



REPORT: Saxa Road - Comobella Crossing, Mitchell Creek Causeway Options

DIVISION: Infrastructure
REPORT DATE: 13 September 2023
TRIM REFERENCE: ID23/2280

EXECUTIVE SUMMARY

Purpose	Seek direction or decision	
Issue	Review of the options for the replacement of the Comobella Crossing over Mitchell Creek on Saxa Road.	
Reasoning	<ul style="list-style-type: none">• Further discussions have been held with staff from NSW Fisheries following the Ordinary Council meeting held on 24 August 2023.• A compliant box culvert structure will be required to span 42 metres instead of the 22 metres that was included in the report to the Infrastructure, Planning and Environment Committee on 10 August 2023.• This changes the bridge sized culvert option estimate from \$1.65 m to \$2.55 m plus \$900 k for the road works.• The inclusion of a culvert option is expected to delay the release of a tender package by two months due to the need for further flood modelling.• A practical box culvert design is likely to provide less flood protection than a bridge option.	
Financial Implications	Budget Area	Infrastructure Delivery
	Funding Source	Grant Funding Applications
	Proposed Cost	Approximately \$3.6 m
	Ongoing Costs	N/A
Policy Implications	Policy Title	There are no policy implications arising from this report.
	Impact on Policy	N/A

STRATEGIC DIRECTION

The Towards 2040 Community Strategic Plan is a vision for the development of the region out to the year 2040. The Plan includes six principle themes and a number of objectives and strategies. This report is aligned to:

Theme: 2 Infrastructure

CSP Objective: 2.1 The road transportation network is safe, convenient and efficient

Delivery Program Strategy: 2.1.2 The road network meets the needs of the community in terms of traffic capacity, functionality and economic and social connectivity

Theme:	2 Infrastructure
CSP Objective:	2.1 The road transportation network is safe, convenient and efficient
Delivery Program Strategy:	2.1.1 Traffic management facilities enhance the safety and efficiency of the road network
Theme:	2 Infrastructure
CSP Objective:	2.2 Infrastructure meets the current and future needs of our community
Delivery Program Strategy:	2.2.5 Council maintains infrastructure and delivers services at the adopted service levels as agreed with the community

RECOMMENDATION

1. That Council note the resolution from August 2023 as below:
“1. That Council seek tenders for a design and construction of either a box culvert crossing or a bridge to replace the damaged Comobella crossing culvert in line with Options 2 and 3 outlined within the business paper IPEC23/34.
2. That Council seek funding under the Bridge Replacement Program and Disaster Recovery Funding Arrangements program to supplement project costs.
3. That Council write to the Minister for Roads advising of the importance of this crossing to secure the necessary funding for the replacement crossing.”
2. That Council amend the resolution outlined in point one above to remove Option 2, the box culvert crossing, as further information obtained following the August 2023 resolution indicates that the additional engineering requirements and timeframes required by a Box Culvert solution means it is considered no longer suitable.
3. That the resolution now reads:
 - a. That Council seek tenders for the design and construction of a bridge to replace the damaged Comobella crossing culvert.
 - b. That Council seek funding under the Bridge Replacement Program and Disaster Recovery Funding Arrangements program to supplement project costs.
 - c. That Council write to the Minister for Roads advising of the importance of this crossing to secure the necessary funding for the replacement crossing.

Luke Ryan
Director Infrastructure

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Manager Infrastructure
Delivery

BACKGROUND

Following the resolution of Council at the Ordinary Council meeting held on 24 August 2023, further investigative works have been undertaken on the box culvert option for the replacement of the Comobella crossing. This has involved discussions with Council staff and NSW Fisheries staff to establish the requirements for an acceptable waterway crossing structure at Comobella crossing.

The summary of NSW Fisheries advice for the crossing replacement at this location is:

- Under the *Fish Passage Requirements for Waterway Crossing* published by NSW Fisheries, NSW Fisheries have advised that Mitchell Creek is a Class 2 waterway, however is also mapped as habitat for the endangered Southern Purple Spotted Gudgeon (which should classify it as a Class 1 waterway).
- Based on the classification, pipe culverts are not appropriate for this site.
- Bridge or box culverts are acceptable for this class of waterway with bridges being the preferred option over box culverts.
- A box culvert option will be required to span the full waterway area. Based on current flood study information is equal to approximately 42 metres for a 1 in 100 event.
- Culvert invert levels are generally required to be a minimum of 200 mm below stream water level.

Previous Resolutions of Council

24 August 2023 IPEC23/24	<ol style="list-style-type: none">1. <i>That Council seek tenders for a design and construction of either a box culvert crossing or a bridge to replace the damaged Comobella crossing culvert in line with Options 2 and 3 outlined within the business paper IPEC23/34.</i>2. <i>That Council seek funding under the Bridge Replacement Program and Disaster Recovery Funding Arrangements program to supplement project costs.</i>3. <i>That Council write to the Minister for Roads advising of the importance of this crossing to secure the necessary funding for the replacement crossing.</i>
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REPORT

The existing flood study modelling is based on a bridge option only. The inclusion of a culvert option requires an amended flood study, incorporating hydraulic analysis to determine box culvert size and format, to include with tender documents. This is expected to delay release of a tender package by two months.

A NSW Fisheries compliant box culvert construction estimate is \$2.55m plus \$900k for roadworks. The estimate is based on a nominal 3.6 metre high culvert which may be inundated during a 1 in 10 year flood event. Further flood modelling will provide more conclusive culvert size requirements.

In order to achieve the 1 in 100 year flood protection that the bridge offers, the box culverts will be required to be higher than the bridge option due to the larger waterway obstructions. This in turn will lead to a higher cost of road works. A box culvert higher than the bridge option has its complications with transportation, moulding and placement.

A summary of the options costs and construction duration is tabled below:

Option	Structure cost	Road cost	Total cost	Duration after close of tender
Box culvert	\$2.55 m	\$900 k	\$3.45 m	65 weeks
Bridge	\$2.7 m	\$900 k	\$3.6 m	57 weeks

Table 1: Cost and construction duration of a replacement crossing over Mitchell Creek

Preferred Option

Given the additional information, as detailed in this report, it is recommended that only a bridge option be included in a request for tender.

Consultation

Several conversations with NSW Fisheries management to establish their requirements for acceptable waterway crossing structures, including when box culverts can be used.