMF004_Rising Main_100 mm dia_Trunk	2017	\$ 58,231
RMF068	RMF068_Rising Mains_150 mm dia_Craiglie_Trunk	2021	\$ 303,604
RMF067	RMF067_Rising Mains_250 mm dia_Wonga_Trunk	2021	\$ 2,376,766
RMF068	RMF068_Rising Mains_150 mm dia_Wonga_Trunk	2021	\$ 380,168

Table SC3.2.2—Sewerage network schedule of works

Column 1 Map reference	Column 2 Trunk infrastructure	Column 3 Estimated timing	Column 4 Establishment cost
RMF069	RMF069_Rising Mains_150 mm dia_Wonga_Trunk	2026	\$ 83,945
TOTAL			\$40,039,074

Table 3.2.3—Transport network schedule of works

Column 1 Map reference	Column 2 Trunk infrastructure	Column 3 Estimated timing	Column 4 Establishment cost
TRANSPORT (FUTURE TRUNK ROADS)			
TRF006	TRF006_Andreassen Road_Future_Urban Major Collector	2026	\$ 1,673,655
TRF007	TRF007_Wabul Street_Future_Urban Major Collector	2028	\$ 1,537,991
TRF008	TRF008_Wabul Street_Future_Urban Major Collector	2030	\$ 1,586,270
TRF009	TRF009_Wabul Street_Upgrade_Urban Major Collector	2031	\$ 1,187,617
TRF010	TRF010_Milman Drive_Upgrade_Urban Major Collector	2026	\$ 1,410,087
TRF011	TRF011_Downing Street_Upgrade_Urban Major Collector	2026	\$ 1,622,480
TRF012	TRF012_Wharf Street_Upgrade_Urban Major Collector	2022	\$ 4,092,235
TRF013	TRF013_Wharf Street_Upgrade_Urban Major Collector	2022	\$ 3,639,233
TRF032	TRF032_Melaleuca Dr & Bougainvillea Street_Upgrade_Rural Major Collector	2031	\$ 2,543,741
TRF033	TRF033_Bougainvillea Street_Upgrade_Urban Major Collector	2021	\$ 686,357
TRF034	TRF034_Bougainvillea Street_Upgrade_Urban Major Collector	2021	\$ 2,502,455
TRF036	TRF036_Palm Street_Upgrade_Urban Major Collector	2021	\$ 500,304
TRF037	TRF037_Palm Street_Upgrade_Urban Major Collector	2021	\$ 367,382
TRF038	TRF038_Palm Street_Upgrade_Urban Major Collector	2021	\$ 324,582
TRF039	TRF039_Cooya Beach Road_Upgrade_Urban Major Collector	2021	\$ 1,137,134

TRF043	TRF043_Forest Glen Drive_Future_Urban Major Collector	2026	\$1,937,987
TRF044	TRF044_Daintree Horizon Drive_Future_Urban Major Collector	2031	\$2,840,005
TRF075	TRF075_Snapper Island Drive_Upgrade_Rural Minor Collector	2031	\$ 912,435
TRF076	TRF076_Snapper Island Drive_Future_Urban Minor Collector	2031	\$ 2,902,445
TRF077	TRF077_Vixies Road_Upgrade_Urban Minor Collector	2031	\$ 5,361,125
TRANSPORT (FUTURE TRUNK STRUCTURE - ROADS)			
SCF011	SCF011_Culvert Crossing - Cnr Millman Drive and Downing Street Upgrade of Existing Sub-standard Culvert Structures to meet flow requirements Structures: Culverts (RCBC: 5x 1200*1800)	2031	\$ 854,840
SCF012	SCF012_Culvert Crossing - Trunk Drainage Line (Wabul Street)__Structures: Culverts (RCBC: 16x 1200*900)	2022	\$ 949,822
SCF013	SCF013_Craiglie - Trunk Drainage Line__Trunk Drainage Line	2011	\$ 580,500
TRANSPORT (FUTURE TRUNK PATH)			
FPF001	TRUNK_PATH_Port Douglas Road	2016	\$ 31,722
FPF002	TRUNK_PATH_CAPT COOK HIGHWAY	2017	\$ 42,006
FPF003	TRUNK_PATH_OFF OLD PORT ROAD	2017	\$ 183,387
FPF004	TRUNK_PATH_OFF ULYSSES AVENUE	2017	\$ 9,385
FPF005	TRUNK_PATH_OFF ULYSSES AVENUE	2017	\$ 13,349
FPF006	TRUNK_PATH_OFF ULYSSES AVENUE	2017	\$ 10,666
FPF007	TRUNK_PATH_Oriole Street	2017	\$ 49,694
FPF008	TRUNK_PATH_Brolga Street	2017	\$ 50,047
FPF009	TRUNK_PATH_NAUTILUS STREET	2016	\$ 22,376
FPF010	FPF001_Port Douglas Road _TRUNK_PATH_Port Douglas Road _Concrete_Path	2016	\$ 12,529
FPF011	FPF002_CAPT COOK HIGHWAY_TRUNK_PATH_CAPT COOK HIGHWAY_Concrete_Path	2017	\$ 41,853

FPF015	FPF003_OFF OLD PORT ROAD_TRUNK_PATH_OFF OLD PORT ROAD_Concrete_Path	2017	\$ 9,662
FPF016	FPF004_OFF ULYSSES AVENUE_TRUNK_PATH_OFF ULYSSES AVENUE_Concrete_Path	2017	\$ 23,089
FPF017	FPF005_OFF ULYSSES AVENUE_TRUNK_PATH_OFF ULYSSES AVENUE_Concrete_Path	2017	\$ 21,453
FPF018	FPF006_OFF ULYSSES AVENUE_TRUNK_PATH_OFF ULYSSES AVENUE_Concrete_Path	2017	\$ 13,216
FPF019	FPF007_Oriole Street_TRUNK_PATH_Oriole Street_Concrete_Path	2017	\$ 11,245
FPF020	FPF008_Brolga Street _TRUNK_PATH_Brolga Street _Concrete_Path	2017	\$ 6,317
FPF021	FPF009_NAUTILUS STREET_TRUNK_PATH_NAUTILU S STREET_Concrete_Path	2016	\$ 23,274
FPF022	FPF010_NAUTILUS STREET_TRUNK_PATH_NAUTILU S STREET_Concrete_Path	2016	\$ 39,970
FPF024	FPF015_REEF STREET_TRUNK_PATH_REEF STREET_Concrete_Path	2016	\$ 6,885
FPF025	FPF016_REEF STREET_TRUNK_PATH_REEF STREET_Concrete_Path	2016	\$ 47,169
FPF026	FPF017_REEF STREET_TRUNK_PATH_REEF STREET_Concrete_Path	2016	\$ 37,220
FPF027	FPF018_REEF STREET_TRUNK_PATH_REEF STREET_Concrete_Path	2016	\$ 65,388
FPF028	FPF019_REEF STREET_TRUNK_PATH_REEF STREET_Concrete_Path	2016	\$ 15,380
FPF029	FPF020_REEF STREET_TRUNK_PATH_REEF STREET_Concrete_Path	2016	\$ 12,413
FPF030	FPF021_OFF MURPHY STREET_TRUNK_PATH_OFF MURPHY STREET_Concrete_Path	2018	\$ 126,603
FPF031	FPF022_OFF MURPHY STREET_TRUNK_PATH_OFF MURPHY STREET_Concrete_Path	2018	\$ 29,845
FPF032	FPF023_OFF OWEN STREET_TRUNK_PATH_OFF OWEN STREET_Concrete_Path	2018	\$ 344,721

FPF033	FPF024_OFF OWEN STREET_TRUNK_PATH_OFF OWEN STREET_Concrete_Path	2018	\$ 379,580
FPF034	FPF025_OFF WARNER STREET_TRUNK_PATH_OFF WARNER STREET_Concrete_Path	2019	\$ 241,873
FPF035	FPF026_OFF MURPHY STREET_TRUNK_PATH_OFF MURPHY STREET_Concrete_Path	2018	\$ 616,091
FPF036	FPF027_OFF MURPHY STREET_TRUNK_PATH_OFF MURPHY STREET_Concrete_Path	2018	\$ 28,810
FPF037	FPF028_OFF MURPHY STREET_TRUNK_PATH_OFF MURPHY STREET_Concrete_Path	2018	\$ 24,066
FPF038	FPF029_OFF WARNER STREET_TRUNK_PATH_OFF WARNER STREET_Concrete_Path	2019	\$ 26,621
FPF039	FPF030_Port Douglas Sports Reserve_TRUNK_PATH_Port Douglas Sports Reserve_Concrete_Path	2022	\$ 67,935
FPF040	FPF031_OFF WHARF STREET_TRUNK_PATH_OFF WHARF STREET_Concrete_Path	2022	\$ 185,321
FPF041	FPF032_BONNIE DOON ROAD_TRUNK_PATH_BONNIE DOON ROAD_Concrete_Path	2021	\$ 10,010
FPF042	FPF033_BONNIE DOON ROAD_TRUNK_PATH_BONNIE DOON ROAD_Concrete_Path	2021	\$ 257,656
FPF044	FPF034_MELALEUCA DRIVE_TRUNK_PATH_MELALEUC A DRIVE_Concrete_Path	2021	\$ 66,240
FPF045	FPF035_OFF COOYA BEACH RD_TRUNK_PATH_OFF COOYA BEACH RD_Concrete_Path	2021	\$ 133,004
FPF046	FPF036_BOUGAINVILLEA STREET_TRUNK_PATH_BOUGAIN VILLEA STREET_Concrete_Path	2021	\$ 42,751
FPF047	FPF037_BOUGAINVILLEA STREET_TRUNK_PATH_BOUGAIN VILLEA STREET_Concrete_Path	2021	\$ 28,519
FPF048	FPF038_BOUGAINVILLEA STEET_TRUNK_PATH_BOUGAINA VILLEA STEET_Concrete_Path	2021	\$ 20,476
FPF049	FPF039_BOUGAINVILLEA STREET_TRUNK_PATH_BOUGAIN VILLEA STREET_Concrete_Path	2021	\$ 32,855

FPF050	FPF040_BOUGAINVILLEA STREET_TRUNK_PATH_BOUGAINVILLEA STREET_Concrete_Path	2021	\$ 9,235
FPF055	FPF041_Res_pathway_TRUNK_PATH_Res_pathway_Concrete_Path	2022	\$ 12,116
FPF056	FPF042_DAINTREE HORIZON DRIVE_TRUNK_PATH_DAINTREE HORIZON DRIVE_Concrete_Path	2026	\$ 18,186
FPF057	FPF044_FOREST GLEN ROAD_TRUNK_PATH_FOREST GLEN ROAD_Concrete_Path	2026	\$ 84,956
FPF058	FPF045_OFF CORAL SEA DRIVE_TRUNK_PATH_OFF CORAL SEA DRIVE_Concrete_Path	2026	\$ 173,736
FPF060	FPF046_OWEN STREET_TRUNK_PATH_OWEN STREET_Concrete_Path	2021	\$ 17,496
FPF061	FPF047_OWEN STREET_TRUNK_PATH_OWEN STREET_Concrete_Path	2021	\$ 16,978
FPF062	FPF048_BOW STREET_TRUNK_PATH_BOW STREET_Concrete_Path	2021	\$ 28,418
FPF063	FPF049_ENID MAY LANE_TRUNK_PATH_ENID MAY LANE_Concrete_Path	2021	\$ 31,361
FPF065	FPF050_Manjal Dimbi (Middlemiss Park)_TRUNK_PATH_Manjal Dimbi (Middlemiss Park)_Concrete_Path	2021	\$ 19,255
FPF066	FPF055_FOREST GLEN ROAD_TRUNK_PATH_FOREST GLEN ROAD_Concrete_Path	2026	\$ 56,632
FPF067	FPF056_GIBLIN STREET_TRUNK_PATH_GIBLIN STREET_Concrete_Path	2031	\$ 24,818
FPF068	FPF057_SNAPPER ISLAND DRIVE_TRUNK_PATH_SNAPPER ISLAND DRIVE_Concrete_Path	2031	\$ 9,187
FPF069	FPF058_SNAPPER ISLAND DRIVE_TRUNK_PATH_SNAPPER ISLAND DRIVE_Concrete_Path	2031	\$ 23,420
FPF070	FPF070_Coral Sea _TRUNK_PATH_Birdwing Street_Concrete_Path	2017	\$ 25,798
FPBF001	FPBF001_JUNCTION CREEK PEDESTRIAN BRIDGE	2020	\$ 703,800
TOTAL			\$47,525,832

Table 3.2.4—Parks and land for community facilities schedule of works

Column 1 Map reference	Column 2 Trunk infrastructure	Column 3 Estimated timing	Column 4 Establishment cost¹⁴
PPLC061	PPLC061_Lou Prince Park_UPGRADE (Local Recreation Park-Bonnie Doon)	2020	\$ 89,558
PPLC062	PPLC062_Cooya Beach/Mossman River_UPGRADE (Land for Drainage Purposes-Bonnie Doon)	2020	\$ -
PPLC063	PPLC063_New Local Park_New Park (Local Recreation Park-Mossman)	2020	\$ 1,114,937
PPLC064	PPLC064_New Local Park_New Park (Local Recreation Park-Craiglie)	2015	\$ 1,163,412
PPLC065	PPLC065_New Local Park_New Park (Local Recreation Park-Craiglie)	2024	\$ 251,246
PPLC066	PPLC066_Jim Holdsworth Park_UPGRADE (District Recreation Park-Cooya Beach)	2020	\$ 817,416
PPLC067	PPLC067_Newell Beach Esplanade_UPGRADE (District Recreation Park-Newell)	2021	\$ 490,450
PPLC068	PPLC068_Wonga Community Park_UPGRADE (District Recreation Park-Wonga)	2022	\$ 511,773
PPLC069	PPLC069_George Davis Park_UPGRADE (Local Government Wide Recreation Park-Mossman)	2023	\$ 852,956
PPLC070	PPLC070_4 Mile Park_UPGRADE (District Recreation Park-Port Douglas)	2024	\$ 852,956
PPLC071	PPLC071_Rex Smeal Park_UPGRADE (District Recreation Park-Port Douglas)	2025	\$ 852,956
PPLC085	PPLC085_New District Sports Park (Future)_New Park (District Sports Park-Cooya Beach)	2021	\$ 1,593,424
PPLC086	PPLC086_Coronation Park/Show Grounds - Upgrade_UPGRADE (Local Government Wide Sports Park-Mossman)	2024	\$ 2,062,176

Note—11. Table 3.2.4 Column 4 The establishment cost is expressed in current cost terms as at the base date.

Table 3.2.4—Parks and land for community facilities schedule of works

Column 1 Map reference	Column 2 Trunk infrastructure	Column 3 Estimated timing	Column 4 Establishment cost¹⁴
PPLC087	PPLC087_Port Douglas Sports Reserve -Upgrade_UPGRADE (District Sports Park-Port Douglas)	2026	\$ 2,288,399
PPLC092	PPLC092_New District Sports Park (Future)_New Park (District Sports Park-Wonga Beach)	2026	\$ 941,105
PPLC093	PPLC093_Daintree Sports Oval - Upgrade_Upgrade (District Sports Park-Daintree)	2025	\$ 712,707
PPLC094	PPLC094_Diwan Sports Reserve - Upgrade_Upgrade (District Sports Park-Diwan)	2025	\$ 649,719
TOTAL			\$15,245,189



LOCAL GOVERNMENT INFRASTRUCTURE PLANS (PLANNING LOCALITIES) *for* DOUGLAS SHIRE COUNCIL

SCHEDULE OF PROJECT DRAWINGS

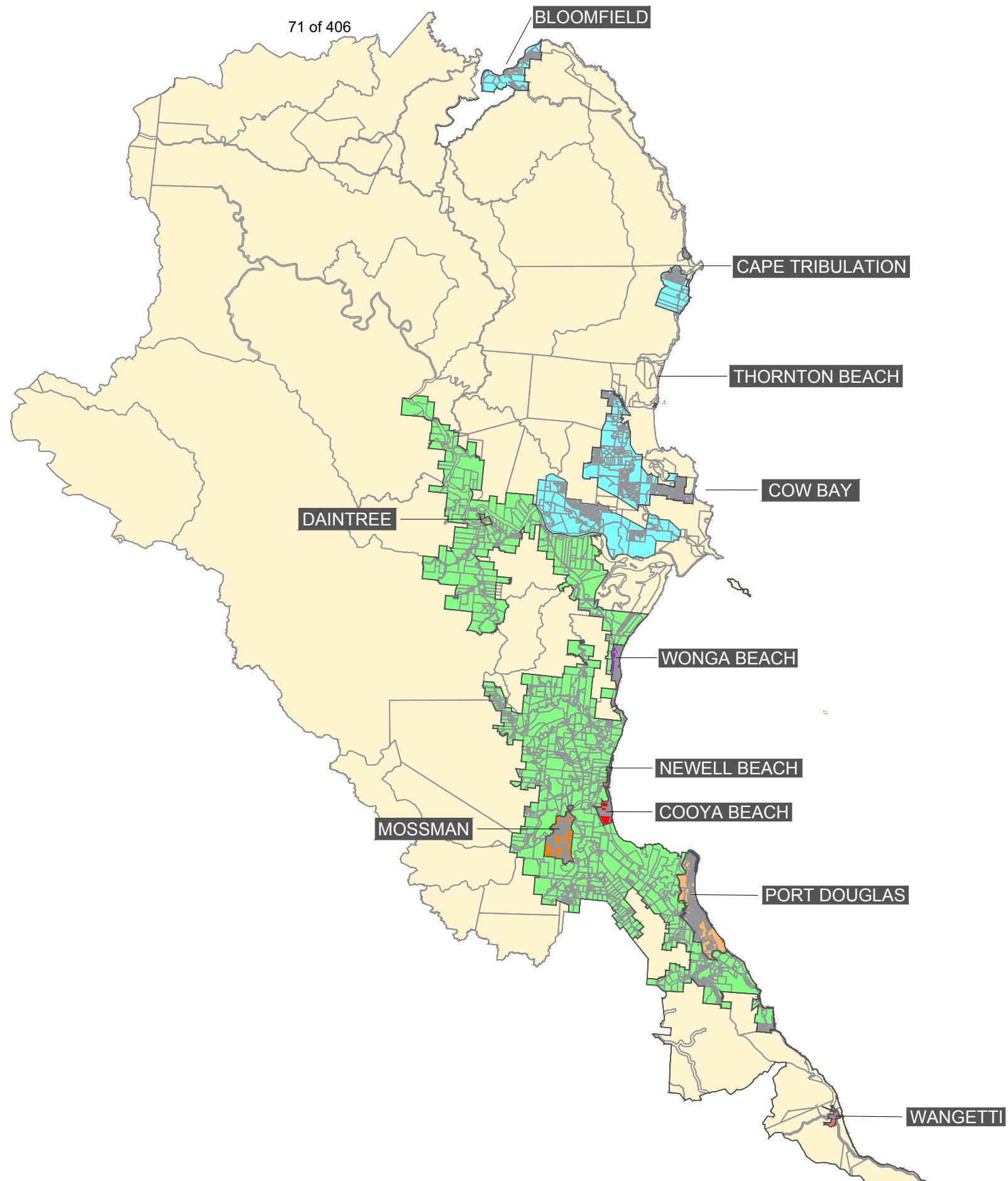
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1100-002	PLANNING LOCALITIES KEY MAP
1100-003	PLANNING LOCALITIES - GRID 1
1100-004	PLANNING LOCALITIES - GRID 2
1100-005	PLANNING LOCALITIES - GRID 3
1100-006	PLANNING LOCALITIES - GRID 4
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LEGEND

LOCALITIES

- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (COOYA BEACH)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (DAINTREE TOWNSHIP)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (NEWELL BEACH)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WANGETTI)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WONGA BEACH)
- MOSSMAN AND ENVIRONS
- PORT DOUGLAS AND ENVIRONS
- RURAL AREAS AND RURAL SETTLEMENTS
- SETTLEMENT AREAS NORTH OF THE DAINTREE RIVER
- WORLD HERITAGE AREAS AND ENVIRONS



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Revisions				
No.	Description	Reviewed	Approved	Date
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Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>	RPEQ	Date 23/03/18	Revision 1100-001 C

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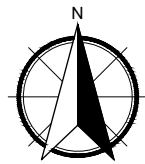
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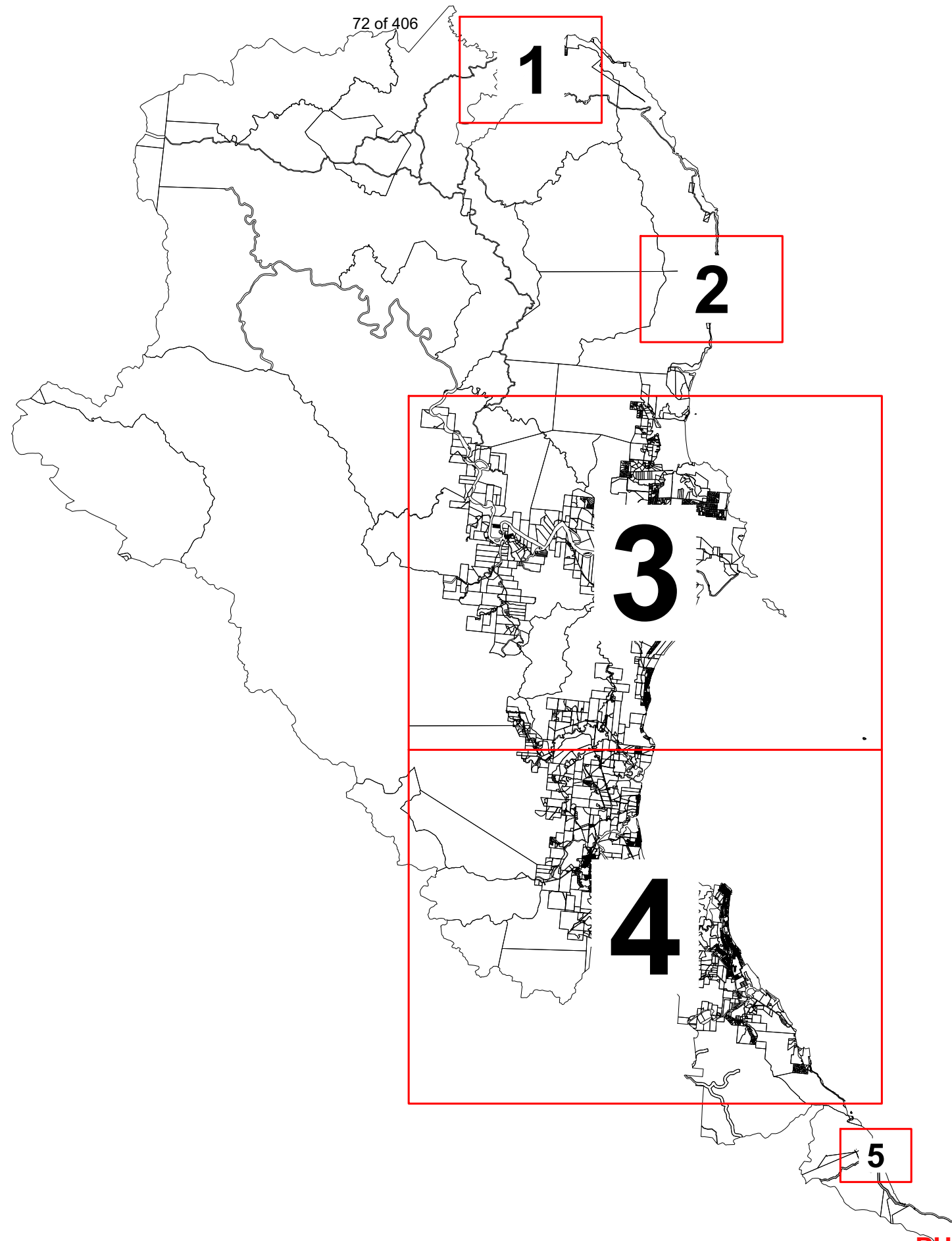
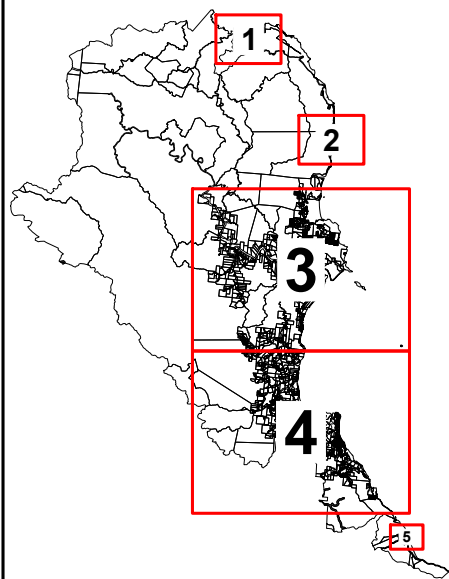
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GENERAL

- LOCALITIES BOUNDARY
- PROPERTY BOUNDARY



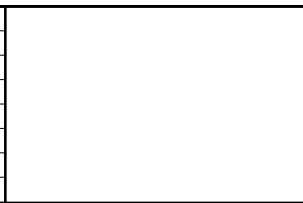
KEY MAP



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Drawn IM	Designed RR	Drawing Check RR	Design Check RR	Approved R RANKINE	RPEQ
Date 23/03/18	Drawing No. 1100-002	Revision C			

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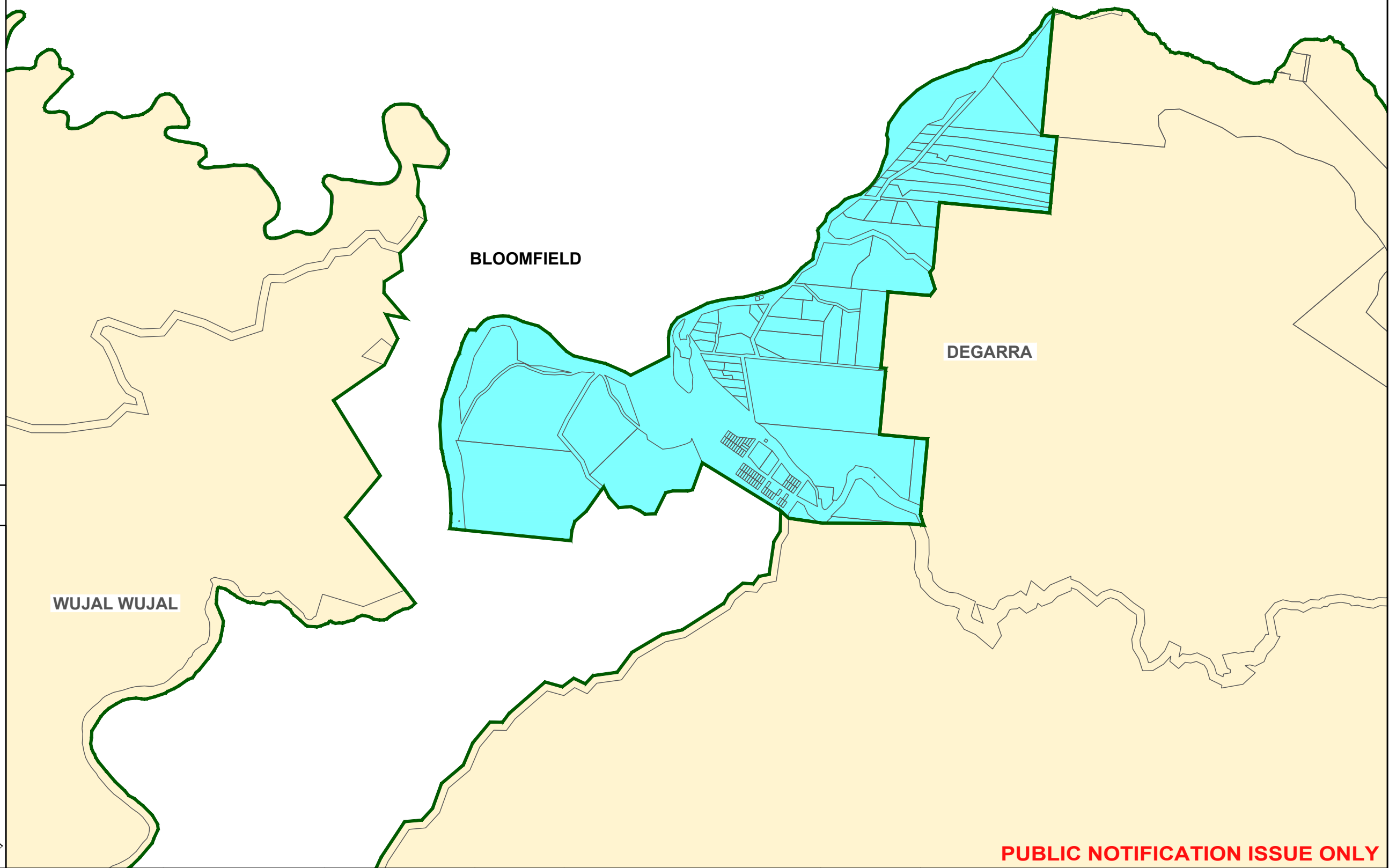
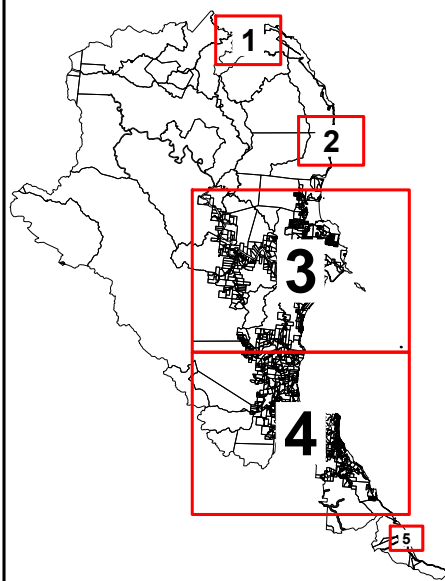
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GENERAL

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- PROPERTY BOUNDARY



KEY MAP



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IM	RR	RR	RR	R RANKINE	Date
					23/03/18
				Drawing No.	Revision
				1100-003	C

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LEGEND

LOCALITIES

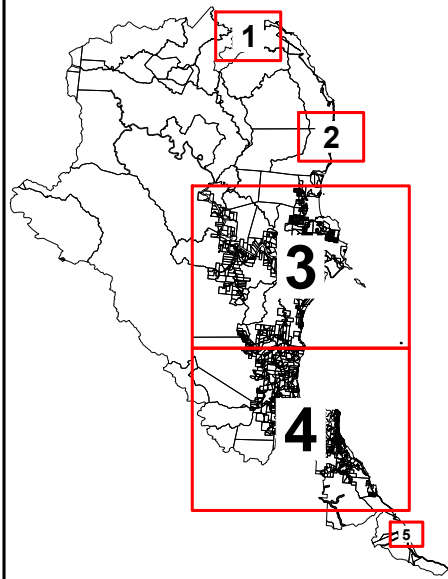
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- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (DAINTREE TOWNSHIP)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (NEWELL BEACH)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WANGETTI)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WONGA BEACH)
- MOSSMAN AND ENVIRONS
- PORT DOUGLAS AND ENVIRONS
- RURAL AREAS AND RURAL SETTLEMENTS
- SETTLEMENT AREAS NORTH OF THE DAINTREE RIVER
- WORLD HERITAGE AREAS AND ENVIRONS

GENERAL

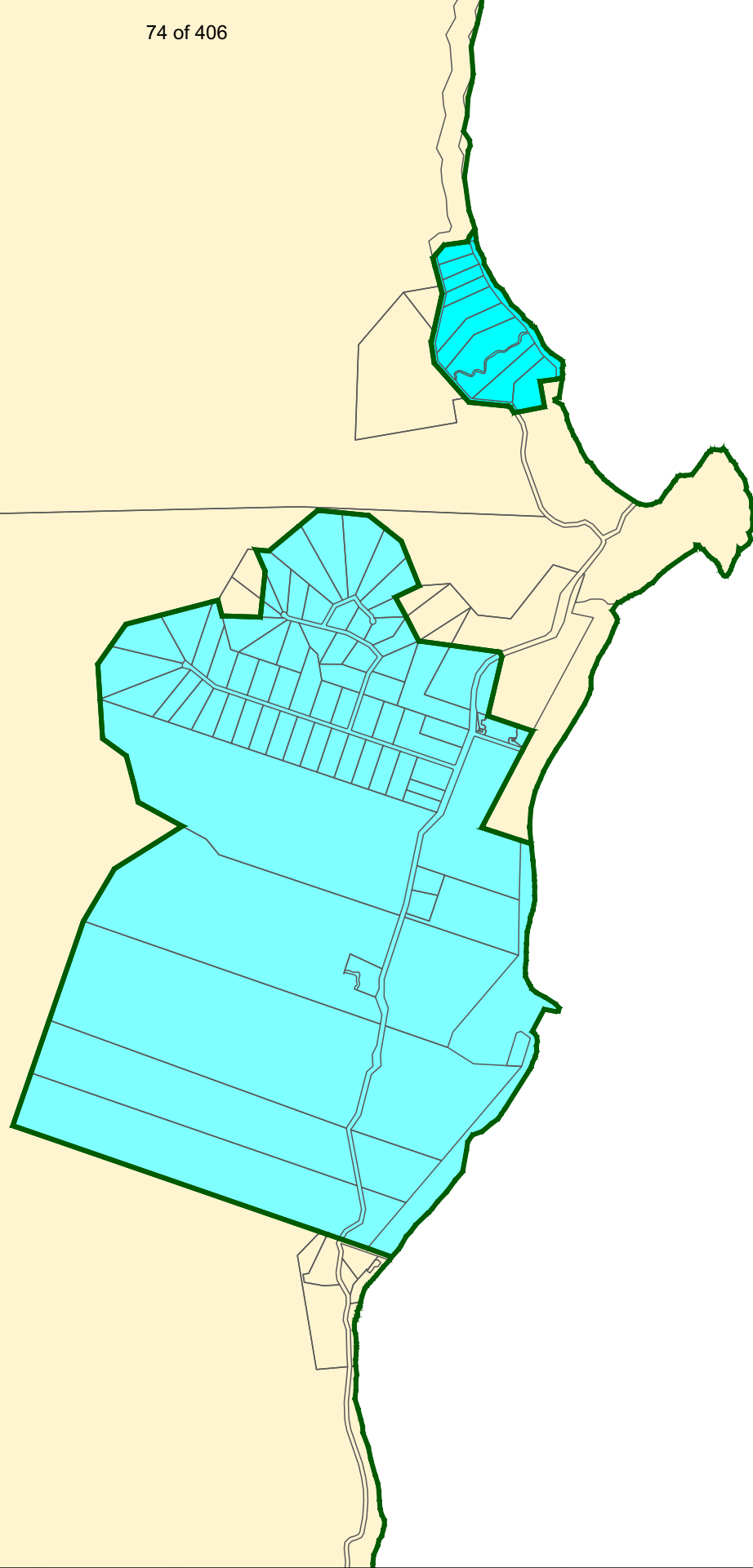
- LOCALITIES BOUNDARY
- PROPERTY BOUNDARY



KEY MAP



CAPE TRIBULATION



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GRID: 2



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Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ
IM	RR	RR	RR	R RANKINE	
Date	Drawing No.	Revision			
23/03/18	1100-004	C			

LEGEND

LOCALITIES

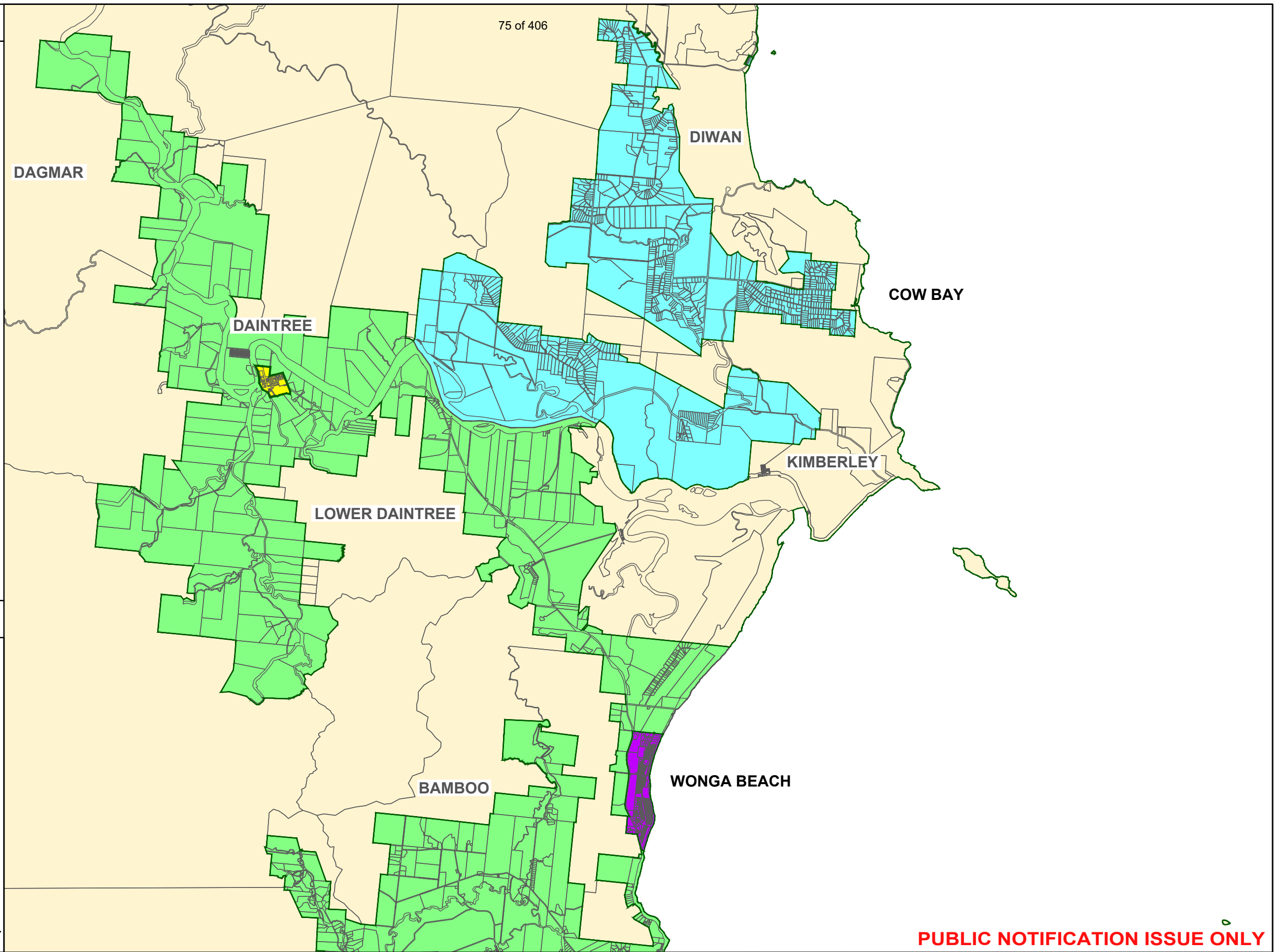
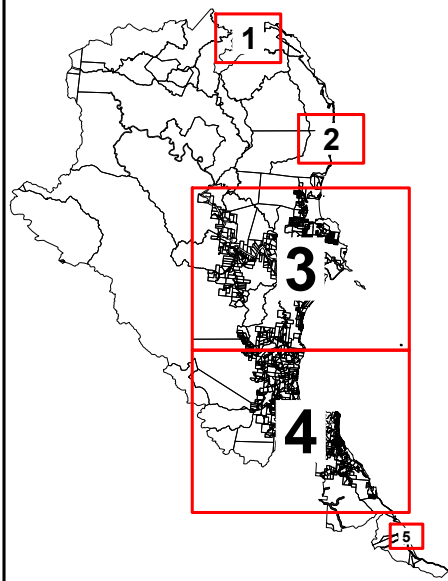
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- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (NEWELL BEACH)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WANGETTI)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WONGA BEACH)
- MOSSMAN AND ENVIRONS
- PORT DOUGLAS AND ENVIRONS
- RURAL AREAS AND RURAL SETTLEMENTS
- SETTLEMENT AREAS NORTH OF THE DAINTREE RIVER
- WORLD HERITAGE AREAS AND ENVIRONS

GENERAL

- LOCALITIES BOUNDARY
- PROPERTY BOUNDARY



KEY MAP



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Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ
IM	RR	RR	RR	R RANKINE	Date
					23/03/18
					Drawing No.
					1100-005
					Revision
					C

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Revisions

LEGEND

LOCALITIES

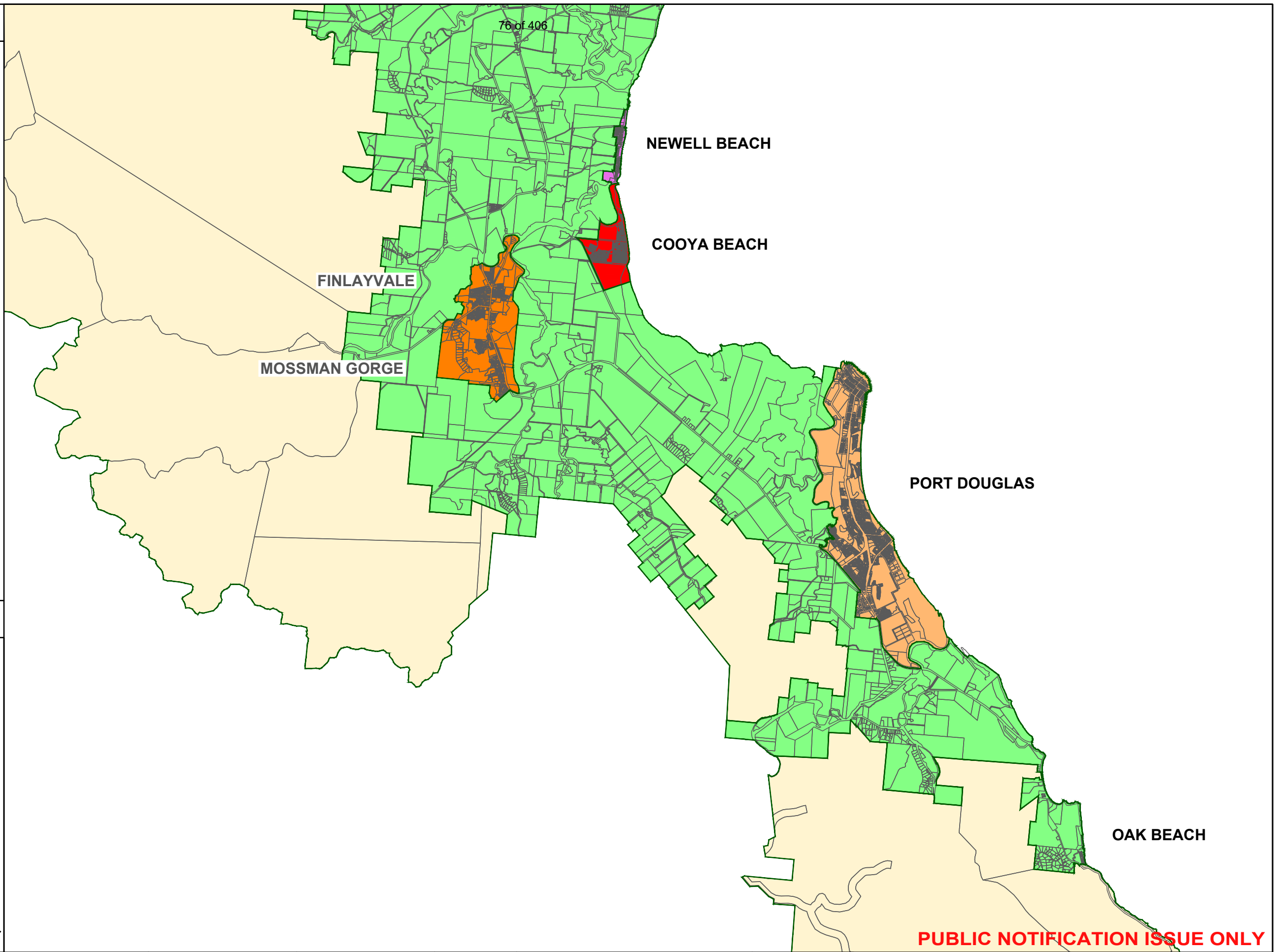
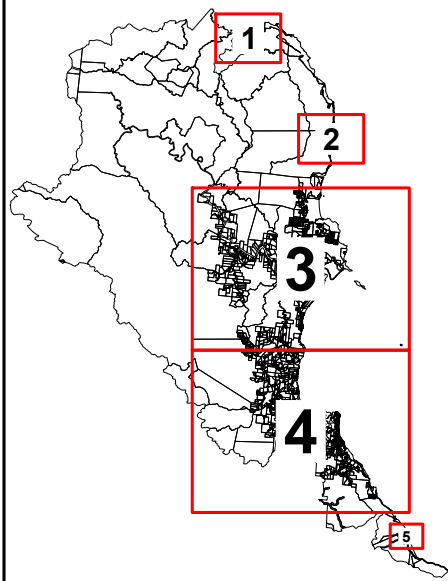
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- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WANGETTI)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WONGA BEACH)
- MOSSMAN AND ENVIRONS
- PORT DOUGLAS AND ENVIRONS
- RURAL AREAS AND RURAL SETTLEMENTS
- SETTLEMENT AREAS NORTH OF THE DAINTREE RIVER
- WORLD HERITAGE AREAS AND ENVIRONS

GENERAL

- LOCALITIES BOUNDARY
- PROPERTY BOUNDARY



KEY MAP



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GRID: 4

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RPEQ

Date
23/03/18

Drawing No.
1100-006

Revision
C

Client	DOUGLAS SHIRE COUNCIL			
Project	1100 DOUGLAS SHIRE COUNCIL LGIP			
Title	PLANNING LOCALITIES - GRID 4			

LEGEND

LOCALITIES

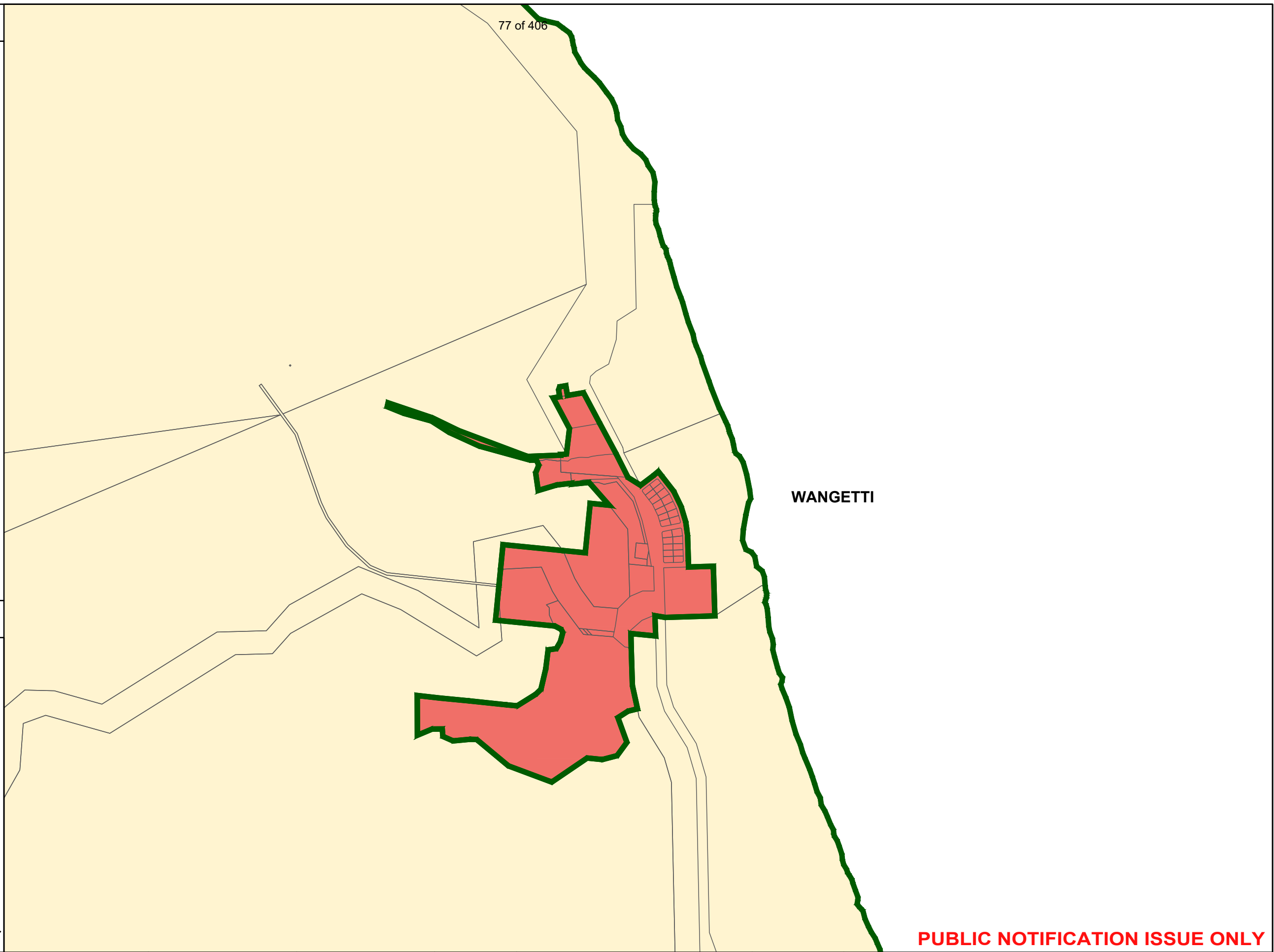
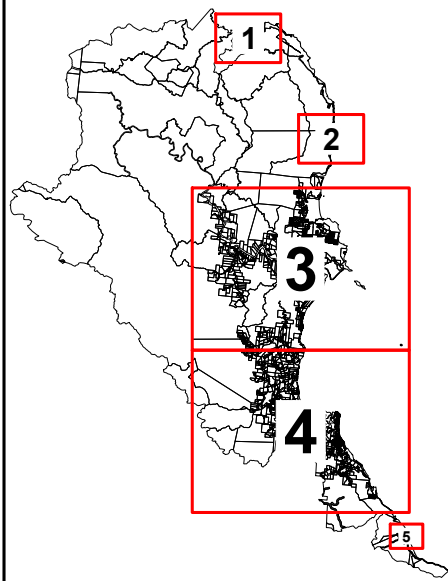
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- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (DAINTREE TOWNSHIP)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (NEWELL BEACH)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WANGETTI)
- COASTAL SUBURBS, VILLAGES AND TOWNSHIPS (WONGA BEACH)
- MOSSMAN AND ENVIRONS
- PORT DOUGLAS AND ENVIRONS
- RURAL AREAS AND RURAL SETTLEMENTS
- SETTLEMENT AREAS NORTH OF THE DAINTREE RIVER
- WORLD HERITAGE AREAS AND ENVIRONS

GENERAL

- LOCALITIES BOUNDARY
- PROPERTY BOUNDARY



KEY MAP



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GRID: 5

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		Date	Drawing No.	Revision	
		23/03/18	1100-007	C	

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LOCAL GOVERNMENT INFRASTRUCTURE PLANS (PRIORITY INFRASTRUCTURE AREAS) *for* DOUGLAS SHIRE COUNCIL

SCHEDULE OF PROJECT DRAWINGS

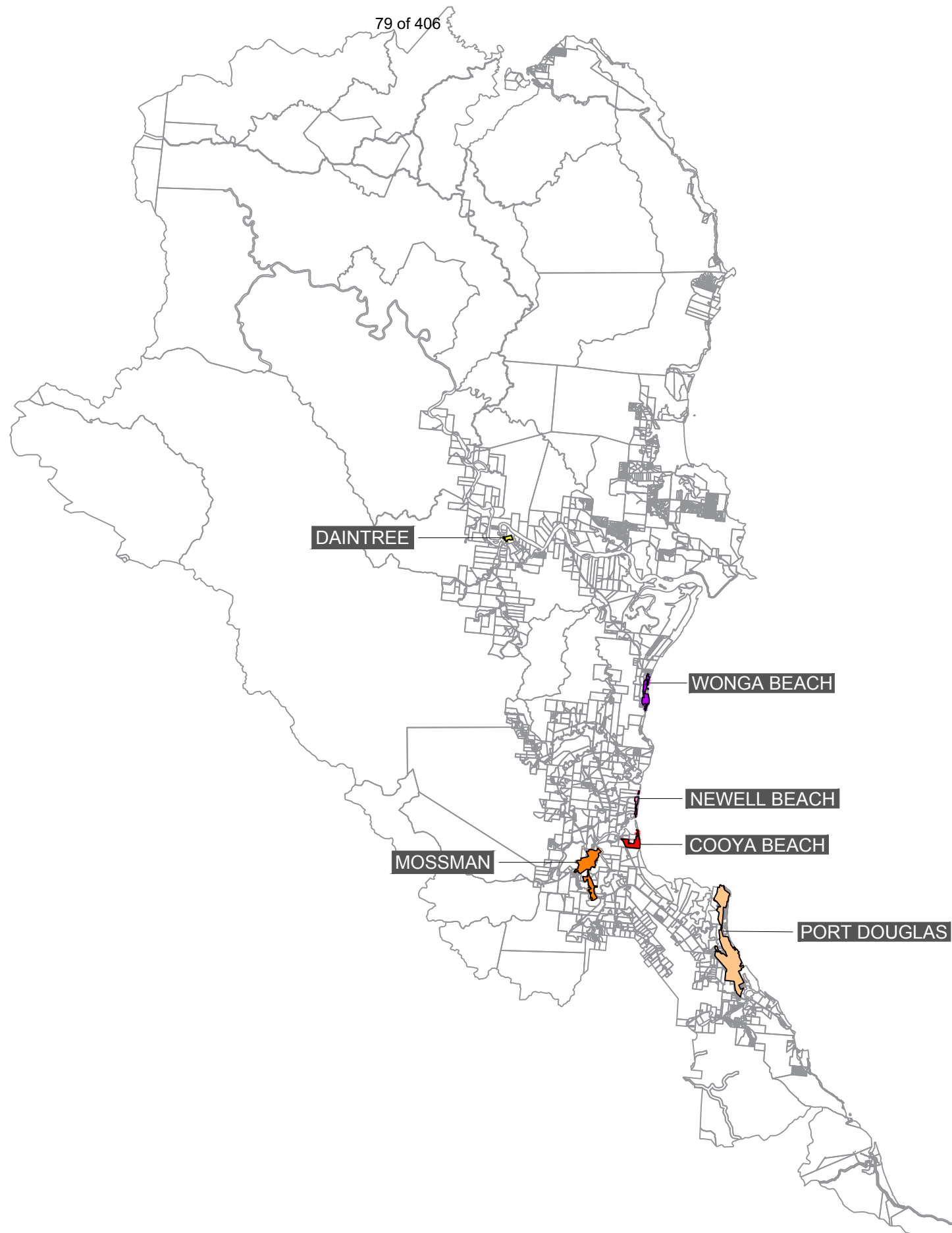
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1100-011	PRIORITY INFRASTRUCTURE AREAS
1100-012	PRIORITY INFRASTRUCTURE AREAS KEY MAP
1100-013	PRIORITY INFRASTRUCTURE AREAS - GRID 1
1100-014	PRIORITY INFRASTRUCTURE AREAS - GRID 2
1100-015	PRIORITY INFRASTRUCTURE AREAS - GRID 3
1100-016	PRIORITY INFRASTRUCTURE AREAS - GRID 4
1100-017	PRIORITY INFRASTRUCTURE AREAS - GRID 5

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LEGEND

LGIP PRIORITY INFRASTRUCTURE AREAS

- DAINTREE
- WONGA BEACH
- NEWELL BEACH
- COOYA BEACH
- MOSSMAN
- PORT DOUGLAS



79 of 406

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Project		1100 DOUGLAS SHIRE COUNCIL LGIP			
Title		PRIORITY INFRASTRUCTURE AREAS			
RPEQ	Date	Drawing No.	Revision		
	23/03/18	1100-011	C		

External References: TEC-TITLE-A3_a.dwg

LEGEND

PRIORITY INFRASTRUCTURE AREAS

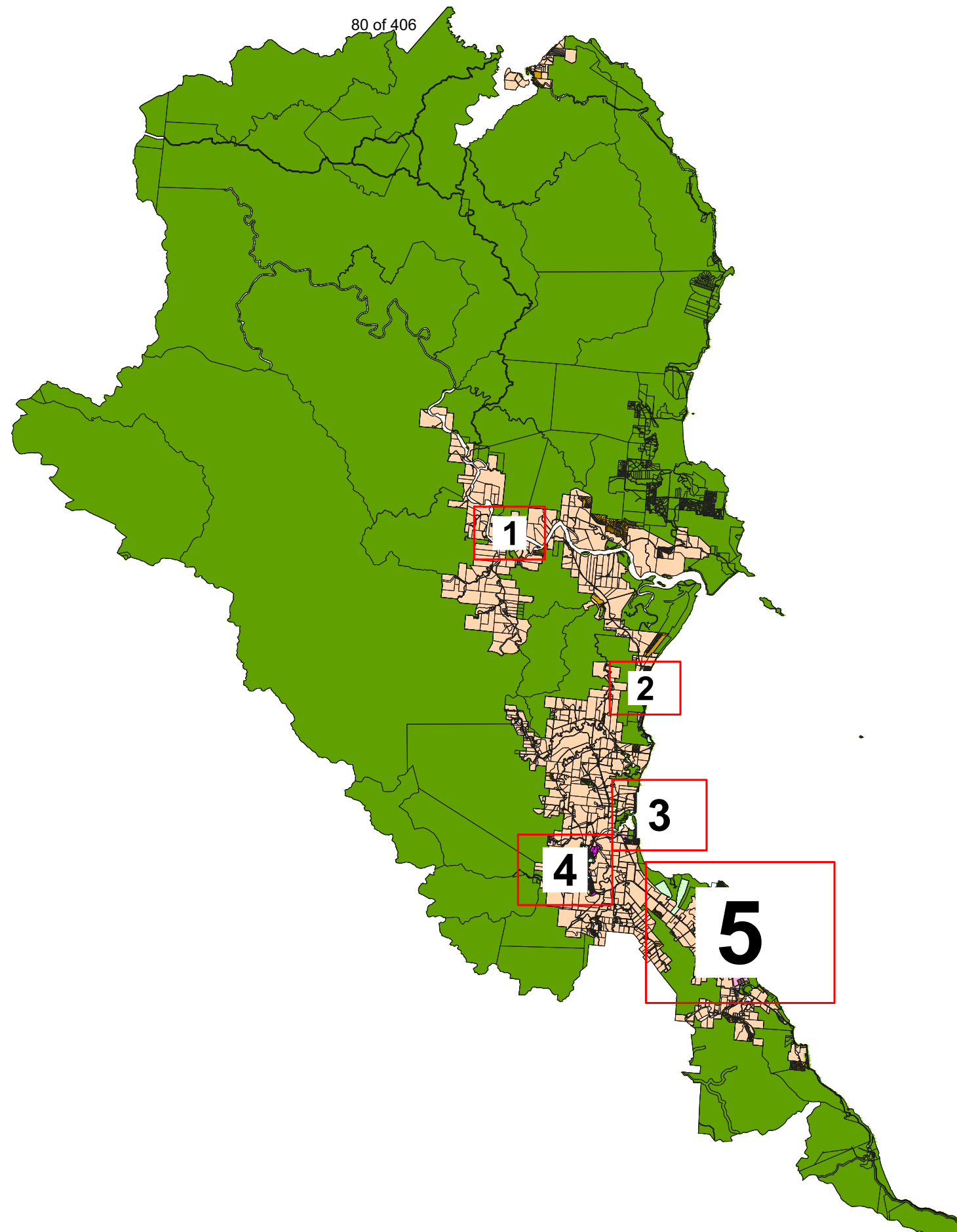
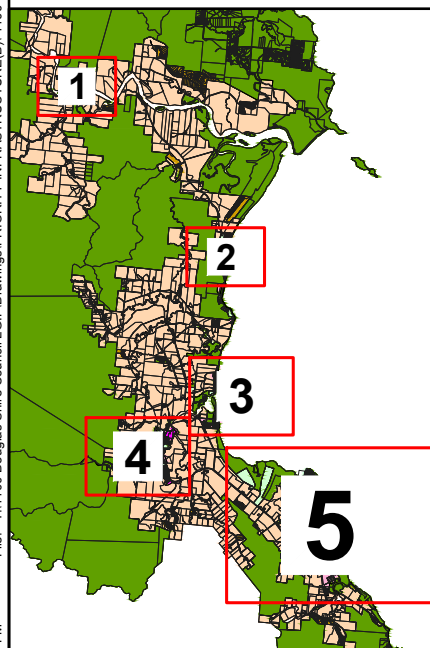
- RESIDENTIAL 1
- RESIDENTIAL 2
- TOURIST AND RESIDENTIAL
- COMMERCIAL
- INDUSTRY
- COMMUNITY AND RECREATIONAL FACILITIES
- RURAL SETTLEMENT
- RURAL
- CONSERVATION

GENERAL

- PRIORITY INFRASTRUCTURE AREA (PIA BOUNDARY)
- PROPERTY BOUNDARY



KEY MAP



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Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		PRIORITY INFRASTRUCTURE AREAS KEY MAP	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	23/03/18	Drawing No.	1100-012
Revision			C

External References: TEC-TITLE-A3_a.dwg

LEGEND

PRIORITY INFRASTRUCTURE AREAS

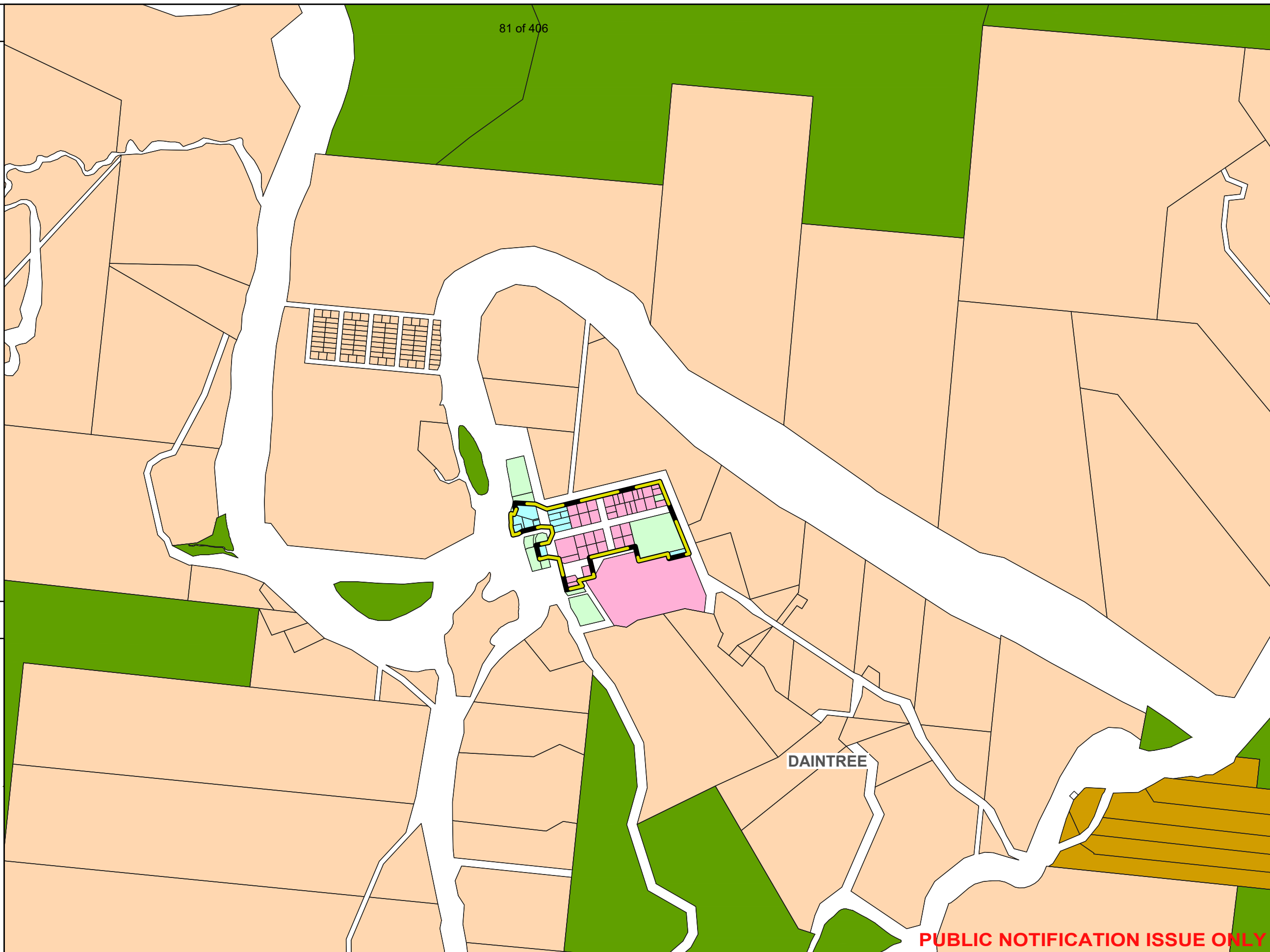
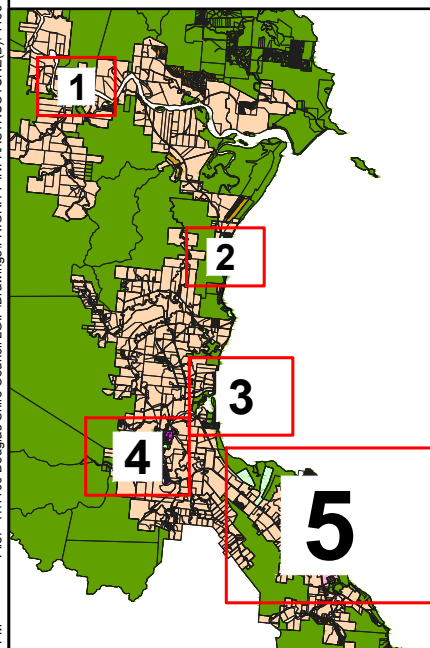
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- TOURIST AND RESIDENTIAL
- COMMERCIAL
- INDUSTRY
- COMMUNITY AND RECREATIONAL FACILITIES
- RURAL SETTLEMENT
- RURAL
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- PRIORITY INFRASTRUCTURE AREA (PIA BOUNDARY)
- PROPERTY BOUNDARY



KEY MAP



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GRID: 1

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Title		PRIORITY INFRASTRUCTURE AREAS - GRID 1	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	Drawing No.	Revision	
23/03/18	1100-013	C	

External References: TEC-TITLE-A3_a_dwg

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PRIORITY INFRASTRUCTURE AREAS

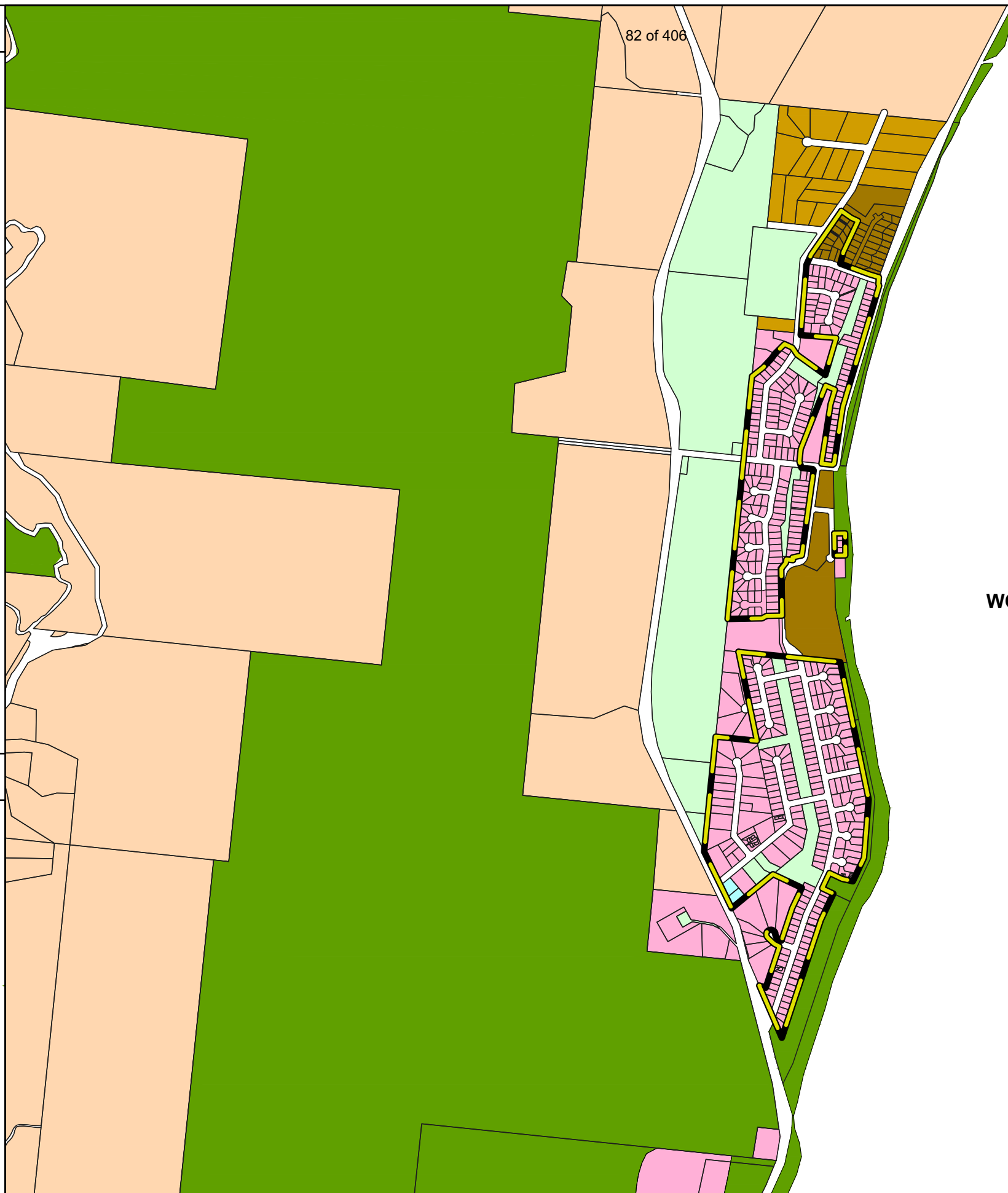
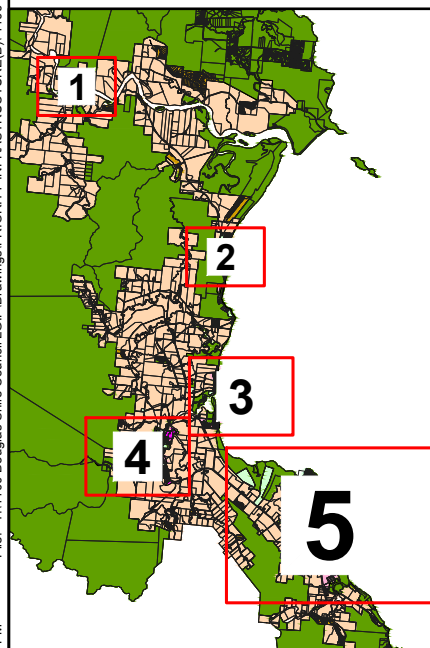
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- RESIDENTIAL 2
- TOURIST AND RESIDENTIAL
- COMMERCIAL
- INDUSTRY
- COMMUNITY AND RECREATIONAL FACILITIES
- RURAL SETTLEMENT
- RURAL
- CONSERVATION

GENERAL

- PRIORITY INFRASTRUCTURE AREA (PIA BOUNDARY)
- PROPERTY BOUNDARY



KEY MAP



WONGA BEACH

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Revisions				
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Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Revision C
Drawing No. 1100-014			

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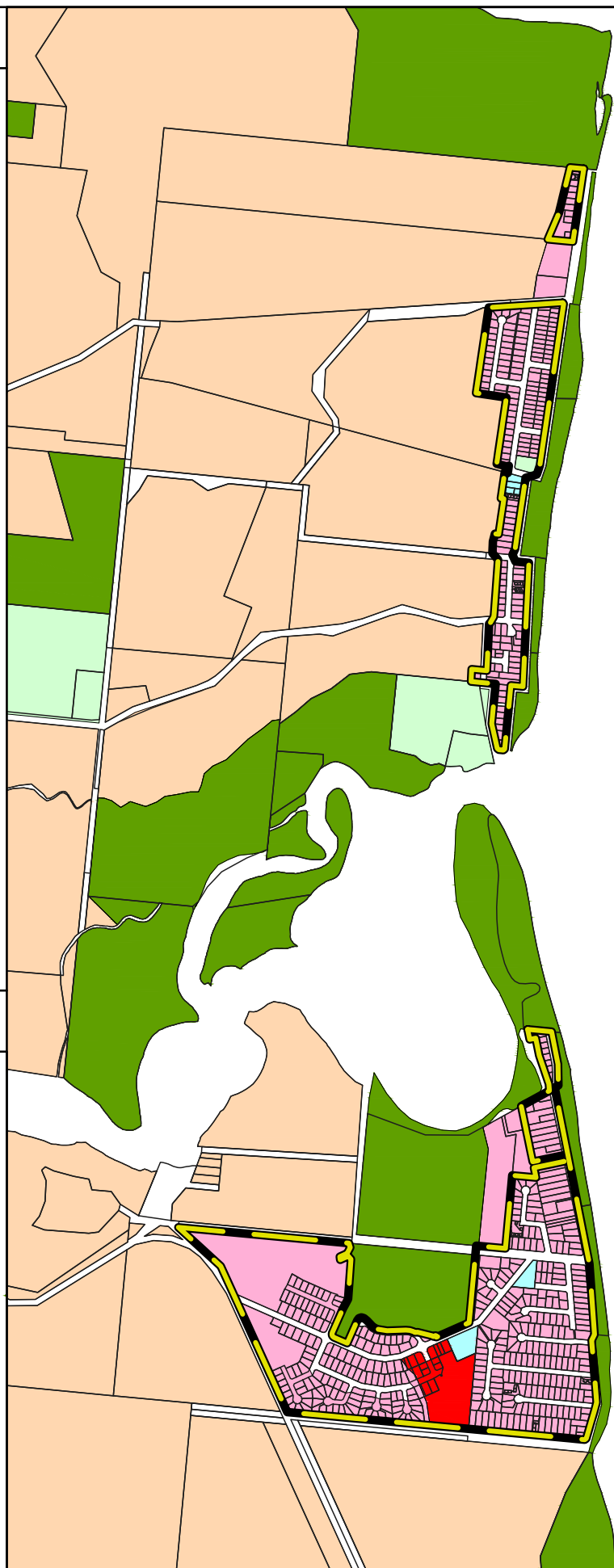
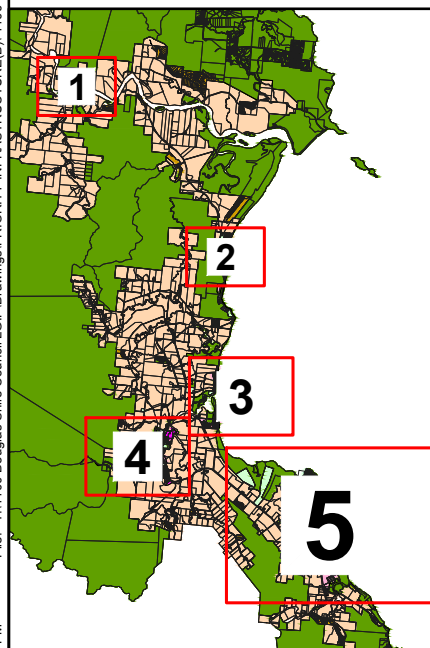
PRIORITY INFRASTRUCTURE AREAS

- RESIDENTIAL 1
- RESIDENTIAL 2
- TOURIST AND RESIDENTIAL
- COMMERCIAL
- INDUSTRY
- COMMUNITY AND RECREATIONAL FACILITIES
- RURAL SETTLEMENT
- RURAL
- CONSERVATION

- ### GENERAL
- PRIORITY INFRASTRUCTURE AREA (PIA BOUNDARY)
 - PROPERTY BOUNDARY



KEY MAP



NEWELL BEACH

COOYA BEACH

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		Title	
		PRIORITY INFRASTRUCTURE AREAS - GRID 3	
Drawn	Designed	Drawing Check	Design Check
IM	RR	RR	RR
Approved		RPEQ	Date
R RANKINE			23/03/18
Drawing No.		Revision	
1100-015		C	

LEGEND

PRIORITY INFRASTRUCTURE AREAS

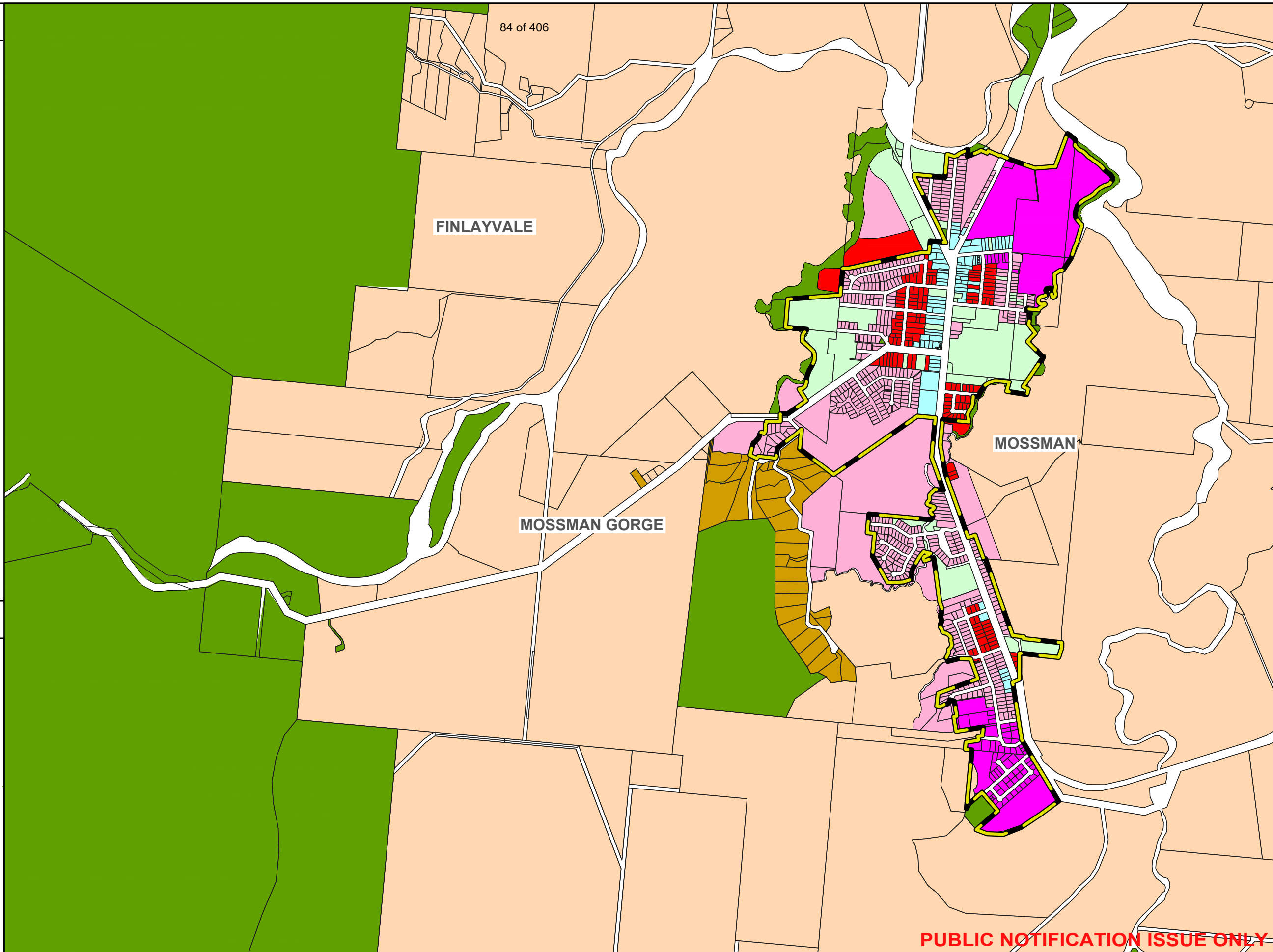
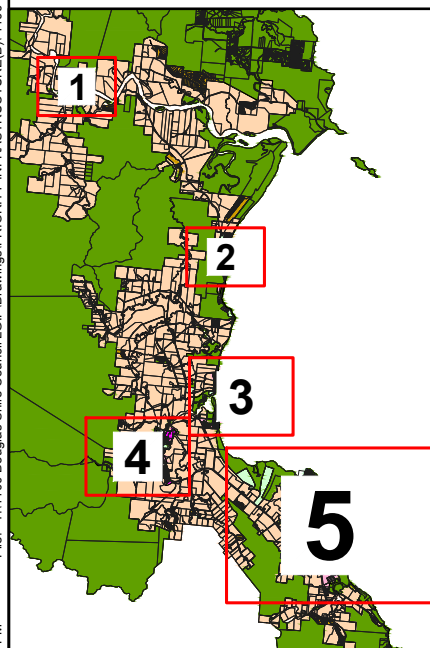
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- TOURIST AND RESIDENTIAL
- COMMERCIAL
- INDUSTRY
- COMMUNITY AND RECREATIONAL FACILITIES
- RURAL SETTLEMENT
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- PRIORITY INFRASTRUCTURE AREA (PIA BOUNDARY)
- PROPERTY BOUNDARY



KEY MAP



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Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		PRIORITY INFRASTRUCTURE AREAS - GRID 4	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	Drawing No.	Revision	
23/03/18	1100-016	C	

External References: TEC-TITLE-A3_a.dwg

LEGEND

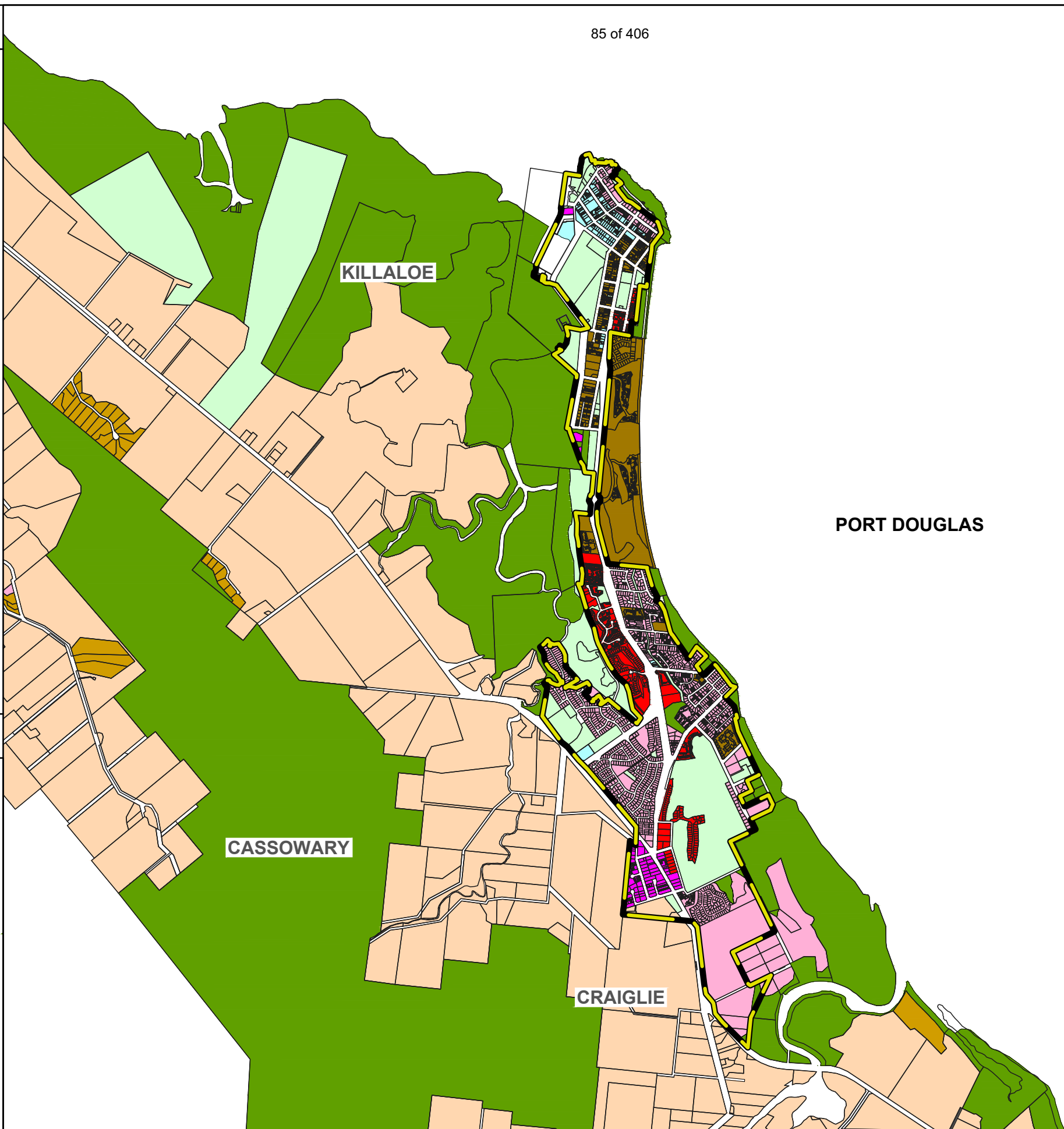
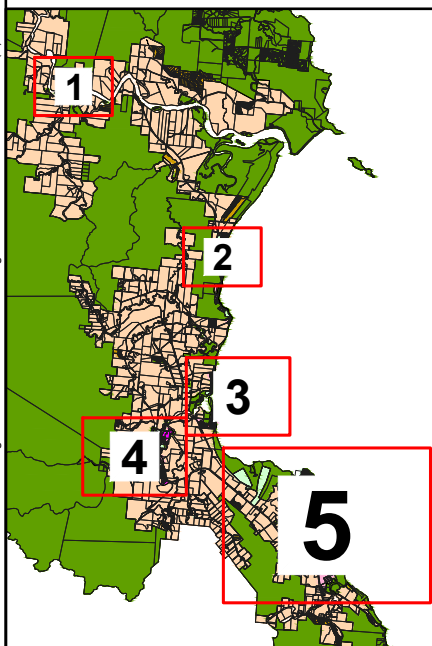
PRIORITY INFRASTRUCTURE AREAS

- RESIDENTIAL 1
- RESIDENTIAL 2
- TOURIST AND RESIDENTIAL
- COMMERCIAL
- INDUSTRY
- COMMUNITY AND RECREATIONAL FACILITIES
- RURAL SETTLEMENT
- RURAL
- CONSERVATION

- ### GENERAL
- PRIORITY INFRASTRUCTURE AREA (PIA BOUNDARY)
 - PROPERTY BOUNDARY



KEY MAP



PORT DOUGLAS

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Revisions				
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Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		PRIORITY INFRASTRUCTURE AREAS - GRID 5	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	23/03/18	Drawing No.	1100-017
Revision			C



LOCAL GOVERNMENT INFRASTRUCTURE PLANS (WATER TRUNK INFRASTRUCTURE) *for* DOUGLAS SHIRE COUNCIL

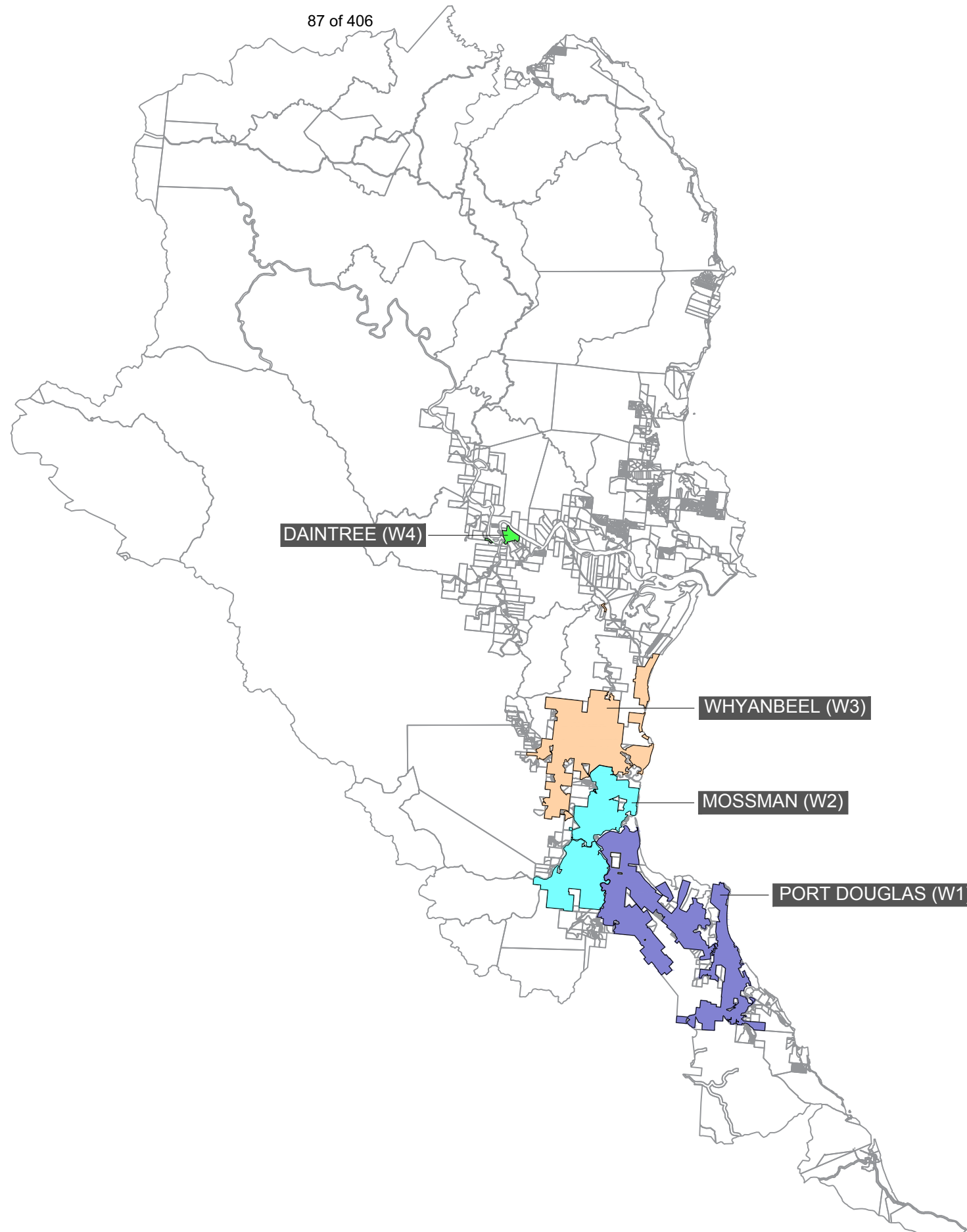
SCHEDULE OF PROJECT DRAWINGS

1100-100	DRAWING INDEX	1100-114	EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE KEY MAP
1100-101	WATER INFRASTRUCTURE SUPPLY CHARGES CATCHMENTS	1100-115	EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 1
1100-102	EXISTING WATER TRUNK INFRASTRUCTURE KEY MAP	1100-116	EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 2
1100-103	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 1	1100-117	EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 3
1100-104	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 2	1100-118	EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 4
1100-105	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 3	1100-119	EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 5
1100-106	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 4	1100-120	EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 6
1100-107	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 5	1100-121	FUTURE WATER TRUNK INFRASTRUCTURE KEY MAP
1100-108	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 6	1100-122	FUTURE WATER TRUNK INFRASTRUCTURE - GRID 1
1100-109	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 7	1100-123	FUTURE WATER TRUNK INFRASTRUCTURE - GRID 2
1100-110	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 8	1100-124	FUTURE WATER TRUNK INFRASTRUCTURE - GRID 3
1100-111	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 9	1100-125	FUTURE WATER TRUNK INFRASTRUCTURE - GRID 4
1100-112	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 10		
1100-113	EXISTING WATER TRUNK INFRASTRUCTURE - GRID 11		

