Responsible Officer: General Manager Strategic Asset Performance

Council Meeting Date: 17 December 2019

File Ref: RD1.8

Purpose:

The purpose of this report is to seek Council's direction on the future of the Agnes Water to Baffle Creek Link Road.

Officer's Recommendation:

{recommendation-start}
That due to the costs outweighing the benefits to be derived from an Agnes Water to Baffle Creek Link Road, Council resolves to:

1. Remove the Agnes Water to Baffle Creek Link Road project from current and future programs of works.
2. Authorise the Chief Executive Officer to develop and implement a community engagement strategy to inform the community of the reasons for not progressing with a link road between Agnes Water and Baffle Creek.

{recommendation-end}
{remove-from-minutes-start}

Background:

A single connectivity route between Agnes Water and south eastern communities has been identified by the community as a potential risk during emergency events. The community has also identified that economic growth would be supported by a second alternate route between the two centres, with Agnes Water becoming the preferred destination for services. Members of the community have approached Council with a potential solution being a link road between Agnes Water and Baffle Creek.

Council officers have been investigating the feasibility of a new link road since 2016. Following the completion of detailed survey and evaluation of multiple options in 2018, concept designs have been prepared for five possible alignments including:

1. **Option 2:** Connecting from Jobson Street through Lot 21 to Yabby Road, following the power line easement and connecting with Maude Hill Road.
2. **Option 2A:** Connecting from Anderson Way through Lot 21 to Yabby Road, following the power line easement and connecting with Maude Hill Road.
3. **Option 3A:** Connecting from Rocky Crossing Road, through National Park land connecting to Yabby Road, following the power line easement and connecting with Maude Hill Road.
4. **Option 4/4A:** Connecting from Springs Road, running through the Deepwater National Park and connecting with Wreck Rock Road.
5. **Option 5:** Connecting with Round Hill Road at Uxbridge Road, following the road land parcel to connect with Maude Hill Road.

Consideration:

Concept Design Assumptions and Constraints:

To allow the concept designs to progress, several assumptions have been made and constraints were identified. These assumptions and constraints are discussed in more detail below.

- **Road Hierarchy:** For design purposes it has been assumed that the road functionality will need to meet Distributor road category in rural areas. For staging purposes cost estimates have been provided based on Council implementing the design in stages:
    - **Stage 1:** Interim access track standard, with gravel surface and 5.5m road width. This interim standard would have a reduced speed environment of 60-70km/h and will require vehicles to travel with care particularly when passing vehicles in opposite directions. Note that this would not meet Council's road hierarchy policy.
    - **Stage 2A:** Upgraded to a two-lane gravel road with an intended design speed of 110km/h (environment speed of 100km/h) and width of 9m. Note that for Option 4 this would require an alignment different to the current access track. It has been assumed that the pavement will need to be reconstructed at this point.
    - **Stage 2B:** Upgraded to a two-lane sealed road with an intended design speed of 110km/hr. It has been assumed that the pavement will need to be reconstructed at this point.

- **Road Speeds:** While the ultimate design speed will be 110km/h, due to restricted horizontal alignment, sections of the road for options 4 and 5 will be reduced to 40km/h to balance cost and safety.

- **Survey Data:** Survey data was obtained for Options 2, 2A and 3A. LIDAR data has been relied on for development of Options 4/4A and 5. The location of Ergon power poles has been confirmed to be, on average, 5m within Council road reserve. The existing road reserve width will still be sufficient for the ultimate options 2, 2A and 3A, however, minor design changes will be required to locate the road alignment as close as possible to the eastern road reserve boundary and a physical barrier may be required between the road and the poles to ensure the safety of road users.

- **Geotechnical Data:** Geotechnical investigations have been undertaken at various locations along the alignment of options 2, 2A and 3A. The findings of the geotechnical report have been used to inform the pavement design presented as part of the design options. Given the vast project area and uncertainty of the preferred option, a typical pavement has been applied throughout the project. This pavement aims to account for the poorer low-lying areas, sandy material to the east (Design Option 4/4A) and rocky northern tie in locations of options 2A, 3 and 5.

