



## Filenote

Job: 13145  
To: Andrew Cavill  
From: Chris Rossiter  
Date: 4 May 2015  
Subject: **Arrowtown –Lakes Hayes Road Intersection Design**

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### 1. Design Notes

The existing speed limit on the site frontage to Arrowtown-Lake Hayes Road is 100km/h but this is expected to be reduced to 80km/h. On this basis, a design speed of 90km/h has been adopted and defines the following parameters.

- The comfortable deceleration distance for 90km/h is 125m.
- A right turn bay storage length of 20m is proposed.
- At 90km/h, the recommended taper length is 30m.
- A right turn bay width of 3.5m is proposed
- A left turn lane width of 3m is proposed.

The concept sketch shows the access road centre line 100m north of the southern property boundary. Since the Arrowtown-Lake Hayes Road has a straight alignment, the basic design can be moved to the north or south without affecting the overall design.

There are power poles in the verge on the western side of the road. With the carriageway widening required to accommodate the right turn bay and left turn deceleration lane, these will be very close to the traffic lane and represent a safety hazard. It is recommended that they are relocated closer to the road reserve boundary.

There is a 1m deep drainage ditch along the eastern side of Arrow-Lake Hayes Road. If the existing alignment of the southbound through lane can be retained, then there would be no need to make alterations to the ditch. Since the existing road centre line appears to be offset to the east by 1.0-1.5m, there may be sufficient space within the road reserve to construct the left turn lane and shoulder without moving the southbound lane.

A second option would be to pipe about 200m of the drain so that the southbound carriageway can be moved east by 1.5-2.0m. Piping the drain will eliminate a potential safety hazard and ensure that adequate space exists for the left turn lane. This is the option shown on the attached sketch and does not require any new road reserve.