LEGEND

WATER INFRASTRUCTURE SUPPLY CHARGES CATCHMENT AREAS

- PORT DOUGLAS (W1)
- MOSSMAN (W2)
- WHYANBEEL (W3)
- DAINTREE (W4)



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		Title WATER INFRASTRUCTURE SUPPLY CHARGES CATCHMENTS	
Drawn IM	Designed RR	Design Check RR	Approved R RANKINE
RPEQ	Date 20/03/18	Drawing No. 1100-101	Revision D

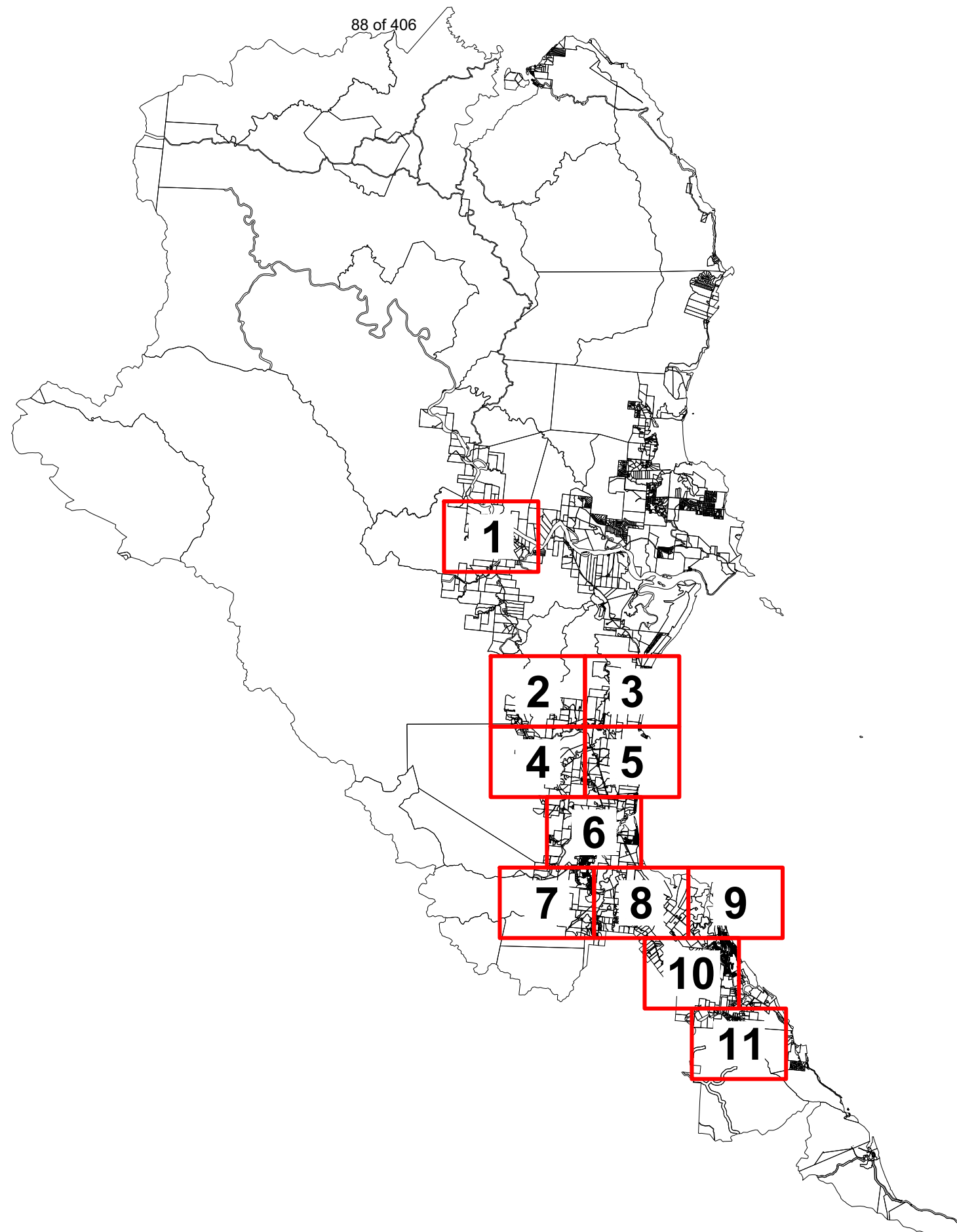
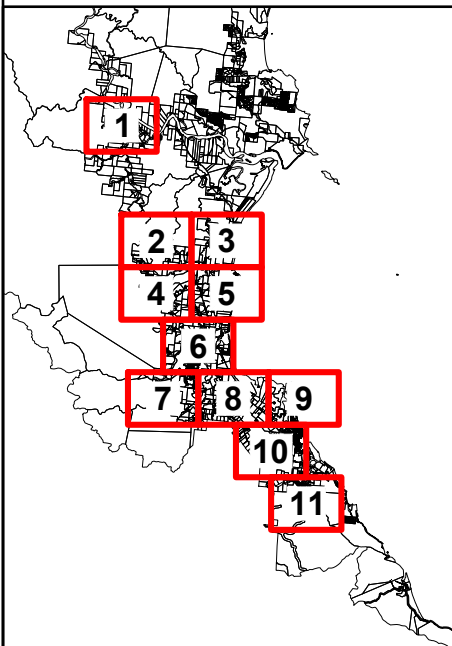
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE



KEY MAP



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Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		EXISTING WATER TRUNK INFRASTRUCTURE KEY MAP	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	20/03/18	Drawing No.	1100-102
Revision			D

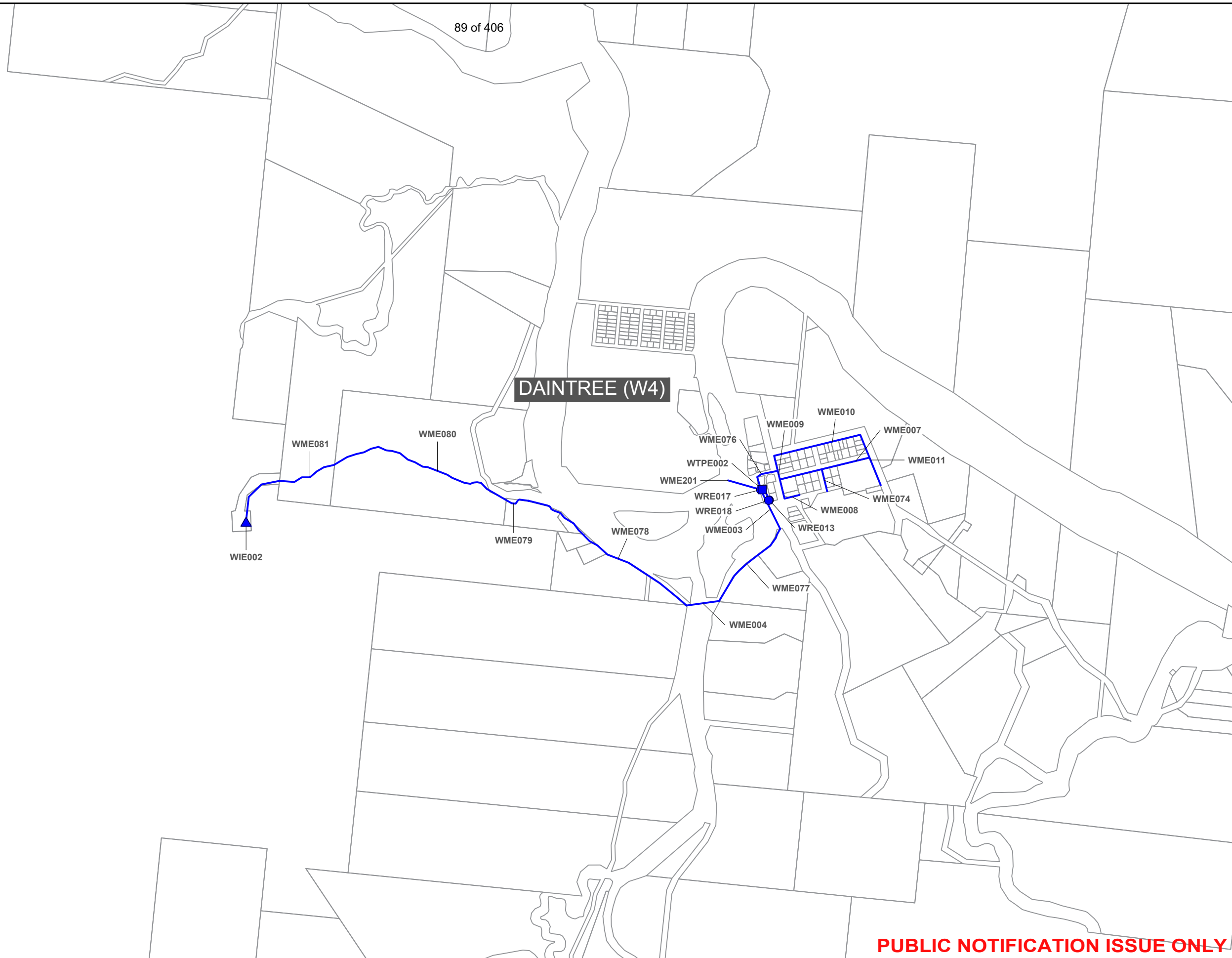
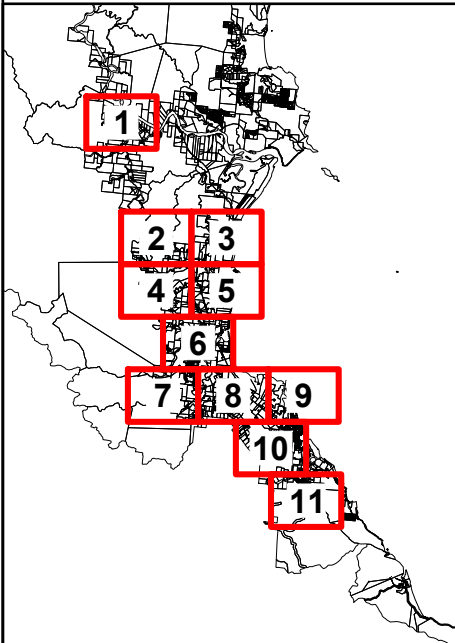
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE



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		Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 1	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 20/03/18
Drawing No. 1100-103		Revision D	

External References: TEC-TITLE-A3_a.dwg

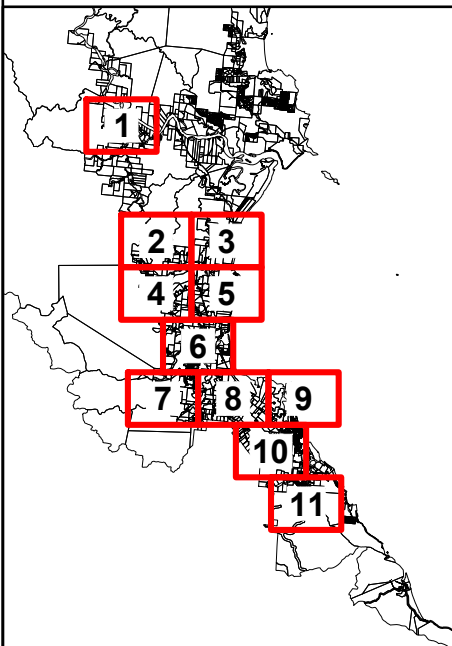
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE



KEY MAP



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WHYANBEEL (W3)

WME197

WME199

WME098

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		Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 2	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 20/03/18
Drawing No. 1100-104		Revision D	

External References: TEC-TITLE-A3_a_dwg

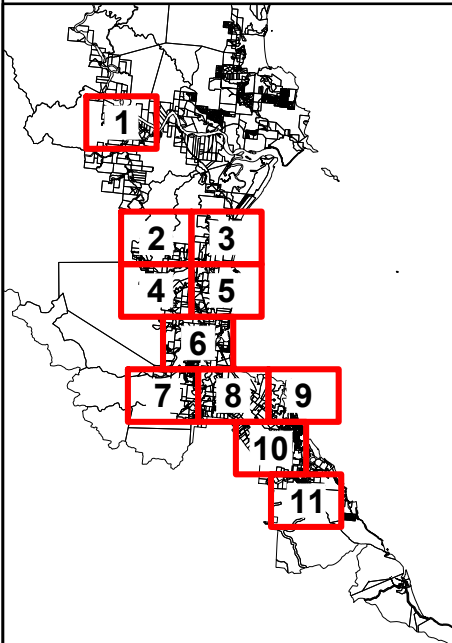
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EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

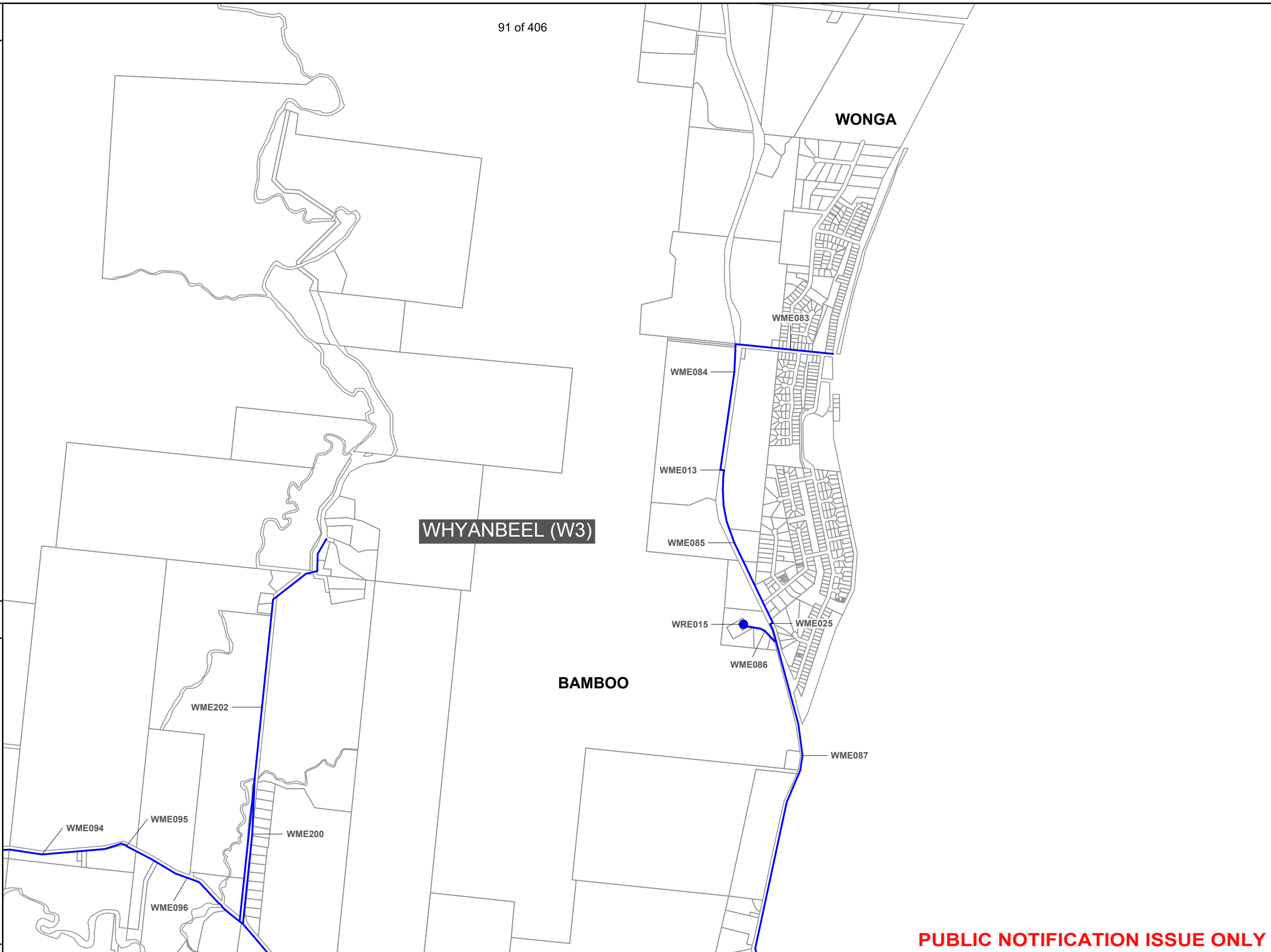
-  WATER MAIN
-  WATER MAIN ≤ 80mm
-  PUMP STATION
-  WATER TREATMENT PLANT
-  RESERVOIR
-  BORE
-  RAW WATER INTAKE



KEY MAP



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Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 3		Title	
Drawn IM	Designed RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 20/03/18	Drawing No. 1100-105	Revision D

External References: TEC-TITLE-A3_a.dwg

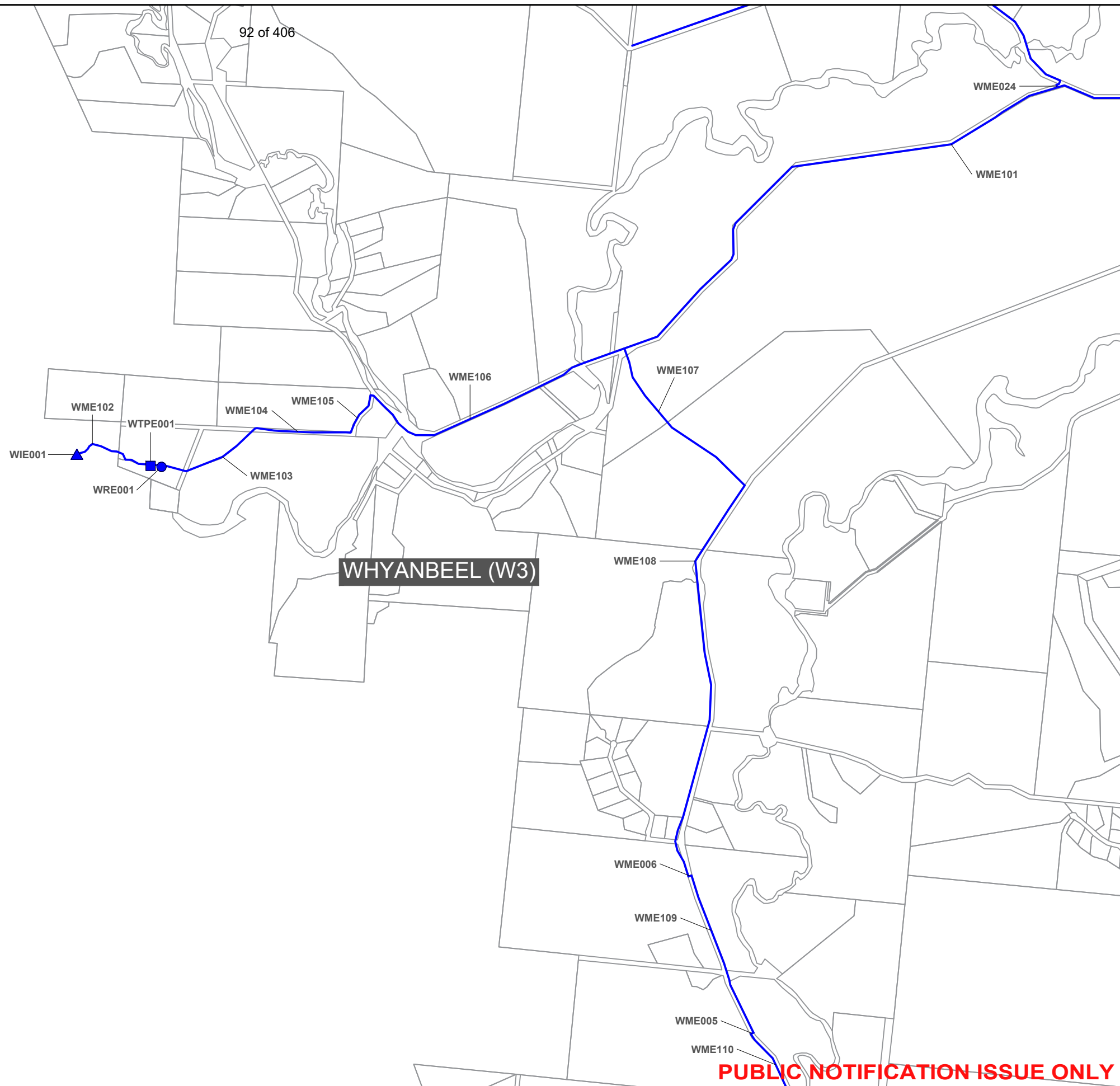
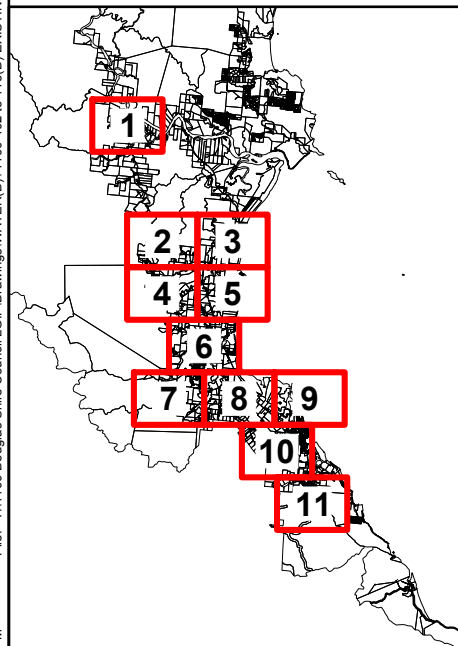
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE



KEY MAP



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Drawn IM		Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 4	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 20/03/18	Drawing No. 1100-106	Revision D

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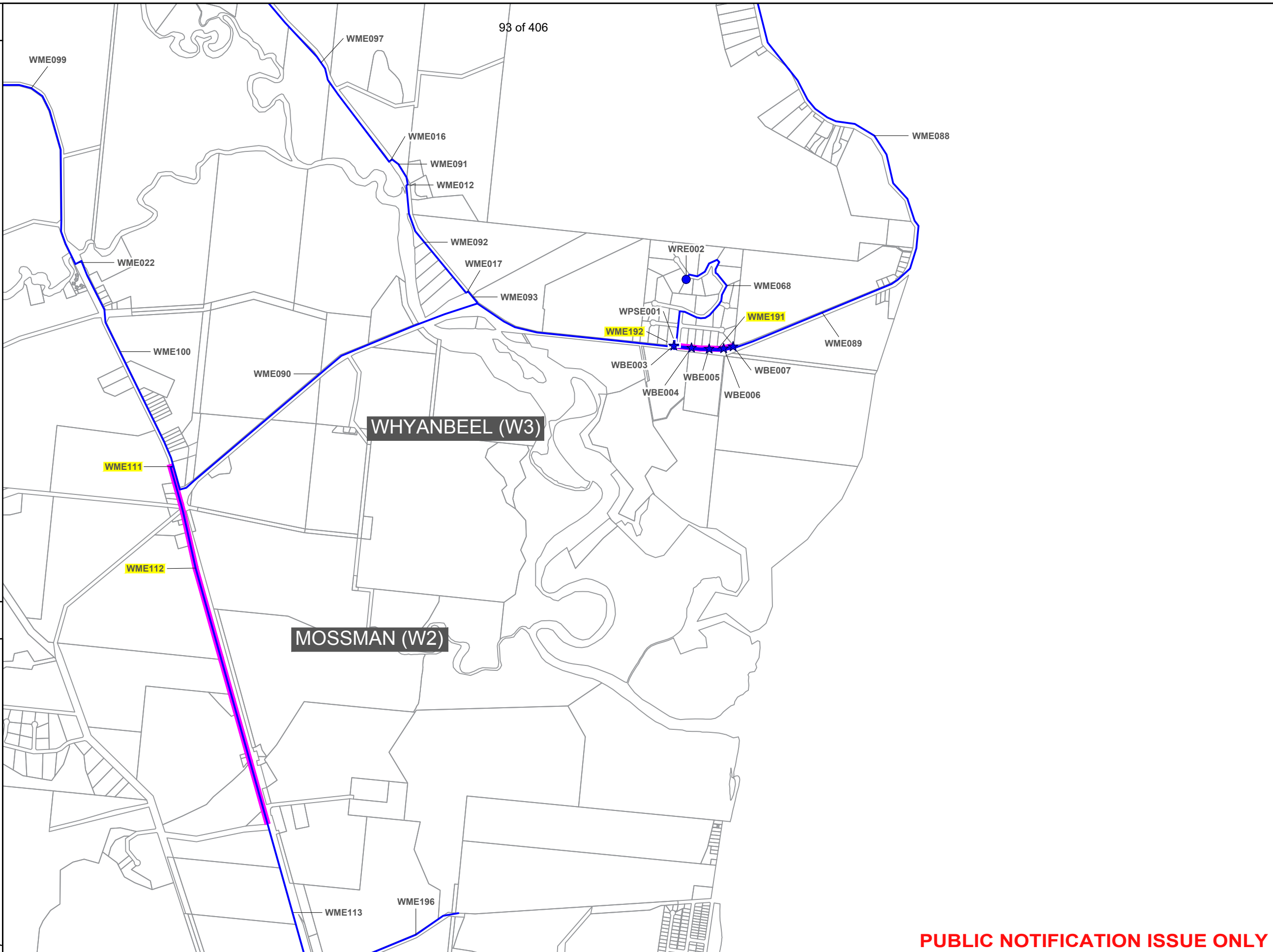
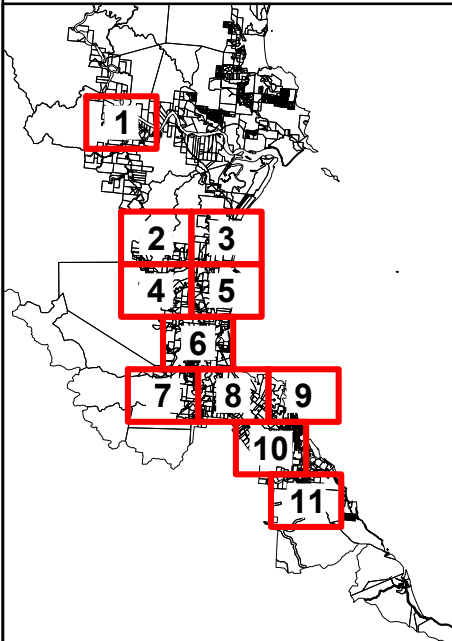
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE



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Client DOUGLAS SHIRE COUNCIL		Project 1100 DOUGLAS SHIRE COUNCIL LGIP	
Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 5			
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved R RANKINE	RPEQ	Date 20/03/18	Drawing No. 1100-107
			Revision D

External References: TEC-TITLE-A3_a_dwg

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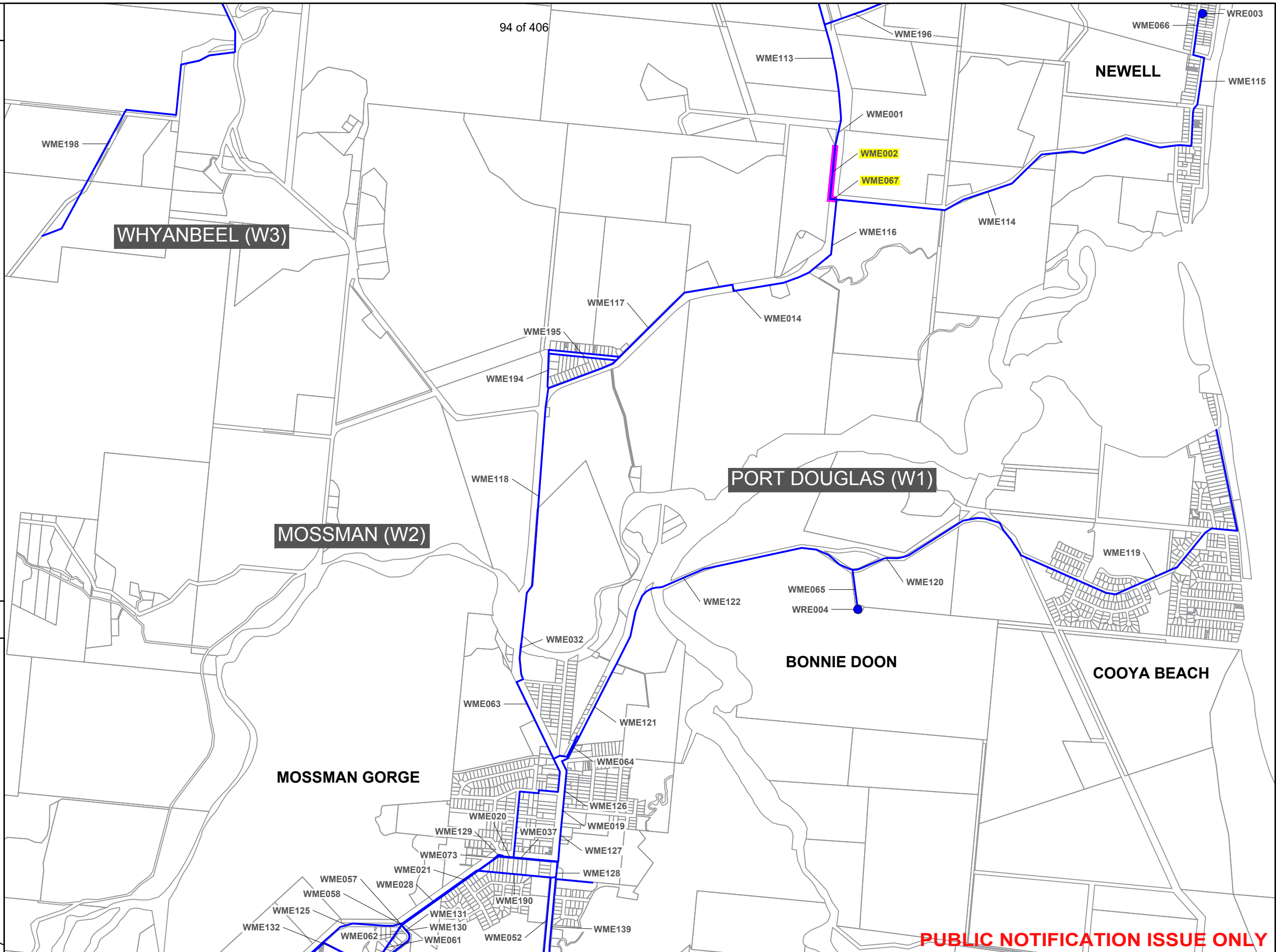
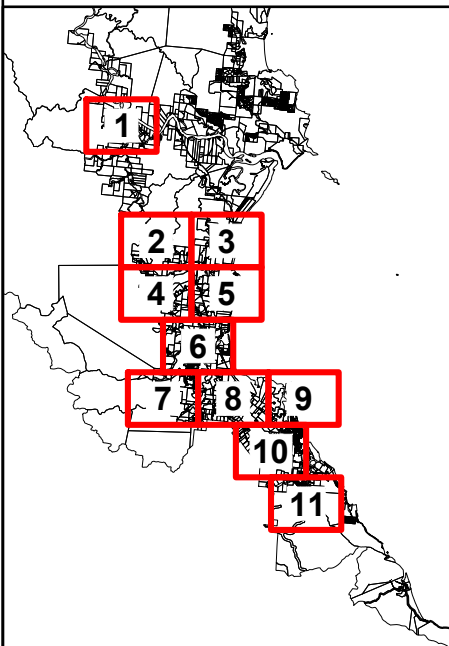
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EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE



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Drawn IM		Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 6	
Designed RR	Drawing Check RR	Design Check RR	Approved R RANKINE
RPEQ	Date 20/03/18	Drawing No. 1100-108	Revision D

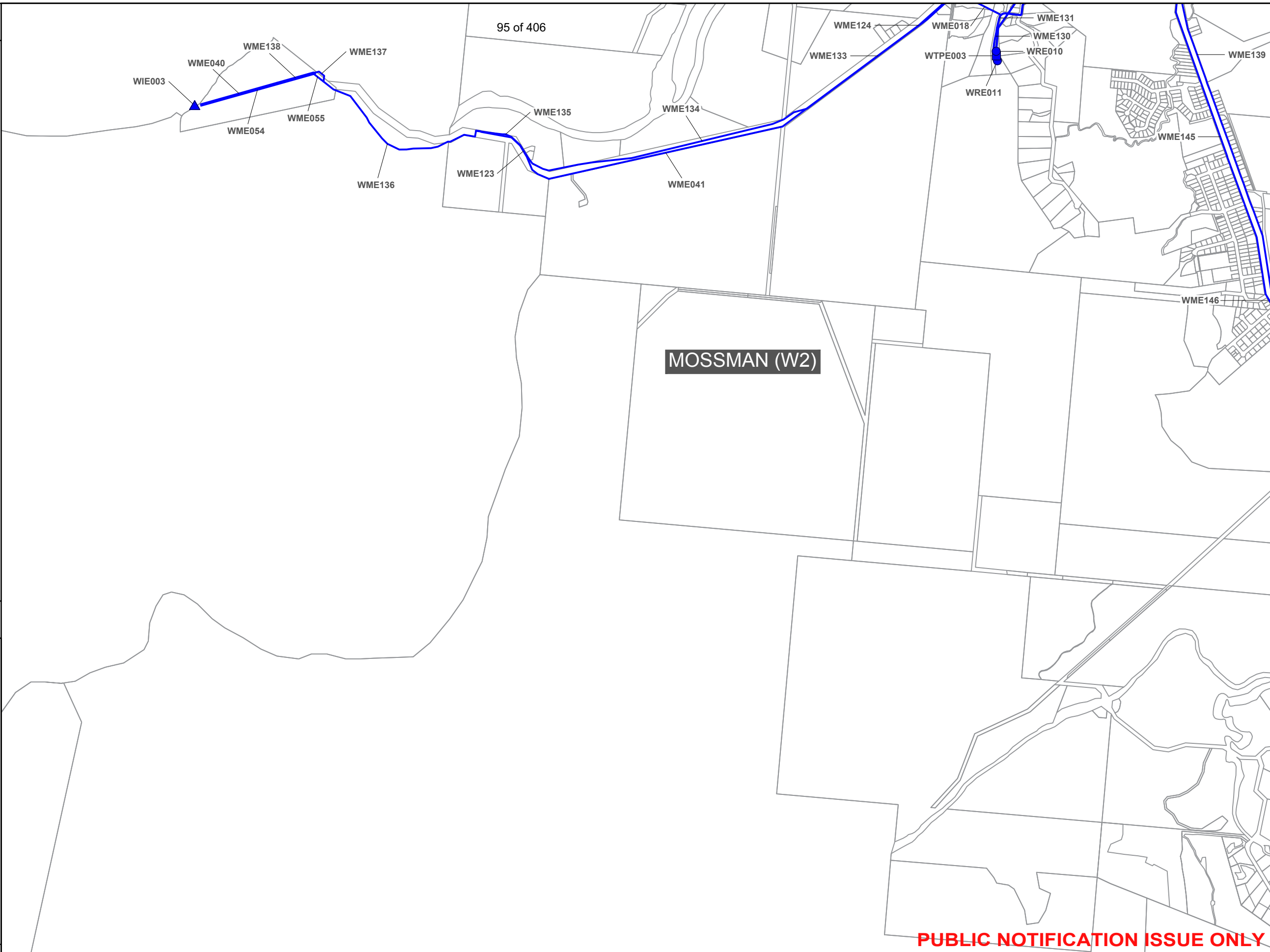
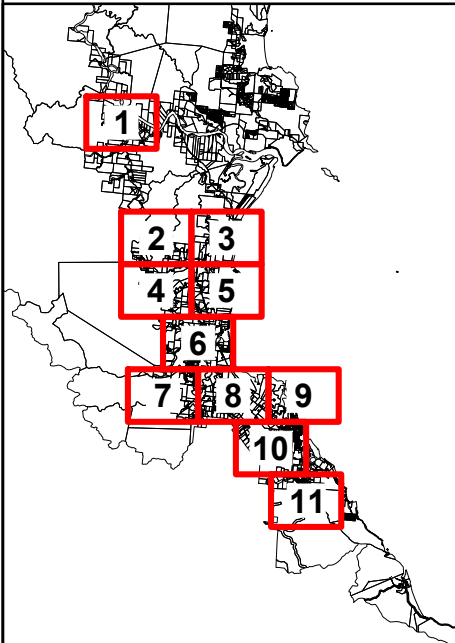
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE



KEY MAP



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Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 7		Approved <i>R RANKINE</i>	
Drawn IM	Designed RR	Drawing Check RR	Date 20/03/18
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		Revision D	

External References: TEC-TITLE-A3_a.dwg

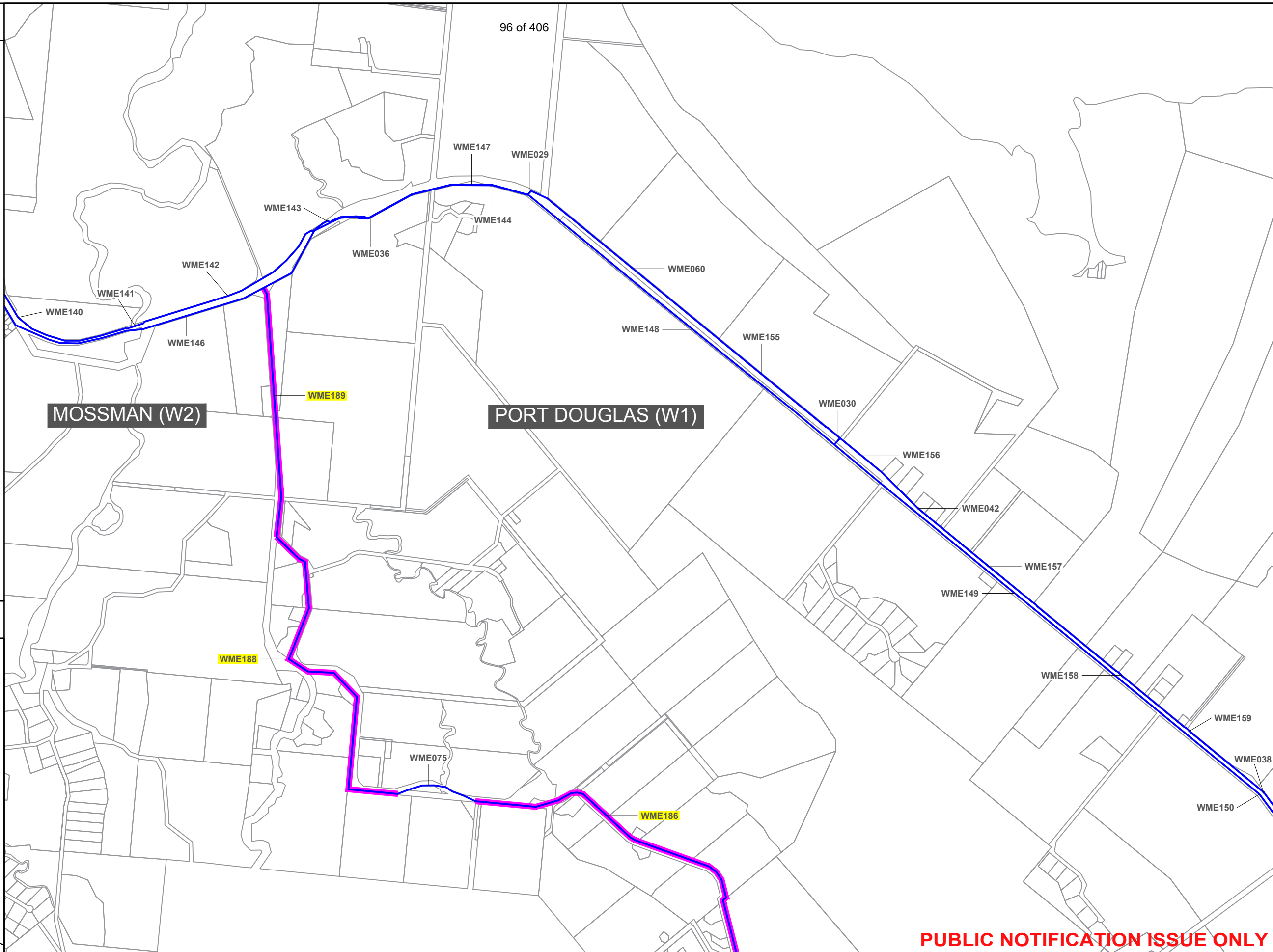
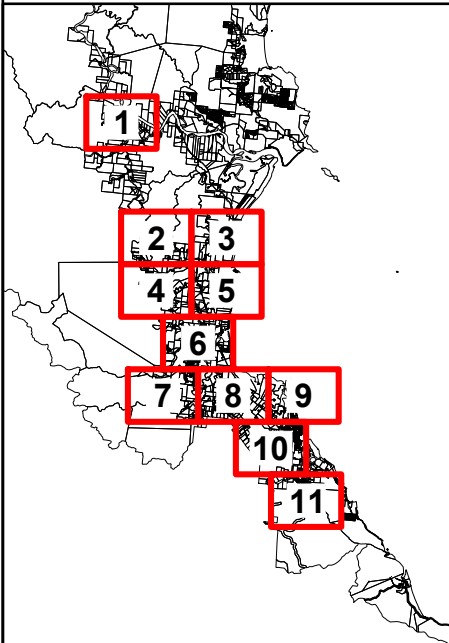
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE



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Drawn IM		Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 8	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 20/03/18	Drawing No. 1100-110	Revision D

External References: TEC-TITLE-A3_a_dwg

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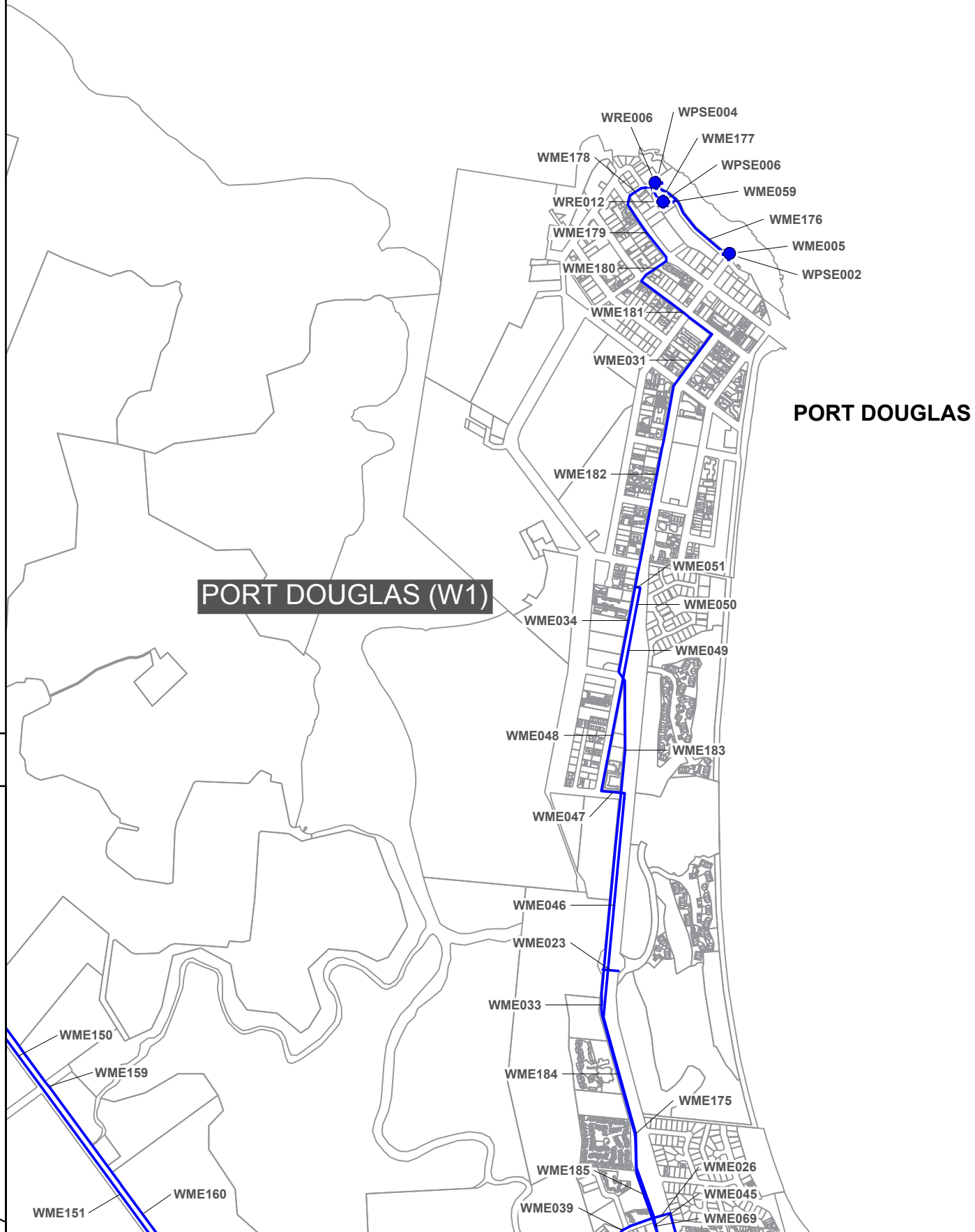
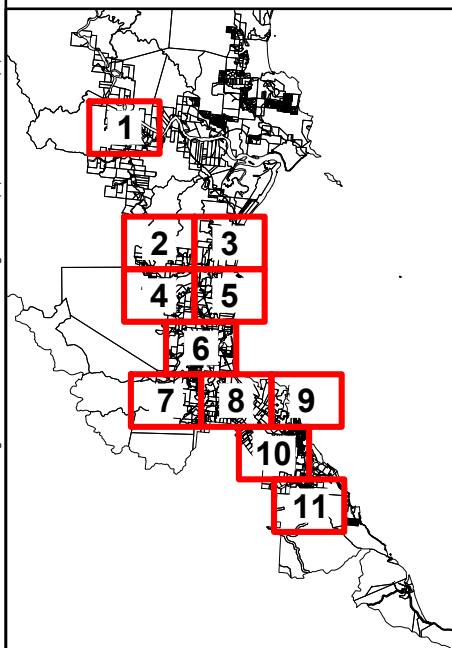
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE



KEY MAP



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Drawn IM		Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 9	
Designed RR	Design Check RR	Approved R RANKINE	RPEQ
Date 20/03/18	Drawing No. 1100-111	Revision D	

External References: TEC-TITLE-A3_a.dwg

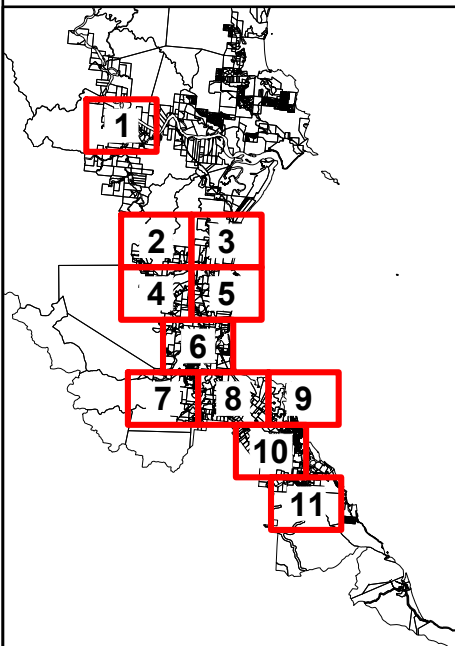
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- WATER MAIN ≤ 80mm
- + PUMP STATION
- WATER TREATMENT PLANT
- RESERVOIR
- ★ BORE
- ▲ RAW WATER INTAKE

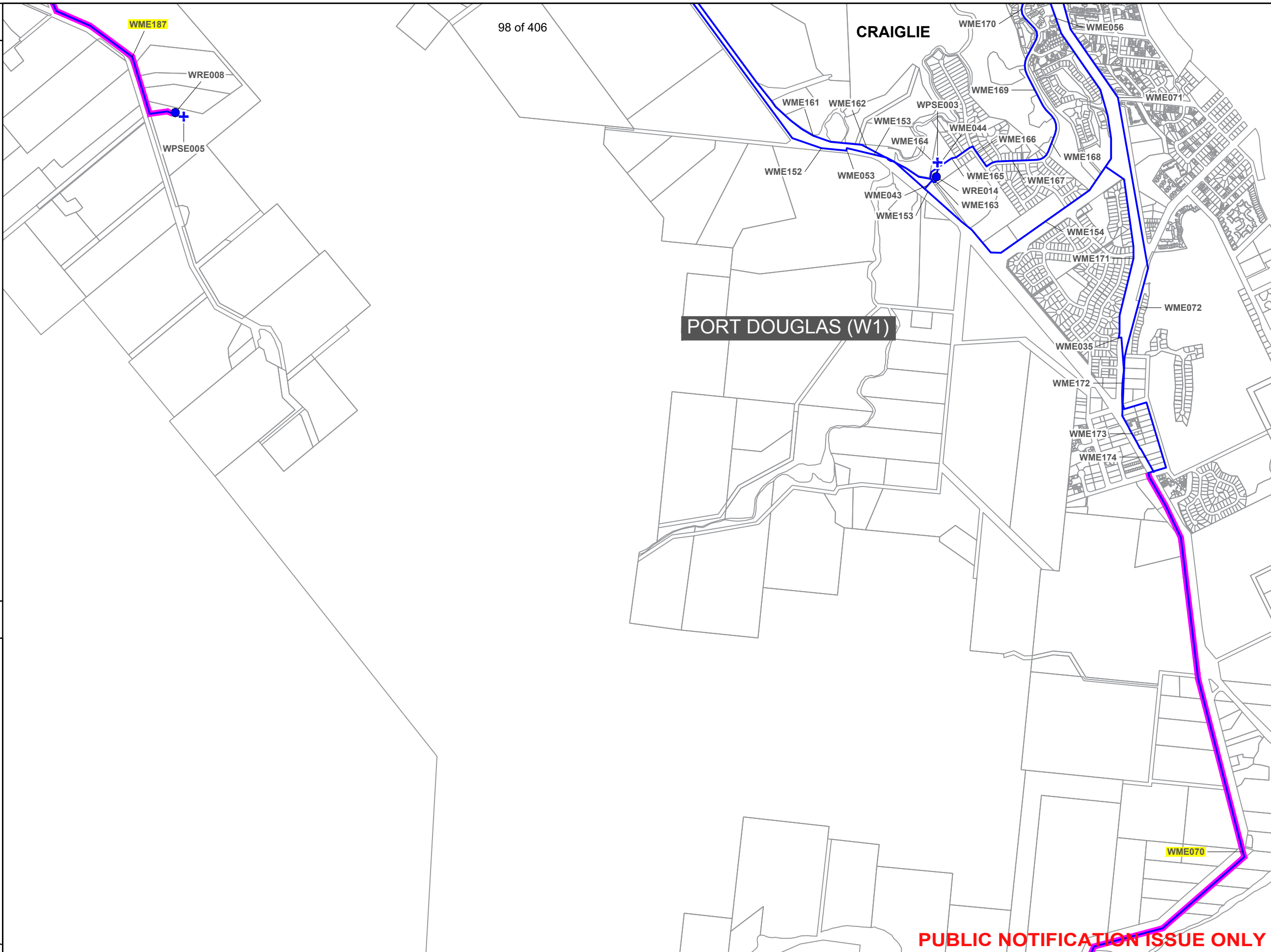


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Drawn IM		Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 10	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 20/03/18	Drawing No. 1100-112	Revision D

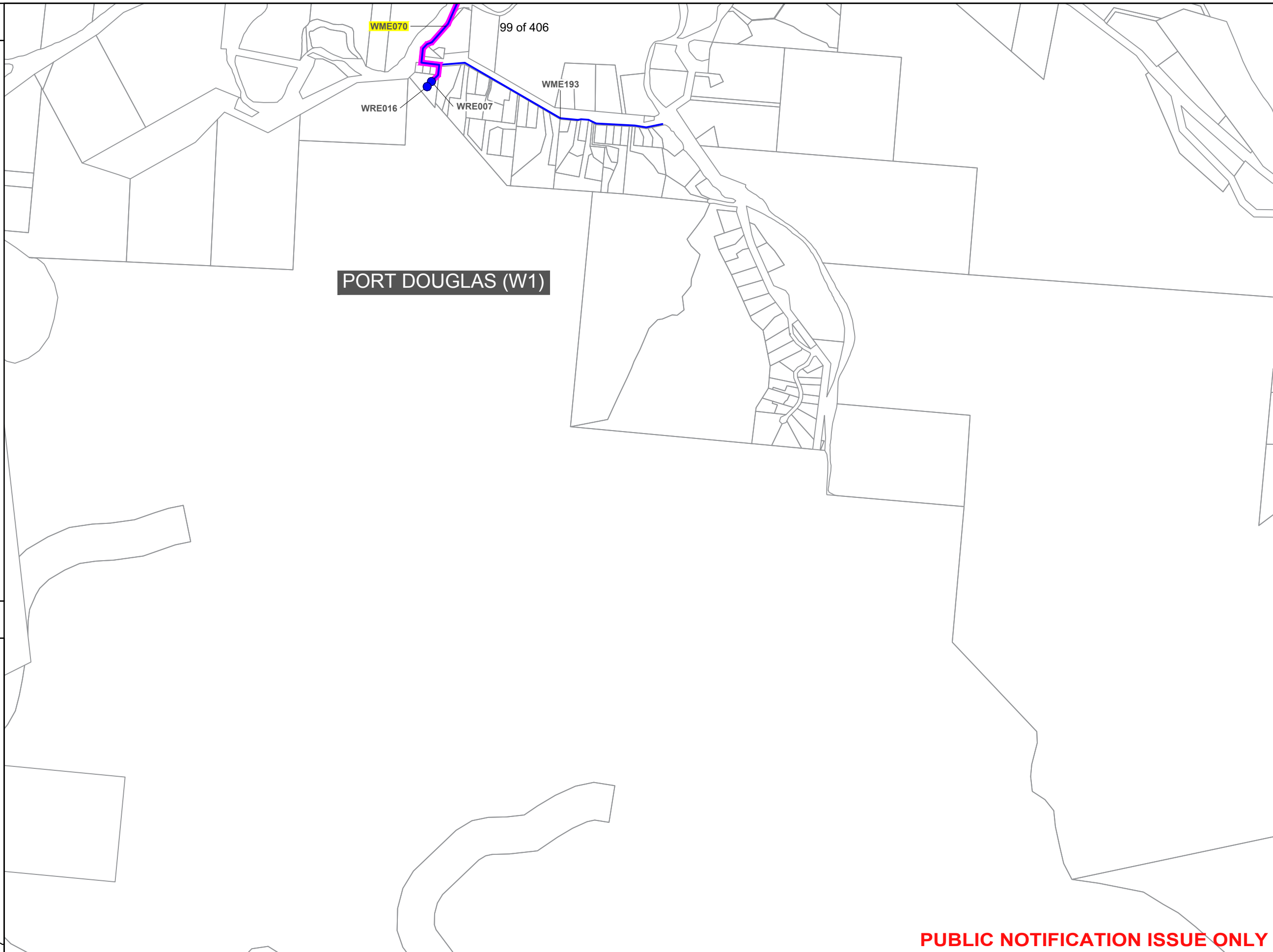
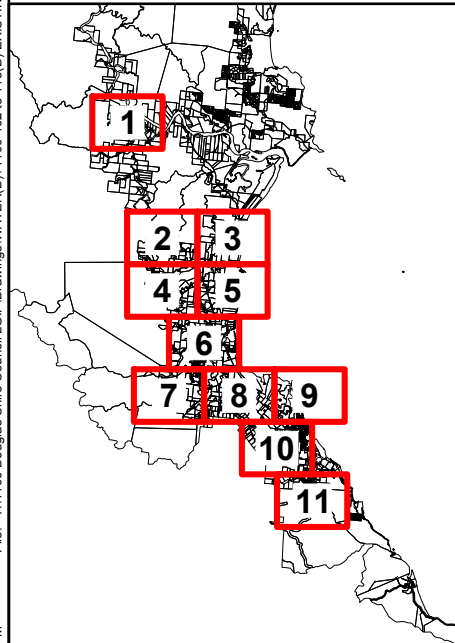
LEGEND

EXISTING WATER SUPPLY TRUNK INFRASTRUCTURE

-  WATER MAIN
-  WATER MAIN ≤ 80mm
-  PUMP STATION
-  WATER TREATMENT PLANT
-  RESERVOIR
-  BORE
-  RAW WATER INTAKE



KEY MAP



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GRID: 11

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Scale (A3 size) 1:20000		Client DOUGLAS SHIRE COUNCIL	
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Drawn IM		Title EXISTING WATER TRUNK INFRASTRUCTURE - GRID 11	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 20/03/18	Drawing No. 1100-113	Revision D



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No.	Description	Reviewed	Approved	Date
A	ISSUED FOR REVIEW			

External References: TEC-TITLE-A3_a.dwg

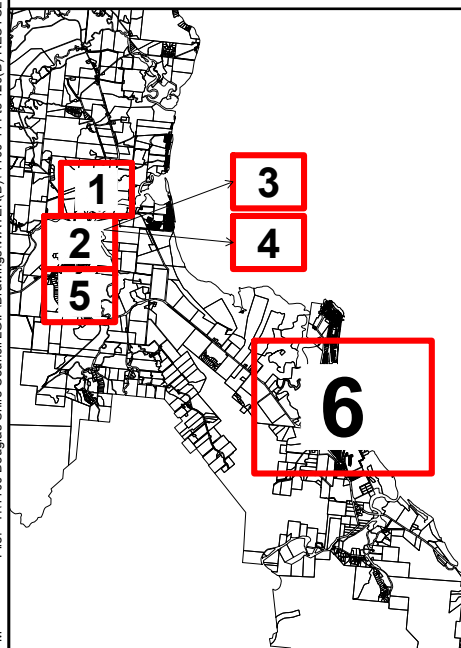
LEGEND

RECYCLED WATER SUPPLY TRUNK INFRASTRUCTURE

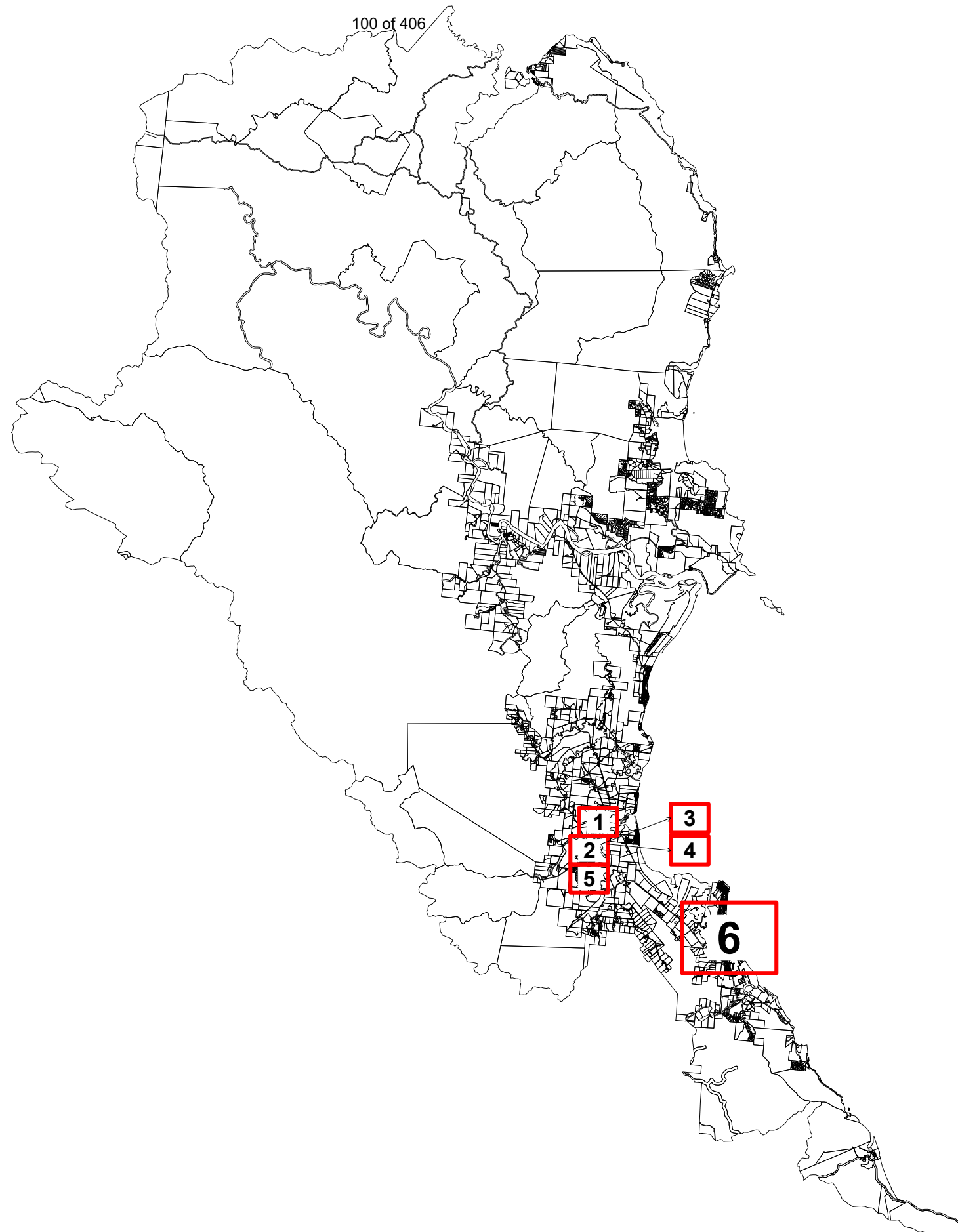
-  WATER MAIN
-  WATER MAIN ≤ 80mm



KEY MAP



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Revisions				
No.	Description	Reviewed	Approved	Date
A	ISSUED FOR REVIEW			

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IM	RR

Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE KEY MAP	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	20/03/18	Drawing No.	1100-114
Revision			D

External References: TEC-TITLE-A3_a.dwg

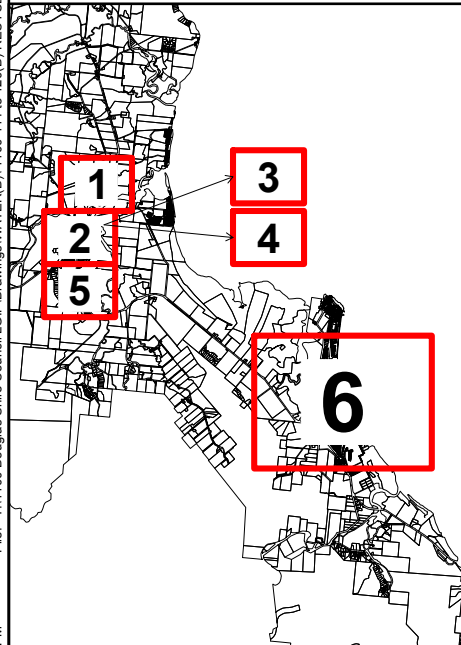
LEGEND

RECYCLED WATER SUPPLY TRUNK INFRASTRUCTURE

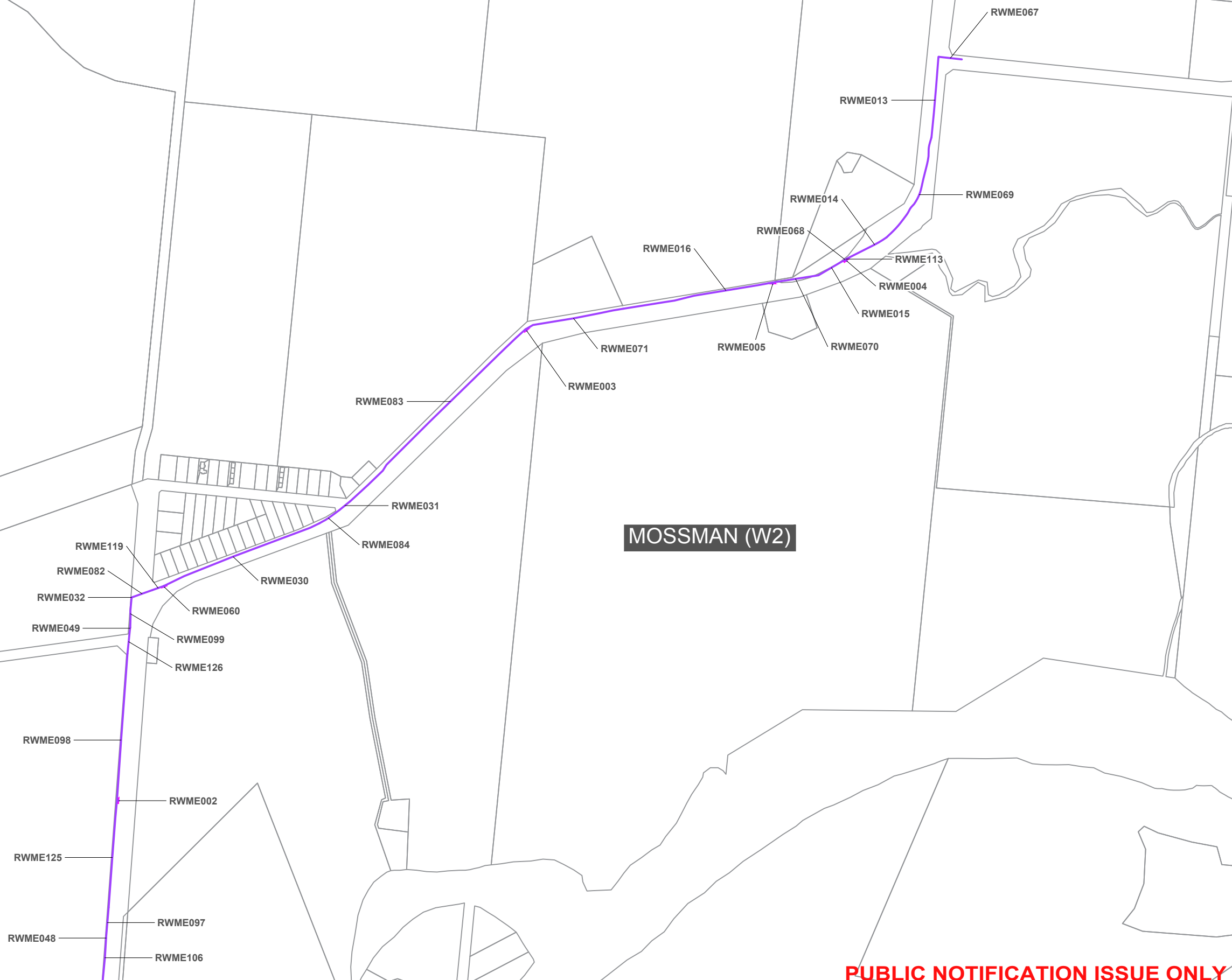
- WATER MAIN
- WATER MAIN ≤ 80mm



KEY MAP



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Client
DOUGLAS SHIRE COUNCIL
Project
1100 DOUGLAS SHIRE COUNCIL LGIP
Title
EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 1

No.	Description	Reviewed	Approved	Date
A	ISSUED FOR REVIEW			

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IM	RR	RR	RR	R RANKINE		20/03/18	1100-115	D

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File: T:\1100 Douglas Shire Council LGIP\Drawings\WATER\1100-114 to 120\1100-114 (D) RECYCLED WATER.dwg

External References: TEC-TITLE-A3_a.dwg

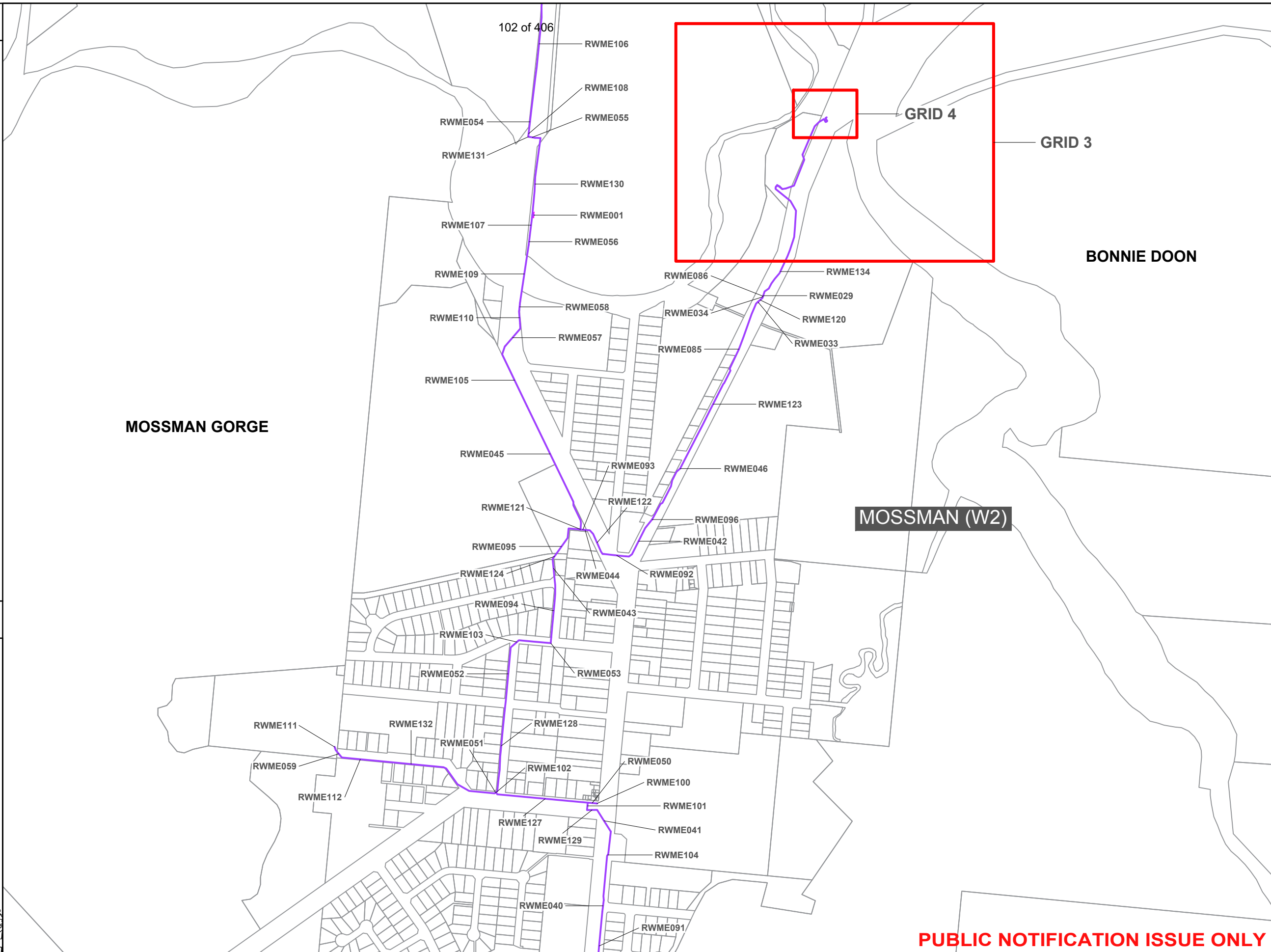
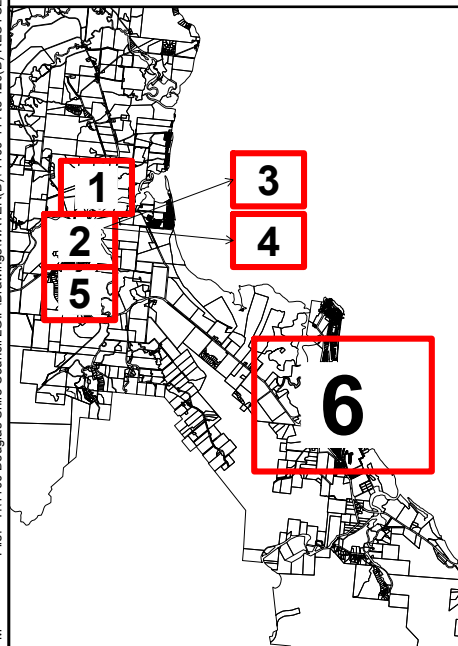
LEGEND

RECYCLED WATER SUPPLY TRUNK INFRASTRUCTURE

-  WATER MAIN
-  WATER MAIN ≤ 80mm



KEY MAP



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Title EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 2		Date 20/03/18	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Drawing No. 1100-116
		Date	Revision D

External References: TEC-TITLE-A3_a.dwg

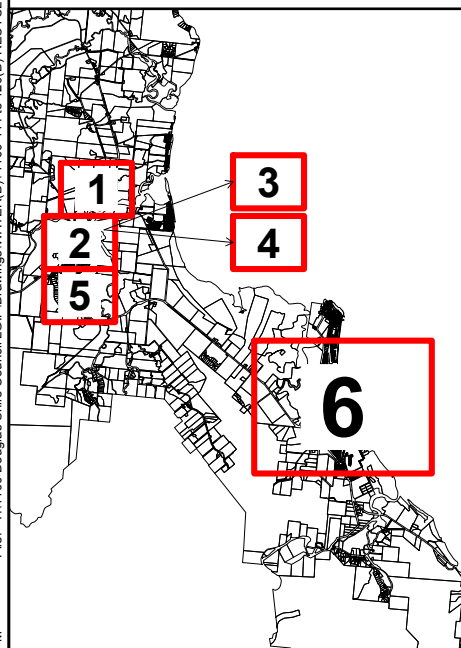
LEGEND

RECYCLED WATER SUPPLY TRUNK INFRASTRUCTURE

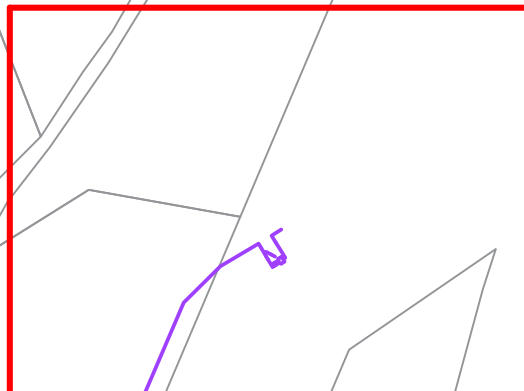
-  WATER MAIN
-  WATER MAIN ≤ 80mm



KEY MAP

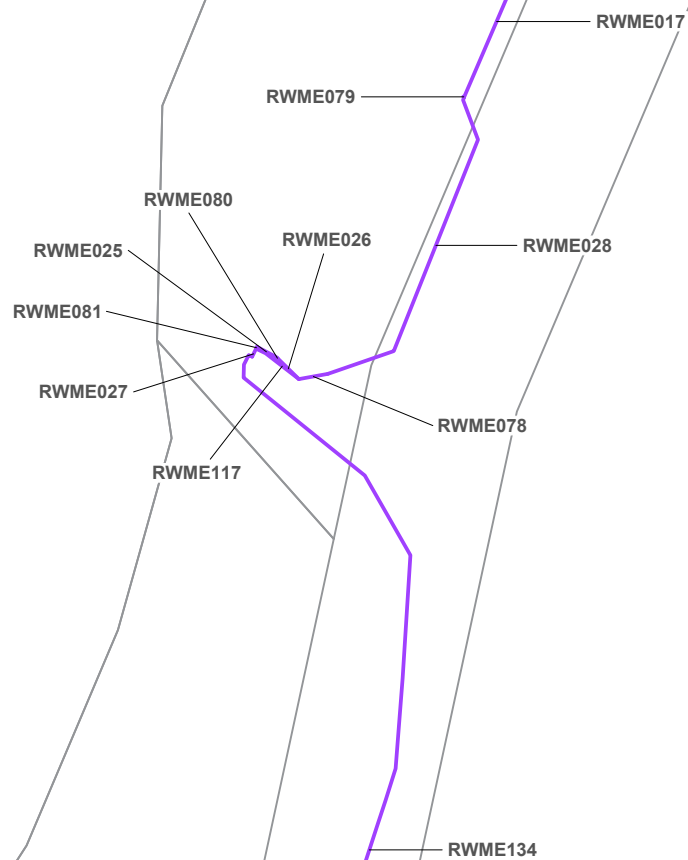


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GRID 4

MOSSMAN (W2)



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GRID: 3

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Title EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 3			
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 20/03/18
Drawing No. 1100-117		Revision D	

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No.	Description	Reviewed	Approved	Date
A	ISSUED FOR REVIEW			

External References: TEC-TITLE-A3_a.dwg

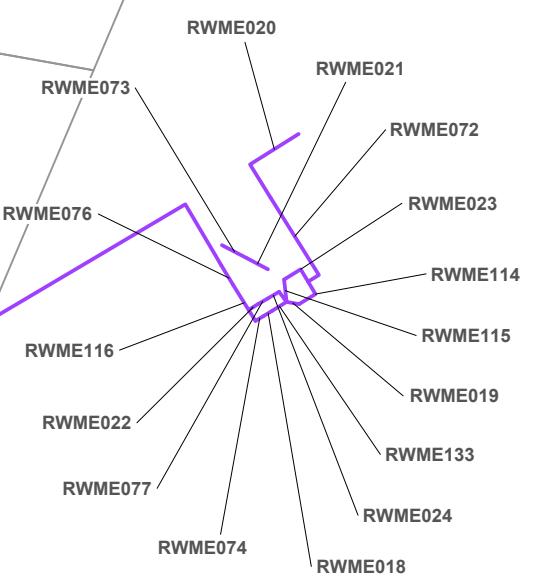
LEGEND

RECYCLED WATER SUPPLY TRUNK INFRASTRUCTURE

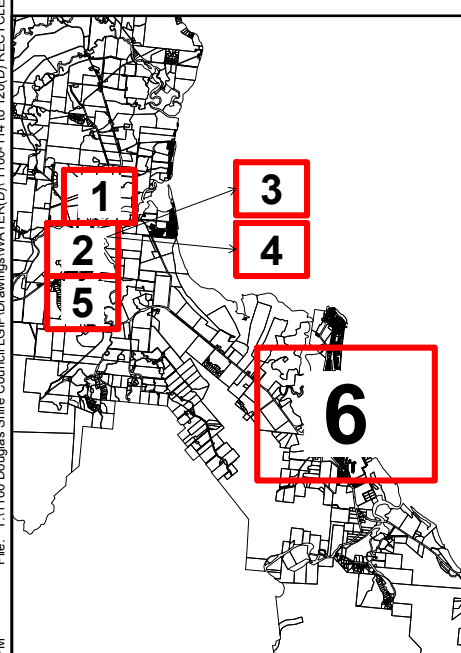
- WATER MAIN
- WATER MAIN ≤ 80mm



MOSSMAN (W2)



KEY MAP



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Scale (A3 size)	1:400
Client	DOUGLAS SHIRE COUNCIL
Project	1100 DOUGLAS SHIRE COUNCIL LGIP
Title	EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 4

Drawn	IM	Designed	RR	Drawing Check	RR	Design Check	RR	Approved	R RANKINE	RPEQ		Date	20/03/18	Drawing No.	1100-118	Revision	D
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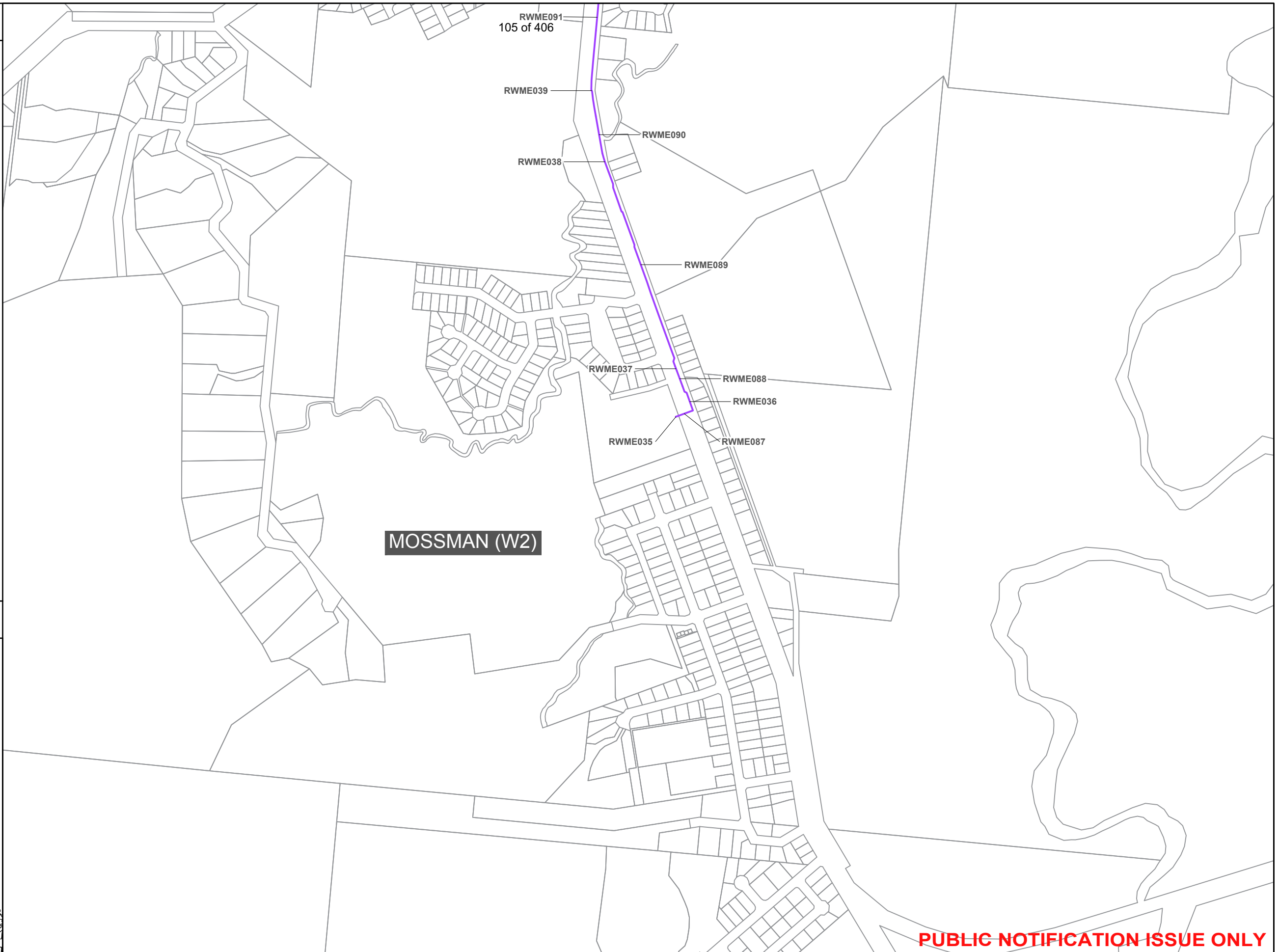
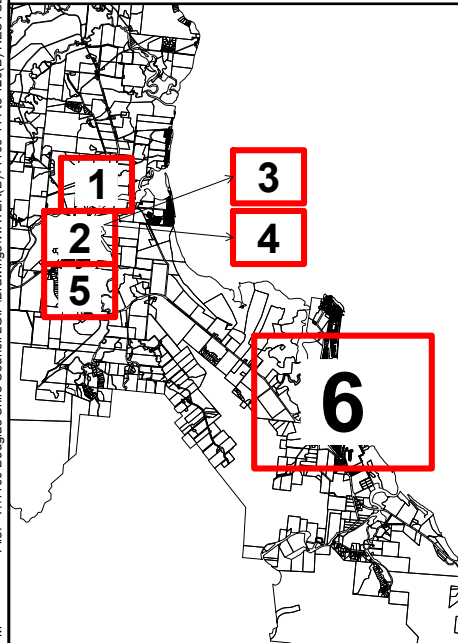
LEGEND

RECYCLED WATER SUPPLY TRUNK INFRASTRUCTURE

-  WATER MAIN
-  WATER MAIN ≤ 80mm



KEY MAP



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Revisions		Reviewed	Approved	Date
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Drawn	Designed
IM	RR

Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 5	
Design Check	Approved	RPEQ	Date
RR	R RANKINE		20/03/18
Drawing No.	Revision		
1100-119	D		

External References: TEC-TITLE-A3_a.dwg

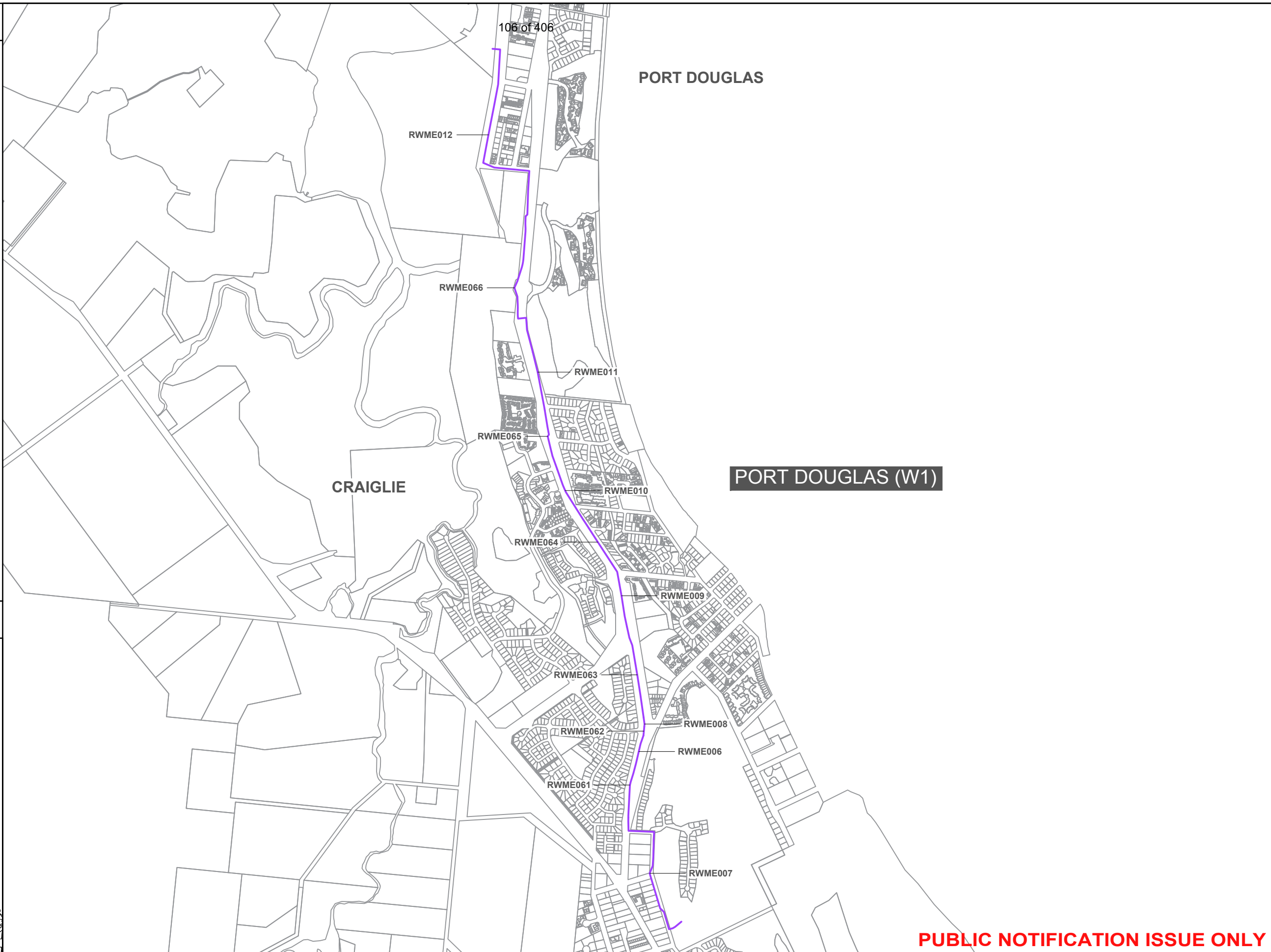
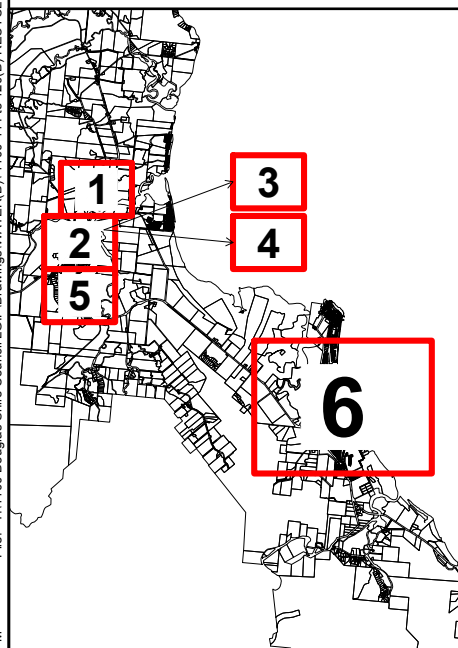
LEGEND

