



On-Site Stormwater Management Systems (Infiltrators)

Bulletin 2012-01
June 27, 2012

This bulletin is intended to advise all Design Engineers, Builders and Developers of changes to the siting requirements of any on-site stormwater management systems that are proposed to be installed as a component of a development's stormwater management plan.

The following criteria are to be used when designing and siting any source of rainwater infiltration on development lots. This criterion is meant to be used in conjunction with District Bylaws, regulations, policies and guidelines to produce an effective stormwater management plan.

Siting Requirements

1. Infiltrators must be setback a minimum 5.0m** from building foundations or basements. If located upslope from a building then the distance is increase to 15.0m
2. The base of all trenches must be set a minimum of 0.6m above the seasonal high ground water table and 1.2m above bedrock
3. All infiltrators are to be located to ensure gravity flow from the house foundation
4. Overflow mechanisms are to be installed to ensure surcharging of the system does not get to within 450mm of the low spot of a buildings perimeter drainage system
5. Infiltrators must be a minimum of 30m from a source of water (well)
6. Infiltrators will not be permitted on soils with a percolation rate less than 0.5"/hr, and
7. Infiltrators are not permitted on slopes greater than 25% due to seepage, saturation and slope failure concerns

**This distance may be reduced to 3.0m for soils that do not have significant presence of clays. See information under Geotechnical Review

Geotechnical Review

Due to the potential to cause slope instability, impact structures and insufficient infiltration capacity, the report in support of development applications is to include commentary and recommendations around the suitability of the site for this use. We may also require a geotechnical engineer to provide a site specific report ensuring the suitability of the site at time of building permit application. The report will need to state that the site is suitable for the proposed infiltration facility and provide the following information:

1. A design infiltration rate
2. The level of the seasonal high ground water table
3. Comment on how the stormwater runoff will move through the soils, and
4. If infiltration will compromise soil stability

Restrictive Covenants

If site conditions exist such that an on-lot infiltration system cannot be installed and restrictive covenants for stormwater management exists on title, the covenant will need to be either removed or amended to reflect changes to the stormwater management plan prior to Final Occupancy being issued.



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Implementation

These criteria will be effective immediately and will apply to all building permits received after June 27, 2012.

These criteria will also need to be incorporated into the stormwater management plans for all development applications that have not received 3rd reading of their rezoning or do not have accepted subdivision servicing drawings. For all developments that are past this stage, each site will need to be assessed on a site by site basis to ensure 'Site Requirements' #1 thru #7 above are being met. Should the use of infiltrators or retention facilities be found not to be viable, alternate methods of infiltration will need to be explored by the developer and his professionals to ensure compliance with the Districts 'Guiding Documents'.

Guiding Documents

1. 2006 BC Building Code

Article 9.14.5.3 requires dry wells to be located a minimum distance of 5.0m from any building foundation. Dry wells function similarly to infiltration trenches in their design and function as they are used to temporarily store runoff water until it can infiltrate into the surrounding ground. A dry well can be an excavated pit or a prefabricated storage chamber thus any system that is proposed to infiltrate water would be considered a dry well; this would include StormTechs, Atlantis Raintanks, rock pits, french drains, soak-away pits and perforated sumps.

2. District of Maple Ridge's Watercourse Protection Bylaw

This Bylaw states that subdivision applicants and large scale building permit applicants may be required to submit stormwater management plans and those plans must follow the stormwater management practices set out in; DFO's "*Urban Stormwater Guidelines and Best Management Practices for Protection of Fish and Fish Habitat*", the Ministry of Water, Land and Air Protections' "*Stormwater Planning Guidebook for BC*" and Metro Vancouver's "*Stormwater Source Control Design Guidelines*". All three of these documents provide recommendations regarding minimum setbacks from foundations, slopes, wells and septic fields of any infiltration systems.

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