

4202010
December 19, 2002

Delta Land Co
#16 Industrial Drive
Sylvan Lake, Alberta
T4S 1P4

Attention: Mr. Robert Bilowus

**Re: YWCA Site – Sylvan Lake
Proposed Residential Development
Stormwater Management**

As requested, we have carried out an overview of stormwater management for the proposed residential development on the YWCA site at Sylvan Lake. A general plan is attached.

For this review we have estimated stormwater generation for the site under pre-development and post-development conditions for a 1:100 year design storm of 24 hour duration. We have assumed an average lot development consisting of a 1500 ft² house footprint set back to the mid-point of the lot, with associated gravel approach.

The development area was divided into three run-off zones, depending whether the area drained into one of the two identified stormwater ponds or directly into the lake (see attached plan).

Based upon these assumptions, estimated the run-off volumes are noted below. Numbers have been rounded.

<u>Run-Off Zone</u>	Pre-Development m ³	Post-Development m ³	Difference m ³
A	2600	2900	300
B	450	650	200
C	250	500	250
Total			750

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Approximately 750 m³ of total stormwater volume will have to be stored in the two stormwater ponds. Using the dimensions indicated on the site plan you provided, this could be achieved with maximum fluid depths of approximately 1.0 – 1.5 m. This is based upon 4:1 side slopes, with the pond limits at the edge of the public utility lots. No allowance has been made for freeboard. It may be necessary to provide fencing or other security/safety measures. This information is general in nature. Variation is anticipated through detailed design.

If you have any questions, please call.

Yours very truly,

Blaine R. Newton, P. Eng.

EXH Engineering Services Ltd.
