

Queenstown Lakes District Council
22 June 2018

Department: Property & Infrastructure

Meeting: Glenorchy Community Association

Meeting Date: 5 July 2018

Agenda Item: Bennetts Bluff Alternative Carpark and Viewing Platform – Design Options

Design Options

There are three options at the preferred site which is located approximately 400m from the existing Bennetts Bluff lookout towards Queenstown:

- (1) Two-way access at existing 4wd track (Option 1 as Appendix 1).
- (2) Two-way access 150m South of existing 4wd track entrance.
- (3) Construct both accesses with South access to function as one-way entry and existing 4wd track to function as one-way exit.

If the slow vehicle bay is to remain at this location, any of these options may be feasible provided right turn in and out of the access is banned, as the sight distance issues at the northern access do not affect left turn in or left turn out. If the slow vehicle bay is removed and right turns are allowed, then the design engineer recommends (2).

There are six options if each of the three options are considered, with either slow vehicle bay remaining or being removed, however the design engineer recommends the following options are reviewed further:

Option 2 – Scenario B (Appendix 2)

Two-way access 150m South of existing 4wd track entrance with better sight distance – **slow vehicle lane is removed.**

Option 3 – Scenario C (Appendix 3)

Construct both accesses with South access to function as one-way entry and existing 4wd track to function as one-way exit – **slow vehicle lane remains.**

If Option 2 is progressed then it is QLDC's preference to remove the slow vehicle lane due to the potential safety issues. There is potentially an option for a new slow vehicle lane in the decreasing direction (Glenorchy to Queenstown), as identified and proposed within the Glenorchy Road Corridor Assessment undertaken in 2017 (Appendix 4).

In addition to the above, a separate meeting has been held between QLDC and DoC (Land Owner) in March 2018 to review the concept plans and the proposed options above. Discussions were had around planning, design and maintenance considerations and DoC advised of their interest in the project suggesting a joint venture with QLDC.

Prepared by:



Matthew Taylor
Project Manager

22/06/2018

Reviewed and Authorised by:



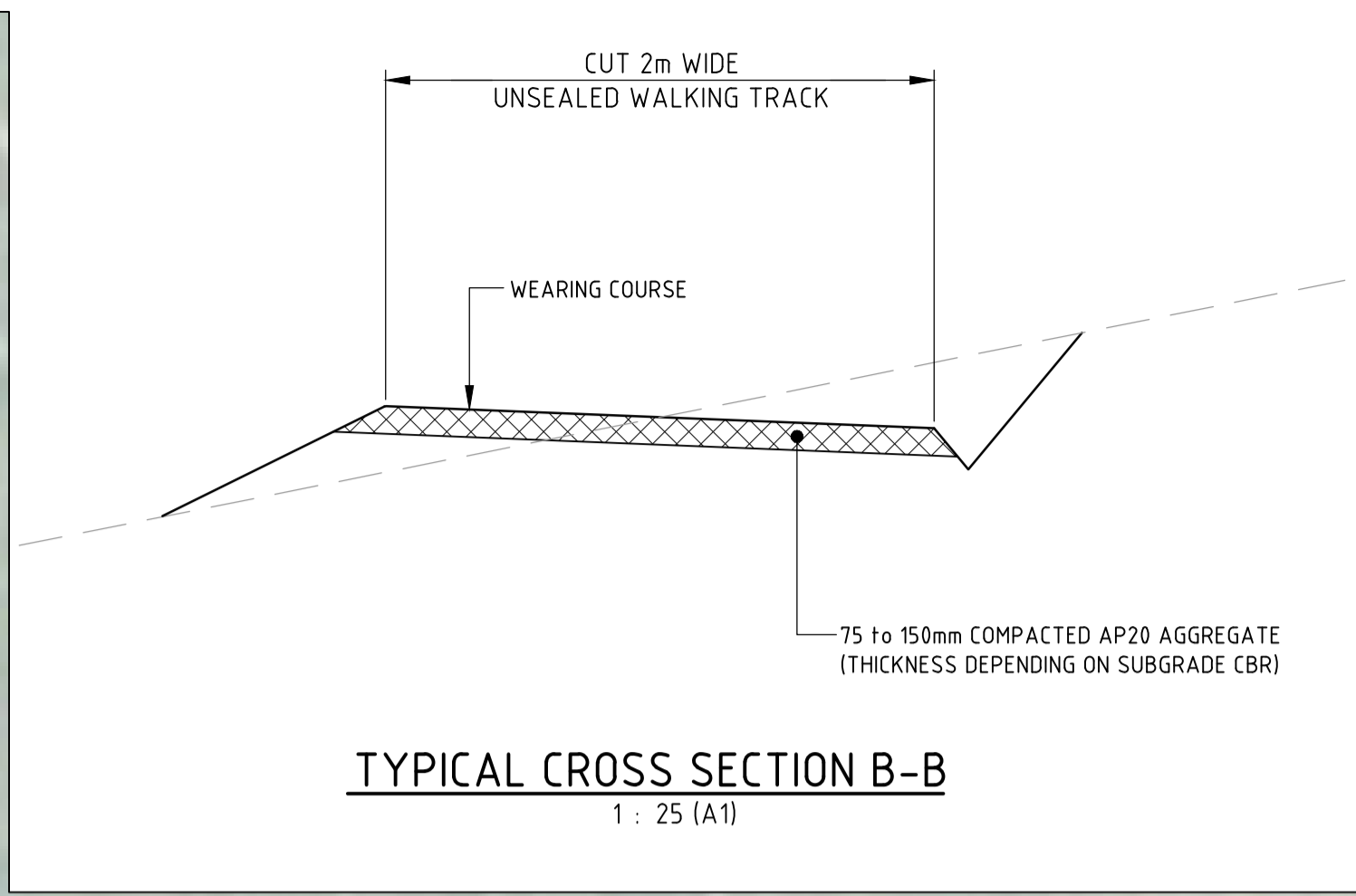
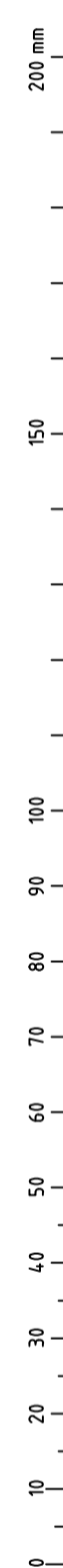
Gareth Noble
Programme Director