RECYCLED WATER SUPPLY TRUNK INFRASTRUCTURE

-  WATER MAIN
-  WATER MAIN ≤ 80mm



KEY MAP



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Drawing is not to be used for construction unless approved.		Project 1100 DOUGLAS SHIRE COUNCIL LGIP	
Title EXISTING RECYCLED WATER TRUNK INFRASTRUCTURE - GRID 6			
Drawn IM	Designed RR	Design Check RR	Approved R RANKINE
RPEQ	Date 20/03/18	Drawing No. 1100-120	Revision D

External References: TEC-TITLE-A3_a.dwg

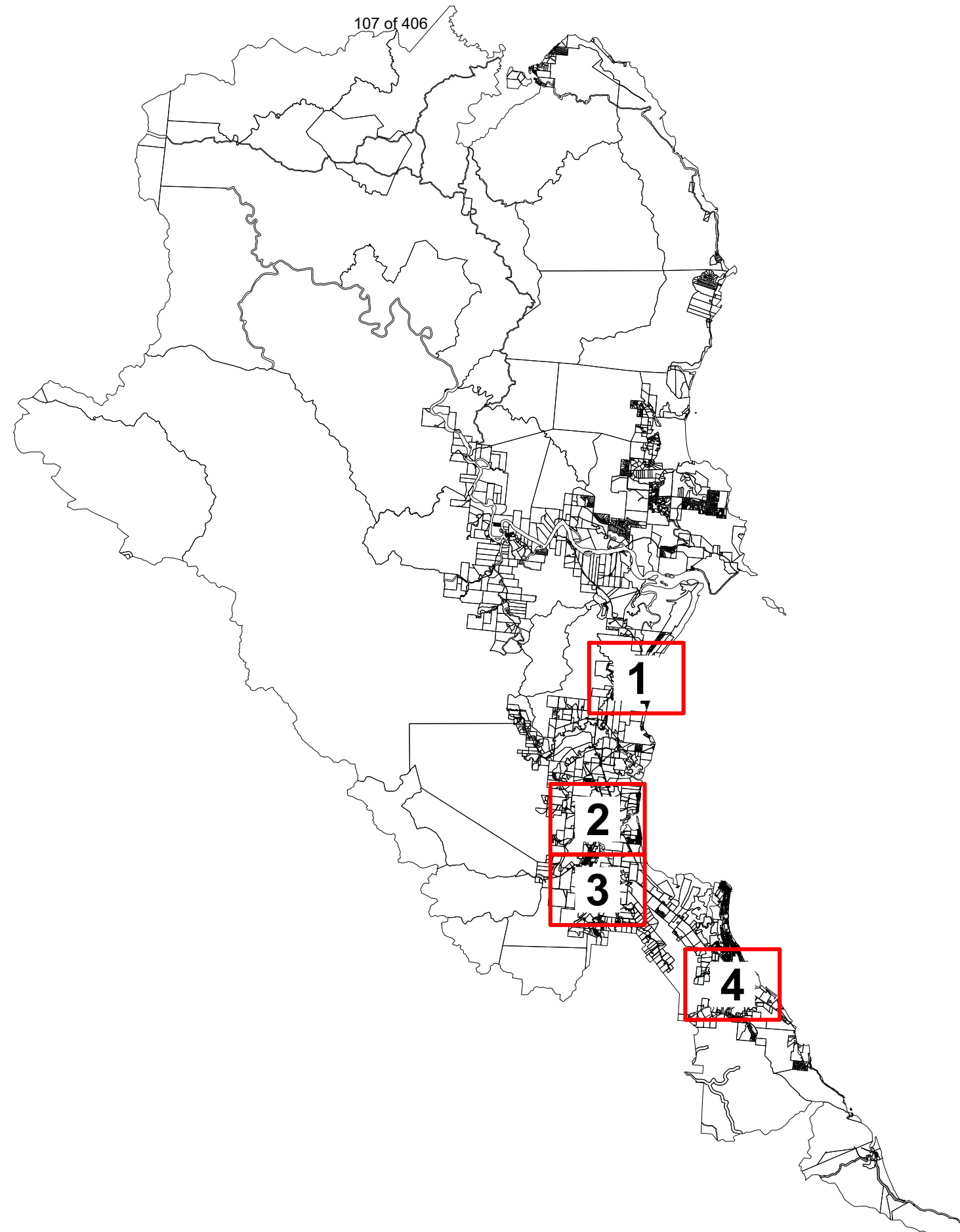
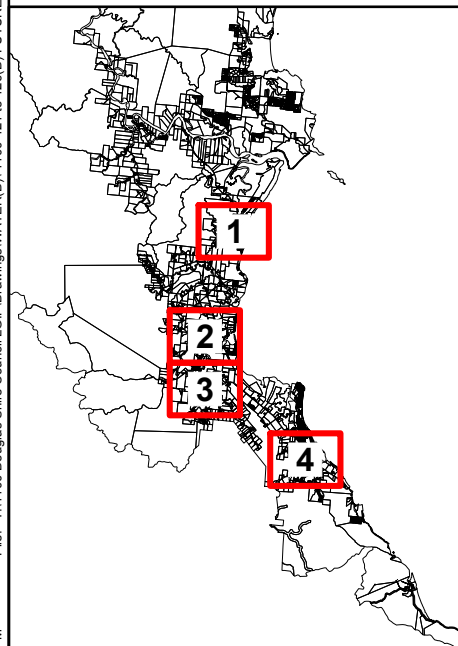
LEGEND

FUTURE WATER SUPPLY TRUNK INFRASTRUCTURE

-  WATER MAIN
-  RESERVOIR
-  RESERVOIR
-  RAW WATER INTAKE



KEY MAP



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		1100 DOUGLAS SHIRE COUNCIL LGIP	
		Title	
		FUTURE WATER TRUNK INFRASTRUCTURE KEY MAP	
Drawn	Designed	Drawing Check	Design Check
IM	RR	RR	RR
Approved		RPEQ	Date
R RANKINE			20/03/18
Drawing No.		Revision	
1100-121		D	

External References: TEC-TITLE-A3_a.dwg

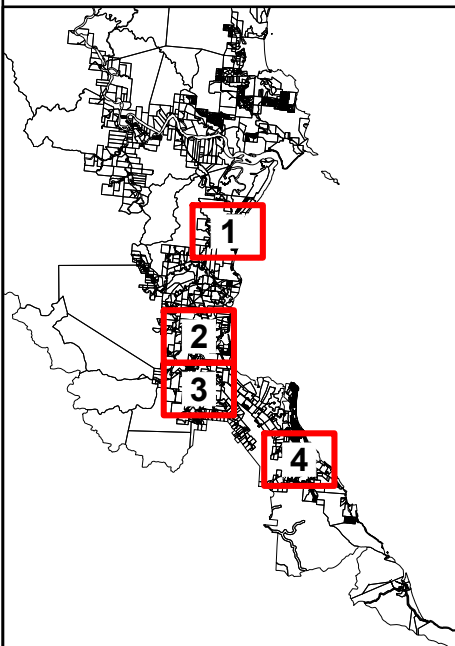
LEGEND

FUTURE WATER SUPPLY TRUNK INFRASTRUCTURE

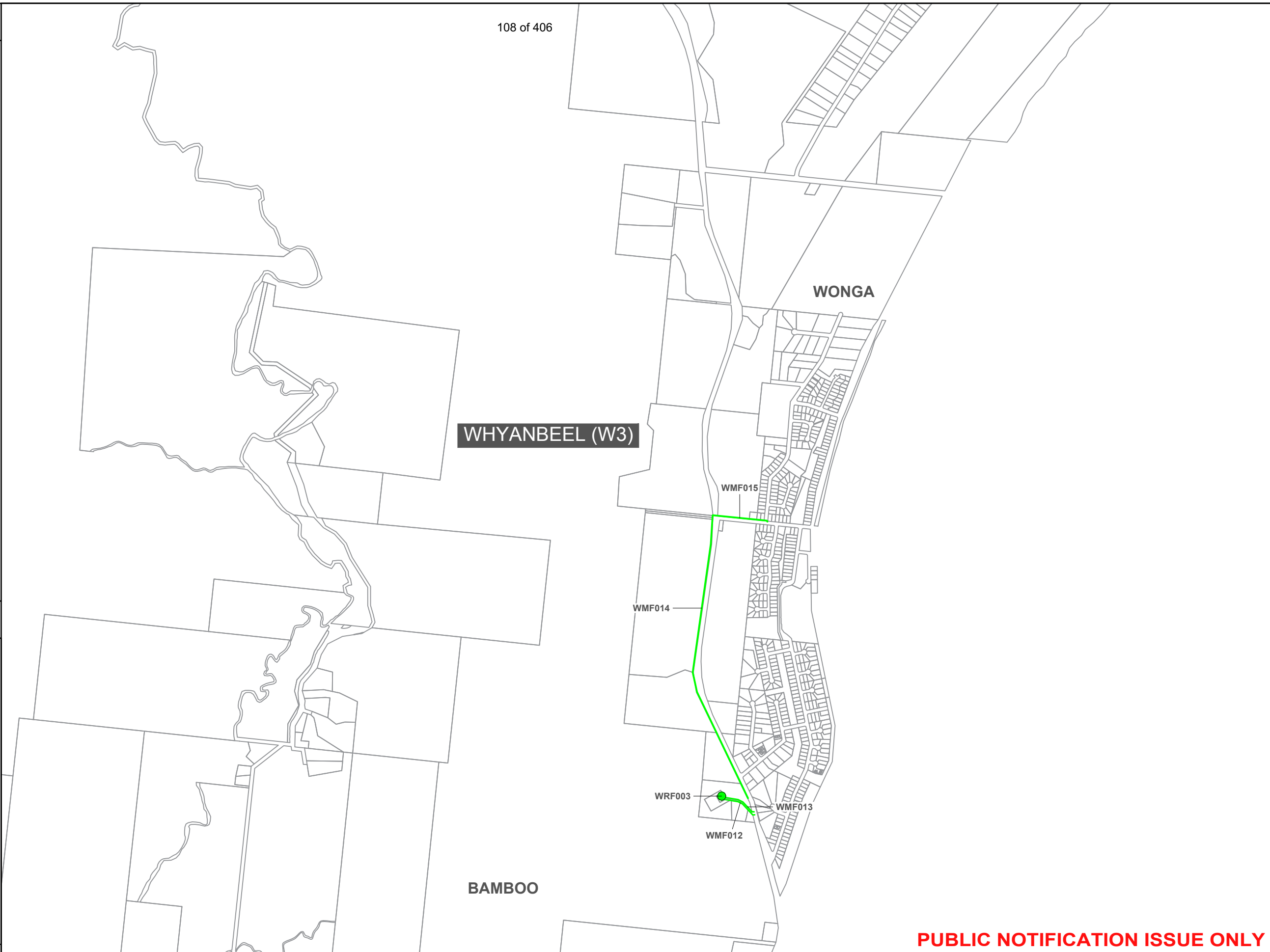
- WATER MAIN
- - - RESERVOIR
- RESERVOIR
- ▲ RAW WATER INTAKE



KEY MAP



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Revisions				
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GRID: 1

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Title FUTURE WATER TRUNK INFRASTRUCTURE - GRID 1		Title	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 20/03/18
Drawing No. 1100-122		Revision D	

External References: TEC-TITLE-A3_a.dwg

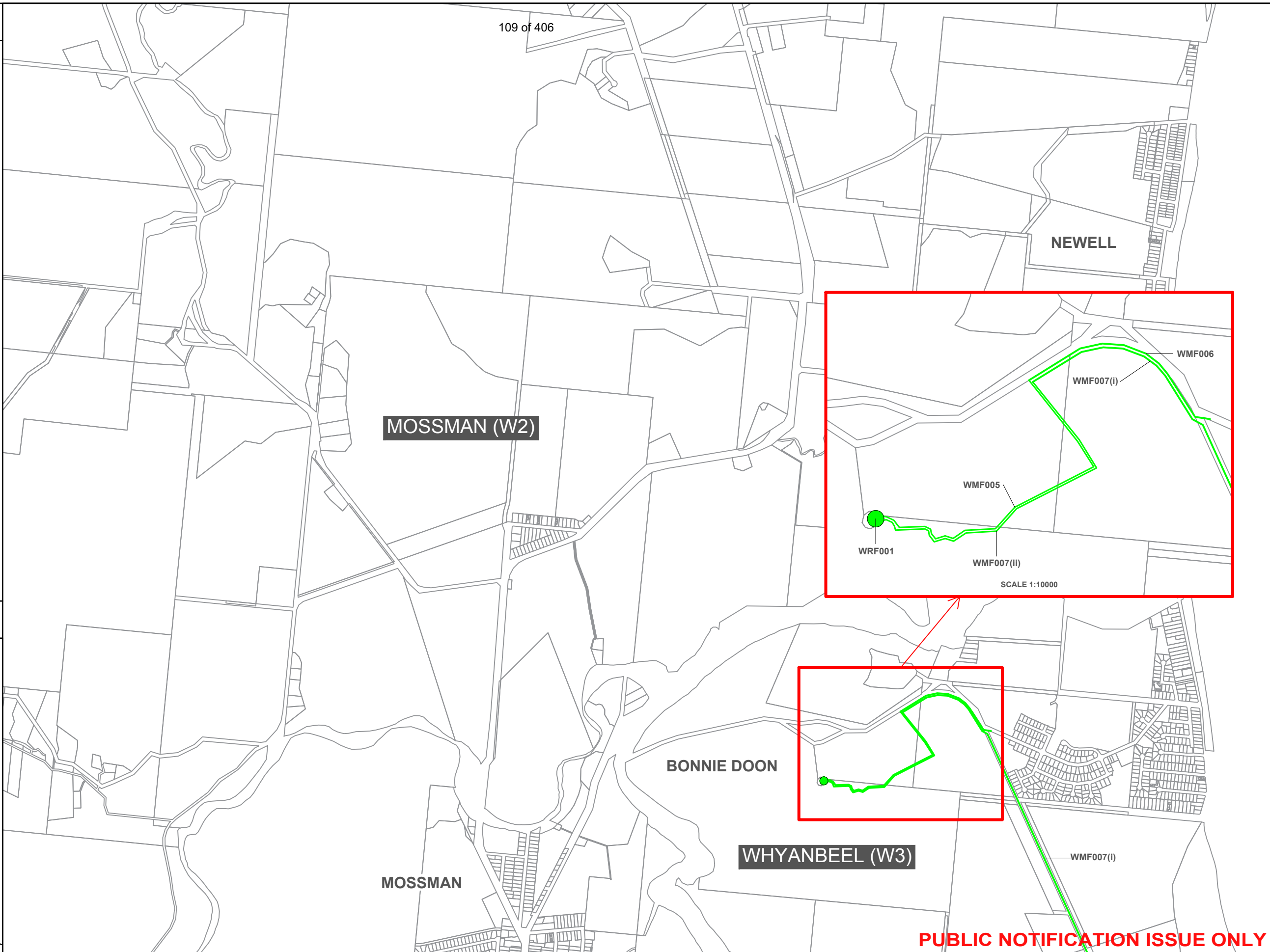
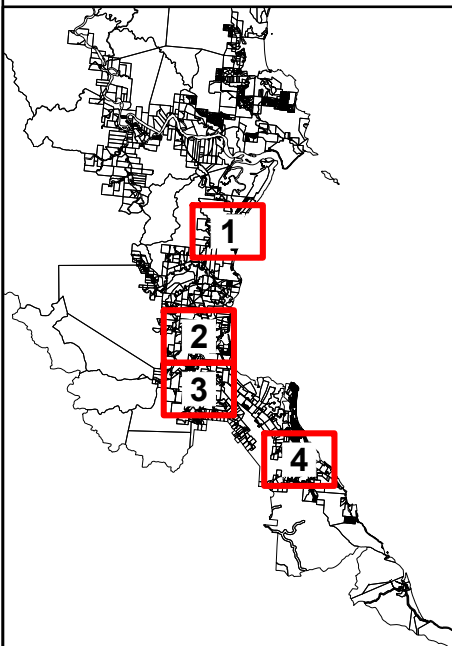
LEGEND

FUTURE WATER SUPPLY TRUNK INFRASTRUCTURE

- WATER MAIN
- - - RESERVOIR
- RESERVOIR
- ▲ RAW WATER INTAKE



KEY MAP



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GRID: 2

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IM

Client
DOUGLAS SHIRE COUNCIL

Designed
RR

Project
1100 DOUGLAS SHIRE COUNCIL LGIP

Drawing Check
RR

Title
FUTURE WATER TRUNK INFRASTRUCTURE - GRID 2

Design Check
RR

Approved
R RANKINE

Approved
R RANKINE

RPEQ

RPEQ

Date
20/03/18

Date
20/03/18

Drawing No.
1100-123

Drawing No.
1100-123





Revision
D

Revision
D

External References: TEC-TITLE-A3_a.dwg

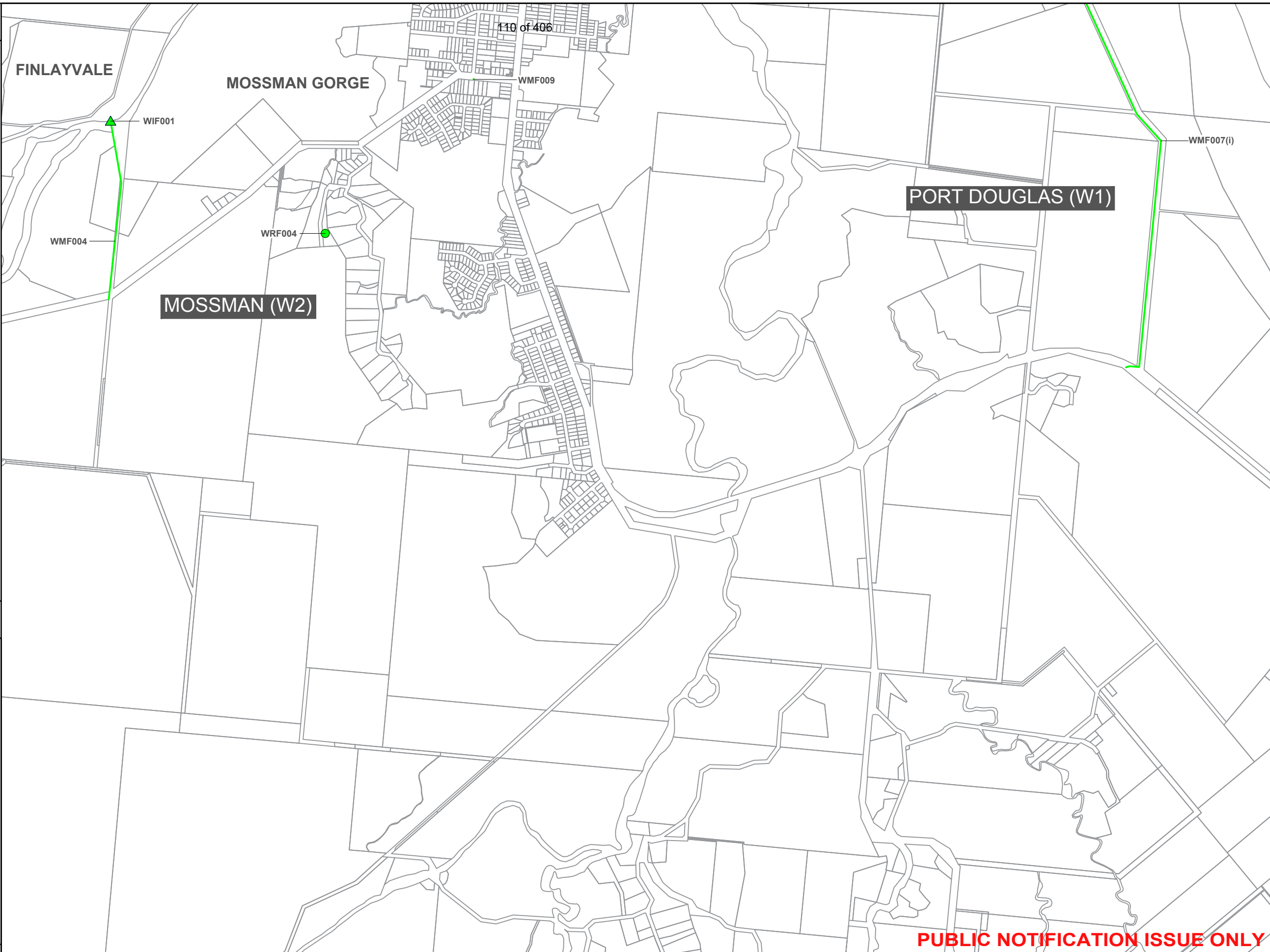
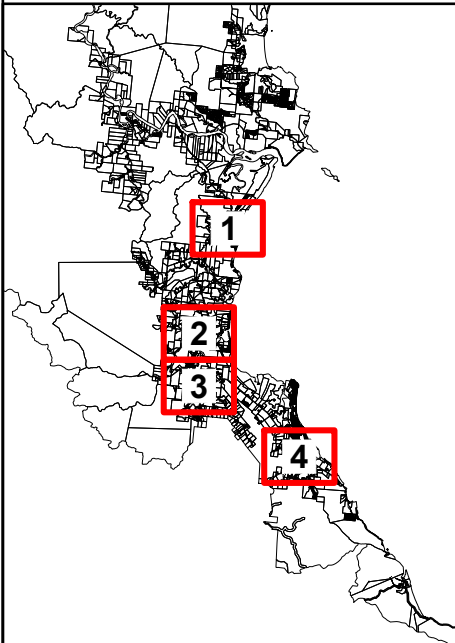
LEGEND

FUTURE WATER SUPPLY TRUNK INFRASTRUCTURE

-  WATER MAIN
-  RESERVOIR
-  RESERVOIR
-  RAW WATER INTAKE



KEY MAP



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GRID: 3

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Client DOUGLAS SHIRE COUNCIL		Project 1100 DOUGLAS SHIRE COUNCIL LGIP		Title FUTURE WATER TRUNK INFRASTRUCTURE - GRID 3	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>	RPEQ Date 20/03/18
Drawing No. 1100-124			Revision D		

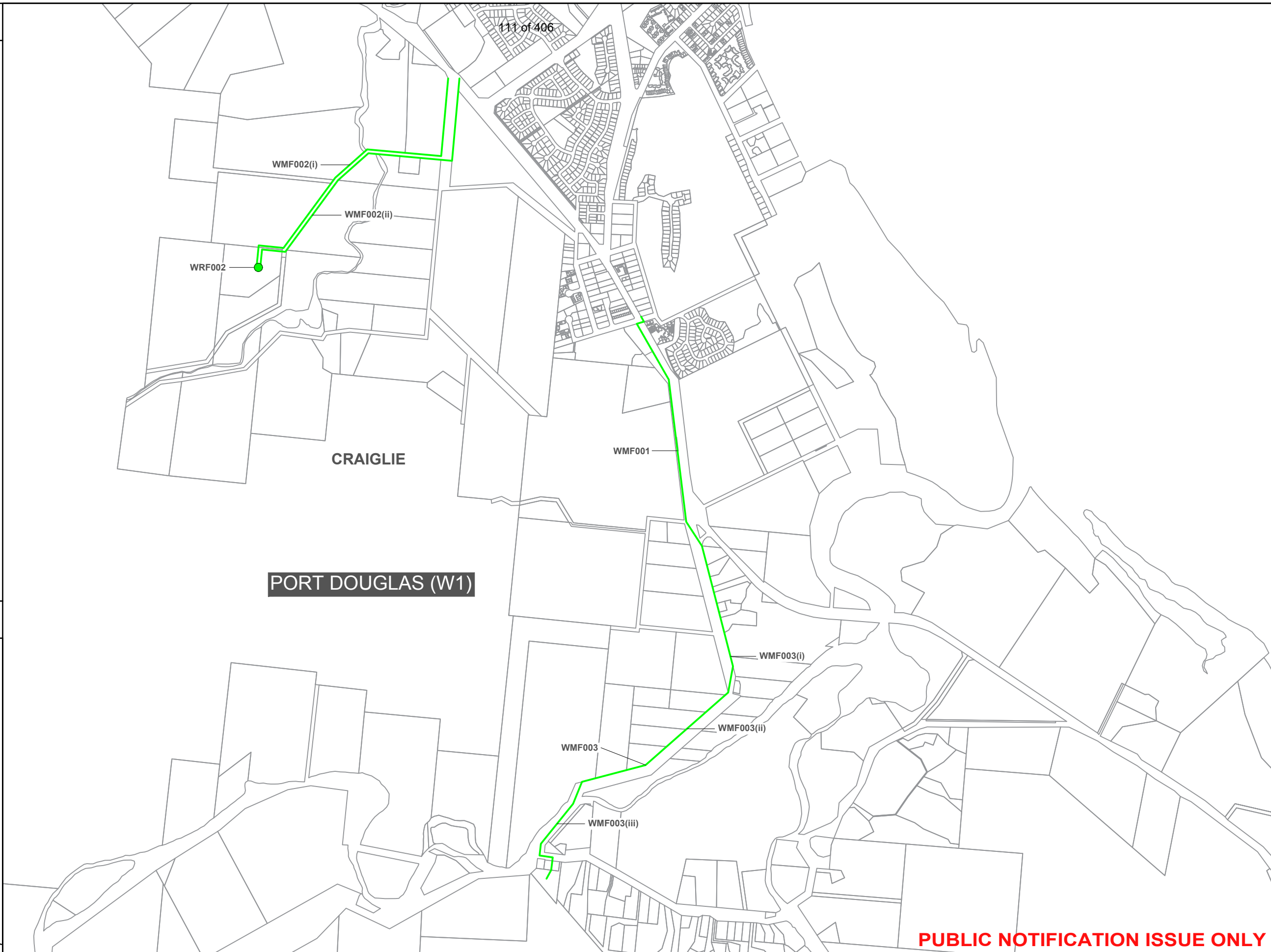
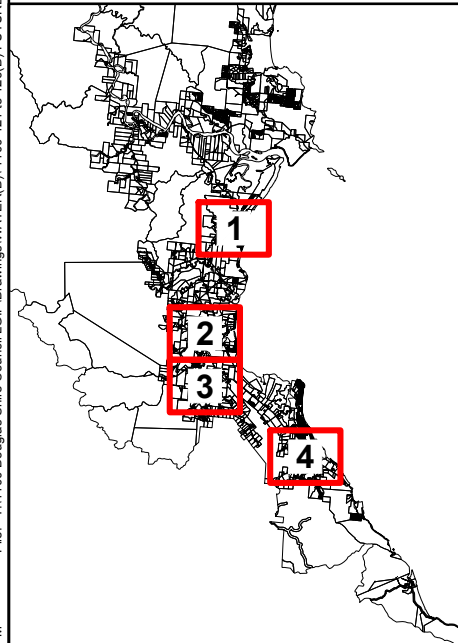
LEGEND

FUTURE WATER SUPPLY TRUNK INFRASTRUCTURE

-  WATER MAIN
-  RESERVOIR
-  RESERVOIR
-  RAW WATER INTAKE



KEY MAP



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GRID: 4



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Drawn IM		Title FUTURE WATER TRUNK INFRASTRUCTURE - GRID 4	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 20/03/18	Drawing No. 1100-125	Revision D

External References: TEC-TITLE-A3_a_dwg



LOCAL GOVERNMENT INFRASTRUCTURE PLANS (SEWERAGE TRUNK INFRASTRUCTURE) *for* DOUGLAS SHIRE COUNCIL

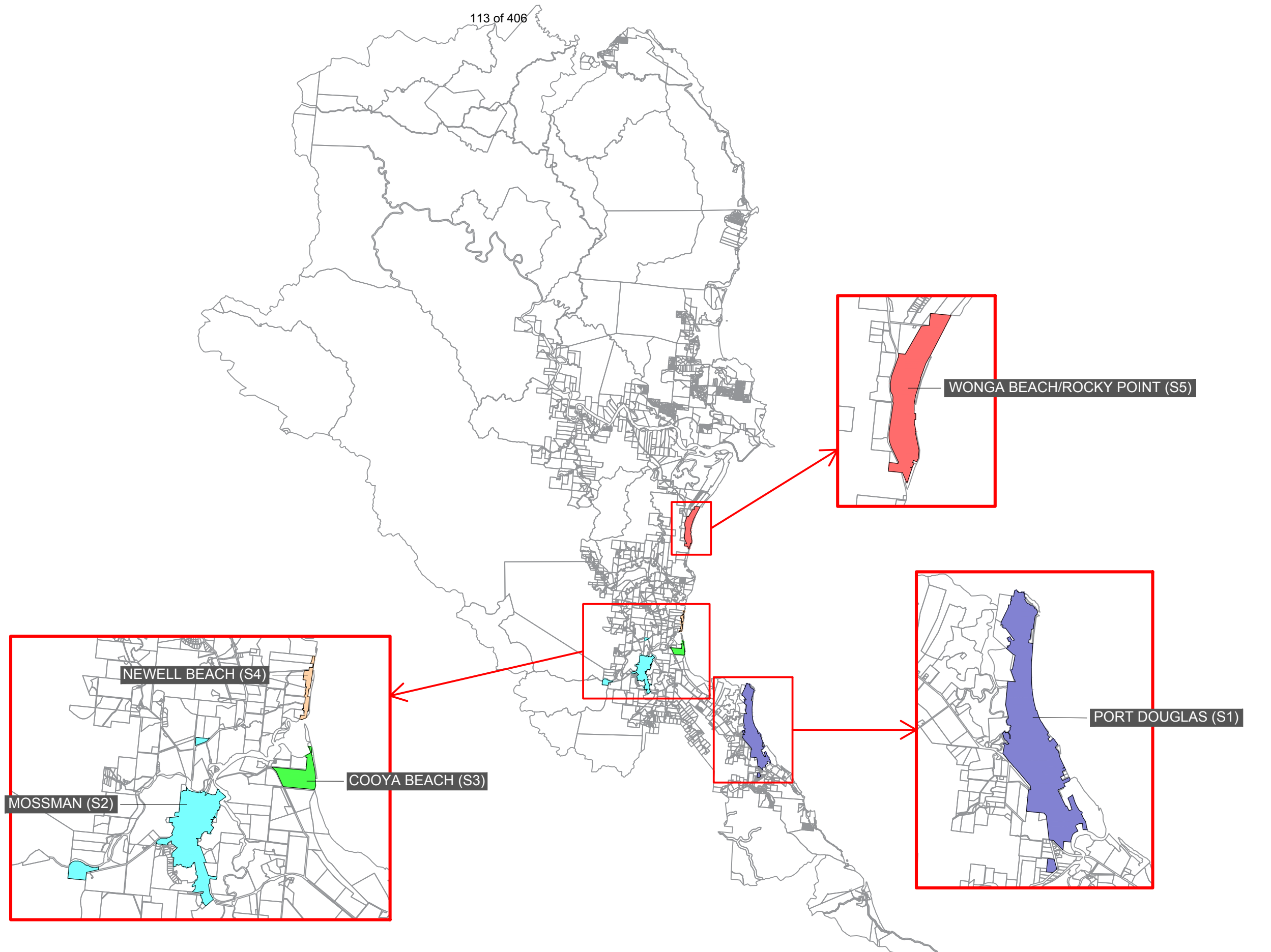
SCHEDULE OF PROJECT DRAWINGS

1100-200	DRAWING INDEX
1100-201	SEWERAGE INFRASTRUCTURE CHARGES CATCHMENTS
1100-202	EXISTING SEWERAGE TRUNK INFRASTRUCTURE KEY MAP
1100-203	EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 1
1100-204	EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 2
1100-205	EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 3
1100-206	EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 4
1100-207	EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 5
1100-208	EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 6
1100-209	FUTURE SEWERAGE TRUNK INFRASTRUCTURE KEY MAP
1100-210	FUTURE SEWERAGE TRUNK INFRASTRUCTURE - GRID 1
1100-211	FUTURE SEWERAGE TRUNK INFRASTRUCTURE - GRID 2

LEGEND

SEWERAGE INFRASTRUCTURE CHARGES CATCHMENT AREAS

- PORT DOUGLAS (S1)
- MOSSMAN (S2)
- COOYA BEACH (S3)
- NEWELL BEACH (S4)
- WONGA BEACH/ROCKY POINT (S5)



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Client DOUGLAS SHIRE COUNCIL		Project 1100 DOUGLAS SHIRE COUNCIL LGIP		Title SEWERAGE INFRASTRUCTURE CHARGES CATCHMENTS	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>	RPEQ
Date 20/03/18	Drawing No. 1100-201	Revision D			

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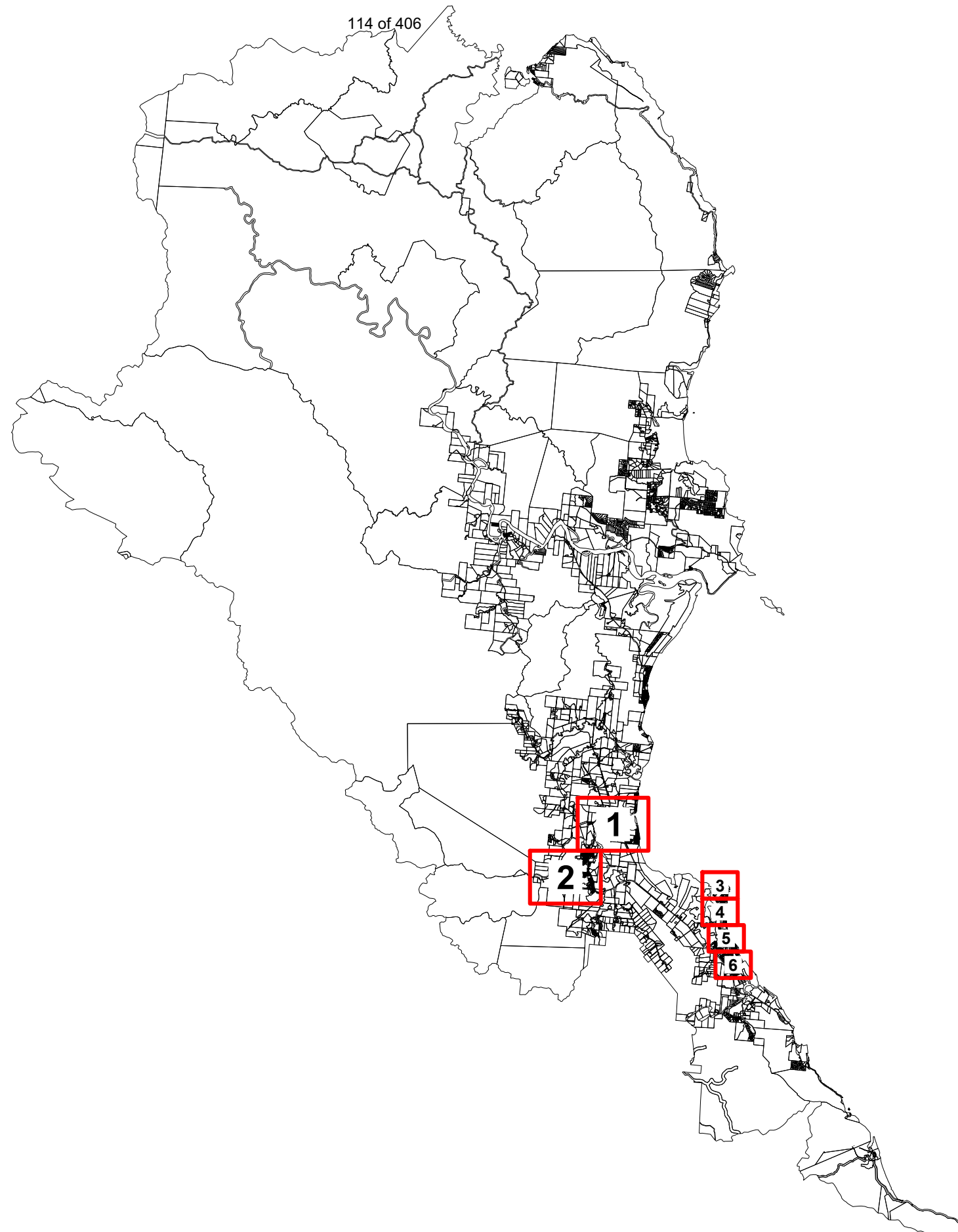
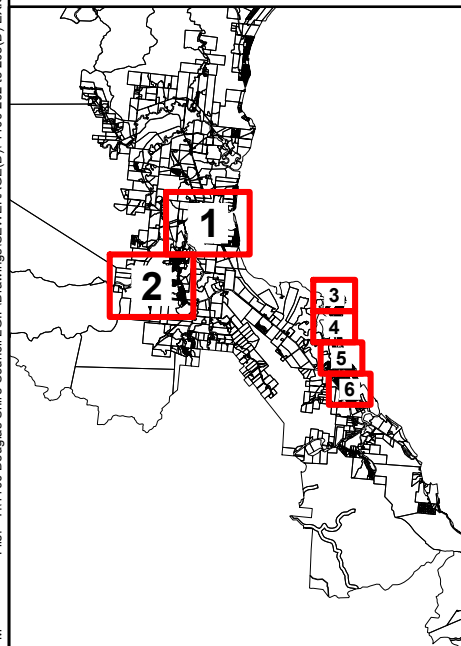
LEGEND

EXISTING SEWERAGE TRUNK INFRASTRUCTURE

-  EFFLUENT RISING MAIN
-  GRAVITY MAIN
-  RISING MAIN
-  PUMP STATION
-  WASTEWATER TREATMENT PLANT



KEY MAP



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Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		EXISTING SEWERAGE TRUNK INFRASTRUCTURE KEY MAP	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	20/03/18	Drawing No.	1100-202
Revision			D

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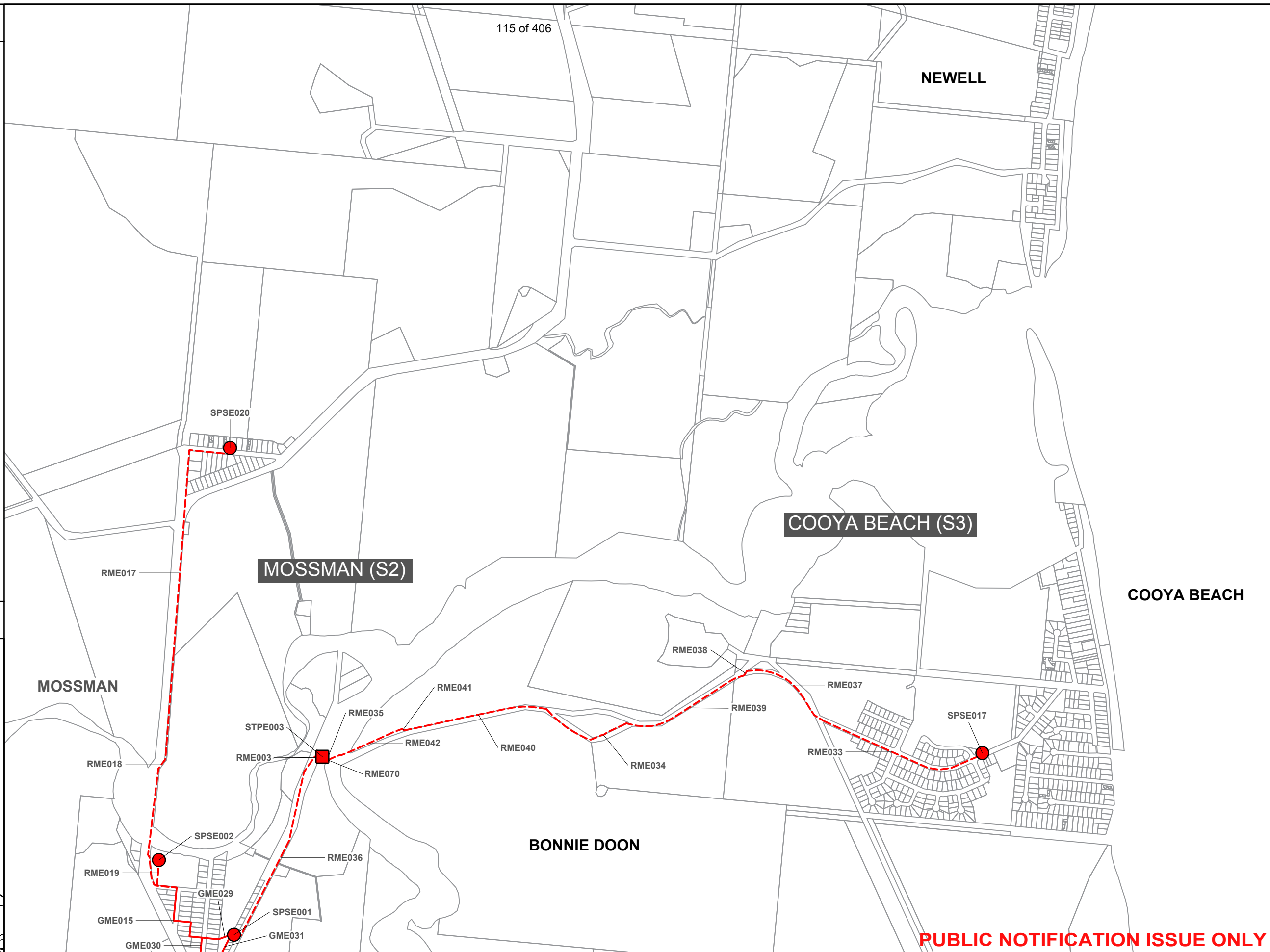
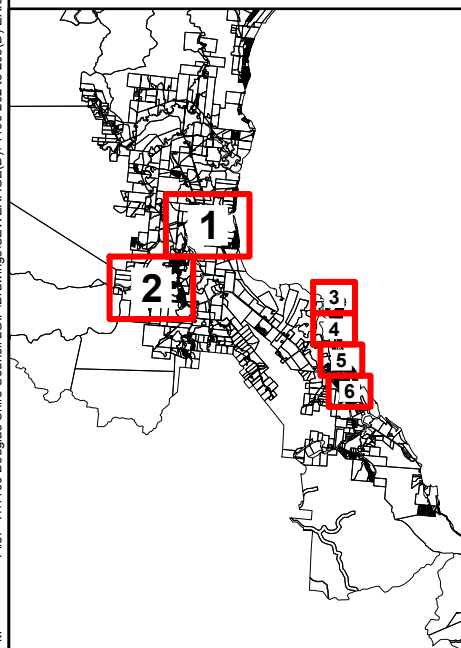
LEGEND

EXISTING SEWERAGE TRUNK INFRASTRUCTURE

-  EFFLUENT RISING MAIN
-  GRAVITY MAIN
-  RISING MAIN
-  PUMP STATION
-  WASTEWATER TREATMENT PLANT



KEY MAP



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Client DOUGLAS SHIRE COUNCIL		Project 1100 DOUGLAS SHIRE COUNCIL LGIP	
Title EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 1		Drawing No. 1100-203	
Design Check RR	Approved R RANKINE	Date 20/03/18	Revision D






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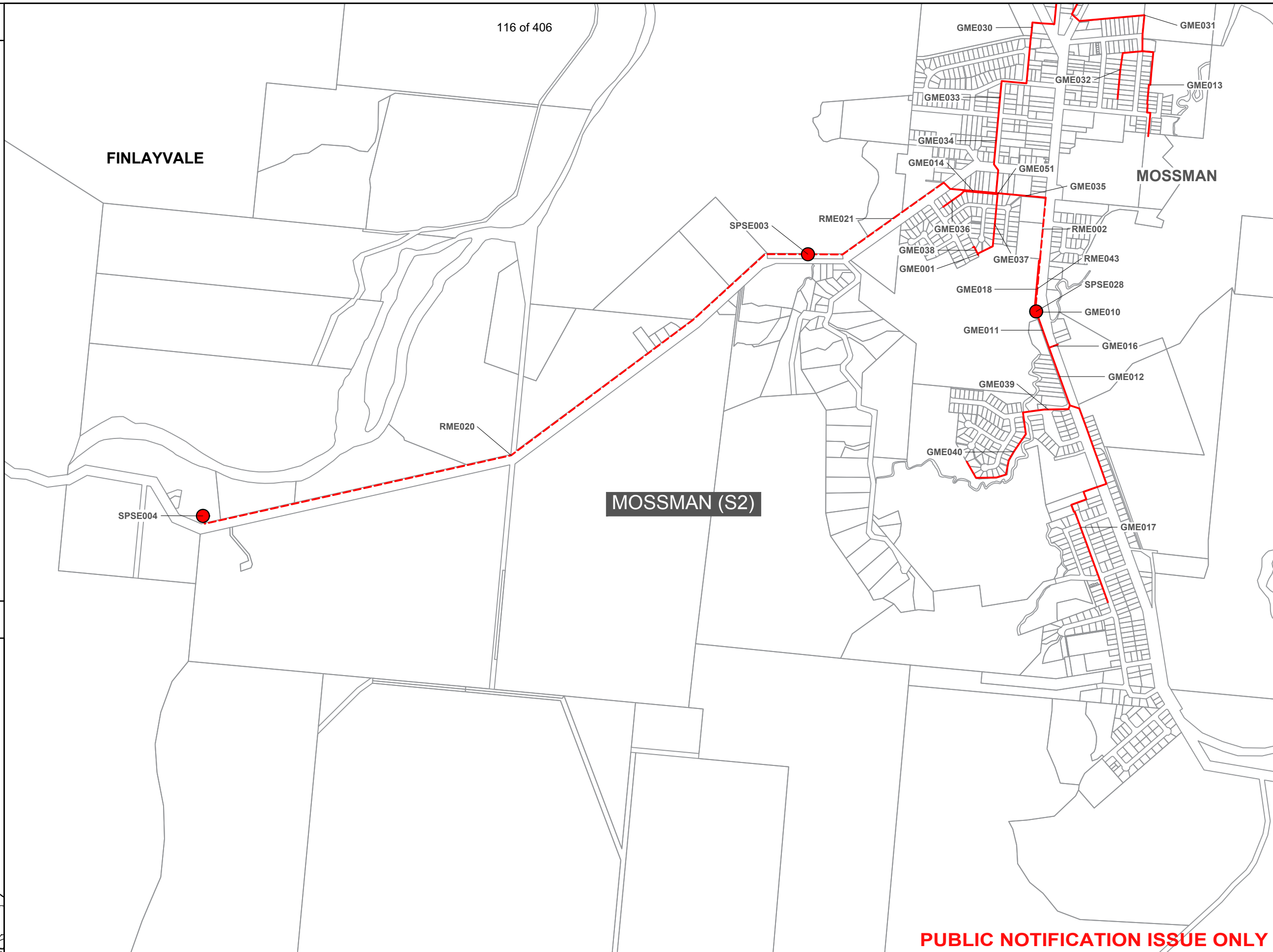
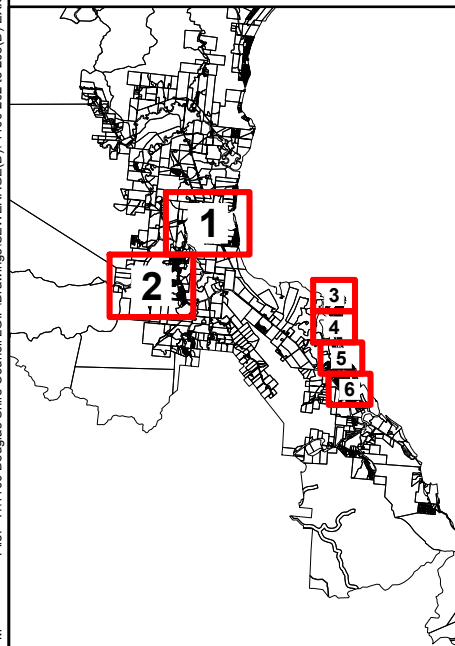
LEGEND

EXISTING SEWERAGE TRUNK INFRASTRUCTURE

-  EFFLUENT RISING MAIN
-  GRAVITY MAIN
-  RISING MAIN
-  PUMP STATION
-  WASTEWATER TREATMENT PLANT



KEY MAP



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Drawn IM		Title EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 2	
Designed RR	Drawing Check RR	Design Check RR	Approved R RANKINE
RPEQ	Date 20/03/18	Drawing No. 1100-204	Revision D

External References: TEC-TITLE-A3_a.dwg

Ordinary Council Meeting - 7 June 2018

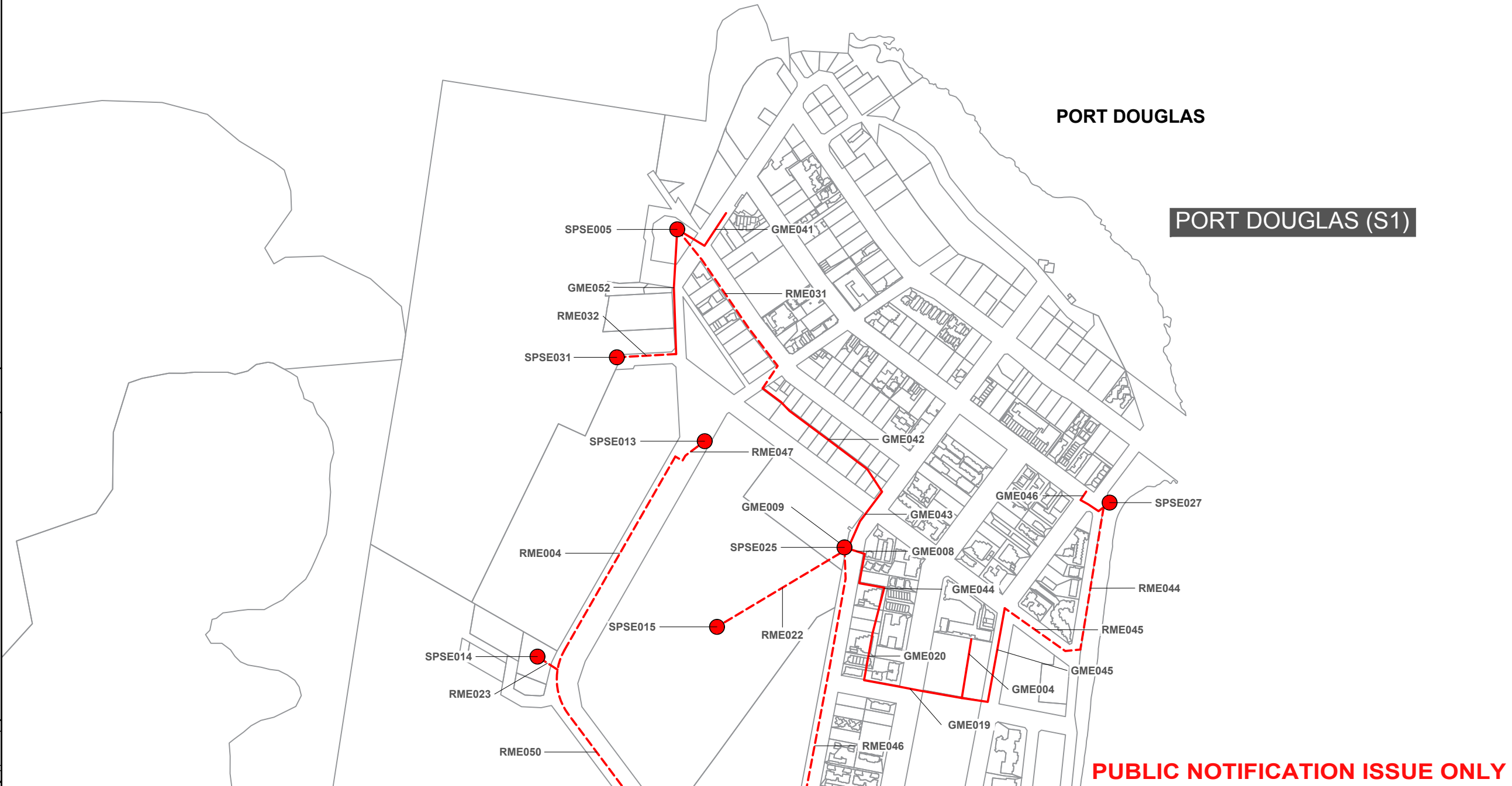
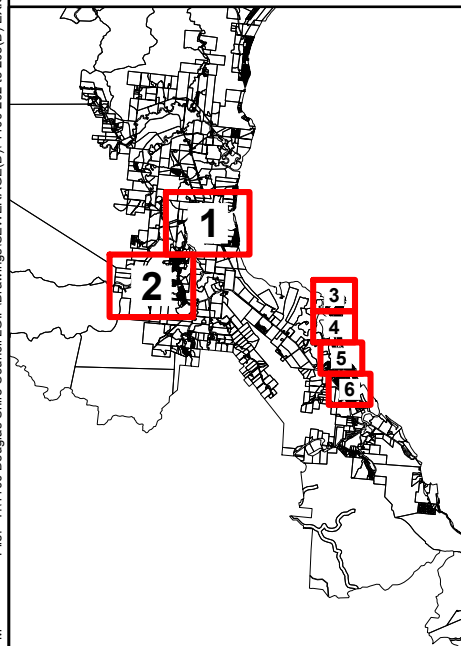
LEGEND

EXISTING SEWERAGE TRUNK INFRASTRUCTURE

-  EFFLUENT RISING MAIN
-  GRAVITY MAIN
-  RISING MAIN
-  PUMP STATION
-  WASTEWATER TREATMENT PLANT



KEY MAP



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1:7500	DOUGLAS SHIRE COUNCIL
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	1100 DOUGLAS SHIRE COUNCIL LGIP
Drawn	Design Check
IM	RR
Designed	Approved
RR	R RANKINE

Title	RPEQ	Date	Drawing No.	Revision
EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 3		20/03/18	1100-205	D

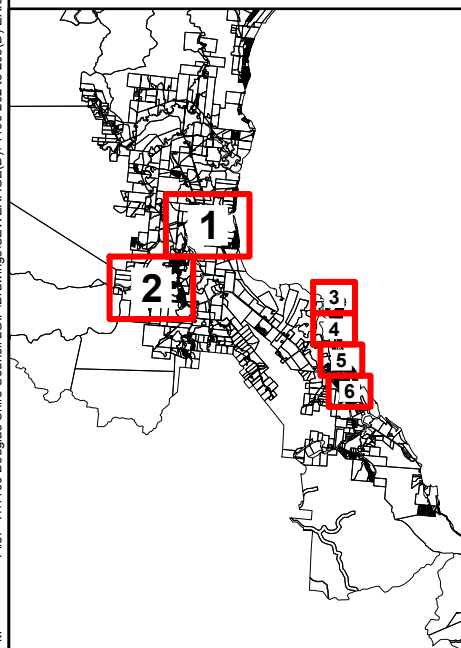
LEGEND

EXISTING SEWERAGE TRUNK INFRASTRUCTURE

-  EFFLUENT RISING MAIN
-  GRAVITY MAIN
-  RISING MAIN
-  PUMP STATION
-  WASTEWATER TREATMENT PLANT

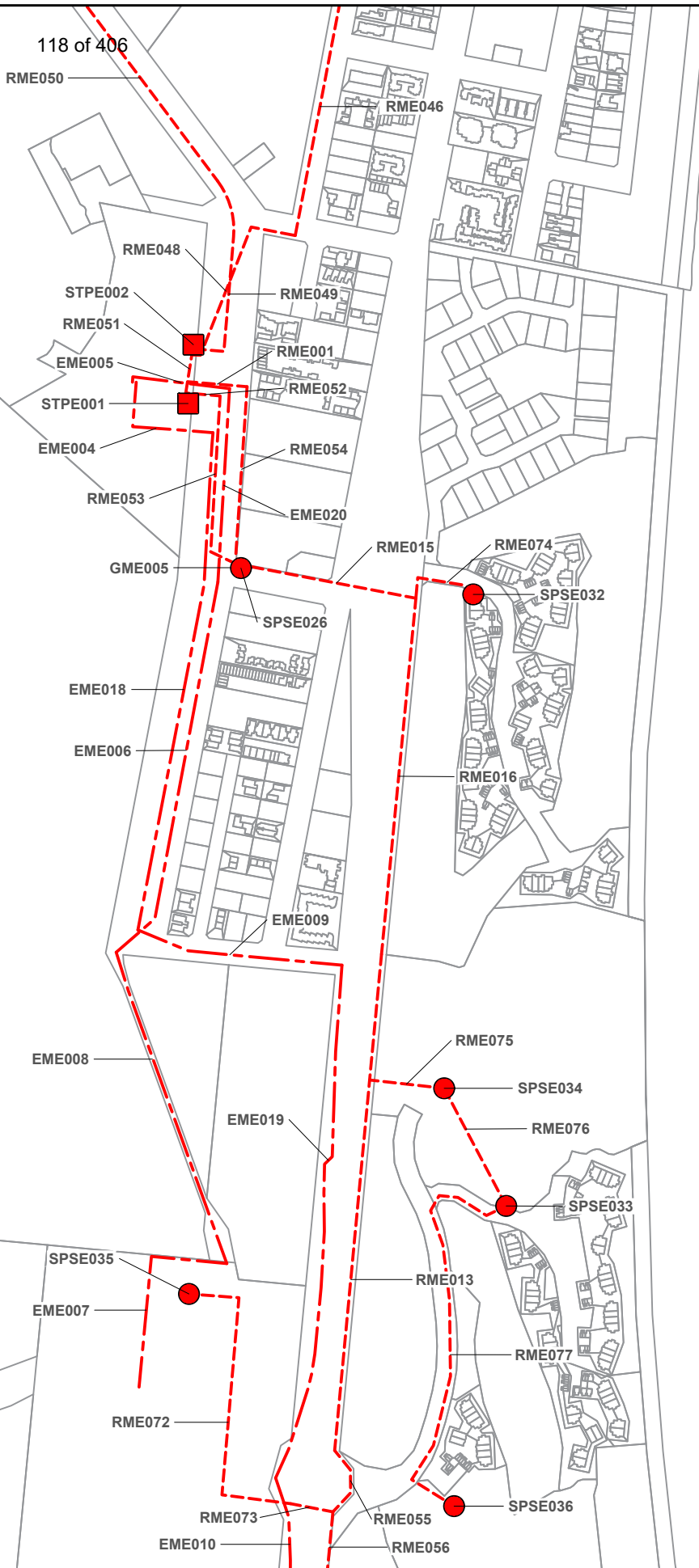


KEY MAP



PORT DOUGLAS (S1)

PORT DOUGLAS



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Project 1100 DOUGLAS SHIRE COUNCIL LGIP	
Title EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 4	
Design Check <i>RR</i>	Approved <i>R RANKINE</i>
Date 20/03/18	Revision D

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Revisions
A ISSUED FOR REVIEW
No. Description Reviewed Approved Date
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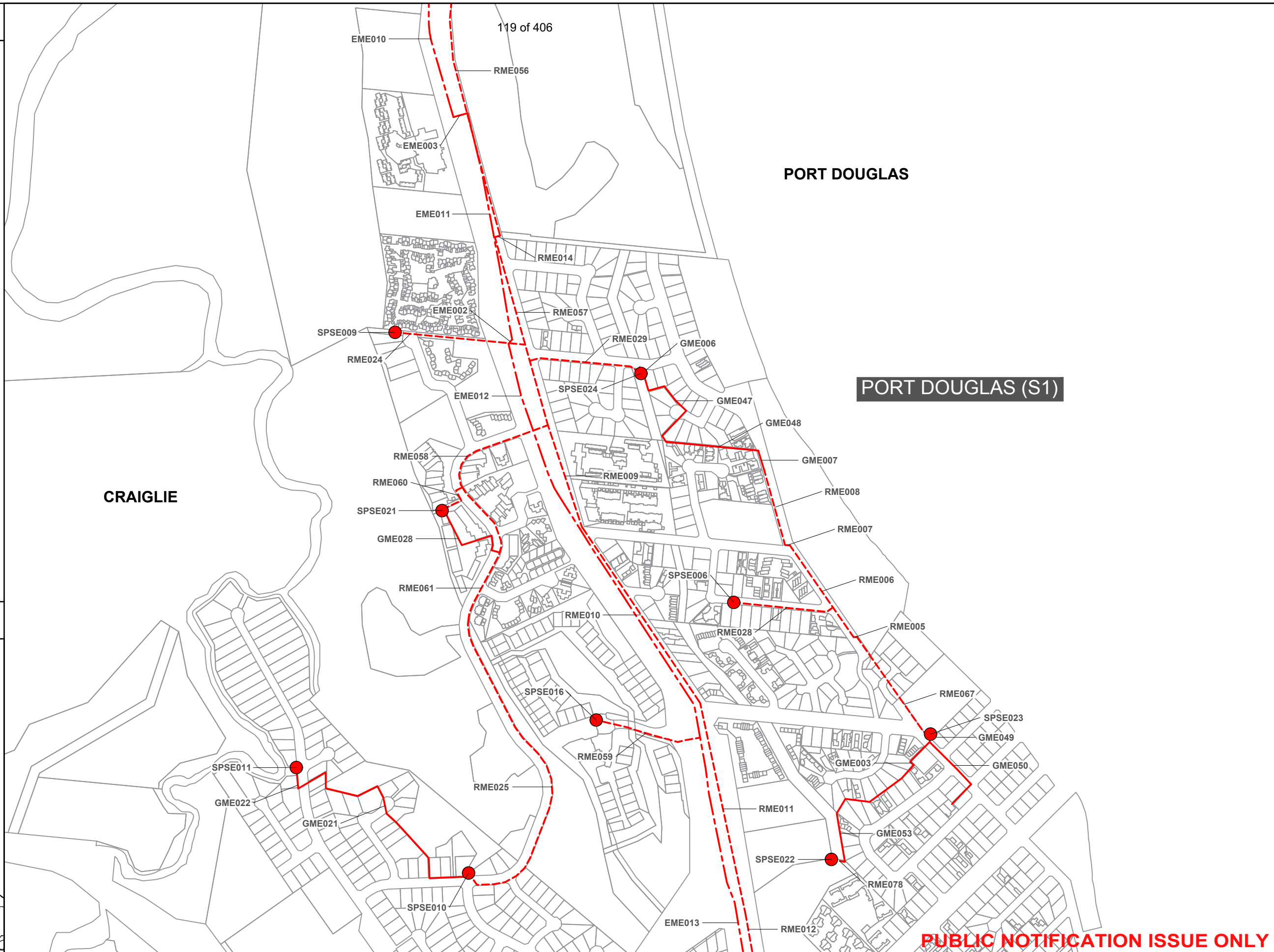
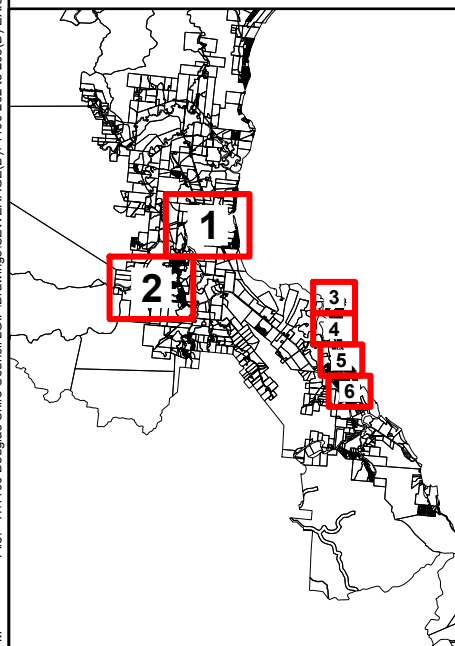
LEGEND

EXISTING SEWERAGE TRUNK INFRASTRUCTURE

-  EFFLUENT RISING MAIN
-  GRAVITY MAIN
-  RISING MAIN
-  PUMP STATION
-  WASTEWATER TREATMENT PLANT



KEY MAP



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Client	DOUGLAS SHIRE COUNCIL
Project	1100 DOUGLAS SHIRE COUNCIL LGIP
Title	EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 5






Drawn	IM	Designed	RR	Drawing Check	RR	Design Check	RR	Approved	R RANKINE	RPEQ	Date	20/03/18	Drawing No.	1100-207	Revision	D
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Ordinary Council Meeting 7-9 June 2018

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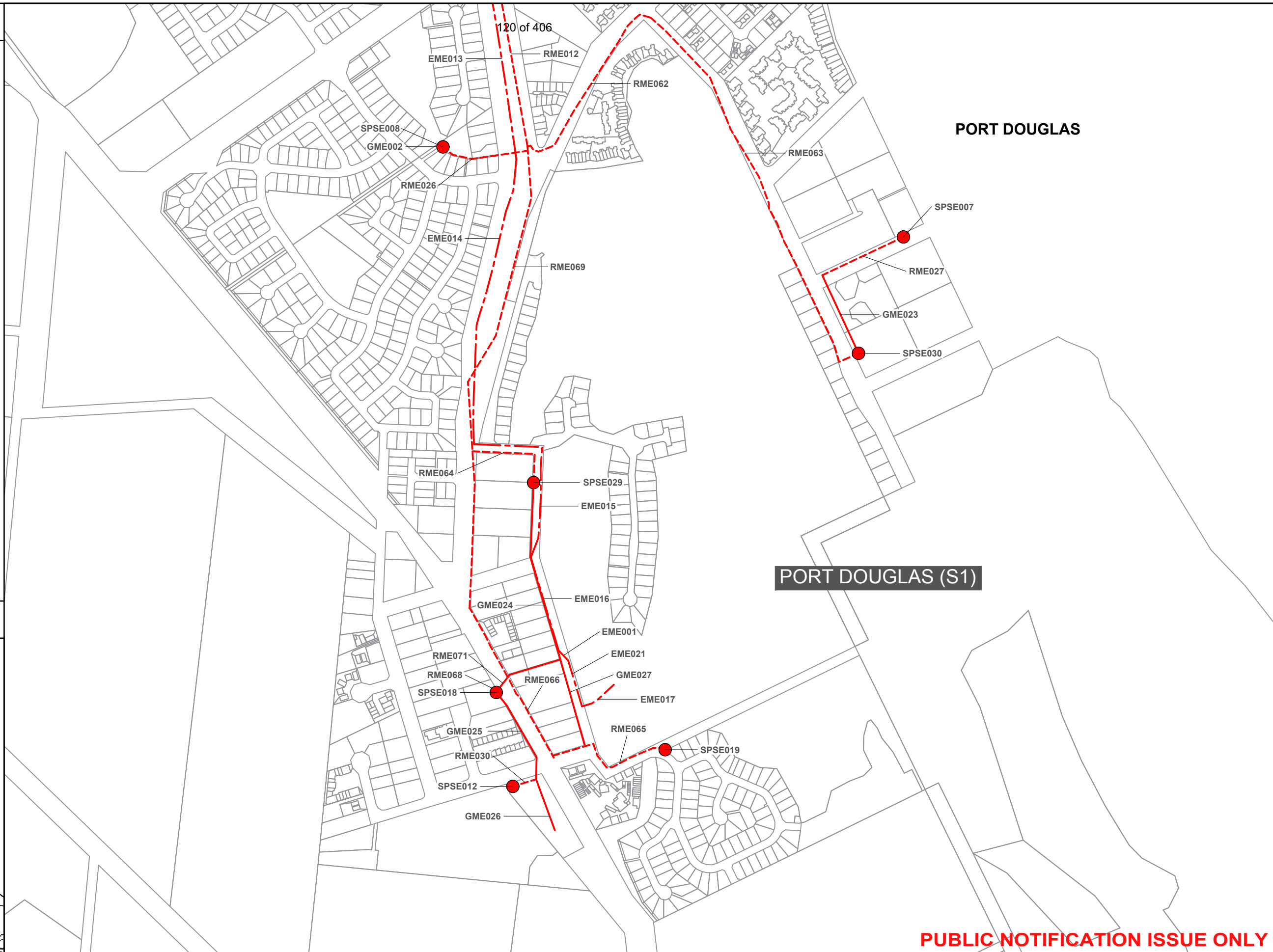
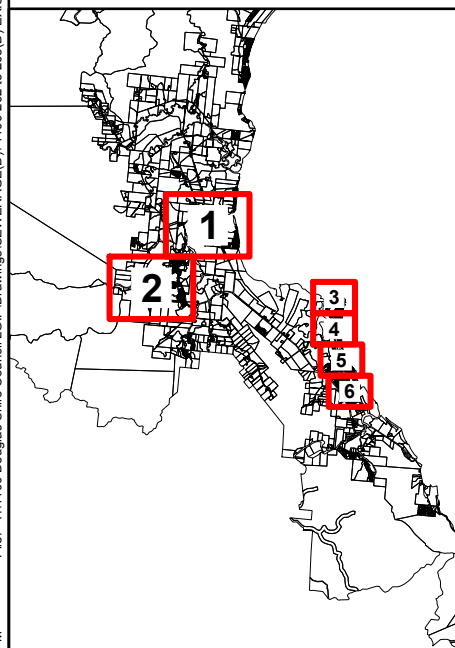
LEGEND

EXISTING SEWERAGE TRUNK INFRASTRUCTURE

-  EFFLUENT RISING MAIN
-  GRAVITY MAIN
-  RISING MAIN
-  PUMP STATION
-  WASTEWATER TREATMENT PLANT



KEY MAP



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





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Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		EXISTING SEWERAGE TRUNK INFRASTRUCTURE - GRID 6	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	20/03/18	Drawing No.	1100-208
Revision			D

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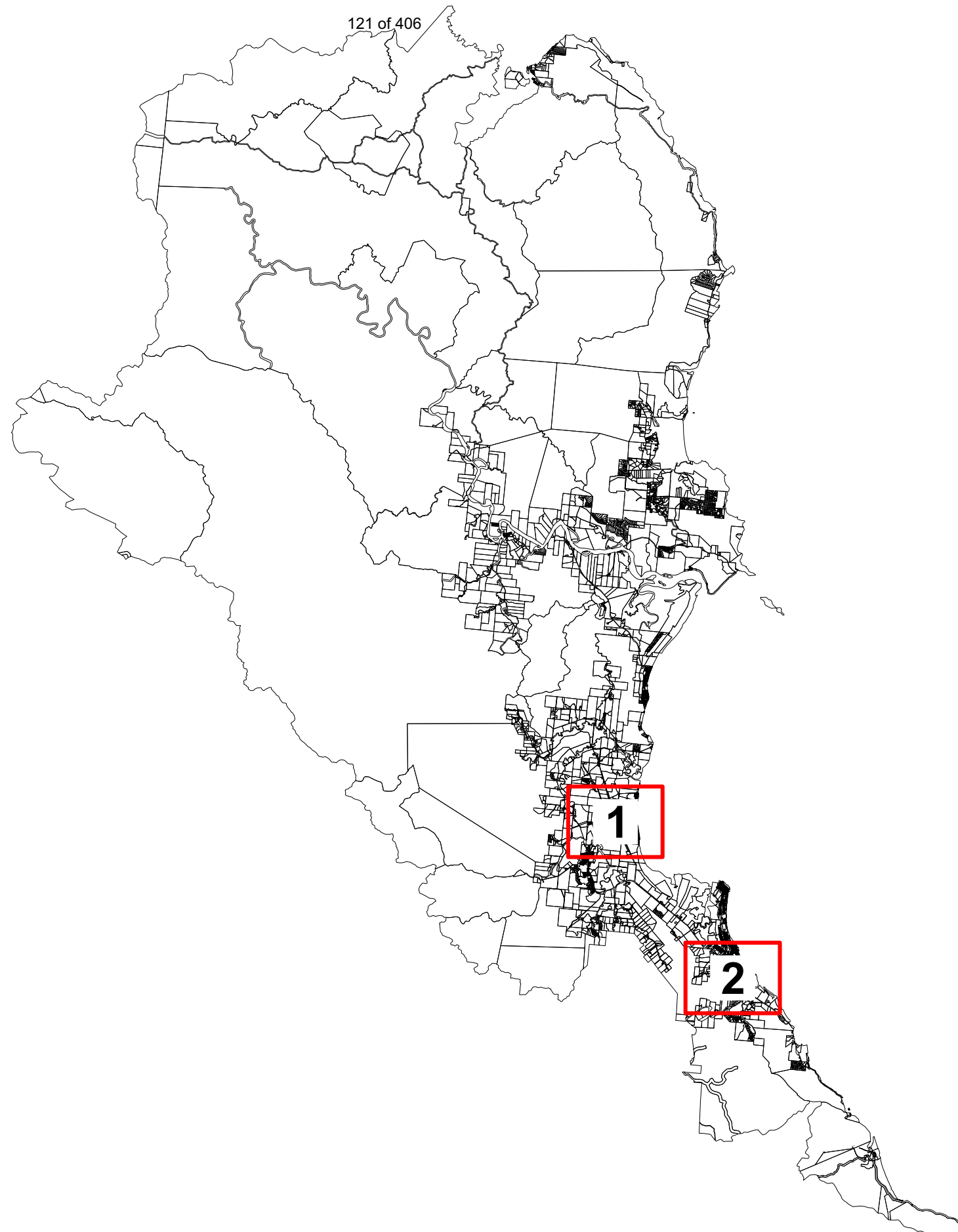
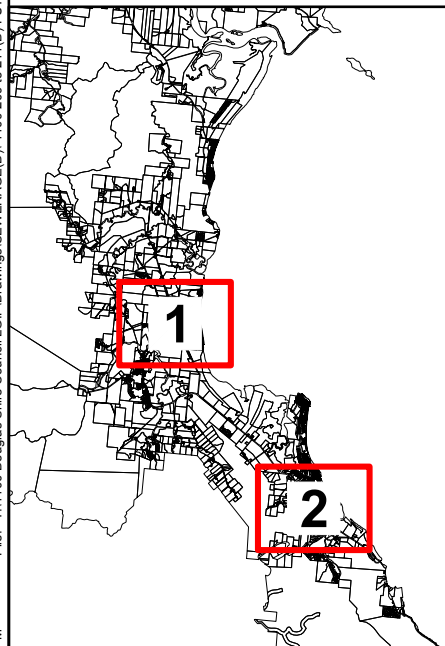
LEGEND

FUTURE SEWERAGE TRUNK INFRASTRUCTURE

-  RISING MAINS
-  RISING MAINS (TRUNK)
-  EFFLUENT RISING MAINS
-  EFFLUENT RISING MAINS (TRUNK)
-  PUMP STATION
-  WASTEWATER TREATMENT PLANT
-  STORAGE FACILITY



KEY MAP



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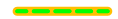





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Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		FUTURE SEWERAGE TRUNK INFRASTRUCTURE KEY MAP	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	20/03/18	Drawing No.	1100-209
Revision			D

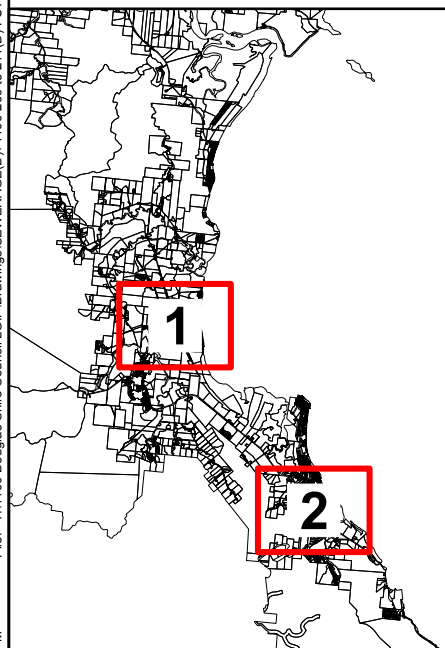
LEGEND

FUTURE SEWERAGE TRUNK INFRASTRUCTURE

-  RISING MAINS
-  RISING MAINS (TRUNK)
-  EFFLUENT RISING MAINS
-  EFFLUENT RISING MAINS (TRUNK)
-  PUMP STATION
-  WASTEWATER TREATMENT PLANT
-  STORAGE FACILITY



KEY MAP



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Title FUTURE SEWERAGE TRUNK INFRASTRUCTURE - GRID 1			
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 20/03/18
Drawing No. 1100-210		Revision D	

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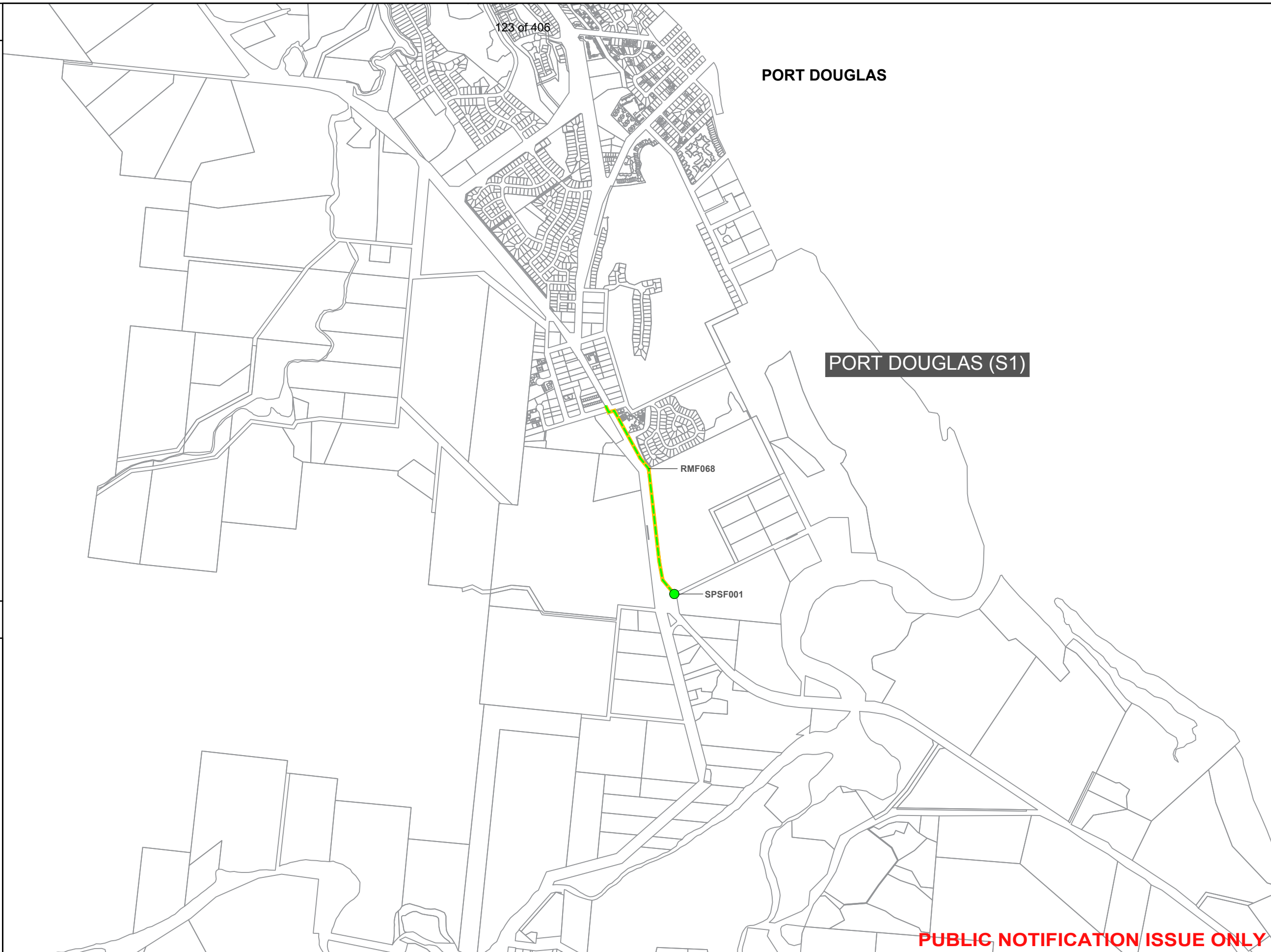
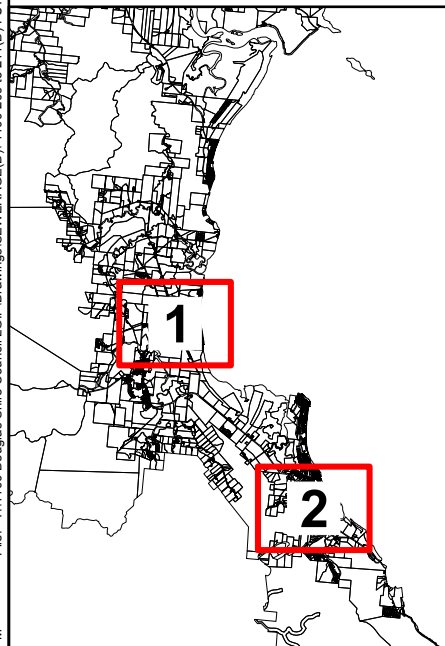
LEGEND

FUTURE SEWERAGE TRUNK INFRASTRUCTURE

- RISING MAINS
- RISING MAINS (TRUNK)
- EFFLUENT RISING MAINS
- EFFLUENT RISING MAINS (TRUNK)
- PUMP STATION
- WASTEWATER TREATMENT PLANT
- ▲ STORAGE FACILITY



KEY MAP



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Design Check
RR

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R RANKINE

Client
DOUGLAS SHIRE COUNCIL

Project
1100 DOUGLAS SHIRE COUNCIL LGIP

Title
FUTURE SEWERAGE TRUNK INFRASTRUCTURE - GRID 2

RPEQ

Date
20/03/18

Drawing No.
1100-211

Revision
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External References: TEC-TITLE-A3_a.dwg



LOCAL GOVERNMENT INFRASTRUCTURE PLANS TRANSPORT (ROAD) TRUNK INFRASTRUCTURE *for* DOUGLAS SHIRE COUNCIL

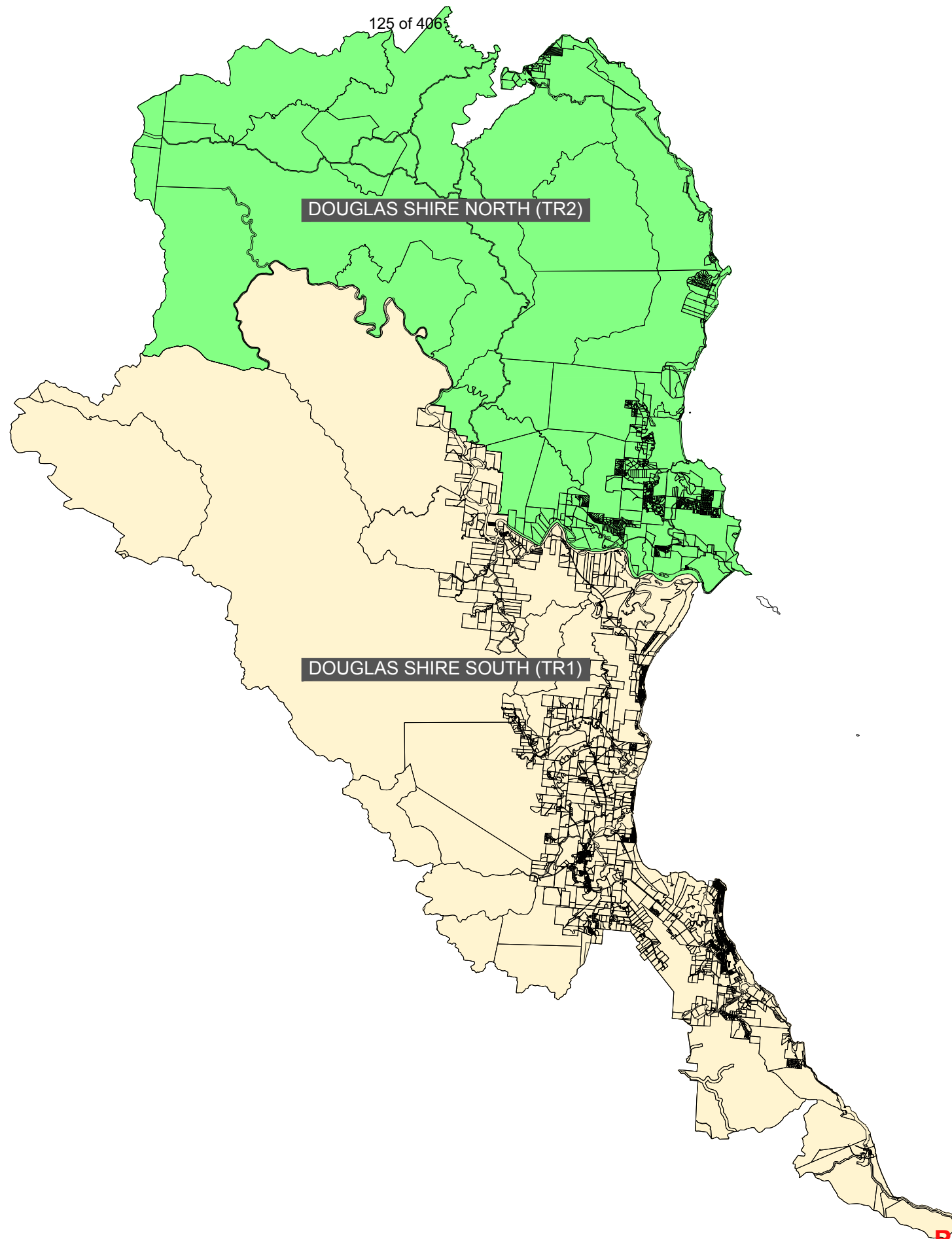
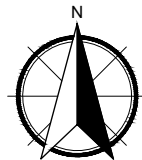
SCHEDULE OF PROJECT DRAWINGS

1100-300	DRAWING INDEX
1100-301	TRANSPORT (ROAD) INFRASTRUCTURE CATCHMENT AREAS
1100-302	EXISTING TRANSPORT TRUNK INFRASTRUCTURE KEY MAP
1100-303	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 1
1100-304	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 2
1100-305	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 3
1100-306	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 4
1100-307	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 5
1100-308	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 6
1100-309	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 7
1100-310	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 8
1100-311	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 9
1100-312	EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 10
1100-313	FUTURE TRANSPORT TRUNK INFRASTRUCTURE KEY MAP
1100-314	FUTURE TRANSPORT TRUNK INFRASTRUCTURE - GRID 1
1100-315	FUTURE TRANSPORT TRUNK INFRASTRUCTURE - GRID 2
1100-316	FUTURE TRANSPORT TRUNK INFRASTRUCTURE - GRID 3
1100-317	FUTURE TRANSPORT TRUNK INFRASTRUCTURE - GRID 4

LEGEND

TRANSPORT (ROADS) CATCHMENT AREAS

- DOUGLAS SHIRE SOUTH (TR1)
- DOUGLAS SHIRE NORTH (TR2)



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File: T:\1100 Douglas Shire Council LGIP\Drawings\TRANSPORT(E)\1100-301(E) TRANSPORT CATCHMENTS.dwg

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Revisions				
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Drawn	Designed
IM	RR

Client		DOUGLAS SHIRE COUNCIL			
Project		1100 DOUGLAS SHIRE COUNCIL LGIP			
Title		TRANSPORT (ROAD) INFRASTRUCTURE CATCHMENT AREAS			
Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.
RR	RR	R RANKINE		20/03/18	1100-301
					Revision
					E








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EXISTING TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

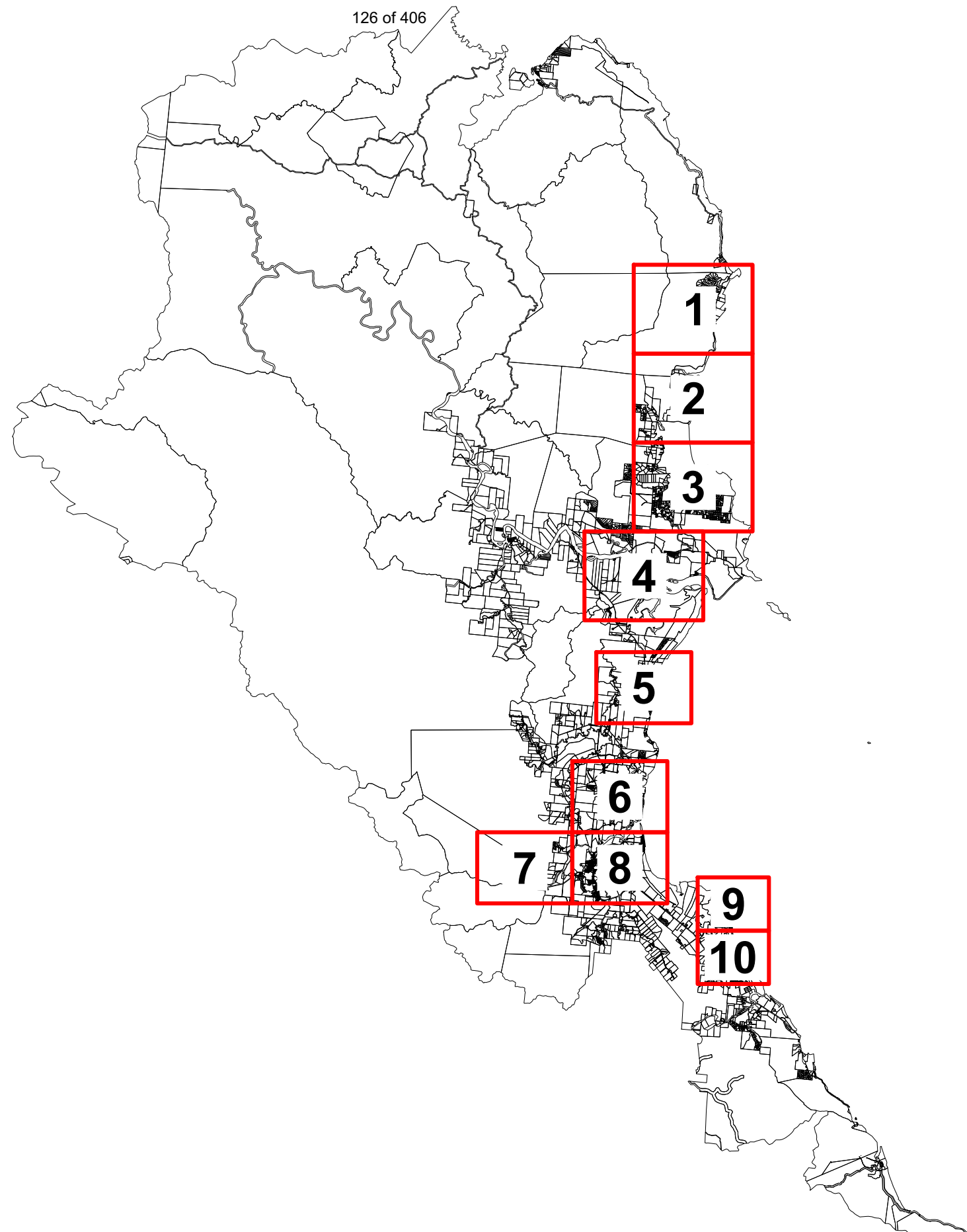
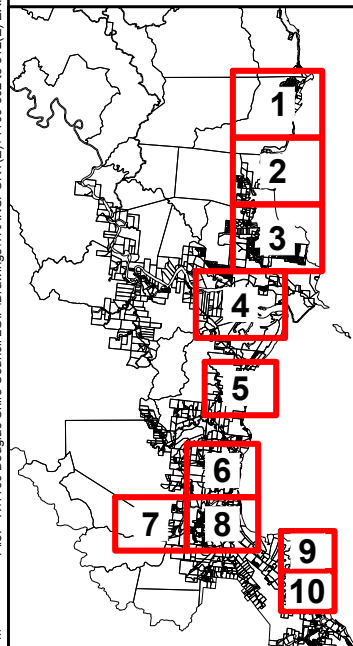
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-  SUB ARTERIAL (SCR)
-  URBAN MAJOR COLLECTOR
-  RURAL MAJOR COLLECTOR
-  URBAN MINOR COLLECTOR
-  RURAL MINOR COLLECTOR
-  ACCESS STREET

EXISTING INTERSECTIONS AND STRUCTURES

-  BRIDGE (SCR)
-  CULVERT (SCR)
-  ROUNDABOUT (SCR)
-  BRIDGE
-  CULVERT
-  FERRY LANDING
-  ROUNDABOUT



KEY MAP



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	Project							
	1100 DOUGLAS SHIRE COUNCIL LGIP							
	Title							
	EXISTING TRANSPORT TRUNK INFRASTRUCTURE KEY MAP							
Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision
IM	RR	RR	RR	R RANKINE		20/03/18	1100-302	E








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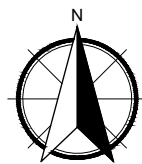
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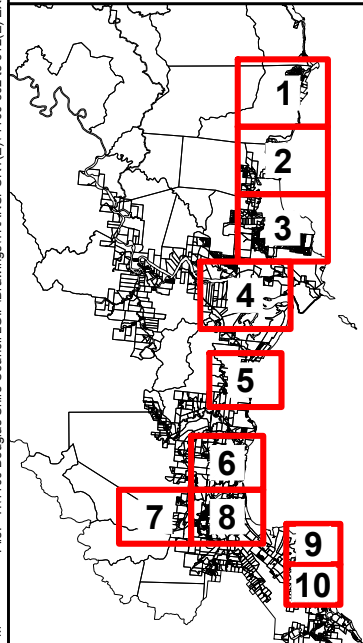
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-  URBAN MAJOR COLLECTOR
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-  URBAN MINOR COLLECTOR
-  RURAL MINOR COLLECTOR
-  ACCESS STREET

EXISTING INTERSECTIONS AND STRUCTURES

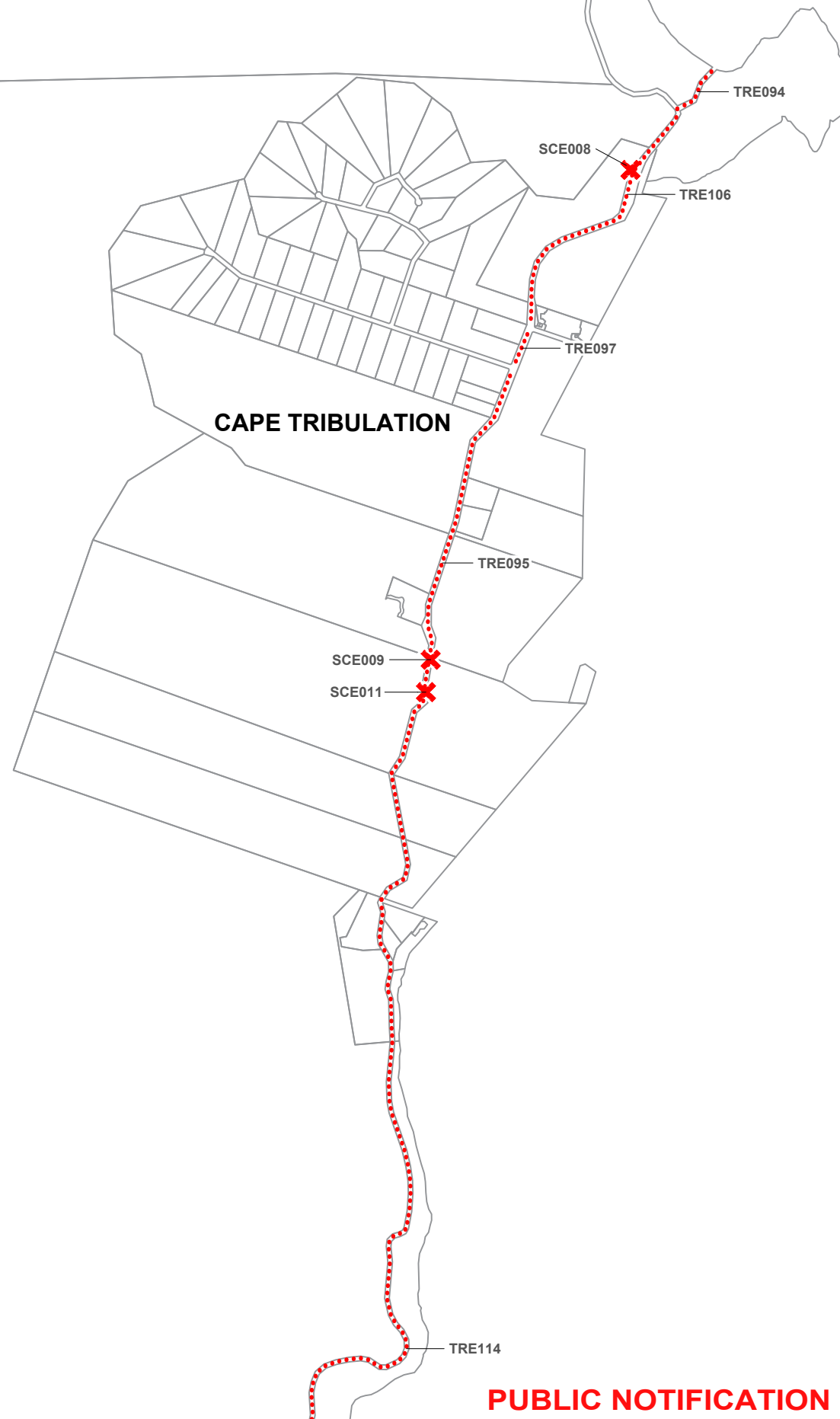
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-  CULVERT (SCR)
-  ROUNDABOUT (SCR)
-  BRIDGE
-  CULVERT
-  FERRY LANDING
-  ROUNDABOUT



KEY MAP



DOUGLAS SHIRE SOUTH (TR1)



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Client

DOUGLAS SHIRE COUNCIL

Project

1100 DOUGLAS SHIRE COUNCIL LGIP

Title

EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 1

Drawn

IM

Designed

RR

Drawing Check

RR

Design Check

RR

Approved

R RANKINE

RPEQ

Date

20/03/18

Drawing No.

