Summary

The purpose of this document is to provide additional information relevant to DA 23-2747 – *Reuse of recycled water from the sewage treatment plant for toilet flushing within the Visitor Centre and for the snowmaking system*. The below additional information relates to a proposal for Selwyn Snow Resort to extract potable water from Three-Mile Dam and deliver it to the Water Tank above Staff Housing by utilising two existing water lines (one from Three Mile Dam to the Quarry Dam, and the second from the Quarry Dam to the Water Tank). While all R&M work on existing infrastructure will be deal with via approvals considered by NPWS, this approval sought as part of DA 23-2747 is for a new connecting water pipe between the two existing lines to allow water to flow from Three-Mile, to the water tank, without going into and out of the quarry.

The ultimate result will provide a more than sufficient potable water source for the Resort, as well as ensuring that Selwyn will not, and cannot, extract potable water from a location potentially subject to run-off from recycled water used in snowmaking.

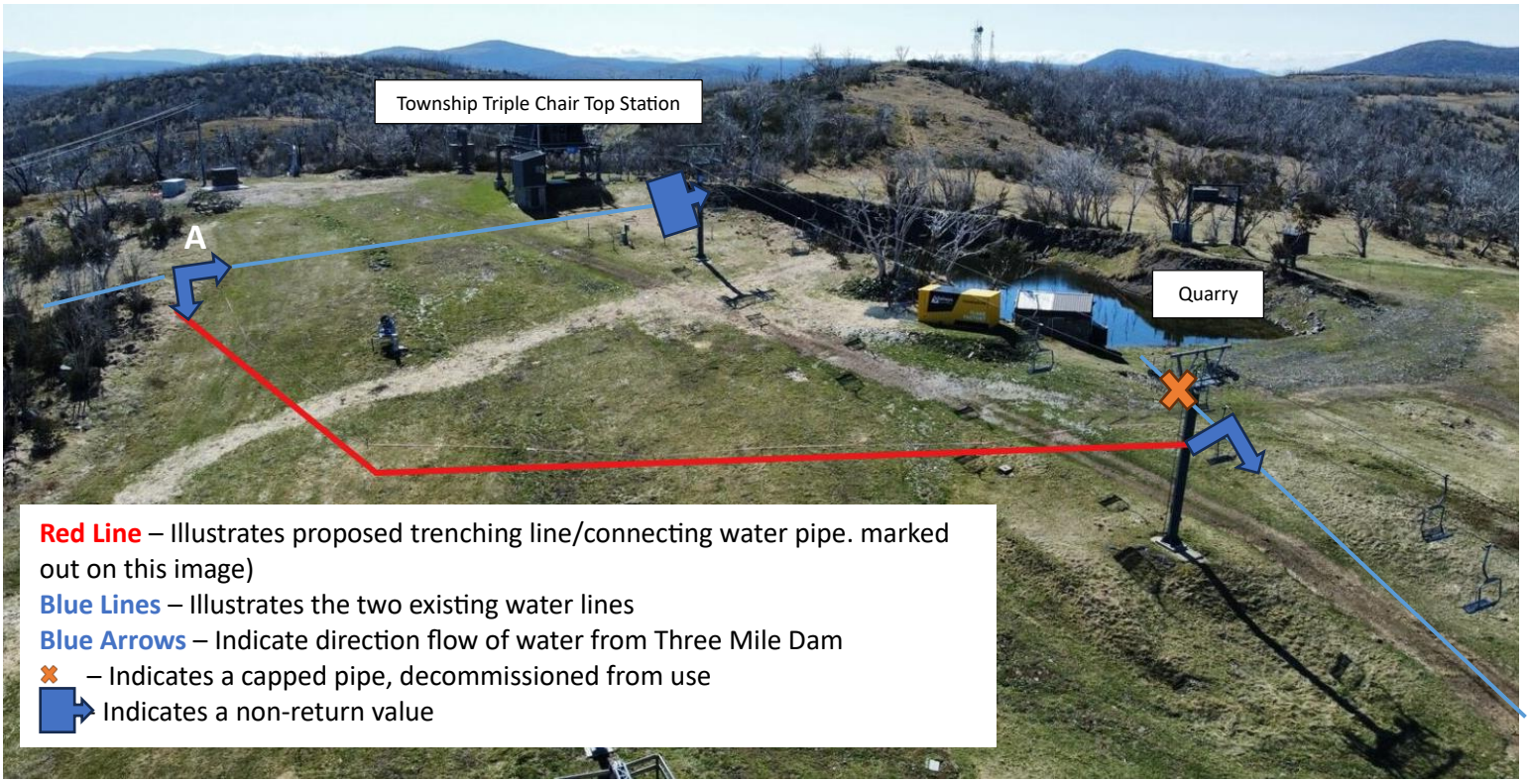
Additional Application Information

Selwyn Snow Resort proposes to dig a 300mm deep x 450mm wide 114m long trench along a previously disturbed ski slope at Selwyn Snow Resort. As discussed the purpose of the trench is to house a new water pipe that will link two existing water pipes. Refer to *Image 1* below, which illustrates the proposed trenching line.

