

I am writing today to voice my concerns about development at Twin Lake.

We bought at Twin lake in 2009. Originally, we heard about the possible development at the Golf Course and were delighted. Then as we watched the lake recede foot by foot we began to learn and understand that we had purchased a property on a water challenged lake.

Since then, we have learned a lot. It was hard not to learn, as there has been study after study (see list below) done on Twin Lake. Thousands of dollars have been spent saying the same thing over and over again. "This area is dry and is likely at, or near its capacity, to provide water to its current residents."

I just don't get it. How many reports does one need to read before accepting the fact that Twin Lake is water challenged? Yes, the surface water goes up and down but what one does not see is that the aquifer capacity either stays the same or goes down, it does not grow in capacity! In fact, if an aquifer is drawn down to a low level the bottom of it can solidify which makes the aquifer smaller. Each time the water gets low on the surface, the aquifer beneath can shrink. Measuring water at the top of the aquifer does not indicate the capacity of the aquifer, it only indicates that it is near full capacity. As the aquifer shrinks it takes less and less water to fill it to full capacity.

It is unfortunate that the owner of Twin Lake Golf course bought this property with the intention of developing it and now he is being told by a number of studies that there is not enough water to support his plan. However, this is not a good reason to move ahead and risk losing the water supply in this area.

I have read in the Terms of Instrument Part 2. that:

The Owner covenants and agrees with the RDOS that where paragraph 4(below) of this Agreement requires proof of groundwater sustainability and availability to warrant further development, the Owner must satisfy the CAO, acting reasonably, that there is an adequate supply of groundwater to meet the anticipated water supply needs of the number and type of units the Owner proposes to construct, and for this purpose the CAO must take into account any recommendation provided by the Technical Committee, which recommendation must not be provided unless the Technical Committee has monitored, or reviewed the results of monitoring of, the water supply and use for existing occupied buildings in the development, in accordance with the monitoring and modelling methodology set out in the Terms of Reference.

4) The Owner covenants and agrees with the RDOS that no permanent building or structure, or any part thereof, including any fixed equipment, mobile home or modular home will be constructed, reconstructed, moved, extended or located on the Lands and that no building permits will be issued in respect of Phase 2 of the approved development until: a. Groundwater sustainability and availability is proven to warrant further development; and b. 36 dwelling units in Phase 1 have been constructed, issued occupancy permits have been issued for all 36 of those dwelling units.

Previously a similar covenant stated that we were to wait 10 years before Proof of water could be made. Some how this 10-year period has disappeared and just become proof of water which is easier to "prove" in wet years and we know historically we have 10 wet years and then 10 dry years. Perhaps it should read "proof of water must be found at the end of a 10 year dry cycle".

The RDOS has lowered the amount of water used per household to try to make the #'s work for the Golf Course. This is just a sham as there is no way of controlling the amount of water a household can use. Further, I do not think it is reasonable or recommended that one ask the person who stands to lose or gain from these findings to do the measurement and reporting of these numbers. This should be done by an unbiased 3rd party that has nothing to gain or lose based on the results of their findings.

When you review this matter please keep in mind that of the 10 or so various reports written below-state that we are currently near or at full capacity for our water demands in this area. While one report suggests that there **may** be enough water to support phase one, not one of these reports states that there is enough water to support the second phase of this development.

Please use your common sense when you vote and keep in mind that you are responsible for protecting this lake. If the studies say it can not support more development then why would you vote to move forward with development? You are responsible and the people that own property around the will hold you responsible if our lake and aquifer do not survive. I for one, plan to keep you accountable for your decisions especially when they fly in the face of the facts and expert recommendations.

Pamela Mann
B Comm, CGA
Owner of property on Twin Lake

Studies done on Twin Lake

1973, BC Lands & Forests Twin Lake Botham Report was written concerning re-establishment of the outflow works and the control of the lake level. The report provided some historical and scientific water information and recommended a high and low Lower Twin Lake surface water level to limit the ranch surface water withdrawal. The gravitation overflow gate controlled pipe from Lower Twin Lake to DL 280 is described on p. 7-9.

1981, Dr. G. van der Kamp, a well known hydro geologist, wrote a letter stating that the annual estimated aquifer recharge was limited to about 400 US g pm and "It appears that water consumption in the Twin lakes watershed may already be near the maximum sustainable yield".

1994, the EBA Twin Lakes Golf Course Hydrological Study stated the annual estimated recharge of the aquifer to be 756 US g pm. This study was completed on behalf of the Twin Lakes golf course to support the many layers of development applications. Hydro geologist, Richard Guiton of EBA at an RDOS open house meeting in January 1996, stated "from the data and the subsequent, recommendations

development was not favorable. There was not enough water available in the basin, and it was not good for the people or the environment'.

2007 & 2010, EBA completed two update letters supporting the 1994 Study assuming there had been no new housing in the area when, in fact ,there had been approximately 30 more residences built.

2010, the Summit Aquifer Capacity Study concluded that the annual estimated recharge was about 570 US g pm and **"additional water demand from the development may not be achievable in the long term"** (Summit Executive Summary p.iii)

2011, the Golder Peer Review agreed with the Summit study.

2015 RDOS Area D Infrastructure Study - includes an aquifer #261 update by Hydro Geologist, Remi Allard.

2016, the TLGR Golder Hydrogeological Twin Lake Area Study ignored any surface water irrigation licenses in the Twin Lake Area and concluded a greater water recharge than Summit. The old irrigation, storage & diversion water licences still apply as listed in 1973 by Botham.

2019, the Terms of Reference for the 2nd Phase of the TLGR Development by Golder with references to Golder's past work and the 2012 **Water Use Plan** of the TLGR Developer's Waste Water Treatment Designer, Michael Seymour, A. Sc. T.