6-0203.4C Detention Method [2]

6-0203.4C(1) It shall be presumed that no adverse impact and a proportional improvement will occur if on-site detention is provided as follows and the outfall is discharging into a defined channel or man-made drainage facility:

6-0203.4C(1)(i) Extended detention of the 1-year storm volume for a minimum of 24 hours. If extended detention of the BMP volume (see § 6-0400 et seq.) also is provided, the 24 hours shall be applied to the difference between the 1-year storm volume and the BMP volume; and

6-0203.4C(1)(ii) In order to compensate for the increase in runoff volume, the 2-year and 10-year post-development peak rates of runoff from the development site shall be reduced below the respective peak rates of runoff for the site in good forested condition (e.g., for NRCS method, a cover type of "woods" and a hydrologic condition of "good"). This reduction results in a proportional improvement and is computed as follows:

$$R_i = [1 - (V_f / V_d)] \text{ X } 100 \text{ where,}$$

R_i = Reduction of Peak Flow Below a Good Forested Condition (%)
V_f = Runoff Volume from the Site in a Good Forested Condition
V_d= Runoff Volume from the Site in a Post-Developed Condition

The calculation of the cumulative volumes shall be based on the NRCS (formerly SCS) methodology described in § 6-0802 or other methods as approved by the Director.

6-0203.4C(1)(iii) Computations demonstrating the 1½-year post-development peak rate of runoff from the development site does not exceed the 1½-year peak rate of runoff for the site in good forested condition are optional. The 1½- year storm is used to obtain Leadership in Energy and Environmental Design (LEED) certification.

6-0203.4C(2) If this method is used, each outfall from the site shall be analyzed independently and the allowable release rate shall be based on the area of the site that drains to the outfall under predevelopment conditions.

6-0203.4C(3) If this method is used, the downstream review analysis shall be limited to providing cross-sections to show a defined channel or man-made drainage facility, and checking for flooding of existing dwellings or buildings constructed under an approved building permit from the 100-year storm event for the extent of review described in § 6-0203.2A, B , C and D.

6-0203.4D Other scientifically valid methods, which show no adverse impact regarding erosion or capacity for an inadequate outfall and show proportional improvement, may be approved by the Director.

6-0203.5 In accordance with § 6-0202.4, if an existing dwelling or a building constructed under an approved building permit, which is located within the extent of review described in § 6-0203.2, is flooded by the 100-year storm, the peak flow of the 100-year storm at the development site shall be reduced to a level below the pre-development condition by a percent equal to the required proportional improvement. See § 6-0203.4A(1) for a description of the required proportional improvement.

6-0204 (91-06-PFM) Submission of Narrative Description

6-0204.1 In addition to plats, plans, and other documents that may be required, a description of each outfall of the storm drainage system from the development site shall be submitted as part of the relevant subdivision construction plan or site plan and shall include the following:

6-0204.1A The additional submission shall include a narrative and sketches describing the major elements (pipe, channel, natural watercourse stream, etc.) of each outfall drainage system, including any discharges of non-concentrated surface waters from the development site. Photographs may also be included to assist in the description of the outfall.

[2] Because of the long detention times resulting from this method, consideration shall be given to hydrology, soils and extended detention when choosing the appropriate landscaping for the detention facility.