

## SW2 Form Checklist

### Authorizations of Future Alterations to Stormwater Management Facilities<sup>1</sup>

#### Manufactured Treatment Device

This Checklist must be completed for all applications submitted under the CLI-ECA #324-S701 program to ensure that Form SW2 can be signed by the Director of Engineering, or a delegate.

Project Title: \_\_\_\_\_

Facility Type:  Sedimentation MTD,  Filtration MTD

Yes	No	NA	324-S701 Conditions
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The design has been prepared by a Licensed Engineering Practitioner
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has been designed only to collect, receive, treat, or control only Stormwater and has not been designed to collect, receive, treat, or control sanitary Sewage
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The facilities have been planned, designed, and built to be consistent with the Stormwater Management Planning and Design Guidance Manual. If there is a conflict with the Stormwater Performance Criteria of this Approval, then Stormwater Performance Criteria shall prevail;
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The design satisfy the Design Criteria or any municipal criteria that have been established that exceed the minimum requirements set out in the Design Criteria
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The Stormwater Management Facility is a part of a Stormwater Treatment Train approach that satisfies the requirements outlined Appendix A of the CLI-ECA (referred to as the Stormwater Performance Criteria) or transmits Stormwater to a Stormwater Management Facility that satisfies the requirements outlined in Appendix A of the CLI-ECA
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The design includes an outlet or an emergency overflow for the Sewage Works, with the verification of the location, route, and capacity of the receiving major system to accommodate overflows
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The design includes considerations to protect sources of drinking water, including those set out in the Standard Operating Policy for Sewage Works and any applicable local Source Protection Plan policies
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The design does not result in adverse effects.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The design does not result in a deterioration on the approved effluent quality or quantity of downstream Stormwater Management Facilities

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			which results in not being able to achieve the overall Stormwater performance criteria per Appendix A of the CLI-ECA.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sedimentation MTD – The MTD has been tested in accordance with the TRCA protocol Procedure for Laboratory Testing of OGSs and testing data verified in accordance with the ISO 14034 Environmental Technology Verification (ETV) protocol. The suspended solids removal claimed for the sedimentation MTD in achieving the water quality criteria in Appendix A, and the sizing methodology used to determine the appropriate sedimentation MTD dimensions for the particular site, shall be based on the verified removal efficiency for all particle size fractions comprising the particle size distribution specified within the testing protocol or a particle size distribution approved by the Director
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sedimentation MTD – The MTD has used the verified sediment removal efficiencies for the respective surface loading rates specified in the testing protocol, the sedimentation MTD sizing methodology shall use linear interpolation to calculate sediment removal efficiencies for surface loading rates that lie between the specified surface loading rates. For surface loading rates less than the lowest specified and tested surface loading rate, the sediment removal efficiency shall be assumed to be identical to the verified removal efficiency for the lowest specified and tested surface loading rate. Where available, 15 min rainfall stations shall be used for sizing the sedimentation MTD
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sedimentation MTD – If two or more sedimentation MTD are installed in series, no additional sediment removal credit shall be applied beyond the sediment removal credit of the largest device in the series
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sedimentation MTD – The sediment removal rate at the specified surface loading rates determined for the tested full scale, commercially available MTD may be applied to similar MTDs of smaller or larger size by proper scaling. Scaling the performance results of the tested MTD to other model sizes without completing additional testing is acceptable provided that: <ul style="list-style-type: none"> <li>i. The claimed sediment removal efficiencies for the similar MTD are the same or lower than the tested MTD at identical surface loading rates; and</li> <li>ii. The similar MTD is scaled geometrically proportional to the tested unit in all inside dimensions of length and width and a minimum of 85% proportional in depth</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sedimentation MTD – MTD units must be installed in an off-line configuration if the unit had an effluent concentration greater than 25 mg/L at any of the surface loading rates conducted during the sediment scour and resuspension test as part of the ISO 14034 verification.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sedimentation MTD – The sedimentation MTD should be sized for the highest suspended solids percent removal physically and economically practicable, and used as a pre-treatment device in a treatment train designed to achieve the water quality criteria in Appendix A.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Filtration MTD – Any new filtration MTD shall be field tested in accordance with a minimum of one of the following protocols

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			<ul style="list-style-type: none"> <li>i. Washington State Technology Assessment Protocol -Ecology (TAPE) General Use Level Designation(GULD); and               <ul style="list-style-type: none"> <li>1. Has ISO 14034 ETV verification to satisfy ETV Canada requirements;</li> <li>2. The field monitoring data set used to obtain GULD certification should include a minimum of three (3) events that exceed 75th percentile rainfall event with at least one hour with an intensity of 6 mm/h or greater.</li> </ul> </li> <li>ii. Another testing and verification method, where the Director has communicated acceptability in writing.</li> </ul>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Filtration MTD - Where available, 15 min rainfall stations shall be used for sizing the filtration MTD using the rainfall intensity corresponding to 90% of annual runoff volume;
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<p>Filtration MTD - The suspended solids removal rate determined for the tested full scale, commercially available filtration MTD, or single full scale commercially available cartridge or filtration module, may be applied to other model sizes of that filtration MTD provided that appropriate scaling principles are applied. Scaling the tested filtration MTD or single full-scale commercially available cartridge or filtration module, to determine other model sizes and performance without completing additional testing is acceptable provided that:</p> <ul style="list-style-type: none"> <li>i. Depth of media, composition of media, and gradation of media remain constant.</li> <li>ii. The ratio of the maximum treatment flow rate to effective filtration treatment area (filter surface area) is the same or less than the tested filtration MTD;</li> <li>iii. The ratio of effective sedimentation treatment area to effective filtration treatment area is the same or greater than the tested filtration MTD; and</li> <li>iv. The ratio of wet volume to effective filtration treatment area is the same or greater than the tested filtration MTD.</li> </ul>

<sup>1</sup> This includes approval for Condition 5.0 of Schedule D of the Town of Caledon CLI-ECA 324-S701 No.1 for the following stormwater infrastructure practices as outlined in Condition 5.1 of the Town's CLI-ECA: Filtration MTD, Sedimentation MTD – OGS