

## Hydrogeologic Considerations of Low Impact Development

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*Waterline Resources Inc. is an environmental and hydrogeology consulting company that is headquartered in Calgary, Alberta and Nanaimo, British Columbia and has field offices in Vancouver, the Comox Valley, and Prince George, BC. Our team of highly qualified environmental consultants, hydrogeologists, geoscientists, and engineers are industry leaders in providing environmental consulting services and regulatory support.*

### Summary

The City of Calgary has implemented a Low Impact Development (LID) initiative for new developments in the City. The City defines a LID as a development (residential or commercial) that minimizes the impact of stormwater on watersheds by integration of measures to detain, retain and treat stormwater using soil infiltration and percolation to redirect a portion of the stormwater back into the hydrologic cycle. As part of the LID framework, hydrogeological assessments are being completed at new development areas, focusing on developing a conceptual model of how groundwater flow systems and surface water features are affected by the development of natural areas.

In this presentation, Waterline will discuss how hydrogeologic assessments are conducted, including understanding watershed boundaries, regional and local recharge-discharge areas, groundwater flow directions and velocities, groundwater and surface water quality and groundwater-surface water interactions. Coupling aspects of geotechnical investigations with groundwater assessments can lead to better understanding of the affects developments may have on the hydrologic cycle.