HOTHAM
Mount Hotham Resort Management Board
PO Box 188 Bright 3741 Victoria Australia
Phone 03 5759 3550 - Fax 03 5759 3693
Email mhar@mthotham.com.au - Website www.mthotham.com.au

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Edelweiss Ski Club Septic Tank and Effluent Disposal System Inspection and Condition Report.

Prepared by Mr. Michael Cherry. Registered Plumber 22014.

Following my attendance at Edelweiss Ski Club on Thursday 01/03/2018, accompanied by Mr. Tom Pelly, I provide the following.

The tank was observed to be rectangular in shape with segmented concrete lids and finished internally with sand/cement render, suggesting that the tank was constructed on-site most likely using brickwork, which was common for septic tanks that would have been constructed 40 to 50 years ago.
The inlet pipe is incorrectly installed, as it discharges on-grade, into the tank, rather than through an extended square junction which directs the influent down towards the bottom of the tank.
The outlet pipe is an earthenware extended square junction (27A), that would normally have the extended leg submerged below the sludge blanket, however it was observed that in fact the long leg of this outlet pipe was exposed and the level of effluent within the tank was level with the bottom of the pipe.

Either the volume of influent, in the intervening period of the last pump-out of the tank, up until now has been insufficient to raise the level within the tank to the outlet level of the tank, or there is a slow leak out of the tank.
The information provided by the pump-out contractor on his previous call to empty the tank, was that the tank was all but empty.
It was observed that the tank has reached the outlet level in the recent past, as the high water mark is readily visible on the sides of the tank.
As there has probably been limited use of the facility since the conclusion of the 2017 ski season, it is probable that the tank is slowly leaking down over time, given the age of the tank and the method of construction.

The septic tank system has two main components, the tank itself and the effluent field.
The level of the inlet pipe into the tank is higher than the outlet pipe level, so that as a given volume of influent enters the tank, a similar volume of effluent is discharged out into the effluent field.

Anaerobic bacteria within the tank commence the initial treatment process of the raw sewerage and secondary treatment occurs within the effluent lines/field, by the action of aerobic bacteria within the surrounding upper sub-soil that surrounds the effluent disposal lines and sunlight acting on the effluent field.

If the contents of the tank are slowly leaking into the ground without being discharged to the effluent lines/field, this secondary treatment of the effluent is not occurring.

Effluent lines constructed in the 60's or the 70's were constructed using hexagonal earthenware "aggi" pipes that were butted together and laid in a shallow trench, surrounded by fines free aggregate. Later, 90mm slotted PVC pipe was used.
Ideally these lines are laid in a flat open area with plenty of sunlight to form an array consisting of a number of shorter lines, so as to allow better distribution of the effluent to the sub-soil across a wider area.
One long continuous trench is not desirable, as this tends to concentrate the effluent into the beginning of the trench and saturate it, leading to poor secondary treatment of the effluent.
Our observations lead us to believe that the likely line of the Edelweiss effluent trench is in the format of one long continuous trench.
Given the smaller infrequent volumes discharging from the tank it is not likely that the entire effluent line would be utilized.
Also given the age of the installation and the presence and volume of the thick vegetation above and adjacent to the effluent lines, it is most likely that the "aggi" lines will be blocked by the root mass from this vegetation, rendering them un-serviceable and unable to provide any effective secondary treatment of the effluent.

To summarise, I do not believe that the existing septic tank installation in its current state is ~~not~~ fit for purpose, in regards its ability to meet minimum standards of effluent treatment.

It is also important to mention that the kitchen sink and dishwasher discharge separately to a small domestic style concrete grease trap and then discharging directly to environment , un-treated, via a sullage/ soaker pit.

Similarly the hand wash basins are discharging directly to environment, un-treated, via a soaker pit.

M Clancy 2.03.18