

**Date:** April 8, 2018  
**File:** 76915-06, 76915-20/

## **DAM INCIDENT REPORT - Unauthorized Dam (Cotter)**

**Consequence of Dam:** E ☐ VH ☐ H ☐ S ☒ L ☐ Unknown ☐ N/A ☐

### **Description of Reported Problem at Dam Site:**

**Reported By:** s.22 **Of:** public

**Phone No:** s.22 **Date/Time Reported:** April 7, 2018 / 15:24

**Report considered reliable:** Yes ☒ No ☐

**Location of Dam:** UTM Zone: 11, 310779.90 m E, 5456779.93 m N

### **Verification Determined Dam Incident to be the Following Level:**

- |   |   |
|---|---|
| <input type="checkbox"/> Dam Breach           | - Breach of dam imminent or in the process of breaching                       |
| <input checked="" type="checkbox"/> Dam Alert | - Abnormal conditions requiring immediate action to avert breach              |
| <input type="checkbox"/> Dam Incident         | - Conditions NOT requiring immediate intervention to avert breach             |
| <input type="checkbox"/> No Dam Incident      | - Conditions NOT impacting safety of the dam ( <u>verify as appropriate</u> ) |
| <input type="checkbox"/> No Dam Incident      | - Site Investigation found no dam involved                                    |
| <input type="checkbox"/> Operating Conflict   | - Reservoir or release conditions impacting interests of other(s)             |

**Background Info of Site:** Based on historic orthophotos, the site appears to have contained a natural wetland feature. What appears to be the recent construction of a dam, has impounded approx. 32,700m<sup>3</sup> of storage. A review of the water licences layer in iMap did not find a current or past licence, therefore the works are unauthorized. The dam at the time of the site audit found the dam nearing overtopping (1" of freeboard).

The following deficiencies were noted (see attached photos):

- The dam has no spillway;
- There is no LLO;
- The dam was not constructed to provincial standards.

**Consequences of Failure:** Should the dam fail, the flood would travel across a broad, low relief area, where some attenuation would occur. Approximately 800m downstream, the flood would enter a confined draw with moderately steep gradients (>25%) prior to emerging onto Willowbrook Rd. The flood would then spill into Park Rill Creek where

some attenuation would occur in the Myers Flat area before flowing into the Park Rill dam reservoir. It is questionable whether the spillway would be able to accommodate the increased flows, and a second dam failure may occur. In either instance, (failure or no failure of the Park Rill dam) flows would overwhelm the downstream culvert under Seacrest Rd., which is reportedly currently backing up, and overtopping of the road could likely be expected. A road failure could result in the initiation a debris flood/flow given the steep (estimated 20% average) channel gradient containing erodible soils. The debris flood/flow that would then deposit in the Sportsman's Bowl area where gradients are much gentler. Flooding of some properties in this area would occur and may include overtopping of Highway 97.

**Communication and Response - by FLNRO:** Dam owner (Doug Cotter – s.22 cell or 250.493.6308 work) was on site during my visit on April 7<sup>th</sup> and was provided a verbal Order to immediately lower the reservoir.

**Communication and Response - by Dam Owner:** The owner indicated that he owned a pump and would return with it to lower reservoir.

**Follow Up Actions:** A follow-up later that evening found that Mr. Cotter did not return with a pump s.22 ) and instead installed a small diameter culvert in a shallow hand-excavated trench. He said that he would be returning in 2-3 hours with additional pipe for siphoning.

A return visit is scheduled for April 8<sup>th</sup>.

Properties in the immediate vicinity were alerted to the possibility of a dam failure. Residence of 2545 Willowbrook Rd., located immediately to the north of the ephemeral stream that would carry the flood wave if the dam breached, were not at home at the time of the door to door notice.

Both the RDOS EOC and EMBC (reference 17:03 GIR report) were notified of the incident. I recommended that properties in the Sportsman Bowl area be notified that there could be an uncontrolled release from the dam.

**By:** Mike Noseworthy, P.Geo., Eng.L., Sr. Dam Safety Engineer

**Attach:** Figures & photos

**cc:** Dam Safety Section, Victoria  
Regional Water Management, Section Head





Photo 1. Reservoir near to cresting.



Photo 2. Reservoir near to cresting.





Photo 3. Dam appears to be 1-2m in height. Note partially buried trees.