1100-303

Revision








E

Revisions








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LEGEND

EXISTING TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

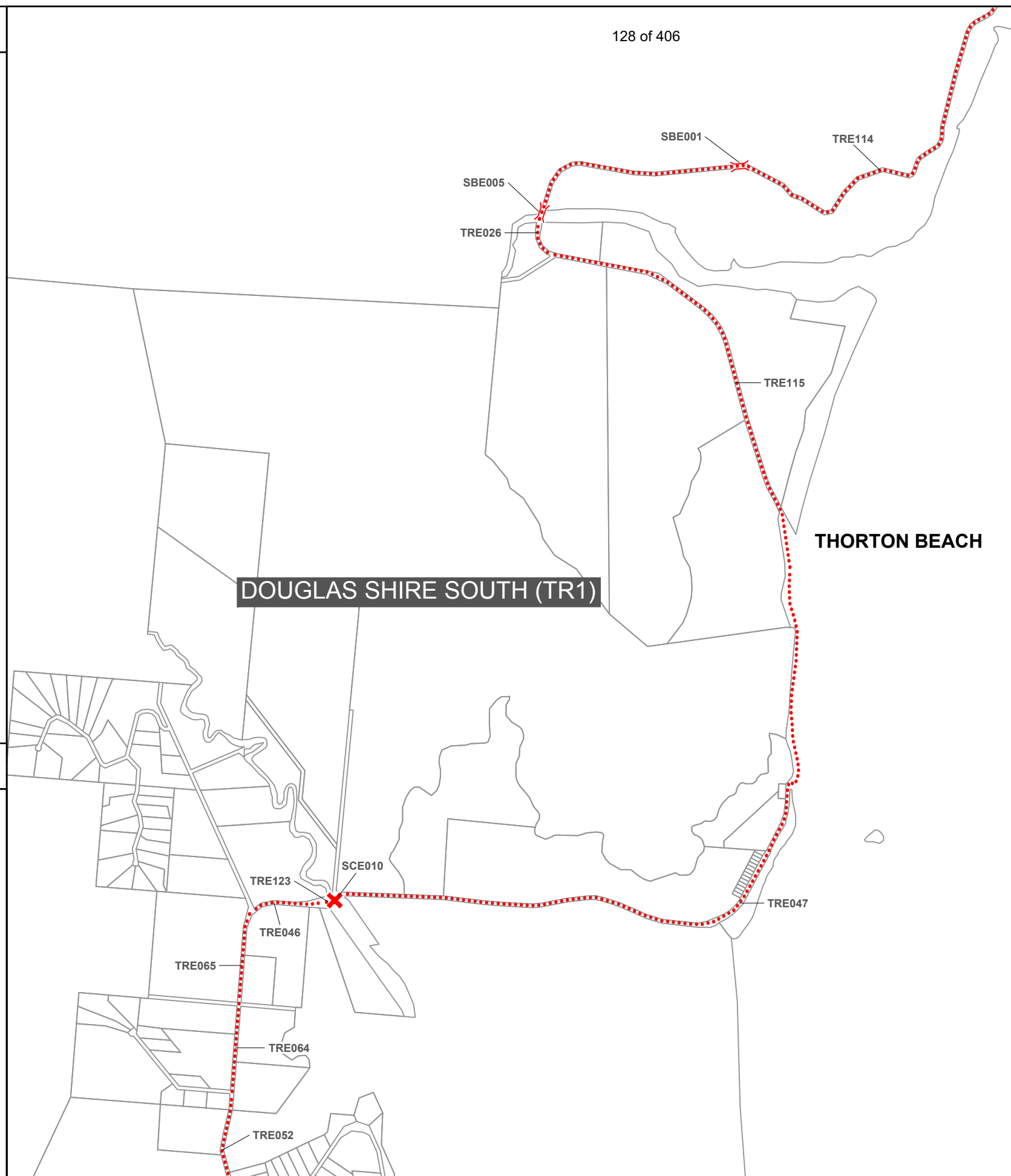
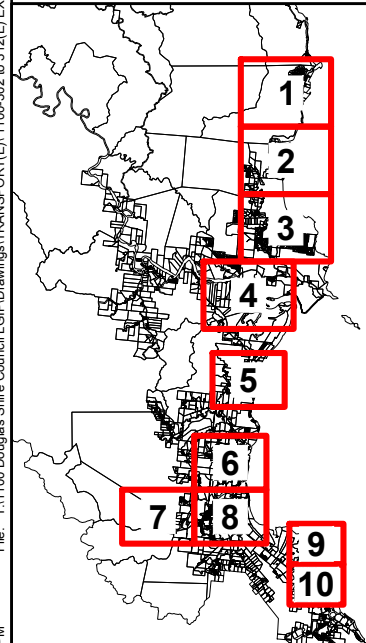
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-  SUB ARTERIAL (SCR)
-  URBAN MAJOR COLLECTOR
-  RURAL MAJOR COLLECTOR
-  URBAN MINOR COLLECTOR
-  RURAL MINOR COLLECTOR
-  ACCESS STREET

EXISTING INTERSECTIONS AND STRUCTURES

-  BRIDGE (SCR)
-  CULVERT (SCR)
-  ROUNDABOUT (SCR)
-  BRIDGE
-  CULVERT
-  FERRY LANDING
-  ROUNDABOUT



KEY MAP



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		Title EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 2	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved R RANKINE		RPEQ	Date 20/03/18
Drawing No. 1100-304		Revision E	

LEGEND

EXISTING TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

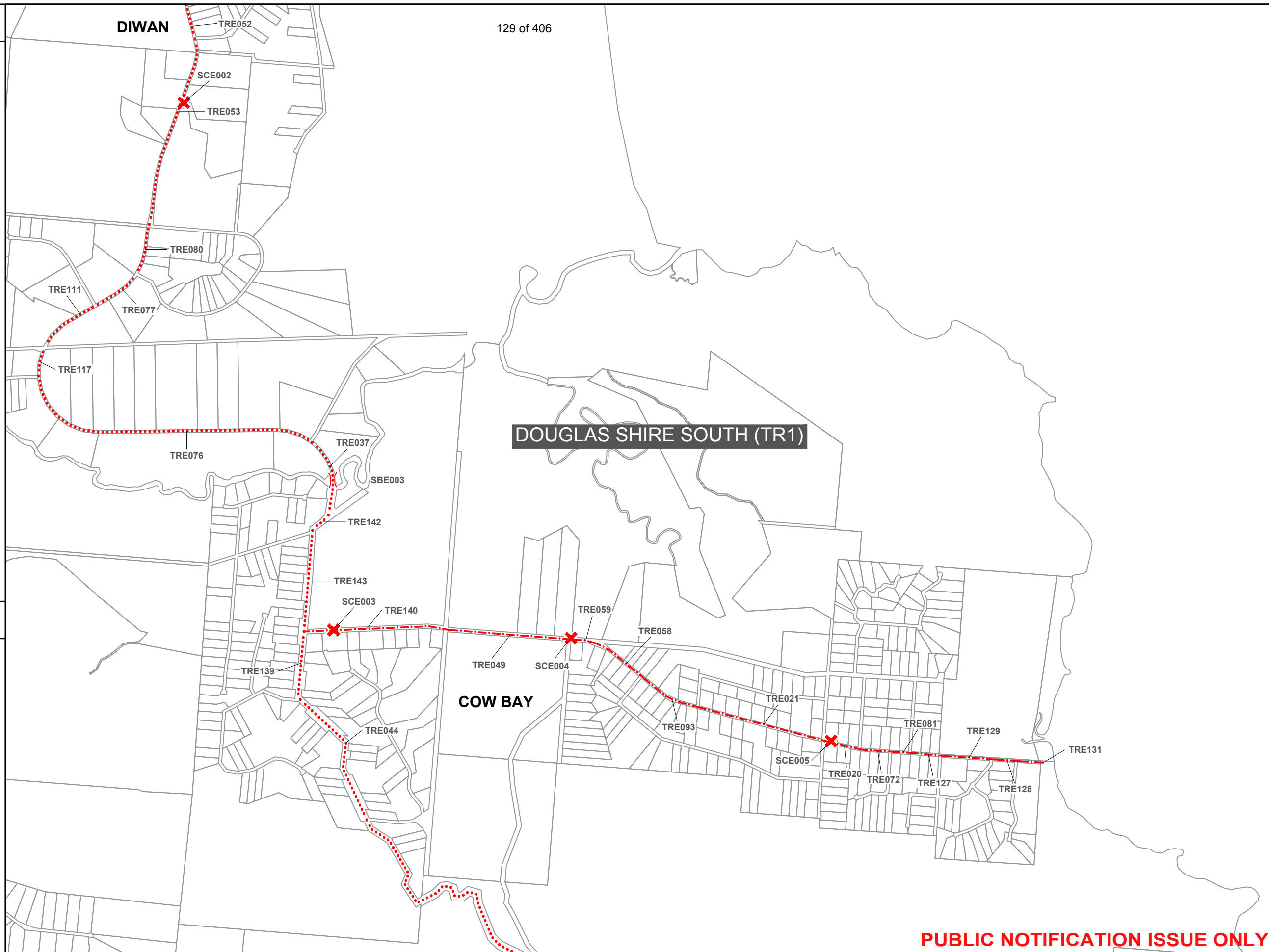
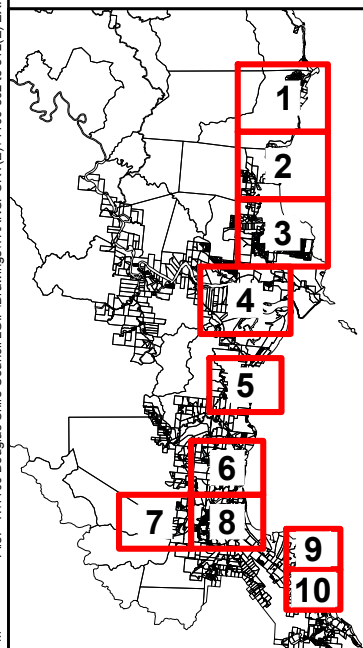
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- SUB ARTERIAL (SCR)
- URBAN MAJOR COLLECTOR
- RURAL MAJOR COLLECTOR
- URBAN MINOR COLLECTOR
- RURAL MINOR COLLECTOR
- ACCESS STREET

EXISTING INTERSECTIONS AND STRUCTURES

- BRIDGE (SCR)
- CULVERT (SCR)
- ROUNDABOUT (SCR)
- BRIDGE
- CULVERT
- FERRY LANDING
- ROUNDABOUT



KEY MAP



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Drawn IM		Title EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 3	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 20/03/18	Drawing No. 1100-305	Revision E

External References: TEC-TITLE-A3_a.dwg

LEGEND

EXISTING TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

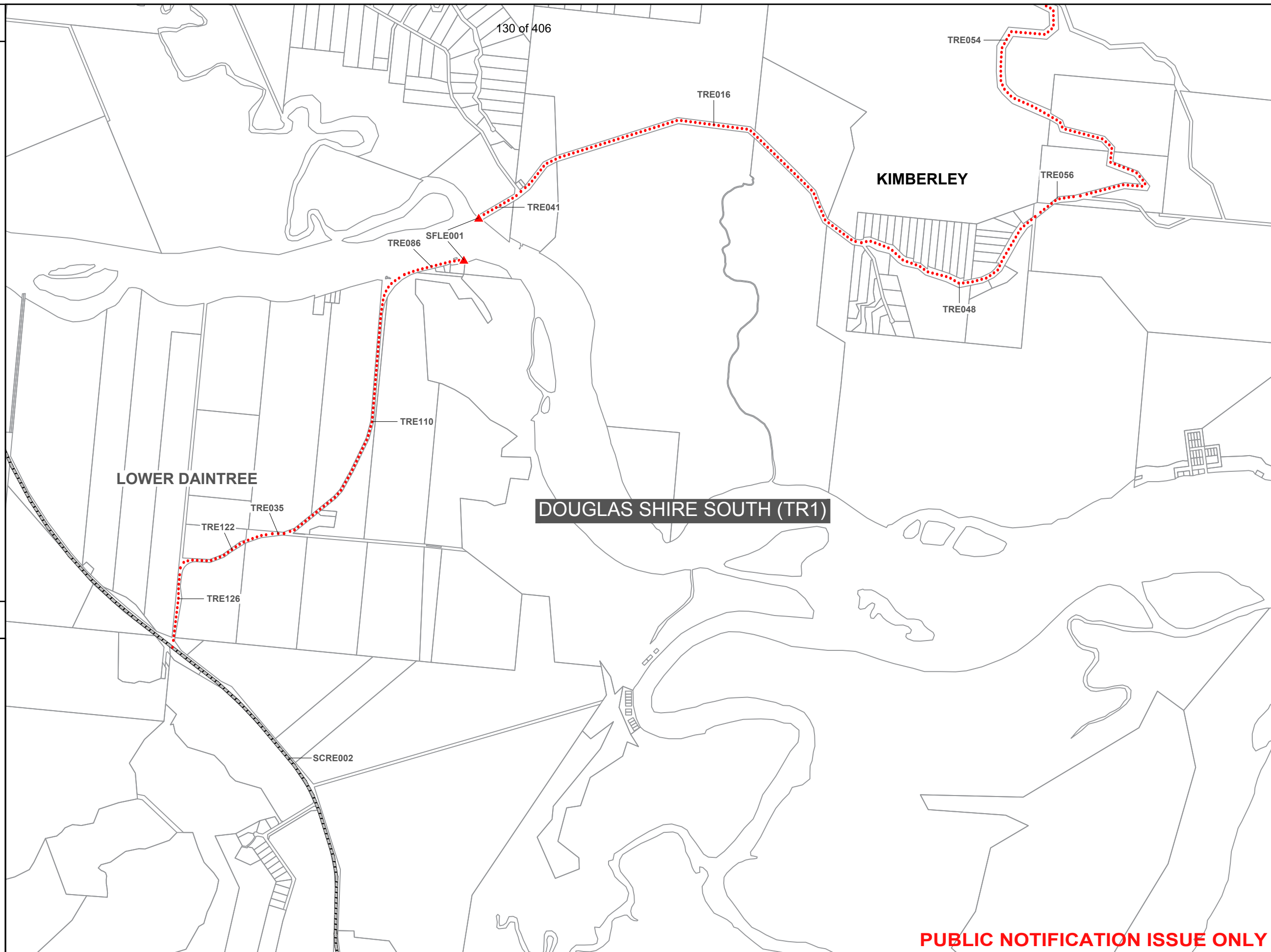
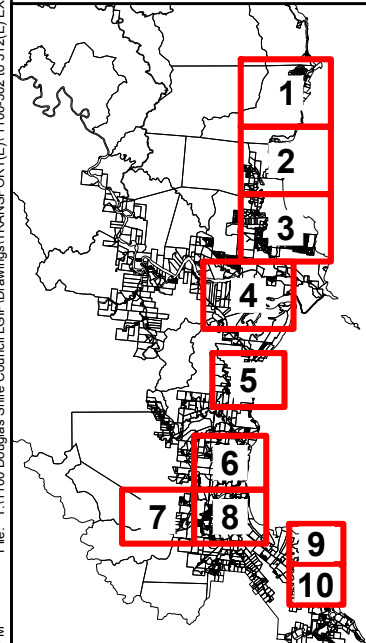
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- SUB ARTERIAL (SCR)
- URBAN MAJOR COLLECTOR
- RURAL MAJOR COLLECTOR
- URBAN MINOR COLLECTOR
- RURAL MINOR COLLECTOR
- ACCESS STREET

EXISTING INTERSECTIONS AND STRUCTURES

- BRIDGE (SCR)
- CULVERT (SCR)
- ROUNDABOUT (SCR)
- BRIDGE
- CULVERT
- FERRY LANDING
- ROUNDABOUT



KEY MAP



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		Title EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 4	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 20/03/18
Drawing No. 1100-306		Revision E	

External References: TEC-TITLE-A3_a.dwg

LEGEND

EXISTING TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

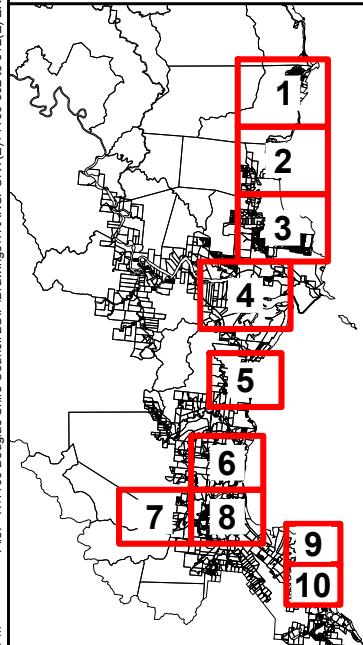
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- SUB ARTERIAL (SCR)
- URBAN MAJOR COLLECTOR
- RURAL MAJOR COLLECTOR
- URBAN MINOR COLLECTOR
- RURAL MINOR COLLECTOR
- ACCESS STREET

EXISTING INTERSECTIONS AND STRUCTURES

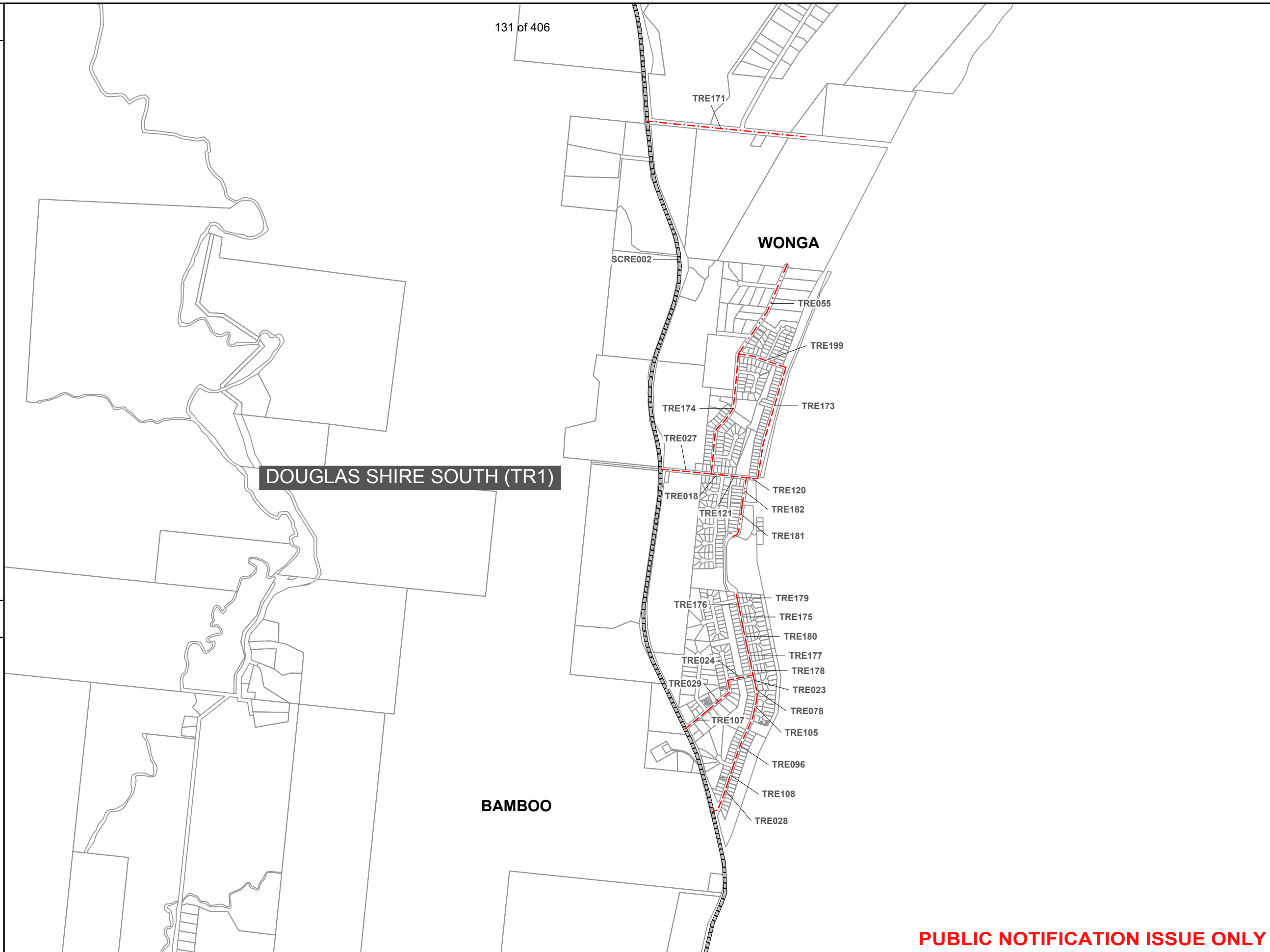
- BRIDGE (SCR)
- CULVERT (SCR)
- ROUNDABOUT (SCR)
- BRIDGE
- CULVERT
- FERRY LANDING
- ROUNDABOUT



KEY MAP



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Title EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 5		Title	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 20/03/18
Drawing No. 1100-307		Revision E	








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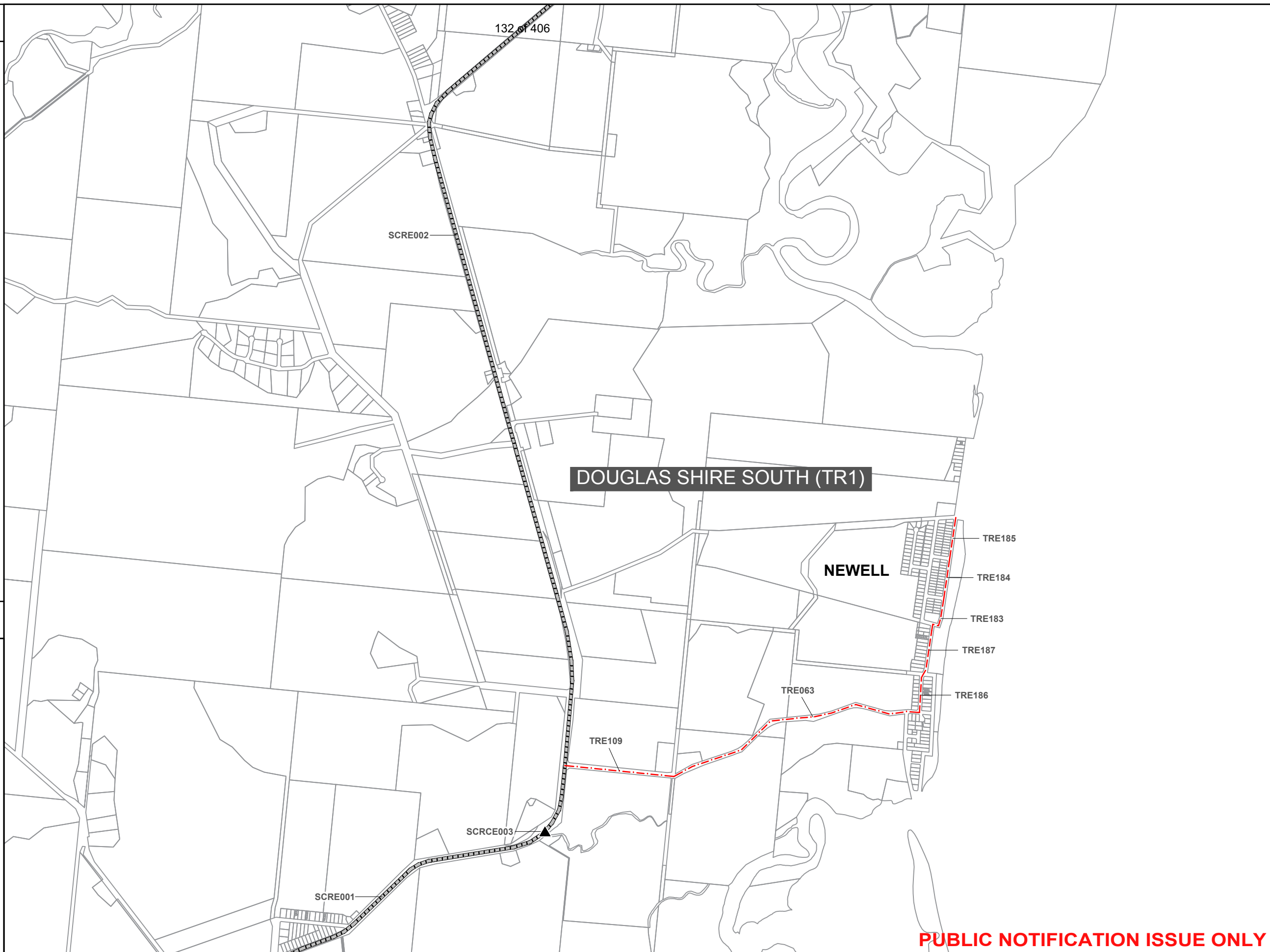
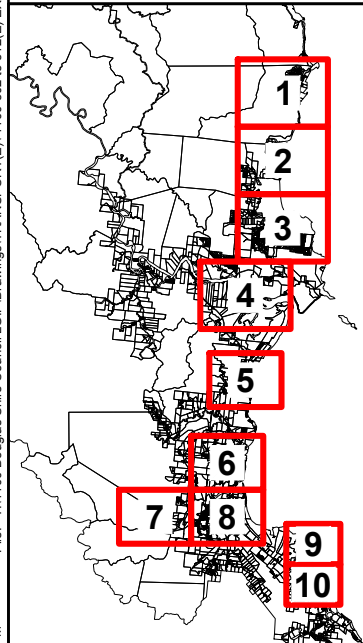
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-  SUB ARTERIAL (SCR)
-  URBAN MAJOR COLLECTOR
-  RURAL MAJOR COLLECTOR
-  URBAN MINOR COLLECTOR
-  RURAL MINOR COLLECTOR
-  ACCESS STREET

EXISTING INTERSECTIONS AND STRUCTURES

-  BRIDGE (SCR)
-  CULVERT (SCR)
-  ROUNDABOUT (SCR)
-  BRIDGE
-  CULVERT
-  FERRY LANDING
-  ROUNDABOUT



KEY MAP



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Title EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 6		Date 20/03/18	
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Approved <i>R RANKINE</i>		RPEQ	Revision E
Drawing No. 1100-308		Date 20/03/18	








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LEGEND

EXISTING TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

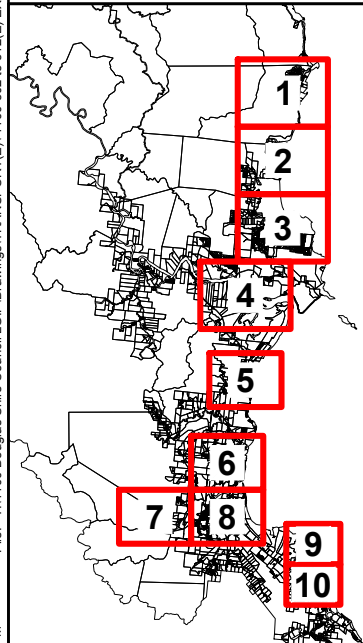
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-  SUB ARTERIAL (SCR)
-  URBAN MAJOR COLLECTOR
-  RURAL MAJOR COLLECTOR
-  URBAN MINOR COLLECTOR
-  RURAL MINOR COLLECTOR
-  ACCESS STREET

EXISTING INTERSECTIONS AND STRUCTURES

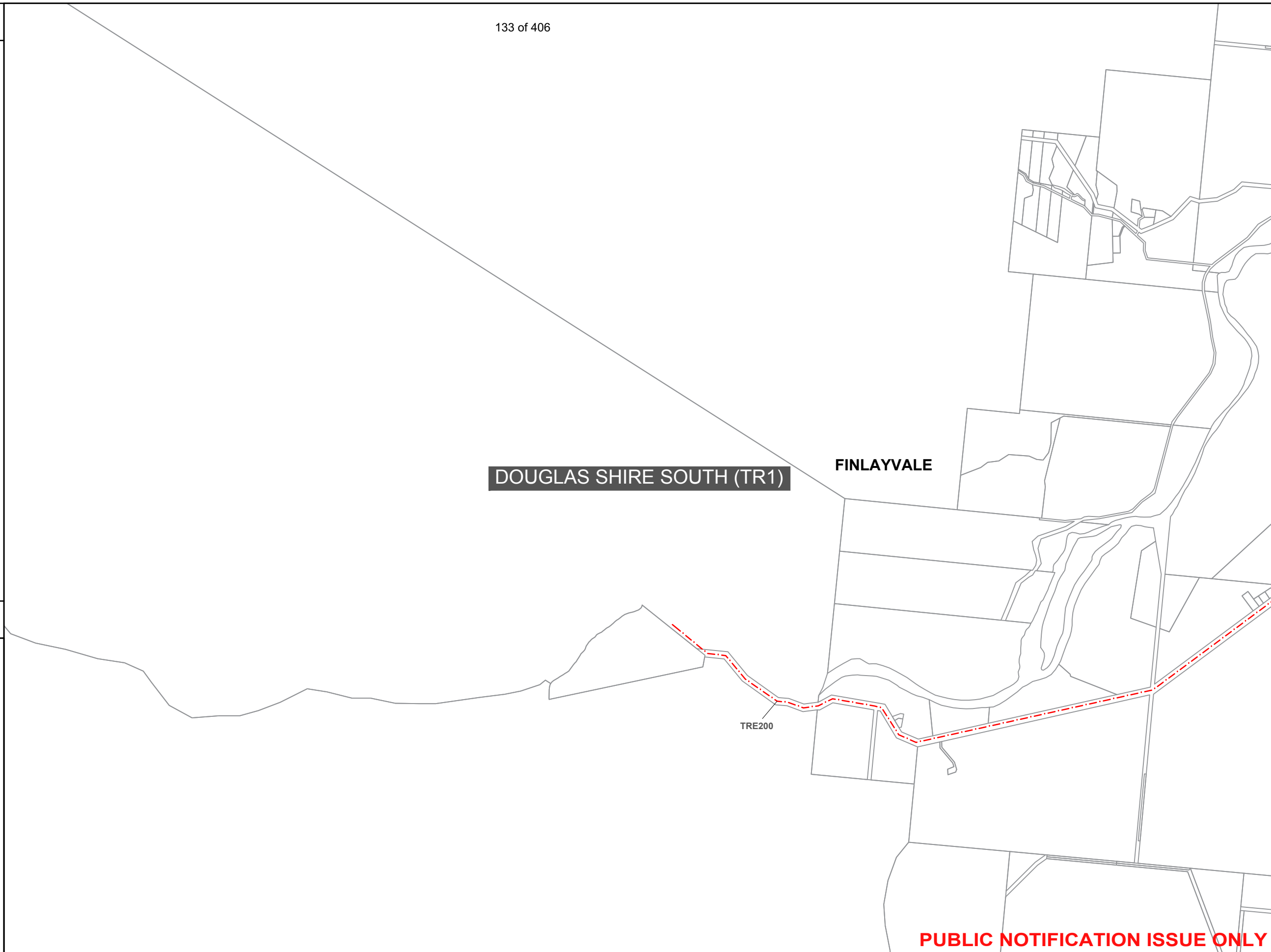
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-  CULVERT (SCR)
-  ROUNDABOUT (SCR)
-  BRIDGE
-  CULVERT
-  FERRY LANDING
-  ROUNDABOUT



KEY MAP



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






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Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		Date 20/03/18	Drawing No. 1100-309
Revision E			

LEGEND

EXISTING TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

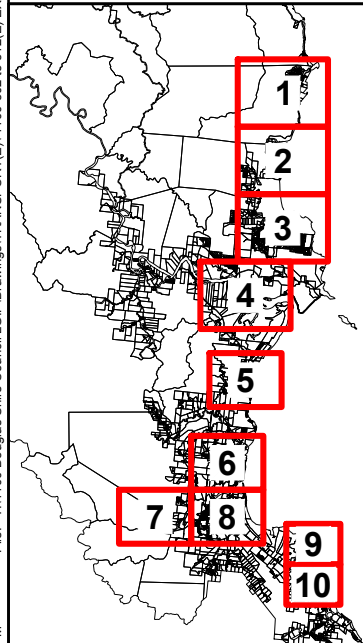
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-  SUB ARTERIAL (SCR)
-  URBAN MAJOR COLLECTOR
-  RURAL MAJOR COLLECTOR
-  URBAN MINOR COLLECTOR
-  RURAL MINOR COLLECTOR
-  ACCESS STREET

EXISTING INTERSECTIONS AND STRUCTURES

-  BRIDGE (SCR)
-  CULVERT (SCR)
-  ROUNDABOUT (SCR)
-  BRIDGE
-  CULVERT
-  FERRY LANDING
-  ROUNDABOUT

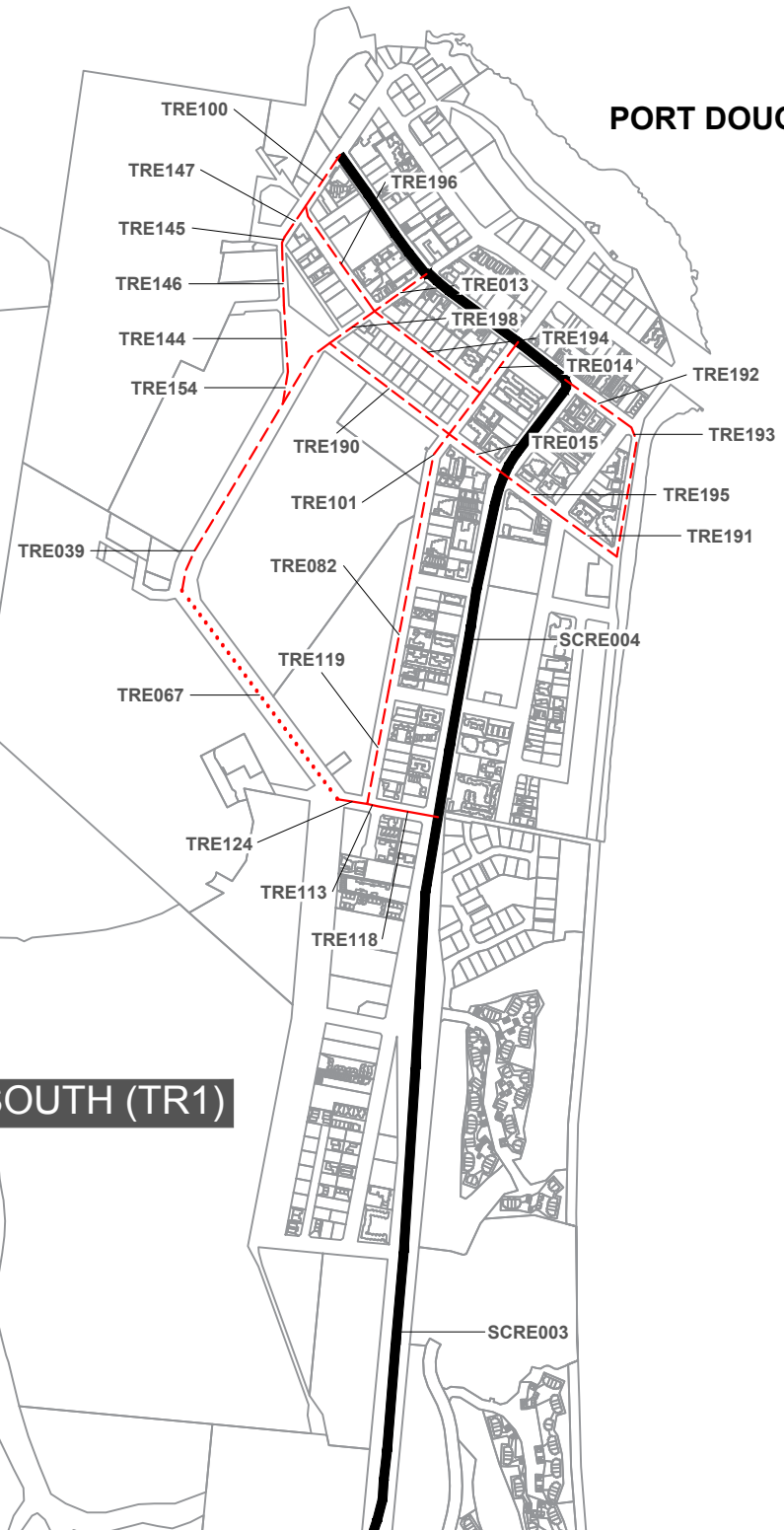


KEY MAP



DOUGLAS SHIRE SOUTH (TR1)

PORT DOUGLAS



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		Title EXISTING TRANSPORT TRUNK INFRASTRUCTURE - GRID 9	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved R RANKINE		RPEQ	Date 20/03/18
Drawing No. 1100-311		Revision E	

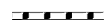




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External References: TEC-TITLE-A3_a.dwg

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EXISTING TRANSPORT (SCR) TRUNK INFRASTRUCTURE

-  HIGHWAY (SCR)
-  SUB ARTERIAL (SCR)
-  BRIDGE (SCR)
-  CULVERT (SCR)
-  ROUNDABOUT (SCR)

FUTURE TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

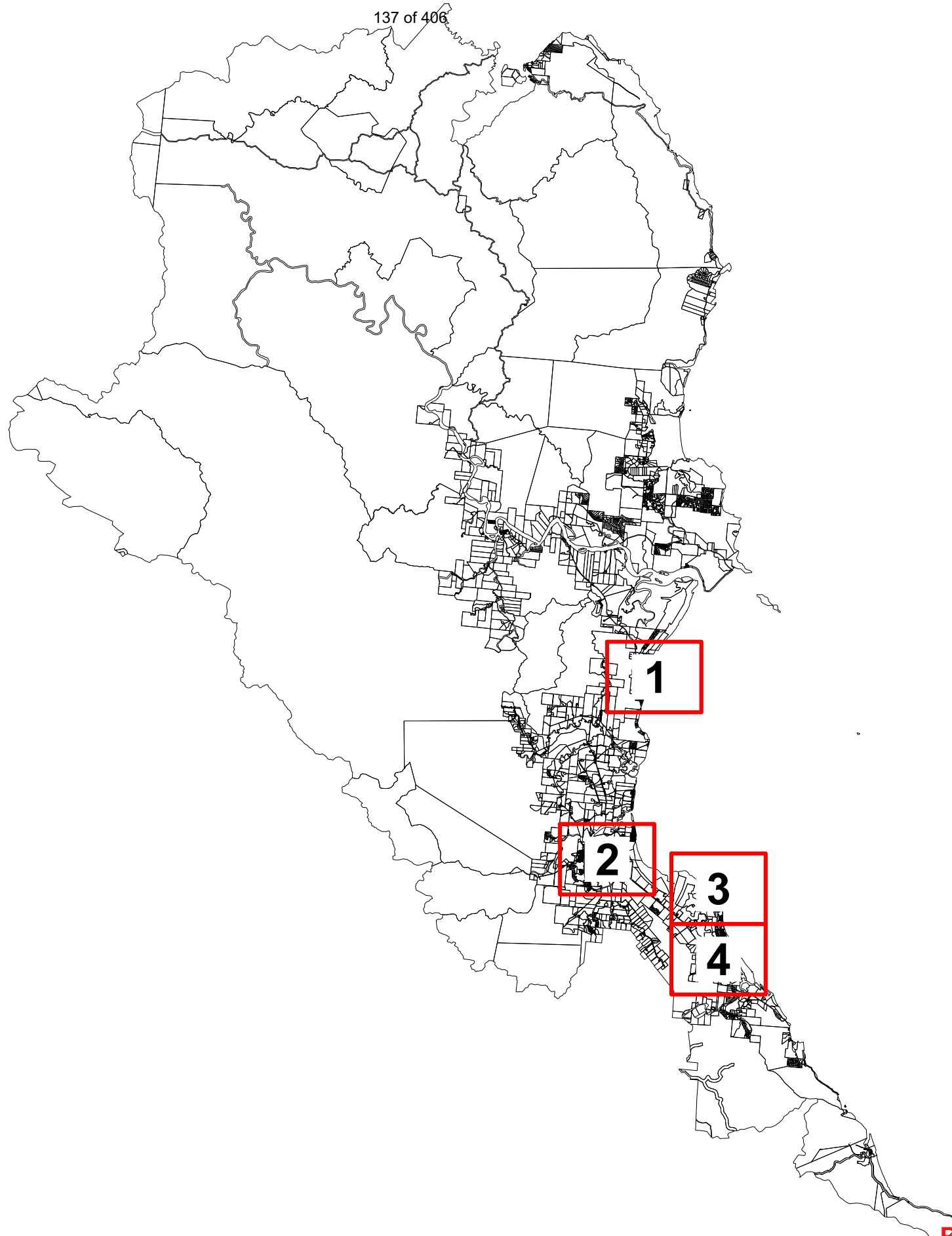
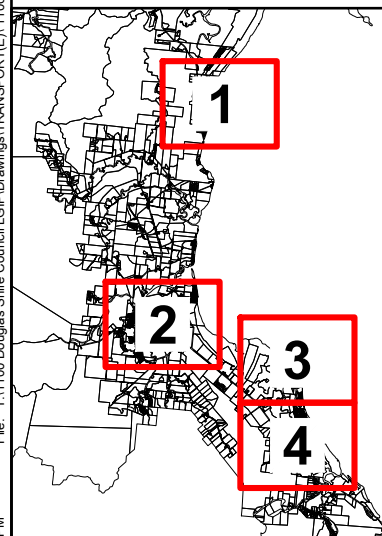
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-  URBAN MAJOR COLLECTOR
-  RURAL MAJOR COLLECTOR
-  URBAN MINOR COLLECTOR
-  RURAL MINOR COLLECTOR
-  DRAINAGE LINE
-  ROAD UPGRADE
-  AREAS UNDER INVESTIGATION

FUTURE INTERSECTIONS AND STRUCTURES

-  BRIDGE
-  CULVERT
-  PRIORITY INTERSECTION



KEY MAP



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IM	RR

Client		DOUGLAS SHIRE COUNCIL			
Project		1100 DOUGLAS SHIRE COUNCIL LGIP			
Title		FUTURE TRANSPORT TRUNK INFRASTRUCTURE KEY MAP			
Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.
RR	RR	R RANKINE		20/03/18	1100-313
					Revision
					E

External References: TEC-TITLE-A3_a.dwg

LEGEND

EXISTING TRANSPORT (SCR) TRUNK INFRASTRUCTURE

- HIGHWAY (SCR)
- SUB ARTERIAL (SCR)
- BRIDGE (SCR)
- CULVERT (SCR)
- ROUNDABOUT (SCR)

FUTURE TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

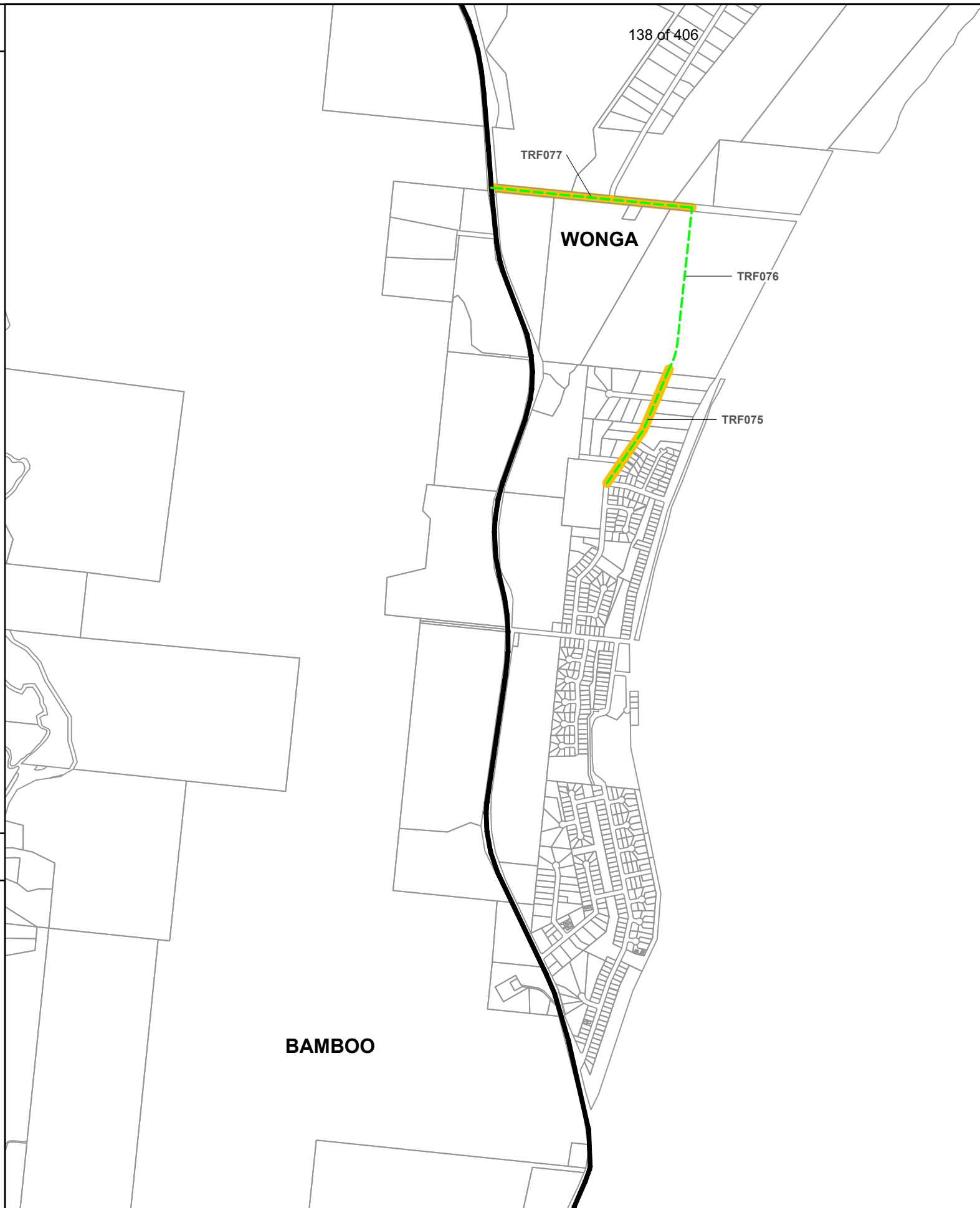
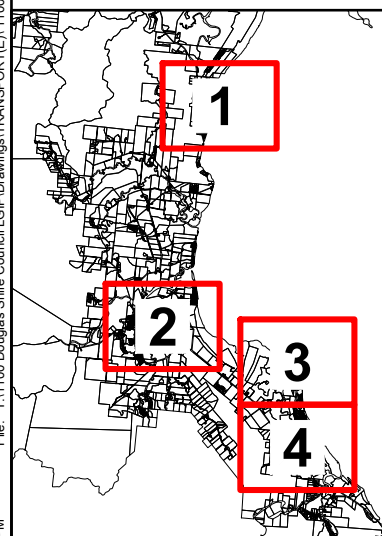
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- URBAN MAJOR COLLECTOR
- RURAL MAJOR COLLECTOR
- URBAN MINOR COLLECTOR
- RURAL MINOR COLLECTOR
- DRAINAGE LINE
- ROAD UPGRADE
- AREAS UNDER INVESTIGATION

FUTURE INTERSECTIONS AND STRUCTURES

- BRIDGE
- CULVERT
- PRIORITY INTERSECTION



KEY MAP



DOUGLAS SHIRE SOUTH (TR1)

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GRID: 1



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Scale (A3 size) 1:20000		Client DOUGLAS SHIRE COUNCIL	
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		Title FUTURE TRANSPORT TRUNK INFRASTRUCTURE - GRID 1	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved R RANKINE		RPEQ	Date 20/03/18
Drawing No. 1100-314		Revision E	

LEGEND

EXISTING TRANSPORT (SCR) TRUNK INFRASTRUCTURE

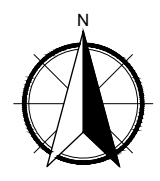
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- CULVERT (SCR)
- ROUNDABOUT (SCR)

FUTURE TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

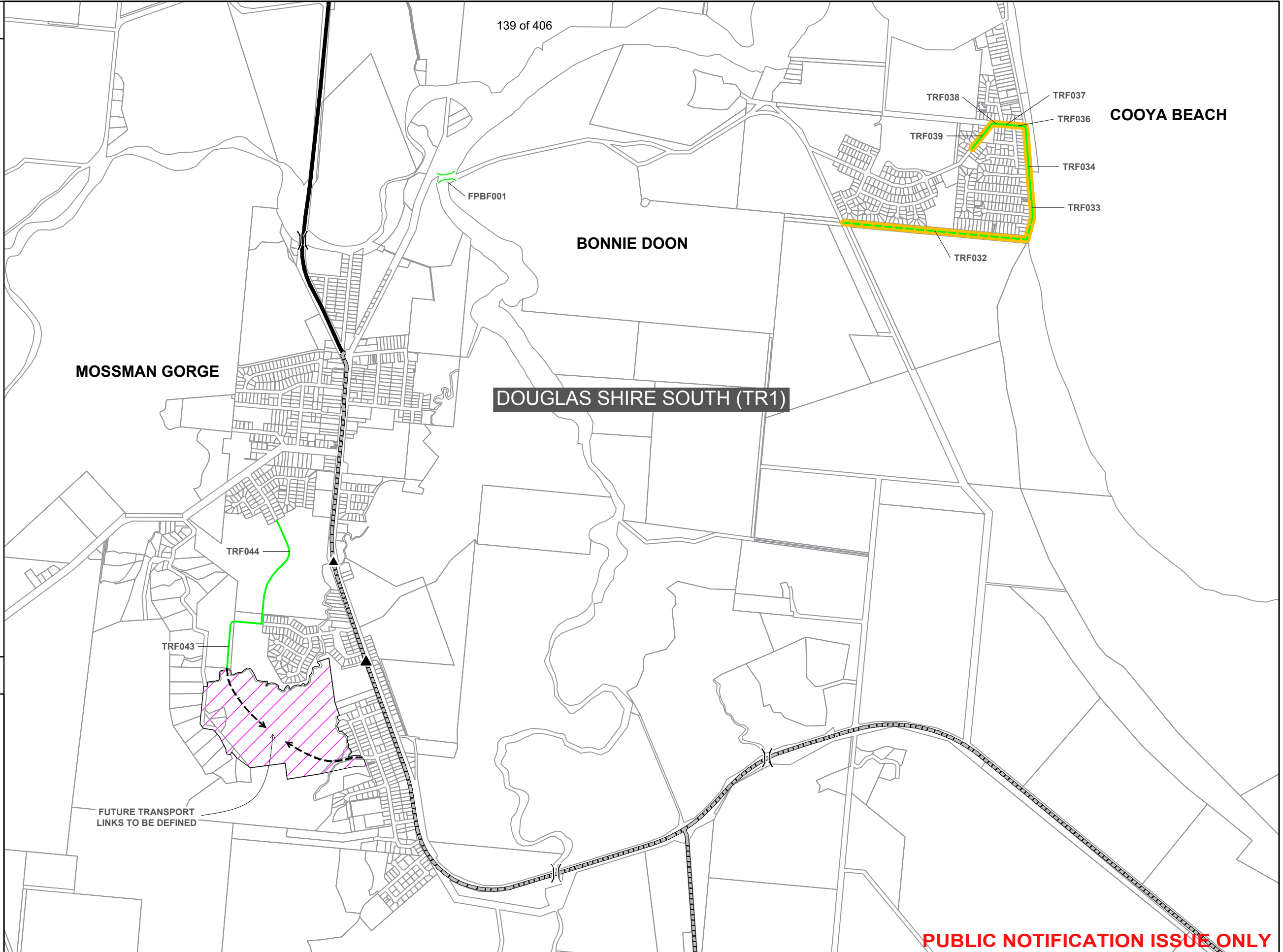
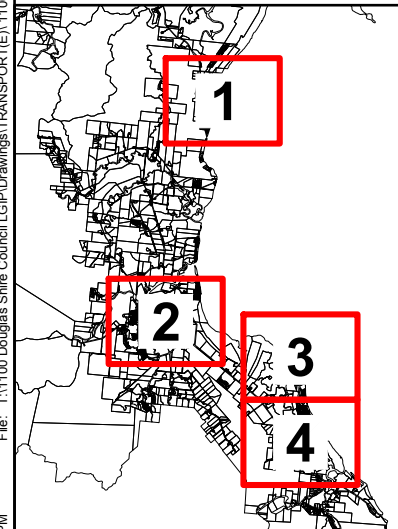
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- URBAN MAJOR COLLECTOR
- RURAL MAJOR COLLECTOR
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- RURAL MINOR COLLECTOR
- DRAINAGE LINE
- ROAD UPGRADE
- AREAS UNDER INVESTIGATION

FUTURE INTERSECTIONS AND STRUCTURES

- BRIDGE
- CULVERT
- PRIORITY INTERSECTION



KEY MAP



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Revisions				
No.	Description	Reviewed	Approved	Date
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Drawn IM		Title FUTURE TRANSPORT TRUNK INFRASTRUCTURE - GRID 2	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 20/03/18	Drawing No. 1100-315	Revision E

External References: TEC-TITLE-A3_a.dwg

LEGEND

EXISTING TRANSPORT (SCR) TRUNK INFRASTRUCTURE

- HIGHWAY (SCR)
- SUB ARTERIAL (SCR)
- BRIDGE (SCR)
- CULVERT (SCR)
- ROUNDABOUT (SCR)

FUTURE TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

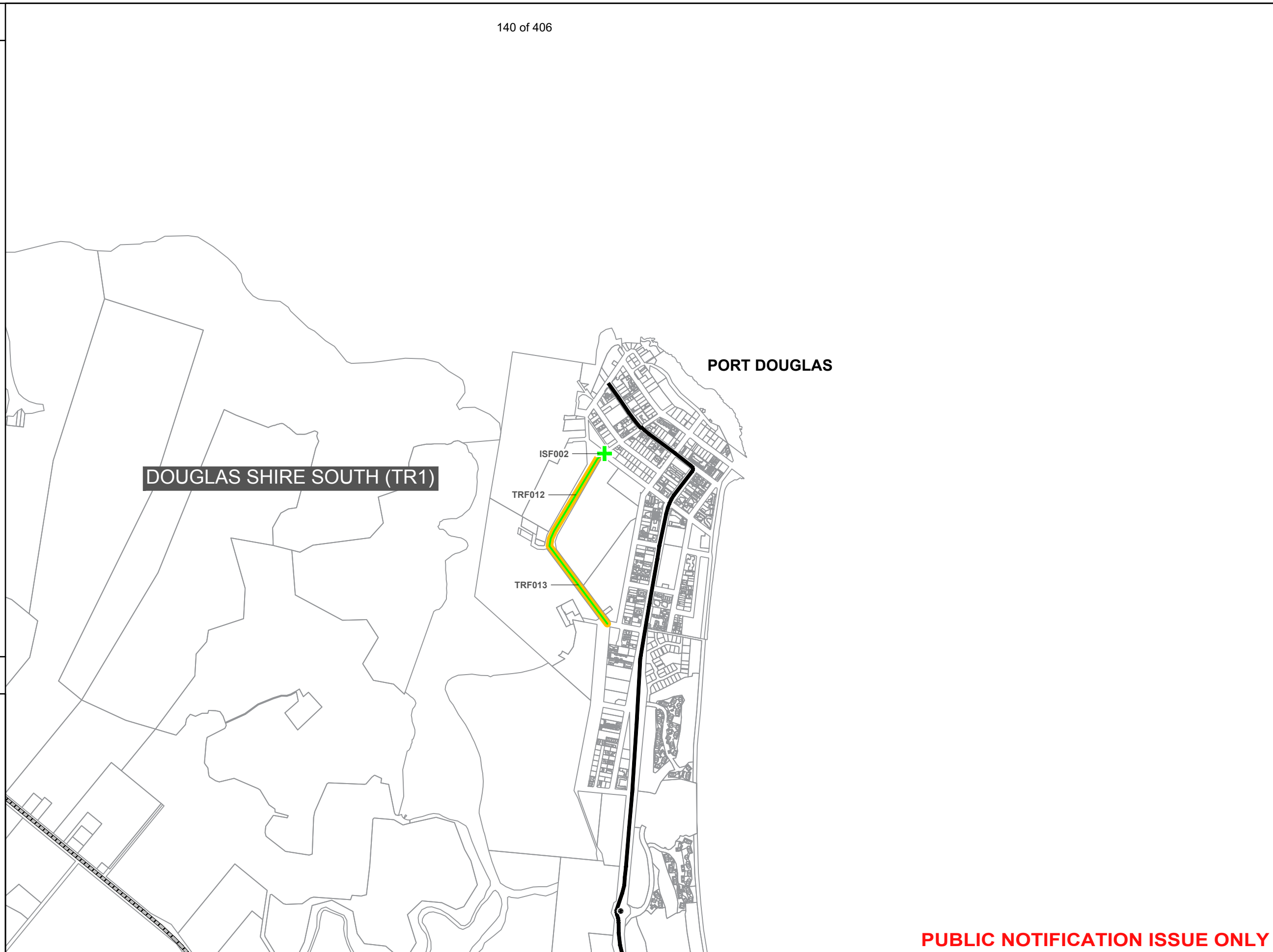
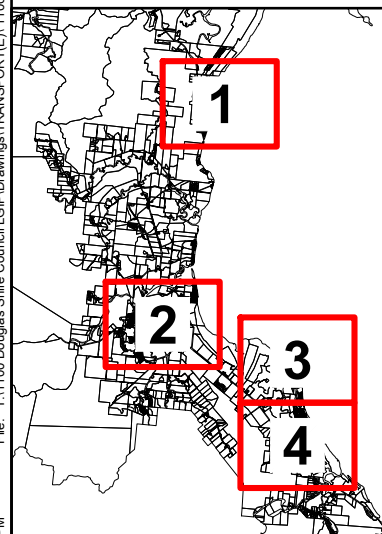
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- URBAN MAJOR COLLECTOR
- RURAL MAJOR COLLECTOR
- URBAN MINOR COLLECTOR
- RURAL MINOR COLLECTOR
- DRAINAGE LINE
- ROAD UPGRADE
- AREAS UNDER INVESTIGATION

FUTURE INTERSECTIONS AND STRUCTURES

- BRIDGE
- CULVERT
- PRIORITY INTERSECTION



KEY MAP



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		Title FUTURE TRANSPORT TRUNK INFRASTRUCTURE - GRID 3	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved R RANKINE		RPEQ	Date 20/03/18
Drawing No. 1100-316		Revision E	

LEGEND

EXISTING TRANSPORT (SCR) TRUNK INFRASTRUCTURE

- HIGHWAY (SCR)
- SUB ARTERIAL (SCR)
- BRIDGE (SCR)
- CULVERT (SCR)
- ROUNDABOUT (SCR)

FUTURE TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

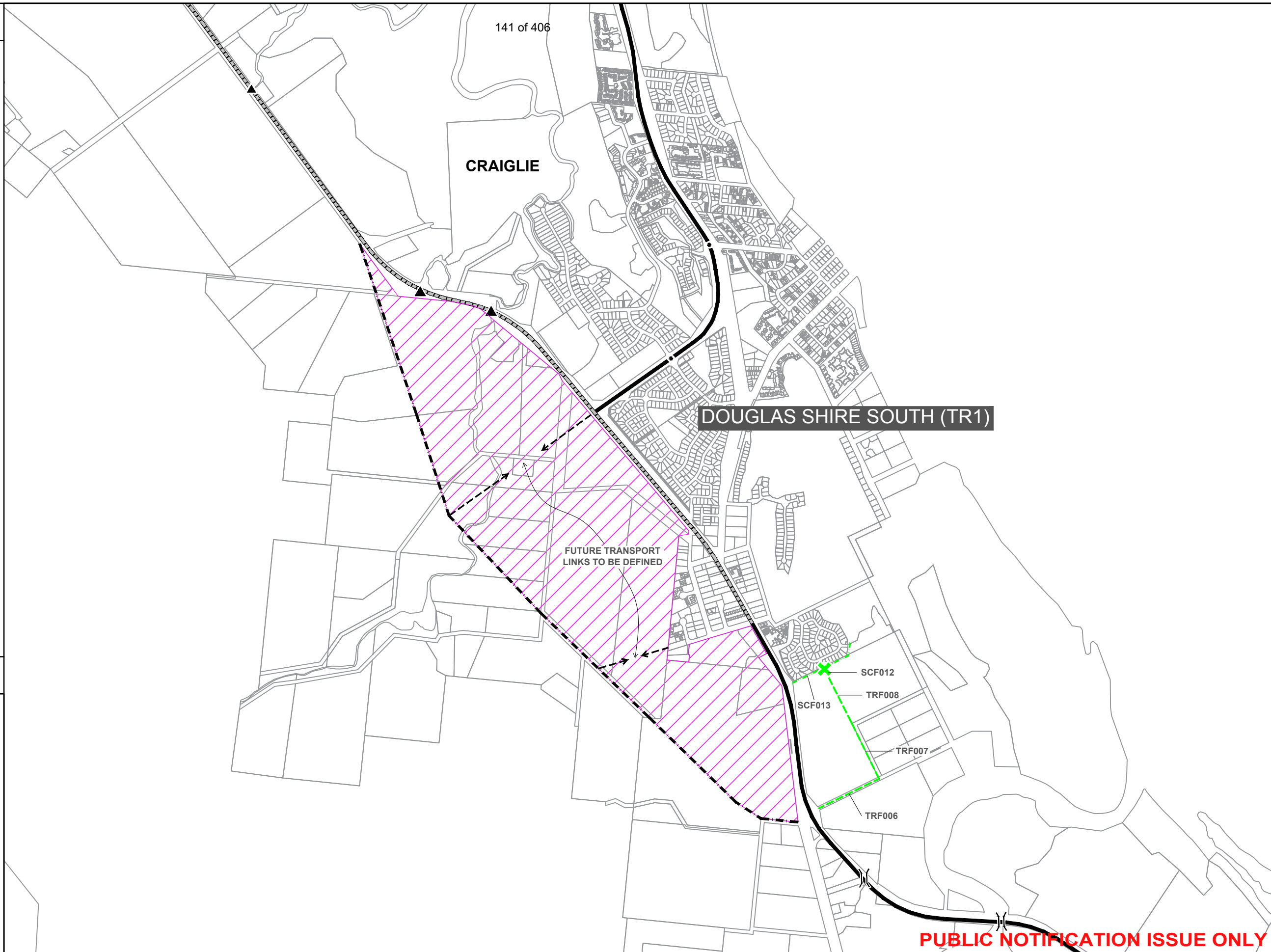
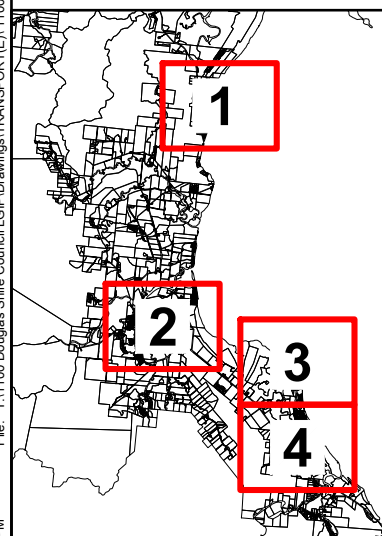
- SUB ARTERIAL
- URBAN MAJOR COLLECTOR
- RURAL MAJOR COLLECTOR
- URBAN MINOR COLLECTOR
- RURAL MINOR COLLECTOR
- DRAINAGE LINE
- ROAD UPGRADE
- AREAS UNDER INVESTIGATION
- POTENTIAL FUTURE TRANSPORT CORRIDOR

FUTURE INTERSECTIONS AND STRUCTURES

- BRIDGE
- CULVERT
- PRIORITY INTERSECTION



KEY MAP



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Revisions				
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Title FUTURE TRANSPORT TRUNK INFRASTRUCTURE - GRID 4		Approved <i>R RANKINE</i>	
Drawn IM	Designed RR	Drawing Check RR	Date 20/03/18
Drawing No. 1100-317		Revision E	

External References: TEC-TITLE-A3_a.dwg



LOCAL GOVERNMENT INFRASTRUCTURE PLANS (TRUNK PATH INFRASTRUCTURE) *for* DOUGLAS SHIRE COUNCIL

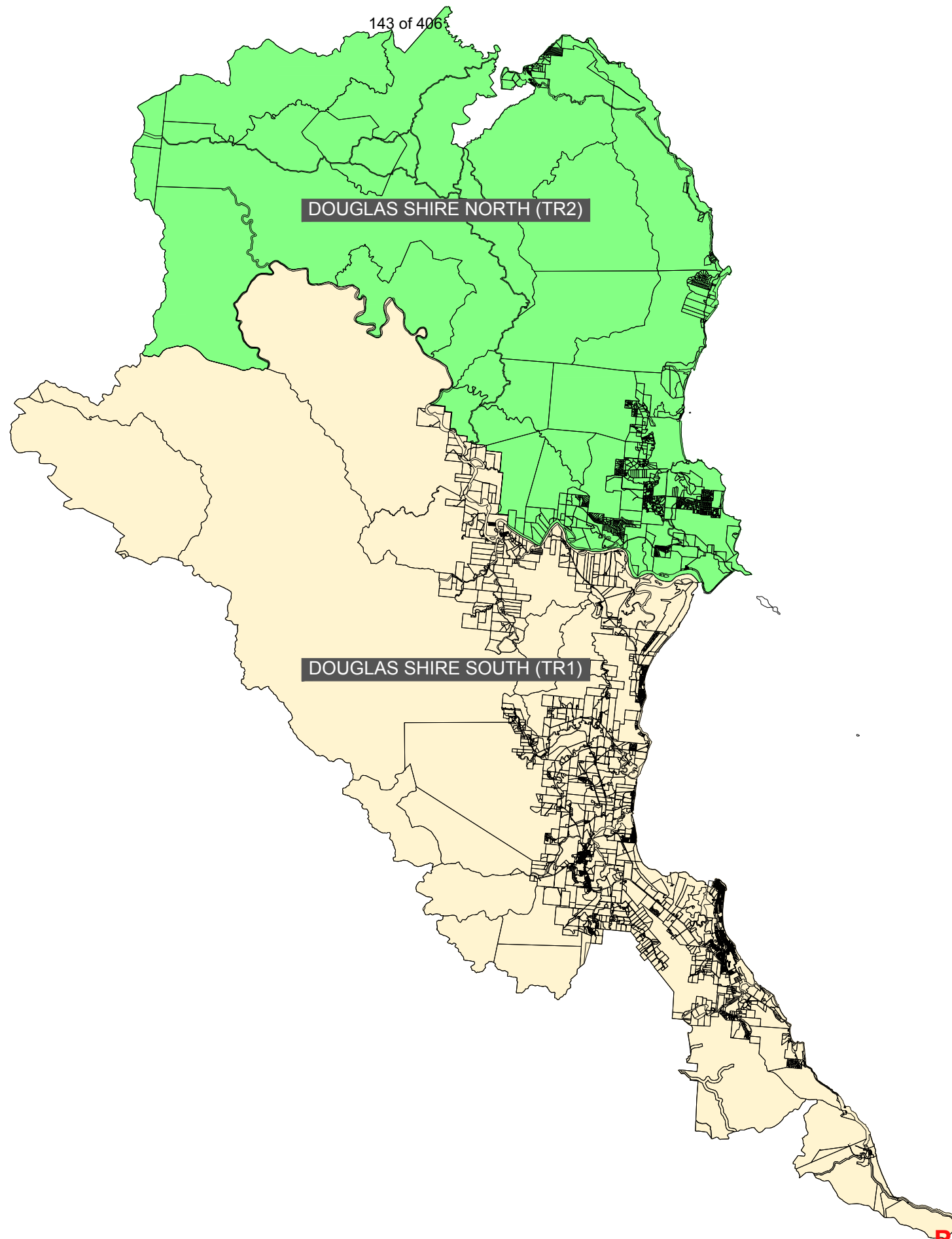
SCHEDULE OF PROJECT DRAWINGS

1100-400	DRAWING INDEX
1100-401	TRUNK PATH INFRASTRUCTURE CATCHMENT AREAS
1100-402	TRUNK PATH INFRASTRUCTURE KEY MAP
1100-403	TRUNK PATH INFRASTRUCTURE - GRID 1
1100-404	TRUNK PATH INFRASTRUCTURE - GRID 2
1100-405	TRUNK PATH INFRASTRUCTURE - GRID 3
1100-406	TRUNK PATH INFRASTRUCTURE - GRID 4
1100-407	TRUNK PATH INFRASTRUCTURE - GRID 5
1100-408	TRUNK PATH INFRASTRUCTURE - GRID 6
1100-409	TRUNK PATH INFRASTRUCTURE - GRID 7
1100-410	TRUNK PATH INFRASTRUCTURE - GRID 8
1100-411	TRUNK PATH INFRASTRUCTURE - GRID 9
1100-412	TRUNK PATH INFRASTRUCTURE - GRID 10
1100-413	TRUNK PATH INFRASTRUCTURE - GRID 11
1100-414	TRUNK PATH INFRASTRUCTURE - GRID 12
1100-415	TRUNK PATH INFRASTRUCTURE - GRID 13
1100-416	TRUNK PATH INFRASTRUCTURE - GRID 14
1100-417	TRUNK PATH INFRASTRUCTURE - GRID 15

LEGEND

TRUNK PATH INFRASTRUCTURE CATCHMENT AREAS

- DOUGLAS SHIRE SOUTH (TR1)
- DOUGLAS SHIRE NORTH (TR2)



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Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		TRUNK PATH INFRASTRUCTURE CATCHMENT AREAS	
Drawing Check	Design Check	Approved	RPEQ
<i>RR</i>	<i>RR</i>	<i>R RANKINE</i>	
Date	Drawing No.	Revision	
23/03/18	1100-401	C	

External References: TEC-TITLE-A3_a.dwg

LEGEND

TRUNK PATH INFRASTRUCTURE

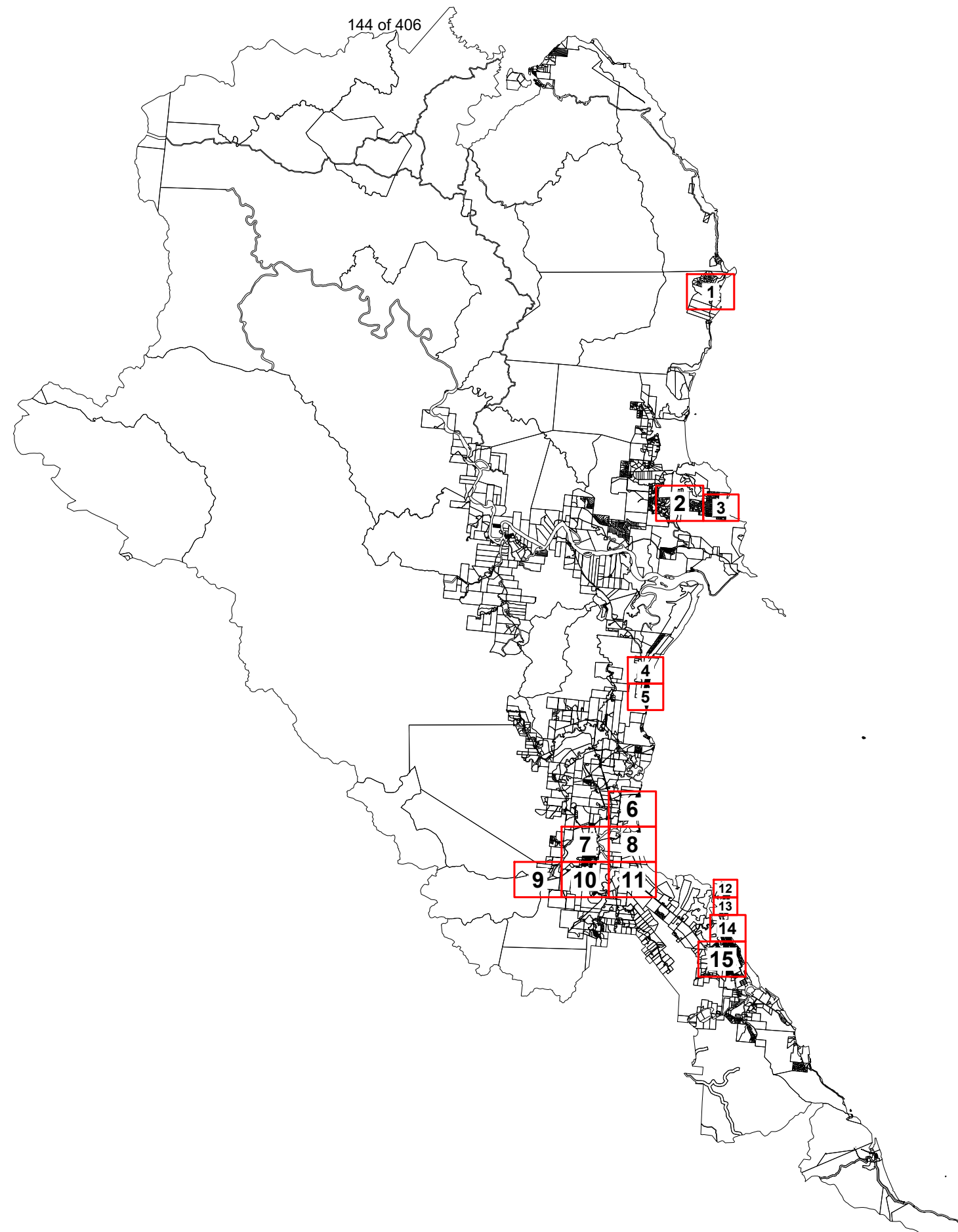
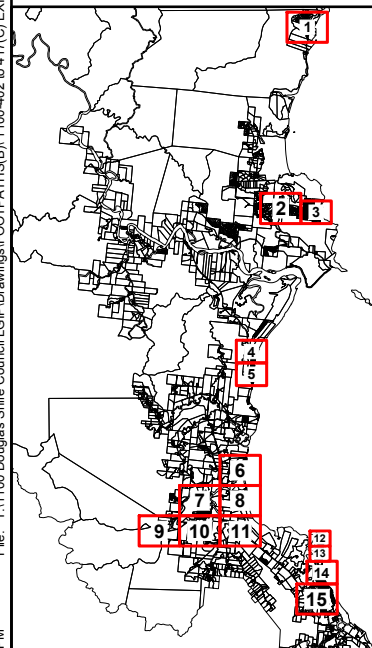
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
-)) PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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		1100 DOUGLAS SHIRE COUNCIL LGIP	
		Title	
		TRUNK PATH INFRASTRUCTURE KEY MAP	
Drawn	Designed	Drawing Check	Design Check
IM	RR	RR	RR
Approved		RPEQ	Date
R RANKINE			23/03/18
Drawing No.		Revision	
1100-402		C	

LEGEND

TRUNK PATH INFRASTRUCTURE

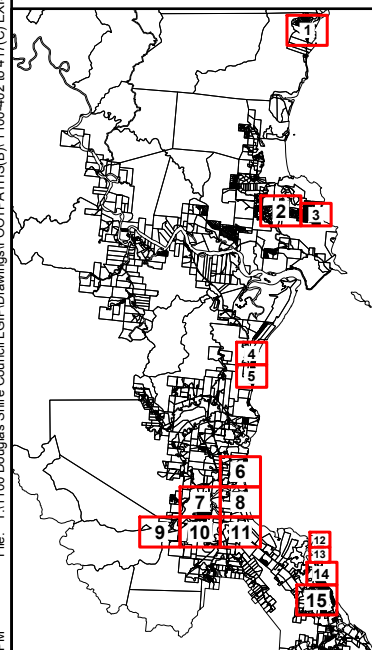
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

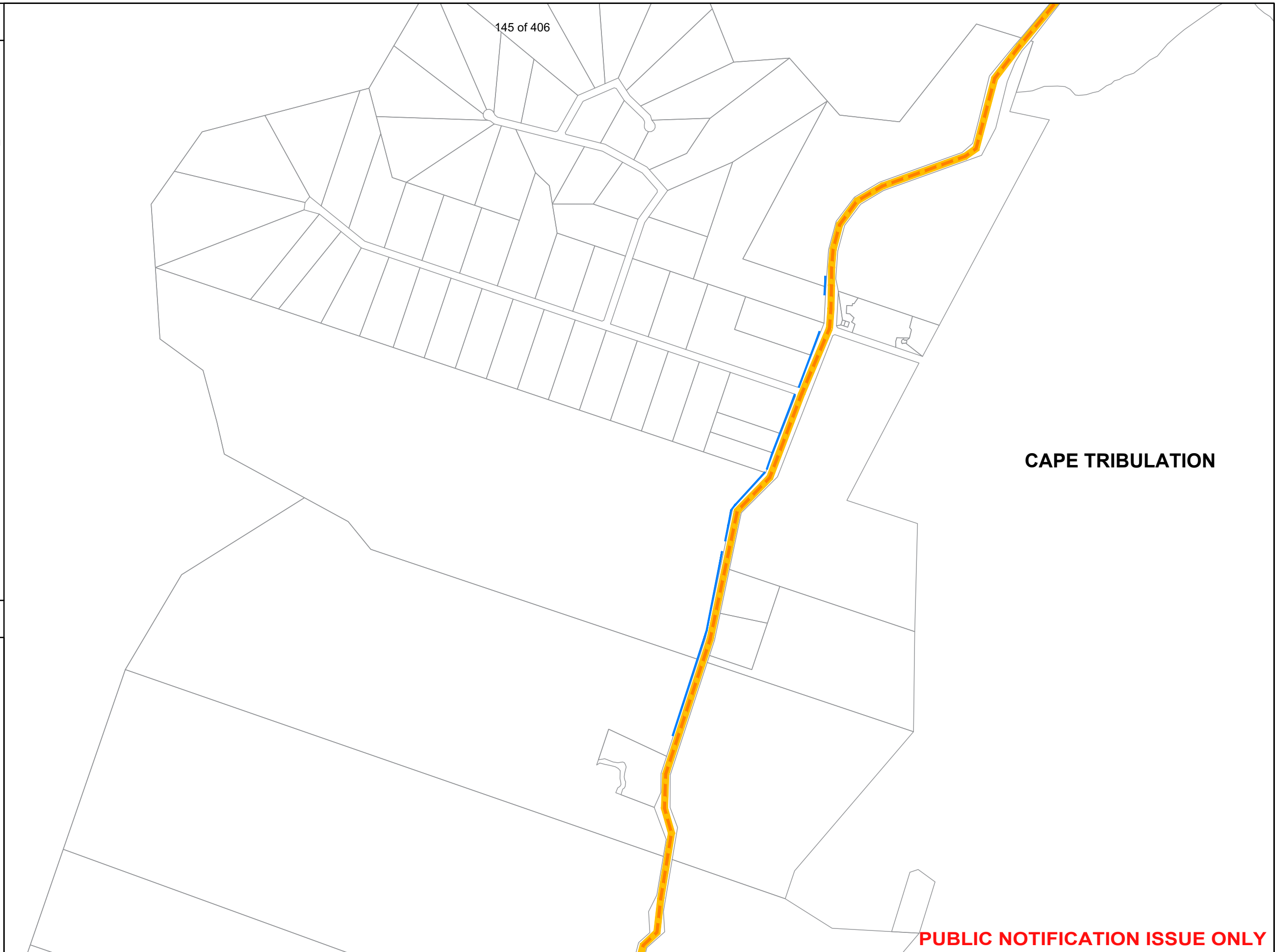
- - - SCR ROADS
- - - LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- - - LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- - - POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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		Title TRUNK PATH INFRASTRUCTURE - GRID 1	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved R RANKINE		RPEQ	Date 23/03/18
Drawing No. 1100-403		Revision C	

LEGEND

TRUNK PATH INFRASTRUCTURE

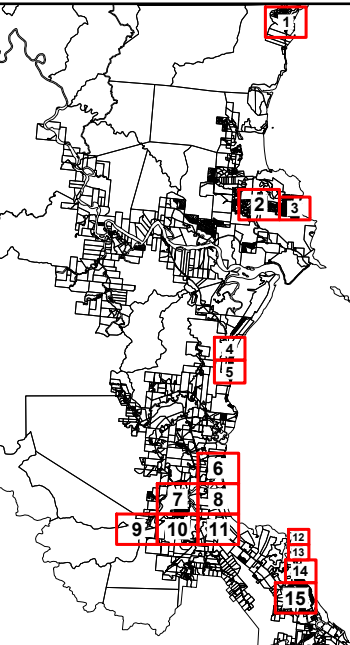
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- - - SCR ROADS
- - - LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- - - LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- - - POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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Title TRUNK PATH INFRASTRUCTURE - GRID 2		Title	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 23/03/18
Drawing No. 1100-404		Revision C	

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External References: TEC-TITLE-A3_a.dwg

