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# New Beaumont Bridge: Outline of Works

WSP Ltd on Behalf of Waka Kotahi NZ Transport Agency

September 2020

VERSION 1





## Location

The project is in the small township of Beaumont on SH8 between Lawrence and Raes Junction. Beaumont straddles both sides of the Clutha River Mata-Au. The main land of the surrounding land is agriculture, rural residential and residential activity. The project site will extend from the western and eastern approaches of the existing single lane Beaumont Bridge across the Clutha River Mata-Au.

## General Description of Works

The project involves building a new two-lane bridge and its approaches, local road improvements, road closures and access changes to property.

SH8 will be realigned to meet highway geometric requirements and foundation considerations, with a central bridge pier positioned on a prominent rock outcrop within the main river channel. On the eastern bridge approach with SH8 rising gently from the SH8 intersection at Stonewall Street. A retaining wall will be built adjacent to Weardale Street to raise SH8. More details are in Appendix 4. At the corner of Weardale Street the highway alignment will be about 3.0 metres above the existing ground level and 3.7 metres at Rongahere Road.

There will be links to the Clutha Gold Trail with these travelling and reconnect this to travel below the eastern side of the new bridge. The current Beaumont Bridge will be repurposed as a route for pedestrians and cyclists over the river with a pathway passing below the western side of the new bridge and link to the Beaumont Hotel.

The new bridge will have a slight uphill slope from east to west. The deck is approximately 12m above the average river level. This varies the day as water is spilled from the Roxburgh Hydro power station about 30km upstream.

## Safety

Safety is behind plans to close the existing SH8 intersections with:

- Westferry Street,
- Rongahere Road
- Weardale Street

Ample provide vehicle turn around areas will be provided at these locations.

Adjacent to the Beaumont Hotel, the highway surface will be made level with the existing pavement. The east to west rise in elevation is due to the topography at the site and supports our proposed construction approach for the new bridge, to build in the necessary freeboard required during major floods.

The Beaumont Hotel and camping ground access will be reconfigured to provide greater safety with an access road proposed to link the Beaumont Hotel car park then on to Dee Street. Highway access off the highway will be single entry only to the hotel and camping ground. Hotel car park upgrades are also planned.

## Specific Details of Proposed Works

These are appended to this report - below is a general overview:

### Bridge specifications

- A five span 195m long curved bridge supported by four – 1.5m deep steel girders, with 40mm thick flanges and web 16mm thick.
- Spans will be of varying lengths to suit the best placement of piers
- Four bridge piers and piles will be installed within the river bed. The piers will be 1.7m in diameter but transition into 2.1m diameter piles, each socketed up to 13m into the bedrock.

### Safety

- Fit road safety barriers on the new bridge approaches.
- A 2m wide shared path on the downstream side of the bridge with a concrete barrier separating path users from the bridge traffic lanes.
- Fitting new safety barriers on the Low Burn Bridge near the approach to the Beaumont Bridge.

### Earthworks

- Excavation for the eastern and western bridges approaches.
- This involves topsoil stripping, bulk fill for the embankments and excavation, including some excavation of contaminated land.
- Approximately 50,000m<sup>3</sup> of earthworks made up of about 15,000m<sup>3</sup> of cut to fill and 30,000m<sup>3</sup> of imported fill.
- A further 15,000 m<sup>3</sup> of road metals for road pavements.
- Rock rip-rap protection between the abutments and the Clutha River on both the western and eastern approaches.
- A retaining wall constructed as a gabion wall (54m long x 1m high) on the eastern bridge approach.

### Paths

- Pedestrian and cycleway facilities including a 2.5m wide unsealed shared path connecting to the existing Clutha Gold Trail on the eastern side of the river.
- For maintenance reasons the section under the new bridge will be concreted.
- A 2.5m wide concrete shared path on the western bank of the river and providing a new connection to the existing bridge and Beaumont Hotel and camping ground.

### Other work

- Repurpose the existing Beaumont Bridge for pedestrian and cycle use.
- Creation of a safe stopping area for motor vehicles, pedestrians and cyclists on the eastern river bank of the river, adjacent the existing bridge
- The area will include picnic tables, bench seats and cycle leaners to the south of the proposed parking area. Nearly 4,000 will be planted within this section
- Landscaping will also be carried out along road edges of the highway realignment on eastern and western bridges approaches.
- These will be landscaped filled embankments. Proposed landscape plans are attached as Appendix 5.

# Appendix 1

## CIVIL LAYOUT PLANS

# Appendix 2

## TYPICAL CROSS- SECTIONS

# Appendix 3

## ROAD SAFETY BARRIERS

# Appendix 4

## RETAINING WALL STRUCTURE



# Appendix 5

## LANDSCAPING

# Appendix 6

## LOW BURN BRIDGE BARRIER UPGRADE

