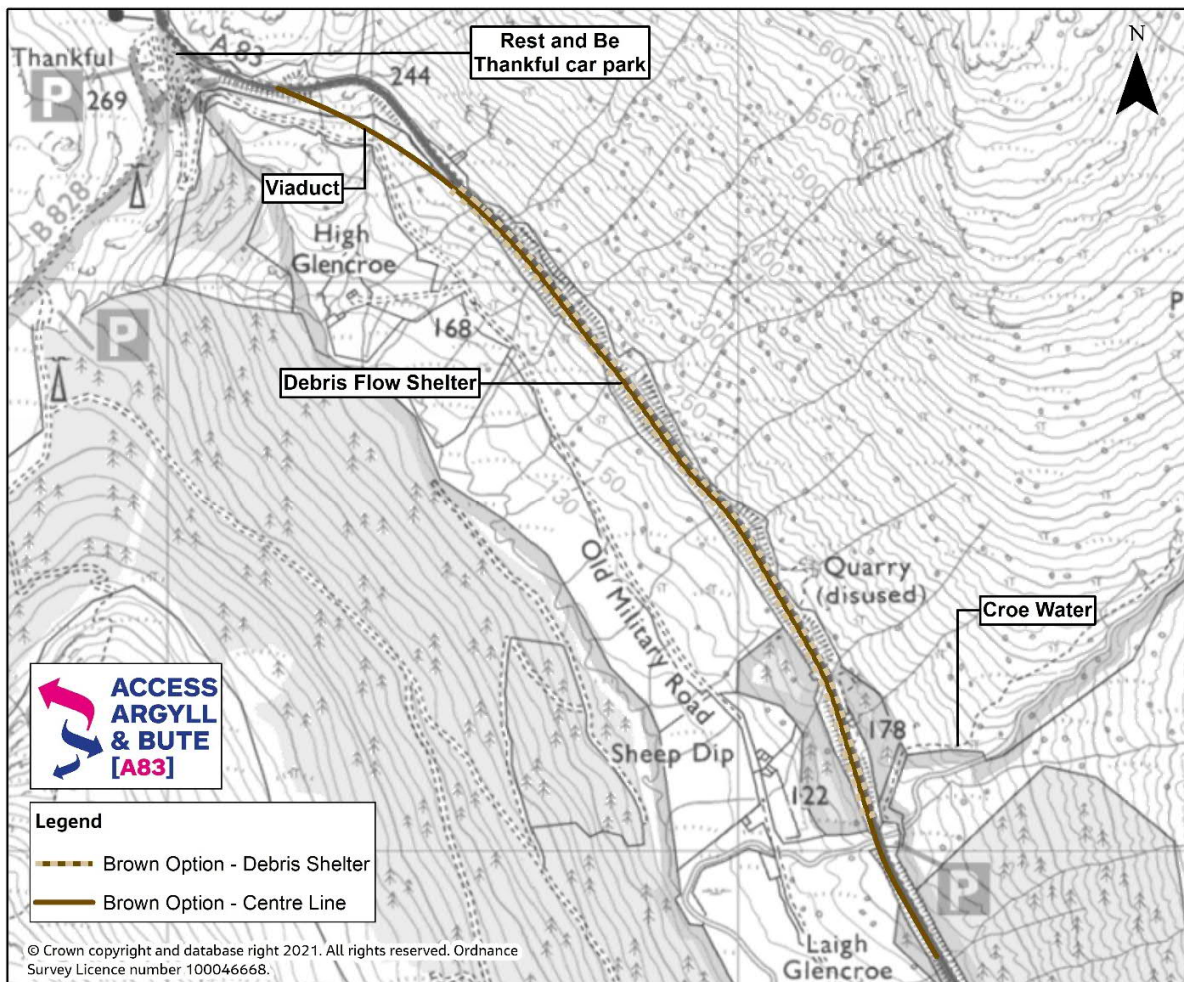


Brown Possible Route Option (Debris Flow Shelter)



The Brown route option closely follows the alignment of the existing A83 Trunk Road from the Croe Water heading north-west to the Rest and Be Thankful car park.

This possible route option would involve the construction of a debris flow shelter over a length of approximately 1.3km to protect the road and road users in the event of future landslide and/or debris flow events. Debris flow shelters are structures that would form canopies over the road to protect it from any debris from the slopes above. A debris flow shelter along the existing A83 Trunk Road as proposed would also have to be designed and built to withstand potential impacts from large boulders from above. These structures are constructed to allow any future landslides or debris flows to pass over the top of the structure and continue downhill without disrupting the road or traffic below. Water would be carried by pre-formed channels crossing the top of the structure, enabling water to continue to flow downhill.

These structures could be built over the existing road. However, the road would need to be widened to accommodate the debris flow shelter and maintain the required road width. This would present considerable challenges in being able to keep the A83 Trunk Road open to traffic for the duration of the construction works.

A viaduct approximately 0.3km long would be considered where the debris shelter ends to improve the road alignment on the approach to the Rest and Be Thankful car park. The viaduct piers would require deflector structures to afford protection from any future landslides or debris flows in that area.

Advantages

- Affords protection of the trunk road from up-slope landslide and debris flow hazard.
- Fewer potential environmental impacts compared to the other route options.
- As the option is predominantly online there is potentially a reduced need to acquire land from third parties.

Disadvantages

- Construction works would be within the zone of highest landslide/debris flow hazard susceptibility requiring careful construction planning and implementation.
- On-line construction would be disruptive to traffic on the A83 requiring long periods of traffic management.
- Construction on steep sections of hillside will present challenges for construction planning and implementation.
- Increased geotechnical and structural design requirements to ensure the debris flow shelter adequately protects against boulder rock falls, gravel, slurry and water movements.
- Increased design requirements relating to accommodating abnormal loads and non-motorised users within the debris flow shelter.
- Future maintenance requirements for the debris shelter.