22/06/2018

Appendix 1
Option 1

ORIGINAL SIZE A1

DO NOT SCALE - IF IN DOUBT, ASK



THIS DRAWING IS NOT INTENDED FOR TENDER OR CONSTRUCTION. IT IS A CONCEPT DRAWING FOR DISCUSSION PURPOSES ONLY.

NOT FOR CONSTRUCTION

REV	REVISIONS	DRN	CHK	APP	DATE

SURVEYED		
DESIGNED	Ben Greenwood	10/08/2017
DRAWN	Ben Greenwood	10/08/2017
CAD REVIEW		
DESIGN CHECK	Iain Banks	10/08/2017
DESIGN REVIEW	Iain Banks	10/08/2017
APPROVED	Iain Banks	10/08/2017



Client: BENNETT'S BLUFF CARPARK CONCEPT SKETCH

NEW CARPARK - ALTERNATIVE OPTION PLAN AND TYPICAL CROSS SECTION

Status Stamp	WORKING PLOT
Date Stamp	10/08/2017
Scales	1:500 (A1) 1:1000 (A3)
Drawing No.	80508514-0362-C004
Rev.	A

Appendix 2

Option 2 - Scenario B: Two-way access 150m South of existing 4wd track entrance with better sight distance – slow vehicle bay is removed.

Pros

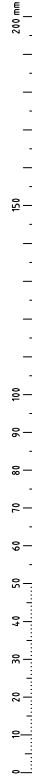
- No apparent geotechnical risks (when compared to existing Bennetts Bluff pull off area);
- Parking is off road so fewer points of conflict where serious accidents could occur (when compared to existing Bennetts Bluff pull off area); and
- Sight distance is better than the alternative as per existing 4WD track which has poor sight distance in the Glenorchy direction, (however it does still not meet the desirable minimum SISD of 234m as per Austroads or QLDC's standard of 250m). Existing 4WD track has 60m sight distance in GY direction and 140m in QTN direction. New proposed access south of here has 200m sight distance in GY direction and 150m in QTN direction. While the proposed new access does not meet the sight distance standards it is worth considering that it is a) the best location in terms of sight distance for both directions for this viewing point option and b) due to mountainous terrain most accesses along Glenorchy Queenstown Road and even intersections (i.e. Fernhill Rd and Moke Lake Rd) do not meet the sight distance requirements.

Cons

- The speed environment is higher (when compared to existing Bennetts Bluff pull off area) so although accidents are expected to be less frequent they could be more severe; and
- Closing of the slow vehicle lane.



