Rous Water
REGIONAL WATER SUPPLY

BALLINA
BYRON
LISMORE
RICHMOND VALLEY

Our Ref: AA/VG: 1569/05 (90746) (41832)

18 February 2013

Mr Michael Young
Major Projects Assessment
NSW Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Email: plan_comment@planning.nsw.gov.au

Dear Sir

Environmental Impact Statement: Woolgoolga to Ballina Pacific Highway Upgrade

Part A Introduction

Thank you for the opportunity to comment on the Environmental Impact Statement (EIS) and associated working papers for the Woolgoolga to Ballina Pacific Highway Upgrade.

As you are aware, Rous Water's comments are focused on the water supply infrastructure that it owns and operates within *Section 8* of the upgrade – this water supply source draws raw water from the Woodburn Sands aquifer system. The Woodburn Sands aquifer is an unconfined coastal sands aquifer, with the water table typically located within two (2) metres of the ground surface. Accordingly, Rous Water's comments focus on potential impacts to the quantity and quality of water at the Woodburn Bore sites – and therefore are focused on the Groundwater working paper and related sections of the EIS.

The EIS states that submissions should include "a statement on whether you support or object to the project", and "the reasons why you support or object to the project".

In response to these guidelines, Rous Water's position on the EIS is as follows:

1. Notwithstanding the potential impacts identified in the EIS, Rous Water considers that the identified range of further investigation and mitigation measures are appropriate to adequately manage these issues.
2. Given the position identified at (1), Rous Water is therefore not opposed to the project proceeding as described in the EIS.

ROUS WATER CENTRE
218-232 Molesworth Street
PO Box 230
Lismore NSW 2480
DX 7652

ROUS COUNTY COUNCIL
Phone (02) 6621 8055
Fax (02) 6622 1181
Email water@rouswater.nsw.gov.au
ABN 81 383 023 771

3. Accordingly, our comments are focused on clarifying and strengthening these further investigation and mitigation measures, so as to ensure that impacts on regional water supply operations are negligible. In addition, Rous Water has also identified a number of corrections or clarifications that should be acknowledged as the project develops.

Details of our comments are provided below in table format identifying the referenced section of text, the comment, and the recommended response or implication that should be adopted and/or incorporated into the project as it progresses.

Additional information is provided for your information and included in the submissions review as appropriate regarding the joint work that is underway between Rous Water and Roads and Maritime Services (RMS) regarding additional groundwater investigations (Part C), and utility relocations (Part D).

Part B: Identification of Issues and Associated Implications/Recommendations

B.1: Groundwater Working Paper

No.	Section/Reference Item	Comment	Implication/Recommendation
1	Exec. Summary – Paragraph 5, Sentence 4.	Reference should also be made to these assessments being based mainly on desktop studies with no additional field investigation.	The desktop nature of the assessments highlights the need for a precautionary approach to be adopted, together with further investigations to further refine the design process.
2	Exec. Summary – Paragraph 9.	Does not refer to salt water impacts to fresh ground water systems from sea water ingress into coastal aquifers	To be considered and addressed in subsequent stages of investigation/project development.
3	Section 1.2.7, Page 17 and 18.	This refers to the Elements of the Australian Drinking Water Guidelines Management Framework but this is not considered any further. This is either surplus information and should be removed as it creates confusion with the following sections (not recommended) or the sections following these references is flawed (see the following comment, Comment 4).	Addressed as outlined in relation to Comment 4 below.
4	Section 1.2.7, Page 19, Paragraph 4.	Application of the Small Water Supplies of the ADWG is not appropriate, especially since the preceding two pages of background are more relevant to the adoption of the full Drinking Water Guidelines framework, especially the 12 Elements. It is important to note that Rous Water is committed to applying the full framework to its whole system as no individual parts can be considered separate. That is, the Woodburn system cannot be treated in isolation to the rest of the Rous Water system. Additionally, adopting a lower level of management of a section of the Rous Water System can be considered equivalent to adopting a lover level of protection which is contrary to the intent of the ADWG.	The Elements of the Australian Drinking Water Guidelines Management Framework are to be clearly addressed in all subsequent stages of investigation/project development.

