

TOOSE ROAD COMMUNITY UPDATE

July 2022

Short Term Route Update

The need for a short-term access:

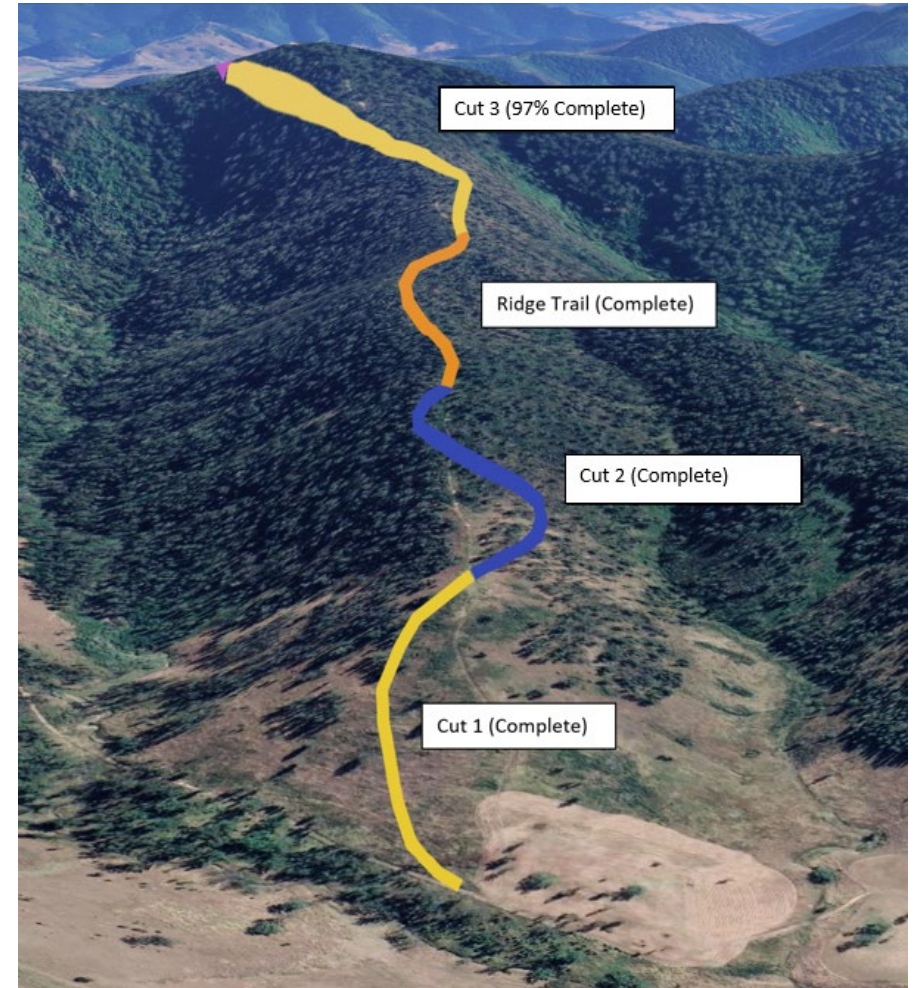
- Immediately after the slip occurred, geotechnical advice was sought on repairing the slip on Toose Road. The advice received strongly outlined the danger of the site and that a short-term repair was not possible.
- As a short-term repair was not feasible, alternate access routes were sought.
- Alternate routes were investigated by Council staff and consultants.
- A temporary river crossing was not considered viable due to the ability to construct and susceptibility to damage.
- After walking and flying over the overland routes available, the Fifes Creek Road – Telstra Tower – Toose Road connection was selected.



Short Term Route Update

Since commencement of works on the 26th of April, the following has been completed:

- Cut 1 is complete.
- Cut 2 is complete.
- The Ridge Trail is complete.
- Cut 3 is the most complex cut and will join an existing cut from the Telstra Tower – Toose Road trail. This cut is now approximately 97% established and has progressed very slowly since hitting hard rock. Specialist resources have been briefed on the site conditions and Council are working with the specialist contractors to have the rock removed as quickly as possible. We remain confident the rock can be appropriately dealt with using the correct resources. While this is underway, resources that were working on cut 3 will be used to progress other remaining areas of construction.



Short Term Route Update



Long Term Route - Context

Please note the following points in relation to the options that will be presented:

- The options presented today have been taken from the long-term options report that is currently in DRAFT.
- Landholder consultation has not yet occurred, this will be required.
- The comments on constructability have been made at a high level and require further refinement.
- The viability of an option is indicative at this point, and may be subject to further refinement.
- Price is a consideration, however the lowest price will not guide the final decision, the final decision will be based on the best option from an engineering and resilience perspective.
- The selected option needs to be endorsed by Transport for NSW and Resilience NSW.