LEGEND

TRUNK PATH INFRASTRUCTURE

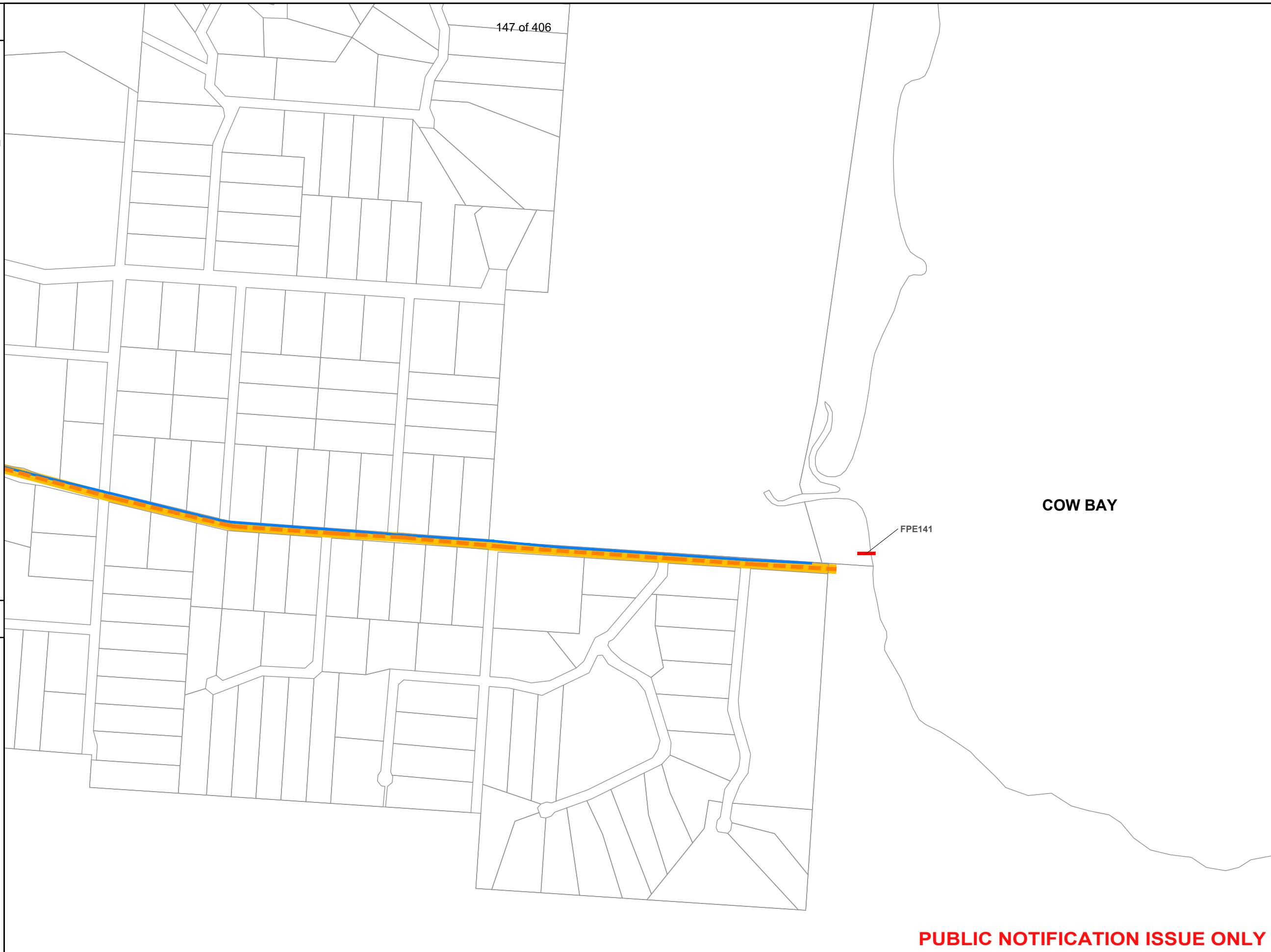
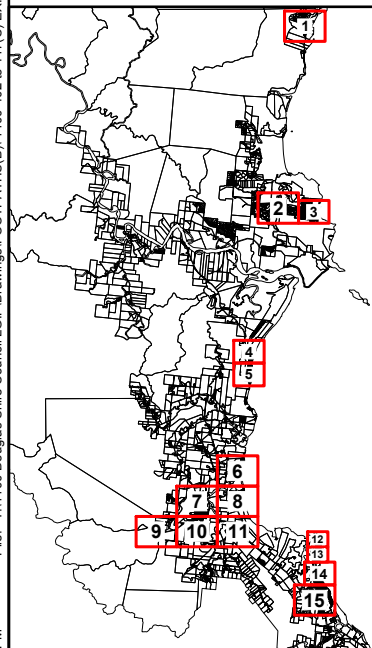
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- - - SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- - - POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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COW BAY

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Drawn IM		Title TRUNK PATH INFRASTRUCTURE - GRID 3	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-405	Revision C

External References: TEC-TITLE-A3_a.dwg

LEGEND

TRUNK PATH INFRASTRUCTURE

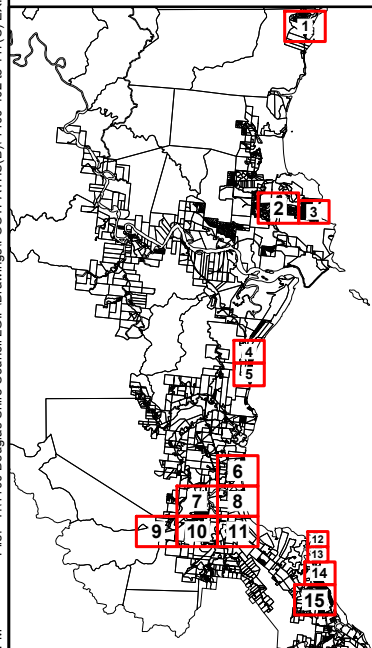
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- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR

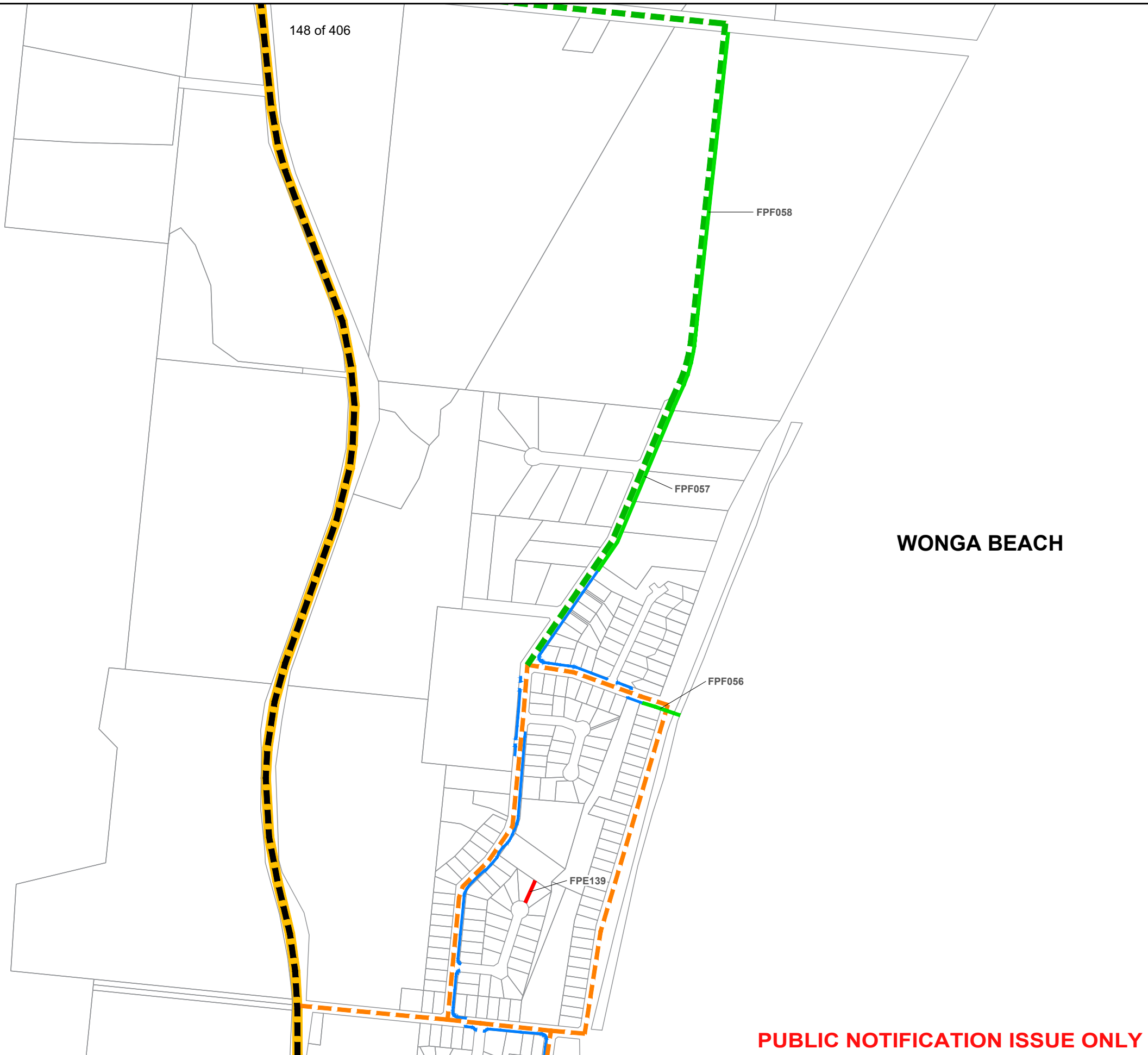


KEY MAP



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		Title TRUNK PATH INFRASTRUCTURE - GRID 4	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 23/03/18
		Drawing No. 1100-406	Revision C

External References: TEC-TITLE-A3_a.dwg

LEGEND

TRUNK PATH INFRASTRUCTURE

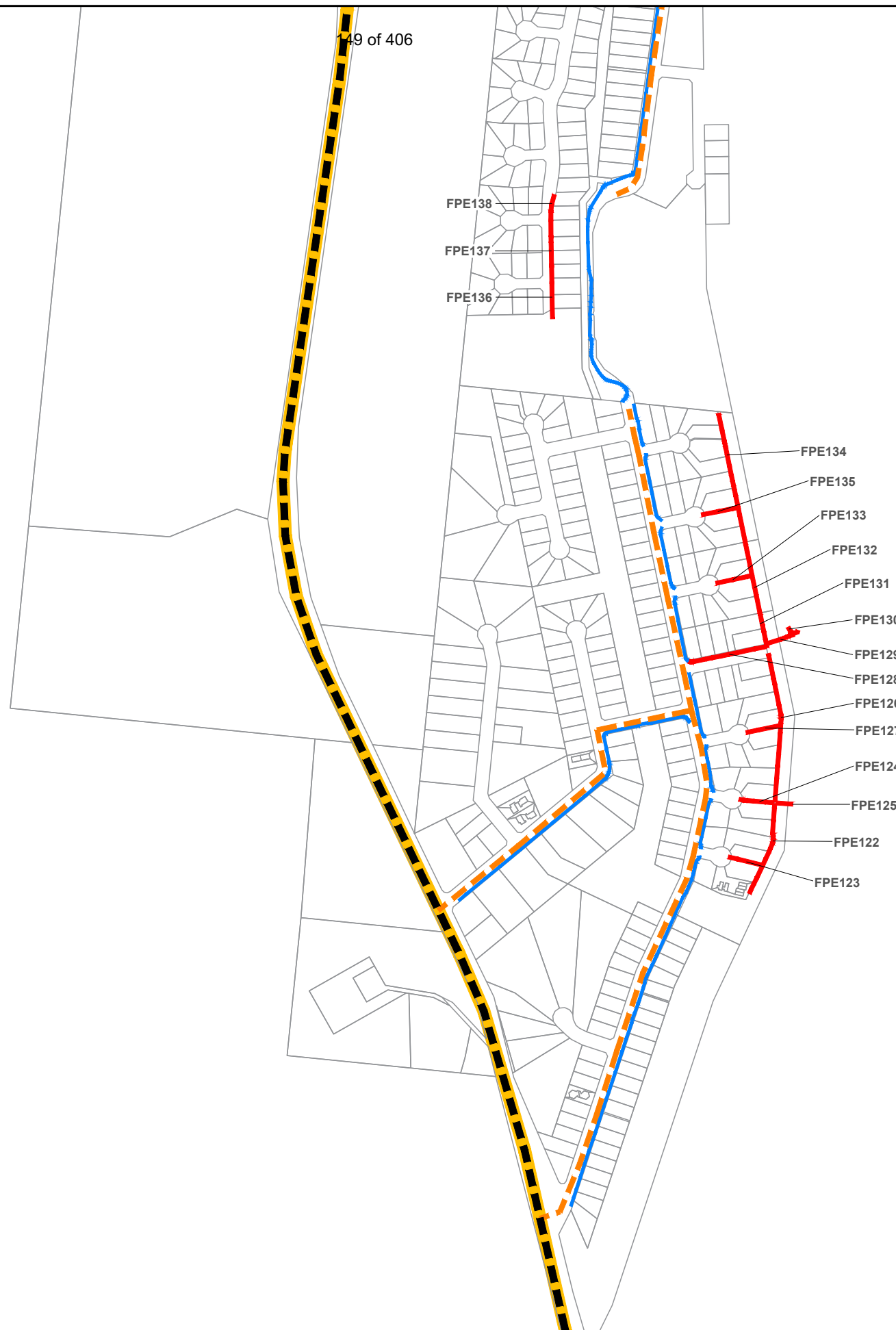
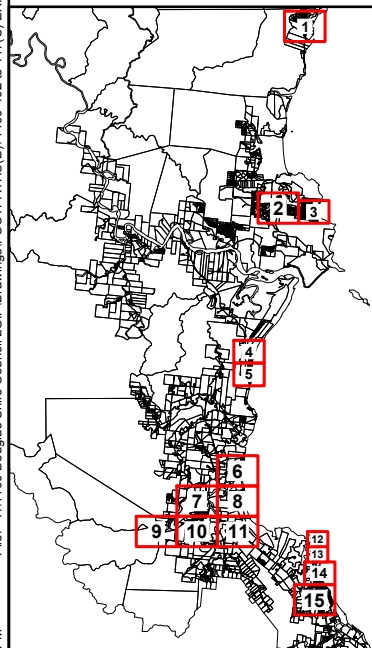
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- - - SCR ROADS
- - - LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- - - LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- - - POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



WONGA BEACH

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Revisions				
No.	Description	Reviewed	Approved	Date
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Scale (A3 size) 1:7500		Client DOUGLAS SHIRE COUNCIL	
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Drawn IM		Title TRUNK PATH INFRASTRUCTURE - GRID 5	
Designed RR	Design Check RR	Approved R RANKINE	RPEQ
Date 23/03/18	Drawing No. 1100-407	Revision C	

External References: TEC-TITLE-A3_a.dwg

LEGEND

TRUNK PATH INFRASTRUCTURE

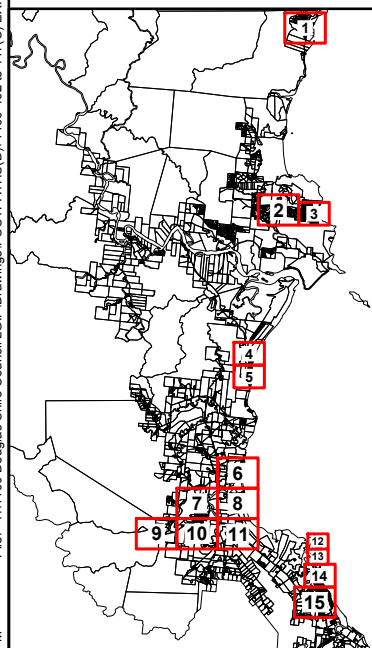
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



NEWELL BEACH

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IM

Designed

RR

Drawing Check

RR

Design Check

RR

Approved

R RANKINE

RPEQ

Date

23/03/18

Drawing No.

1100-408

Revision

C

Client **DOUGLAS SHIRE COUNCIL**

Project **1100 DOUGLAS SHIRE COUNCIL LGIP**

Title **TRUNK PATH INFRASTRUCTURE - GRID 6**

No.	Description	Reviewed	Approved	Date
A	ISSUED FOR REVIEW			

LEGEND

TRUNK PATH INFRASTRUCTURE

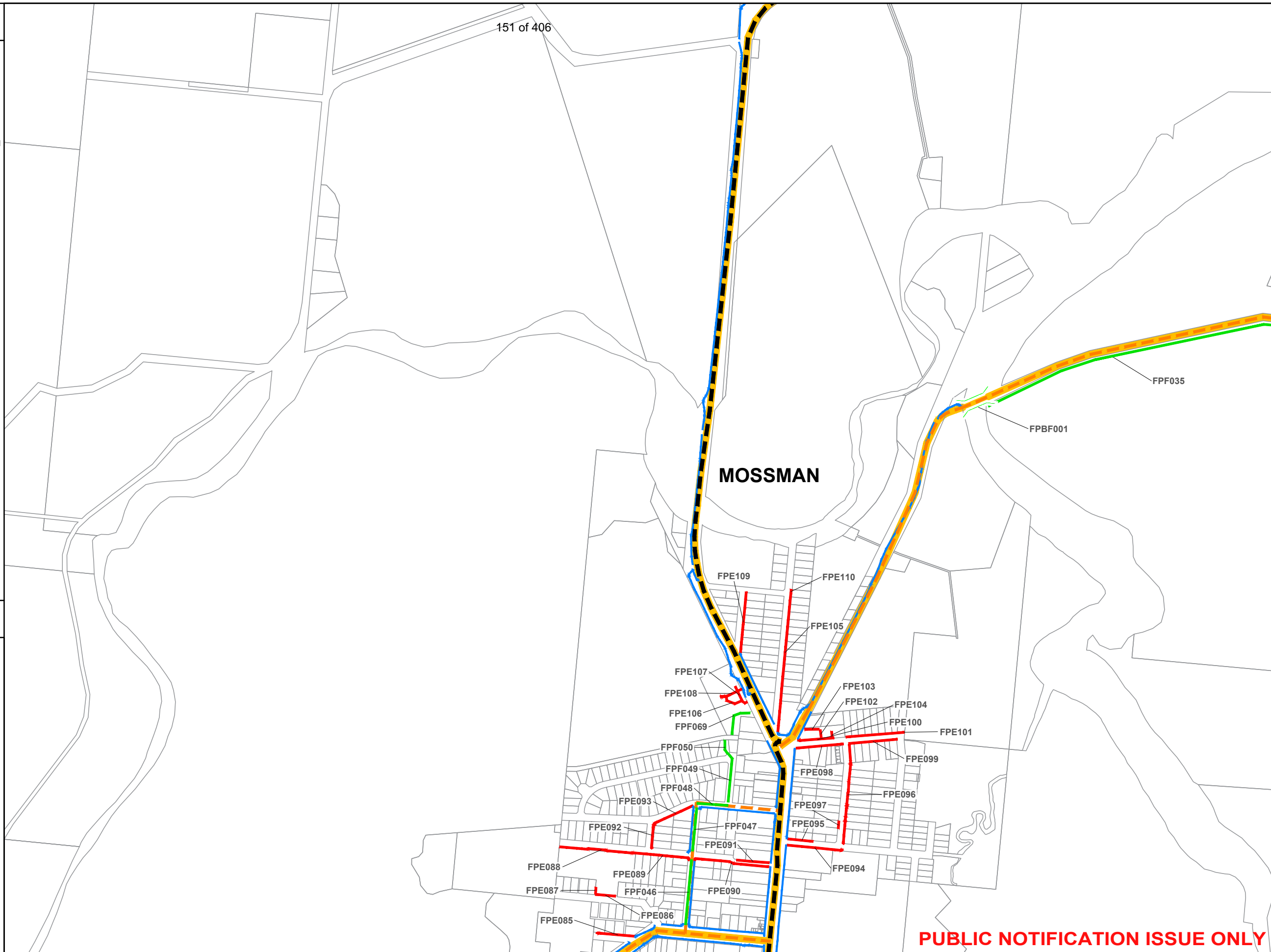
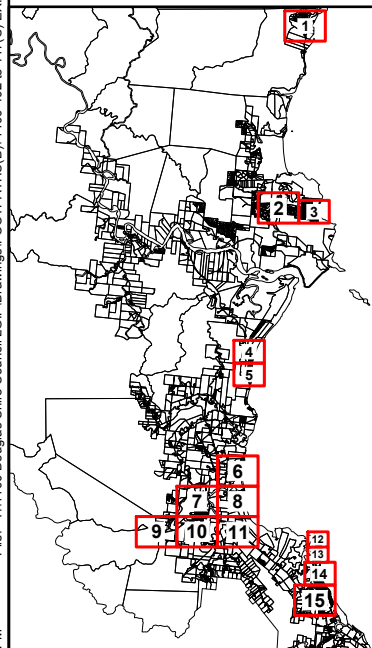
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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Revisions				
No.	Description	Reviewed	Approved	Date
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Client DOUGLAS SHIRE COUNCIL		Project 1100 DOUGLAS SHIRE COUNCIL LGIP	
Title TRUNK PATH INFRASTRUCTURE - GRID 7		Drawn IM	Designed RR
Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>	RPEQ
Date 23/03/18	Drawing No. 1100-409	Revision C	

External References: TEC-TITLE-A3_a.dwg

LEGEND

TRUNK PATH INFRASTRUCTURE

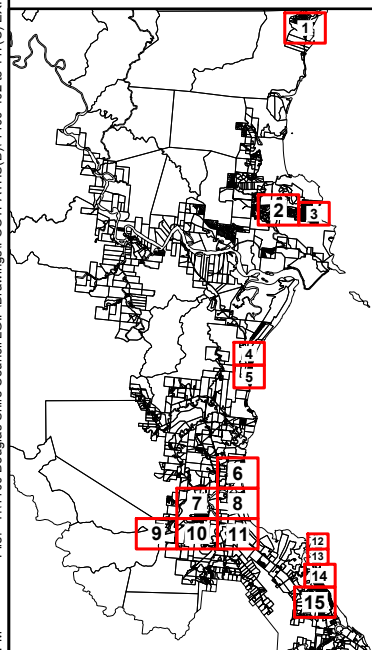
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

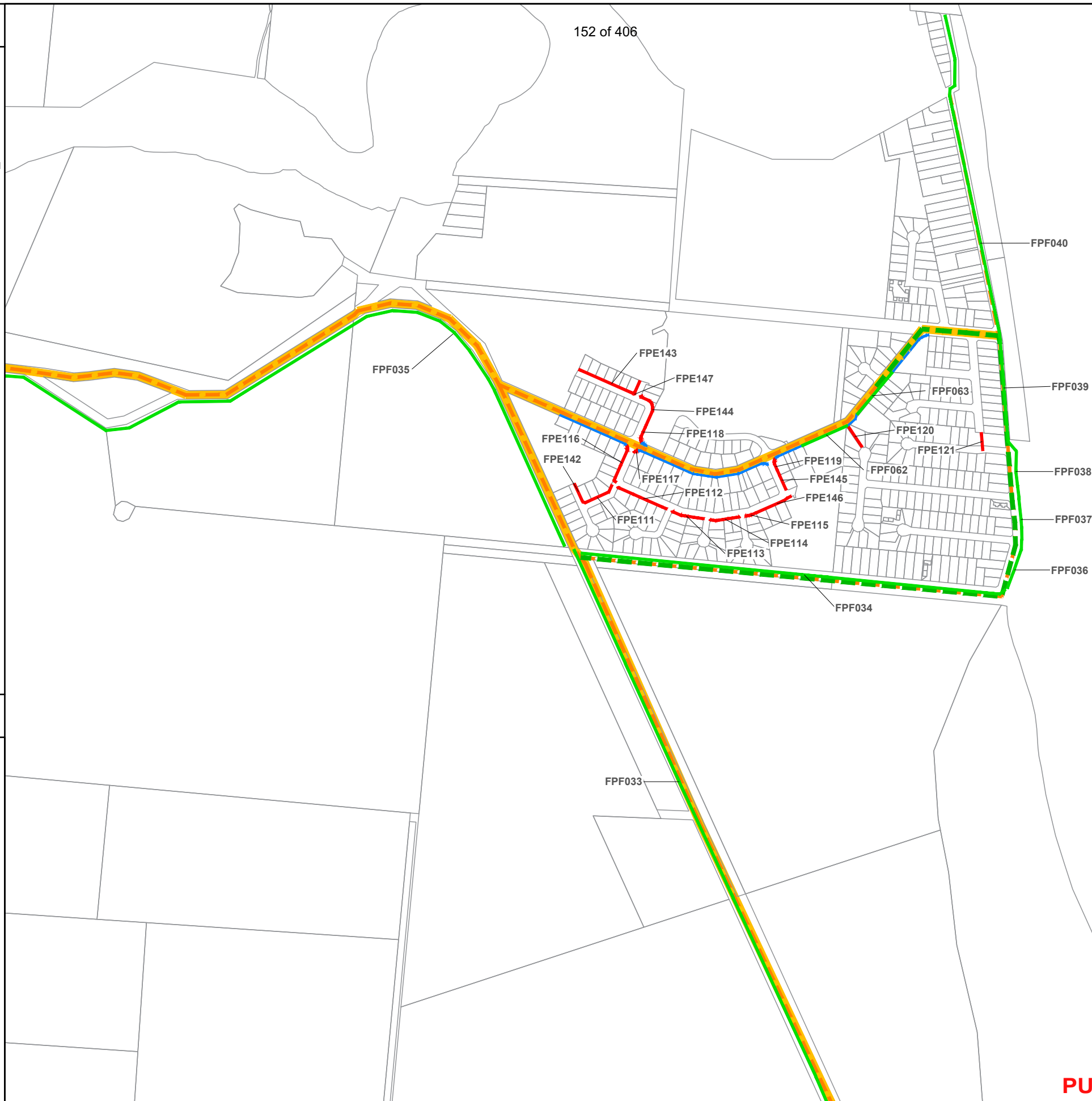
- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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COOYA BEACH

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IM

Designed
RR

Drawing Check
RR

Design Check
RR

Approved
R RANKINE

RPEQ

Date
23/03/18

Drawing No.
1100-410

Revision
C

Client
DOUGLAS SHIRE COUNCIL

Project
1100 DOUGLAS SHIRE COUNCIL LGIP

Title
TRUNK PATH INFRASTRUCTURE - GRID 8

No.	Description	Reviewed	Approved	Date
A	ISSUED FOR REVIEW			

External References: TEC-TITLE-A3_a.dwg

LEGEND

TRUNK PATH INFRASTRUCTURE

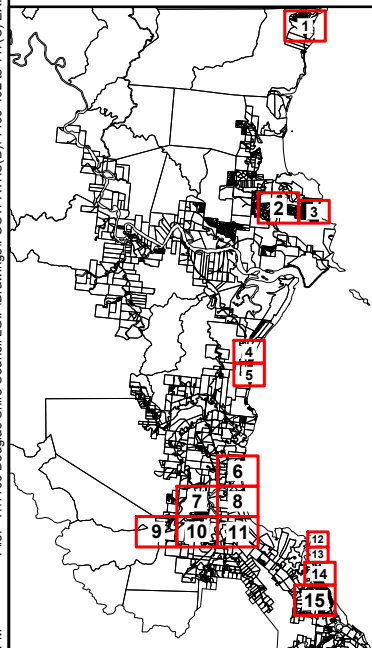
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- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

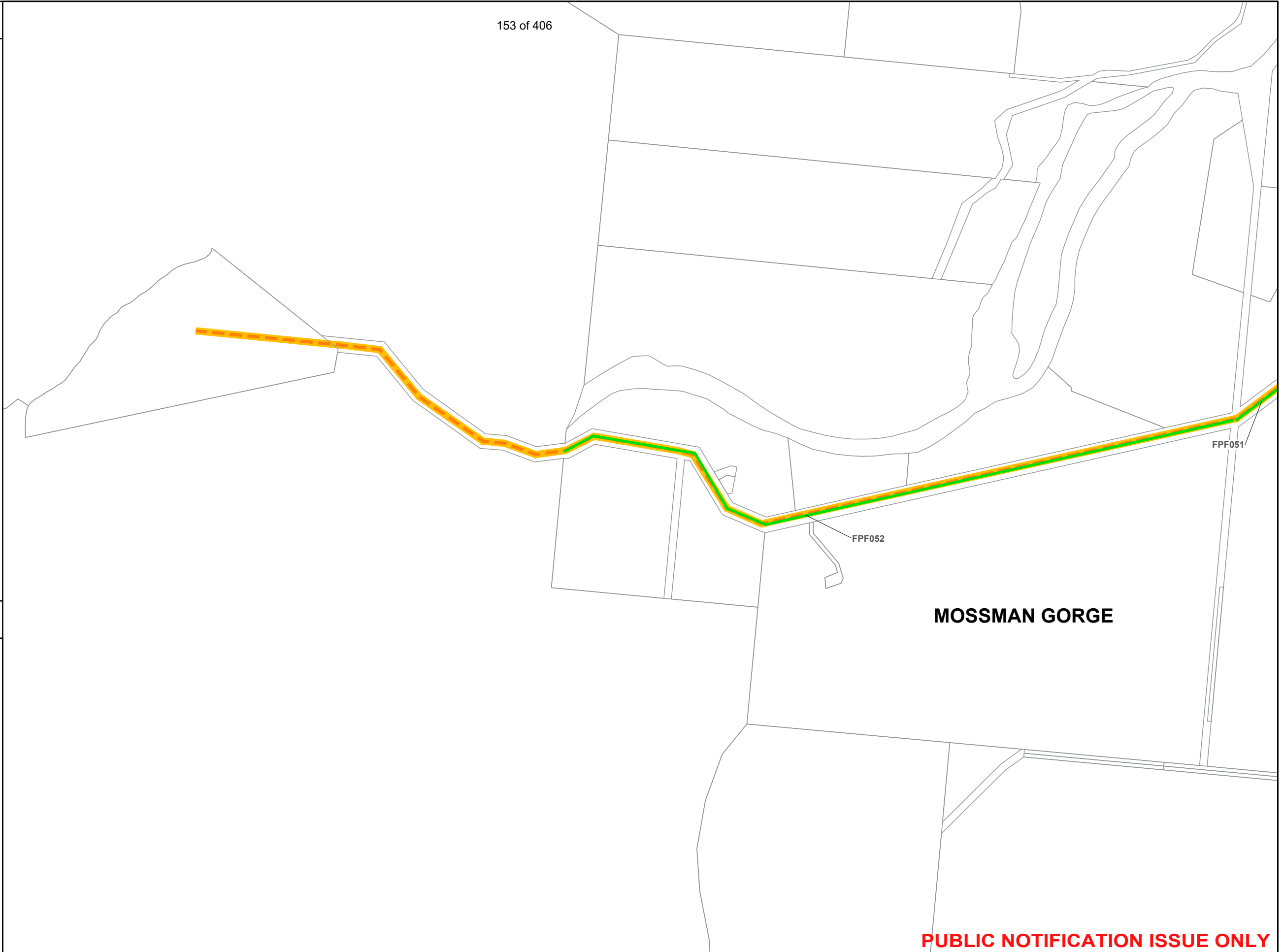
- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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Drawn	Designed
IM	RR

Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		TRUNK PATH INFRASTRUCTURE - GRID 9	
Drawn	Designed	Drawing Check	Design Check
IM	RR	RR	RR
Approved		<i>R RANKINE</i>	
RPEQ	Date	Drawing No.	Revision
	23/03/18	1100-411	C

LEGEND

TRUNK PATH INFRASTRUCTURE

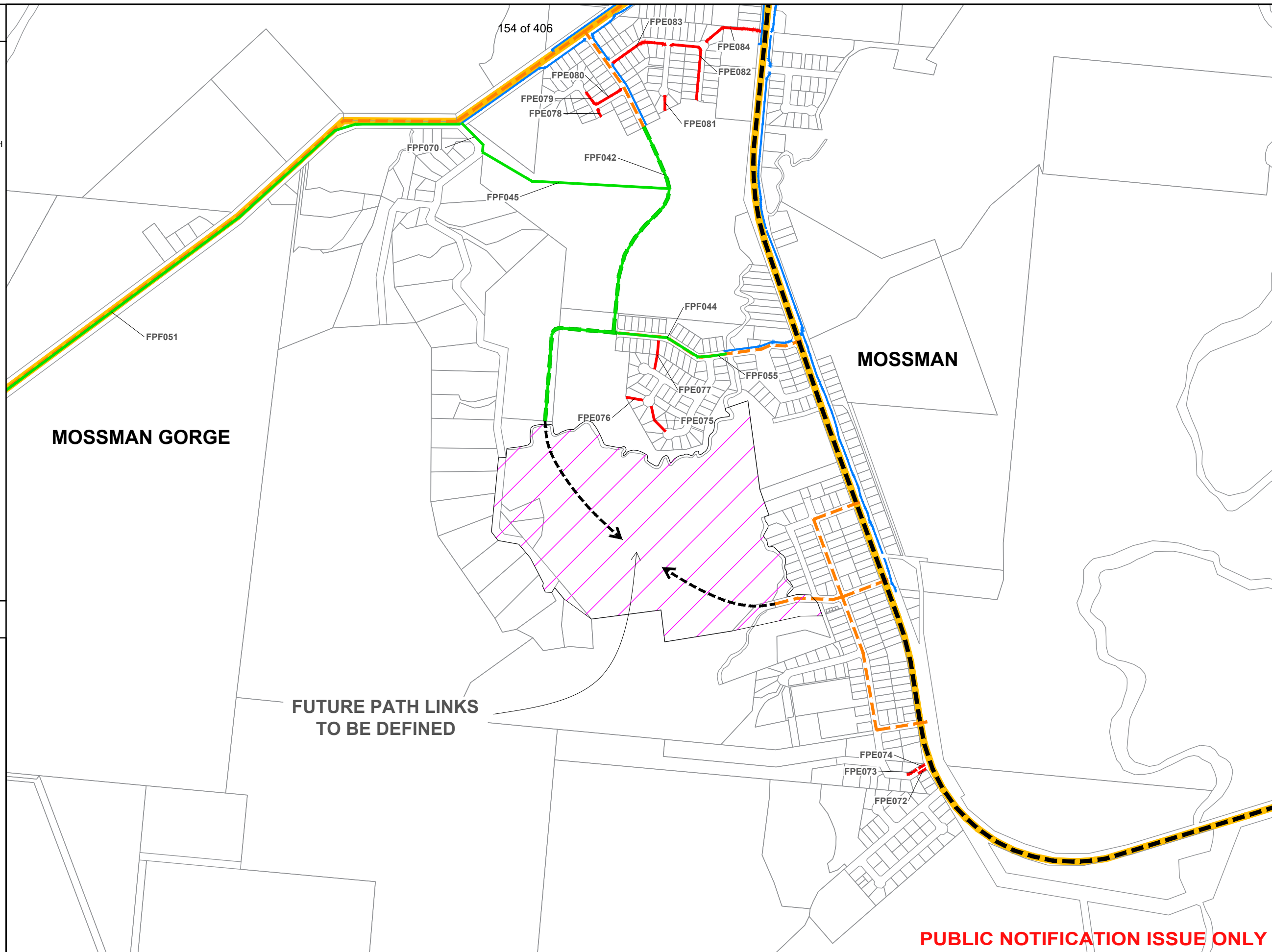
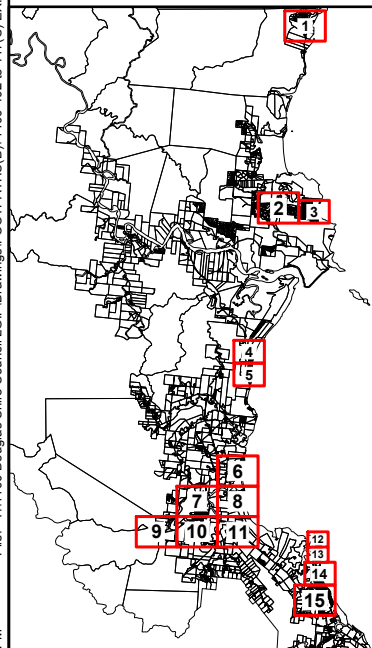
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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Drawn IM		Title TRUNK PATH INFRASTRUCTURE - GRID 10	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-412	Revision C

External References: TEC-TITLE-A3_a.dwg

LEGEND

TRUNK PATH INFRASTRUCTURE

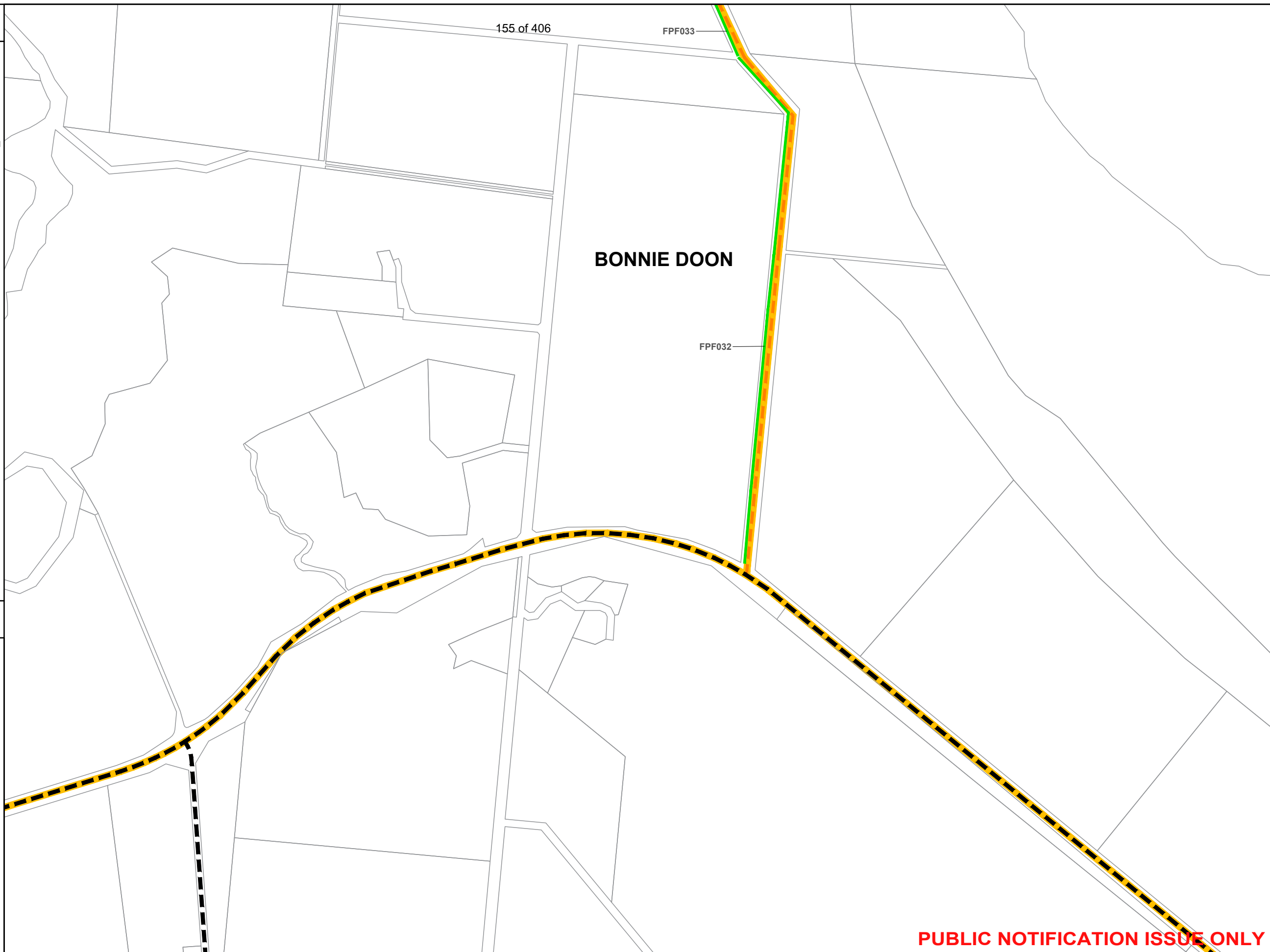
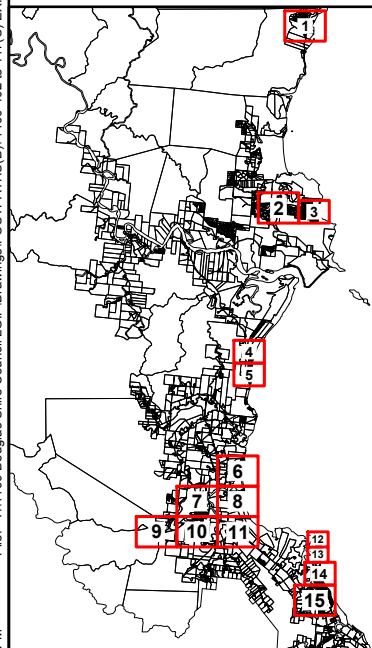
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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		Title TRUNK PATH INFRASTRUCTURE - GRID 11	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 23/03/18
Drawing No. 1100-413		Revision C	

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External References: TEC-TITLE-A3_a.dwg

LEGEND

TRUNK PATH INFRASTRUCTURE

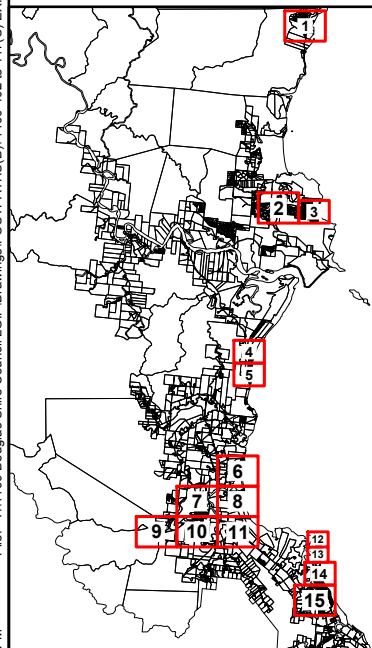
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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Revisions		Reviewed	Approved	Date
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No.	Description			

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		Title TRUNK PATH INFRASTRUCTURE - GRID 13	
Drawn IM	Designed RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-415	Revision C

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PORT DOUGLAS

STRATEGIC INVESTIGATION CORRIDOR

FPE048
157 of 406

FPE047

FPE046

FPE045

FPE044

FPE043

FPF041

FPE042

LEGEND

TRUNK PATH INFRASTRUCTURE

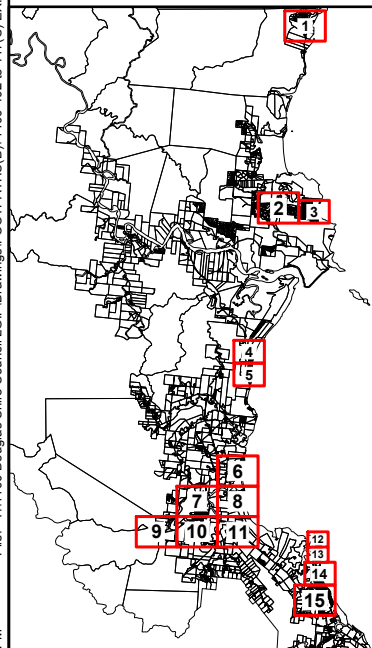
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR

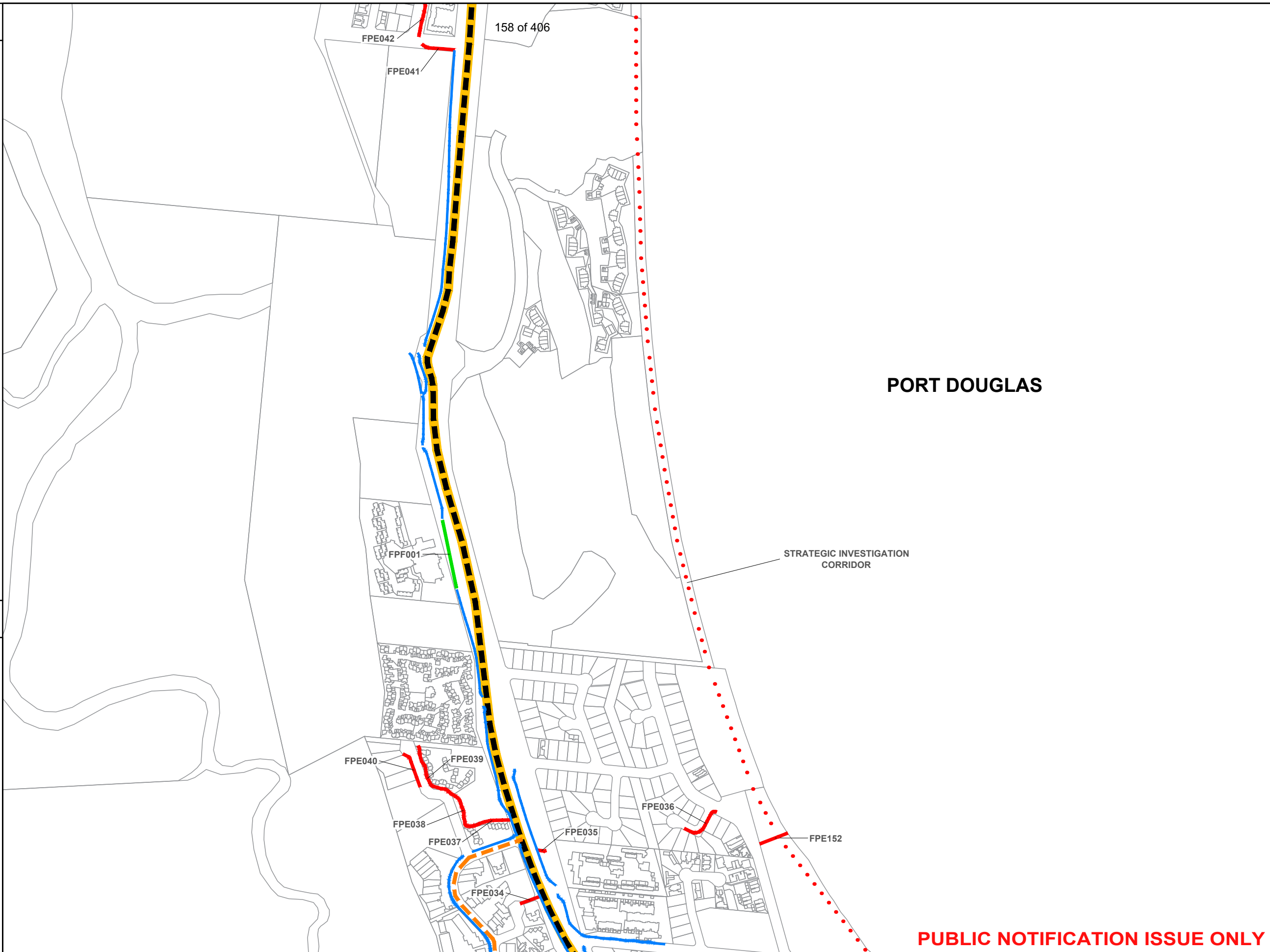


KEY MAP



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Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		TRUNK PATH INFRASTRUCTURE - GRID 14	
Drawn	Designed	Drawing Check	Design Check
IM	RR	RR	RR
Approved		<i>R. RANKINE</i>	
RPEQ	Date	Drawing No.	Revision
	23/03/18	1100-416	C

LEGEND

TRUNK PATH INFRASTRUCTURE

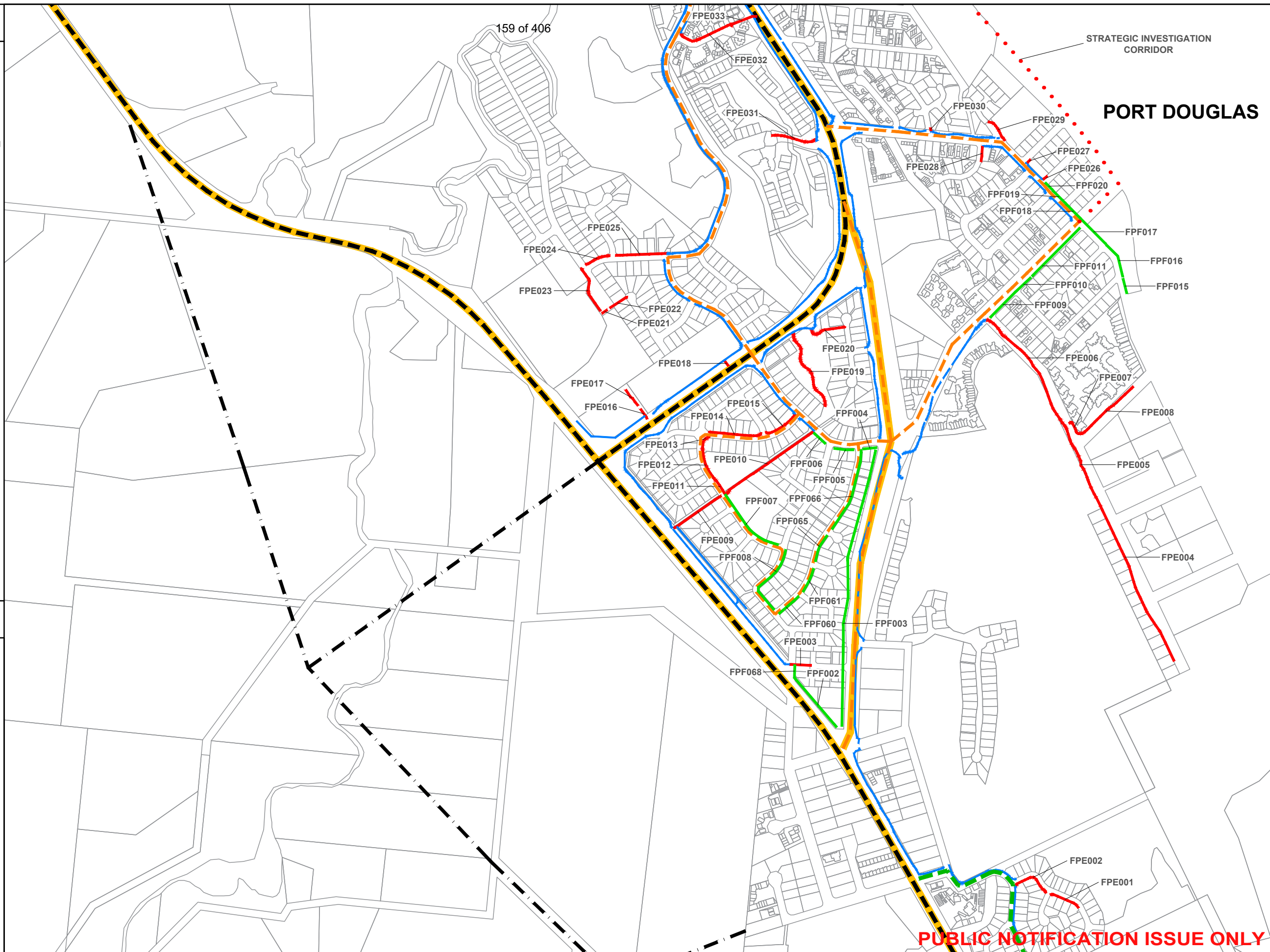
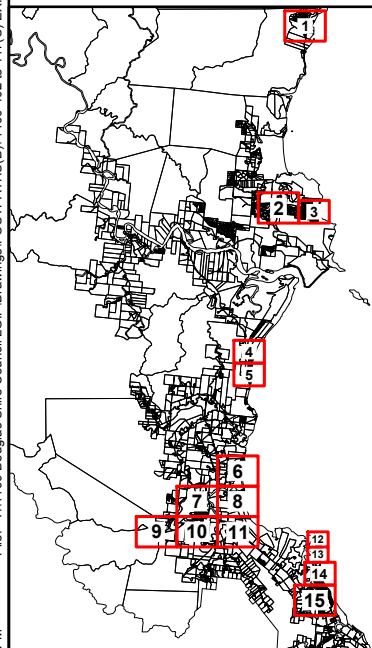
- TRUNK PATH (EXISTING)
- TRUNK PATH (FUTURE)
- EXISTING PATHS ASSOCIATED WITH TRUNK ROADS INFRASTRUCTURE
- ⋯ STRATEGIC INVESTIGATION CORRIDOR
- FAR NORTH QUEENSLAND PRINCIPAL CYCLE NETWORK
- AREAS UNDER INVESTIGATION
- () PEDESTRIAN BRIDGE (FUTURE)

TRANSPORT (ROADS) TRUNK INFRASTRUCTURE

- SCR ROADS
- LOCAL TRUNK ROADS INFRASTRUCTURE (EXISTING)
- LOCAL TRUNK ROADS INFRASTRUCTURE (FUTURE)
- POTENTIAL FUTURE TRANSPORT CORRIDOR



KEY MAP



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IM	RR

Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		TRUNK PATH INFRASTRUCTURE - GRID 15	
Drawn	Designed	Approved	RPEQ
IM	RR	R RANKINE	
Drawing Check	Design Check	Date	Drawing No.
RR	RR	23/03/18	1100-417
Revision	C		

External References: TEC-TITLE-A3_a.dwg



LOCAL GOVERNMENT INFRASTRUCTURE PLANS (STORMWATER TRUNK INFRASTRUCTURE) *for* DOUGLAS SHIRE COUNCIL


SCHEDULE OF PROJECT DRAWINGS

1100-500	DRAWING INDEX
1100-501	STORMWATER INFRASTRUCTURE SUPPLY CHARGES CATCHMENT AREAS
1100-501	FUTURE STORMWATER INFRASTRUCTURE

File: T:\1100 Douglas Shire Council LGIP\Drawings\STORMWATER(C)\1100-500(C)\STORMWATER SCHEDULE OF DRAWINGS.dwg
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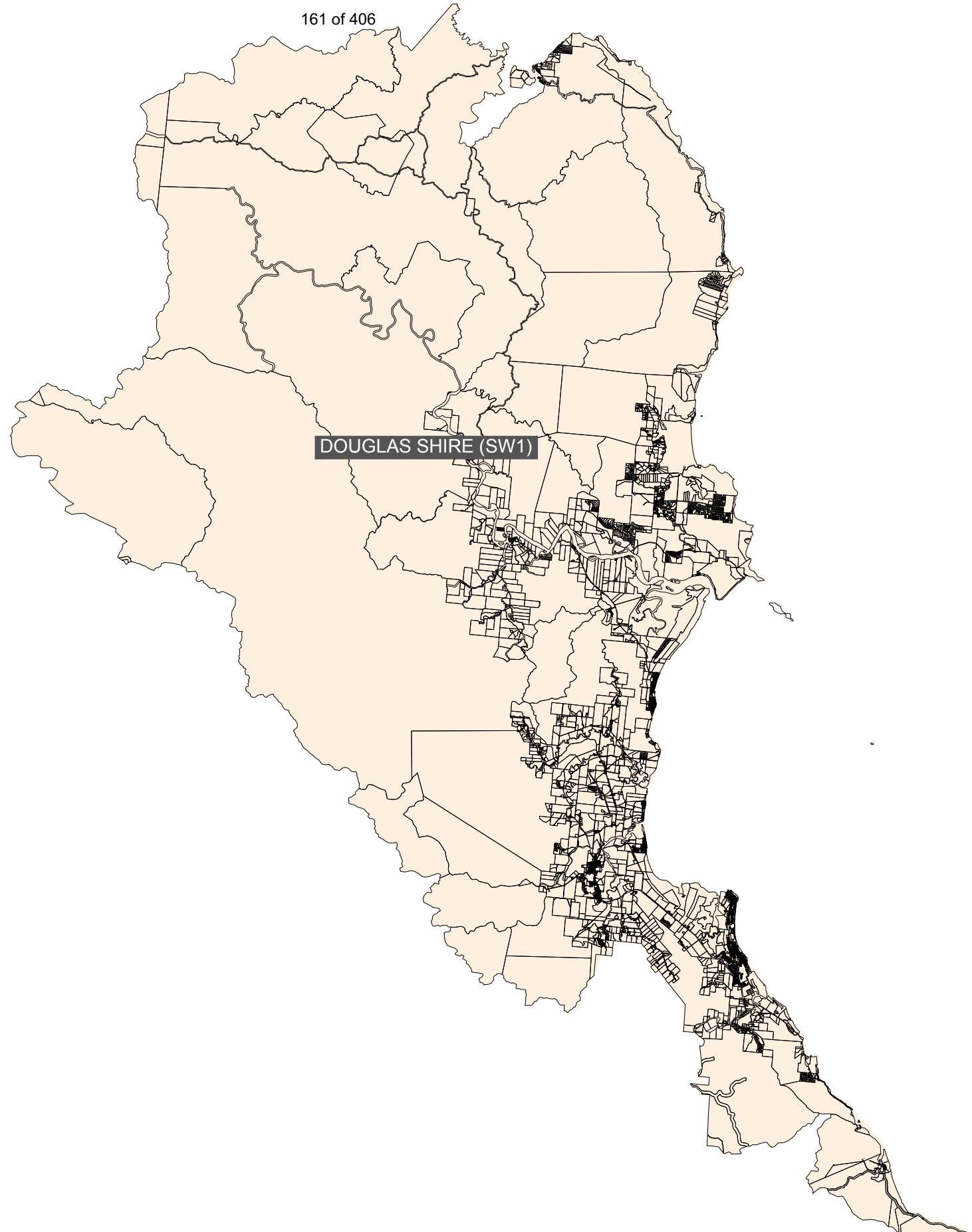
LEGEND

STORMWATER INFRASTRUCTURE SUPPLY CHARGES CATCHMENT AREAS

 DOUGLAS SHIRE (SW1)



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SHIRE COUNCIL**

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Drawn IM		Title STORMWATER INFRASTRUCTURE SUPPLY CHARGES CATCHMENTS AREAS	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-501	Revision C

External References: TEC-TITLE-A3_a.dwg

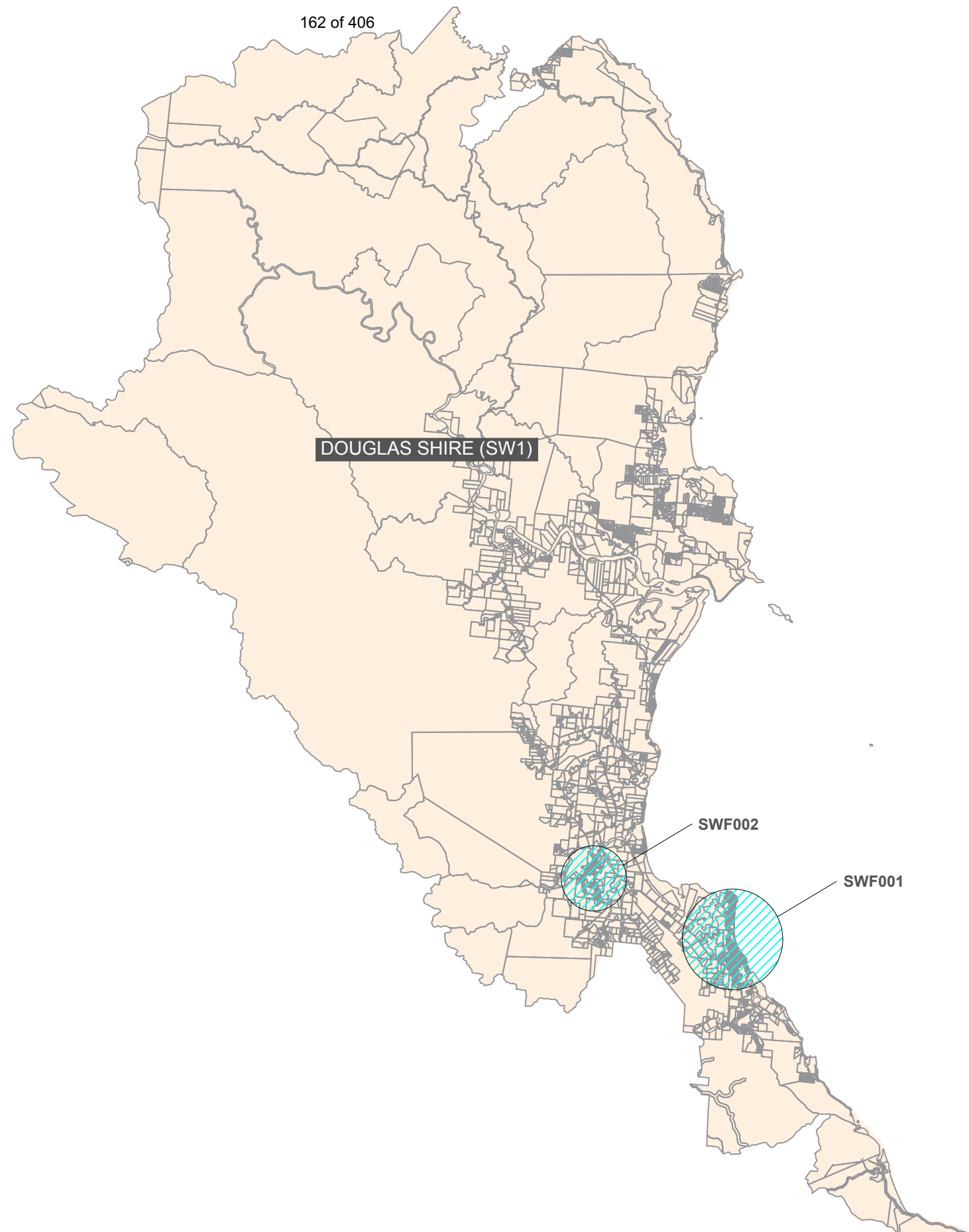
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FUTURE STORMWATER INFRASTRUCTURE

 FUTURE STORMWATER AREAS



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Drawn: IM
Designed: RR

Client DOUGLAS SHIRE COUNCIL		Project 1100 DOUGLAS SHIRE COUNCIL LGIP		Title FUTURE STORMWATER INFRASTRUCTURE	
Drawing Check <i>RR</i>	Design Check <i>RR</i>	Approved <i>R RANKINE</i>	RPEQ	Date 23/03/18	Drawing No. 1100-502
					Revision C

External References: TEC-TITLE-A3_a.dwg



LOCAL GOVERNMENT INFRASTRUCTURE PLANS (PARKS AND RESERVES TRUNK INFRASTRUCTURE) *for* DOUGLAS SHIRE COUNCIL

SCHEDULE OF PROJECT DRAWINGS

1100-600	DRAWING INDEX	1100-618	FUTURE PPLC TRUNK INFRASTRUCTURE KEY MAP
1100-601	PPLC CHARGES CATCHMENT AREAS KEY MAP	1100-619	FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 1
1100-602	PPLC CHARGES CATCHMENT AREAS - GRID 1	1100-620	FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 2
1100-603	PPLC CHARGES CATCHMENT AREAS - GRID 2	1100-621	FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 3
1100-604	EXISTING PPLC TRUNK INFRASTRUCTURE KEY MAP	1100-622	FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 4
1100-605	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 1	1100-623	FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 5
1100-606	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 2		
1100-607	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 3		
1100-608	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 4		
1100-609	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 5		
1100-610	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 6		
1100-611	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 7		
1100-612	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 8		
1100-613	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 9		
1100-614	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 10		
1100-615	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 11		
1100-616	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 12		
1100-617	EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 13		

LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES CHARGES CATCHMENTS

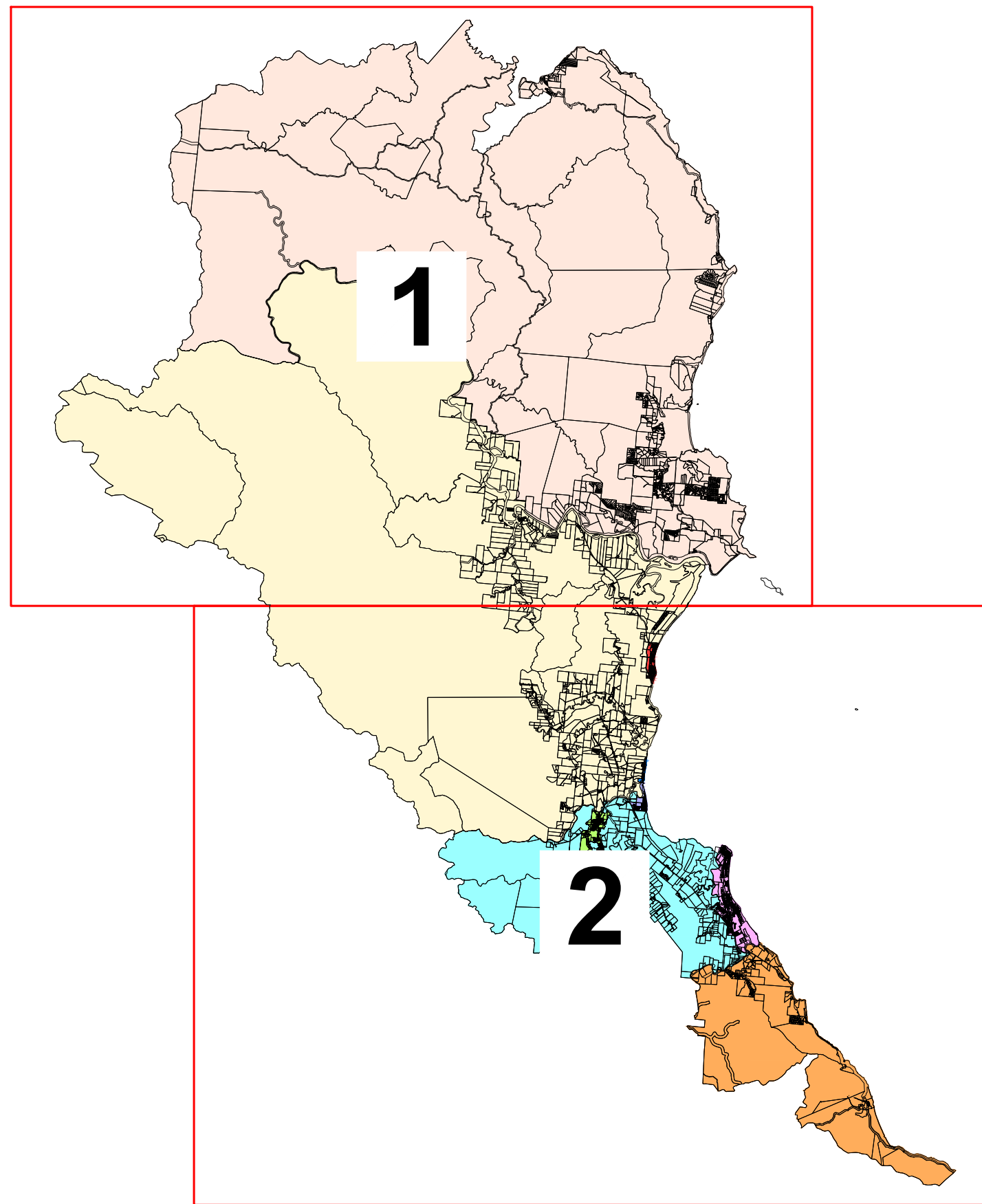
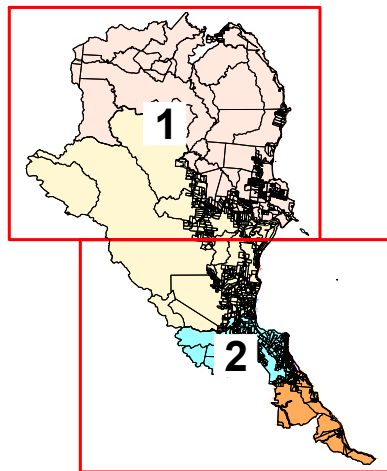
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- MOSSMAN (PPLC2)
- COOYA BEACH (PPLC3)
- NEWELL BEACH (PPLC4)
- WONGA BEACH (PPLC5)
- RURAL AREA - SOUTH OF MOWBRAY RIVER (PPLC6)
- RURAL AREA - MOWBRAY RIVER TO MOSSMAN RIVER (PPLC7)
- RURAL AREA - MOSSMAN RIVER TO DAINTREE RIVER (PPLC8)
- RURAL AREA - NORTH OF DAINTREE RIVER (PPLC9)

GENERAL

- PROPERTY BOUNDARY



KEY MAP



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Revisions				
No.	Description	Reviewed	Approved	Date
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Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		PPLC CHARGES CATCHMENT AREAS KEY MAP	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	23/03/18	Drawing No.	1100-601
Revision			C

External References: TEC-TITLE-A3_a.dwg

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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES CHARGES CATCHMENTS

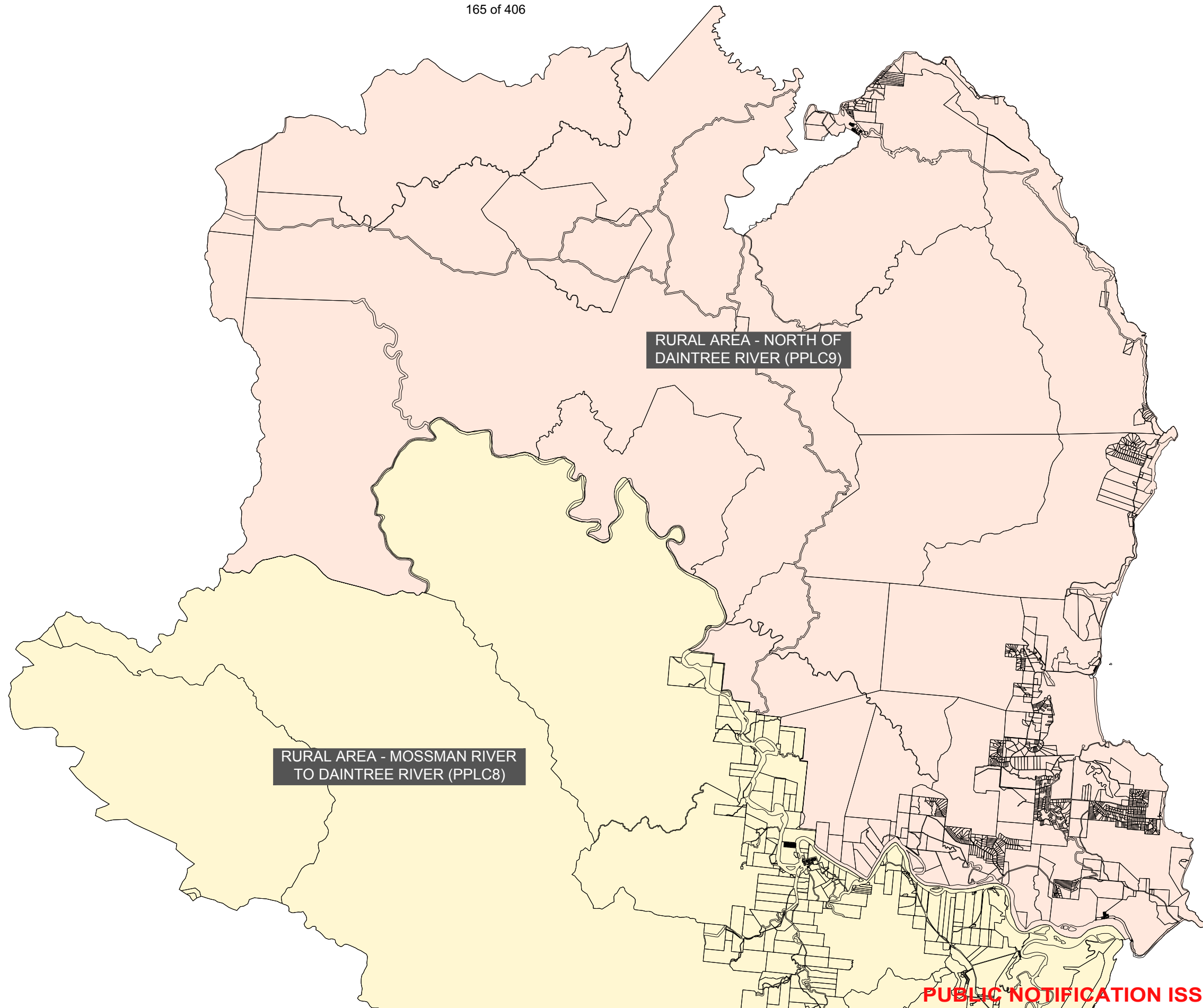
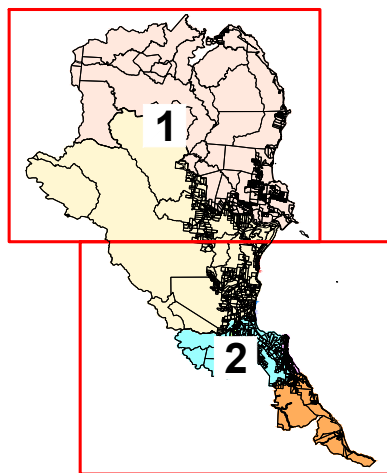
- PORT DOUGLAS (PPLC1)
- MOSSMAN (PPLC2)
- COOYA BEACH (PPLC3)
- NEWELL BEACH (PPLC4)
- WONGA BEACH (PPLC5)
- RURAL AREA - SOUTH OF MOWBRAY RIVER (PPLC6)
- RURAL AREA - MOWBRAY RIVER TO MOSSMAN RIVER (PPLC7)
- RURAL AREA - MOSSMAN RIVER TO DAINTREE RIVER (PPLC8)
- RURAL AREA - NORTH OF DAINTREE RIVER (PPLC9)

GENERAL

- PROPERTY BOUNDARY



KEY MAP



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		1100 DOUGLAS SHIRE COUNCIL LGIP	
		Title	
		PPLC CHARGES CATCHMENT AREAS - GRID 1	
Drawn	Designed	Drawing Check	Design Check
IM	RR	RR	RR
Approved		RPEQ	Date
R RANKINE			23/03/18
Drawing No.		Revision	
1100-602		C	

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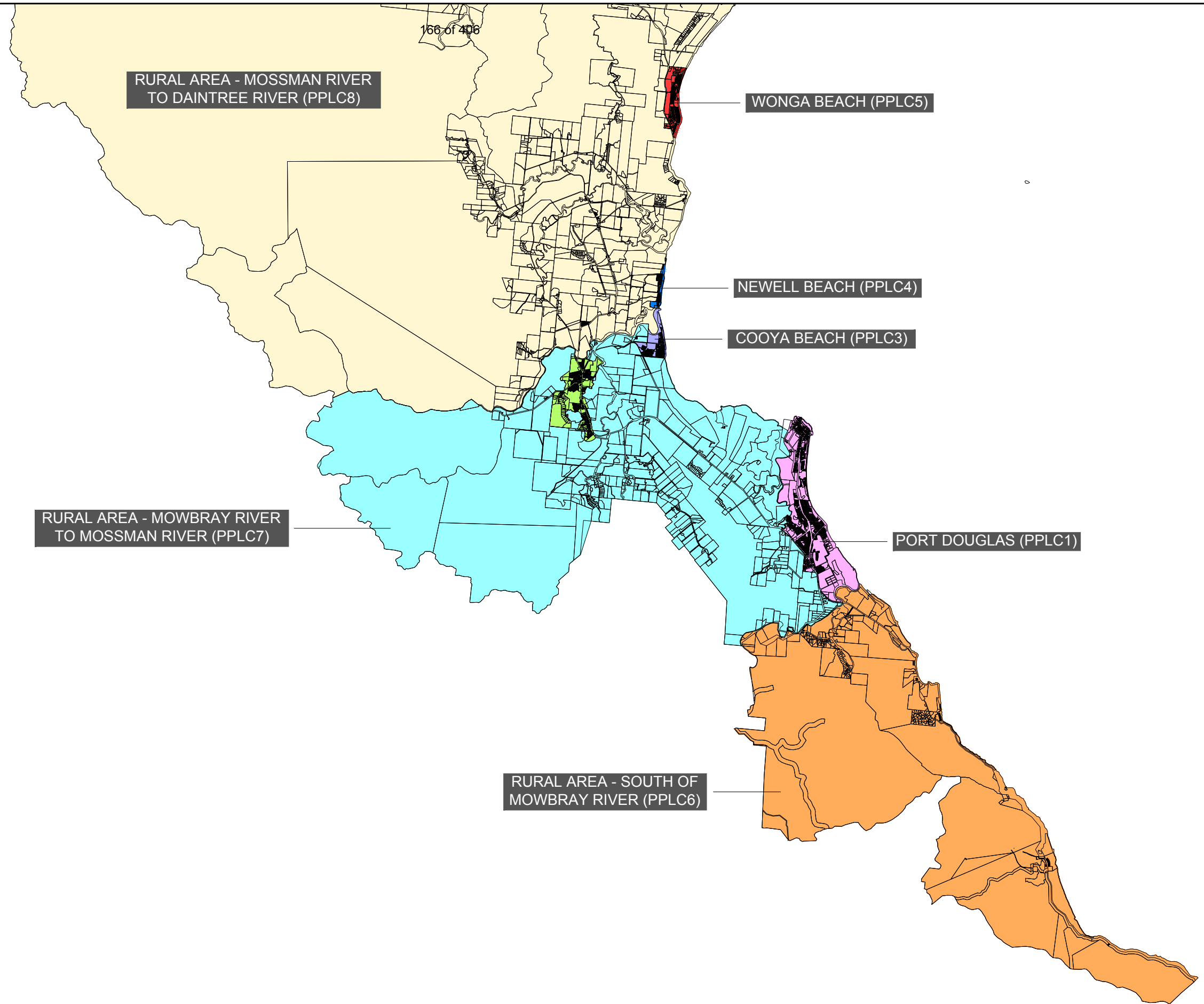
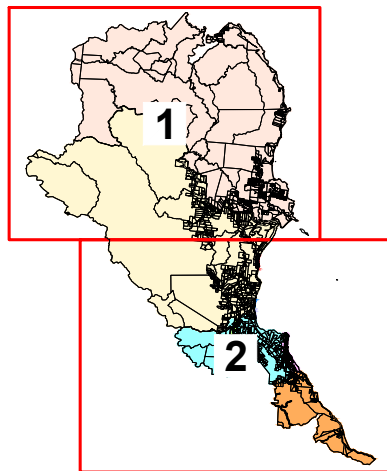
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- MOSSMAN (PPLC2)
- COOYA BEACH (PPLC3)
- NEWELL BEACH (PPLC4)
- WONGA BEACH (PPLC5)
- RURAL AREA - SOUTH OF MOWBRAY RIVER (PPLC6)
- RURAL AREA - MOWBRAY RIVER TO MOSSMAN RIVER (PPLC7)
- RURAL AREA - MOSSMAN RIVER TO DAINTREE RIVER (PPLC8)
- RURAL AREA - NORTH OF DAINTREE RIVER (PPLC9)

GENERAL

- PROPERTY BOUNDARY



KEY MAP



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Drawn IM		Title PPLC CHARGES CATCHMENT AREAS - GRID 2	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-603	Revision C

External References: TEC-TITLE-A3_a.dwg

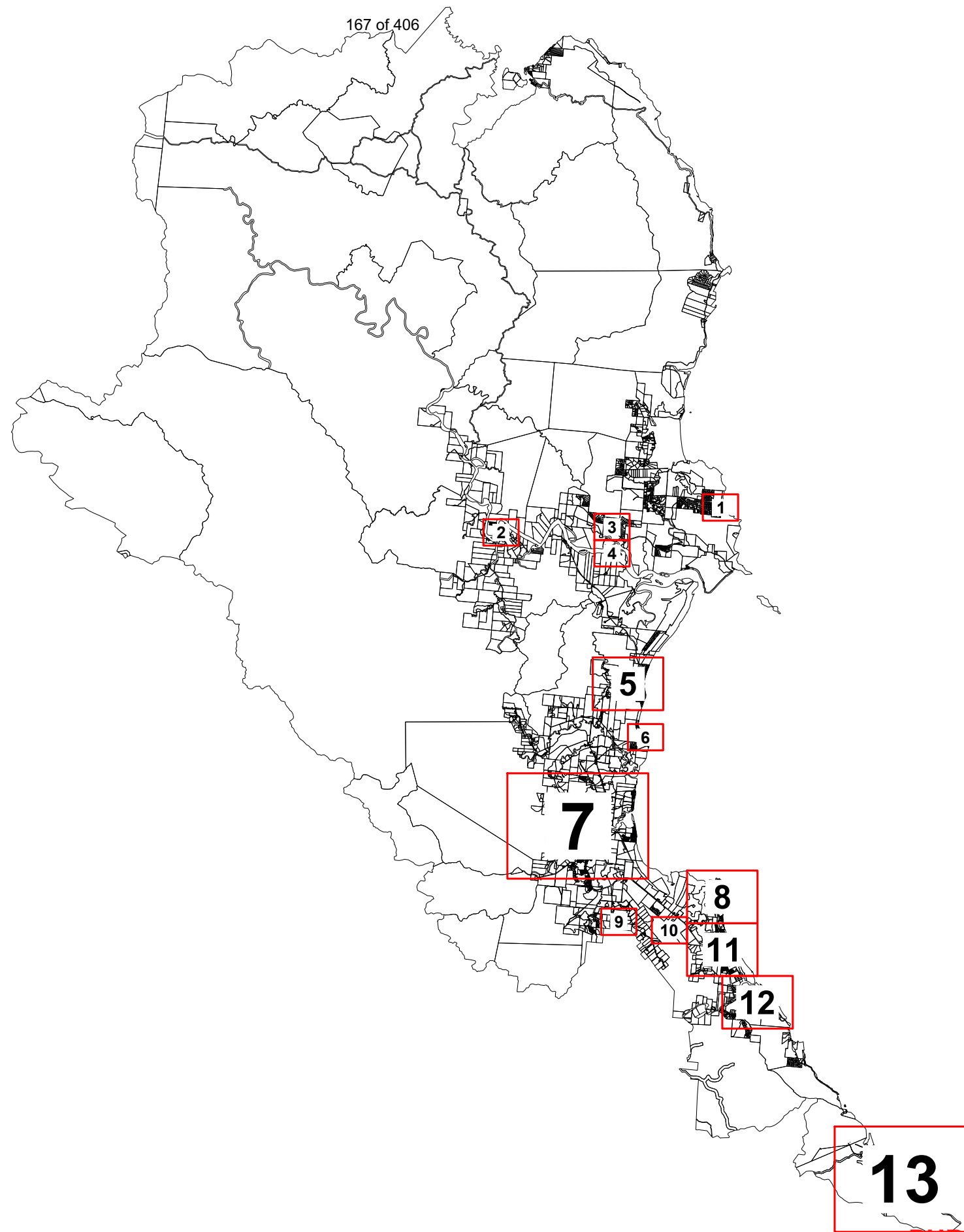
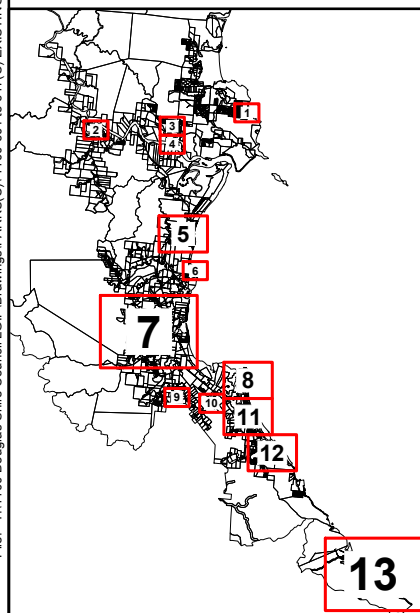
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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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Client		DOUGLAS SHIRE COUNCIL	
Project		1100 DOUGLAS SHIRE COUNCIL LGIP	
Title		EXISTING PPLC TRUNK INFRASTRUCTURE KEY MAP	
Drawing Check	Design Check	Approved	RPEQ
RR	RR	<i>R RANKINE</i>	
Date	23/03/18	Drawing No.	1100-604
Revision			C

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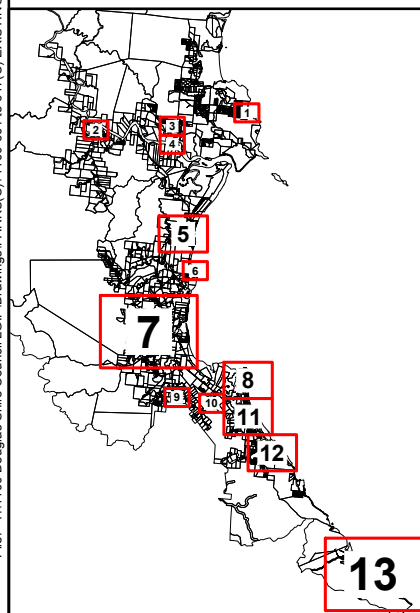
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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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PPLC056

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Drawn IM		Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 1	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-605	Revision C

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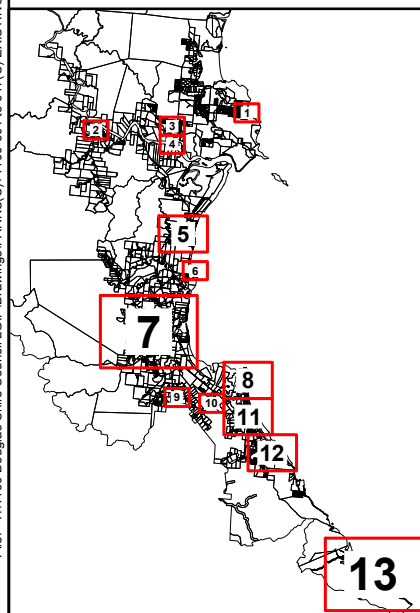
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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

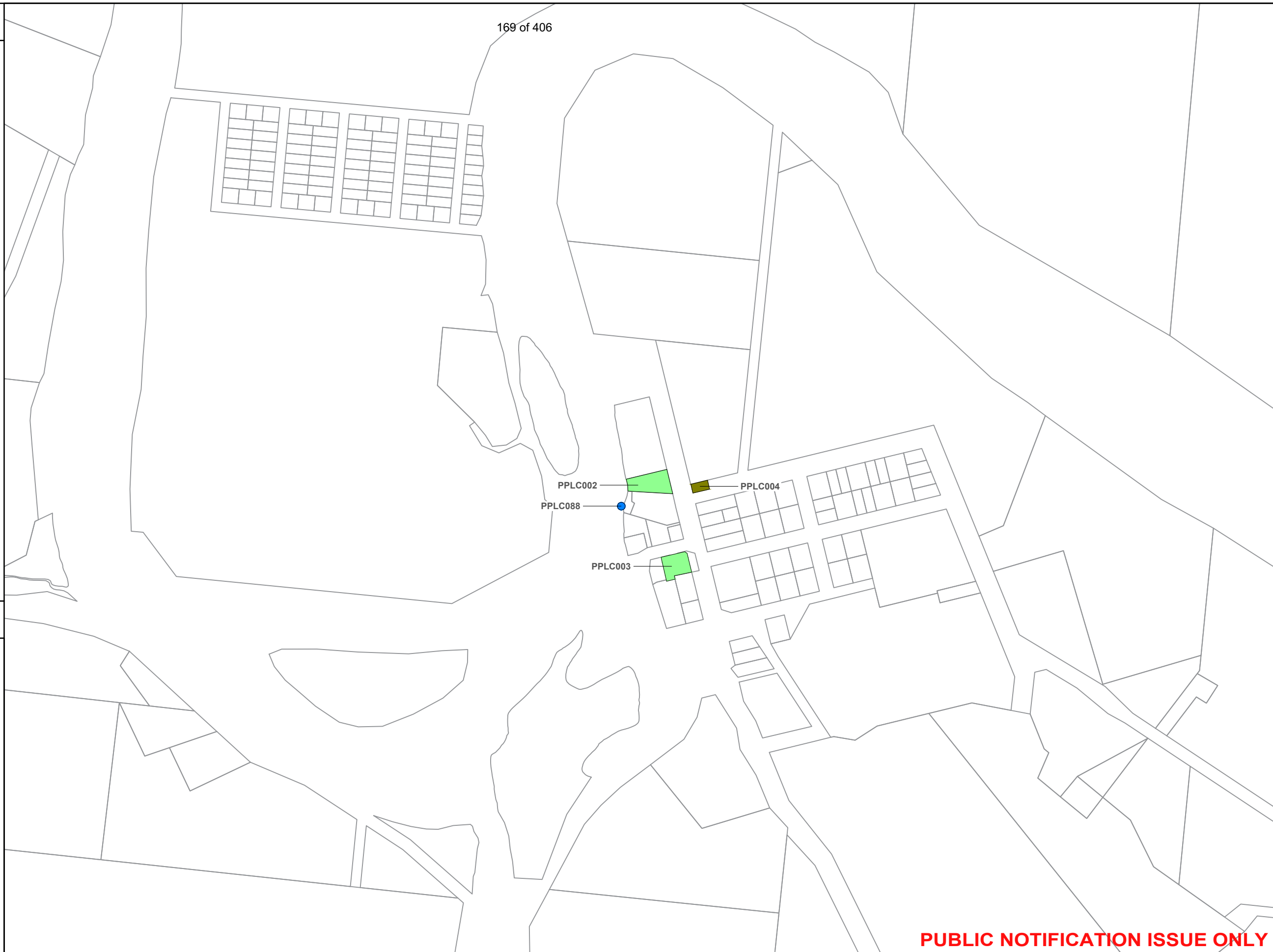
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- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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Drawn IM		Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 2	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-606	Revision C

External References: TEC-TITLE-A3_a.dwg

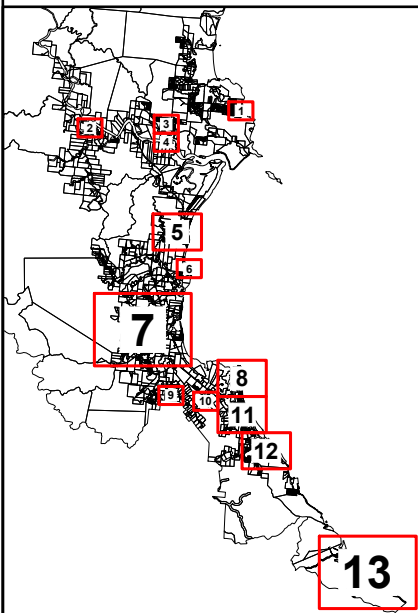
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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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Designed
RR

Drawing Check
RR

Design Check
RR

Approved
R RANKINE

RPEQ

Date
23/03/18

Drawing No.
1100-607

Revision
C

Client
DOUGLAS SHIRE COUNCIL

Project
1100 DOUGLAS SHIRE COUNCIL LGIP

Title
EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 3

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Revisions

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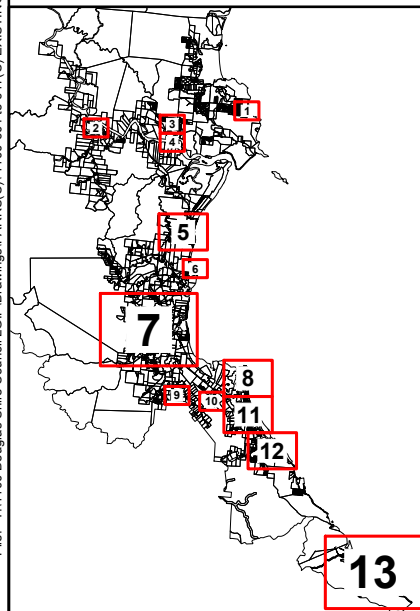
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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

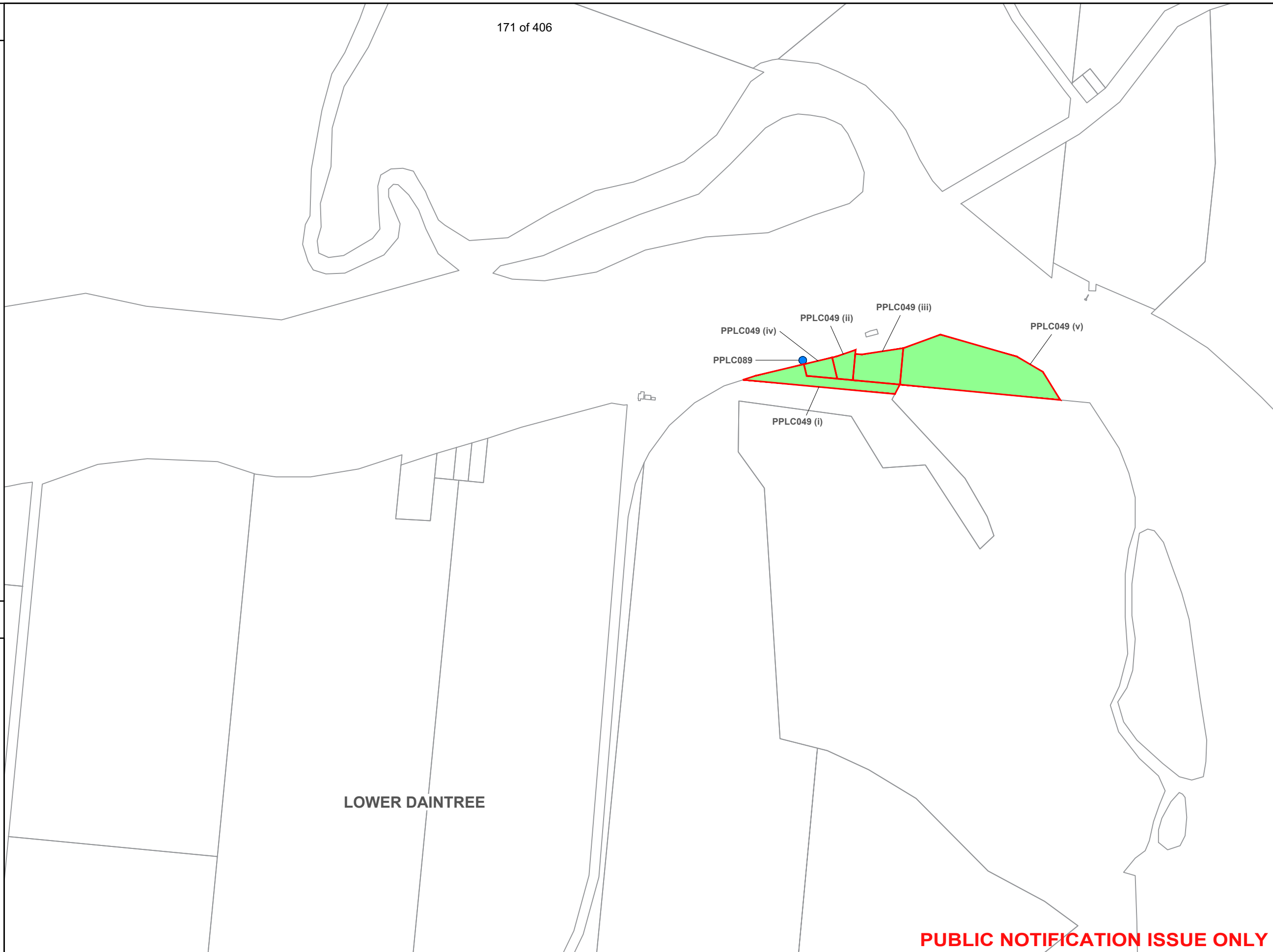
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- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 4		Date 23/03/18	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Drawing No. 1100-608
Revision C		Revision	

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External References: TEC-TITLE-A3_a.dwg

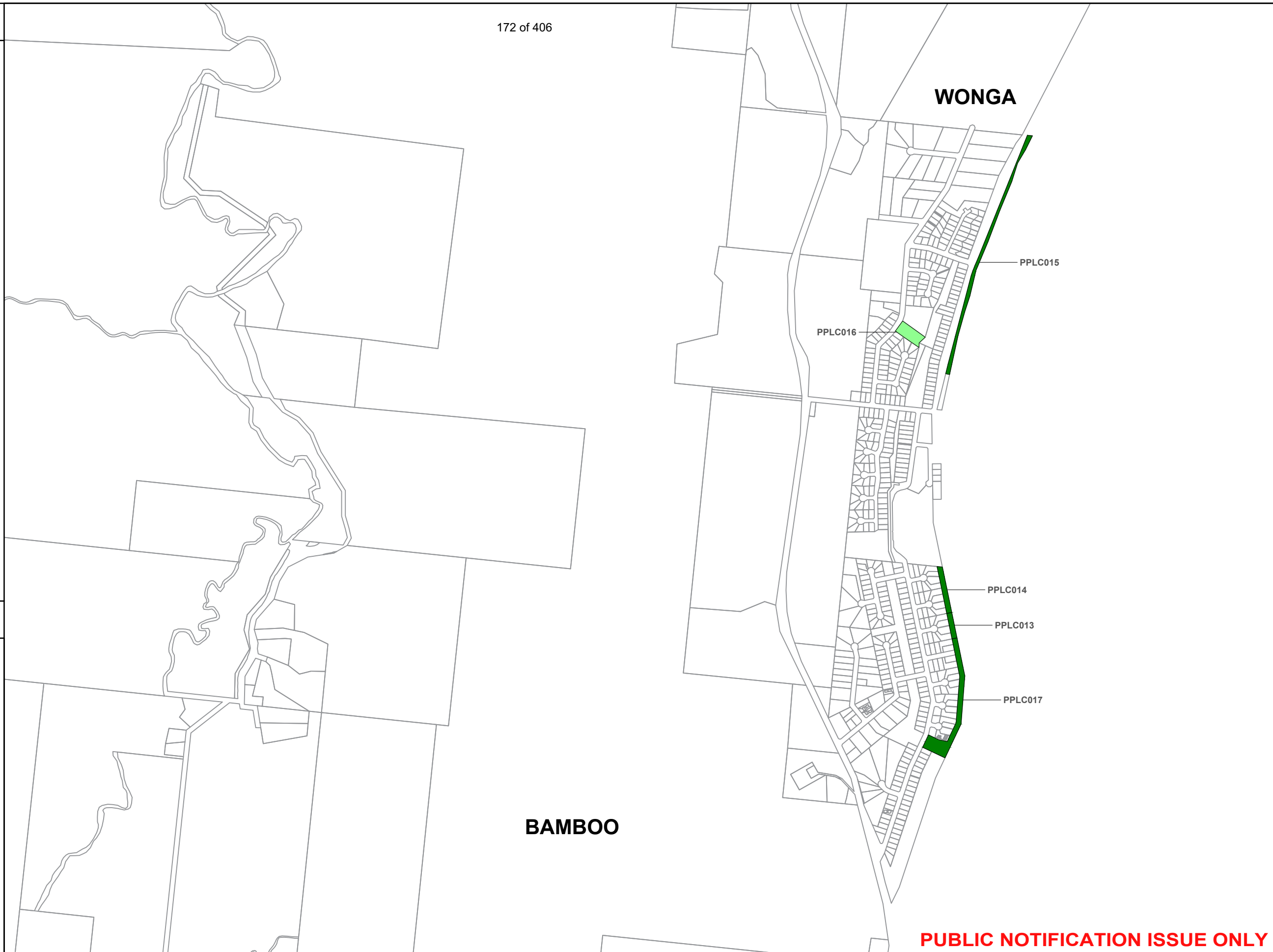
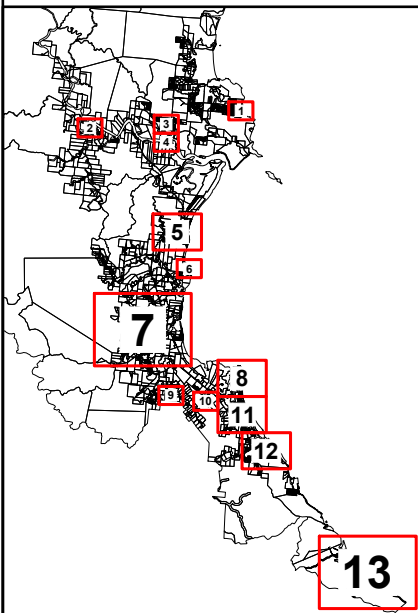
LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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Drawing Check RR

Design Check RR

Approved R RANKINE

Client **DOUGLAS SHIRE COUNCIL**

Project **1100 DOUGLAS SHIRE COUNCIL LGIP**

Title **EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 5**

No.	Description	Reviewed	Approved	Date
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External References: TEC-TITLE-A3_a_dwg

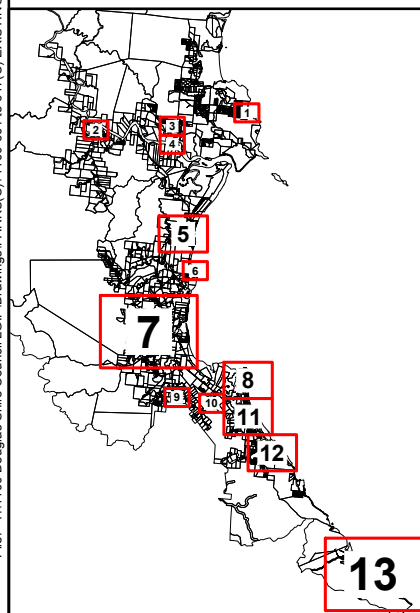
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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

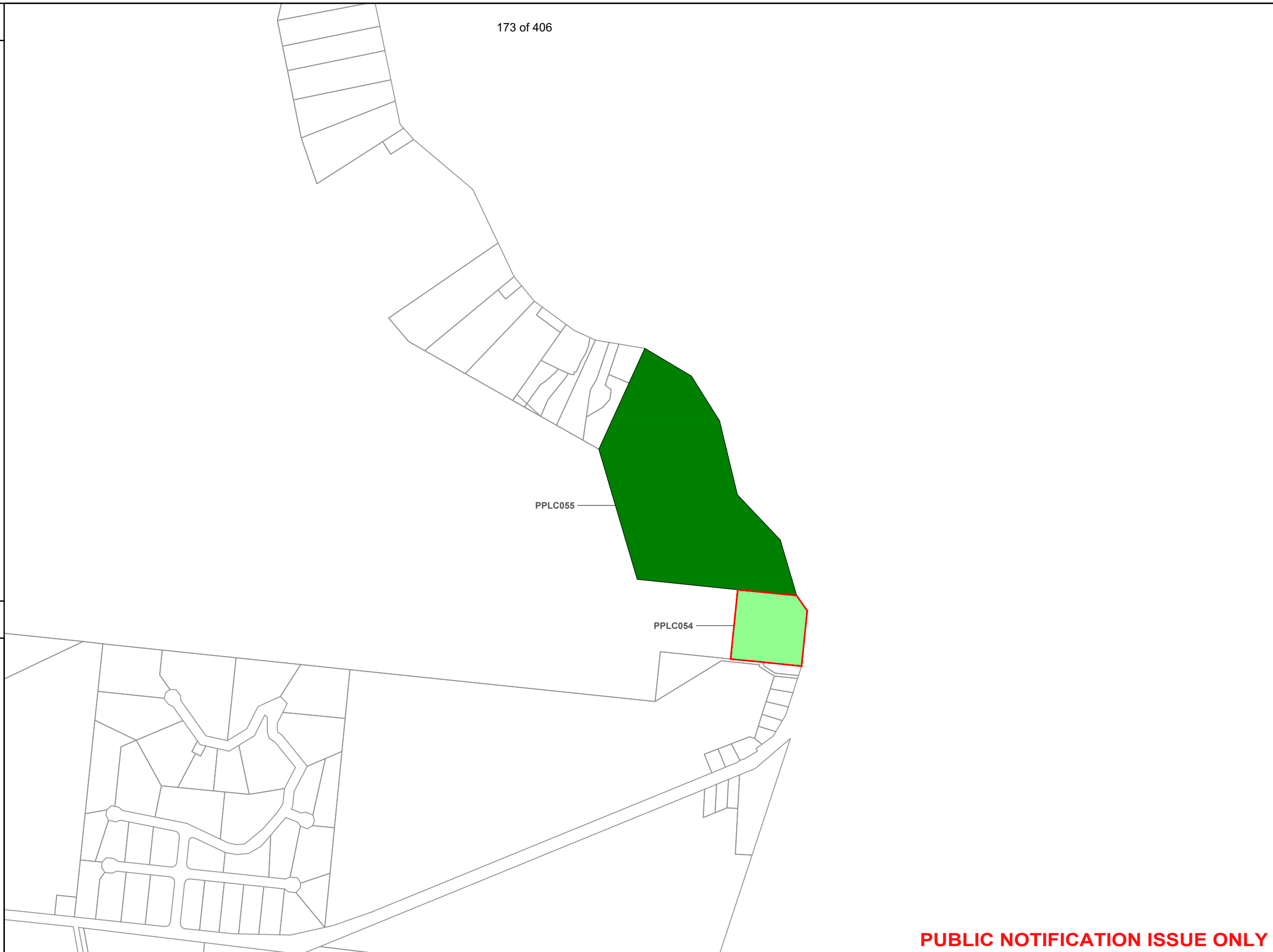
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- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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Designed

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Drawing Check

RR

Design Check

RR

Approved

R RANKINE

RPEQ

23/03/18

Date

1100-610

Drawing No.