No.	Section/Reference Item	Comment	Implication/Recommendation
		It should also be noted that the Small Supplies Guideline only applies to communities with less than 1000 consumers (assuming that the full framework is not adopted regardless of the size) and is generally targeted at isolated small communities or individual caravan parks etc. When operating, the Woodburn Sands supply provides water to approximately 5000 permanent resident consumers (plus 4-5000 additional consumers during summer holiday periods).	
5	Section 1.2.7, Page 19, Paragraph 5.	This is not applicable; the main focus should be the adoption of the 12 Elements of the ADWG – see comments made in relation to the comment above.	Refer to the implications/recommendations made in relation to Comment No. 4 above.
6	Section 1.2.7, Paragraph 1.	It would also be appropriate at this point to refer to the *NSW Ground Water Quality Protection Policy*, especially with reference to the development of well head protection zones.	Development of a well head protection zone - as outlined in the *NSW Ground Water Quality Protection Policy* – should be clearly identified as a requirement to be addressed in all subsequent stages of investigation/project development.
7	Section 1.2.7, Paragraph 2.	This relies on current Rous Water practice - should any change be required the burden of protection would lie solely on Rous Water. This is contrary to the fundamentals of the Australian Drinking Water Guidelines Management Framework.	The Elements of the Australian Drinking Water Guidelines Management Framework should be clearly identified as a requirement to be addressed in all subsequent stages of investigation/project development.
8	Section 1.2.8, Paragraph 6.	A more detailed discussion on how to manage well head protection zones would be appropriate (e.g. NSW Groundwater Protection Policy). It may be appropriate to deal with this matter in its own section rather than combining it with the GW contamination framework and DEC 2007 which focuses mainly on stopping permanent contamination of or rehabilitating permanently contaminated waters.	Development of a well head protection zone - as outlined in the *NSW Ground Water Quality Protection Policy* – should be clearly identified as a requirement to be addressed in all subsequent stages of investigation/project development.

No.	Section/Reference Item	Comment	Implication/Recommendation
9	Section 1.3.1 Salinity, Paragraph 3.	It is worth noting that this situation is known to occur elsewhere in the coastal sands aquifer system, most notably in the area around South Ballina and the mouth of the Richmond River. It is acknowledged that this situation has not been noted at the Rous Water Woodburn supply bores previously.	To be considered and addressed in subsequent stage of investigation/project development.
10	Section 2.1.2, Paragraph 3, Line 2.	Replace "Geological Basin" with "Sedimentary Basin"	To be noted in future documentation/discussion.
11	Section 2.1.2, Paragraph 3, 2nd sentence.	The Ipswich Basin sedimentary sequences also include a major volcanic sequence, the Chillingham Volcanics.	To be noted in future documentation/discussion.
12	Section 2.1.2, Paragraph 3, 3rd sentence.	These rocks outcrop at Evans Head and on the east side of the Blackwall Range and are therefore likely to occur under the Pleistocene and Holocene Sediments.	To be noted in future documentation/discussion.
13	Section 2.1.2, Paragraph 4, 2nd sentence.	"Tertiary" is no longer a recognised geological term/age and therefore "Cenozoic" would be a more appropriate term to use.	To be noted in future documentation/discussion.
14	Section 2.1.2, Paragraph 5, Line 1.	Replace "Recent" with "Pleistocene"	To be noted in future documentation/discussion.
15	Section 2.1.2, Paragraph 5, last line.	Insert the word "Holocene", i.e. … of Holocene clay-rich deposits…	To be noted in future documentation/discussion.
16	Section 2.1.3, First line.	The reference Coram et al. 1998 is not in the bibliography for the GW working paper.	To be noted in future documentation/discussion.
17	Section 2.2.7, Page 47, Paragraph 3, 2nd sentence.	Change to … treatment *of the Iron and Aluminium* involves…	To be noted in future documentation/discussion.
18	Section 4.5.8, Page 102, Paragraph 1.	See the previous comment on Exec summary – Paragraph 5, Sentence 4.	As per Comment No. 1 above.

No.	Section/Reference Item	Comment	Implication/Recommendation
19	Section 5.2.1, Dot points on pre-construction phase.	Include field investigation to determine ground water recharge and flow behaviour in the area of the Woodburn Water Supply local ground water management area.	Should be clearly identified as a requirement to be addressed in all subsequent stages of investigation/project development. Refer to comments made in Part C below.