Long Term Route – Options Analysis

The long-term route options analysis gave consideration to a combination of overland, over river and repair of the Toose Road slip options.



Long Term Route – Repair Slip Option



The long-term repair of the slip is currently considered to be a low viability rating.

Photos to the left were taken on the 7/4/2022

Long Term Route – Repair Slip Option

The photos below were taken on the 15/07/2022





Kempsey Shire Council
Toose Road Landslide
Options Assessment

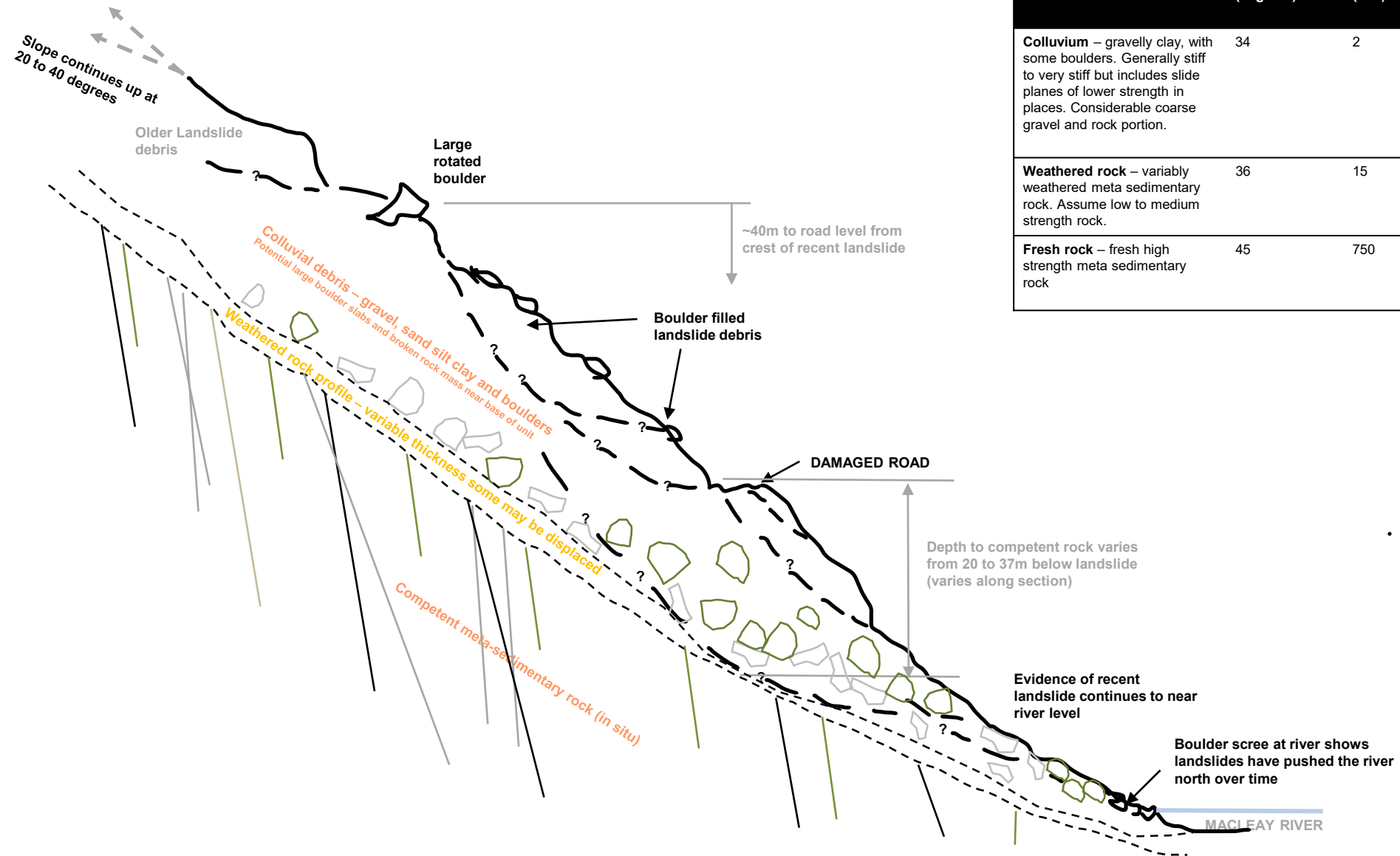
Site Plan

scale | AS INDICATED date | July 2022

job no | 12554981
file ref | DRAFT



Figure 1



| Unit | Friction Angle (degrees) | Cohesion (kPa) | Unit weight |
|---|--------------------------|----------------|-------------|
| Colluvium – gravelly clay, with some boulders. Generally stiff to very stiff but includes slide planes of lower strength in places. Considerable coarse gravel and rock portion. | 34 | 2 | 2.0 |
| Weathered rock – variably weathered meta sedimentary rock. Assume low to medium strength rock. | 36 | 15 | 2.0 |
| Fresh rock – fresh high strength meta sedimentary rock | 45 | 750 | 2.6 |