C

Revision

Client
DOUGLAS SHIRE COUNCIL

Project
1100 DOUGLAS SHIRE COUNCIL LGIP

Title
EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 6

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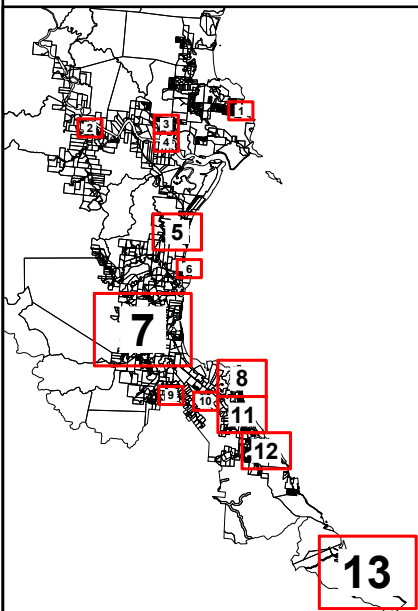
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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

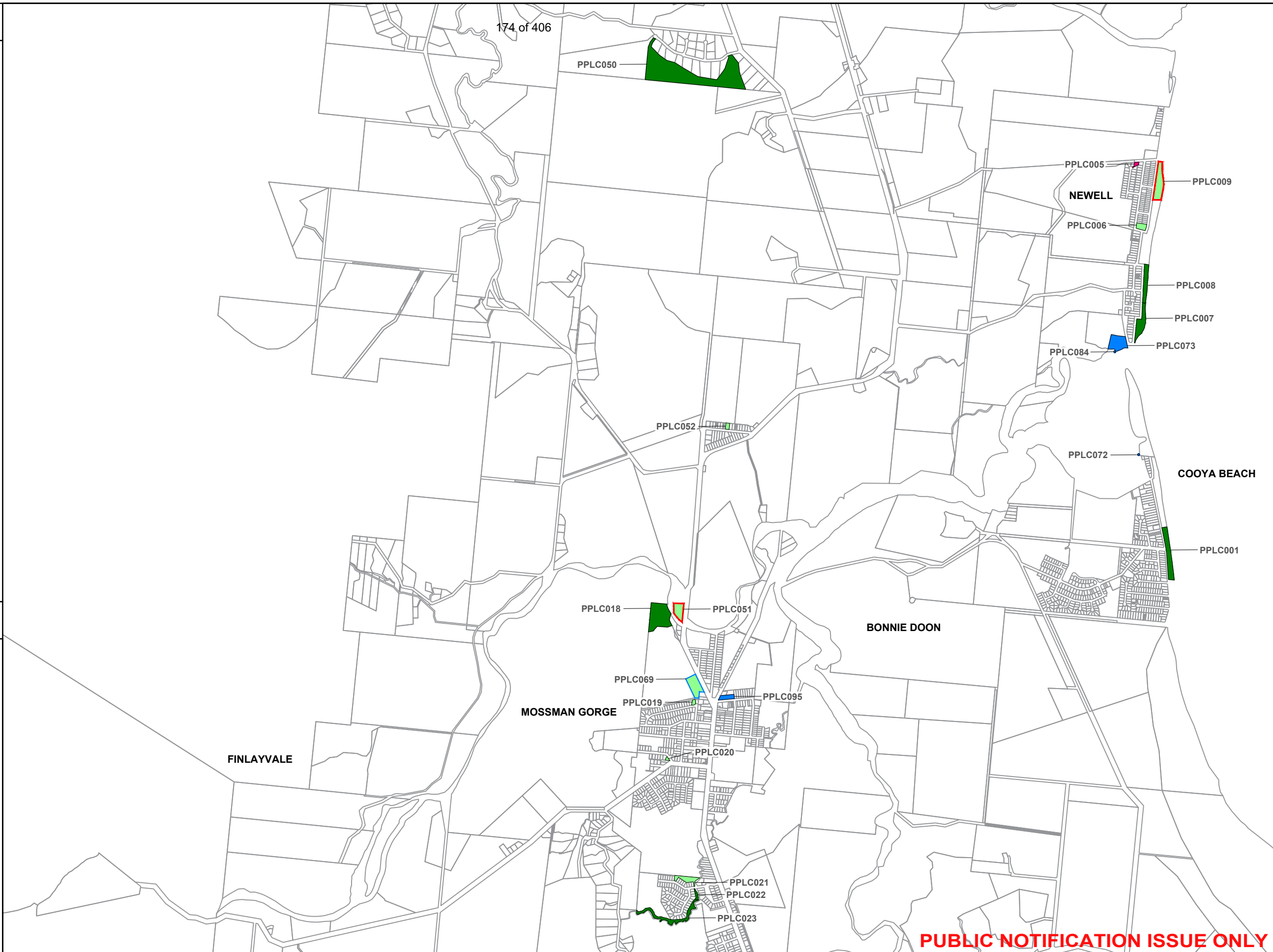
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- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



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GRID: 7

DOUGLAS SHIRE COUNCIL

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MOSSMAN, QLD 4873

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Scale (A3 size) 1:30000		Client DOUGLAS SHIRE COUNCIL	
Drawing is not to be used for construction unless approved.		Project 1100 DOUGLAS SHIRE COUNCIL LGIP	
Drawn IM		Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 7	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-611	Revision C

External References: TEC-TITLE-A3_a.dwg

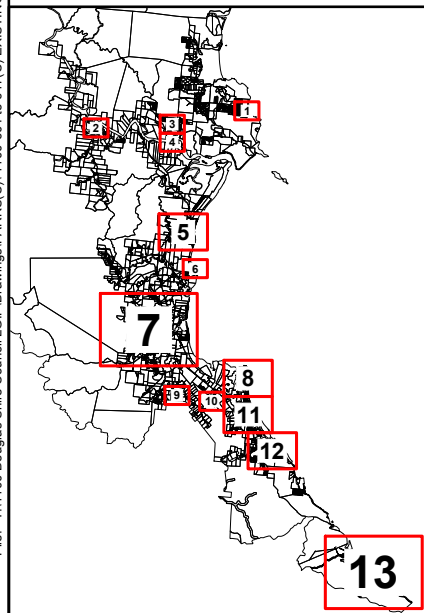
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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

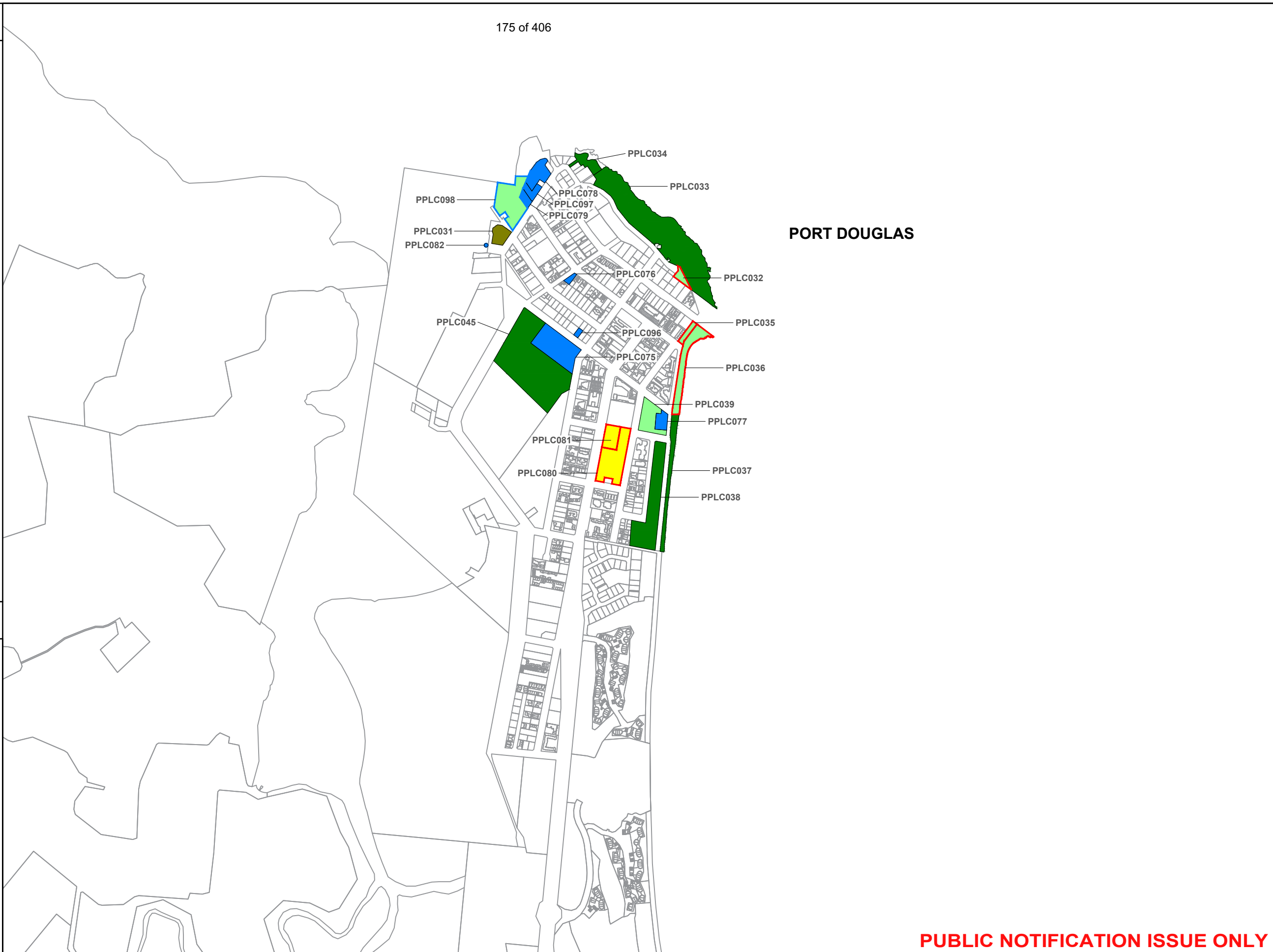
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- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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		Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 8	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 23/03/18
Drawing No. 1100-612		Revision C	

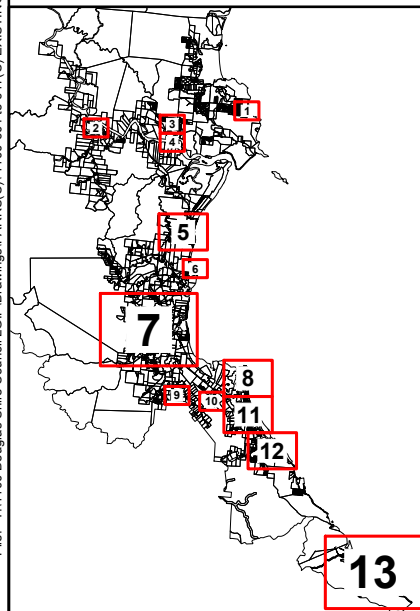
LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION

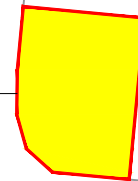


KEY MAP



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PPLC083



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Drawn IM		Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 9	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-613	Revision C

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External References: TEC-TITLE-A3_a.dwg

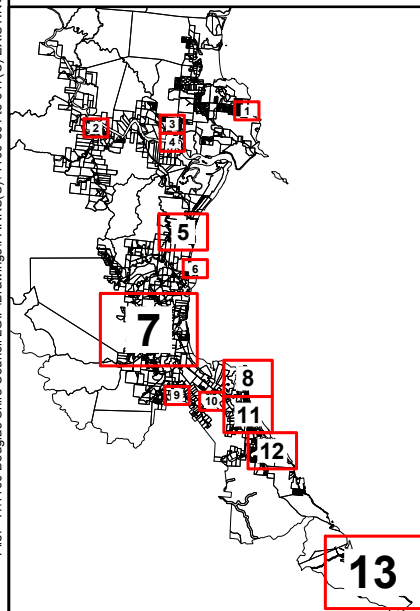
LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



177 of 406

PPLC048

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Drawing is not to be used for construction unless approved.		Project 1100 DOUGLAS SHIRE COUNCIL LGIP	
		Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 10	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved R RANKINE		RPEQ	Date 23/03/18
Drawing No. 1100-614		Revision C	

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No.	Description	Reviewed	Approved	Date
A	ISSUED FOR REVIEW			

External References: TEC-TITLE-A3_a.dwg

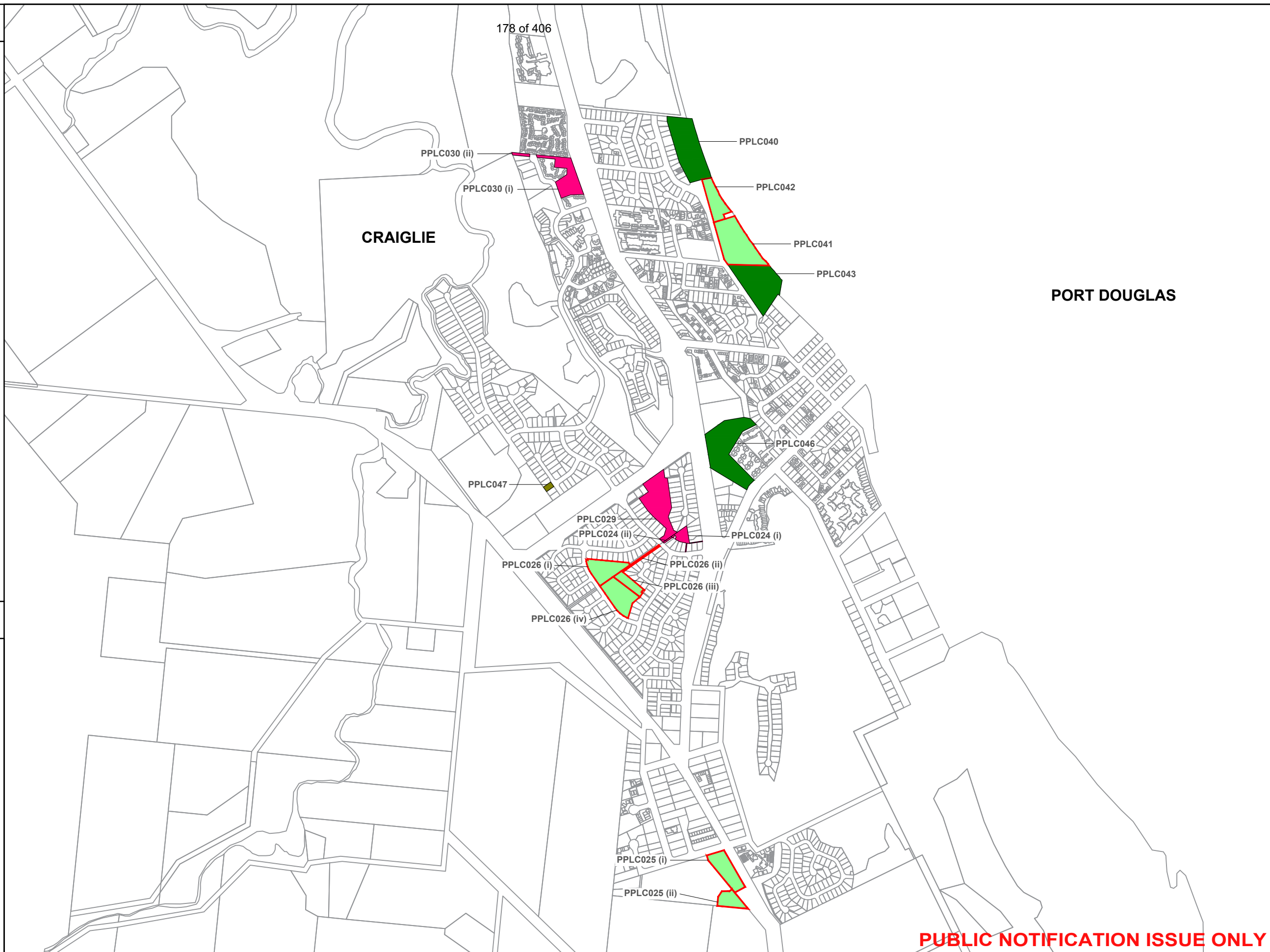
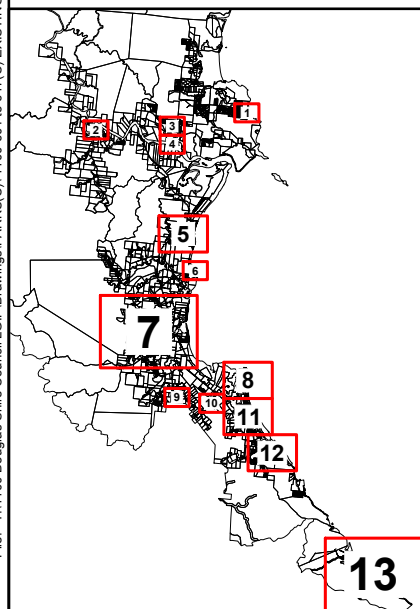
LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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Drawn IM		Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 11	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-615	Revision C

External References: TEC-TITLE-A3_a.dwg

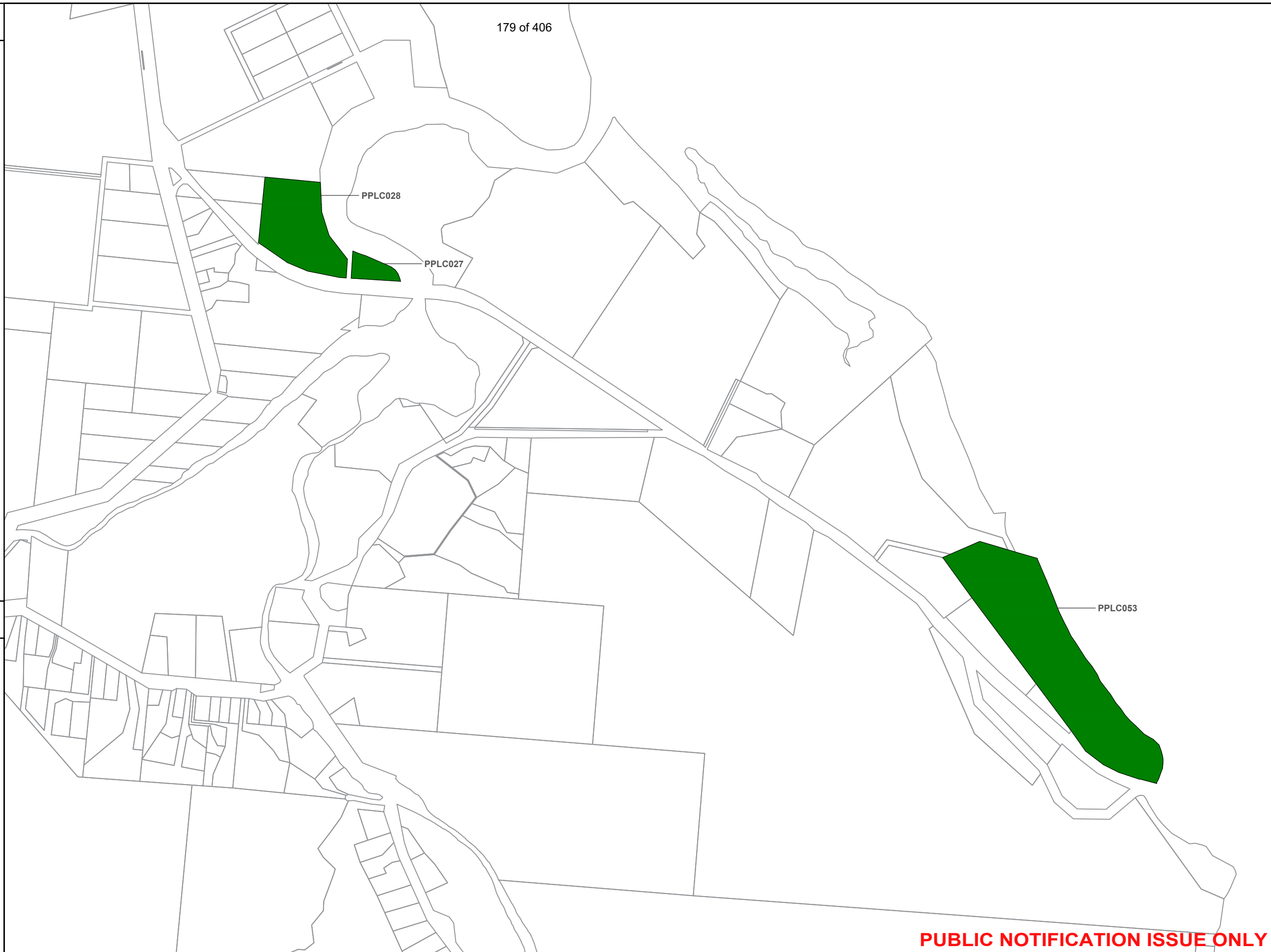
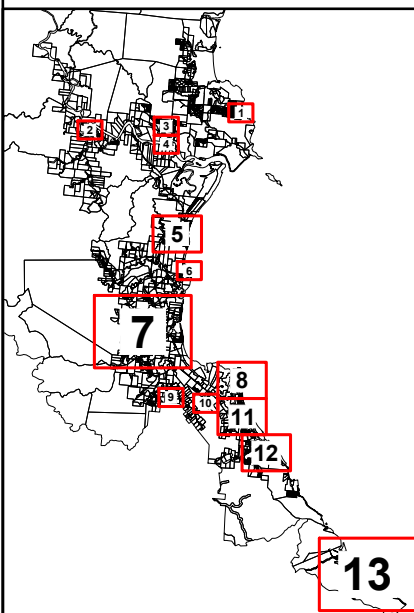
LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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Drawing is not to be used for construction unless approved.		Project 1100 DOUGLAS SHIRE COUNCIL LGIP	
Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 12			
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 23/03/18
Drawing No. 1100-616		Revision C	

External References: TEC-TITLE-A3_a_dwg

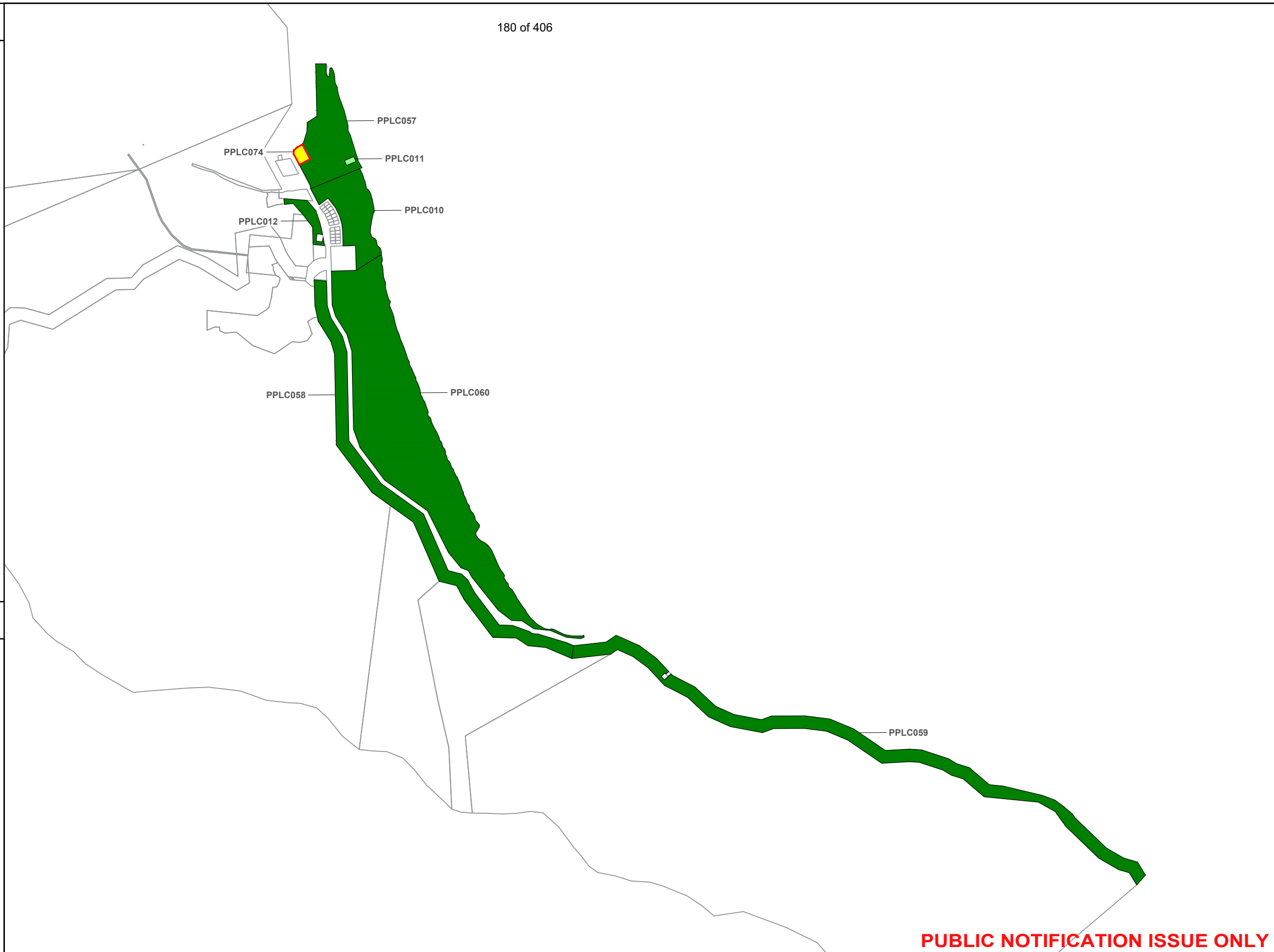
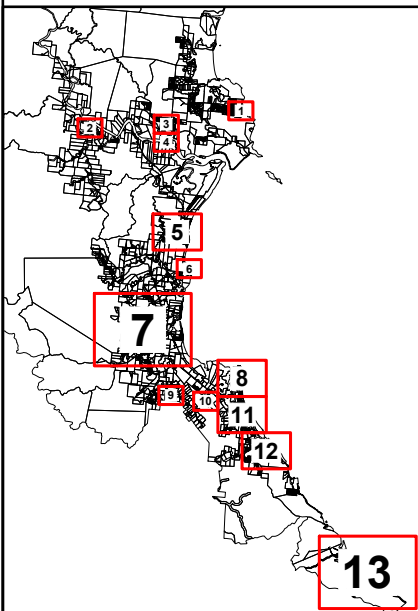
LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION



KEY MAP



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		Title EXISTING PPLC TRUNK INFRASTRUCTURE - GRID 13	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 23/03/18
Drawing No. 1100-617		Revision C	

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External References: TEC-TITLE-A3_a.dwg

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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

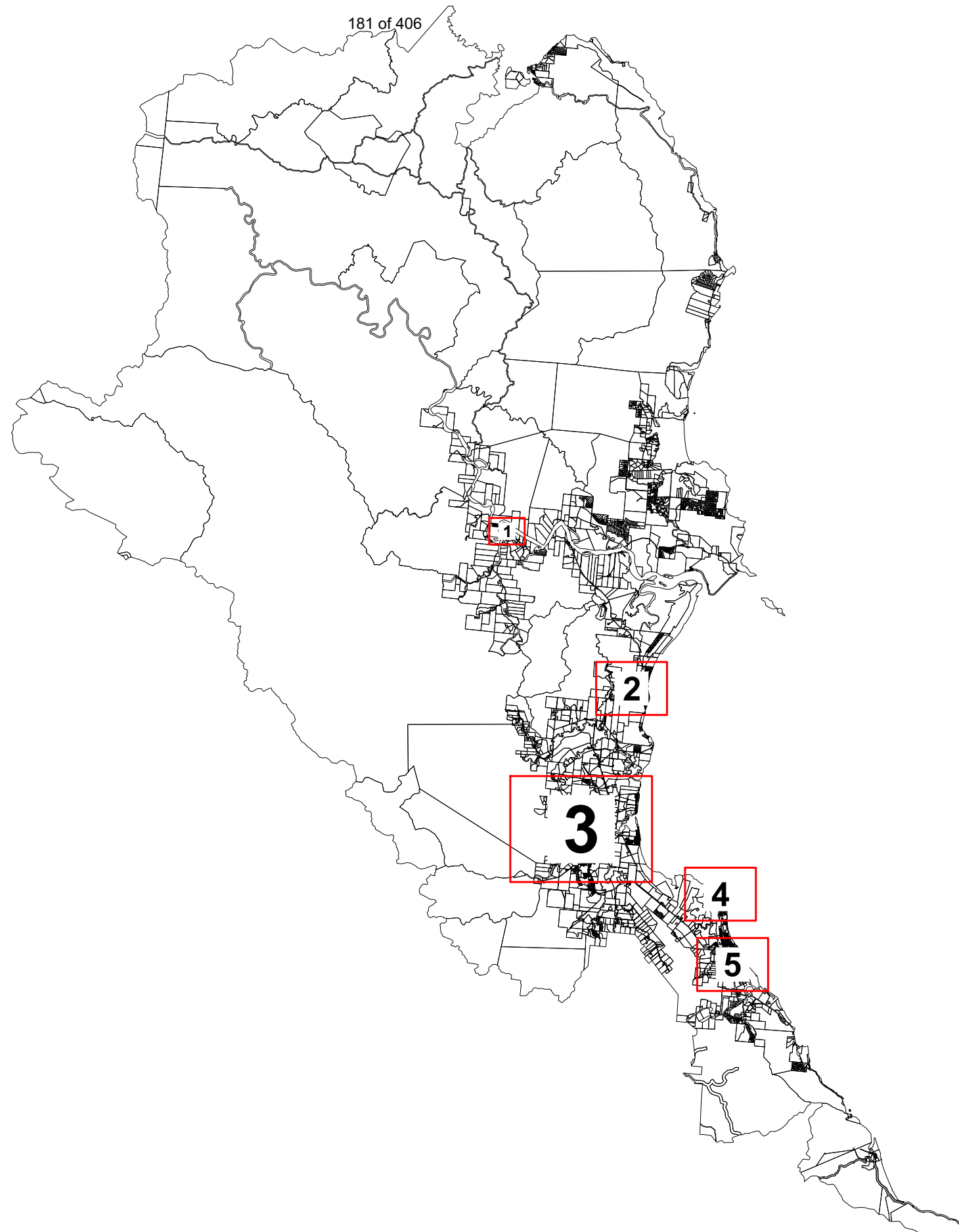
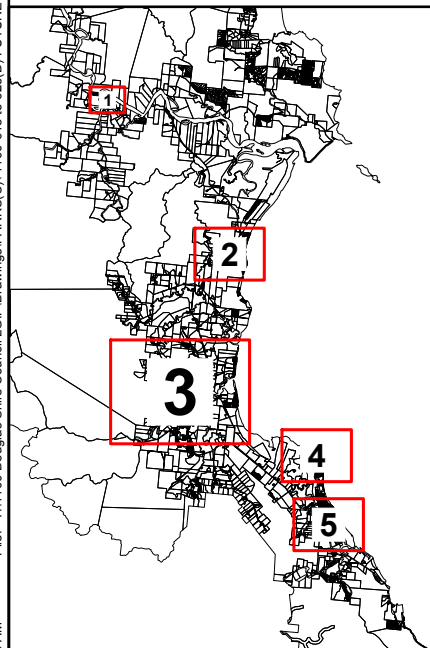
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- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION

STATUS OF INFRASTRUCTURE

- FUTURE PARK
- PARK UPGRADE



KEY MAP



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DOUGLAS SHIRE COUNCIL									
1100 DOUGLAS SHIRE COUNCIL LGIP									
FUTURE PPLC TRUNK INFRASTRUCTURE KEY MAP									
Client									
Project									
Title									
Drawn	Designed	Drawing Check	Design Check	Approved	RPEQ	Date	Drawing No.	Revision	
IM	RR	RR	RR	R RANKINE		23/03/18	1100-618	D	

External References: TEC-TITLE-A3_a.dwg

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PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

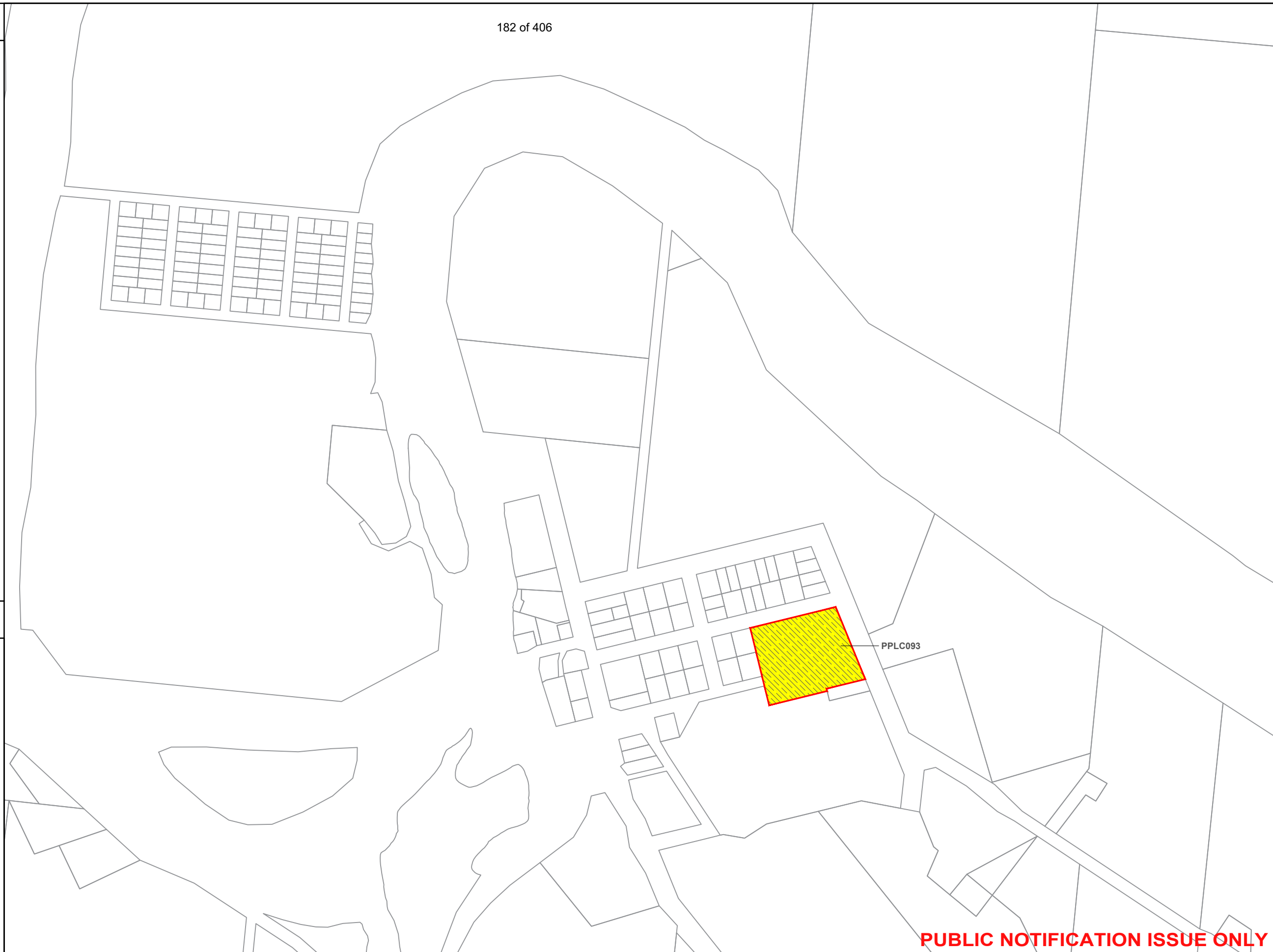
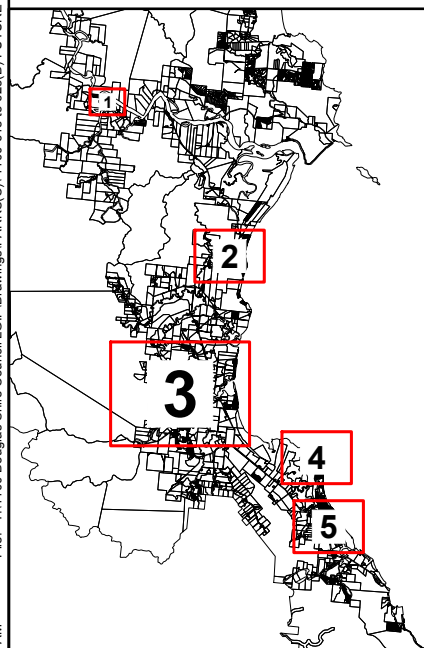
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- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION

STATUS OF INFRASTRUCTURE

- FUTURE PARK
- PARK UPGRADE



KEY MAP



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Revisions				
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GRID: 1



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		Title FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 1	
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 23/03/18
Drawing No. 1100-619		Revision D	

LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

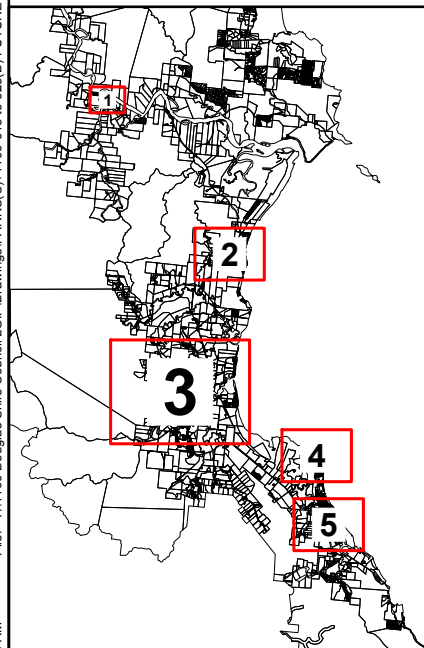
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- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION

STATUS OF INFRASTRUCTURE

- FUTURE PARK
- PARK UPGRADE



KEY MAP



183 of 406

WONGA

PPLC092



PPLC068

BAMBOO

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GRID: 2

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IM

Designed

RR

Drawing Check

RR

Design Check

RR

Approved

R RANKINE

RPEQ

Date

23/03/18

Drawing No.

1100-620

Revision

D

Client

DOUGLAS SHIRE COUNCIL

Project

1100 DOUGLAS SHIRE COUNCIL LGIP

Title

FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 2

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External References: TEC-TITLE-A3_a.dwg

Revisions

No.

Description

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Date

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LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

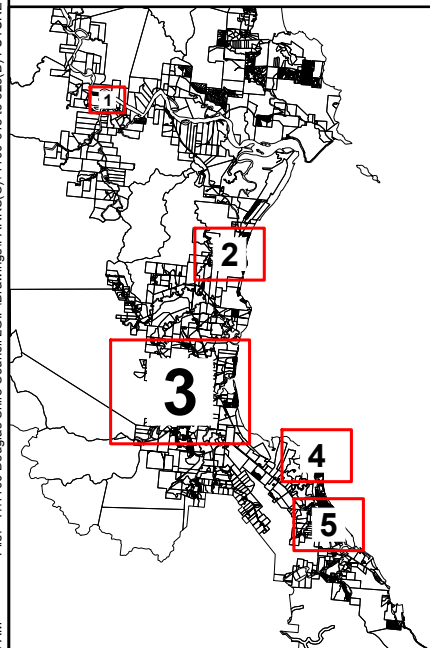
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- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION

STATUS OF INFRASTRUCTURE

- FUTURE PARK
- PARK UPGRADE



KEY MAP



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Scale (A3 size) 1:30000		Client DOUGLAS SHIRE COUNCIL	
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Drawn IM		Title FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 3	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-621	Revision D

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PPLC067

PPLC066

COOYA BEACH

PPLC085

PPLC061

BONNIE DOON

PPLC069

MOSSMAN GORGE

PPLC086 (ii)

PPLC086 (i)

PPLC063

FINLAYVALE

NEWELL

LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

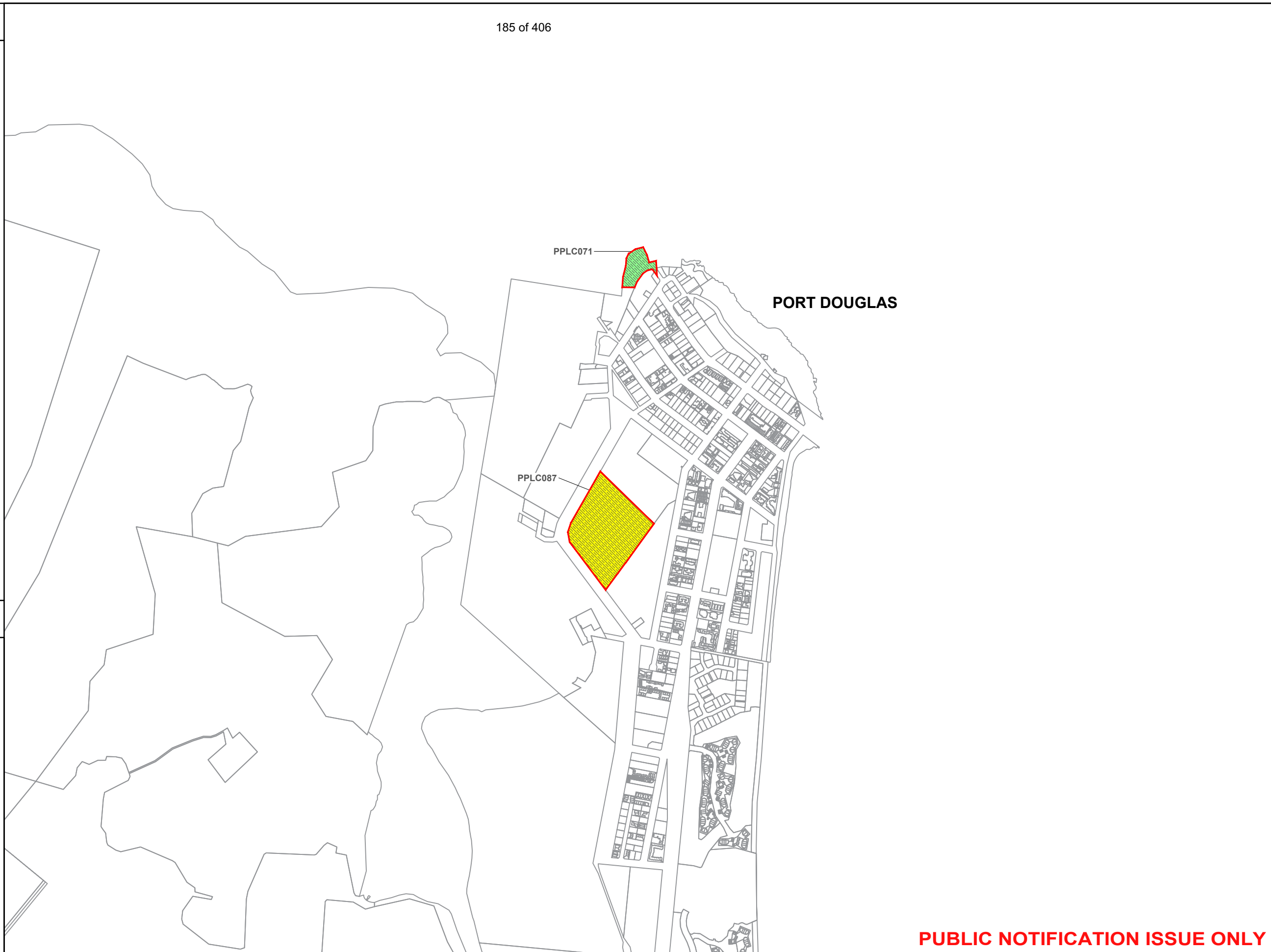
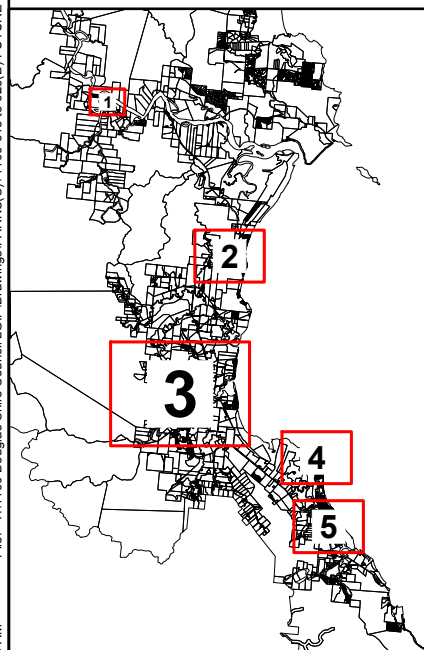
- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
- DISTRICT SPORTS PARK
- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION

STATUS OF INFRASTRUCTURE

- FUTURE PARK
- PARK UPGRADE



KEY MAP



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Title FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 4			
Drawn IM	Designed RR	Drawing Check RR	Design Check RR
Approved <i>R RANKINE</i>		RPEQ	Date 23/03/18
Drawing No. 1100-622		Revision D	

LEGEND

PUBLIC PARKS AND LAND FOR COMMUNITY (PPLC) FACILITIES

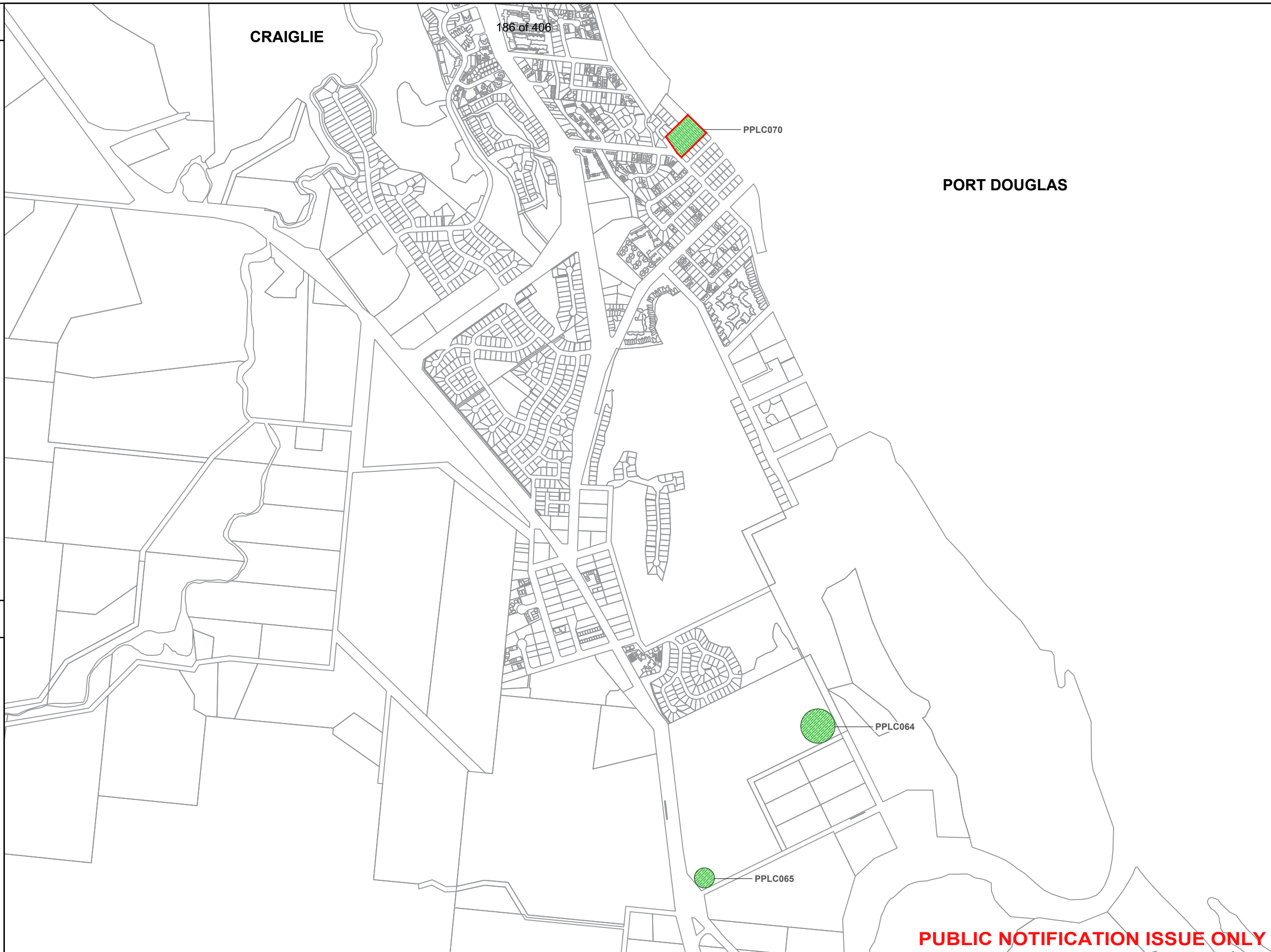
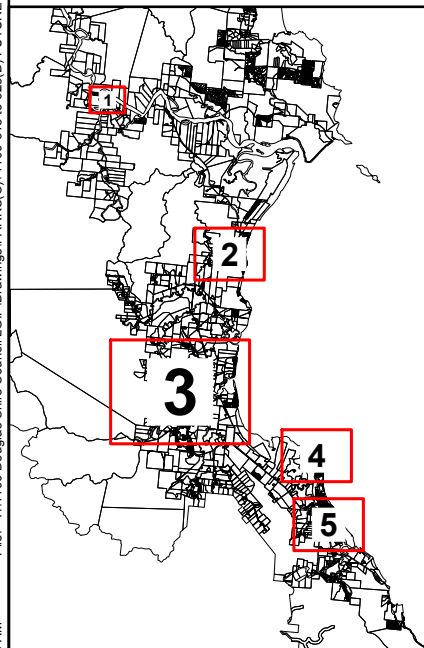
- LOCAL RECREATION PARK
- DISTRICT RECREATION PARK
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- LOCAL GOVT WIDE RECREATION PARK
- LOCAL GOVT WIDE SPORTS PARK
- COMMUNITY FACILITIES
- OTHER OPEN SPACE
- LAND FOR DRAINAGE PURPOSES
- CONSERVATION

STATUS OF INFRASTRUCTURE

- FUTURE PARK
- PARK UPGRADE



KEY MAP



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Scale (A3 size) 1:15000		Client DOUGLAS SHIRE COUNCIL	
Drawing is not to be used for construction unless approved.		Project 1100 DOUGLAS SHIRE COUNCIL LGIP	
Drawn IM		Title FUTURE PPLC TRUNK INFRASTRUCTURE - GRID 5	
Designed RR	Drawing Check RR	Design Check RR	Approved <i>R RANKINE</i>
RPEQ	Date 23/03/18	Drawing No. 1100-623	Revision D

External References: TEC-TITLE-A3_a_dwg

Douglas Shire Council

Refer to the accompanying User Manual for detailed instructions on how to use the Spreadsheet

Version No

1

Date

26/03/2018

Author

RR

Comments

DSC_LGIP_V1 - For Consultation

Inputs

General Input Sheet

- Financial Inputs
- Other "generic" inputs

- Unit Cost of Passive Assets
 - Unit Cost of Land

- Estimates of current and future demand (per cost catchment)

Asset Inputs

Calculation

Calculation Function

- Catchment based summary of demand, infrastructure (existing and new) and cost allocation
- Infrastructure Cost calculation for each catchment ("Average Cost" approach)
 - Optional Discounted Cashflow

Outputs

Summary Cost Schedule

- Summary of demand and cost allocation by catchment
- Final costs by catchment

Summary Cash flow Projections

- Summary of forecast Cap X and anticipated IC revenues

Appendix C - Schedule of works model V11Feb2016

Douglas Shire Council

General Input Sheet

[Return to Navigation Pane](#)

General Inputs		Reference	Value	Comments
Base Year		YEAR	2011	Aligns with release of ABS data (2016 data not released prior to completion of LGIP)
Term (between 15 and 30 years)		TERM	15	
Application of Discounted Cash flow				
Calculate charges using Discounted Cash flow? (Y/N)		DCFTRIGGER	Yes	DCF Mtdology used to recognise inherent uncertainty in long term financial projections
General Financial Inputs				
Discount Rate (WACC):				
Average 10 Year Bond Rate		TenYr	2.75%	Currently 10yr Bond Rate = 2.75%; (15 year bond rate = 3.02%). Adopt 2.75%
Option 1	Basic Margin on 10 Yr. Bond Rate	Margin	3.50%	3.5% is the baseline figure quoted in LG Bulletin 06/01
	WACC:	WACC1	6.25%	
Option 2	Capital Structure (% Debt)	Capstr		
	Market Risk Premium	Risk	6.00%	
	Asset Beta	AssetBeta		
	Cost of Debt	Debt		
WACC:		WACC2	2.75%	
WACC Option to be applied in the calculation?		WACC1	6.25%	More Appropriate for DSC as (Small-Medium Council)
Escalation Rates				
Capital Escalation - Future Cap X		PPI	3.84%	ten (10) yr. average Roads and Bridges Index (ABS 6427, Table 17, Index 3101)
Capital Indexation Rates - Historical (June Qtr.)				
		2011	100.30	Roads and Bridges Index (ABS 6427, Table 17, Index 3101)
		2010	96.60	
		2009	95.20	
		2008	91.80	
		2007	83.20	
		2006	80.10	
		2005	73.30	
Land Escalation		LandInd	2.72%	ten (10) yr. average Consumer Price Index (ABS 640101, Series A2325817T, Series ID A2325820F : June Qtr - from base year)
Charges Escalation Rate		Chargeind	3.00%	As adopted by Council under it's infrastructure charges resolution

Douglas Shire Council

Unit Rates

Land Cost

Water Supply

Stormwater

Transportation

Sewerage

Parks & Community Facilities

Douglas Shire Council

Demand Forecast

Anticipated Growth Residential

Anticipated Growth - NON Residential

Water Supply

Transportation

Sewerage

Parks & Community Facilities

Stormwater

Douglas Shire Council

Existing Trunk Assets

Water Supply

Transportation

Sewerage

Parks & Community Facilities

Stormwater

Douglas Shire Council Water Supply

EXISTING TRUNK ASSETS

Return to "Existing Trunk Assets"

Table with columns: Land Valuation Type, Location, Asset Data (Basic Asset Data, Asset Attributes, Baseline Asset Valuation, Land Attributes, Refined Asset Value), Catchment Asset Allocation. Includes rows for ACTIVE ASSETS and PASSIVE ASSETS.

Douglas Shire Council Water Supply

EXISTING TRUNK ASSETS

Return to "Existing Trunk Assets"

Table with columns: Land Valuation Type, Location, Asset Data (Basic Asset Data, Asset Attributes, Baseline Asset Valuation, Land Attributes, Refined Asset Value), and Catchment Asset Allocation (PORT DOUGLAS (W1), MOSSMAN (W2), WHYANBEEL (W3), DAINTREE (W4), SHARED TREATMENT (W1&W2)). Rows include asset IDs like WME045 through WME126 with various attributes like Unit Rate, Length, Diameter, and Valuation.

Douglas Shire Council Water Supply

EXISTING TRUNK ASSETS

Return to "Existing Trunk Assets"

Table with columns: Land Valuation Type, Location, Asset ID, GLIP ID, Asset Type, Asset Class, Asset Name, Description, Unit Rate, Length/Unit, Diameter, Unit Rate, Baseline Valuation, Site/Condition, Multiplier, Gross Value, Land Location/Type, Size of Land, Unit Cost, Land Value, Valuation Year, Escalation, Current Replacement, and Catchment Asset Allocation (Ports Douglas, Mossman, Whyanbeel, Daintree, Shared Treatment).

Douglas Shire Council
Water Supply

EXISTING TRUNK ASSETS

Return to "Existing Trunk Assets"

Land Valuation Type		Location		Asset Data																	Catchment Asset Allocation													
Basic Asset Data				Asset Attributes			Baseline Asset Valuation				Land Attributes			Refined Asset Value			Catchment Asset Allocation																	
Asset ID	GLIP ID	Asset Type (*)	Asset Class	Asset Name	Description	Unit Rate Type (*)	Length/unit (*)	Diameter (*)	Unit Rate	Baseline Valuation	Site/Condition	Multiplier	Gross Value	Land Location/Type	Size of land (ha) (*)	Unit Cost	Land Value	Valuation Year	Escalation	Current Replacement	PORT DOUGLAS (W1)	MOSSMAN (W2)	WHYANBEEL (W3)	DAINTREE (W4)	SHARED TREATMENT (W1&W2)									
Councils ID (from GIS, FAR, AMA etc.)				ID from the LGIP drawings		Reservoir, Trunk Main, etc.		CRC																	1	2	3	4	5					
RECYCLED WATER RETICULATION NETWORK																																		
Pipe ID: 117283	RWME001	Passive	Water Main	RWME001 - Recycled Water Main - 80 mm (PVC) PN16 OPVC	Recycled Water Main - 80 mm (PVC) PN16 OPVC	Passive	3.622031	80	\$ 108	\$ 393		1	\$ 393			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117244	RWME002	Passive	Water Main	RWME002 - Recycled Water Main - 80 mm (PVC) PN16 OPVC	Recycled Water Main - 80 mm (PVC) PN16 OPVC	Passive	3.735441	80	\$ 108	\$ 405		1	\$ 405			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117263	RWME003	Passive	Water Main	RWME003 - Recycled Water Main - 80 mm (PVC) PN16 OPVC	Recycled Water Main - 80 mm (PVC) PN16 OPVC	Passive	3.630018	80	\$ 108	\$ 394		1	\$ 394			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117266	RWME004	Passive	Water Main	RWME004 - Recycled Water Main - 80 mm (PVC) PN16 OPVC	Recycled Water Main - 80 mm (PVC) PN16 OPVC	Passive	3.754433	80	\$ 108	\$ 408		1	\$ 408			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117281	RWME005	Passive	Water Main	RWME005 - Recycled Water Main - 80 mm (PVC) PN16 OPVC	Recycled Water Main - 80 mm (PVC) PN16 OPVC	Passive	2.886929	80	\$ 108	\$ 313		1	\$ 313			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 115088	RWME006	Passive	Water Main	RWME006 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	132.2553	200	\$ 231	\$ 30,558		1	\$ 30,558			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 115091	RWME007	Passive	Water Main	RWME007 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	837.3181	200	\$ 231	\$ 193,462		1	\$ 193,462			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 115086	RWME008	Passive	Water Main	RWME008 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	49.79064	200	\$ 231	\$ 11,504		1	\$ 11,504			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 115084	RWME009	Passive	Water Main	RWME009 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	349.1577	200	\$ 231	\$ 80,673		1	\$ 80,673			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 115082	RWME010	Passive	Water Main	RWME010 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	360.1089	200	\$ 231	\$ 83,203		1	\$ 83,203			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 115080	RWME011	Passive	Water Main	RWME011 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	320.1703	200	\$ 231	\$ 73,975		1	\$ 73,975			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 115078	RWME012	Passive	Water Main	RWME012 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	1163.412	200	\$ 231	\$ 268,806		1	\$ 268,806			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117341	RWME013	Passive	Water Main	RWME013 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	159.8648	150	\$ 193	\$ 30,841		1	\$ 30,841			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117267	RWME014	Passive	Water Main	RWME014 - Recycled Water Main - 180 mm (HDPE) PN16 PE100	Recycled Water Main - 180 mm (HDPE) PN16 PE100	Passive	88.94219	180	\$ 216	\$ 19,194		1	\$ 19,194			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117350	RWME015	Passive	Water Main	RWME015 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	59.58455	150	\$ 193	\$ 11,495		1	\$ 11,495			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117328	RWME016	Passive	Water Main	RWME016 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	298.2891	150	\$ 193	\$ 57,546		1	\$ 57,546			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118600	RWME017	Passive	Water Main	RWME017 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	95.20318	200	\$ 231	\$ 21,997		1	\$ 21,997			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118603	RWME018	Passive	Water Main	RWME018 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	0.51134	200	\$ 231	\$ 118		1	\$ 118			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118611	RWME019	Passive	Water Main	RWME019 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	0.674996	200	\$ 231	\$ 156		1	\$ 156			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118592	RWME020	Passive	Water Main	RWME020 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	5.108036	200	\$ 231	\$ 1,180		1	\$ 1,180			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118585	RWME021	Passive	Water Main	RWME021 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	1.241574	200	\$ 231	\$ 287		1	\$ 287			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118583	RWME022	Passive	Water Main	RWME022 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	0.563561	200	\$ 231	\$ 130		1	\$ 130			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118615	RWME023	Passive	Water Main	RWME023 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	1.785719	200	\$ 231	\$ 413		1	\$ 413			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118606	RWME024	Passive	Water Main	RWME024 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	0.708364	200	\$ 231	\$ 164		1	\$ 164			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118568	RWME025	Passive	Water Main	RWME025 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	6.108596	200	\$ 231	\$ 1,411		1	\$ 1,411			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118596	RWME026	Passive	Water Main	RWME026 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	7.824857	200	\$ 231	\$ 1,808		1	\$ 1,808			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118617	RWME027	Passive	Water Main	RWME027 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	2.348502	200	\$ 231	\$ 543		1	\$ 543			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118627	RWME028	Passive	Water Main	RWME028 - Recycled Water Main - 250 mm (DICL)	Recycled Water Main - 250 mm (DICL)	Passive	90.64957	250	\$ 274	\$ 24,809		1	\$ 24,809			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118618	RWME029	Passive	Water Main	RWME029 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	0.864684	200	\$ 231	\$ 200		1	\$ 200			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117312	RWME030	Passive	Water Main	RWME030 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	329.6322	150	\$ 193	\$ 63,593		1	\$ 63,593			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117257	RWME031	Passive	Water Main	RWME031 - Recycled Water Main - 180 mm (HDPE) PN16 PE100	Recycled Water Main - 180 mm (HDPE) PN16 PE100	Passive	27.77694	180	\$ 216	\$ 5,994		1	\$ 5,994			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 117253	RWME032	Passive	Water Main	RWME032 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	1.818938	150	\$ 193	\$ 351		1	\$ 351			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118563	RWME033	Passive	Water Main	RWME033 - Recycled Water Main - 100 mm (DICL)	Recycled Water Main - 100 mm (DICL)	Passive	1.488199	100	\$ 174	\$ 259		1	\$ 259			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118622	RWME034	Passive	Water Main	RWME034 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	1.328399	200	\$ 231	\$ 307		1	\$ 307			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118643	RWME035	Passive	Water Main	RWME035 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	0.628737	200	\$ 231	\$ 145		1	\$ 145			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118641	RWME036	Passive	Water Main	RWME036 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	58.98452	200	\$ 231	\$ 13,628		1	\$ 13,628			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118638	RWME037	Passive	Water Main	RWME037 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	10.13961	200	\$ 231	\$ 2,343		1	\$ 2,343			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118636	RWME038	Passive	Water Main	RWME038 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	42.52462	200	\$ 231	\$ 9,825		1	\$ 9,825			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118634	RWME039	Passive	Water Main	RWME039 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	185.5242	200	\$ 231	\$ 42,865		1	\$ 42,865			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118632	RWME040	Passive	Water Main	RWME040 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	24.86073	200	\$ 231	\$ 5,744		1	\$ 5,744			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118630	RWME041	Passive	Water Main	RWME041 - Recycled Water Main - 250 mm (HDPE)	Recycled Water Main - 250 mm (HDPE)	Passive	53.79499	250	\$ 274	\$ 14,723		1	\$ 14,723			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118523	RWME042	Passive	Water Main	RWME042 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	100.6446	200	\$ 231	\$ 23,254		1	\$ 23,254			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118531	RWME043	Passive	Water Main	RWME043 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	39.14369	200	\$ 231	\$ 9,044		1	\$ 9,044			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118561	RWME044	Passive	Water Main	RWME044 - Recycled Water Main - 100 mm (DICL)	Recycled Water Main - 100 mm (DICL)	Passive	0.967769	100	\$ 174	\$ 169		1	\$ 169			\$ 20	\$ -	2011	1.00	\$ -	Y													
Pipe ID: 118528	RWME045	Passive	Water Main	RWME045 - Recycled Water Main - 150 mm (PVC)	Recycled Water Main - 150 mm (PVC)	Passive	291.5617	150	\$ 193	\$ 56,248		1																						

Douglas Shire Council
Water Supply

EXISTING TRUNK ASSETS

Return to "Existing Trunk Assets"

Land Valuation Type		Location		Asset Data															Catchment Asset Allocation							
Basic Asset Data				Asset Attributes			Baseline Asset Valuation				Land Attributes			Refined Asset Value					Catchment Asset Allocation							
Asset ID	GLIP ID	Asset Type (*)	Asset Class	Asset Name	Description	Unit Rate Type (*)	Length/unit (*)	Diameter (*)	Unit Rate	Baseline Valuation	Site/Condition	Multiplier	Gross Value	Land Location/Type	Size of land (ha) (*)	Unit Cost	Land Value	Valuation Year	Escalation	Current Replacement	PORT DOUGLAS (W1)	MOSSMAN (W2)	WHYBANBEL (W3)	DAINTREE (W4)	SHARED TREATMENT (W1&W2)	
Councils ID (from GIS, FAR, AMA etc.)	ID from the LGP drawings		Reservoir, Trunk Main, etc.							May be calculated from unit rates OR unique values can be direct entered										CRC	1	2	3	4	5	
Pipe ID: 117251	RWME082	Passive	Water Main	RWME082 - Recycled Water Main - 180 mm (HDPE) PN16	Recycled Water Main - 180 mm (HDPE) PN16	Passive	43.03911	180	\$ 216	\$ 9,288		1	\$ 9,288					2011	1.00	\$ 9,288	Y					
Pipe ID: 117308	RWME083	Passive	Water Main	RWME083 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	482.5802	150	\$ 193	\$ 93,099		1	\$ 93,099					2011	1.00	\$ 93,099	Y					
Pipe ID: 117306	RWME084	Passive	Water Main	RWME084 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	47.0294	150	\$ 193	\$ 9,073		1	\$ 9,073					2011	1.00	\$ 9,073	Y					
Pipe ID: 118519	RWME085	Passive	Water Main	RWME085 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	225.4925	200	\$ 231	\$ 52,100		1	\$ 52,100					2011	1.00	\$ 52,100	Y					
Pipe ID: 118620	RWME086	Passive	Water Main	RWME086 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	1.516019	200	\$ 231	\$ 350		1	\$ 350					2011	1.00	\$ 350	Y					
Pipe ID: 118642	RWME087	Passive	Water Main	RWME087 - Recycled Water Main - 250 mm (HDPE)	Recycled Water Main - 250 mm (HDPE)	Passive	37.54449	250	\$ 274	\$ 10,275		1	\$ 10,275					2011	1.00	\$ 10,275	Y					
Pipe ID: 118639	RWME088	Passive	Water Main	RWME088 - Recycled Water Main - 250 mm (PVC)	Recycled Water Main - 250 mm (PVC)	Passive	35.62298	250	\$ 274	\$ 9,749		1	\$ 9,749					2011	1.00	\$ 9,749	Y					
Pipe ID: 118637	RWME089	Passive	Water Main	RWME089 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	446.0576	200	\$ 231	\$ 103,062		1	\$ 103,062					2011	1.00	\$ 103,062	Y					
Pipe ID: 118635	RWME090	Passive	Water Main	RWME090 - Recycled Water Main - 250 mm (PVC)	Recycled Water Main - 250 mm (PVC)	Passive	81.59651	250	\$ 274	\$ 22,331		1	\$ 22,331					2011	1.00	\$ 22,331	Y					
Pipe ID: 118633	RWME091	Passive	Water Main	RWME091 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	150.4101	200	\$ 231	\$ 34,752		1	\$ 34,752					2011	1.00	\$ 34,752	Y					
Pipe ID: 118562	RWME092	Passive	Water Main	RWME092 - Recycled Water Main - 250 mm (HDPE)	Recycled Water Main - 250 mm (HDPE)	Passive	47.51435	250	\$ 274	\$ 13,004		1	\$ 13,004					2011	1.00	\$ 13,004	Y					
Pipe ID: 118560	RWME093	Passive	Water Main	RWME093 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	10.38558	200	\$ 231	\$ 2,400		1	\$ 2,400					2011	1.00	\$ 2,400	Y					
Pipe ID: 118532	RWME094	Passive	Water Main	RWME094 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	132.9031	200	\$ 231	\$ 30,707		1	\$ 30,707					2011	1.00	\$ 30,707	Y					
Pipe ID: 118526	RWME095	Passive	Water Main	RWME095 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	90.24204	200	\$ 231	\$ 20,850		1	\$ 20,850					2011	1.00	\$ 20,850	Y					
Pipe ID: 118522	RWME096	Passive	Water Main	RWME096 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	1.61893	200	\$ 231	\$ 374		1	\$ 374					2011	1.00	\$ 374	Y					
Pipe ID: 117240	RWME097	Passive	Water Main	RWME097 - Recycled Water Main - 180 mm (HDPE) PN16 PE100	Recycled Water Main - 180 mm (HDPE) PN16 PE100	Passive	59.88126	180	\$ 216	\$ 12,922		1	\$ 12,922					2011	1.00	\$ 12,922	Y					
Pipe ID: 117317	RWME098	Passive	Water Main	RWME098 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	289.7681	150	\$ 193	\$ 55,902		1	\$ 55,902					2011	1.00	\$ 55,902	Y					
Pipe ID: 117299	RWME099	Passive	Water Main	RWME099 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	57.4821	150	\$ 193	\$ 11,089		1	\$ 11,089					2011	1.00	\$ 11,089	Y					
Pipe ID: 118555	RWME100	Passive	Water Main	RWME100 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	1.356026	200	\$ 231	\$ 313		1	\$ 313					2011	1.00	\$ 313	Y					
Pipe ID: 118543	RWME101	Passive	Water Main	RWME101 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	14.01005	200	\$ 231	\$ 3,237		1	\$ 3,237					2011	1.00	\$ 3,237	Y					
Pipe ID: 118539	RWME102	Passive	Water Main	RWME102 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	1.057293	200	\$ 231	\$ 244		1	\$ 244					2011	1.00	\$ 244	Y					
Pipe ID: 118624	RWME103	Passive	Water Main	RWME103 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	8.662078	200	\$ 231	\$ 2,001		1	\$ 2,001					2011	1.00	\$ 2,001	Y					
Pipe ID: 118644	RWME104	Passive	Water Main	RWME104 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	149.8438	200	\$ 231	\$ 34,621		1	\$ 34,621					2011	1.00	\$ 34,621	Y					
Pipe ID: 118544	RWME105	Passive	Water Main	RWME105 - Recycled Water Main - 150 mm (PVC) PN16	Recycled Water Main - 150 mm (PVC) PN16	Passive	143.7057	150	\$ 193	\$ 27,724		1	\$ 27,724					2011	1.00	\$ 27,724	Y					
Pipe ID: 117287	RWME106	Passive	Water Main	RWME106 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	333.0208	150	\$ 193	\$ 64,246		1	\$ 64,246					2011	1.00	\$ 64,246	Y					
Pipe ID: 117321	RWME107	Passive	Water Main	RWME107 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	44.097	150	\$ 193	\$ 8,507		1	\$ 8,507					2011	1.00	\$ 8,507	Y					
Pipe ID: 117290	RWME108	Passive	Water Main	RWME108 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	6.217747	150	\$ 193	\$ 1,200		1	\$ 1,200					2011	1.00	\$ 1,200	Y					
Pipe ID: 118547	RWME109	Passive	Water Main	RWME109 - Recycled Water Main - 150 mm (HDPE) PN16	Recycled Water Main - 150 mm (HDPE) PN16	Passive	126.7965	150	\$ 193	\$ 24,462		1	\$ 24,462					2011	1.00	\$ 24,462	Y					
Pipe ID: 118626	RWME110	Passive	Water Main	RWME110 - Recycled Water Main - 150 mm (PVC) PN16	Recycled Water Main - 150 mm (PVC) PN16	Passive	27.69556	150	\$ 193	\$ 5,343		1	\$ 5,343					2011	1.00	\$ 5,343	Y					
Pipe ID: 118549	RWME111	Passive	Water Main	RWME111 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	1.26989	200	\$ 231	\$ 293		1	\$ 293					2011	1.00	\$ 293	Y					
Pipe ID: 118540	RWME112	Passive	Water Main	RWME112 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	105.1067	200	\$ 231	\$ 24,285		1	\$ 24,285					2011	1.00	\$ 24,285	Y					
Pipe ID: 117337	RWME113	Passive	Water Main	RWME113 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	2.611985	150	\$ 193	\$ 504		1	\$ 504					2011	1.00	\$ 504	Y					
Pipe ID: 118614	RWME114	Passive	Water Main	RWME114 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	1.785719	200	\$ 231	\$ 413		1	\$ 413					2011	1.00	\$ 413	Y					
Pipe ID: 118612	RWME115	Passive	Water Main	RWME115 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	1.188533	200	\$ 231	\$ 275		1	\$ 275					2011	1.00	\$ 275	Y					
Pipe ID: 118610	RWME116	Passive	Water Main	RWME116 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	2.260979	200	\$ 231	\$ 522		1	\$ 522					2011	1.00	\$ 522	Y					
Pipe ID: 118564	RWME117	Passive	Water Main	RWME117 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	13.94623	200	\$ 231	\$ 3,222		1	\$ 3,222					2011	1.00	\$ 3,222	Y					
Pipe ID: 118628	RWME118	Passive	Water Main	RWME118 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	0.097946	200	\$ 231	\$ 23		1	\$ 23					2011	1.00	\$ 23	Y					
Pipe ID: 117313	RWME119	Passive	Water Main	RWME119 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	23.96459	150	\$ 193	\$ 4,623		1	\$ 4,623					2011	1.00	\$ 4,623	Y					
Pipe ID: 118623	RWME120	Passive	Water Main	RWME120 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	14.93677	200	\$ 231	\$ 3,451		1	\$ 3,451					2011	1.00	\$ 3,451	Y					
Pipe ID: 118527	RWME121	Passive	Water Main	RWME121 - Recycled Water Main - 150 mm (PVC)	Recycled Water Main - 150 mm (PVC)	Passive	0.842306	150	\$ 193	\$ 162		1	\$ 162					2011	1.00	\$ 162	Y					
Pipe ID: 118524	RWME122	Passive	Water Main	RWME122 - Recycled Water Main - 200 mm (PVC)	Recycled Water Main - 200 mm (PVC)	Passive	71.46535	200	\$ 231	\$ 16,512		1	\$ 16,512					2011	1.00	\$ 16,512	Y					
Pipe ID: 118520	RWME123	Passive	Water Main	RWME123 - Recycled Water Main - 200 mm (DICL)	Recycled Water Main - 200 mm (DICL)	Passive	35.07499	200	\$ 231	\$ 8,104		1	\$ 8,104					2011	1.00	\$ 8,104	Y					
Pipe ID: 118599	RWME124	Passive	Water Main	RWME124 - Recycled Water Main - 200 mm (PVC) PN16	Recycled Water Main - 200 mm (PVC) PN16	Passive	8	200	\$ 231	\$ 1,848		1	\$ 1,848					2011	1.00	\$ 1,848	Y					
Pipe ID: 117316	RWME125	Passive	Water Main	RWME125 - Recycled Water Main - 150 mm (PVC) PN16 OPVC	Recycled Water Main - 150 mm (PVC) PN16 OPVC	Passive	210.5391	150	\$ 193	\$ 40,617		1	\$ 40,617					2011	1.00	\$ 40,617	Y					
Pipe ID: 117295	RWME126	Passive	Water Main	RWME126 - Recycled Water Main - 180 mm (HDPE) PN16																						

Douglas Shire Council Wastewater

EXISTING TRUNK ASSETS

Return to "Existing Trunk Assets"

Table with columns: Land Valuation Type, Location, Asset Data, Asset Attributes, Basic Asset Valuation, Land Attributes, Refined Asset Value, Catchment Asset Allocation. Rows list various assets like Gravity Main, Rising Main, and Sewers with associated IDs, descriptions, and values.