- **Drainage Requirements:** General assessments have been undertaken for cross drainage requirements at 500m intervals and waterway barrier works. More detailed assessments will be required for preferred options which may alter delivery costs. It should however be noted that due the elevation of the options, inundation will occur during and following wet weather events for all options. This may render roads unusable for 2WD vehicles for extended periods of time following wet weather events.

- **Retaining Structures:** Due to the undulating nature of the natural topography, retaining structures may be required for options 2 and 4. While suitable structural solutions will be evaluated as part of detail design processes, for the purposes of the

concept designs it has been assumed that all face slopes will be 5V:1H without benching.

- **Environmental**: Each option has the potential to trigger additional investigations and approvals including under the Environment Protection and Biodiversity Conservation Act 1999, Natural Conservation Act 1992, Fisheries Act 1994 and Planning Regulation 2017 Great Barrier Reef Wetlands, Indigenous Cultural Heritage and contaminated land.

- **Land ownership:** A high level review of land ownership has been undertaken. Additional reviews would be required of specific easement requirements and ownership for a preferred option.

Multiple Criteria Assessment:
A multiple criteria assessment (MCA) has been carried out on the five options. The criteria used in the MCA included:

- Construction and Maintenance Costs (Stage 1 and Stage 3)
- Ownership constraints
- Environmental impacts
- Connectivity
- Serviceability
- Travel Time
- Potential Flood Impact
- Social impacts
- Safety
- Existing utilities interfaces

The full MCA is available on page 29 of Attachment 1. Based on the MCA, the options are ranked in order of suitability:

- Option 2A
- Option 3A
- Option 2
- Option 4/4A
- Option 5

A more detailed explanation of rankings for the MCA is available in Appendix F of Attachment 1.

Cost:
Cost estimates have been provided for each option, including allowances for detail design, additional investigations and a 25% contingency. Depending on the option up to $550,000 should be allocated for detailed design and obtaining environmental approvals.

The estimated capital costs for each option are:

Option	**5.5m wide gravel track (Stage1)**	**2-lane gravel road (stage 2A)**	**2-lane sealed distributor road (stage 2B)**
2	$22 M	$22 M	$24 M
2A	$17.5 M	$22.5 M	$25 M
3A	$17.5 M	$22.5 M	$25 M
4/4A	$13 M	$44 M	$46 M
5	$22 M	$28 M	$31 M

Whole of life cost estimates for each option are shown below:

Option	Whole of Life Costs over 50 Years ($M)		
	5.5m wide gravel track	**2-lane gravel road**	**2-lane sealed distributor road**
2	$34.8	$31.9	$33.9
2A	$30.6	$32.7	$35.2
3A	$30.4	$32.5	$35.0
4	$24.3	$52.3	$54.3
5	$36.4	$39.2	$42.2

Impacts on Travel Times:

Comparative travel times have been calculated from the intersection of Round Hill Road and Captain Cook Drive to the intersection of Coast Road and Fernfield Road. Stage 1 travel times are based on an average speed of 70km/h for options 2, 2A and 3A and 40km/h for options 4A and 5. Ultimate travel times are based on an average speed of 70km/h for option 2, 2A, 3A and 4 and 60km/h for option 5.

Option	Travel Distance (km)	Travel Time (minutes)	
		Stage 1	Stage 2
Current Route	56.3	43	
2	44.2	45	45
2A	44.9	45	45
3A	45.9	45	45
4/4A	36.1 / 35.5	46	39
5	51	54	50

Economic Assessment:

An internal desktop assessment has been carried out to identify the economic benefits of providing a link road between Agnes Water and Baffle Creek. This assessment has been based on information sourced from .id Economic Atlas Profiling and Economic Impact Modelling tool as well as anecdotal information collected from earlier consultation and technical assessments.

Benefit Area	**Quantum of Benefit**
Impacts of construction	$20million to the region through purchase of plant, equipment, material and labour. $3.85million to the region through spend of salary and wages in the region.
Value Add of construction on the local economy	The combination of all the direct, industrial and consumption effects would result in an estimated value add to the regional economy of $23.45M across associated industries.
Resident employment impacts	123 jobs would be created within the region and 214 jobs outside of the region during the construction phase. The majority of these positions will be to support construction of the road.

Some sections of the community have expressed concern that the additional link road may negatively impact the local economy of the smaller centres being connected by the link.

In summary it was found that the link road is unable to demonstrate significant or lasting economic benefits to the Discovery Coast Area.