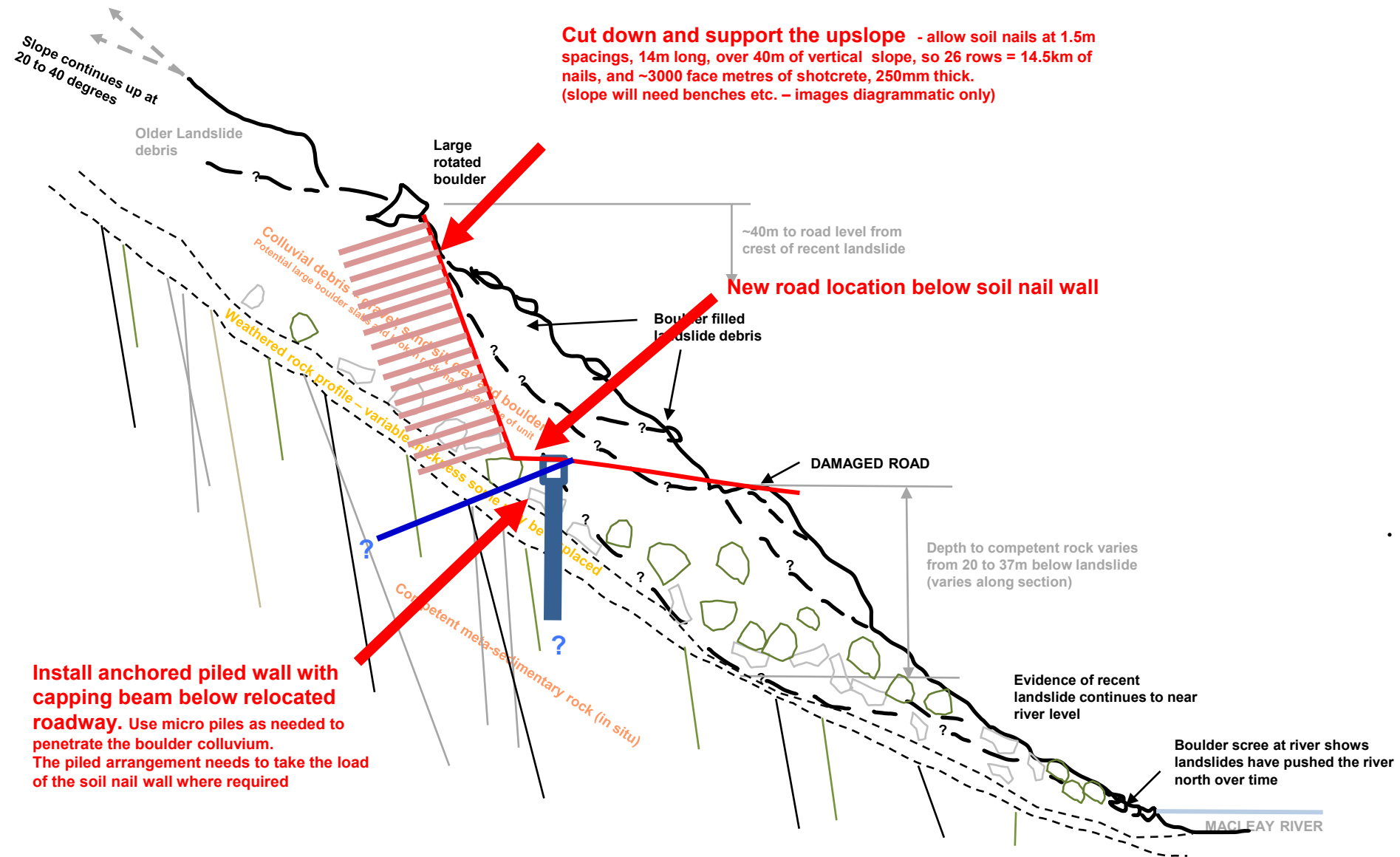


Kempsey Shire Council
 Toose Road Landslide
 Options Assessment
Interpreted geological section
 scale | AS INDICATED date | June 2022