Part B: Identification of Issues and Associated Implications/Recommendations

B.2: EIS

No.	Section/Reference Item	Comment	Implication/Recommendation
20	Chapter 9, Soils, Sediments and Water, Page 9-51, Salinisation, Paragraph 2.	Refer to the comment on Section 1.3.1 Salinity, Paragraph 3 of the Ground Water working paper above (i.e. Comment 9). I.e. is a known problem in some parts of the coastal sands aquifer e.g. South Ballina.	To be considered and addressed in subsequent stage of investigation/project development.
21	Chapter 9, Soils, Sediments and Water, Page 9-52, Rous Water Woodburn Sands Borefield, Paragraph 2, Sentence 3.	Refer to the comment on Section 2.2.7 Page 47, paragraph 3, second sentence of the Ground Water working paper above (e.g. treatment of Fe and Al) –Comment 17	To be noted in future documentation/discussion.
22	Chapter 9, Soils, Sediments and Water, Page 9-52, Rous Water Woodburn Sands Borefield, Paragraph 4.	Reference should be made that 'short circuiting' can occur in the clay layer (e.g. fractures, drains and dams excavated into/through the layer, any local absence)	The potential consequences of short-circuit should be acknowledged and addressed in all subsequent stages of investigation/project development.

Part C: Status of Further Investigations: Rous Water – Roads and Maritime Services

The groundwater working paper states that recharge to the Woodburn Sands aquifer is via direct (diffuse) recharge from local rainfall infiltrating through the soil profile, with additional lateral recharge from local elevated areas. The groundwater working paper recognizes that there is a degree of uncertainty regarding the extent of the recharge areas, the direction of groundwater flows and flow dynamics/seasonality – and the working paper identifies the need for further investigation during the detailed design phase of the project as follows:

- to confirm the natural of groundwater flow in the area including the flow paths during wet and dry years and the corresponding impact on bore sites;
- to determine the depth within the wellhead protection zones and whether there are potential leakage pathways; and
- any pathway for road surface water to enter the aquifers.

Rous Water supports this approach and is working together with RMS to develop a joint approach to the conduct of this research. Subject to the outcomes of this additional investigation, details of the approach being developed by Rous Water and RMS are described below:

(i) Should these investigations demonstrate a high level of certainty that groundwater flow is from east to west, then this may allow relocation of the water supply bore located on the west of the proposed alignment to the east, and thereby simplifying the design of highway runoff treatment measures.

(ii) Alternatively, if this research demonstrates uncertainty, seasonality/reversals of groundwater flow direction, and/or local recharge through a “leaky” clay layer, then the same standards of stormwater treatment identified for the Tintenbar to Ewingsdale Pacific Highway upgrade are to be applied to the recharge area for the Woodburn Sands aquifer system.

Part D: Utility Relocations

Rous Water has already made detailed comments regarding the highway alignment in relation to the impacts on Rous Water pipeline infrastructure. The existing Rous Water pipelines to Evans Head, Broadwater, Langs Hill and Woodburn will be affected by the project and therefore require relocation. Rous Water is concerned about adjustments outside that road corridor (i.e. EIS footprint) that may occur and the management of any environmental approval of these relocations. Rous Water also would like to ensure that appropriate access to existing and relocated infrastructure is maintained during and on the completion of the highway project. Rous Water would like to understand the impacts on our infrastructure and assist in the relocation of these pipelines as early as possible to avoid any potential future conflicts. However, Rous Water is not objecting to the need for these works and prepared to assist the project proponents to ensure that these concerns are addressed.

Rous Water has reviewed the works associated with the key material source area C11 and has determined that based on the current identified area, there are unlikely to be any impacts on the adjacent pipeline infrastructure. However, appropriate blasting limits may need to be applied and monitor during any blasting works. Rous Water also has a number of abandoned pipelines in and around the highway alignment, including through key material source area C11, which will require removal and appropriate disposal in consultation with Rous Water. Please find herewith the attached plans detailing the locations of these mains.

Part E: Conclusion

Overall Rous Water considers that the EIS and working papers provide a sound basis for the assessment of impacts and design of mitigation measures with respect to the Woolgoolga to Ballina Pacific Highway Upgrade, and as it relates to the Rous Water water supply.