A switching valve will be installed in the location "**A**". At this point water would be able to be directed along the existing pipe into the quarry, or diverted down the new pipe (red line) over to the other existing line, which will be gravity fed from this point back down to Powerline and back up the hill into the Water Tank above Staff Housing.

It is noted that the entry pipe into the quarry is located at roughly the highest point of the quarry just under the Township top station, as such there is no risk that water already in the quarry could flow back into this pipe, even after the dam wall is raised per existing approvals. To further ensure this is not possible, a non-return value will also be fitted.

Image *1 – Proposed Trenching Line*



The proposed convex alignment of the trench down and across the hill has been selected to avoid as much as possible existing underground services in the area.

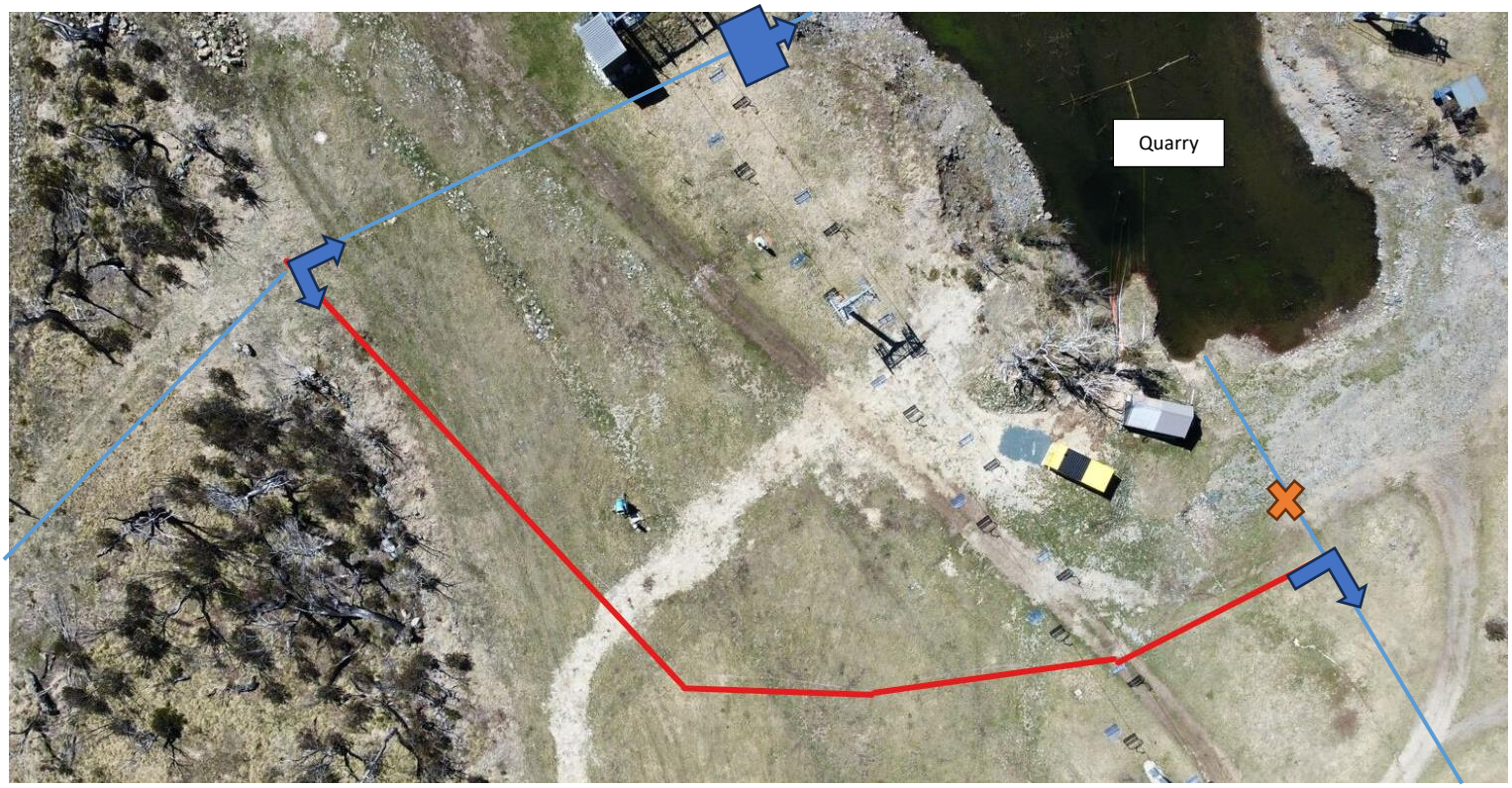
The proposed trenching line runs along a previously disturbed ski slope, and crosses the following services:

- Recycled Water Pipeline
- Power Cable
- Lift Safety Circuit

Selwyn Snow Resort proposes to pothole the disturbed land by hand when crossing these services to ensure no disturbance or damage is caused to these existing services. Refer to *Image 2* below, which depicts an aerial view of the proposed trenching line.

It is noted that while a trenched water pipe is the ultimate solution, the same outcome could be achieved with an above ground hose laid between the two pipes and connecting into an existing hydrant. This could also act as a backup should there be a blockage or issue in the new connecting pipe.

Image 2 – Proposed Trenching Line Aerial View



Once water exits the new connecting pipe, (NOTE: this line will be fully cut and capped off at the orange "X" such that no water could enter or exit from the quarry via this pipe), Water will flow down the existing pipe from the quarry (which is the opposite direction to the way water used to flow in this pipe), down to Powerline and back up to the Water Tank, with no opportunity or ability to exit the pipe at Powerline.

The below images show the existing and proposed arrangement at the Powerline Pump shed.

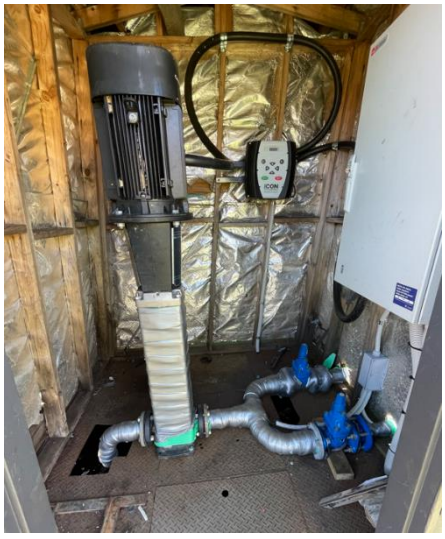


Figure 1 (existing configuration): Water was sucked out of the well below the shed into one of two pipes (controlled by the blue values). Water was then either pumped up pipe "X" to the quarry, or pipe "Y" which looped around the pump shed and back up the hill to the water tank.

Figure 2: The existing pipe X will be plumbed into the existing pipe "Y", as shown by the red connection in Figure 2. This will be done in the disturbed area shown next to the pump shed.

As such, there will no longer be water moving in or out of this pump shed via these pipes.

