

Public Works Department

Low Impact Development - Planning and Design Checklist

The items listed in the table below should be included in an **LID Design Brief** submission to support planning applications in the Town of Orangeville.

Items to be included in Design Brief Submission	Details to be included in Design Brief Submission
<p>Site Description & Background Review</p>	<p>Site description and background review should include details on:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Property Use <input type="checkbox"/> Drainage Area <input type="checkbox"/> Soil types in vicinity of proposed LID feature(s) <input type="checkbox"/> Soil infiltration rates <input type="checkbox"/> Groundwater level <input type="checkbox"/> Topography
<p>LID Design Calculations for each LID feature proposed</p> <p>* Refer to CVC's and TRCA LID Stormwater Planning Design Guide: https://cvc.ca/wp-content/uploads/2014/04/LID-SWM-Guide-v1.0_2010_1_no-appendices.pdf *</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Followed CVC and TRCA LID Stormwater Planning Design Guide to determine LID feature specifications and sizing criteria. https://cvc.ca/wp-content/uploads/2014/04/LID-SWM-Guide-v1.0_2010_1_no-appendices.pdf <p>If not, explain the specifications and calculations used:</p>
<p>General Plan Drawing</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Site Address <input type="checkbox"/> LID feature and location <input type="checkbox"/> Cross section location identifiers <input type="checkbox"/> Scale <input type="checkbox"/> Tie-in elevations <input type="checkbox"/> Pipe slopes, type, size, inverts, grade <input type="checkbox"/> Manholes, catch basins <input type="checkbox"/> Utilities
<p>Cross-Section Drawing</p> <p>(should be provided for each LID feature proposed)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> LID features including their components and respective dimensions <input type="checkbox"/> Notes and details <input type="checkbox"/> Tie-in locations <input type="checkbox"/> Scale
<p>Construction Details</p> <p>*Refer to CVC's LID Construction Guide for construction notes: http://www.creditvalleyca.ca/wp-content/uploads/2013/03/CVC-LID-Construction-Guide-Book.pdf</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Construction sequencing and Phasing <input type="checkbox"/> Mobilization of materials <input type="checkbox"/> Erosion and Sediment Control

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<p>Construction Notes</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Are materials per specifications? <input type="checkbox"/> Are forms adequately sized and to specification? <input type="checkbox"/> Is there a designated wash out area for concrete ready-mix? <input type="checkbox"/> Are health and safety policies in place ie. shoring of trenches? <input type="checkbox"/> Have geotextiles fabrics been placed and installed per plan? <input type="checkbox"/> Is excavation to grade and granular materials installed to grade? <input type="checkbox"/> Is underdrain system installed to grade? <input type="checkbox"/> Are anti-seep collars installed per plan? <input type="checkbox"/> Are materials, spacing and grade of check dams installed per plans?
<p>Landscape Plan for LID feature - if applicable * (refer to Appendix B of CVC and TRCA LID Stormwater Management Planning and Design Guide) https://cvc.ca/wp-content/uploads/2012/02/cvc-lid-swm-guide-appendix-b.pdf</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Provided; and <input type="checkbox"/> Followed Guidance Recommendations <p>If plants not identified in the guide were chosen, explain why those plants were included or if a landscape plan was not included explain why:</p>
<p>Maintenance Plan (refer to CVC and TRCA Planning Design Guide for guidance on maintenance practises - https://cvc.ca/wp-content/uploads/2014/04/LID-SWM-Guide-v1.0_2010_1_no-appendices.pdf)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Provided for each LID feature

The pre-design activities listed in the table below should be considered during the planning of LID features.

Pre-design Activities	
<p>Utility Locates</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Completed <input type="checkbox"/> Not Completed <p>If not completed, explain why:</p>
<p>Geotechnical Investigation (refer to pg. 93 of Business and Multi-Residential Grey to Green Guide to determine what practices this needs to be done for)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Boreholes <input type="checkbox"/> Piezometers <input type="checkbox"/> Laboratory soil Testing <input type="checkbox"/> Soaked CBR Test

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<p>https://cvc.ca/wp-content/uploads/2013/10/SWI-Grey-to-Green-Business-Multi-res-Retrofits-Complete1.pdf</p>	<p>If any of these were not completed but was recommended for the chosen practice in the Grey to Green Guide, explain why:</p>
<p>Topographic Survey (needed to produce base mapping for detailed design phase)</p>	<p>Survey should include locations of:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Topography of proposed site <input type="checkbox"/> Identification of above and below ground services <input type="checkbox"/> Utility locates markings <input type="checkbox"/> Invert and size of existing sewers, catch basins, manholes <input type="checkbox"/> Borehole locations <input type="checkbox"/> Significant vegetation <input type="checkbox"/> Local benchmarks

Other Considerations
Risk of Soil Contamination
Winter Performance and Associated Maintenance
Vegetation Maintenance
Length of Time for Standing Water
Private property
Foundation and Seepage
Available Space (drainage area of each feature)
Available Head (depth of feature)
Water Table – Seasonally high water table
Native soil Type and Infiltration Rate
Drainage Area and Runoff Volume
Pollution Hot Spot Runoff
Proximity to Underground Utilities
Overhead Wires
Pollution Prevention (e.g. dumpster locations)