Douglas Shire Council
Wastewater
EXISTING TRUNK ASSETS

[Return to "Existing Trunk Assets"](#)

Land Valuation Type		Location		Asset Data																Catchment Asset Allocation							
Basic Asset Data				Asset Attributes				Basic Asset Valuation				Land Attributes				Refined Asset Value				Catchment Asset Allocation							
Asset ID	LGIP ID	Asset Type (*)	Asset Class	Asset Name	Description	Unit Rate Type (*)	Length (unit) (*)	Diameter (*)	Depth (*)	Unit Rate	Baseline Valuation	Site/Condition	Multiplier	Gross Value	Land Location/Type	Size of Land (ha) (*)	Unit Cost	Land Value	Valuation Year	Escalation	Current Replacement	PORT DOUGLAS (\$)	MOSSMAN (\$2)	COOYA BEACH (\$3)	NEWELL BEACH (\$4)	WONGA BEACH / ROCKY POINT (\$5)	SHARED TREATMENT (\$2-\$5)
Councils ID (from GIS, FAR, AMA etc.)	ID from the LGIP drawings		Pump Station, Gravity Main, Rising Main etc								May be calculated from unit rates OR unique values can be direct entered										CRC						
RME074	Passive	Rising Main	RME074 Rising MainRising Main 100 mm dia	Rising Main 100 mm dia	Rising Mains	90	100	1.5m-3.0m	\$ 155	\$ 13,960		1	\$ 13,960			\$ 20		2011	1.00	\$ 13,960	Y						
RME075	Passive	Rising Main	RME075 Rising MainRising Main 150 mm dia	Rising Main 150 mm dia	Rising Mains	125	150	1.5m-3.0m	\$ 193	\$ 24,149		1	\$ 24,149			\$ 20		2011	1.00	\$ 24,149	Y						
RME076	Passive	Rising Main	RME076 Rising MainRising Main 100 mm dia	Rising Main 100 mm dia	Rising Mains	163.75	100	1.5m-3.0m	\$ 155	\$ 25,399		1	\$ 25,399			\$ 20		2011	1.00	\$ 25,399	Y						
RME078	Passive	Rising Main	RME078 Rising MainRising Main 100 mm dia	Rising Main 100 mm dia	Rising Mains	27.63	100	1.5m-3.0m	\$ 155	\$ 4,286		1	\$ 4,286			\$ 20		2011	1.00	\$ 4,286	Y						
RME077	Passive	Rising Main	RME077 Rising MainRising Main 100 mm dia	Rising Main 100 mm dia	Rising Mains	519.03	100	1.5m-3.0m	\$ 155	\$ 80,507		1	\$ 80,507			\$ 20		2011	1.00	\$ 80,507	Y						
										\$ -	\$ -		1	\$ -			\$ 20			1.00	\$ -						

Douglas Shire Council Transport

EXISTING TRUNK ASSETS

Return to "Existing Trunk Assets"

Table with columns: Land Valuation Type, Location, Asset ID, CGP ID, Asset Class, Asset Name, Description, Unit Rate Type (*), Length/Unit (*), Hierarchy/Name, Unit Rate, Base Valuation, Site/Condition, Multiplier, Gross Value, Land Location/Type, Size of Land (ha) (*), Unit Cost, Land Value, Valuation Year, Escalation, Current Replacement, Catchment Asset Allocation (Douglas Shire South (TR1), Douglas Shire North (TR2)).

Douglas Shire Council Transport EXISTING TRUNK ASSETS

Return to "Existing Trunk Assets"

Table with columns: Land Valuation Type, Location, Asset ID, LGR ID, Asset Class, Asset Name, Description, Unit Rate Type, Length/Unit, Hierarchy/Name, Unit Rate, Base Valuation, Site/Condition, Multiplier, Gross Value, Land Location/Type, Size of land, Unit Cost, Land Value, Valuation Year, Escalation, Current Replacer, Catchment Asset Allocation (Douglas Shire South, Douglas Shire North).

Douglas Shire Council
Parks and Land for Community Facilities

EXISTING TRUNK ASSETS

[Return to "Existing Trunk Assets"](#)

Land Valuation Type		Location		Asset Data										Catchment Asset Allocation																							
Basic Asset Data				Asset Attributes			Basic Asset Valuation				Land Attributes			Refined Asset Value			Catchment Asset Allocation																				
Asset ID	CGIP ID	Asset Class	Address	Description	Unit Rate Type (*)	Unit (*)	Unit Rate	Baseline Valuation	Site/Condition	Multiplier	Gross Value	Land Location/Type	Size of land (ha) (*)	Unit Cost	Land Value	Valuation Year	Escalation	Current Repalcemen	Port Douglas (PPLC1)	Mossman (PPLC2)	Cooya Beach (PPLC3)	Newell Beach (PPLC4)	Wonga Beach (PPLC5)	Rural Area - South of Mowbray River	Rural Area - Mowbray River to Mossman	Rural Area - Mossman River to Daintree	Rural Area - North of Daintree River	District Shared Catchments	District Shared Catchments (5,8,9)	Regional Shared Catchments (1-9)	90						
Councils ID (from GIS, FAR, AMA etc.)	ID from the LGIP drawings	Local/District Park						May be calculated from unit rates OR unique values can be direct entered										CRC	13.194	2,071	202	465	1,015	516	265	1,309	1,005	17,689	3,329	21,022	0						
MULTIPLE CATCHMENT (REGIONAL) ASSETS																																					
Cost of Park Embellishments																																					
PPLC072		Community Facilities	Cooya Beach	Community Facilities			\$0	\$ -		1	\$ -		0.00	\$ -		2011	1.00	\$ -	Y	Y	Y	Y		Y	Y												
PPLC073		Community Facilities	Newell	Community Facilities			\$0	\$ 4,100		1	\$ 4,100		1.58	\$ -		2011	1.00	\$ 4,100	Y	Y	Y	Y		Y	Y												
PPLC074		District Sports Park	Wangetti	District Sports Park			\$0	\$ -		1	\$ -		1.26	\$ 125,700		2011	1.00	\$ 125,700	Y	Y	Y	Y		Y	Y												
PPLC075		Community Facilities	Port Douglas	Community Facilities			\$0	\$ -		1	\$ -		1.89	\$ 567,480		2011	1.00	\$ 567,480	Y	Y	Y	Y		Y	Y												
PPLC076		Community Facilities	Port Douglas	Community Facilities			\$0	\$ 71,272		1	\$ 71,272		0.10	\$ -		2011	1.00	\$ 71,272	Y	Y	Y	Y		Y	Y												
PPLC077		Community Facilities	Port Douglas	Community Facilities			\$0	\$ -		1	\$ -		0.33	\$ -		2011	1.00	\$ -	Y	Y	Y	Y		Y	Y												
PPLC078		Community Facilities	Port Douglas	Community Facilities			\$0	\$ -		1	\$ -		0.69	\$ 206,820		2011	1.00	\$ 206,820	Y	Y	Y	Y		Y	Y												
PPLC079		Community Facilities	Port Douglas	Community Facilities			\$0	\$ 7,457		1	\$ 7,457		0.18	\$ -		2011	1.00	\$ 7,457	Y	Y	Y	Y		Y	Y												
PPLC080		District Sports Park	Port Douglas	District Sports Park			\$0	\$ 13,959		1	\$ 13,959		1.72	\$ -		2011	1.00	\$ 13,959	Y	Y	Y	Y		Y	Y												
PPLC081		District Sports Park	Port Douglas	District Sports Park			\$0	\$ 39,159		1	\$ 39,159		0.56	\$ -		2011	1.00	\$ 39,159	Y	Y	Y	Y		Y	Y												
PPLC082		Community Facilities	Port Douglas	Community Facilities			\$0	\$ -		1	\$ -		0.00	\$ -		2011	1.00	\$ -	Y	Y	Y	Y		Y	Y												
PPLC083		District Sports Park	Cassowary	District Sports Park			\$0	\$ 7,500		1	\$ 7,500		1.85	\$ -		2011	1.00	\$ 7,500	Y	Y	Y	Y		Y	Y												
PPLC084		Community Facilities	Newell	Community Facilities			\$0	\$ -		1	\$ -		0.00	\$ -		2011	1.00	\$ -	Y	Y	Y	Y		Y	Y												
PPLC086		Local Government Wide Sports Park	Mossman	Local Government Wide Sports Park			\$0	\$ 193,687		1	\$ 193,687		6.74	\$ -		2011	1.00	\$ 193,687	Y	Y	Y	Y		Y	Y												
PPLC087		District Sports Park	Port Douglas	District Sports Park			\$0	\$ 228,019		1	\$ 228,019		8.75	\$ 5,247,660		2011	1.00	\$ 5,475,679	Y	Y	Y	Y		Y	Y												
PPLC088		Community Facilities	Daintree	Community Facilities			\$0	\$ -		1	\$ -		0.00	\$ -		2011	1.00	\$ -						Y	Y												
PPLC089		Community Facilities	Lower Daintree	Community Facilities			\$0	\$ -		1	\$ -		0.00	\$ -		2011	1.00	\$ -						Y	Y												
PPLC090		District Sports Park	Forest Creek	District Sports Park			\$0	\$ -		1	\$ -		0.82	\$ -		2011	1.00	\$ -						Y	Y												
PPLC091		Community Facilities	Forest Creek	Community Facilities			\$0	\$ 68,704		1	\$ 68,704		0.58	\$ -		2011	1.00	\$ 68,704						Y	Y												
PPLC093		District Sports Park	Daintree	District Sports Park			\$0	\$ 165,233		1	\$ 165,233		3.03	\$ -		2011	1.00	\$ 165,233						Y	Y												
PPLC094		District Sports Park	Diwan	District Sports Park			\$0	\$ 222,002		1	\$ 222,002		9.94	\$ -		2011	1.00	\$ 222,002						Y	Y												
PPLC095		Community Facilities	Mossman	Community Facilities			\$0	\$ -		1	\$ -		0.41	\$ -		2011	1.00	\$ -	Y	Y	Y	Y		Y	Y												
PPLC096		Community Facilities	Port Douglas	Community Facilities			\$0	\$ -		1	\$ -		0.07	\$ -		2011	1.00	\$ -	Y	Y	Y	Y		Y	Y												
PPLC097		Community Facilities	Port Douglas	Community Facilities			\$0	\$ -		1	\$ -		0.26	\$ 78,990		2011	1.00	\$ 78,990	Y	Y	Y	Y		Y	Y												
PPLC098		Local Government Wide Recreation Park	Port Douglas	Local Government Wide Recreation Park			\$0	\$ 80,082		1	\$ 80,082		1.78	\$ 532,710		2011	1.00	\$ 612,792	Y	Y	Y	Y		Y	Y												
							\$0	\$ -		1	\$ -			\$ -		2011	1.00	\$ -						Y	Y												
							\$0	\$ -		1	\$ -			\$ -		2011	1.00	\$ -						Y	Y												

Douglas Shire Council

Future Trunk Assets

Water Supply

Transportation

Sewerage

Parks & Community Facilities

Douglas Shire Council
Wastewater

Future Trunk Assets

Return to "Future Trunk Assets"

Data References: Refer Extrinsic Material

Land Valuation Type: Location

Basic Asset Data				Asset Attributes				Land Attributes				Basic Asset Valuation				Refined Asset Value				Catchment Asset Allocation																		
Asset ID	LGP ID	Asset Type (*)	Asset Class	Asset Name	Description	Unit Rate Type (*)	Length/Unit (*)	Diameter (*)	Depth (*)	Land Location/Type	Size of land (ha) (*)	Unit Cost	Land Value	Unit Rate	Baseline Valuation	Valuation Year	Base Est Escalation	Site/Condition	Multiplier	Contingency Cost	Project Owners Cost	Gross Value	Year provided (*)	Escalation	Discounting	% Renewal	Gross Cost (forecast)	Present Day Value	PORT DOUGLAS (S1)	MOSMAN (S2)	COOYA BEACH (S3)	NEWELL BEACH (S4)	WONGA BEACH / ROCKY POINT (S5)	SHARED TREATMENT (S2-S5)				
Councils ID (from GIS, FAR, AMA etc.)	ID from the LGP drawings		Pump Station, Gravity Main, Rising Main etc												May be calculated from unit rates OR unique values can be direct entered											% of cost which is renewal related	Gross cost (used for CF forecasts)	Adjusted Current Day Value	11.13	11.01	11.00	11.2	11.244	11.146				
ACTIVE ASSETS																																						
SPSF001	Active	Pump Station	SPSF001	Andreassen Road Pump Station	Andreassen Road Pump Station							\$	\$	318,219	2006	1.25			1	15.0%	20%	\$	549,887	2021	1.46	0.55	0%	\$801,531	\$	437,151		Y	Y	Y	Y	Y		
SPSF002	Active	Pump Station	SPSF002	Marlin Drive Pump Station	Marlin Drive Pump Station							\$	\$	336,403	2006	1.25			1	20.0%	20%	\$	606,584	2031	2.12	0.30	0%	\$1,288,797	\$	383,359		Y	Y	Y	Y	Y		
SPSF003	Active	Pump Station	SPSF003	Miallo Pump Station	Miallo Pump Station							\$	\$	336,403	2006	1.25			1	20.0%	20%	\$	606,584	2031	2.12	0.30	0%	\$1,288,797	\$	383,359	Y							
SPSF004	Active	Pump Station	SPSF004	Newell Road Pump Station	Newell Road Pump Station							\$	\$	318,219	2006	1.25			1	15.0%	20%	\$	549,887	2021	1.46	0.55	100%	\$	\$				Y					
SPSF005	Active	Pump Station	SPSF005	Rankin Street Pump Station	Rankin Street Pump Station							\$	\$	318,219	2006	1.25			1	20.0%	20%	\$	573,795	2031	2.12	0.30	200%	-\$1,219,132	-\$	362,637				Y				
SPSF006	Active	Pump Station	SPSF006	Mossman WWTP Reuse Pump Station Stage 2	Mossman WWTP Reuse Pump Station Stage 2							\$	\$	318,219	2006	1.25			1	20.0%	20%	\$	573,795	2031	2.12	0.30	300%	-\$2,438,263	-\$	725,274				Y	Y			
SPSF007	Active	Pump Station	SPSF007	Mossman Golf Course Reuse Pump Station	Mossman Golf Course Reuse Pump Station							\$	\$	318,219	2006	1.25			1	20.0%	20%	\$	573,795	2031	2.12	0.30	400%	-\$3,657,395	-\$	1,087,910				Y	Y			
SPSF008	Active	Pump Station Upgrade	SPSF008	Existing Mossman WWTP PS Upgrade	Existing Mossman WWTP PS Upgrade							\$	\$	318,219	2006	1.25			1	20.0%	20%	\$	573,795	2031	2.12	0.30	500%	-\$4,876,527	-\$	1,450,547				Y	Y	Y	Y	
SSFF001	Active	Storage Facility	SSFF001	Mossman Golf Club Reuse Storage Facility - 3 ML	Mossman Golf Club Reuse Storage Facility - 3 ML							\$	\$	272,759	2006	1.25			1	20.0%	20%	\$	491,824	2031	2.12	0.30	600%	-\$5,224,847	-\$	1,554,157				Y	Y	Y	Y	
SSFF002	Active	Storage Facility	SSFF002	Mossman WWTP reuse Storage Facility - 1 ML	Mossman WWTP reuse Storage Facility - 1 ML							\$	\$	909,197	2006	1.25			1	20.0%	20%	\$	1,639,415	2031	2.12	0.30	700%	-\$20,899,396	-\$	6,216,629				Y	Y	Y	Y	
STPF001	Active	Treatment Plant Upgrade	STPF001	Interim Mossman WWTP Upgrade - Regulate flows	Interim Mossman WWTP Upgrade - Regulate flows							\$	\$	213,618	2006	1.25			1	7.5%	20%	\$	345,061	2011	1.00	1.00	800%	-\$2,415,428	-\$	2,415,428	Y	Y	Y	Y	Y	Y		
STPF002	Active	Treatment Plant Upgrade	STPF002	Interim Mossman WWTP Upgrade - Alternative sludge infra	Interim Mossman WWTP Upgrade - Alternative sludge infrastructure							\$	\$	808,091	2006	1.25			1	7.5%	20%	\$	1,305,334	2015	1.16	0.78	900%	-\$12,141,353	-\$	9,526,894	Y	Y	Y	Y	Y	Y		
STPF003	Active	Treatment Plant Upgrade	STPF003	Mossman WWTP Upgrade Stage 1 including Effluent reuse	Mossman WWTP Upgrade Stage 1 including Effluent reuse PS Stage 1							\$	\$	12,885,441	2006	1.25			1	20.0%	20%	\$	23,234,332	2027	1.83	0.38	1000%	-\$382,126,870	-\$	144,858,691	Y	Y	Y	Y	Y	Y		
STPF004	Active	Treatment Plant Upgrade	STPF004	Mossman WWTP Upgrade Stage 2 UPGRADE	Mossman WWTP Upgrade Stage 2							\$	\$	3,264,235	2006	1.25			1	20.0%	20%	\$	5,885,893	2031	2.12	0.30	1100%	-\$125,056,398	-\$	37,198,647	Y	Y	Y	Y	Y	Y		
PASSIVE ASSETS																																						
EMF001	Passive	Effluent Rising Main	EMF001	Effluent Rising Main_100 mm dia_Trunk	EMF001_Effluent Rising Main_100 mm dia_PVC	Rising Mains	4984.59	100	1.5m-3.0m			\$	\$	155	\$	773,160	2011	1.00			1	20.0%	20%	\$	1,113,350	2031	2.12	0.30	0%	\$2,365,513	\$			Y	Y	Y	Y	Y
RMF001	Passive	Low Pressure Main	RMF001	Low Pressure Main_150 mm dia_Trunk	RMF001_Low Pressure Main_110 mm dia_PVC	Rising Mains	1121.36	150	1.5m-3.0m			\$	\$	193	\$	216,636	2011	1.00			1	20.0%	20%	\$	311,955	2031	2.12	0.30	0%	\$662,805	\$	197,155			Y	Y	Y	Y
RMF002	Passive	Low Pressure Main	RMF002	Low Pressure Main_100 mm dia_Trunk	RMF002_Low Pressure Main_110 mm dia_PVC	Rising Mains	595.06	100	1.5m-3.0m			\$	\$	155	\$	92,300	2011	1.00			1	20.0%	20%	\$	132,912	2031	2.12	0.30	0%	\$282,395	\$	84,000			Y	Y	Y	Y
RMF003	Passive	Low Pressure Main	RMF003	Low Pressure Main_100 mm dia_Trunk	RMF003_Low Pressure Main_160 mm dia_PVC	Rising Mains	264.95	100	1.5m-3.0m			\$	\$	155	\$	41,096	2011	1.00			1	20.0%	20%	\$	59,179	2031	2.12	0.30	0%	\$125,736	\$	37,401			Y	Y	Y	Y
RMF004	Passive	Rising Main	RMF004	Rising Main_100 mm dia_Trunk	RMF004_Rising Main_200 mm dia_PVC	Rising Mains	272.04	100	1.5m-3.0m			\$	\$	155	\$	42,196	2011	1.00			1	15.0%	20%	\$	58,231	2017	1.25	0.70	0%	\$73,003	\$	50,742			Y	Y	Y	Y
RMF005	Passive	Rising Main	RMF005	Rising Main_100 mm dia	RMF005_Rising Main_100 mm dia_PVC	Rising Mains	282.79	100	1.5m-3.0m			\$	\$	155	\$	43,864	2011	1.00			1	20.0%	20%	\$	63,164	2031	2.12	0.30	0%	\$134,202	\$	39,919			Y	Y	Y	Y
RMF067	Passive	Rising Mains	RMF067	Rising Mains_250 mm dia_Wonga_Trunk	RMF067_Rising Mains_250 mm dia_Wonga_PVC_Wonga_Beach	Rising Mains	4787.94	250	1.5m-3.0m			\$	\$	287	\$	1,375,432	2011	1.00			1	20.0%	20%	\$	1,980,621	2031	2.12	0.30	0%	\$4,208,187	\$	1,251,746			Y	Y	Y	Y
RMF068	Passive	Rising Mains	RMF068	Rising Mains_150 mm dia_Craiglie_Trunk	RMF068_Rising Mains_150 mm dia_PVC_Craiglie	Rising Mains	1138.79	150	1.5m-3.0m			\$	\$	193	\$	220,003	2012	1.00			1	15.0%	20%	\$	303,604	2021	1.46	0.55	0%	\$442,542	\$	241,360			Y	Y	Y	Y
RMF069	Passive	Rising Mains	RMF069	Rising Mains_150 mm dia_Wonga_Trunk	RMF069_Rising Mains_150 mm dia_Wonga_PVC_Wonga_Beach	Rising Mains	240.98	150	1.5m-3.0m			\$	\$	193	\$	46,555	2013	1.00			1	20.0%	20%	\$	67,039	2031	2.12	0.30	0%	\$142,437	\$	42,368			Y	Y	Y	Y
RMF067	Passive	Rising Mains	RMF067	Rising Mains_250 mm dia_Wonga_Trunk	RMF067_Rising Mains_250 mm dia_Wonga_PVC_Wonga_Beach	Rising Mains	4787.94	250	1.5m-3.0m			\$	\$	287	\$	1,375,432	2006	1.25			1	15.0%	20%	\$	2,376,766	2021	1.46	0.55	0%	\$3,464,442	\$	1,889,487				Y	Y	Y
RMF068	Passive	Rising Mains	RMF068	Rising Mains_150 mm dia_Wonga_Trunk	RMF068_Rising Mains_150 mm dia_Wonga_PVC_Craiglie	Rising Mains	1138.79	150	1.5m-3.0m			\$	\$	193	\$	220,003	2006	1.25			1	15.0%	20%	\$	380,168	2021	1.46	0.55	0%	\$554,144	\$	302,227	Y					Y
RMF069	Passive	Rising Mains	RMF069	Rising Mains_150 mm dia_Wonga_Trunk	RMF069_Rising Mains_150 mm dia_Wonga_PVC_Wonga_Beach	Rising Mains	240.98	150	1.5m-3.0m			\$	\$	193	\$	46,555	2006	1.25			1	20.0%	20%	\$	83,945	2026	1.76	0.40	0%	\$147,729	\$	59,502						Y
												\$	\$	-													\$	\$										

Douglas Shire Council
Parks and Land for Community Facilities

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Future Trunk Assets

Data References	Refer Extrinsic Material
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Land Valuation Type	Location
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Basic Asset Data		Asset Attributes		Land Attributes		Basic Asset Valuation										Refined Asset Value										Catchment Asset Allocation															
Asset ID	Asset Class	Unit Rate Type (*)	Unit (*)	Land Location/Type	Site of land (ha) (*)	Unit Cost (m ²)	Land Value* (* Post 1990-chargeable)	Unit Rate	Baseline Valuation	Valuation Year	Base Est. Escalation	Atty/Condition	Multiplier	Contingency Cost	Project Owners Cost	Gross Value	Year provided (*)	Escalation	Discounting	% Renewal	Gross Cost (escalated)	Present Day Value	Port Douglas (PPLC1)	Mossman (PPLC2)	Cooya Beach (PPLC3)	Newell Beach (PPLC4)	Wonga Beach (PPLC5)	Rural Area - South of Mowbray River	Rural Area - Mowbray River to Mossman	Rural Area - Mossman River to Daintree	Rural Area - North of Daintree River	Shared Catchments (S. 48A)	Shared Catchments (S. 48B)	Regional Shared Catchments (S. 9)							
Councils ID (from GIS, FAR, AMA etc.)	ID from the LGP drawings								May be calculated from unit rates OR unique values can be direct entered											% of cost which is renewal related	Gross cost (used for CF forecasts)	Adjusted Current Day Value																			
	PPLC061	Local Recreation Park	Bonnie Doon	Lou Prince Park	Mossman and Environs	0.564	\$ 20	\$ 112,800	\$0	\$ 51,827	2006	1.25		1	15.0%	20%	\$ 89,558	2020	1.40	0.58	0%	\$269,209	\$ 156,059																		
	PPLC063	Local Recreation Park	Mossman	New Local Park	Mossman and Environs	1	\$ 20	\$ 200,000	\$0	\$ 645,213	2006	1.25		1	15.0%	20%	\$ 1,114,937	2020	1.40	0.58	0%	\$1,819,664	\$ 1,054,461	Y																	
	PPLC064	Local Recreation Park	Craiglie	New Local Park	Port Douglas and Environs	1	\$ 304	\$ 600,000	\$0	\$ 645,213	2006	1.25		1	20.0%	20%	\$ 1,163,412	2031	2.12	0.30	0%	\$3,497,762	\$ 1,040,427	Y																	
	PPLC065	Local Recreation Park	Craiglie	New Local Park	Port Douglas and Environs	0.5	\$ 304	\$ 300,000	\$0	\$ 139,338	2006	1.25		1	20.0%	20%	\$ 251,246	2024	1.63	0.45	0%	\$835,197	\$ 379,763	Y																	
	PPLC066	District Recreation Park	Cooya Beach	Jim Holdsworth Park	Coastal Suburbs, Villages and Townships (Cooya Beach)	2.3301	\$ 33	\$ -	\$0	\$ 473,038	2006	1.25		1	15.0%	20%	\$ 817,416	2020	1.40	0.58	0%	\$1,147,427	\$ 664,913		Y																
	PPLC067	District Recreation Park	Newell	Newell Beach Esplanade	Coastal Suburbs, Villages and Townships (Newell Beach)	3.6125	\$ 336	\$ -	\$0	\$ 283,823	2006	1.25		1	15.0%	20%	\$ 490,450	2021	1.46	0.55	0%	\$714,893	\$ 389,899			Y															
	PPLC068	District Recreation Park	Wonga	Wonga Community Park	Coastal Suburbs, Villages and Townships (Wonga Beach)	3.8327	\$ 48	\$ -	\$0	\$ 283,823	2006	1.25		1	20.0%	20%	\$ 511,773	2022	1.51	0.51	0%	\$774,621	\$ 397,622				Y														
	PPLC069	Local Government Wide Recreation Park	Mossman	George Davis Park	Mossman and Environs	1.4361	\$ 20	\$ -	\$0	\$ 473,038	2006	1.25		1	20.0%	20%	\$ 852,956	2023	1.57	0.48	0%	\$1,340,611	\$ 647,672	Y																	
	PPLC070	District Recreation Park	Port Douglas	4 Mile Park	Port Douglas and Environs	1.4176	\$ 304	\$ -	\$0	\$ 473,038	2006	1.25		1	20.0%	20%	\$ 852,956	2024	1.63	0.45	0%	\$1,392,090	\$ 692,382	Y																	
	PPLC071	District Recreation Park	Port Douglas	Ren Smeal Park	Port Douglas and Environs	1.297	\$ 304	\$ -	\$0	\$ 473,038	2006	1.25		1	20.0%	20%	\$ 852,956	2025	1.69	0.43	0%	\$1,445,546	\$ 618,624	Y																	
	PPLC085	District Sports Park	Cooya Beach	New District Sports Park (Future)	Coastal Suburbs, Villages and Townships (Cooya Beach)	3	\$ 33	\$ 150,000	\$0	\$ 922,113	2006	1.25		1	15.0%	20%	\$ 1,593,424	2021	1.46	0.55	0%	\$2,518,759	\$ 1,373,717	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	PPLC086	Local Government Wide Sports Park	Mossman	Coronation Park/Show Grounds - Upgrade	Mossman and Environs	6.7359	\$ 20	\$ -	\$0	\$ 1,143,654	2006	1.25		1	20.0%	20%	\$ 2,062,176	2024	1.63	0.45	0%	\$3,365,631	\$ 1,630,348	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	PPLC087	District Sports Park	Port Douglas	Port Douglas Sports Reserve -Upgrade	Port Douglas and Environs	8.7461	\$ 304	\$ -	\$0	\$ 1,269,115	2006	1.25		1	20.0%	20%	\$ 2,288,399	2026	1.76	0.40	0%	\$4,027,188	\$ 1,622,064	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	PPLC092	District Sports Park	Wonga Beach	New District Sports Park (Future)	Coastal Suburbs, Villages and Townships (Wonga Beach)	1.5	\$ 48	\$ 150,000	\$0	\$ 521,924	2006	1.25		1	20.0%	20%	\$ 941,105	2026	1.76	0.40	0%	\$1,880,468	\$ 757,412				Y														
	PPLC093	District Sports Park	Daintree	Daintree Sports Oval - Upgrade	Coastal Suburbs, Villages and Townships (Daintree Township)	3.0277	\$ 17	\$ -	\$0	\$ 395,257	2006	1.25		1	20.0%	20%	\$ 712,707	2025	1.69	0.43	0%	\$1,207,860	\$ 516,906				Y														
	PPLC094	District Sports Park	Diwan	Diwan Sports Reserve - Upgrade	Coastal Suburbs, Villages and Townships (Daintree Township)	9.9414	\$ 17	\$ -	\$0	\$ 360,325	2006	1.25		1	20.0%	20%	\$ 649,719	2025	1.69	0.43	0%	\$1,101,110	\$ 471,222				Y														
						\$ 20	\$ -	\$ -	\$0	\$ -		1.00		1						0%		\$0																			

Douglas Shire Council
Water Supply

Future Trunk Assets

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Data References	Refer Extrinsic Material
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Land Valuation Type	Location
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Basic Asset Data					Asset Data			Land Attributes			Basic Asset Valuation							Refined Asset Value					Catchment Asset Allocation													
Asset ID	LGP ID	Asset Type (*)	Asset Class	Asset Num	Description	Unit Rate Type (*)	Length/Unit (*)	Diameter (*)	Land Location/Type	Size of land (ha) (*)	Unit Cost	Land Value	Unit Rate	Baseline Valuation	Valuation Year	Base Est Escalation	Site/Condition	Multiplier	Contingency Cost	Project Owners Cos	Gross Value	Year provided (*)	Escalation	Discounting	% Renewal	Gross Cost (escalated)	Present Day Value	PORT DOUGLAS (W1)	MOSSMAN (W2)	WHYANBEL (W3)	DAINTREE (W4)	SHARED TREATMENT (W1&W2)				
														May be calculated from unit rates OR unique values can be direct entered												% of cost which is renewal related	Gross cost (used for CF forecasts)	Adjusted Current Day Value	1	2	3	4	5			
ACTIVE ASSETS																																				
WIF001		Active	Raw Water Intake		Existing Mossman Intake 2-Stage 1 (Upgrade)	WIF001_Raw Water Intake_Existing Mossman Intake 2-Stage 1 (Upgrade)					\$ 20	\$ -	\$ -	\$ 150,000	2006	1.25		1	7.5%	20%	\$ 242,298	2016	1.21	0.74	0%	\$ 292,532	\$ 216,037	Y	Y							
WIF001		Active	Raw Water Intake		Existing Mossman Intake 2-Stage2 (Upgrade)	WIF001_Raw Water Intake_Existing Mossman Intake 2-Stage2 (Upgrade)					\$ 20	\$ -	\$ -	\$ 750,000	2006	1.25		1	15.0%	20%	\$ 1,296,011	2018	1.30	0.65	0%	\$ 1,687,180	\$ 1,103,270	Y	Y							
WRF001		Active	Reservoir		Cooya Reservoir 2 (1.8 ML)	WRF001_Reservoir_Cooya Reservoir 2 (1.8 ML)					\$ 20	\$ -	\$ -	\$ 2,100,000	2009	1.05		1	7.5%	20%	\$ 2,854,125	2025	1.00	0.00	0%	\$ 0	\$ 0									
WRF003		Active	Reservoir		Wonga Beach (1.3 ML)	WRF003_Reservoir_Wonga Beach (1.3 ML)					\$ 20	\$ -	\$ -	\$ 346,917	2006	1.25		1	20.0%	20%	\$ 625,542	2025	1.69	0.43	0%	\$ 1,060,137	\$ 453,688	Y								
WRF004		Active	Reservoir		Mossman Reservoir (3.3 ML)	WRF004_Reservoir_Mossman Reservoir (3.3 ML)					\$ 20	\$ -	\$ -	\$ 1,110,133	2006	1.25		1	7.5%	20%	\$ 1,793,218	2011	1.00	1.00	0%	\$ 1,793,218	\$ 1,793,218		Y							
PASSIVE ASSETS																																				
WMF001		Passive	Water Main		WMF001_Water Main 225 mm dia	WMF001_Water Main_225 mm dia_UPVC	Passive	1904	225		\$ 20	\$ -	\$ 257	\$ 489,766	2011	1.00		1	7.5%	20%	\$ 631,798	2011	1.00	1.00	0%	\$ 631,798	\$ 631,798	Y								
WMF002		Passive	Water Main		WMF002_Water Main 225 mm dia	WMF002_Water Main_225 mm dia_DICL	Passive	469.83	225		\$ 20	\$ -	\$ 257	\$ 120,854	2011	1.00		1	7.5%	20%	\$ 155,902	2011	1.00	1.00	0%	\$ 155,902	\$ 155,902	Y								
WMF003(i)		Passive	Water Main		Installing 150mm - Interim (to replace 80mm)	WMF003(i)_Water_Main_Interim_150 mm dia_UPVC_Teamster Park to Caravan Park	Passive	110.43	150		\$ 20	\$ -	\$ 193	\$ 21,304	2011	1.00		1	7.5%	20%	\$ 22,482	2014	1.12	0.83	0%	\$ 30,771	\$ 25,654	Y								
WMF003(ii)		Passive	Water Main		Installing 150mm - Interim (to replace 80mm)	WMF003(ii)_Water_Main_Interim_150 mm dia_UPVC_Caravan Park to Creek	Passive	736.24	150		\$ 20	\$ -	\$ 193	\$ 142,035	2014	1.00		1	15.0%	20%	\$ 196,009	2017	1.25	0.70	0%	\$ 245,733	\$ 170,801	Y								
WMF003(iii)		Passive	Water Main		Installing 150mm - Interim (to replace 80mm)	WMF003(iii)_Water_Main_Interim_150 mm dia_UPVC_Creek to Reservoir	Passive	1016	150		\$ 20	\$ -	\$ 193	\$ 196,007	2015	1.00		1	15.0%	20%	\$ 270,489	2019	1.35	0.62	0%	\$ 365,652	\$ 225,131	Y								
WMF003		Passive	Water Main		WMF003_Water Main 225 mm dia	WMF003_Water Main_225 mm dia_UPVC (Ultimate Upgrade)	Passive	1863	225		\$ 20	\$ -	\$ 257	\$ 479,219	2016	1.00		1	7.5%	20%	\$ 618,193	2012	1.04	0.94	0%	\$ 641,932	\$ 604,171	Y								
WMF004		Passive	Water Main		WMF004_Water Main 450 mm dia	WMF004_Water Main_450 mm dia_DICL	Passive	970	450		\$ 20	\$ -	\$ 675	\$ 654,963	2011	1.00		1	20.0%	20%	\$ 943,147	2026	1.76	0.40	0%	\$ 1,659,777	\$ 668,522	Y								
WMF005		Passive	Water Main		WMF005_Water Main 225 mm dia	WMF005_Water Main_225 mm dia_UPVC	Passive	955.38	225		\$ 20	\$ -	\$ 257	\$ 245,752	2011	1.00		1	7.5%	20%	\$ 317,021	2011	1.00	1.00	0%	\$ 317,021	\$ 317,021	Y								
WMF006		Passive	Water Main		WMF006_Water Main 225 mm dia	WMF006_Water Main_225 mm dia_UPVC	Passive	603.91	225		\$ 20	\$ -	\$ 257	\$ 155,344	2011	1.00		1	7.5%	20%	\$ 200,393	2011	1.00	1.00	0%	\$ 200,393	\$ 200,393	Y								
WMF007(i)		Passive	Water Main		WMF007(i)_Water Main 150 mm dia	WMF007(i)_Water_Main_150 mm dia_UPVC	Passive	4025	150		\$ 20	\$ -	\$ 193	\$ 776,503	2011	1.00		1	7.5%	20%	\$ 1,001,689	2011	1.00	1.00	0%	\$ 1,001,689	\$ 1,001,689	Y								
WMF007(ii)		Passive	Water Main		WMF007(ii)_Water Main 225 mm dia	WMF007(ii)_Water_Main_225 mm dia_UPVC	Passive	976.4	225		\$ 20	\$ -	\$ 257	\$ 251,159	2011	1.00		1	7.5%	20%	\$ 323,996	2011	1.00	1.00	0%	\$ 323,996	\$ 323,996	Y								
WMF008		Passive	Water Main		WMF008_Water Main 225 mm dia	WMF008_Water Main_225 mm dia_DICL	Passive	3604	225		\$ 20	\$ -	\$ 257	\$ 927,057	2011	1.00		1	7.5%	20%	\$ 1,195,903	2011	1.00	1.00	0%	\$ 1,195,903	\$ 1,195,903	Y								
WMF009		Passive	Water Main		WMF009_Water Main 300 mm dia	WMF009_Water Main_300 mm dia_DICL	Passive	3	300		\$ 20	\$ -	\$ 325	\$ 974	2011	1.00		1	20.0%	20%	\$ 1,402	2026	1.76	0.40	0%	\$ 2,467	\$ 994	Y								
WMF010		Passive	Water Main		WMF010_Water Main 450 mm dia	WMF010_Water Main_450 mm dia_DICL	Passive	2717	450		\$ 20	\$ -	\$ 675	\$ 1,834,573	2011	1.00		1	20.0%	20%	\$ 2,641,785	2026	1.76	0.40	0%	\$ 4,649,086	\$ 1,872,551	Y								
WMF011		Passive	Water Main		WMF011_Water Main 450 mm dia	WMF011_Water Main_450 mm dia_DICL	Passive	5246	450		\$ 20	\$ -	\$ 675	\$ 3,542,204	2011	1.00		1	20.0%	20%	\$ 5,100,774	2026	1.76	0.40	0%	\$ 8,976,484	\$ 3,615,532	Y								
WMF012		Passive	Water Main		WMF012_Water Main 225 mm dia	WMF012_Water Main_225 mm dia_DICL	Passive	215	225		\$ 20	\$ -	\$ 257	\$ 55,304	2011	1.00		1	7.5%	20%	\$ 71,343	2014	1.12	0.83	0%	\$ 79,881	\$ 66,597	Y								
WMF013		Passive	Water Main		WMF013_Water Main 225 mm dia	WMF013_Water Main_225 mm dia_DICL	Passive	202	225		\$ 20	\$ -	\$ 257	\$ 51,960	2011	1.00		1	7.5%	20%	\$ 55,857	2011	1.00	1.00	0%	\$ 55,857	\$ 55,857	Y								
WMF014		Passive	Water Main		WMF014_Water Main 225 mm dia	WMF014_Water Main_225 mm dia_DICL	Passive	1597	225		\$ 20	\$ -	\$ 257	\$ 410,796	2011	1.00		1	7.5%	20%	\$ 443,606	2011	1.00	1.00	0%	\$ 443,606	\$ 443,606	Y								
WMF015		Passive	Water Main		WMF015_Water Main 225 mm dia	WMF015_Water Main_225 mm dia_DICL	Passive	299.45	225		\$ 20	\$ -	\$ 257	\$ 77,028	2011	1.00		1	7.5%	20%	\$ 82,805	2011	1.00	1.00	0%	\$ 82,805	\$ 82,805	Y								

Douglas Shire Council

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Summary Cost Schedule

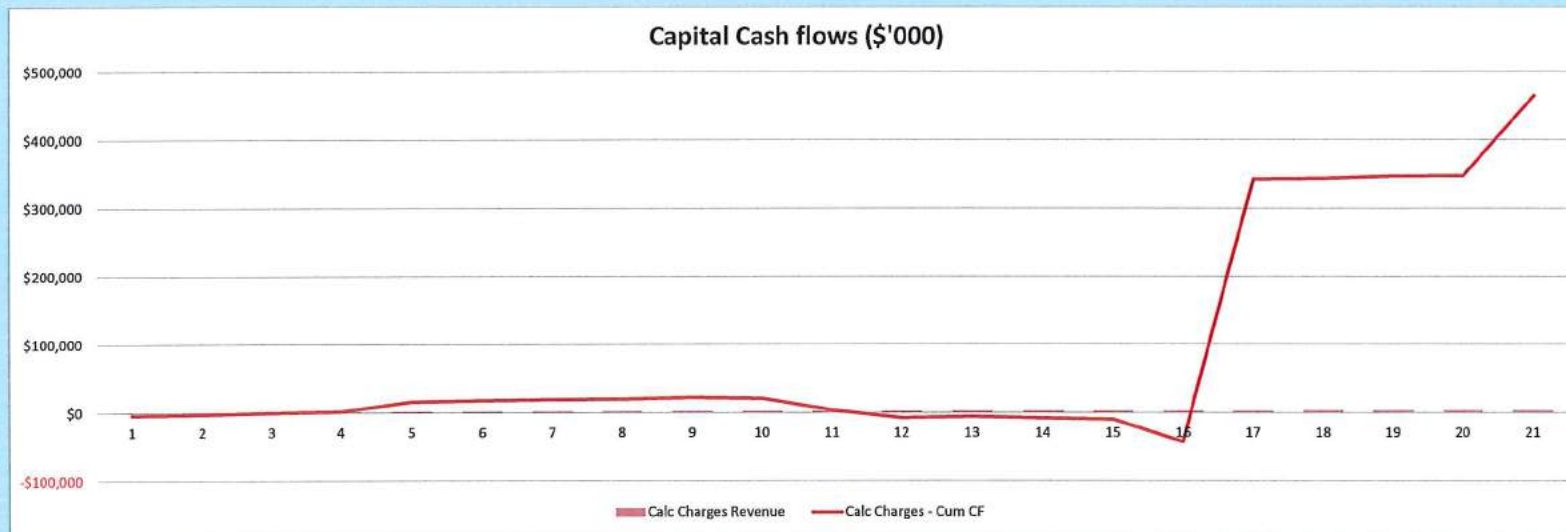
Catchment		Demand			Cost of Trunk Infrastructure			Cost per Unit Demand
No	Name	Existing (A)	NPV Future (B)	TOTAL (A)+ (B)	Existing (C)	NPV Future (D)	TOTAL (C)+ (D)	
Water Supply								
1	PORT DOUGLAS (W1)	16,328	9,203	25,530	\$ 32,499,394	\$ 4,891,098	\$ 37,390,492	\$ 1,465
2	MOSSMAN (W2)	6,278	1,185	7,463	\$ 16,650,241	\$ 1,344,067	\$ 17,994,308	\$ 2,411
3	WHYANBEEL (W3)	1,702	1,007	2,709	\$ 14,448,700	\$ 8,302,889	\$ 22,751,589	\$ 8,399
4	DAINTREE (W4)	192	132	325	\$ 3,937,567	\$ -	\$ 3,937,567	\$ 12,127
5	SHARED TREATMENT (W1&W2)	22,605	10,406	33,012	\$ 8,551,527	\$ 659,879	\$ 9,211,406	\$ 279
Totals		47,105	21,934	69,038	\$ 76,087,430	\$ 15,197,932	\$ 91,285,361	
Sewerage								
1	PORT DOUGLAS (S1)	15,073	5,812	20,885	\$ 20,678,748	\$ 685,586	\$ 21,364,334	\$ 1,023
2	MOSSMAN (S2)	5,544	1,236	6,780	\$ 4,265,705	\$ 243,058	\$ 4,508,763	\$ 665
3	COOYA BEACH (S3)	267	1,232	1,499	\$ 1,193,654	\$ 2,010,407	\$ 3,204,061	\$ 2,137
4	NEWELL BEACH (S4)	-	529	529	\$ 47,880	\$ 426,868	\$ 474,748	\$ 897
5	WONGA BEACH / ROCKY POINT (S5)	-	2,119	2,119	\$ 175,437	\$ 1,623,601	\$ 1,799,037	\$ 849
6	SHARED TREATMENT (S2-S5)	5,811	5,280	11,091	\$ 902,804	\$ 410,255	\$ 1,313,059	\$ 118
Totals		26,695	16,207	42,902	\$ 27,264,226	\$ 5,399,775	\$ 32,664,001	
Stormwater								
0	0	-	-	-	\$ -	\$ -	\$ -	\$ -
Totals		-	-	-	\$ -	\$ -	\$ -	
Transport								
1	Douglas Shire South (TR1)	93,412	36,461	129,873	\$ 86,701,648	\$ 33,184,318	\$ 119,885,966	\$ 923
2	Douglas Shire North (TR2)	3,970	359	4,329	\$ 43,572,580	\$ -	\$ 43,572,580	\$ 12,065
0	0	-	-	-	\$ -	\$ -	\$ -	\$ -
Totals		97,382	36,102	133,484	\$ 130,274,228	\$ 33,184,318	\$ 163,458,546	
Parks and Community								
1	Port Douglas (PPLC1)	9,757	3,247	13,004	\$ 6,773,491	\$ 4,359,360	\$ 11,132,851	\$ 856
2	Mossman (PPLC2)	1,531	510	2,041	\$ 1,403,523	\$ 1,966,982	\$ 3,370,505	\$ 1,651
3	Cooya Beach (PPLC3)	667	221	888	\$ 462,196	\$ 936,285	\$ 1,398,481	\$ 1,575
4	Newell Beach (PPLC4)	329	110	439	\$ 449,467	\$ 446,859	\$ 896,326	\$ 2,042
5	Wonga Beach (PPLC5)	751	250	1,001	\$ 666,198	\$ 663,776	\$ 1,329,974	\$ 1,329
6	Rural Area - South of Mowbray River (PPLC6)	382	126	508	\$ 144,329	\$ 66,063	\$ 210,392	\$ 414
7	Rural Area - Mowbray River to Mossman River (PPLC7)	418	140	558	\$ 116,555	\$ 72,315	\$ 188,870	\$ 339
8	Rural Area - Mossman River to Daintree River (PPLC8)	968	321	1,289	\$ 477,842	\$ 343,152	\$ 820,994	\$ 637
9	Rural Area - North of Daintree River (PPLC9)	743	247	990	\$ 142,887	\$ 263,464	\$ 406,351	\$ 410
0	District Shared Catchments (1,2,3,4,6&7)	13,084	4,355	17,439	\$ 3,356,407	\$ 2,263,065	\$ 5,619,472	\$ 322
0	District Shared Catchments (5,8&9)	2,462	818	3,280	\$ 227,970	\$ 872,770	\$ 1,100,739	\$ 336
0	Regional Shared Catchments (1-9)	15,546	5,173	20,719	\$ 345,891	\$ -	\$ 345,891	\$ 17
Totals		46,638	15,519	62,157	\$ 14,566,755	\$ 12,254,091	\$ 26,820,846	

Douglas Shire Council

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Summary Cash flow Projections (\$,000's)

Item	Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Anticipated Cost (Cap X in \$000)	Water	\$6,200	\$642	\$0	\$111	\$0	\$293	\$246	\$1,687	\$366	\$0	\$0	\$0	\$0	\$0	\$1,060	\$15,288	\$0	\$0	\$0	\$0	\$0	
	Sewerage	-\$2,415	\$0	\$0	\$0	-\$12,141	\$0	\$73	\$0	\$0	\$0	\$5,263	\$0	\$0	\$0	\$0	\$148	-\$382,127	\$0	\$0	\$0	-\$152,873	
	Stormwater	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Transport	\$581	\$0	\$0	\$0	\$0	\$234	\$599	\$264	\$81	\$988	\$11,151	\$13,430	\$0	\$0	\$0	\$14,953	\$0	\$2,918	\$0	\$3,246	\$36,064	
	Parks and Community	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,236	\$3,234	\$775	\$1,341	\$5,593	\$3,755	\$5,908	\$0	\$0	\$0	\$0	\$0	\$3,498
Total Cost	\$4,365	\$642	\$0	\$111	-\$12,141	\$526	\$918	\$1,951	\$446	\$4,224	\$19,648	\$14,204	\$1,341	\$5,593	\$4,815	\$36,296	-\$382,127	\$2,918	\$0	\$3,246	-\$113,312		
Anticipated Charges Revenue (\$000)	Residential Charges	\$1,000	\$1,883	\$1,939	\$1,998	\$2,057	\$2,119	\$2,339	\$2,409	\$2,481	\$2,556	\$2,632	\$2,848	\$2,933	\$3,021	\$3,112	\$3,205	\$3,259	\$3,357	\$3,458	\$3,561	\$3,668	
	Comm/Ind Charges	\$200	\$106	\$109	\$112	\$115	\$119	\$124	\$128	\$132	\$135	\$140	\$138	\$142	\$146	\$151	\$155	\$166	\$171	\$176	\$181	\$187	
	Total revenue	\$1,200	\$1,988	\$2,048	\$2,109	\$2,173	\$2,238	\$2,463	\$2,537	\$2,613	\$2,691	\$2,772	\$2,986	\$3,075	\$3,167	\$3,262	\$3,360	\$3,425	\$3,528	\$3,634	\$3,743	\$3,855	
Annual CF (\$000)	-\$3,165	\$1,346	\$2,048	\$1,999	\$14,314	\$1,712	\$1,545	\$586	\$2,167	-\$1,533	-\$16,876	-\$11,219	\$1,734	-\$2,426	-\$1,552	-\$32,936	\$385,552	\$609	\$3,634	\$497	\$117,166		
Cumulative CF (\$000)	-\$3,165	-\$1,819	\$229	\$2,228	\$16,542	\$18,254	\$19,799	\$20,384	\$22,551	\$21,018	\$4,142	-\$7,077	-\$5,342	-\$7,768	-\$9,320	-\$42,256	\$343,296	\$343,905	\$347,538	\$348,035	\$465,202		
NPV Cost		-\$138,058.92																					
NPV Revenue		\$31,367.43																					
NPV Annual Cashflow		\$159,460.09																					



**Douglas Shire Council
Water Supply
Unit Rates**

[Return to Unit Rates Sheet](#)

Note: Unit rates are only one option for valuation of assets. Unique values (\$) can be entered in the Existing Assets sheet and the Future Asset Sheets

Asset Type 1: Active	
WaterUnitrates1	
Diameter	Rate/m
Bore	5,321.79
Raw Water Intake	Item
Pump Station	Item
Reservoir	Item
Water Treatment Plant	Item

Asset Type 2: Passive	
WaterUnitrates2	
Diameter	Rate/m
32	\$76.27
40	\$77.77
50	\$79.26
63	\$91.23
75	\$103.36
80	\$108.42
100	\$174.23
150	\$192.92
180	\$215.80
200	\$231.05
220	\$251.99
225	\$257.23
250	\$273.68
300	\$324.52
375	\$627.36
450	\$675.22
500	\$788.87
525	\$801.96
600	\$841.22
660	\$1,521.67
675	\$1,517.93
700	\$1,543.35
750	\$1,661.50
800	\$1,898.53

NOTES
Rates Allows for hydrants.

Water Pipes <= 375mm are usually replaced by uPVC
>375 and <= 600 replaced by DICL
>600 replaced by Mild steel

Recycled Water Mains : Assumed to be the same cost as Potable water mains(where equivalent size mains exist. Additional sizes used in recycled water network identified in red. Value were interpolated from the unit rates of the pipe sizes immediately larger/ smaller than nominated size

Items shown in Blue - Costs have been interpolated from existing data

Site/ Condition Allowances	
Watersitecond	
Location/Condition type	Multiplier
RURAL / Sand	0.95
RURAL / Good Soil	1.09
RURAL / Poor Soil (High WT areas)	1.13
RURAL / ASS	1.18
RURAL / Soft Rock	1.22
RURAL / Hard Rock	1.62
RURAL / Underwater	1.63
URBAN / Sand	1.00
URBAN / Good Soil	1.14
URBAN / Poor Soil (High WT areas)	1.18
URBAN / ASS	1.40
URBAN / Soft Rock	1.27
URBAN / Hard Rock	1.67
URBAN / Underwater	1.66
HIGH DENSITY URBAN / Sand	1.20
HIGH DENSITY URBAN / Good Soil	1.34
HIGH DENSITY URBAN / Poor Soil (High WT areas)	1.38
HIGH DENSITY URBAN / ASS	1.43
HIGH DENSITY URBAN / Soft Rock	1.47
HIGH DENSITY URBAN / Hard Rock	1.87
HIGH DENSITY URBAN / Underwater	1.71
CBD / Sand	1.45
CBD / Good Soil	1.58
CBD / Poor Soil (High WT areas)	1.63
CBD / ASS	1.67
CBD / Soft Rock	1.71
CBD / Hard Rock	2.11
CBD / Underwater	1.89
Island / Sand	1.32
Island / Good Soil	1.49
Island / Poor Soil (High WT areas)	1.55
Island / ASS	1.60
Island / Soft Rock	1.65
Island / Hard Rock	2.15
Island / Underwater	2.14
PORT DOUGLAS (W1)	1
MOSSMAN (W2)	1
WHYANBEE (W3)	1
DAINTREE (W4)	1
DAGMAR HEIGHTS (W5)	1

Project Owners Cost	
Watreprojcost	
Term	%
5	10%
10	15%
15	20%
20	30%

Locational / Catchment Multipliers used in LGIP unless Site based condition information available

Douglas Shire Council Wastewater

[Return to Unit Rates Sheet](#)

Unit Rates

Note: Unit rates are only one option for valuation of assets. Unique values (\$) can be entered in the Existing Assets sheet and the Future Asset Sheets

Asset Type 1: Rising Mains	
SewerUnitrates1	
Diameter	Rate/m
50	\$90.96
63	\$106.62
80	\$132.00
100	\$155.11
150	\$193.19
200	\$232.58
225	\$260.35
250	\$287.27
300	\$344.19
375	\$813.89
450	\$926.18
500	\$1,110.03
600	\$1,278.71
660	\$1,747.34
675	\$1,761.85
700	\$1,786.77
750	\$1,853.47
800	\$1,996.18
110	\$ 140.51
160	\$ 210.19

Notes

Wastewater Effluent Rising Main Unit Rates
(As Per Rising Main Rates)

Wastewater Low Pressure Mains
110mm
160mm

Wastewater rising mains

Small diameter rising mains (50,63, & 80 mm)
Extrapolated from unit rates 100mm and above.
20% allowance for Fillings

Asset Type 2 (Depth Dependent): Gravity Sewers	
SewerUnitrates2	
Depth Ranges	
1.5m-3.0m	

Diameter	Depth	Rate/m
100	1.5m-3.0m	\$199.39
150	1.5m-3.0m	\$234.93
200	1.5m-3.0m	\$303.72
225	1.5m-3.0m	\$329.99
250	1.5m-3.0m	\$314.53
300	1.5m-3.0m	\$361.68
375	1.5m-3.0m	\$386.41
400	1.5m-3.0m	\$578.84
450	1.5m-3.0m	\$624.43
500	1.5m-3.0m	\$773.58
600	1.5m-3.0m	\$949.79
660	1.5m-3.0m	\$1,383.33
675	1.5m-3.0m	\$1,421.20
700	1.5m-3.0m	\$1,486.89
750	1.5m-3.0m	\$1,388.74
800	1.5m-3.0m	\$1,634.50
825	1.5m-3.0m	\$1,762.01
900	1.5m-3.0m	\$1,880.25
960	1.5m-3.0m	\$2,210.24
1,000	1.5m-3.0m	\$2,278.25
1,050	1.5m-3.0m	\$2,365.58
1,085	1.5m-3.0m	\$2,428.95
1,200	1.5m-3.0m	\$2,883.36

Notes

Assume Good Soil - 1.5-3.0m depth. (FNQROC preference for Gravity Sewers <3.0m)
20% allowance for fittings
Costs Based on Construction Cost in Urban Areas in good soil (Sand)

Site/ Condition Allowances	
Sewersitecond	
Location/Condition type	Multiplier
RURAL / Sand	0.96
RURAL / Good Soil	1.14
RURAL / Poor Soil (High WT areas)	1.18
RURAL / ASS	1.20
RURAL / Soft Rock	1.57
RURAL / Hard Rock	2.25
URBAN / Sand	1.00
URBAN / Good Soil	1.18
URBAN / Poor Soil (High WT areas)	1.22
URBAN / ASS	1.37
URBAN / Soft Rock	1.60
URBAN / Hard Rock	2.29
HIGH DENSITY URBAN / Sand	1.15
HIGH DENSITY URBAN / Good Soil	1.33
HIGH DENSITY URBAN / Poor Soil (High WT areas)	1.37
HIGH DENSITY URBAN / ASS	1.39
HIGH DENSITY URBAN / Soft Rock	1.76
HIGH DENSITY URBAN / Hard Rock	2.44
CBD / Sand	1.34
CBD / Good Soil	1.51
CBD / Poor Soil (High WT areas)	1.55
CBD / ASS	1.57
CBD / Soft Rock	1.94
CBD / Hard Rock	2.63
Island / Sand	1.31
Island / Good Soil	1.53
Island / Poor Soil (High WT areas)	1.58
Island / ASS	1.61
Island / Soft Rock	2.06
Island / Hard Rock	2.92
PORT DOUGLAS (S1)	1
MOSSMAN (S2)	1
COOYA BEACH (S3)	1
NEWELL BEACH (S4)	1
WONGA BEACH / ROCKY POINT (S5)	1
SHARED TREATMENT (S2-S5)	1

Notes

Locational / Catchment Multipliers used in LGIP unless Site based condition information available

Project Owners Cost	
Sewerprojcost	
Term	%
5	10%
10	15%
15	20%
20	30%

Douglas Shire Council Transport Unit Rates

[Return to Unit Rates Sheet](#)

Note: Unit rates are only one option for valuation of assets. Unique values (\$) can be entered in the Existing Assets sheet and the Future Asset Sheets

Asset Type 1: ROAD / PATH	
RoadUnitrates1	
Road Hierarchy Standard	Rate/m or unit
Sub Arterial	\$4,538.48
Urban Major Collector	\$3,053.99
Urban Minor Collector	\$2,750.88
Rural Major Collector	\$1,006.10
Rural Minor Collector	\$723.70
Access Street	\$2,430.14
Path Hierarchy Standard	Rate/m or unit
Concrete Path	\$166.50
Asphalt Path	\$193.39
Brick Paver Path	\$365.51
Gravel Path	\$32.16

Asset Type 2: INTERSECTION / STRUCTURES	
RoadUnitrates2	
Asset Description	Rate/m or unit
Intersection: Signalised	\$ 568,412.97
Intersection: Roundabout - 1 lane minor	\$ 271,424.73
Structures: Bridges (/m2)	\$ 6,180.99
Structures: Culverts	Identified in schedule(s)
Structures: Others	Identified in schedule(s)

Site/ Condition Allowances	
Roadsitecond	
Location/Condition type	Multiplier
Douglas Shire South (TR1)	1.00
Douglas Shire South Upgrade (TR1 U)	1.50
Douglas Shire North (TR2)	1.40
Douglas Shire North Upgrade (TR2 U)	2.00

Project Owners Cost	
Roadprojcost	
Term	%
5	10%
10	15%
15	20%
20	40%

NOTES
Assume All paths 1.5m wide (1m-3m)

Douglas Shire Council Land for Parks and Community Facilities

[Return to Unit Rates Sheet](#)

Parks and Open Space Embellishment Cost

Note: Unit rates are only one option for valuation of assets. Unique values (\$) can be entered in the Existing Assets sheet and the Future Asset Sheets

Embellishments	
Parksunitrate1	
Item	Rate per Park Type

Site/ Condition Allowances	
Parkssitecond	
Location/Condition type	Multiplier
Port Douglas (PPLC1)	1.00
Mossman (PPLC2)	1.00
Cooya Beach (PPLC3)	1.00
Newell Beach (PPLC4)	1.00
Wonga Beach (PPLC5)	1.00
Rural Area - South of Mowbray River (PPLC6)	1.00
Rural Area - Mowbray River to Mossman River (PPLC7)	1.00
Rural Area - Mossman River to Daintree River (PPLC8)	1.00
Rural Area - North of Daintree River (PPLC9)	1.00
District Shared Catchments (1,2,3,4,6&7)	1.00
District Shared Catchments (5,8&9)	1.00
Regional Shared Catchments (1-9)	1.00

Project Owners Cost	
Parkprojcost	
Term	%
5	10%
10	15%
15	20%
20	30%

Douglas Shire Council Land Costs

[Return to Unit Rates Sheet](#)

Unit Rates

Note: Unit rates are only one option for valuation of assets. Unique values (\$) can be entered in the Existing Assets sheet and the Future Asset Sheets

Option 1 - Generic Land Cost	
Unit Cost of Land (\$/m2)	Landcst
	\$ 20.00

Option 2 - Land Cost (by Location)		
Landcst2	Location	
Landcst2	Cost of Land (per m2)	
	Port Douglas and Environs	\$ 304.43
	Mossman and Environs	\$ 19.75
	Coastal Suburbs, Villages and Townships (Cooya Beach)	\$ 32.53
	Coastal Suburbs, Villages and Townships (Daintree Township)	\$ 16.58
	Coastal Suburbs, Villages and Townships (Newell Beach)	\$ 335.62
	Coastal Suburbs, Villages and Townships (Wangetti)	\$ 48.42
	Coastal Suburbs, Villages and Townships (Wonga Beach)	\$ 48.33
	Rural Areas and Rural Settlements	\$ 2.64
	Settlement Areas North of the Daintree River	\$ 2.27
	World Heritage Areas and Environs	\$ 0.17
	Coastal Suburbs, Villages and Townships	\$ 51.35

Note: Does not include Building Unit / Group Title Plans or Community Management Scheme Properties due to their Valuation Methods (i.e. Entitled)

Option 2 - Land Cost (by Type)		
Landcst2	Landuse type	
Landcst2	Cost of Land (per m2)	
	Local Recreation Park Port Douglas and Environs (LRP-PD)	\$ 60.00
	Local Recreation Park Mossman and Environs (LRP-M)	\$ 20.00
	Local Recreation Park Coastal Suburbs, Villages and Townships (Cooya Beach) (LRP-CB)	\$ 20.00
	Local Recreation Park Coastal Suburbs, Villages and Townships (Newell Beach) (LRP-NB)	\$ 20.00
	Local Recreation Park Coastal Suburbs, Villages and Townships (Wonga Beach) (LRP-WB)	\$ 20.00
	Local Recreation Park Coastal Suburbs, Villages and Townships (Wangetti) (LRP-W)	\$ 20.00
	Local Recreation Park Coastal Suburbs, Villages and Townships (Daintree Township) (LRP-DT)	\$ 20.00
	Local Recreation Park Rural Areas and Rural Settlements (LRP-RS)	\$ 10.00
	Local Recreation Park Settlement Areas North of the Daintree River (LRP-ND)	\$ 5.00
	Local Recreation Park World Heritage Areas and Environs (LRP-WHA)	\$ 5.00
	District Recreation Park Port Douglas and Environs (DRP-PD)	\$ 60.00
	District Recreation Park Mossman and Environs (DRP-M)	\$ 10.00
	District Recreation Park Coastal Suburbs, Villages and Townships (Cooya Beach) (DRP-CB)	\$ 10.00
	District Recreation Park Coastal Suburbs, Villages and Townships (Newell Beach) (DRP-NB)	\$ 10.00
	District Recreation Park Coastal Suburbs, Villages and Townships (Wonga Beach) (DRP-WB)	\$ 10.00
	District Recreation Park Coastal Suburbs, Villages and Townships (Wangetti) (DRP-W)	\$ 10.00
	District Recreation Park Coastal Suburbs, Villages and Townships (Daintree Township) (DRP-DT)	\$ 10.00
	District Recreation Park Rural Areas and Rural Settlements (DRP-RS)	\$ 5.00
	District Recreation Park Settlement Areas North of the Daintree River (DRP-ND)	\$ 2.50
	District Recreation Park World Heritage Areas and Environs (DRP-WHA)	\$ 2.50
	District Sports Park Port Douglas and Environs (DSP-PD)	\$ 60.00
	District Sports Park Mossman and Environs (DSP-M)	\$ 10.00
	District Sports Park Coastal Suburbs, Villages and Townships (Cooya Beach) (DSP-CB)	\$ 10.00
	District Sports Park Coastal Suburbs, Villages and Townships (Newell Beach) (DSP-NB)	\$ 10.00
	District Sports Park Coastal Suburbs, Villages and Townships (Wonga Beach) (DSP-WB)	\$ 10.00
	District Sports Park Coastal Suburbs, Villages and Townships (Wangetti) (DSP-W)	\$ 10.00
	District Sports Park Coastal Suburbs, Villages and Townships (Daintree Township) (DSP-DT)	\$ 10.00
	District Sports Park Rural Areas and Rural Settlements (DSP-RS)	\$ 5.00
	District Sports Park Settlement Areas North of the Daintree River (DSP-ND)	\$ 2.50
	District Sports Park World Heritage Areas and Environs (DSP-WHA)	\$ 2.50
	Local Government Wide Recreation Park Port Douglas and Environs (LGWRP-PD)	\$ 30.00
	Local Government Wide Recreation Park Mossman and Environs (LGWRP-M)	\$ 10.00
	Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Cooya Beach) (LGWRP-CB)	\$ 10.00
	Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Newell Beach) (LGWRP-NB)	\$ 10.00
	Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Wonga Beach) (LGWRP-WB)	\$ 10.00
	Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Wangetti) (LGWRP-W)	\$ 10.00
	Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Daintree Township) (LGWRP-DT)	\$ 10.00
	Local Government Wide Recreation Park Rural Areas and Rural Settlements (LGWRP-RS)	\$ 5.00
	Local Government Wide Recreation Park Settlement Areas North of the Daintree River (LGWRP-ND)	\$ 2.50
	Local Government Wide Recreation Park World Heritage Areas and Environs (LGWRP-WHA)	\$ 2.50
	Local Government Wide Sports Park Port Douglas and Environs (LGWSP-PD)	\$ 30.00
	Local Government Wide Sports Park Mossman and Environs (LGWSP-M)	\$ 10.00
	Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Cooya Beach) (LGWSP-CB)	\$ 10.00
	Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Newell Beach) (LGWSP-NB)	\$ 10.00
	Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Wonga Beach) (LGWSP-WB)	\$ 10.00
	Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Wangetti) (LGWSP-W)	\$ 10.00
	Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Daintree Township) (LGWSP-DT)	\$ 10.00
	Local Government Wide Sports Park Rural Areas and Rural Settlements (LGWSP-RS)	\$ 5.00
	Local Government Wide Sports Park Settlement Areas North of the Daintree River (LGWSP-ND)	\$ 2.50
	Local Government Wide Sports Park World Heritage Areas and Environs (LGWSP-WHA)	\$ 2.50
	Community Facilities Port Douglas and Environs (CF-PD)	\$ 30.00
	Community Facilities Mossman and Environs (CF-M)	\$ 10.00
	Community Facilities Coastal Suburbs, Villages and Townships (Cooya Beach) (CF-CB)	\$ 10.00
	Community Facilities Coastal Suburbs, Villages and Townships (Newell Beach) (CF-NB)	\$ 10.00
	Community Facilities Coastal Suburbs, Villages and Townships (Wonga Beach) (CF-WB)	\$ 10.00
	Community Facilities Coastal Suburbs, Villages and Townships (Wangetti) (CF-W)	\$ 10.00
	Community Facilities Coastal Suburbs, Villages and Townships (Daintree Township) (CF-DT)	\$ 10.00
	Community Facilities Rural Areas and Rural Settlements (CF-RS)	\$ 5.00
	Community Facilities Settlement Areas North of the Daintree River (CF-ND)	\$ 2.50
	Community Facilities World Heritage Areas and Environs (CF-WHA)	\$ 2.50

NOTES

To be used for the valuation of Public Parks and Community Land (PPCL)
Abbreviations are made up of a PARK HEIRACHY and LOCALITY code

Park Heirachy	PARK HEIRACHY code
Local Recreation Park	LRP
District Recreation Park	DRP
District Sports Park	DSP
Local Government Wide Recreation Park	LGWRP
Local Government Wide Sports Park	LGWSP
Community Facilities	CF

Locality	Locality Code
Port Douglas and Environs	-PD
Mossman and Environs	-M
Coastal Suburbs, Villages and Townships (Cooya Beach)	-CB
Coastal Suburbs, Villages and Townships (Newell Beach)	-NB
Coastal Suburbs, Villages and Townships (Wonga Beach)	-WB
Coastal Suburbs, Villages and Townships (Wangetti)	-W
Coastal Suburbs, Villages and Townships (Daintree Township)	-DT
Rural Areas and Rural Settlements	-RS
Settlement Areas North of the Daintree River	-ND
World Heritage Areas and Environs	-WHA



TECHNICAL BRIEFING REPORT

Local Government Infrastructure Plan Key Assumptions and Methodology

PREPARED FOR
DOUGLAS SHIRE COUNCIL



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July 2017

DOCUMENT CONTROL SHEET

Trinity Engineering and Consulting Cairns Office: Level 1 10 Grafton Street Cairns QLD 4870 PO Box 7963 Cairns QLD 4870 Telephone (07) 4040 7111 www.trinityengineering.com.au	Title:	LGIP: Key Assumptions and Methodology
	Project Manager:	Rudd Rankine
	Author:	Rudd Rankine
	Client:	Douglas Shire Council
	Client Contact:	Paul
	Client Reference:	DSC_LGIP
	Synopsis:	A technical briefing report summarising the key assumptions and methodology used for the preparation of the DSC LGIP




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1. Introduction

This report has been prepared for the Douglas Shire Council (DSC) as part of the preparation of the Local Government Infrastructure Plan (LGIP). The aims of the report are to outline the key assumptions and methodology used to prepare the LGIP. These include the

- Planning Assumptions - including population growth and demand projections) which have been used to determine and underpin the need and growth of the trunk infrastructure networks.
- Costs
- Network Planning
- Financial Modelling

Council's trunk infrastructure networks covered by the LGIP include: -

- Water,
- Waste water (Sewerage)
- Stormwater
- Transport (Roads and Paths),
- Public Parks and Community Land.

2. Background

Under the Sustainable Planning Act 2009 (SPA) all local governments were required to include a Priority Infrastructure Plan (PIP) in their planning schemes. Councils are now required to include a Local Government Infrastructure Plan (LGIP) instead of a PIP.

A grace period, starting from the commencement of the new framework and ending 30 June 2016, has been included in the legislation, during which time a local government planning scheme is not required to include a Local Government Infrastructure Plan (LGIP).

From 1 July 2016 onwards, local governments will be required to include an LGIP in their planning scheme if they intend to levy infrastructure charges or impose conditions for trunk infrastructure. In accordance with section 997 of SPA, a local government may apply to the Planning Minister for an extension of the date to a date not later than 30 June 2018, to adopt an LGIP.

Local governments that do not intend to levy infrastructure charges or impose conditions for trunk infrastructure do not need to include an LGIP in their planning schemes.

**Councils are required to include an LGIP in their planning Schemes if they wish to levy infrastructure charges or impose conditions for trunk infrastructure.
The LGIP's must be in place by June 30, 2018.**

3. PLANNING ASSUMPTIONS

3.1 Overview

The planning assumptions for the Douglas Shire Council (DSC) have been used to develop a GIS based population and demand model. The model uses a Geographic Information System (GIS) based platform to apply planning constraints to individual sites (lots). The resulting model, based 'bottom up' approach, then spatially allocates region wide population projections from the Population model the the digital cadastre database (DCDB). The same process is undertaken to assign demand (residential and non-residential to the same DCDB. This spatial allocation of population and demands enables the aggregation of data in any defined spatial area (i.e. "Catchments").

The assumptions and methodologies on which the P&D model have created have been outlined in the planning assumptions below.

3.2 Population Modelling

3.2.1 Population modelling of resident and non-resident (Tourist) population

To ensure that infrastructure networks accommodate the demand generated by both resident and visitor populations. The various accommodation types identified have been assessed and a "maximum overnight tourist capacity" determined. These results have been trended over the 2011 to Ultimate cohorts using expected population growth rate as a surrogate for determining projected tourists over time, as outlined below.

The Queensland Government Population projections – 2015 edition (Medium Series)¹ were used as a basis for determining the resident population projections for the Periods 2011 to 2031 across Douglas Shire. The proportion of non-resident population was determined as a percentage of the resident population from Census data for 2011, and 2016 (Av.= 50%). The total number of non-residents was then determined by multiplying the medium series resident population projections by the average non-resident population (~50%)

The total population = resident population + non-resident population

The totals for 2036 and Ultimate (approximately 2061) have been extrapolated from the totals provided in the previous periods. For the purposes of the DSC- LGIP the ultimate scenario of the Douglas Shire Planning Scheme is considered to occur in around 2061. Table 1 below identifies the Population and Tourist Figures used as a basis for creating the Population Spatial Model.

Table 1 – Population projections (resident and non-resident) from Government data sources vs. Predicted Modelling outcome

Column 1 Projection area	Existing and projected population					
	Base date 2011	2016	2021	2026	2031	Ultimate Development
Resident Population ²	11,816	11,911	12,528	13,255	14,020	18,088
Non-Resident ³	5,364	6,490	6,257	6,620	7,002	9,034
TOTAL Population (from Source)	15,546	17,591	18,785	19,875	21,022	27,122
% Visitors	45.4 ^{4%}	54.5 ^{5%}	49.9 ^{6%}	49.9%	49.9%	49.9%
DSC Population and Demand Model	18,150	18,829	19,519	20,190	20,918	24,774

¹ Queensland Government population projections, 2015 edition; Australian Bureau of Statistics, Regional population growth, Australia, 2013-14, (Cat no. 3218.0).

² Medium Series (ABS, 2015)

³ 2011& 2016 -> Non-resident values from ABS Census data.

2021-Ultimate -> extrapolated from calculated (**average non-resident population (%) * Resident Population**)

⁴ Calculated from 2011 Census Data

⁵ Calculated from 2016 Census Data

⁶ Calculated Average (%) from 2011 & 2016 Census Data

Column 1 Projection area	Existing and projected population					
	Base date 2011	2016	2021	2026	2031	Ultimate Development
Variance	17%	7%	4%	2%	-0.5%	-8%

3.2.1.1 Population Model Validation

The initial Population and Demand (P&D) model was developed by Integran Pty Ltd for the Douglas Shire Council's (DRAFT) Priority Infrastructure Plan. This was undertaken in 2009. This model used to provide a base from which modification were made to reflect any zonal changes in the new planning scheme. A back analysis showed negligible different in planning or demand modelling (0.7%), which is within the margins of error. Similarly, the outputs from the P&D Model were assessed against the Population data for DSC LGA collected by the Australian Bureau of Statistics as part of the Census data. Interestingly the P&D model appears to be increased in accuracy through time.

- **In 2011:** the total predicted population (resident + non-resident) was 18,154 vs 15,546 (QGSO – resident population + ABS- Population – Visitor). The P&D model is over-predicting by +17%)
- **In 2016:** the total predicted population (resident + non-resident) was 18,841 vs 17,591 (model is over-predicting by +7%).
- **Ultimate (2061):** the total predicted population (resident + non-resident) is 24,891 vs 27,122 (model is under-predicting by +8%).¹

This is considered to demonstrate a high degree of correlation, and confidence between the P&D model and actual the population as reported through the government data sources.

3.2.2 Current Population

Existing population has been allocated on a lot by lot basis to all residential land uses (obtained from Council's rates database) based on dwelling types and expected household sizes across the LGA. A summary of the average household sizes used are provided in Table 2. For example, a property identified as containing a house is assigned a 2021 population of 2.43. This allocation has been aligned with the population projections and refined through comparison with the ABS Census Data.

Table 2 – Average Household size

Dwelling Type	Household Density (Persons/ Occupied Dwelling)				
	2011	2016	2021	2026	DSC_P&D model 2031- Ultimate
Separate House	2.59	2.51	2.43	2.35	2.32
Semi, Detached, Flats	2.22	2.15	2.08	2.01	1.98
Other	1.90	1.84	1.78	1.72	1.70
All	2.36	2.29	2.21	2.14	2.06

Sources: DSC_Population & Demand Model_2010, CRC_Population and Demand Model_2010, ABS 2011, 2016 PEP Profiles

¹ Refer to DSC_POP&DEMAND_MODEL_TEC_180824.xls

The development potential of the Douglas Shire Planning Scheme was determined through an analysis of the Planning Scheme Intents (Constraints and Densities), consideration of approved development applications and understanding of the realistic development trends throughout the Shire.

On determination of this “realistic” development capacity of the former Douglas Shire, the expected growth for each five-year period beyond 2011 was allocated across potential growth areas of the Shire (i.e. locations yet to reach the ‘ultimate’ realistic capacity), with areas of greater capacity absorbing the largest amount of growth.

Residential populations were allocated across all residential Planning Areas, while tourist growth was only allocated to only those Planning Areas likely to accommodate tourist population (e.g. Tourist & Residential Area, Residential 2 and Commercial). This information has been used in the development of the spatial model. The spatial model has been verified through a comparative assessment against ABS Population data within Census boundaries (SA2 level).

3.2.3 Ultimate Population

The ultimate development potential of Douglas Shire Council’s Planning Scheme was determined through the following process:

Developable area was determined through an analysis of the Digital Cadastre Database (DCDB), with consideration given to the following factors:

- Currently approved development applications;
- Application of constraints which may limit affected development including natural and planning constraints. The natural constraints considered as part of this assessment were:
 - Water resources;
 - Flood hazards;
 - Biodiversity, waterways & conservation areas

The planning considerations and constraints used as part of this assessment included:

- Locality
- Planning Areas
- Maximum plot Ratios
- Special Precincts
- Min/ Max Plot Ratios
- Maximum height / number of storeys
- Min Lot Size

The degree to which constraints affected development has been determined using council officer’s experience in dealing with proposed developments affected by the relevant constraints. The ultimate projected population for the Douglas Shire Council LGA is shown in Table 1.

Source: \\4_Extrinsic Material\ Supporting_Information\0_Planning_2_Demand_Assumptions\ 170912_demand_assumption_zoneuse

3.2.4 Interim Population Allocation

Growth between current and ultimate population has been with consideration given to factors affecting propensity to develop. These include:

- Location with respect to the Priority Infrastructure Area (PIA) (i.e. accommodates 10-15 years growth);
 - Within the 10 - 15 year PIA period, 95% of the growth is allocated to within the PIA boundary and the balance 5% of population growth was assumed to be satisfied outside the PIA boundary. This was considered a reasonable assumption, given the presence of Residential, Rural Residential and isolated areas of Tourist Accommodation zoned land outside the PIA.
- Availability and proximity to infrastructure services;
- Likelihood and location of infill development within the PIA.
- Potential staging of development for areas based on direction from Council’s planning department;
- Existence of Planning Approvals.
 - It is noted that there is currently sufficient developable land with current development approvals over the land to take up the expected growth within the PIA period. This is to be monitored over time, and through the required revisions of LGIP.

Residential populations were allocated across all residential Planning Areas, while tourist growth was only allocated to only those Planning Areas likely to accommodate tourist population. The population growth between the base year and ultimate are defined in Table SC3.1.1 of Council's DRAFT LGIP (Section 4 of the Planning Scheme).

3.3 Infrastructure Demand

The DSC_P&D Demand Model as developed by Integran Pty Ltd, expresses residential and non-residential demand as **Equivalent Demand Units (EDUs)**. An equivalent demand unit represents the level of demand generated by a single detached residential dwelling on a standard allotment (401m² to 900m²). One (1) EDU is equivalent to the demand generated by a single detached residential dwelling for the respective trunk infrastructure network as follows:

- Water Supply – 1 EDU = 2.59 EPs (with average daily consumption per EP as per Council's development manual);
- Wastewater – 1 EDU = 2.59 EPs (with average dry weather flow per EP as per Council's development manual)
- Transport (Roads) – 1 EDU = 10 vehicle trips.

3.3.1 Existing Demand

3.3.1.1 Residential

The level of demand in the base year (2011) is determined by dividing the 2011 population by the average household size (2.59).

3.3.1.2 Non-Residential.

The Non-residential demand (EDU's) has been determined using the developable area calculations that were determined through the Population Modelling Process. EDU rates per Hectare for each landuse / Planning Area were multiplied by the developable area in hectares. Where more detailed information was available or has been determined for planning locations, the (Table 3).

Table 3- Broad-Hectare Demand used in the determination of the DSC_Population and Demand Model : Residential Demands (Integran Pty Ltd 2011)

Column 1	Column 2	Column 4				
Area classification	LGIP development type	Demand generation rate for a trunk infrastructure network				
		Water supply network	Sewerage network	Transport network	Parks and land for community facilities network	Stormwater network
		(EDU/dev ha)	(EDU/dev ha)	(EDU/ha)	(ha/1000 persons)	(imp ha/dev ha)
BROAD HECTARE	Tourist and Residential	88.8	88.8	300	4.8	0.8
	Commercial	25.9	25.9	400	4.8	0.9
	Industry	31.1	31.1	200	4.8	0.9
	Community and Recreational Facilities	25.9	25.9	120	4.8	0.2
	Conservation	3.9	3.9	10	4.8	0.0

When Converting the DSC_D&P Model the base units of measurements used in the LGIP, the rates as outlined in Section 3.3 for the Water, Waste Water (Sewerage) and Transport Networks. Table 4 Summarise the results.

Table 4- Broad-Hectare Demand used in the determination of the DSC_Population and Demand Model :Non - Residential Demands (Integran Pty Ltd 2011) (LGIP)

Column 1	Column 2	Column 4				
Area classification	LGIP development type	Demand generation rate for a trunk infrastructure network				
		Water supply network	Sewerage network	Transport network	Parks and land for community facilities network	Stormwater network
		(EDU/dev ha)	(EDU/dev ha)	(EDU/ha)	(ha/1000 persons)	(imp ha/dev ha)
BROAD HECTARE	Tourist and Residential	88.8	88.8	300	4.8	0.8
	Commercial	25.9	25.9	400	4.8	0.9
	Industry	31.1	31.1	200	4.8	0.9
	Community and Recreational Facilities	25.9	25.9	120	4.8	0.2
	Conservation	3.9	3.9	10	4.8	0.0

To ensure the existing non-residential demand was not overestimated a number of assumptions were applied based on the size of the parcel and whether or not the existing landuse is consistent with the underlying land use intent. These include:-

- For all (occupied and vacant) lots < 1 Hectare – assumes 100% Developed
- For occupied lots > 1 Hectare – assumes 100% Developed
- For vacant lots > 1 Hectare – assumes 0% Developed
- For demand generating uses on all Community and Recreation Facilities Lots – Assumes 100%
- For Vacant or zero demand generating uses on all Community and Recreation Facilities Lots – Assumes 0%

3.3.2 Future Demand

3.3.2.1 Residential

The level of demand from the base year (2011) to ultimate was determined by dividing the population by the average household size for each corresponding time period. (Population – refer to Table 1, Average household density (people/house) – refer Table 2).

3.3.2.2 Non-Residential

The Non-residential demand (EDU's) has been determined using the developable area calculations (in HA) determined through the Population Modelling Process and applying these against the EDU rates per Hectare for each land use / Planning Area. (Refer Table 3 & 4). The rate of non-residential demand growth is linked (through the population modelling) to residential demand growth.

3.4 Employment

3.4.1 Base Year (2011) Employment

The total labour force for the Douglas Shire Council was determined using data produced by the QGSO and calculated using the formula's used in the PIPRICS Calculator¹. Using the following assumptions

- Labour Force Containment Rate = 74.3%
- Resident Employment Rate (Participation Rate) = 81.4%

¹ Queensland Government, Department of Infrastructure and Planning (2008), *Behind the PIPRICS Calculator – A detailed methodology for calculating assumptions for a Priority Infrastructure Plan (PIP) using a Regulated Infrastructure Charges Schedule (RICS)*, 18 June 2008.

- Job Containment Rate = 44.4%

The PIPRICS formulas then calculate employment based on population growth. Whilst this is considered a reasonable approach, the limitations as to the absolute nature of the assumptions noted above are obvious. But for matters of estimation, they are considered reasonable.

The low job-containment rate (44.4%) reflects the limited major employment generators in the DSC region, and the requirement of the labour force to seek work opportunities in the nearby communities (notably Cairns).

3.4.2 Future Employment

The projected labour force requirements for the future year cohorts are based on the Population growth estimated through the DSC_Population and Demand Model, using the same methodology as outlined in Section 3.4.1.

3.4.3 Floor Space Requirements

The total floor space requirements for growth in the non-residential sector are based on assumptions about space (m²) per employee by employment sector. These are shown in Table 5.

Table 5 – Floor space requirement for employees in different sectors.

Employment Sector	Floor Space (m ² / employee)
Retail	30
Commercial	30
Industrial	150
Community Services	25

The calculation of the current and future floor space requirements relies on assumptions about the proportion of employment sector growth. This has been linked to the planning scheme zoning in accordance with the assumptions made in Table 6.

Table 6 - Employment by Planning Area

Planning Area	Employment Sector				
	Industry	Retail	Commercial	Community Services	Other 1 (incl. home based, mining, construction, agriculture)
Industrial Zoned Land	100%	3%	0%	0%	0%
Commercial Zoned Land	0%	92.5%	97.5%	2.5%	0%
Community and Recreational Facilities	0%	5%	2.5%	97.5%	0%
TOTAL	100%	100%	100%	100%	0%

The floor space requirements have been calculated for the base year and forecast for the future periods, based on the assumption outlined above. The results have been summarised in Table 22.3 of the LGIP and repeated below for ease of reference.

¹ It is assumed that there is no "Demand" for additional non-residential floor space for the Employment Sector of "Other". This is because "Other" category/ sector is considered likely to be made up of business such as home based businesses, mining, construction and agriculture. The permanent non-residential floor space generation from these activities are considered to negligible and have assumed to be 0 in the modelling.

Table 7 Residential dwellings and non-residential floor space assumptions summary

Column 1 Description	Column 2 Assumptions					
	Base date (2011)	2016	2021	2026	2031	Ultimate development
Residential dwellings ¹	7779	8,330	8,925	9,549	10,161	14,328
Non-residential floor space (m2 GFA) ²	136,860	143,690	150,670	157,290	164,205	205,157

3.5 Priority Infrastructure Area Capacity

3.5.1 General

The appropriateness of the PIA to ensure an appropriate supply of serviced land was assessed after giving due consideration to

- i) Factors effecting the location and scale of development
- ii) Assessments of the propensity and intensity of infill development

3.5.2 Priority Infrastructure Area: Residential Capacity

The PIA is assessed as having sufficient capacity to accommodate an additional 1770 dwellings which equates to an additional population of approximately 3741 persons in the 15-year time horizon of the PIA. The projected Population growth from the population model during the same period is 3,289 people. This demonstrates that the PIA is sufficient to contain the Population³ growth up to an including 2026. The PIA is expected to reach its residential capacity between 2026 and 2031 – which are inside the acceptable limits identified within the LGIP guidelines.

3.5.3 Integrated Resort Development Scheme

The integrated resort development scheme (IRDS) has been *excluded* from the PIA for the DSC LGIP, as it falls outside of the control and jurisdiction of the DSC planning scheme. However, the demands from the IRDS have been included in the demand calculations and infrastructure network planning, as the development will cater for additional residents and non-residents over the expected timeline of the LGIP (15 years).

3.5.4 Priority Infrastructure Area: Non-Residential Capacity

The projected future demand for non-residential floor space within the PIA over the life of the LGIP (20 years) is approximately 18,430m². Assuming a development yield of approximately 55%, this equates to a land area of approximately 33.5Ha.

The available non-residential land within the PIA is shown in Table 8. The PIA provides sufficient non-residential land for the planned duration of the LGIP. Indeed, the available Industrial land included in the PIA is more than the projected demand. This is considered reasonable given a large portion of the vacant existing industrial land is already serviced by all infrastructure networks. The under-utilised industrial land refers to infill development or re-development of existing sites to a higher scale or intensity.

¹ Total number of residential dwellings

² Total non-residential floor space (m2 GFA)

³ Population Growth inclusive of residents and tourist/ non-residents

Table 8: Non-Residential land summary (within the PIA)

Planning Scheme Zoning	Total Area (Ha)	Development Potential ¹		
		Vacant (Ha)	Under-utilised (Ha)	Total (Ha)
Commercial	64	3.75	6	9.75
Industry	76	14.25	12.75	27
Community and Recreational Facilities	594	17.25	3.75	21
Conservation	210,393	0	0	0
TOTAL	211,127	35.25	22.5	57.75

3.6 Cost Assumptions

Unit rates used within the schedule of works (SoW) model are included using the information deemed most accurate and appropriate, which was available at the time the document was drafted. For asset costing purposes within the SoW model, all unit rates have been indexed to the base year of the model, 2011, using a rate of 3% (Charges Escalation Rate) unless noted otherwise.

The unit rates used for determining network values have been derived using raw unit rate data (asset cost only). The 'replacement cost' of an asset, will also include on-costs such as: - investigations, environmental/ approvals management, detail design, and project management etc. These on-costs referred to as Project Owners Costs. In the Schedule of Works (SoW) Model. The owners' costs considered to be an essential element of determining the current replacement costs (as referenced in the Statutory Guideline 03/14).

It is noted that the Evans and Peck report referenced within the State SoW model user manual identifies that many Council's already include on costs within their unit rates. DSC has separated these costs to provide additional transparency and ease of understanding throughout the LGIP documents.

3.6.1 Water and Wastewater (Sewerage) Unit Rates

Active Assets: Current replacement cost for active assets (pump stations, treatment plants etc.) have been provided as project costs. The costs were sourced from Council asset registers (where possible). Where this information was not available the costs were sourced from the Douglas Shire Council's Draft PIP Document. The Source of these cost were from DSC's asset register or where not – available from Cairns Regional Council's asset register.

Notes

- 1) Cairns Regional Council and Douglas Shire Council were amalgamated at the time of the preparation of the DRAFT Priority Infrastructure Plans
- 2) Adopting costs for infrastructure based for Douglas Shire Council assets based on Cairns Regional Council Assets Register costs is considered conservative, as there are additional costs for transport and logistics typically required to develop infrastructure in Douglas Shire Council.

Passive Assets: Unit rates for passive assets have been derived from the 30th June 2017 Valuation Report.

This report builds a cost for water supply and sewer assets which is based on:

- Raw unit rate cost; plus
 - Application of various cost modifiers which affect construction cost, including:
 - Existing Development Type (Rural, Urban, High Density Urban, CBD)
 - Soil Type (Good soil, poor soil, sand, acid sulfate soil, soft rock, hard rock)
 - Pipe depth

¹ From DSC Population – Demand Model (Integran 2011)

- Pipe diameter

Spatially dependant cost modifiers (development/soil type) have been identified within a GIS system using boundaries provided with the abovementioned Cardno report.

3.6.2 Cost Modifiers

In addition to the unit rates for the assets identified above, a number of cost multipliers have been applied (as necessary) across the water and waste water networks. These have been summarised in Table 9.

Table 9 – Cost Modifiers applicable to water and waste water networks.

Cost Modifier	Valuation Component	Applies to	Adjustment Factor	Comment
On-cost Allowance	Works	All Existing and Future Assets	20%	Project Owners costs include on-costs such as:- investigations, environmental/ approvals management, detail design, and project management etc.
Time based contingency	Works	All Future Assets	0%-30%	0% 0-5yrs 10% 5-10yrs 15% 10-15yrs 20% 15-20yrs 30% 20+ yrs
Construction Cost Multipliers	Works	All Future Assets	95%-215% (Water) 96% - 292% (Wastewater)	Cost modifiers which affect construction cost, including: <ul style="list-style-type: none"> - Existing Development Type (Rural, Urban, High Density Urban, CBD) - Soil Type (Good soil, poor soil, sand, acid sulphate soil, soft rock, hard rock) - Pipe depth - Pipe diameter Currently insufficient data to justify any variation from 1.0 for any assets. All sewerage reticulation was assumed to be <3m deep – as per the requirements of the FNQROC development manual. All works were assumed to occur in Urban/ Good Soil 1.5-3.0m deep (i.e. Multiplier of 1.0) All future LGIP works do NOT have any Construction Cost Multipliers applied.
Spatial Multipliers (Spatially Dependent Cost Multipliers for Catchments)	Works	All Future Assets	1.0	Currently insufficient data to justify any variation from 1.0. (Possible in future revisions of LGIP). No Spatial Multipliers Applied to LGIP works

3.6.3 Stormwater Unit Rates

The stormwater network has not been included in the DSC LGIP at this point in time

3.6.4 Cost Modifiers

N/A – as above.