Photo 4. Dam owner being interview by Global News.



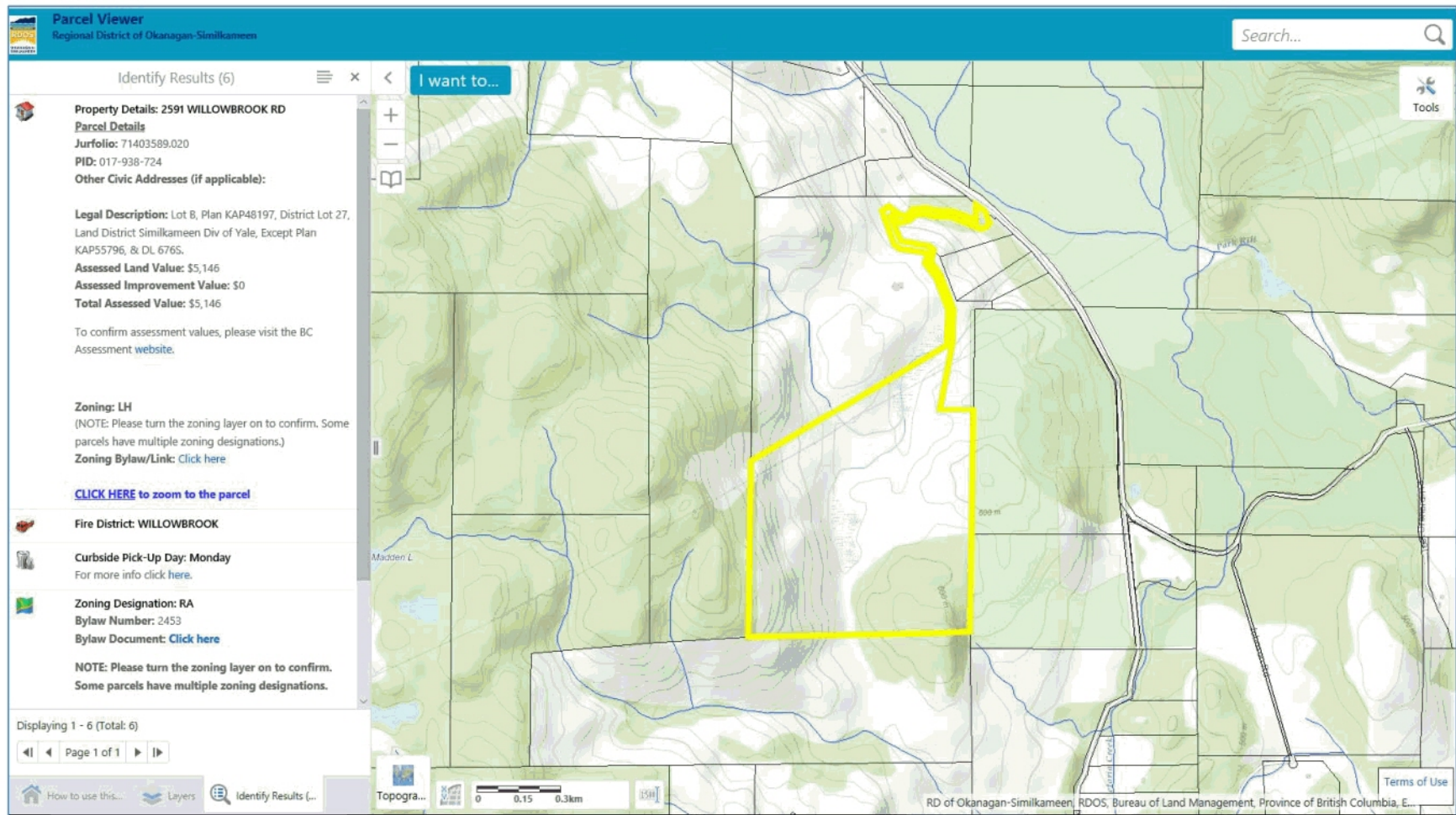


Photo 5. Erosion from discharge.



Photo 6. Hand excavated trench with plastic pipe.





Map of property owned by Mr. Doug Cotter where the dam is located.



Orthophoto of reservoir. Estimated volume =  $16,360\text{m}^2 \times 2\text{m} = 32,720\text{m}^3$ .