On the strength of this assessment together with the commitments made to mitigation and further investigation (as described in both the Water Quality and Groundwater working papers), Rous Water is therefore not opposed to the project proceeding as described in the EIS.

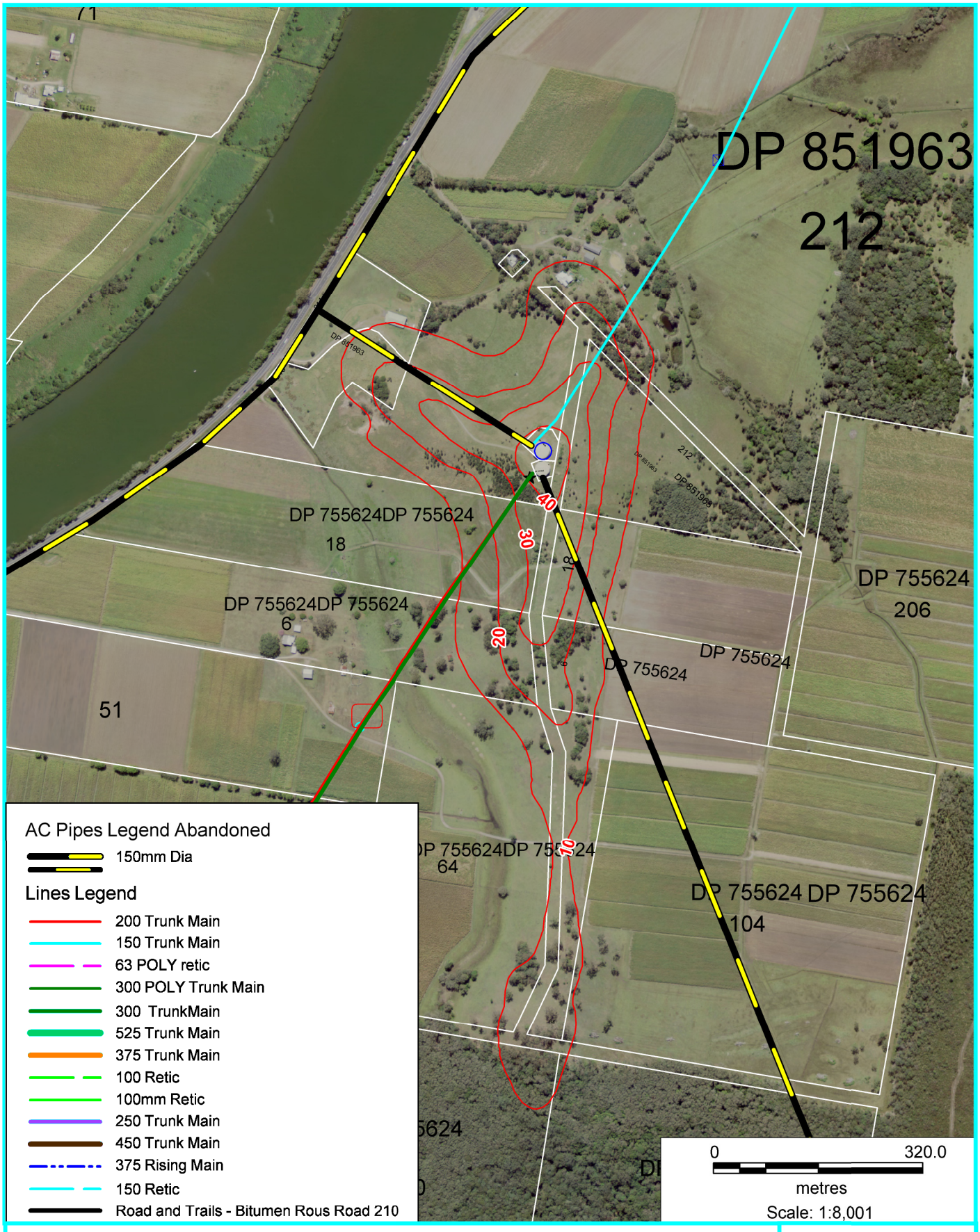
Rous Water does however consider that these commitments as well the further investigations to be completed are to be explicitly described in any conditions of approval for the EIS.