Option 1: Do not proceed further with a link road between Agnes Water and Baffle Creek

Linkage to Corporate Plan:
Corporate Goal #6 provide a commitment to asset management practices that support smart infrastructure decisions and ensures reliable, affordable, safe and sustainable infrastructure is available for the community and supports the lifestyle and economic goals and sustainability of the region for current and future generations.

Provision of an alternate access road between Agnes Water and Baffle Creek meets the above commitment to provide infrastructure that supports the community lifestyle. The road however comes at a relatively high per usage cost and as it will not provide flood immunity, it will not be reliable and safe during and following wet weather events. The high-level economic assessment has failed to identify ongoing economic benefit.

Risks and Opportunities:
The objectives to be met through the proposed project have been identified as:

- An alternate link that can be used by residents of Agnes Water and communities to the south east to evacuate to safety in the event of a natural disaster.
- Enabler for economic growth as Agnes Water is seen as the preferred destination for services.

The proposed link road will provide a secondary access between Agnes Water and Baffle Creek during normal weather events. However, due to the topography of the alternate link options, the flood immunity will be lower than the existing link road. This means the roads may be inaccessible during and following wet weather events.

Due to the alignment of alternate link roads, the safe speed will be lower than the existing link road. Despite shorter travel distances, the travel times may be greater under normal driving conditions.

Option 2: Engage with the community on options prior to making a decision
Due to the community interest in constructing a link road between Agnes Water and Baffle Creek, Council could consider seeking feedback from the community on the options investigation with consideration given to costs and benefits.

An alternate recommendation could be:

That, due to the public interest in providing a link road between Agnes Water and Baffle Creek, Council authorise the Chief Executive Officer to develop and implement a community engagement program to seek community feedback on identified options and provide a report back to Council for further consideration.

Option 3: Proceed subject to funding
Due to the community advocacy for a link road between Agnes Water and Baffle Creek, Council could commit to the project delivery subject to obtaining 100% funding for construction from external sources.

Based on recent experience with funding programs, Council would need to have the project funding ready. This would involve completing the detail design, procure land tenure and obtain all relevant environmental approvals.

An alternate recommendation could be:

That due to the advocacy from the community for a link road between Agnes Water and Baffle Creek, Council authorise the Chief Executive Officer to:

1. *Undertake the detail design for alignment _____,*
2. *Procure land tenure along the above route.*
3. *Develop and implement a community engagement strategy to inform the community of the outcome and advise that construction of the link road will be dependent on 100 percent external funding being obtained.*

Communication and Consultation (Internal/External):

To date consultation has occurred with local landowners, community members, community organisations, Council Departments and, Baffle Creek Tourism committee.

Due to the proximity of the existing power poles with the proposed option 2, 2A and 3A, it is recommended to engage with the power utility provider early to ensure there are no complications during construction.

Legal Environmental and Policy Implications:

For Option 3, irrespective of the alignment option chosen, additional work will be required to understand the environmental requirements and secure land to construct the road.

Financial and Resource Implications:

Currently within the IPP $5.6million has been allocated to complete detail design, negotiate land acquisitions and construct the road. These costs were based on preliminary cost estimates prepared in 2017.

Option 1 would represent the removal of $5.6million from the IPP.

Option 2 would have limited financial impact and would be funded from within existing budget allocations.

Option 3 would have limited impact on 2019/20 budget. Approximately $500,000 would be required to fund environmental approvals. Until contact is made with existing landholders, it is difficult to estimate the cost to complete land tenure arrangements.

Commentary:

Nil.

Summary:

On evaluation of multiple criteria, Option 2A has been identified as the preferred option for a road. This option however will not address the secondary objective of the project, I.e. reducing travel times between the two centres or provide ongoing economic benefit.

Anticipated Completion Date:

The preferred recommendation should be completed by end of February 2020.

Should Option 2 be preferred, community engagement will be undertaken prior to March 2020.

Should Option 3 be preferred, community engagement will be undertaken prior to March 2020, detail design completed by July 2021 and land procurement and environmental approvals obtained by December 2021.

Attachments:

1. Cardno Concept Design Report (2019)

Tabled Items:

Nil.

Report Prepared by: Engineer - Design
{remove-from-minutes-end}