job no | 12554981
 file ref | DRAFT



Figure 2



Kempsey Shire Council
 Toose Road Landslide
 Options Assessment

Remedial concept

scale | AS INDICATED date | July 2022

job no | 12554981
 file ref | DRAFT



Figure 3

Long Term Route – Gap Creek Road



Viability Rating: Low

Estimated cost: **\$17,012,000**

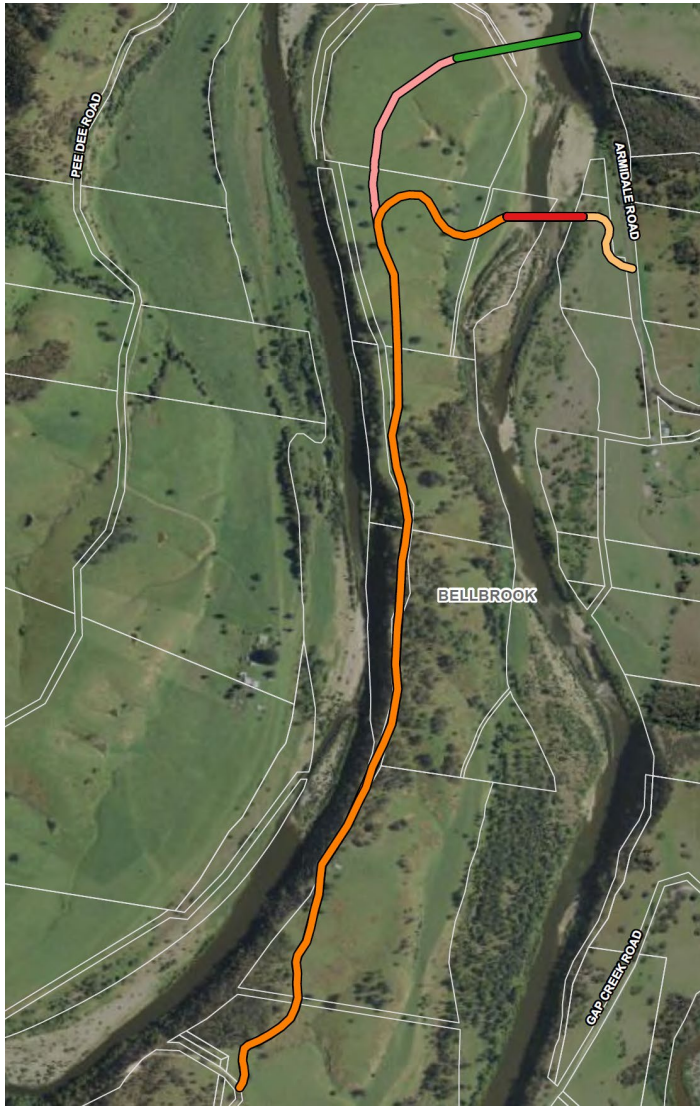
Benefits:

- Existing road would be utilised to reach the northern side of the river
- Route uses shorter connecting roads

Disadvantages:

- Gap Creek Road has poor overall alignment with multiple gully crossings.
- Likely the road passes through an area of high land slip probability.
- Steep grades on the Eastern Side of the bridge crossing site
- Longest bridge length
- Highest estimated direct cost

Long Term Route – Kempsey Armidale Road



There are two possible crossing points:

(1) Kempsey – Armidale Road Optimal Alignment (Bottom)