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ORIGINAL SIZE A1



AREA APPROX. 1000m² POTENTIALLY AVAILABLE FOR CAR PARKING (DETAILS TO BE CONFIRMED) ELEVATION 437m

NEW VIEWING AREA (DETAILS TO BE CONFIRMED) ELEVATION 455m

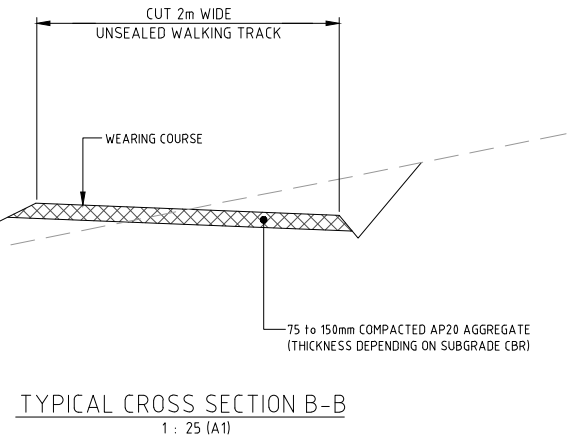
FORM NEW 150m LONG 2m WIDE 'SHORT WALK' TRACK TO NZS HB 8630-2004 STANDARD

TYPICAL CROSS SECTION B-B

FORM NEW 70m LONG 4m WIDE UNSEALED ACCESS ROAD (REF TYP. SECTION) MAJOR CUTTING REQUIRED

RIGHT TURN OUT TO BE CLOSED DUE TO SAFETY RISK OF VEHICLES PULLING OUT NEAR THE END OF THE SLOW VEHICLE BAY
NOTE: IF SLOW VEHICLE BAY IS REMOVED THIS ACCESS COULD BECOME ENTRY/EXIT AND OTHER ACCESS NOT REQUIRED

LEFT IN ONLY



TO GLENORCHY

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NOT FOR CONSTRUCTION

REV	REVISIONS	DRN	CHK	APP	DATE

SURVEYED		
DESIGNED	Ben Greenwood	12/04/2018
DRAWN	Ben Greenwood	12/04/2018
CAD REVIEW		
DESIGN CHECK		
DESIGN REVIEW		
APPROVED		
PROF REGISTRATION		



Client: BENNETT'S BLUFF CARPARK CONCEPT SKETCH

NEW CARPARK - ALTERNATIVE OPTION '2A'
SOUTH ACCESS ONLY - PLAN AND TYPICAL CROSS SECTION

Status Stamp	WORKING PLOT
Date Stamp	12/04/2018
Scales	1:500 (A1) 1:1000 (A3)
Drawing No.	80508514-0362-C006
Rev.	A

Appendix 3

Option 3 - Scenario C: Construct both accesses with South access to function as one-way entry and existing 4wd track to function as one-way exit – slow vehicle bay remains.

Pros

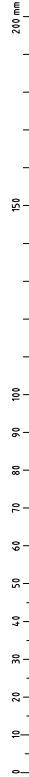
- No apparent geotechnical risks (when compared to existing Bennetts Bluff pull off area);
- Parking is off road so fewer points of conflict where serious accidents could occur (when compared to existing Bennetts Bluff pull off area);
- Sight distance is better than the alternative as per existing 4WD track which has poor sight distance in the Glenorchy direction, (however it is still not likely to meet desirable minimum SISD of 234m as per Austroads); and
- Benefits of 1 way in and 1 way out is more parking layout options, better flow and potentially easier to gain additional parking spaces, for example angle parking on entry and exit roads.

Cons

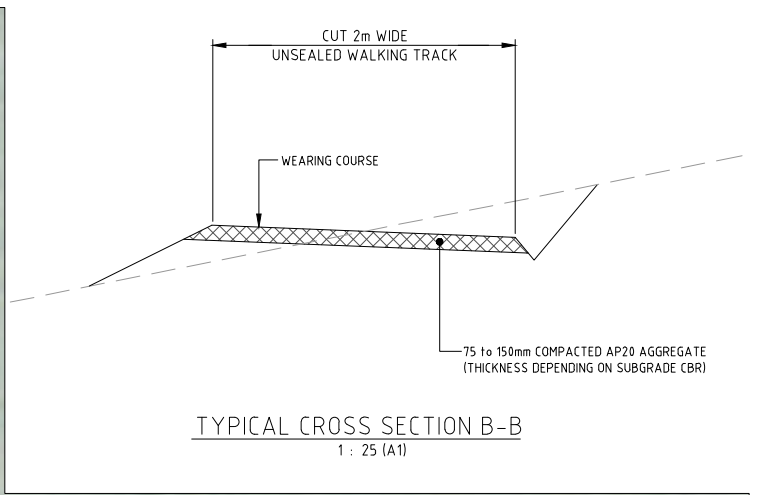
- The speed environment is higher (when compared to existing Bennetts Bluff pull off area) so although accidents are expected to be less frequent they could be more severe;
- Safety issues associated with having an access onto a slow vehicle bay and near the diverge taper of a slow vehicle bay remain (mitigated to some extent by banning right turns);
- Having two accesses introduces an additional point of conflict for vehicles travelling on Glenorchy Queenstown Road;
- Maintenance of safe hit posts will be an ongoing cost;
- Higher construction cost to form two accesses;
- Some road users and in particular tourists may be confused by the layout and try to turn right in or out even though this manoeuvre is banned using road markings, signage and safe hit posts. Some road users may also try to drive in the exit or out the entry; and
- If the car park is full, road users may perform dangerous manoeuvres to re-enter the car park and continue trying to find a parking space.