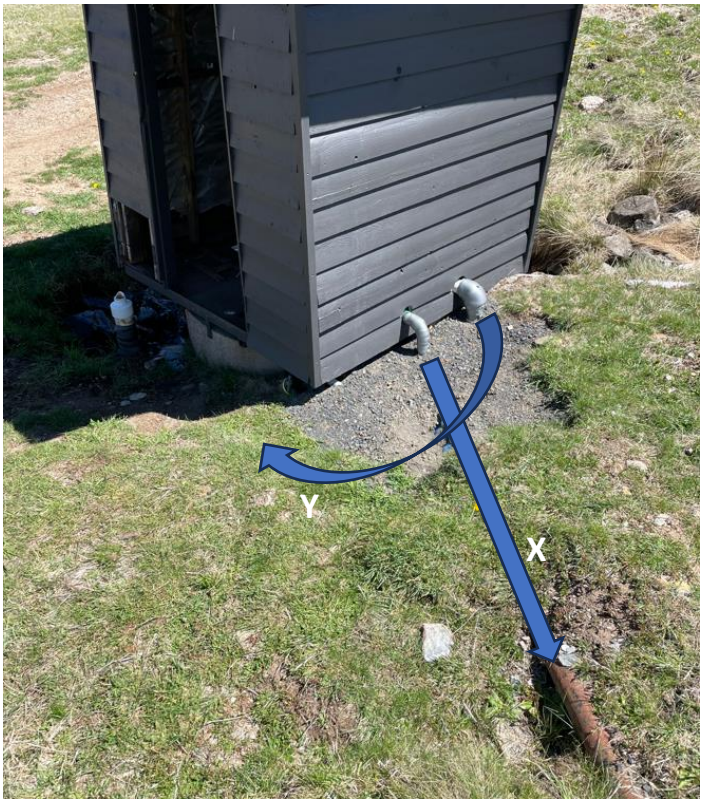


Figure 1: Existing Configuration

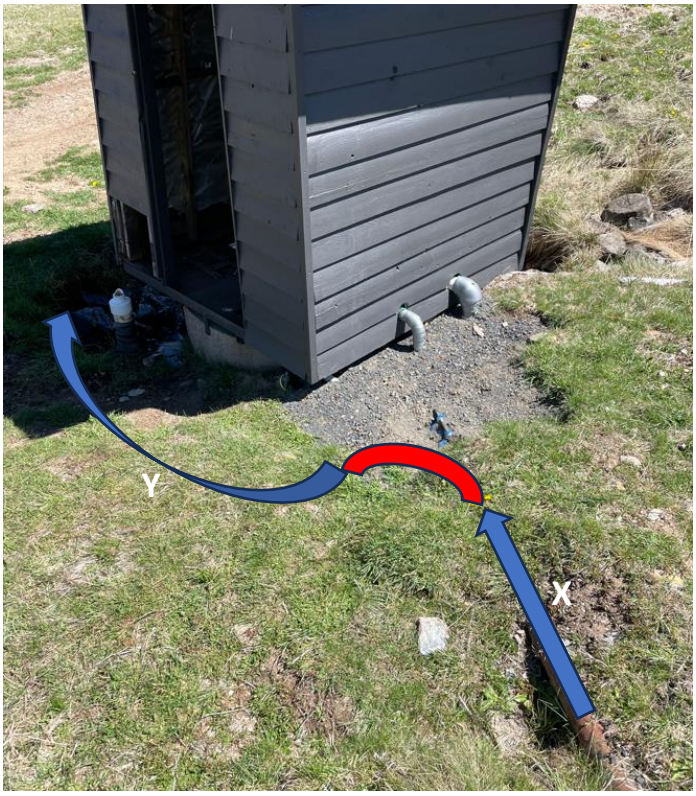


Figure 2: New Configuration

The ability to pump potable water from Three-Mile Dam to the Water Tank via this new proposed trenching line will allow Selwyn Snow Resort to pump potable water from Three-Mile Dam instead of Clear Creek (current potable water source). The current pump at Powerline Pump Shed (shown on the prior page) will be relocated to Bullocks Interchange to replace the damaged pump at Bullocks Interchange that was destroyed in the 2020 bushfire event. Therefore, there will be no pump at the Powerline Pump Shed and it will not be possible to extract water from this location moving forward.

Refer *Annexure 1* below for a diagram of the full system.

Metrics for Water Supply

The pump that will be moved from Powerline Pump Shed over to Bullocks Interchange operates at 30,000 litres per hour. The Selwyn water tank is 268,000 litres, as such it can be filled in 8.9 hours. Based on existing experience at Selwyn, in the

busiest periods (i.e. July school holidays), it would be possible to drain the 268,000L tank in about 3 days. As such there is more than sufficient capacity to maintain Selwyn's potable water supply, with redundant capacity able to be used to add water to the quarry dam.

In terms of water for snowmaking, primary extraction will continue to be via the Racecourse Pump, which is capable of running at 90,000 litres an hour.

Using this pump alone, it would be possible to fill the 2.5 megalitre Quarry in about 27.8 hours, this is before allowing for any additional supply from Three Mile or recycled water from the Selwyn STP.

Biodiversity

The proposed trenching line is not within a marked biodiverse environment per The NSW National Parks and Wildlife Service (NPWS) Biodiversity Values Map Review 2022. In addition, when trenching works are complete, the proposed trenching line will be rehabilitated by Selwyn Snow Resort in line with previous rehabilitation consent conditions detailed in the approved SSR Services CRA (signed 8/2/2022) for the same disturbed trenching zone.

Annexure 1: Full System

Blue Line: Existing pipelines
Red Line: Proposed connecting pipe
Red Triangle: Connecting plumbing
Blue Circle: Water Tank