Thank you for the opportunity to provide comments on the EIS. Should you require any further information concerning this letter or wish to discuss the issues raised further, please contact Council's Catchment Assets Manager, Mr Anthony Acret, on (02) 6621 8055.

Yours faithfully

Wayne Franklin
Technical Services Director

Attachments.



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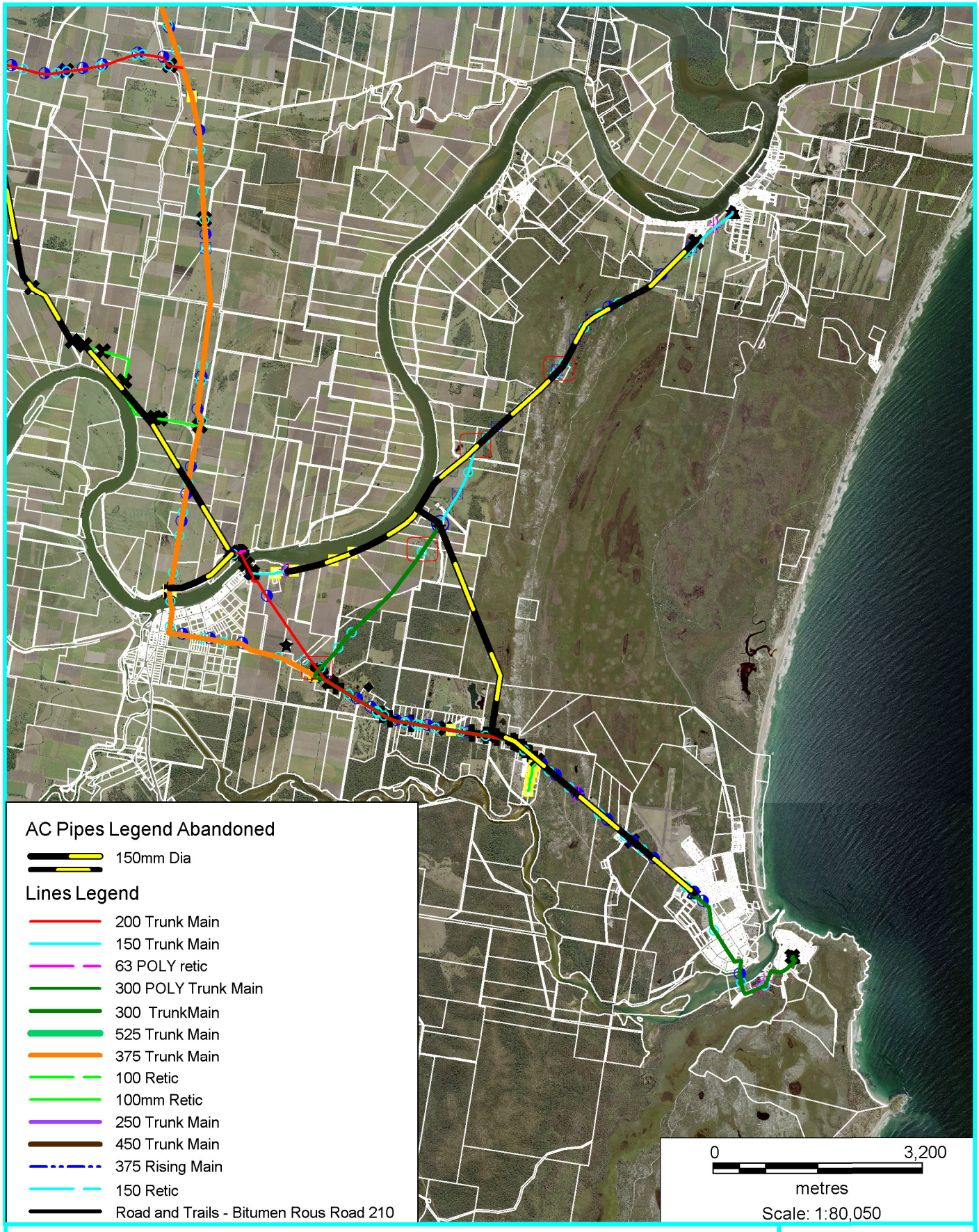

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