



INTERIM APPROACH FOR IMPERVIOUSNESS RATIOS

Since the 2011 Stormwater Management & Design Manual was published, the overall imperviousness in subdivisions has increased. This increase is due to higher density and more mixed use subdivisions.

The typical imperviousness of urban catchments shown in Table 3-14, Section 3.2.5.5 from the Stormwater Management & Design Manual is no longer reflective of the new subdivision designs. Using the outdated reference from Table 3-14 may result in the following:

- An under estimation of the magnitude of overland peak flows and velocities
- Inadequate storage volume (traplows and ponds)
- An under estimation of the overall runoff volume from subdivisions to creeks and rivers
- An under estimation of the extent of inundation on roadways
- Underestimated minimum building opening elevations and restrictive covenants (RMGs)

Water Resources is currently working to update the table based on new geographic information system (GIS) data. This update is expected to be complete by the end of October 2018. In the interim, the following imperviousness assumptions shall be applied to all **new** staged master drainage plans (SMDP), pond reports, and subdivision stormwater management reports (SWMR) submitted after October 5, 2018:

Staged Master Drainage Plans and Pond reports: An overall imperviousness of 67% (including roads, lanes and lots) for Single Family Residential land use shall be assumed for the SMDP and pond reports. All other land-uses can be considered as needed using the current Stormwater Management & Design Guidelines as minimum recommendations. Alternatively, detailed calculations can be used to demonstrate the estimated imperviousness for the overall outline plan area. The assumptions for imperviousness of various land uses should be clearly documented and to the satisfaction of Water Resources. Water resources can be engaged at the early stages of the SMDP for feedback, if required.

Subdivision Stormwater Management Reports: A breakdown of the estimated actual imperviousness by sub-catchment area within the subdivision, based on the product type is required. The lots, streets and lanes should be broken down and the weighted imperviousness should be calculated for each sub-catchment. This breakdown is required, regardless of the assumed imperviousness noted in the approved SMDP to capture any changes, and to reflect the latest information regarding product types. Updates to approved SMDP or Pond Reports will not be required based on the detailed calculations provided with the SWMR.

Water Resources will be reviewing all SMDP, pond report and subdivision SWMR applications currently under review, and will discuss any additional analysis or changes required with consultants directly. Efforts will be made to minimize any delays to the approvals process for these applications.

For more information, please contact Maggie Choi, Leader of Development Approvals at Maggie.Choi@calgary.ca.