Viability Ranking: High

Total Cost: **\$8,878,000**

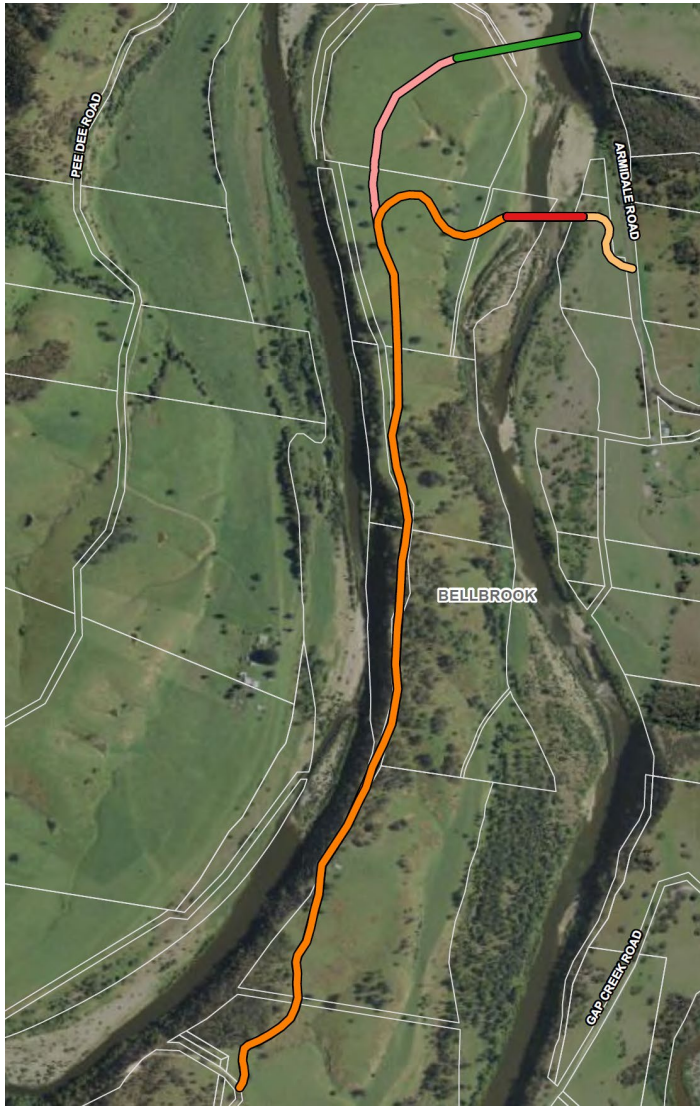
Advantages:

- Access directly off Kempsey-Armidale road
- Able to build lower-level bridge with adequate construction space
- Acceptable grades
- Road design can use optimal horizontal and vertical alignments
- Route will have similar travel time to that of the original Toose Road
- Estimated to have lowest direct cost

Disadvantages:

- Route not located within existing road corridor
- Significant property acquisition or land use agreements required

Long Term Route – Kempsey Armidale Road



(2) Kempsey – Armidale Road Over-Height Alignment (Top)

Viability Ranking: Medium

Total Cost: **\$12,765,000**

Advantages:

- Higher Flood Immunity Option
- Access directly off Kempsey-Armidale road
- Acceptable grades along southern connection
- Road design can use optimal horizontal and vertical alignments
- Route will have similar travel time to that of the original Toose Road

Disadvantages:

- Route not located within existing road corridor
- Significant property acquisition or land use agreements required

Long Term Route – Pee Dee Road



Viability Ranking: Medium

Estimated Cost: **\$13,324,000**

Advantages:

- Existing road can be utilised for part of the approach to the northern side of the river
- Pee Dee Road connects to a section of Kempsey Armidale road scheduled for upgrade that would provide better amenity to users
- Short connection length required on Southern side

Disadvantages:

- Existing intersection with Kempsey-Armidale road has poor geometry and may present safety issues
- There are steep riverbanks at proposed bridge location
- The existing alignment of Pee Dee Road does not extend to the northern side of the river and over 4.6km of additional road would need to be constructed to reach a suitable bridge location
- From the end of the current length of Pee Dee Road, property acquisition or land use agreements would be required to build the remainder of the road
- There would be an Increased travel time for residents

Long Term Route – Towal Creek Road



Viability Ranking: High

Estimated Cost: **\$11,257,000**

Advantages:

- Significant length of Towal Creek Road is in good condition and would not require upgrading
- Northern river bank is easily accessible with adequate room for site sheds and storage
- Road would be within existing road corridor
- Southern side appeared easily accessible in low flows if historical ford still exists

Disadvantages:

- Some minor upgrades to Towal creek road required
- Would need to construct new section of road on northern river flat
- Construct of a new section of road on southern river flat would be required.
- Land acquisition or property use agreements required
- The southern section of the road requires a crossing of Running Creek
- Route passes close to existing homestead
- Route appears to run along property owner's private air strip
- Longest overall route for residents leading to increased travel time

Long Term Route: Wilsons - Jimmy Road



Viability Rating: Low

Estimated Cost: **\$10,111,000**

Advantages:

- Closest route to existing Toose Road alignment
- No bridge required

Disadvantages:

- Steep grades in excess of 20%
- This is a greenfield site through largely undisturbed forest, high levels of disturbance and ecosystem removal would be required.
- High potential for environmental constraints
- Difficult to quantify costs due to extensive land clearing and purchasing of property
- Potential for landslip risks requiring prevention along the alignment given some lengths require hillside cutting

Questions?