DO NOT SCALE - IF IN DOUBT, ASK



ORIGINAL SIZE A1



NOT FOR CONSTRUCTION

REV	REVISIONS	DRN	CHK	APP	DATE

SURVEYED	DESIGNED	DRAWN	CAD REVIEW	DESIGN CHECK	DESIGN REVIEW	APPROVED
	Ben Greenwood	Ben Greenwood		Iain Banks	Iain Banks	Iain Banks



Client: BENNETT'S BLUFF CARPARK CONCEPT SKETCH

NEW CARPARK - ALTERNATIVE OPTION '2'
PLAN AND TYPICAL CROSS SECTION

Status Stamp	WORKING PLOT
Date Stamp	16/03/2018
Scales	1:500 (A1) 1:1000 (A3)
Drawing No.	80508514-0362-C005
Rev.	A

Appendix 4
Proposed Slow Vehicle Lane Location



The proposed slow vehicle lane locations on Queenstown Glenorchy Road and Glenorchy Paradise Road are shown in the table.

GLENORCHY QUEENSTOWN ROAD						
Start	End	Length	AADT	Direction	Estimate	Priority
16400	16660	260	872	Decreasing	\$1,080,000 (\$1,404,000 including 30% Contingency)	1
19360	20550	1190	872	Both	\$3,600,000 (\$4,680,000 including 30% Contingency)	3
40700	41290	590	650	Both	\$2,160,000 (\$2,808,000 including 30% Contingency)	2
43000	43450	450	650	Both	\$2,016,000 (\$2,620,800 including 30% Contingency)	4
Glenorchy Paradise Road						
Start	End	Length	AADT	Direction	Estimate	Priority
1370	1970	600	572	Increasing	\$1,152,000 (\$1,497,600 including 30% Contingency)	5

Prioritisation

The slow vehicle bay on the Queenstown to Glenorchy Road were prioritised based on the AADT, and the proximity of the existing slow vehicle bays.

- a. The slow vehicle bay with the highest priority is at RP 16660 in the decreasing direction, there is currently only one slow vehicle bay in the decreasing direction at RP 22690 providing a slow vehicle bay in the decreasing direction will reduce driver frustration.
- b. The slow vehicle bay at 41.290 in both directions is priority two as the location is more than 5km from the existing lanes in both directions and would provide passing opportunity close to Glenorchy.
- c. The slow vehicle bay at 20.550 in both directions is priority three due to the proximity to the existing slow vehicle bays which is less than 5km in both directions.
- d. The slow vehicle bay at 43.000 in both directions is priority four due to the proximity to the proposed slow vehicle bay at 41.290.
- e. There are currently no slow vehicle bays on Glenorchy Paradise Road. The proposed slow vehicle lane at RP 1370 in increasing direction will reduce driver frustration. The traffic volume is relatively low.

11.3.1. Site 19: 16.400 to 16.660 Passing Opportunity

The road is relatively flat and straight and would provide the perfect passing opportunity for decreasing direction traffic. The slow vehicle bay will reduce driver frustration.

11.3.1.1. Option

Construction of a slow vehicle passing bay for 260m on the RHS.

Estimate

PROFESSIONAL FEES (NOT INCLUDING MSQA)	POTENTIAL PHYSICAL WORKS COST ESTIMATE	TOTAL COST ESTIMATE
\$105,000	\$975,000	\$1,080,000 (\$1,404,000 including 30% Contingency)



Photo 121: Proposed slow vehicle bay



Photo 122: Proposed slow vehicle bay