3.6.5 Transport Unit Rates

Transport costs have been applied as project costs identified from Council's Capital Works program and detailed planning documents where possible. Where such costs do not exist, unit rates have been applied as detailed below.

Roads

Road unit rates have been determined using the mean unit rates from the following sources (minus on cost allowance and indexed to 2011 using CPI¹):

- Council's draft Priority Infrastructure Plan (PIP) unit rates (2010)
- Council unit rates:
 - # 646604-v6-Unit_Rate_Book_for_Council_Assets;
 - #854357-v4B-Unit_Rates_for_Traffic_Management_Plans
- Cost Estimates for Concept Design of Wharf Street Intersection

A summary of the unit rate costs for the Road and Paths has been provided in Table 6.

Table 10 – Unit Rates used for Road and Paths

Road Hierarchy Standard	Rate/m or unit
Sub Arterial	\$4,538.48
Urban Major Collector	\$3,053.99
Urban Minor Collector	\$2,750.88
Rural Major Collector	\$1,006.10
Rural Minor Collector	\$723.70
Access Street	\$2,430.14
Path Hierarchy Standard	Rate/m or unit
Concrete_Path	\$166.50
Asphalt_Path	\$193.39
Brick Paver_Path	\$365.51
Gravel_Path	\$32.16

Land

Rates for land acquisitions of road corridors has been based on the 2006 Rushton Valuations and De. A copy of which has been included in the extrinsic material. A summary of the land costs used for the various locations has been summarised in Table 7. The Generic Land Cost for was set at \$20/m². The reason that the unit rate appears low relative to the land rate in Table 7 is that there is limited land resumptions required in any of the built-up (and consequentially more expensive areas). The \$20/m² is nominally half way between the typical cost of land in Rural Areas and the average of the Coastal Suburbs, Villages and Townships (excluding Newell Beach)

¹ CPI_Index_ABS_640101

Table 11 – Land Values

Location	Cost of Land (per m2)
Port Douglas and Environs	\$ 304.43
Mossman and Environs	\$ 19.75
Coastal Suburbs, Villages and Townships (Cooya Beach)	\$ 32.53
Coastal Suburbs, Villages and Townships (Daintree Township)	\$ 16.58
Coastal Suburbs, Villages and Townships (Newell Beach)	\$ 335.62 ¹
Coastal Suburbs, Villages and Townships (Wangetti)	\$ 48.42
Coastal Suburbs, Villages and Townships (Wonga Beach)	\$ 48.33
Rural Areas and Rural Settlements	\$ 2.64
Settlement Areas North of the Daintree River	\$ 2.27
World Heritage Areas and Environs	\$ 0.17
Coastal Suburbs, Villages and Townships	\$ 51.35

Paths

The unit rates used for assessing the trunk paths network has been adjusted to the base date rates Council identified in:

- #646604-v6-Unit_Rate_Book_for_Council_Assets;

It has been assumed all paths were 1.5m wide. This is considered a reasonable approach to account for the varying widths of the existing paths, which have been constructed to various widths and standards and the future trunk network, which will have paths constructed at the width defined by the standards at the time. (Typically, 2-3m).

Structures

The unit rates used for intersections and structures are outlined in Table 7. A detailed breakdown of how these unit rates have been determined has been provided in the following spreadsheets which have been provided as part of the LGIP extrinsic material.

- #646604-v6-Unit_Rate_Book_for_Council_Assets;
- #854357-v4B-Unit_Rates_for_Traffic_Management_Plans;
- #2432888-v1-(8_26_20)_DTMR_Bridge_Info_Summary

In the case where culverts have been used. The costs have been taken from #646604-v6-Unit_Rate_Book_for_Council_Assets and indexed up to the base date (June 2011) using the CPI index, and summarised in Table 8.

Table 13 Intersections and Structures – Unit Rates

Asset Description	Rate/m or unit
Intersection: Signalised	\$ 568,412.97
Intersection: Roundabout - 1 lane minor	\$ 271,424.73
Structures: Bridges (/m2)	\$ 6,180.99

3.6.6 Cost Modifiers

The cost modifiers used for the transport network have been summarised in Table 9.

¹ Appears as an Out-of-line valuation. This is considered to be due to an over-representation of high value lots/ sales during the period of the assessment.

Table 14: Summary of Cost Modifiers applied to the Douglas Shire Council Transport Network.

Cost Modifier	Valuation Component	Applies to	Adjustment Factor	Comment
On-cost Allowance	Works	All Existing and Future Assets	20%	Project Owners costs include on-costs such as: - investigations, environmental/ approvals management, detail design, and project management etc.
Time based contingency	Works	All Future Assets	0%-30%	0% 0-5yrs 10% 5-10yrs 15% 10-15yrs 20% 15-20yrs 30% ¹ 20+ yrs
Spatial Multipliers (Spatially Dependent Cost Multipliers for Catchments)	Works	All Future Assets	1.4	A Multiplier of 1.0 applies to all NEW Construction Works South of the Daintree River.
Construction Cost Multipliers	Works	All Future Assets	1.5	A cost multiplier of 1.5 for applies for all UPGRADE ² works South of the Daintree River.
			2.0	A cost multiplier of 2.0 for applies for all UPGRADE ³ works North of the Daintree River. ⁴

3.6.7 Public Parks and Community Land Unit Rates

The cost of the existing and future park embellishment costs have not been included in the 'Schedule of Works' using a unit rate approach. They have been included on as discrete planning Costs. These costs have been identified through a back analysis of Council's Asset Register for parks.

The Cost of land used in the calculations of public parks has been based on the Council's Valuation by Rushton's (2006) and adopted in Council's Previous Priority Infrastructure Plan (2010). Indexation has not been applied between the period of 2010 and 2011, as that values adopted in 2010 were still considered reasonable for 2011. The analysis used to determine the land values, necessarily made some assumptions and approximations to determine fair-value for the land. The variation of index values between 2010 and 2011 is considered less than the margin of error associated with the assumptions made in the original analysis. Therefore, the same figures have been adopted for the land values for the 2011 base date. A summary of the costs of land values used for the parks of various hierarchies and locations have been summarised in Table 10. The value of park land dedicated to Council (pre-1990) are not eligible to form part of the cost base and have been set to \$0. Where Council have nominated a specific value for the Future parkland, these values have been included in the Schedule of Works model as discrete items also.

¹ From Department of Transport and Main Roads (TMR), Project Cost Estimating Manual, Seventh Edition, Published July 2017 (pg 45)

² The increased cost of undertaking reconstruction works of roads in a built-up environment (brownfield development), involves additional complexities - existing services, traffic management, approvals management etc.

³ The increased cost of undertaking reconstruction works of roads in a built-up environment (brownfield development), involves additional complexities - existing services, traffic management, approvals management etc.

⁴ The cost multiplier of 2.0 was assigned after discussion with Council Officers, Transport Engineers and Consultants. It was noted that this is slightly lower than the result of multiplying the LOCATIONAL MULTIPLIER (1.4) x UPGRADE MULTIPLIER = 2.1 (for works north of the Daintree river. This was considered a reasonable estimate due to reduced traffic loads (and traffic management) and simpler (lower order) road hierarchies.

Table 15. Land Cost – Public Parks

Landuse type	Cost of Land (per m2)
Local Recreation Park Port Douglas and Environs (LRP-PD)	\$ 60.00
Local Recreation Park Mossman and Environs (LRP-M)	\$ 20.00
Local Recreation Park Coastal Suburbs, Villages and Townships (Cooya Beach) (LRP-CB)	\$ 20.00
Local Recreation Park Coastal Suburbs, Villages and Townships (Newell Beach) (LRP-NB)	\$ 20.00
Local Recreation Park Coastal Suburbs, Villages and Townships (Wonga Beach) (LRP-WB)	\$ 20.00
Local Recreation Park Coastal Suburbs, Villages and Townships (Wangetti) (LRP-W)	\$ 20.00
Local Recreation Park Coastal Suburbs, Villages and Townships (Daintree Township) (LRP-DT)	\$ 20.00
Local Recreation Park Rural Areas and Rural Settlements (LRP-RS)	\$ 10.00
Local Recreation Park Settlement Areas North of the Daintree River (LRP-ND)	\$ 5.00
Local Recreation Park World Heritage Areas and Environs (LRP-WHA)	\$ 5.00
District Recreation Park Port Douglas and Environs (DRP-PD)	\$ 60.00
District Recreation Park Mossman and Environs (DRP-M)	\$ 10.00
District Recreation Park Coastal Suburbs, Villages and Townships (Cooya Beach) (DRP-CB)	\$ 10.00
District Recreation Park Coastal Suburbs, Villages and Townships (Newell Beach) (DRP-NB)	\$ 10.00
District Recreation Park Coastal Suburbs, Villages and Townships (Wonga Beach) (DRP-WB)	\$ 10.00
District Recreation Park Coastal Suburbs, Villages and Townships (Wangetti) (DRP-W)	\$ 10.00
District Recreation Park Coastal Suburbs, Villages and Townships (Daintree Township) (DRP-DT)	\$ 10.00
District Recreation Park Rural Areas and Rural Settlements (DRP-RS)	\$ 5.00
District Recreation Park Settlement Areas North of the Daintree River (DRP-ND)	\$ 2.50
District Recreation Park World Heritage Areas and Environs (DRP-WHA)	\$ 2.50
District Sports Park Port Douglas and Environs (DSP-PD)	\$ 60.00
District Sports Park Mossman and Environs (DSP-M)	\$ 10.00
District Sports Park Coastal Suburbs, Villages and Townships (Cooya Beach) (DSP-CB)	\$ 10.00
District Sports Park Coastal Suburbs, Villages and Townships (Newell Beach) (DSP-NB)	\$ 10.00
District Sports Park Coastal Suburbs, Villages and Townships (Wonga Beach) (DSP-WB)	\$ 10.00
District Sports Park Coastal Suburbs, Villages and Townships (Wangetti) (DSP-W)	\$ 10.00
District Sports Park Coastal Suburbs, Villages and Townships (Daintree Township) (DSP-DT)	\$ 10.00
District Sports Park Rural Areas and Rural Settlements (DSP-RS)	\$ 5.00

District Sports Park Settlement Areas North of the Daintree River (DSP-ND)	\$ 2.50
District Sports Park World Heritage Areas and Environs (DSP-WHA)	\$ 2.50
Local Government Wide Recreation Park Port Douglas and Environs (LGWRP-PD)	\$ 30.00
Local Government Wide Recreation Park Mossman and Environs (LGWRP-M)	\$ 10.00
Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Cooya Beach) (LGWRP-CB)	\$ 10.00
Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Newell Beach) (LGWRP-NB)	\$ 10.00
Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Wonga Beach) (LGWRP-WB)	\$ 10.00
Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Wangetti) (LGWRP-W)	\$ 10.00
Local Government Wide Recreation Park Coastal Suburbs, Villages and Townships (Daintree Township) (LGWRP-DT)	\$ 10.00
Local Government Wide Recreation Park Rural Areas and Rural Settlements (LGWRP-RS)	\$ 5.00
Local Government Wide Recreation Park Settlement Areas North of the Daintree River (LGWRP-ND)	\$ 2.50
Local Government Wide Recreation Park World Heritage Areas and Environs (LGWRP-WHA)	\$ 2.50
Local Government Wide Sports Park Port Douglas and Environs (LGWSP-PD)	\$ 30.00
Local Government Wide Sports Park Mossman and Environs (LGWSP-M)	\$ 10.00
Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Cooya Beach) (LGWSP-CB)	\$ 10.00
Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Newell Beach) (LGWSP-NB)	\$ 10.00
Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Wonga Beach) (LGWSP-WB)	\$ 10.00
Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Wangetti) (LGWSP-W)	\$ 10.00
Local Government Wide Sports Park Coastal Suburbs, Villages and Townships (Daintree Township) (LGWSP-DT)	\$ 10.00
Local Government Wide Sports Park Rural Areas and Rural Settlements (LGWSP-RS)	\$ 5.00
Local Government Wide Sports Park Settlement Areas North of the Daintree River (LGWSP-ND)	\$ 2.50
Local Government Wide Sports Park World Heritage Areas and Environs (LGWSP-WHA)	\$ 2.50
Community Facilities Port Douglas and Environs (CF-PD)	\$ 30.00
Community Facilities Mossman and Environs (CF-M)	\$ 10.00
Community Facilities Coastal Suburbs, Villages and Townships (Cooya Beach) (CF-CB)	\$ 10.00
Community Facilities Coastal Suburbs, Villages and Townships (Newell Beach) (CF-NB)	\$ 10.00
Community Facilities Coastal Suburbs, Villages and Townships (Wonga Beach) (CF-WB)	\$ 10.00
Community Facilities Coastal Suburbs, Villages and Townships (Wangetti) (CF-W)	\$ 10.00

Community Facilities Coastal Suburbs, Villages and Townships (Daintree Township) (CF-DT)	\$ 10.00
Community Facilities Rural Areas and Rural Settlements (CF-RS)	\$ 5.00
Community Facilities Settlement Areas North of the Daintree River (CF-ND)	\$ 2.50
Community Facilities World Heritage Areas and Environs (CF-WHA)	\$ 2.50

3.6.8 Cost Modifiers

The cost modifiers relevant to the Parks in the Douglas Shire Council LGA have been summarised in Table 11.

Table 16. Cost Modifier – Public Parks

Cost Modifier	Valuation Component	Applies to	Adjustment Factor	Comment
On-cost Allowance	Works	All Existing and Future Assets	20%	Project Owners costs include on-costs such as: - investigations, environmental/ approvals management, detail design, and project management etc.
Time based contingency	Works	All Future Assets	0%-30%	0% 0-5yrs 10% 5-10yrs 15% 10-15yrs 20% 15-20yrs 30% 20+ yrs
Spatial Multipliers (Spatially Dependent Cost Multipliers for Catchments)	Works	All Future Assets	1.0	A Multiplier of 1.0 applies to all Parks in the DSC Shire. There is insufficient evidence to justify SPATIAL multipliers above 1.0.
Construction Cost Multipliers	Works	All Future Assets	1.5	

3.6.9 Network Planning

Network planning for the Douglas Shire Council LGIP has in some cases been undertaken beyond the 10-15 year timeframe of the PIA. To provide a basis to produce a Discounted Cashflow Model of the future expenditures required under the LGIP for the life of the Planning Scheme, a realistic ultimate development of the Planning Scheme has been nominated at or around 2061.

Network planning for the various networks has been based on the identification of future growth characteristics of the region. These have been considered in consultation with Council's planners and engineers, and informed by various studies and reports prepared for to address the same. The studies and reports used to

- 1) Identify the desired standards of service (DSS);
- 2) Inform the Plans for Trunk Infrastructure (PFTI); and Schedule of Works (SoW)
- 3) Determine priority, timing and costs for the recommended works

The list of reports and studies are listed as the extrinsic material, within the LGIP, and can be provided to the public at request. Copies have also been provided as part of this report and review as part of the Extrinsic Material to the LGIP.

The various planning timelines for the infrastructure networks are defined in **Table 4.5.1** of the LGIP. These are all more than the 10-15 minimum timeline as specified by SG03/14. The networks have all been developed in accordance with the Desired Standards of Service (DSS) as defined in **Tables 22.4 – 22.12** in the LGIP (Section 4 of the Planning Scheme. A copy of the extrinsic material referenced in the LGIP has been reproduced in Appendix A.



The methodology used for the modelling of each of the networks has been outlined in Section 3.8 to 3.11.

4. TRANSPORT INFRASTRUCTURE NETWORK

4.1.1 Overview

This section provides an overview of the key assumptions and methodology used to determine infrastructure charges for the Transport Trunk Infrastructure Network for the Douglas Shire Council's Local Government Infrastructure Plans (LGIP).

4.1.2 Existing Assets

4.1.2.1 Source of Trunk Assets

- Existing trunk road assets were obtained from Douglas Shire Council GIS asset mapping, Council information and policies and previous infrastructure priority infrastructure planning documentation (PIP 2006). The adopted networks were reviewed by Council to confirm the trunk roads and hierarchies.
- Length of road assets based on mapped length from GIS asset mapping.
- Council identified the relevant road hierarchy based on the relevant standards of service that are outlined in the Council's engineering guidelines. These standards are defined by the Far North Region of Council's (FNQROC) development manual
- Council roads are identified as 'catchment' assets in the charges model.
- Roundabouts on trunk roads were also included.
- There are currently no existing signalised intersections.
- Structures (including bridges, culverts, and ferry landings) were also included where they coincided with the trunk network. These were sourced from GIS mapping and refined through review by Council and TMR officers.

4.1.3 Current Replacement Costs

4.1.3.1 Council Roads

- Unit rates for Council roads were determined and applied to the mapped length of each road segment.
- The unit rates were derived for each road hierarchy based on the design cross-sections of the respective hierarchies. Refer to file "#854357-v4B-Unit_Rates_for_Traffic_Management_Plans_(including_annual_service_costs)" for further detailed breakdown of unit rate inclusions for the respective hierarchies. The unit rates in the spreadsheet are expressed in June 2009 dollars (unit rates determined for former Cairns City area applied to former Douglas Shire area where hierarchies aligned) and have been indexed to the base date (2011) using CPI, for use in the LGIP Schedule of Works (SoW) model.
- For existing roads, the relevant unit rate was applied to determine the asset value. The costs for "minor upgrade works" that may be required on existing roads is accounted for in current replacement cost for the relevant Hierarchy / Type.
- A multiplier of 1.4 was used to increase the value of assets located north of the Daintree River to account for the additional costs of having to supply materials and labour without a bridge crossing to roads north of the river.
- The multiplier has been used by Council for Asset Valuations in this region and reviewed by the Queensland Audit Office.
- For upgrading roads existing in a brownfield setting (i.e. existing development). A multiplier of:
 - 1.5 was used – South of the Daintree River and
 - 2.0 – North of the Daintree River.
- Previous funding received for the Bitumen sealing of Cape Tribulation Road was removed from the existing catchment asset establishment costs – refer to report #2571770 "Bitumen Sealing the Cape Tribulation Road Through World Heritage Listed Property". The funding packages identified in this report were indexed up from June 1992 to June 2011 using CPI.

4.1.3.2 Council Intersections

- All existing roundabouts have been valued at \$ 271,425 (in 2011 dollars) based on a 1 lane minor roundabout. The cost allows for:
 - Large vegetated roundabout >20m diameter;
 - Site preparation;

- Maintenance kerb around perimeter;
- Landscaping and vegetation.
- Priority Intersections (which consist of signs and line markings) were assumed to be included within the road cross section unit rates.

4.1.3.3 Council Structures

Bridges

- All existing bridges have been valued by applying a unit rate of \$6,181/sqm to the area of the bridge. This allows for
 - An average bridge deck cost of \$4,415/ m²; and a 40% allowance for the cost of the bridge abutments and approaches (in 2011 dollars).
 - The average cost of bridge deck was obtained from CRC unit rate schedule “#646604-v6-Unit_Rate_Book_for_Council_Assets.xls”. This was determined by a back-analysis of bridge cost data from within the Cairns Regional Council Region, which was supplemented (and supported) by bridge asset data from the Department of Transport and Main Roads (TMR).

Source: #2432888-v1-(8_26_20)_DTMR_Bridge_Info_Summary

Culverts

- Costs of culverts have been sourced from Council’s asset database

Source: #646604-v6-Unit_Rate_Book_for_Council_Assets;

4.1.4 Future Assets

4.1.4.1 Source of Trunk Assets

- The scope of future (upgrades or new) road infrastructure including location, hierarchy and timing was based on:
 - previous infrastructure planning undertaken for the adoption of the Douglas Shire Council Priority Infrastructure Plan (PIP).
 - Council officers through hard copy mark - ups (and then digitised into GIS) including several reviews and updates.
 - Collaboration with Engineers/ Officers from the Department of Transport and Main Roads.
- The only future State Controlled infrastructure included is the signalisation of the Captain Cook Highway and Port Douglas Road intersection. However, this and other longer term strategic upgrade projects have been identified however these are well outside of the 15-year horizon of the LGIP.

4.1.5 Current Replacement Costs

The unit rates for future road assets were derived on the same basis as for existing roads.

- Costs of upgrading existing roads are based on 150% of the relevant ultimate road hierarchy / type unit rates to allow for additional costs such as interim works and traffic management (to enable the road to continue to function during construction works), and the costs associated with service relocations and reforming an existing road formation (as oppose to commencing the works from fresh);
- Future (new) roads costs were based on 100% of the unit rate applicable to the relevant planned road hierarchy / type with a land component added where necessary to allow for land acquisitions to accommodate the new road.
- Rates for land acquisitions of road corridors has been based on the 2006 Rushton Valuations and De. A copy of which has been included in the extrinsic material. A summary of the land costs used for the various developed population centres were based on determination of average unimproved capital values (UCVs) for residential land in the suburb that the future road was situated. Refer to files “Craiglie Land Values.xls”, “Wonga Land Values.xls”, and “Mossman Land Values.xls”. The land values that were adopted for use in the LGIP are summarised in Table 7.
- No subsidies were considered for future assets as no subsidies can be guaranteed.

4.1.6 Method of Cost Apportionment

4.1.6.1 Charging Catchments

- Two (2) Transport Trunk Infrastructure Charges Catchments have been identified based on land north and south of the Daintree River.

4.1.6.2 Allocation of Infrastructure

- Both existing and future assets have been allocated to the corresponding charging catchment to which they ultimately provide a function.
- The 'Y' symbol in the schedule of works tables indicates the catchment that each asset item has been apportioned to.

4.1.7 Determination of Demand

The demand model used for the determination of the required trunk infrastructure was based on the Population and Demand model as outlined in Section 3.3 The model was then modified to include:

- Changes to the traffic generation resulting from changes to land uses through either development or town planning land use changes;
- Modification of the demand units from 'Equivalent Demand Units' (EDU1) to the trips per day as required by the State's LGIP template.
 - For traffic 1 EDU = 10 trips/day

The methodology used in the original development of the Douglas Shire Council's (DRAFT) Priority Infrastructure Plan (PIP) identifies demand for existing and future uses (residential and non-residential) in terms of equivalent demand units or "EDU"s. The conversion from the EDU base unit to the trips/ day base demand unit (as required by the State) is done by simply multiplying the EDU demand result by 10 (1 EDU = 10 trips/day).

4.1.7.1 Existing

Residential Uses

- All Residential land uses contained within the existing service catchment (on any zoned land) were identified and an Equivalent Demand Unit (EDU) calculated based on the intensity of the use (e.g. Single Unit Dwelling = 1 EDU, Multi-Unit Dwelling = 0.75 EDUs per unit)

Non-Residential Uses

- All Non-Residential Zoned land contained within a Charging catchment was identified and an Equivalent Demand Unit (EDU) calculated based on the EDU / Hectare for that particular Zone (e.g. Industry = 20 EDU/ha, Commercial = 28 EDU/ ha).
- Land excluded from the above process included: Non-Residential Land that contained an existing Residential Use (in which case the relevant residential demand was applied) and all vacant englobo Non-Residential Land (i.e. greater than 1 ha in size).

4.1.7.2 Future

Residential Zoned Land

- The Population Modelling previously performed for the Priority Infrastructure Plan provided a population projection for all residential zoned land on a lot by lot basis using the Planning Scheme intents to determine the expected yields.
 - The projected populations have been validated against the Census data for the Port Douglas Local Government Area for 2006, 2011 and 2016, which show reasonable correlations, and provide a level of confidence in the model accuracy of the model for the determination of infrastructure demands.
- This population was determined based on the average household size (persons per household) for a standard residential dwelling at the relevant demand year.

Non-Residential Zoned Land

¹ 1 EDU is defined as the demand created by a single detached dwelling or standard "house" lot.

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- All Non-Residential Zoned land contained within a Charging catchment was identified and an Equivalent Demand Unit (EDU) calculated based on the EDU / Hectare for that particular Zone (e.g. Industry = 20 EDU/ha, Commercial = 28 EDU/ ha).
 - Land excluded from the above process included: Non-Residential Land that contained an existing Residential Use (in which case the relevant residential demand was applied) and all vacant englobo Non-Residential Land (i.e. greater than 1 ha in size).

5. WATER SUPPLY TRUNK INFRASTRUCTURE

5.1 Overview

This section provides an overview of the key assumptions and methodology used to determine infrastructure charges for the Water Supply Trunk Infrastructure Network for the Douglas Shire Council's Local Government Infrastructure Plans (LGIP).

5.2 Existing Assets

5.2.1 Source of Trunk Assets

- Existing Water Supply active and passive GIS Mapping has been obtained from:
 - AutoCAD drawings, where provided by Council, design plans or 'as constructed' plans, Council records, or estimated using aerial photographs.
 - These plans were refined through reviews by Council Officers.
- Water main lengths were based upon the mapped length using GIS to calculate.
- Other asset attributes such as pipe diameters were also obtained from design plans and 'as constructed' plans and/or Council Officer knowledge.
- All Active Assets providing a function to the trunk mains have been considered trunk assets.

5.2.2 Current Replacement Costs

- Unit rates (\$/m) have been applied for all passive assets based on rates provided by Cairns Water. These rates were derived from unit rate estimates provided by Cardno (refer to file: 4_Extrinsic_Material\1_Supporting_Information\1_Water Supply\4_Costs\DSC_LGIP\SC_Unit_Rates_Costs_170804)
 - Where On-costs have been applied in the valuation of the unit rates, these have been removed to provide a RAW Cost for the infrastructure items. The RAW cost has then been indexed from the valuation date to the base date (2011) in accordance with the CPI.
- Where rates were missing for some pipe diameters, a rate was adopted from the closest equivalent size/type main, where provided.
- Active Assets: Where possible costs have been derived from Council's asset register and file "Client water calculations 09_08_07.xls). The asset register identifies costs in June 2007 dollars – these were indexed to June 2011 (base year) using Consumer Price Index (Brisbane, All Groups).
- All Existing Water Treatment Plants have been subject to the 40% subsidy available through State Government Grants and has been accounted for in determining the establishment cost of Existing Infrastructure.

5.2.3 Future Assets

5.2.3.1 Source of Trunk Assets

- Scope, location, and timings of future infrastructure and upgrades to existing infrastructure were obtained from:
 - Water Supply Planning Report – MWH, 2009 – refer to report "Division 10 (Former Douglas Shire) Water Supply Planning Report A1162900" prepared by MWH, 2009;
 - Associated GIS mapping of network augmentations;
- Officer knowledge and review and refinement of the above to separate trunk and non-trunk asset augmentations.
- Water main lengths were based upon the mapped length using GIS to calculate.

5.2.4 Current Replacement Costs

- All Future Passive Assets costs have been based on the Unit rates provided by Cairns Water (refer to existing Asset section above for more detail).
- Future Active Asset costs have been identified from the 10-year Capital Works Programming, and expressed June 2011 dollars.
- No subsidies were considered for future assets as no subsidies can be guaranteed for future works.

5.2.5 Method of Cost Apportionment

5.2.5.1 Charging Catchments

- Water Supply Charging Catchments have been based on Council's Water Service Areas, and expanded to include future serviced urban land.
- Four (4) Water Supply Trunk Infrastructure Charges Catchments have been identified.
- Assets have been allocated based on the WTP (Charges Catchment) they serve.

5.2.6 Allocation of Infrastructure

- Both existing and future assets have been allocated to the corresponding charging catchment to which they ultimately provide a function, in accordance with the "average" cost apportionment methodology.
- The 'Y' symbol in the schedule of works tables indicates the catchment that each asset item has been apportioned to.
- 'Regional Assets' (which are typically identified as 'Active assets') like raw water intakes and treatment plants have been apportioned to multiple catchments based on the shared use of the infrastructure across multiple catchments.
- Passive assets (water pipe reticulation network) have been allocated to the catchment in which they occur.

5.2.7 Determination of Demand

The demand model used for the determination of the required trunk infrastructure was based on the Population and Demand model as outlined in Section 3.3

The model was then modified to include:

- Changes to the demand resulting from changes to land uses through recent development or town planning land use changes;
- Modification of the base demand unit from 'Equivalent Demand Units' (EDU1) to "Equivalent Persons" as required by the State's LGIP template.
 - For Water Demand: 1 EDU = 2.59 Equivalent Persons

5.2.7.1 Existing

Existing Demand was calculated on the following basis:

Residential Uses

All Residential land uses contained within the existing service catchment (on any zoned land) were identified and an Equivalent Demand Unit (EDU) calculated based on the intensity of the use (e.g. Single Unit Dwelling = 1 EDU, Multi-Unit Dwelling = 0.75 EDUs per unit)

Non-Residential Uses

All Non-Residential Zoned land contained within a Charging catchment was identified and an Equivalent Demand Unit (EDU) calculated based on the EDU / Hectare for that Zone (e.g. Industry = 20 EDU/ha, Commercial = 28 EDU/ ha).

Land excluded from the above process included: Non-Residential Land that contained an existing Residential Use (in which case the relevant residential demand was applied) and all vacant englobo Non-Residential Land (i.e. greater than 1 ha in size).

5.2.7.2 Future

Future Demand was calculated on the following basis:

Residential Zoned Land

- The Population Modelling previously performed for the Priority Infrastructure Plan provided a population projection for all residential zoned land on a lot by lot basis using the Planning Scheme intents to determine the expected yields.

¹ 1 EDU is defined as the demand created by a single detached dwelling or standard "house" lot.

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- The projected populations have been validated against the Census data for the Port Douglas Local Government Area for 2006, 2011 and 2016. These show a reasonable correlation and provide an improved level of confidence in the model to determine demands and infrastructure needs.
 - This population was determined based on the average household size (persons per household) for a standard residential dwelling at the relevant and ultimate demand year.

Non-Residential Zoned Land

- The EDU / ha rates were applied to the area of all Non-residential zoned land to determine the ultimate EDUs.
- This demand was trended over the interim periods using the Population contained in each catchment as a proxy for demand.

6. WASTEWATER SUPPLY TRUNK INFRASTRUCTURE

6.1 Overview

This section provides an overview of the key assumptions and methodology used to determine infrastructure charges for the Waste Water Trunk Infrastructure Network for the Douglas Shire Council's Local Government Infrastructure Plans (LGIP).

6.1.1 Existing Assets

6.1.1.1 Source of Trunk Assets

- Existing Water Supply active and passive GIS Mapping has been obtained from:
 - Autocad drawings, where provided by Council, design plans or 'as constructed' plans, Council records, or estimated using aerial photographs.
 - These plans were refined through reviews by Council Officers.
- Trunk pipe lengths were based upon the mapped length using GIS to calculate.
- Other asset attributes such as pipe diameters were also obtained from design plans and 'as constructed' plans and/or Council Officer knowledge.
- All Active Assets providing a function to the trunk mains have been considered trunk assets.

6.1.2 Current Replacement Costs

- Unit rates (\$/m) have been applied to all passive assets based on:
- For gravity mains and rising mains – rates provided by Cairns Water. These rates were derived from unit rate estimates provided by Cardno (refer to file:4_Extrinsic_Material\1_Supporting_Information\1_Water Supply\4_Costs\DSC_LGIP\DSC_Unit_Rates_Costs_170804).
- The relevant rates for 'Good soil' and average depth of 1.5-3.0m were used. An allowance of 20% 'on costs' are included in these unit rates.
 - For Effluent Rising mains – applied the same rate as rising main for the relevant pipe diameters.
 - For Low Pressure mains – rates obtained from Appendix E of the Mossman WWTP Upgrade Supplementary Planning Report (April 2009) for polyethylene pipes.
 - Where On-costs have been applied in the valuation of the unit rates, these have been removed to provide a RAW Cost for the infrastructure items. The RAW cost has then been indexed from the valuation date to the base date (2011) in accordance with the CPI.
- Where rates were missing for some pipe diameters, a rate was adopted from the closest equivalent size/type main.
- Active Asset costs have been derived from Council's asset register (Refer to file "Client sewer calculations 09_08_07.xls). The asset register identifies costs in June 2007 dollars. These were indexed to June 2011 (base year) using the Consumer Price Index
- All Existing Wastewater Treatment Plants have been subject to the 40% subsidy available through State Government Grants and has been accounted for in determining the establishment cost of Existing Infrastructure.

6.1.3 Future Assets

6.1.3.1 Source of Trunk Assets

- Scope, location, and timings of future infrastructure and upgrades to existing infrastructure were obtained from:
 - Maunsell (2007) Mossman Sewerage Treatment Plant – Planning Report;
 - Maunsell (2009) Mossman WWTP Interim Upgrade Report;
 - Maunsell (2009) Mossman WWTP Supplementary Report;
 - Maunsell (2009) Mossman WWTP Supplementary Report – Addendum;
 - Associated mapping of network augmentations (digitised from hard copy plans to GIS);
 - Officer knowledge and review and refinement of the above to finalise the trunk network.
- Wastewater main lengths were based upon the mapped length using GIS to calculate.

6.1.3.2 Current Replacement Costs

- All Future Passive Assets costs have been based on the Unit rates provided by Cairns Water and the Mossman WWTP Upgrade Supplementary Planning Report (refer to existing Asset section above for more detail).
- The source of Future Active Asset costs is identified in the following table. Only those items which are identified for the construction within the life of the LGIP have been identified in the Schedule of Works.

Table 17. Current Replacement Costs for the Waste Water Supply Trunk Network.

Asset ID	Description	Asset Value*	Cost Source
NOTE01	Establishment, As Constructed Drawings, Survey, Geotechnical, Design and Contract Admin Costs	\$133,959.05	Attachment A of Maunsell (2009) Mossman WWTP Supplementary Report – Addendum – Opinion of Probable Costs for Northern Recycled Water Scheme (indexed from June 2009 to June 2011 with CPI)
NOTE02	Establishment, As Constructed Drawings, Survey, Geotechnical, Design and Contract Admin Costs	\$241,125.12	Attachment A of Maunsell (2009) Mossman WWTP Supplementary Report – Addendum – Opinion of Probable Costs for Southern Recycled Water Scheme (indexed from June 2009 to June 2011 with CPI)
SPSF01	Andreassen Road Pump Station	\$375,084.17	Applied Same Cost Assumption as per Appendix I of the Maunsell (2009) Mossman WWTP Supplementary Report - Addendum - Opinion of Probable Costs for Southern Recycled Water Scheme
SPSF02	Marlin Drive Pump Station	\$396,517.62	Appendix I of the Maunsell (2009) Mossman WWTP Supplementary Report - Wonga Beach PS
SPSF03	Miallo Pump Station	\$396,517.62	Appendix I of the Maunsell (2009) Mossman WWTP Supplementary Report - Wonga Beach Intermediate PS
SPSF04	Newell Road Pump Station	\$375,084.17	Appendix I of the Maunsell (2009) Mossman WWTP Supplementary Report - Mossman GC PS
SPSF05	Rankin Street Pump Station	\$375,084.17	Appendix I of the Maunsell (2009) Mossman WWTP Supplementary Report - Newell Beach PS
SPSF06	Mossman WWTP Reuse Pump Station - Stage 2	\$375,084.17	Attachment A of Maunsell (2009) Mossman WWTP Supplementary Report – Addendum – Opinion of Probable Costs for Southern Recycled Water Scheme (indexed from June 2009 to June 2011 with CPI)
SPSF07	Mossman Golf Course Reuse Pump Station	\$375,084.17	Attachment A of Maunsell (2009) Mossman WWTP Supplementary Report – Addendum – Opinion of Probable Costs for Northern Recycled Water Scheme (indexed from June 2009 to June 2011 with CPI)

SPSF08	Existing Mossman WWTP PS Upgrade	\$375,084.17	Appendix I of the Maunsell (2009) Mossman WWTP Supplementary Report - Mossman WWTP PS
SSFF01	Mossman Golf Club Reuse Storage Facility - 3ML	\$321,500.55	Attachment A of Maunsell (2009) Mossman WWTP Supplementary Report – Addendum – Opinion of Probable Costs for Southern Recycled Water Scheme (indexed from June 2009 to June 2011 with CPI)
SSFF02	Mossman WWTP reuse Storage Facility - 1 ML	\$1,071,668.89	Attachment A of Maunsell (2009) Mossman WWTP Supplementary Report – Addendum – Opinion of Probable Costs for Southern Recycled Water Scheme (indexed from June 2009 to June 2011 with CPI)
STPF01	Interim Mossman WWTP Upgrade - Regulate flows	\$251,791.16	CRC Email dated 11/5/10 - indexed from March 2010 to June 2011 with CPI
STPF02	Interim Mossman WWTP Upgrade - Alternative sludge infrastructure	\$952,495.43	CRC Email dated 11/5/10 - indexed from March 2010 to June 2011 with CPI
STPF03	Mossman WWTP Upgrade Stage 1 including Effluent reuse PS Stage 1	\$15,188,046.43	Attachment A of Maunsell (2009) Mossman WWTP Supplementary Report – Addendum – Opinion of Probable Costs for Southern Recycled Water Scheme (indexed from June 2009 to June 2011 with CPI)

- No subsidies were considered for future assets as no subsidies can be guaranteed for future works.

6.1.4 Method of Cost Apportionment

6.1.4.1 Charging Catchments

- Waste water Charging Catchments have been based on Council’s Wastewater Service Areas, and expanded to include future serviced urban land.
- Five (5) Wastewater Trunk Infrastructure Charges Catchments have been identified.
- Assets have been allocated based on the WTP (Charges Catchment) they serve.

6.1.4.2 Allocation of Infrastructure

- Both existing and future assets have been allocated to the corresponding charging catchment to which they ultimately provide a function, in accordance with the “average” cost apportionment methodology.
- The ‘Y’ symbol in the schedule of works tables indicates the catchment that each asset item has been apportioned to.
- ‘Regional Assets’ such as the Mossman WWTP have been apportioned to multiple catchments based on the shared use of the infrastructure across multiple catchments.

6.1.5 Determination of Demand

The demand model used for the determination of the required trunk infrastructure was based on the Population and Demand model as outlined in Section 3.3. The model was then modified to include:

- Changes to the demand resulting from changes to land uses through recent development or town planning land use changes;

- Modification of the base demand unit from 'Equivalent Demand Units' (EDU1) to "Equivalent Persons" as required by the State's LGIP template.
 - For Wastewater Demand: 1 EDU = 2.59 Equivalent Persons (As defined on Table 7.1 of Council's development Manual (FNQROC))

6.1.6 Existing

Existing Demand was calculated on the following basis:

Residential Uses

- All Residential land uses contained within the existing service catchment (on any zoned land) were identified and an Equivalent Demand Unit (EDU) calculated based on the intensity of the use (e.g. Single Unit Dwelling = 1 EDU, Multi-Unit Dwelling = 0.5 EDUs per unit).

Non-Residential Uses

- All Non-Residential Zoned land contained within a Charging catchment was identified and an Equivalent Demand Unit (EDU) calculated based on the EDU / Hectare for that particular Zone (e.g. Industry = 20 EDU/ha, Commercial = 28 EDU/ ha).
- Land excluded from the above process included: Non-Residential Land that contained an existing Residential Use (in which case the relevant residential demand was applied) and all vacant englobo Non-Residential Land (i.e. greater than 1 ha in size).

6.1.7 Future

Future Demand was calculated on the following basis:

Residential Zoned Land

- The Population Modelling previously performed for the Priority Infrastructure Plan provided a population projection for all residential zoned land on a lot by lot basis using the Planning Scheme intents to determine the expected yields.
- The projected populations have been validated against the Census data for the Port Douglas Local Government Area for 2006, 2011 and 2016. These show a reasonable correlation and provide an improved level of confidence in the model to determine demands and infrastructure needs.
- This population was determined based on the average household size (persons per household) for a standard residential dwelling at the relevant and ultimate demand year.

Non-Residential Zoned Land

- The EDU / ha rates were applied to the area of all Non-residential zoned land to determine the ultimate EDUs.
- This demand was trended over the interim periods using the Population contained in each catchment as a proxy for demand.

¹ 1 EDU is defined as the demand created by a single detached dwelling or standard "house" lot.

7. PUBLIC PARKS AND LAND FOR COMMUNITY FACILITIES TRUNK INFRASTRUCTURE

7.1 Overview

This section provides an overview of the key assumptions and methodology used to determine infrastructure charges for the Public Parks and Land for Community Facilities Trunk Infrastructure Network for the Douglas Shire Council's Local Government Infrastructure Plans (LGIP).

7.1.1 Existing Assets

7.1.1.1 Source of Trunk Assets

- Existing park (land) assets were obtained from Douglas Shire Council asset database and associate GIS asset mapping.
- Identification of land acquired prior to 1 January 1990 was subsequently identified by Strategic Leisure Pty Ltd (Parks Planning consultant) in consultation with Council Officers.
- Embellishments contained within existing parks were identified by former Douglas Shire officers based on a 'stocktake' of embellishments contained within – refer to 'Asset List' tab within the file "100518_DSC_Park_Embellishments_Table.xls"

7.1.1.2 Current Replacement Costs

- The value of existing parks (land component) acquired after 1 January 1990 was based on unimproved capital value (UCV) data extracted from PDS Live. The rates used varied depending on park hierarchy and locality – refer to file "100518_Land_Valuations_Pop_Model.xls" for data sources and summary land values.
- Land values for District Parks, Local Government Wide Parks and Community Facilities were generally based on 50% of the value of Local Recreation Parks for the relevant locality (the exception being for District Parks located in Port Douglas where land values are typically higher than other townships). This is based on typically larger parcels of land being required and hence an overall lower 'englobo' rate.
- The value of embellishments contained in existing parks (whether or not the park was acquired after 1 January 1990) was based on a combination of Council asset data and external data from other Queensland Local Governments – refer to Background Data and Legend tab within excel file "100518_DSC_Park_Embellishments_Table.xls".
- The Council asset data was in the form of unit rates – refer to file "#854357-v4B-Unit_Rates_for_Traffic_Management_Plans.xls". All unit rates were multiplied by the total number of assets identified for each park. A total embellishment cost for each park could then be determined.
- No contingencies or 'on costs' were included in the existing asset valuations.
- No subsidies were removed for existing assets, as no external subsidies were provided.

7.1.2 Future Assets

7.1.2.1 Source of Trunk Assets

- The scope of future parks (and upgrades to existing parks) is based on the Cairns Regional Council (Former Douglas Shire) Public Parks and Land for Community Purposes Trunk Infrastructure Planning Study (May 2010) and associated GIS data prepared by Strategic Leisure Group Pty Ltd.
- The scope of future embellishments was based on a 'palette' approach whereby a standard 'suite' of embellishments are to be provided in each future park (and park upgrade) based on Council standards of service for each park hierarchy as specified in Table "100518_Final Parks v2 (post1990+new)_Embellishments Future June 2006 dollars".
- Where parks are being refurbished, the existing assets are also included in the charge, as it is assumed that these assets/embellishments will be retained.

7.1.2.2 Current Replacement Costs

- The value of future parks (land component) was determined using the same rates as per the existing parks.
- The value of future park embellishments (and future embellishments in existing parks) was based on the costs identified by Strategic Leisure using the 'palette' of standard embellishments for different park hierarchies – refer to file "100518_Final Parks v2 (post1990+new) _Embellishments Future June 2006 dollars". The rates identified by Strategic Leisure were in March 2010 dollars – these were indexed to June 2011 from March 2010 using CPI.

7.1.3 Method of Cost Apportionment

7.1.3.1 Charging Catchments

- The draft Douglas LGIP has nine (9) Public Parks and Land for Community Facilities charges catchments. These catchments have been derived from the planning scheme Planning Localities.

7.1.3.2 Allocation of Infrastructure

- Allocation of parks to catchments was undertaken by Strategic Leisure and is reflected in the infrastructure schedules on the following basis: -
 - Natural 'barriers' form the boundaries of the Rural Area catchments (e.g. Mossman River, Daintree River, Mowbray River).
 - All local recreation parks were allocated to the relevant catchment that it is completely contained within.
 - Some district parks were allocated to individual catchments, however a significant proportion were allocated across more than catchment to reflect their shared use across the local government area.
 - Local government wide parks were allocated across all catchments.

7.1.4 Determination of Demand

The demand model used for the determination of the required trunk infrastructure was based on the Population and Demand model as outlined in Section 3.3. The model was then modified to include:

- Demand based on residential demand only.
- Changes to the demand resulting from changes to land uses through recent development or town planning land use changes;
- Modification of the base demand unit from 'Equivalent Demand Units' (EDU¹) to "Equivalent Persons" as required by the State's LGIP template.
 - For "PPCL Demand" the population in each of the sections were used.

¹ 1 EDU is defined as the demand created by a single detached dwelling or standard "house" lot.



7.2 Financial Modelling Assumption

The financial modelling assumptions that have been adopted for use in the DSC LGIP have been shown in the Figure below. The information used to support the assumed rates have been included in the Supporting Material in the Extrinsic Material.

Figure 1: Financial Inputs in the Douglas Shire Council LGIP

Douglas Shire Council			
General Input Sheet			
General Inputs	Reference	Value	Comments
Base Year	YEAR	2011	Aligns with release of ABS data (2016 data not released prior to completion of LGIP)
Term (between 15 and 30 years)	TERM	15	
Application of Discounted Cash flow			
Calculate charges using Discounted Cash flow? (Y/N)	DCFTRIGGER	Yes	DCF Mtdology used to recognise inherent uncertainty in long term financial projections
General Financial Inputs			
Discount Rate (WACC):			
Average 10 Year Bond Rate	TenYr	2.75%	Currently 10yr Bond Rate = 2.75%; (15 year bond rate = 3.02%). Adopt 2.75%
Option 1 Basic Margin on 10 Yr. Bond Rate	Margin	3.50%	3.5% is the baseline figure quoted in LG Bulletin 06/01
WACC:	WACC1	6.25%	
Option 2 Capital Structure (% Debt)	Capstr		
Market Risk Premium	Risk	6.00%	
Asset Beta	AssetBeta		
Cost of Debt	Debt		
WACC:	WACC2	2.75%	
WACC Option to be applied in the calculation?	WACC1	6.25%	More Appropriate for DSC as (Small-Medium Council)
Escalation Rates			
Capital Escalation - Future Cap X	PPI	3.84%	ten (10) yr. average Roads and Bridges Index (ABS 6427, Table 17, Index 3101)
Capital Indexation Rates - Historical (June Qtr.)			
		2011	100.30
		2010	96.60
		2009	95.20
		2008	91.80
		2007	83.20
		2006	80.10
		2005	73.30
			ten (10) yr. average Consumer Price Index (ABS 640101, Series A23258171, Series ID A2325820F - June Qtr - from base year)
Land Escalation	LandInd	2.72%	
Charges Escalation Rate	Chargeind	3.00%	As adopted by Council under it's infrastructure charges resolution



APPENDIX A
Extrinsic Material

Extrinsic material

The below table identifies the documents that assist in the interpretation of the local government infrastructure plan and are extrinsic material under the *Statutory Instruments Act 1992*.

Column 1 Title of document	Column 2 Date	Column 3 Author
Planning		
Douglas Shire Council Planning Scheme	2006	Douglas Shire Council & Cairns Regional Council
Proposed Douglas Shire Council Planning	2016	Douglas Shire Council
CRC Asset Registers and Data (During amalgamation)	Various (circa 2009)	Cairns Regional Council
DSC Asset Registers and Data	2016 (part)	Douglas Shire Council
QGSO Estimated Residential Population and Population Forecasts by LGA, 2011 – 2036	2013	QGSO
FNQROC Development Manual – Issue 6	2014	FNQROC
Review of Owners Project Cost and Contingency Allowances, Evans and Peck	2009	Evans and Peck
Douglas Shire Council (DRAFT) Priority Infrastructure Plan	2010	Integran – Infrastructure Management
Water		
DNRM Planning guidelines for water supply and sewerage	2014	Department of Energy and Water Supply
NHMRC Australian Drinking Water Guidelines, V6	2011	Australian Government, National Health and Medical Research Council
FNQROC Development Manual – Issue 6 Works Design Guidelines D6 – Water Reticulation,	2014	FNQROC
WSAA Codes,	2011	Water Services Association of Australia.
Planning Guidelines for Water and Sewage,	2014	QLD Department of Energy and Water Supply
Mossman WWTP Interim Upgrade Report Mossman WWTP Supplementary Report Mossman WWTP Supplementary Report – Addendum	2009	Maunsell Australia Pty Ltd (Now AECOM)
Division 10 (Former Douglas Shire) Water Supplying Report	2009	MWH (now Stantec)
Division 10 (Former Douglas Shire) Water Supplying Report	2010	MWH (now Stantec)
Water and Wastewater As Constructed Plans	various	Douglas Shire Council

Water Supply and Sewerage Asset Register and al Works Programs	2017	Douglas Shire Council
Water and Sewerage Asset Valuations Report	2006 2016 (part)	Cardno
Douglas Shire Council – Total Management Plan	2007	Douglas Shire Council
Douglas Shire Council – Water Treatment Plants – Planning Report	1999	GHD
Douglas Shire Council – Water Treatment Plants – Planning Report	1999	Kinhill Cameron McNamara
Far North Queensland (DRAFT) Regional Water Supply Strategy	2007	Qld Government Department of Natural Resources and Water
Douglas Shire Council (DRAFT) Priority Infrastructure Plan (Population and Demand Model) Desired Standards of Service	2010	Integrant : Infrastructure Management
Douglas Shire Council Rex Creek Intake Upgrade Options Assessment Report	2017	GHD
Waste Water		
DNRM Planning guidelines for water supply and sewerage	2014	Department of Energy and Water Supply
Mossman and Port Douglas WWTP – Catchments Sewerage Infrastructure – Growth Management Plan	2013	MWH (now Stantec)
Douglas Shire Council Mossman Water Security Planning Report Reliability Assessment	2016	GHD
Maunsell (2007) Mossman Sewerage Treatment Planning Report	2007	Maunsell Australia Pty Ltd (Now AECOM)
FNQROC Development Manual – Issue 6 Works Design Guidelines D6 – Water Reticulation,	2014	FNQROC
WSAA Codes,	2011	Water Services Association of Australia.
Planning Guidelines for Water and Sewage,	2014	QLD Department of Energy and Water Supply
Mossman WWTP Interim Upgrade Report Mossman WWTP Supplementary Report Mossman WWTP Supplementary Report – Addendum	2009	Maunsell Australia Pty Ltd (Now AECOM)

Division 10 (Former Douglas Shire) Water Supplying Report	2009	MWH (now Stantec)
Water and Wastewater As Constructed Plans	various	Douglas Shire Council
Water Supply and Sewerage Asset Register and Capital Works Programs	2017	Douglas Shire Council
Water and Sewerage Asset Valuations Report	2006 2016 (part)	Cardno
Douglas Shire Council (DRAFT) Priority Infrastructure Plan (Population and Demand Model) Desired Standards of Service	2010	Integran : Infrastructure Management
Stormwater		
Douglas Shire Council (DRAFT) Priority Infrastructure Plan (Desired Standards of Service)	2010	Integran : Infrastructure Management
FNQROC Development Manual – Issue 6 Works Design Guidelines D4 – Stormwater Drainage Works Design Guidelines D5 – Stormwater Quality	2014	FNQROC
Transport		
Douglas Shire Council (DRAFT) Priority Infrastructure Plan	2010	Integran : Infrastructure Management
FNQROC Development Manual – Issue 6 Works Design Guidelines D1 – Road Geometry D3 – Road Pavements D8 – Utilities D9 – Landscaping FNQROC - Standard Drawings	2014	FNQROC
Douglas Shire Council Critical Bridge Information	2007	Texcel
DSC GIS Asset Data sets	2016	Douglas Shire Council
Douglas Shire Council Report on Bitumen Sealing the Cape Tribulation Road Through World Heritage Listed Property.		
Unit Rate Book for Council Assets (#646604-v6)	2009	Cairns Regional Council

Unit Rates for Transport Network Plans (#854357)	2009	Cairns Regional Council
DSC Bridges Strategy	2009	Cairns Regional Council / Douglas Regional Council (Amalgamated)
CRC Register of Bridges	2009	Cairns Regional Council
Bridge Data	various	Department of Transport and Main Roads
TMR Bridge Cost Information (#2432888)	2009	Department of Transport and Main Roads (TMR)
Junction Creek Pedestrian Bridge – Detailed Design and Costing Report	2017	GHD
LGIP Wharf St Intersection Preliminary Cost Schedule	2017	Trinity Engineering and Consulting
Far North Queensland Principal Cycle Network Plan	2016	Department of Transport and Main Roads (TMR)
Far North Queensland Principal Cycle Network Plan Addendum – Priority Route Maps	2017	Department of Transport and Main Roads (TMR)
Strategy Report (DRAFT) Port Douglas to Newell Beach Cycle Route	2017	Point 8 (in association with Zwart Transport Planning)
Public Parks and Land for Community Purposes P		
Douglas Shire Council (DRAFT) Priority Infrastructure Plan	2010	Integran : Infrastructure Management
Former Douglas Shire Public Parks and Land for Community Purposes Trunk Infrastructure Planning Study	2009	Strategic Leisure
FNQROC Development Manual – Issue 6 Works Design Guidelines D9 – Landscaping FNQROC - Standard Drawings	2014	FNQROC
DSC GIS Asset Data sets	2016	Douglas Shire Council
PDSLIVE – Extract of Property Sale	2017	PDS Live
DSC Park Embellishment Data	2010	CRC

Modelling		
Appendix C – Schedule of Works Model user manual	2016	DILGP
Queensland Department of Local Government and Planning, “Update on National Competition Policy Issues”, Local Government Bulletin Ref 06/01; 6 th June 2001	June 2001	Queensland Department of Local Government and Planning

Douglas Shire Council Anticipated Growth - Residential

[Return to "Catchment Demand"](#)

(Note: For users seeking to calculate costs over a thirty (30) year period, dwelling data needs to be entered in the detailed table (rows 66-114))

LGIP Table 3.1.4—Existing and projected residential dwellings (by census yr.)

Projection area	LGIP development type	Existing and projected residential dwellings				
		2011	2016	2021	2026	2031
Port Douglas and Environs	Separate House	1,862	2,020	2,188	2,362	2,545
	Semi, Detached, Flats	1,831	1,987	2,154	2,328	2,509
	Other	626	679	737	796	852
	Total	4,319	4,686	5,079	5,486	5,905
Mossman and Environs	Separate House	287	310	337	366	391
	Semi, Detached, Flats	282	305	332	361	386
	Other	96	104	113	123	132
	Total	665	719	782	850	909
Coastal Suburbs, Villages and Townships (Cooya Beach)	Separate House	108	130	152	175	197
	Semi, Detached, Flats	106	128	150	173	195
	Other	36	44	51	59	67
	Total	250	302	353	407	459
Coastal Suburbs, Villages and Townships (Daintree Township)	Separate House	15	16	18	21	23
	Semi, Detached, Flats	15	16	18	21	23
	Other	5	6	6	7	8
	Total	35	38	42	49	53
Coastal Suburbs, Villages and Townships (Newell Beach)	Separate House	76	80	83	87	91
	Semi, Detached, Flats	75	78	82	85	89
	Other	26	27	28	29	30
	Total	177	185	193	201	209
Coastal Suburbs, Villages and Townships (Wangetti)	Separate House					
	Semi, Detached, Flats					
	Other					
	Total					
Coastal Suburbs, Villages and Townships (Wonga Beach)	Separate House	129	144	160	177	193
	Semi, Detached, Flats	127	142	158	174	190
	Other	43	49	54	60	66
	Total	299	335	372	411	448
Outside priority infrastructure area (total)	Separate House	877	890	906	924	939
	Semi, Detached, Flats	862	876	892	910	925
	Other	295	300	305	311	316
	Total	2,034	2,066	2,103	2,145	2,180
Douglas Shire Council	Separate House	3,354	3,590	3,844	4,112	4,377
	Semi, Detached, Flats	3,298	3,532	3,786	4,052	4,315
	Other	1,127	1,209	1,294	1,385	1,469
	Total	7,779	8,331	8,924	9,549	10,161

Calculated Charges	Maximum Charge (AICS 2016)	Levied Charges
\$ 19,491	\$ 25,870	\$ 19,491
\$ 15,718	\$ 22,174	\$ 15,718
\$ 10,479	\$ 14,783	\$ 10,479
\$ 23,382	\$ 25,870	\$ 23,382
\$ 19,053	\$ 22,174	\$ 19,053
\$ 12,702	\$ 14,783	\$ 12,702
\$ 21,335	\$ 25,870	\$ 21,335
\$ 17,298	\$ 22,174	\$ 17,298
\$ 11,532	\$ 14,783	\$ 11,532
\$ 154,034	\$ 25,870	\$ 25,870
\$ 119,102	\$ 22,174	\$ 22,174
\$ 79,402	\$ 14,783	\$ 14,783
\$ 23,059	\$ 25,870	\$ 23,059
\$ 18,776	\$ 22,174	\$ 18,776
\$ 12,517	\$ 14,783	\$ 12,517
\$ 37,844	\$ 25,870	\$ 25,870
\$ 31,448	\$ 22,174	\$ 22,174
\$ 20,966	\$ 14,783	\$ 14,783
\$ -		\$ -
\$ -		\$ -
\$ -		\$ -

LEGEND
\$ 1,234.00 Charges Capped by AICS (2016)
\$ - Charges Calculated through LGIP

Douglas Shire Council Anticipated Growth - Non Residential

[Return to "Catchment Demand"](#)

(Note: For users seeking to calculate costs over a thirty (30) year period, Non residential floor space needs to be entered in the detailed table (rows 93-164))

LGIP Table 3.1.5—Existing and projected non-residential floor space (by census yr.)

Projection area	LGIP development type	Existing and projected non - residential floor space				
		2011	2016	2021	2026	2031
Port Douglas and Environs	Industrial	35,064	36,714	38,514	40,164	41,892
	Commercial	27,896	29,306	30,716	32,096	33,508
	Retail	6,339	6,639	6,939	7,239	7,539
	Community Services	2,167	2,267	2,367	2,467	2,567
	Others (incl. home based business)					
	Total	71,466	74,926	78,536	81,966	85,506
Mossman and Environs	Industrial	37,986	39,936	41,886	43,686	45,639
	Commercial	11,386	11,956	12,526	13,096	13,667
	Retail	2,305	2,425	2,545	2,665	2,785
	Community Services	867	917	967	1,017	1,067
	Others (incl. home based business)					
	Total	52,544	55,234	57,924	60,464	63,158
Coastal Suburbs Villages and Townships	Industrial	-	-	-	-	-
	Commercial	9,678	10,188	10,698	11,178	11,689
	Retail	2,305	2,425	2,545	2,665	2,785
	Community Services	867	917	967	1,017	1,067
	Others (incl. home based business)					
	Total	12,850	13,530	14,210	14,860	15,541
Douglas Shire Council	Industrial	73,050	76,650	80,400	83,850	87,530
	Commercial	48,960	51,450	53,940	56,370	58,864
	Retail	10,950	11,490	12,030	12,570	13,109
	Community Services	3,900	4,100	4,300	4,500	4,702
	Others (incl. home based business)	-	-	-	-	-
	Total	136,860	143,690	150,670	157,290	164,205

Calculated Charges (LGIP) (\$/m2)	Maximum Charge (AICS 2016) \$/m2	Levied Charges (\$/m2)
\$ 169.65	\$ 46.19	\$ 46.19
\$ 233.59	\$ 129.34	\$ 129.34
\$ 52.56	\$ 166.30	\$ 52.56
\$ 0.97	\$ 141.55	\$ 0.97
\$ 208.37	\$ 46.19	\$ 46.19
\$ 134.60	\$ 129.34	\$ 129.34
\$ 27.43	\$ 166.30	\$ 27.43
\$ 4.09	\$ 141.55	\$ 4.09
\$ -	\$ 46.19	\$ -
\$ 150.88	\$ 129.34	\$ 129.34
\$ 35.95	\$ 166.30	\$ 35.95
\$ 5.30	\$ 141.55	\$ 5.30

LEGEND

\$ 1,234.00 Charges Capped by AI
 \$ - Charges Calculated th

Appendix D – LGIP Checklist

Appendix D is part of Statutory Guideline 03/14 – Local government infrastructure plans

Local government infrastructure plan (LGIP) checklist				To be completed by local government		To be completed by appointed reviewer			
LGIP guideline outcome	LGIP component	Number	Requirement	Requirement met (yes/no)	Local government comments	Compliant (yes/no)	Justification	Corrective action description	Recommendation
Review principles: <ul style="list-style-type: none"> A reference in the checklist to the LGIP Template is taken to include a relevant reference to the SPA, statutory guideline for LGIPs, statutory guideline for MALPI or the Queensland Planning Provisions (QPP). Compliance requirements are not limited to the requirements listed in the checklist. 									
The LGIP is consistent with the legislation and statutory guideline for LGIPs	All	1.	The LGIP sections are ordered in accordance with the LGIP template.	YES	The LGIP sections are structured and ordered in accordance with the LGIP template	Yes	The sections are consistent with the LGIP guideline template.	No action required.	Complies
		2.	The LGIP sections are correctly located in the planning scheme.	YES	The LGIP will be located in section 4 of the Douglas Shire Council Planning Scheme	Yes	The location of the LGIP is Part 4 of the planning scheme.	No action required.	Complies – review underway.
		3.	The content and text complies with the mandatory components of the LGIP template.	YES	Complies	Yes	The LGIP contains all mandatory content.	No action required.	Complies
		4.	Text references to numbered paragraphs, tables and maps are correct.	YES	Complies	Yes	The LGIP correctly references tables and maps.	No action required.	Complies
	Definitions	5.	Additional definitions (to those in the QPP) do not conflict with statutory requirements.	YES	There are no additional / alternative definitions used.	Yes	There are no additional definitions.	No action required.	Complies
	Preliminary section	6.	The drafting of the Preliminary section is consistent with the LGIP template.	YES	The drafting of the preliminary section has been undertaken in accordance with the LGIP template	Yes	The preliminary section is consistent with the template.	No action required.	Complies
		7.	All five trunk networks included in the LGIP. If not, which networks are excluded? Why have these networks been excluded?	YES*	<p>The LGIP contains detailed planning for the water, sewerage, roads, paths, and public parks and community facilities trunk network.</p> <p>However, the stormwater trunk infrastructure network has not been <i>detailed</i> in the LGIP. This is a result of insufficient information being currently available to undertake reliable, (detailed) infrastructure planning for this network. Under the current version of the LGIP, a provision for detailed infrastructure planning in the forms of a drainage management plan (DMP) for the Port Douglas and Environs and Mossman and Environs regions.</p>	Yes	The exclusion of stormwater is appropriate as Council has not completed the planning. Council will undertake an amendment to include stormwater when the planning is available.	No action required.	Complies
	Planning assumptions - structure	8.	The drafting of the Planning assumptions section is consistent with the LGIP template.	YES	The drafting of the planning assumptions has been prepared using the LGIP template. It is noted that section 4.2.2 of the template requires developable areas to be mapped in Schedule 3. Council requests a relaxation of this requirements as it is not considered reasonable (or indeed possible at this stage) to map the developable areas, given they are affected by a range of locality specific constraints and opportunities, and design matters which may only be determined on a case-by-case	Yes	The planning assumptions section is consistent.	No action required.	Complies

Attachment 5.1.14					The development zones are generally depicted on the zones (Which are also on the PIA maps).				
		9.	All the projection areas listed in the tables of projections are shown on the relevant maps and vice versa.	YES	All the projection areas listed in the tables of projections are shown on the relevant maps and vice versa.	Yes	The projections areas are shown on a map.	No action required.	Complies
		10.	All the service catchments listed in the tables of projected infrastructure demand are identified on the relevant PFTI maps and vice versa.	YES	Separate service catchment maps have been provided as part of the PFTI maps.	Yes	The service catchments are shown on the relevant PFTI map series.	No action required.	Complies
Planning assumptions - methodology		11.	The population and dwelling projections reflect those prepared by the Qld Government Statistician (as available at the time of preparation).	YES	<p>The population and dwelling projections are aligned with forecasts prepared the QGSO that were current as at 1/6/17.</p> <p>The base year of the projections contained in the LGIP is 2011, as it provided the most recent complete set of data from an Australian Census. Australia's 2016 census data was not released at the time of the preparation of the LGIP.</p> <p>The resident population as reported by the QGSO at 2011 was 11,186 persons.</p> <p>However, to appropriately account for infrastructure demand generated by tourists, the population projections contained in the Douglas LGIP must include tourist projections.</p> <p>At base year the tourist population is estimated to be 5,364 (based on Visitor Population from the ABS), taking the total population (residents and tourists) to 15,546 in 2011. This equates to a visitor to resident population of 45.4%. At the time of writing the LGIP, the Population data from the 2016 Census had just been released. Similarly, the figures for Residents = 11,911 persons Visitors = 6,490 persons Visitors / Residents = 54.8%</p> <p>Due to the variability of tourist numbers, and average of the two census years was taken (=49.94 (~50%))</p> <p>Resident population projections for the subsequent time periods are based on the medium series forecasts, with tourist projections increasing in line with population growth.</p> <p>Dwelling forecasts have been determined by converting population to dwellings using average household size information from QGSO and ABS. The breakdown between dwelling types has also been based on 2011 ABS census data (dwelling types and persons per</p>	Yes	The total populations are consistent with the QGSO medium series as detailed in Queensland Government population projections and ABS data, with specific consideration of tourists.	No action required.	Complies

			dwelling base of ABS of Enumeration (PEP) ABS Table B31).					
	12.	The employment and non-residential development projections align with the available economic development studies, other reports about employment or historical rates for the area.	YES	The employment and non-residential projections are based on ABS employment and labour force data for base year projected in increase in line with population growth. Employment and floor space projections have been allocated to projection areas based on an assessment of non-residential land uses and demands by planning district.	Yes	Employment projections are consistent with ABS census.	No action required.	Complies
	13.	The developable area excludes all areas affected by absolute constraints such as steep slopes, conservation and flooding.	YES	Projected population and employment growth have been estimated considering absolute constraints to development. The extent of urban zones in the draft Planning Scheme (2016) already incorporates overlay constraints such as flooding, hillslopes and natural areas.	Yes	Flooding, water and environmental constraints are removed as stated in the planning assumption methodology extrinsic material document.	No action required.	Complies
	14.	The planned densities reflect realistic levels and types of development having regard to the planning scheme provisions and current development trends.	YES	The assumed densities identified in the LGIP are based on an assessment of Planning Scheme Code provisions, average allotment yields determined through review of the DCDB, previous development approvals, and discussions with Council planners. The densities used are considered realistic based on market demand in the Local government area. A review of the Council's Demand and Population model which has been developed prior to 2011 and based on the assumed densities, shows a high degree of correlation (+/- 10%), which further supports and validates the density assumptions made.	Yes	Densities are consistent with the anticipated uses in accordance with the Planning Scheme	No action required.	Complies
	15.	The planned densities account for land required for local roads and other infrastructure.	YES	20-30% allowance for road, open space and other infrastructure has been factored into the density calculations.	Yes	Densities are consistent with the anticipated uses in accordance with the Planning Scheme allowing for local infrastructure footprints.	No action required.	Complies
	16.	The population and employment projection tables identify "ultimate development" in accordance with the QPP definition.	YES	The population and employment projection tables identify "ultimate development" in accordance with the QPP definition. This is estimated to be at approximately 2061.	Yes	Ultimate capacity is stated in planning assumptions.	No action required.	Complies
	17.	Based on the information in the projection tables and other available material, it is possible to verify the remaining capacity to accommodate growth, for each projection area.	YES	LGIP planning assumptions tables have been prepared using the format required of the LGIP template, which shows projections for each projection year and ultimate development. From this information, it is possible to determine remaining capacity after each time period.	Yes	The difference between the Ultimate and 2026 projections provide an indication of available capacity in each projection area.	No action required.	Complies

Attachment 5.1.14		18.	The planning assumptions reflect an efficient, sequential pattern of development.	YES	<p>The planning assumptions reflect the planning scheme provisions and associated land use pattern, the extent of growth areas, propensity to develop, and align with QGSO forecasts.</p> <p>The PIA are considered defined to constrain development in area to ensure an efficient and sequential pattern of development.</p>	Yes	The PIA allows for additional development.	No action required.	Complies
		19.	<p>Has the Department of Transport and main Roads or any relevant distributor-retailer been consulted in the preparation of the LGIP?</p> <p>What was the outcome of the consultation?</p>	YES	<p>TMR was consulted in relation to the LGIP and its integration of with their planning.</p> <p>Outcomes:</p> <ol style="list-style-type: none"> 1) TMR initially advised that they thought the initial designation of road hierarchies was excessive. These have been reviewed in line with those recommended by TMR and consultation with Council's traffic and transport planners and Engineers. 2) Craigie Bypass: TMR advised a preference for transport planning to be undertaken on the western side of the Highway at Craigie. Whilst this was outside of the projected planning horizon, it's location, nominal road alignment and associated infrastructure have been identified within the PFTI and the SoW as an "Area of Investigation". No cost has been considered in the context of infrastructure required to service this area in the current LGIP. It is expected that this will be refined over the next reviews of the LGIP as discussions with Council and TMR continue. 3) TMR are not planning any upgrade/ capital works along any of the SCR or trunk roads in the next 15 years. Although that is subject to change. <p>Council has acknowledged TMR's advice and made changes to the LGIP planning and SoW to reflect these comments.</p>	Yes	Evidence of consultation has been provided.	No action required.	Complies
	Planning assumptions - demand	20.	The infrastructure demand projections are based on the projections of population and employment growth.	YES	<p>Infrastructure demand projections have been expressed in the units defined by the LGIP template.</p> <p>The rates of growth in demand is reflective of population and employment growth.</p> <p>The projections have been prepared at the service catchment level and reflect generally understood and recognised demand generation</p>	Yes	The demand for all networks has been developed from the planning assumptions.	No action required.	Complies

Attachment 5.1.14				rates for the respective zones and land uses.				
	21.	The demand generation rates align with accepted rates and/or historical data.	YES	<p>The projections have been prepared at the service catchment level and reflect generally understood and recognised demand generation rates for the respective zones and land uses.</p> <p>The DSC demand generation rates have been benchmarked and validated against historic data and compared to CRC Council's demand generation rates.</p> <p>The demand generation rates reflect generally accepted rates defined in relevant standards (FNQROC).</p>	Yes	The demand generation rates are consistent with the guideline.	No action required.	Complies
	22.	The service catchments used for infrastructure demand projections are identified on relevant PFTI maps and demand tables.	YES	Service catchments are identified in the PFTI maps contained in Schedule 3, for each network, and within the demand tables.	Yes	The service catchments are shown on each networks' maps, and these catchments are consistent with the demand tables.	No action required.	Complies
	23.	The service catchments for each network cover, at a minimum, the PIA.	YES	Refer to the network catchment maps, and PIA Plans as contained in Schedule 3	Yes	The service catchments cover the PIA.	No action required.	Complies
	24.	The Asset Management Plan and Long Term Financial Forecast align with the LGIP projections of growth and demand. If not, is there a process underway to achieve this?	YES* (in progress)	Through the LGIP development process, Council recognised the importance of alignment of these varying management documents. While some alignment had been undertaken in the past there is now an increased awareness of the criticality of such within the organisation. Council has committed resources to the development and refinement of their AMP, LTAMP, LTFF. However, at the time of the preparation of the LGIP, this process was still ongoing. There remains a need to further develop data management and business practices to ensure a commonly agreed set of base assumptions and data capture between the LGIP, LTAMP and LTFF.	Yes	Council has undertaken to develop longer term plans including LTFF and AMPs.	No action required.	Complies – process underway
Priority infrastructure area (PIA)	25.	The drafting of the PIA section is consistent with the LGIP template.	YES	The drafting of the PIA section is consistent with the LGIP template.	Yes	The section is consistent with the LGIP guideline template.	No action required.	Complies
	26.	Text references to PIA map(s) are correct.	YES	Refer to the PIA Plans in Schedule 3	Yes	The references are correct.	No action required.	Complies
	27.	The PIA boundary shown on the PIA map is legible at a lot level and the planning scheme zoning is also shown on the map.	YES	Refer to the PIA Plans in Schedule 3	Yes	The PIA boundary is legible at the lot level, on a base of the planning scheme zones.	No action required.	Complies
	28.	The PIA includes all areas of existing urban development serviced by all relevant trunk infrastructure networks at the time the LGIP was prepared.	YES	The PIA includes all areas of existing urban development with all relevant trunk networks	Yes	The PIA boundary is legible at the lot level, on a base of the planning scheme zones.	No action required.	Complies

Attachment 5.1.14		29.	The PIA accommodates growth for at least 10 years but no more than 15 years.	YES	<p>The PIA accommodates growth for approximately 10 years of urban growth from the date of adoption (expected 2018).</p> <p>The lower bound of provision has been provided for, based on the revised (and reduced) growth projections by the QGSO released in 2016. If the reduced growth projections are used – then there is capacity for approximately 15 yrs of development within the PIA.</p>	Yes	The planning assumptions show there is capacity in the PIA to 2031 allowing for 10-15 years' growth.	No action required.	Complies
		30.	Are there areas outside the PIA for which the planning assumptions identify urban growth within the next 10 to 15 years? If so, why have these areas been excluded from the PIA?	YES	<p>There are some locations outside of the PIA where growth may occur in the next 10-15 years.</p> <p>This is primarily due to the planning scheme having more zone land available than is contained within the PIA, and the exact location of growth within the next 10-15 year is not clear. The definition of a PIA which excludes some areas in which development may occur is to enable Council to focus their energy and resources into the efficient planning and delivery of infrastructure to areas contained within the PIA.</p> <p>It should be noted that the extent of growth is very minor and unlikely to influence any new capital works in these locations. As such, it is not expected that it would alter the planning and demand assumptions within the PIA.</p>	Yes	There is no significant urban growth identified outside the PIA.	No action required.	Complies
		31.	The PIA achieves an efficient, sequential pattern of development.	YES	<p>While minor growth is projected to occur outside the PIA, the PIA focusses on fully serviced urban zoned land only.</p> <p>This will help to achieve efficiencies in infrastructure provision by encouraging the logical extension to the current urban form.</p>	Yes	Provision of infrastructure within the PIA achieves an efficient pattern of development.	No action required.	Complies
	Desired standards of service (DSS)	32.	The drafting of the DSS section is consistent with the LGIP template.	YES	The LGIP has been prepared using the LGIP template and has a desired standard of service (DSS) clearly articulated for each network.	Yes	The section is consistent with the LGIP guideline template.	No action required.	Complies
		33.	The DSS section states the key planning and design standards for each network.	YES	The DSS section states the key planning and design standards for each network.	Yes	The DSS section outlines the key planning and design standards.	No action required.	Complies
		34.	The DSS reflects the key, high level industry standards, regulatory and statutory guidelines and codes, and planning scheme policies about infrastructure.	YES	The DSS for each network refers to the key standards contained in other relevant documents (eg. FNQROC Development Manual, QUDM etc)	Yes	The DSS are consistent with industry standards.	No action required.	Complies
		35.	There is alignment between the relevant levels of service stated in the local government's Long-Term Asset Management Plan (LTAMP) and the LGIP. If not, is there a process underway to achieve this?	YES*	It is the intention of Council's LTAMP to provide and fund infrastructure in an effective and efficient manner that reduces whole of life cycle costs while meeting community expectations and standards. The LTAMP in and of itself does	Yes	Council has undertaken to compile long term LTFF and AMPs.	No action required.	Complies – process underway

				<p>not identified. 26 of 406 infrastructure Standards. However, Council's defined Desired Standards of Service (DSS) and infrastructure planning that forms part of the LGIP, also seeks to minimise whole of lifecycle costs.</p> <p>Furthermore, the DSS and infrastructure standards currently adopted by Council are reflected in the Council's FNQROC Development Manual. The FNQROC Development Manual refers to widely accepted standards and practices for the planning, design and construction of infrastructure in a safe and efficient manner, in a way that minimises the whole of lifecycle costs. The FNQROC Manual has been developed and refined over time by a collective of Far North Region Councils. It represents the current best practice and minimum acceptable standards required to meet the Desired Standards of Service.</p> <p>It is a combination of these processes, which demonstrate alignment of intents between the LGIP and LTAMP. Council is also currently developing their Strategic and Long-Term Asset Management Policies. Once completed, it is a requirement for Council to review the LGIP and LTAMP's to ensure congruence.</p>				
Plans for trunk infrastructure (PFTI) – structure and text	36.	The drafting of the PFTI section is consistent with the LGIP template.	YES	The LGIP has been prepared using the LGIP template	Yes	The section is consistent with the LGIP guideline template.	No action required.	Complies
	37.	PFTI maps are identified for all networks listed in the Preliminary section.	YES	PFTI maps have been prepared for all infrastructure networks.	Yes	Mapping exists for all networks.	No action required.	Complies
	38.	PFTI schedule of works summary tables for future infrastructure are included for all networks listed in the Preliminary section.	YES	<p>PFTI schedule of works tables have been provided for all trunk networks. As required by the template the schedules only relate to future works.</p> <p>The SoW template (excel based) contains all existing and future infrastructure for each network.</p>	Yes	The section includes schedules of work for each network.	No action required.	Complies
PFTI – Maps <i>[Add rows to the checklist to address these items for each</i>	39.	The maps clearly identify the existing and future trunk infrastructure networks distinct from each other.	YES	<p>Existing and future networks have been mapped for all the LGIP networks and provided in the PFTI.</p> <p>Separate Plans for Existing and Future infrastructure have been provided where is was</p>	Yes	Mapping exists for all future and existing networks.	No action required.	Complies

Attachment 5.1.14 of the networks]				considered reasonable to improve legibility for the user(s).					
	40.	The service catchments referenced in the SOW model and infrastructure demand summary tables are shown clearly on the maps.	YES	The service catchments referred to the SoW model and infrastructure demand summary tables have been identified in the set of drawings for each of the infrastructure networks.	Yes	There are service catchment maps for all networks.	No action required.	Complies	
	41.	Future trunk infrastructure components are identified (at summary project level) clearly on the maps including a legible map reference.	YES	Complies. Future infrastructure items are clearly identified on the mappings. The legend provides the user with assistance to understand the type of infrastructure assets, and works to be undertaken.	Yes	The future trunk infrastructure projects are shown on each networks' maps.	No action required.	Complies	
	42.	The infrastructure map reference is shown in the SOW model and summary schedule of works table in the LGIP.	YES	Complies. Infrastructure items are clearly identified on the mapping, and are labelled with Unique ID numbers. These numbers correlate to the numbering contained within the Schedule of Works table in the LGIP and SoW model.	Yes	A unique identifier exists on the maps, in the model and in the schedule of works.	No action required.	Complies	
	Schedules of works [Add rows to the checklist to address these items for each of the networks]	43.	The schedule of works tables in the LGIP complies with the LGIP template.	YES	Complies. The schedule of works templates in the LGIP have been prepared using the LGIP template	Yes	The section is consistent with the LGIP guideline template.	No action required.	Complies
		44.	The identified trunk infrastructure is consistent with the SPA and LGIP guideline.		The infrastructure depicted on the plans has been determined in consultation with Council based on an assessment of those elements of the network which perform a shared function. Non-trunk infrastructure or 'internal' infrastructure has been excluded.	Yes	The infrastructure identified appears consistent with the LGIP guideline.	No action required.	Complies
		45.	The existing and future trunk infrastructure identified in the LGIP is adequate to service at least the area of the PIA.		The infrastructure network planning has been undertaken, taking into consideration demand across the entire service catchment(s). These extend beyond the PIA.	Yes	The existing and future trunk infrastructure projects shown on each networks' maps appear to service the PIA.	No action required.	Complies
46.		Is there alignment of the scope, estimated cost and planned timing of proposed trunk capital works contained within the Schedule of Works and the relevant inputs of the LTAMP and LTFF? If not, is there a process underway to achieve this?	NO	Council are in the process of developing their LTFF and LTAMP. In this regard, alignment has not been completed to date. However, the importance and value of this requirement to ensure the cohesion between Council business units and financial sustainability is noted. As Council continues to develop their SAMP/ LTAMP/ LTFF, we will continue to actively work to align all planning, engineering and financial reporting around the varying expenditures and revenues to ensure clarity and certainty of alignment. It is expected that full alignment between all these documents may be difficult, and will require a number of iterations	Yes	Council has undertaken to compile long term LTFF and AMPs.	No action required.	Complies – process underway	

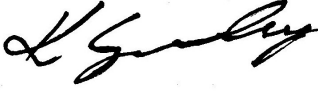
				<p>to achieve 20% of 40% alignment".</p> <p>Some areas which are expected to require more detailed consideration would be:-</p> <p>LGIP/ LTFF</p> <p>The LGIP contains infrastructure works (or land) which is delivered by the development industry, concurrent with land development. In this scenario the works would not typically form part of Council's LTFF or Capital Works Program.</p> <p>LGIP/ LTAMP</p> <p>The timing of infrastructure delivery in the LGIP is the current "best estimate" of when it will be required to service the required demand. The necessarily requires the reliance on assumptions (population growth, development patterns, economic conditions etc). The due to the Trunk nature of the items identified within the LGIP (i.e. high value/ critical nature), movements in the timing of delivery is expected to create the need to revisit the LGIP/ LTAMP regularly to ensure congruence.</p> <p>LGIP/LTAMP/LTFF/ Capital Works Program.</p> <p>Consistency of data capture will be critical (i.e. ensuring that data for and from each of these items are able to be sufficiently detailed and captured to ensure useability between each.</p>				
	47.	The cost of trunk infrastructure identified in the SOW model and schedule of works tables is consistent with legislative requirements.	Yes	<p>The Key Input assumptions are documented within the SoW model and are consistent with industry standards and legislative requirements.</p> <p>Costs have been determined using the best information available (unit rates and project cost estimates).</p>	Yes	The cost of infrastructure has been prepared in accordance with the LGIP guideline.	No action required.	Complies

Attachment 5.1.14				269 of 406 Allowances for the Project Owners Cost has been set as 20% across all asset classes. This is within accepted industry standards and is recognised by the State as reflected by the SoW User manual. Time based contingencies have been applied of 10%,15%,20% and 30% for works being undertaken within horizon of 5,10,15 and 20 years respectively. The exception of which is transport in which a 40% contingency is provided, for works planned outside of the 20-year horizon. This is in accordance with TMR's road planning and design manual and Evan's and Pecks (2009) report on Contingencies and on-costs – as reference in the Statutory guideline 03/14.				
SOW model	48.	The submitted SOW model is consistent with the model included with the statutory guideline for LGIPs.	Yes	Complies The LGIP – SoW model has been prepared using the template provided as part of the Statutory guideline for LGIPs and its associated User Manual	Yes	The model is consistent with the LGIP guideline template.	No action required.	Complies
	49.	The SOW model has been prepared and populated consistent with the statutory guideline for LGIPs and its User manual for the SOW model.	Yes	Complies The LGIP – SoW model has been prepared using the template provided as part of the Statutory guideline for LGIPs and its User Manual for the SoW model	Yes	The SOW model has been prepared in accordance with the LGIP guideline.	No action required.	Complies
Extrinsic material	50.	All relevant background studies and reports in relation to the preparation of the LGIP are available and identified in the list of extrinsic material in the LGIP guideline.	Yes	All key background studies and reports in relation to the preparation of the LGIP are available and identified in the list of extrinsic material in the LGIP.	Yes	The extrinsic material has been supplied.	No action required.	Complies

First compliance check of Douglas Shire Council local government infrastructure plan

Prepared by: Integrated Infrastructure Planning
December 2017



Version	Date	Reviewer name and signature	
1	12 December 2017	Kylie Grimley	

1.1 Introduction

Integrated Infrastructure Planning (IIP) has been engaged by Trinity Engineering and Consulting on behalf of Douglas Shire Council (DSC) to undertake a first compliance check of its proposed Local Government Infrastructure Plan (LGIP).

IIP is required to:

- (1) evaluate whether a proposed LGIP complies with the requirements outlined under the Minister's Guidelines and Rules, including the LGIP template, the SOW model and the LGIP Checklist.
- (2) provide a written statement and the completed checklist to the local government detailing the findings of the compliance check.

Scope exclusions

The following items are outside the scope of this review:

- A verification of the accuracy of individual inputs used in the preparation of an LGIP.
- A review of the local government's Long Term Financial Forecast (LTFF) or asset management plan (LTAMP) other than to determine the extent of their alignment with the LGIP.

Compliance check process

The process used to undertake the compliance check comprised the following steps:

Stage	Description
<u>Engaged</u>	<ul style="list-style-type: none"> • Documents and other information received from Trinity Engineering and Consulting on behalf of DSC on 10 November, 2017.
<u>Review</u>	<ul style="list-style-type: none"> • Review commenced on 17 November, 2017. • Initial comments provided 20 November, 2017; • Council response to initial comments received from Trinity Engineering and Consulting 11 December, 2017.
<u>Final report</u>	<ul style="list-style-type: none"> • Review report issued on 12 December, 2017.

The following personnel were involved in the compliance check on behalf of the Douglas Shire Council:

Name	Title	Date of discussion (s)	Scope of discussion
Rudd Rankine	Civil/Geotechnical Engineer	20 November	<ul style="list-style-type: none"> • Initial comments on documents supplied • Minor mapping, typographical and formatting issues

Compliance check findings

Council advises work is underway to provide alignment between the LGIP, LTFF and the capital works program. Council also indicates work is underway on the asset management plans.

DSC has undertaken consultation with Councillors, internal network and finance stakeholders as well as external consultation with DTMR, the relevant state agency responsible for transport matters.

Conclusions

The Douglas Shire Council Local Government Infrastructure Plan and associated documentation is compliant with the *Planning Act 2016* and statutory guidelines.

Recommendations

IIP recommends to the Douglas Shire Council that the LGIP should proceed to the State for approval for public notification.

Recommended conditions to be imposed

Nil.



The Hon Cameron Dick MP
Minister for State Development,
Manufacturing, Infrastructure and Planning

Our ref: MC18/237

Your ref: 837125

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07 MAR 2018

Councillor Julia Leu
Mayor
Douglas Shire Council
PO Box 723
MOSSMAN QLD 4873

Email: Julia.Leu@douglas.qld.gov.au

Dear Councillor Leu

Julia,

Thank you for your letter of 18 December 2017 providing the Douglas Shire Council's (the council) proposed Local Government Infrastructure Plan (LGIP) for review and approval to proceed to public consultation.

I congratulate the council in taking the initiative to prepare a LGIP for its community. This is an important step to ensure the council continues to have the ability to levy charges or impose trunk infrastructure conditions on future development approvals.

The proposed LGIP has been assessed against the requirements of the repealed *Sustainable Planning Act 2009* and for compliance with the Statutory guideline 01/16: Making and amending local planning instruments (MALPI) and the Statutory guideline 03/14: Local government infrastructure plans.

In accordance with MALPI, I am pleased to advise the council may now proceed to publicly consult on the version of the proposed LGIP provided to the Department of State Development, Manufacturing, Infrastructure and Planning (the department) on 12 February 2018. Further advice to assist the council in revising and refining the proposed LGIP is enclosed.

I note the council was previously granted an extension to 30 June 2018 to have a LGIP in place, otherwise it will not be able to continue to levy infrastructure charges or impose infrastructure conditions under section 111 of the *Planning Act 2016*.

As such, I strongly urge the council to prioritise the finalisation of the proposed LGIP to ensure it may continue to levy infrastructure charges. The department is committed to working with the council, as a matter of priority, to help the finalisation and adoption of the proposed LGIP.

If you require further information, please contact Mr Tony Croke, Principal Planner, Planning and Development Services – North, in the department, on (07) 4037 3205 or tony.croke@dsmip.qld.gov.au, who will be pleased to assist.

Yours sincerely



CAMERON DICK
Minister for State Development, Manufacturing,
Infrastructure and Planning

Enc

Enclosure 1

FURTHER ADVICE FOR THE DOUGLAS SHIRE COUNCIL'S CONSIDERATION ON THE PROPOSED LOCAL GOVERNMENT INFRASTRUCTURE PLAN (LGIP)

The following advice is given to the Douglas Shire Council for its consideration, so that it may further revise and refine the proposed LGIP:

- A valuable output of an LGIP is information about the cash flow projections which compares future infrastructure charges revenue to expenditure. In this regard, the state sets the maximum charges that a local government may levy for the provision of trunk infrastructure. Where expenditure exceeds the revenue from infrastructure charges, the local government has to consider options to manage it. Any shortfall in charges revenue to cover expenditure will have to be recovered from other sources such as rates.
- The LGIP preparation process seeks to take into account the inter-relationships and alignment between local government infrastructure planning, future growth, Asset Management Plans (AMP) and Long-Term Financial Forecasts (LTFF). Within this framework, local governments are responsible to strategically consider and manage the provision for and funding, of trunk infrastructure in their local government area, in an efficient and financially sustainable manner. To achieve this over time, local governments are encouraged to undertake regular reviews to ensure ongoing alignment of their LGIP, AMP and LTFF.
- The residential and non-residential anticipated growth worksheets include levied charges which appear to exceed the prescribed amount in the Planning Regulation 2017 (the Planning Regulation) (i.e. the maximum charge) and are based on an alternative functionality to the standard Schedule of Works (SoW) model.

To improve clarity, it is recommended that the council adjust the levied charges (as capped by the Planning Regulation) so that the projected revenue is correctly identified.

- Include the extrinsic material which explains that the planning scheme zonings, included on the Priority Infrastructure Area (PIA) maps, represent the developable area (e.g. similar to the comments included in the LGIP checklist) and amend section 4.2.2(1) of the LGIP to reference the PIA maps.
- Allocate all future water infrastructure items in the SoW to the relevant service catchment(s).
- Include a value for item PPLC062 in the SoW, or if there are reasons for council's approach, include the extrinsic material to explain the approach.