Stormwater Facilities and Flood Plains: Conservation Authority Policies

Rideau Valley Conservation Authority

http://www.rvca.ca/plan-reg/index.html [click below "Floodway Development and Redevelopment Policies November 25, 2010"]

p2 of 28:

1.2 Development within a One-Zone Regulatory Floodplain of a River or Stream Valley

1) *Development* within the 1:100 year regulatory floodplain shall not be permitted except as allowed by specific policies elsewhere in this document. This includes:

... vi) *development* associated with stormwater management facilities; ...

3) Notwithstanding Section 1.2 (1), public infrastructure (e.g. roads, sewers, flood and erosion control works) and various utilities (e.g. pipelines) shall generally not be permitted within the 1:100 year regulatory floodplain except where the development has been approved through a satisfactory Environmental Assessment process clearly demonstrating that there is no viable alternative and / or if it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution, or the conservation of land will not be affected.

Mississippi Valley Conservation Authority

http://www.mvc.on.ca/?attachment_id=148 [click on "Policies for ONT. REG. 153/06"]

Only in section 8 "Policies for Meander Belt (Erosion Hazard) - Not Apparent Valley" is there an explicit prohibition against stormwater facilities (section 8.2.1, p37-38). Section 5 on "Hazardous Lands - General Policies" is silent on the matter (pp9-11).

South Nation Conservation Authority

http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_060170_e.htm

2. (1) Subject to section 3, no person shall undertake development or permit another person to undertake development in or on the areas within the jurisdiction of the Authority that are,

... (c) hazardous lands;

3. (1) The Authority may grant permission for development in or on the areas described in subsection 2 (1) if, in its opinion, the control of flooding, erosion, pollution or the conservation of land will not be affected by the development.

Grand River Conservation Authority

http://www.grandriver.ca/PolicyPlanningRegulations/GRCA_Policies.pdf

p.19:
8.1.15 Stormwater Management Facilities may be permitted within the Riverine Flooding Hazard but outside of the riparian zone or effective flow area, whichever is greater, in accordance with the policies in Sections 7.1.2 - 7.1.3 - General Policies, provided that there is no feasible alternative site outside the Riverine Flooding Hazard and where it can be demonstrated that:
a) there is no loss of flood storage,
b) natural erosion and sedimentation processes within the receiving watercourse are not impacted,
c) where unavoidable, intrusions on significant natural features or hydrologic or ecological functions are minimized and it can be demonstrated that best management practices including site and infrastructure design and appropriate remedial measures will adequately restore and enhance features and functions,
d) facilities are excavated with minimal berming, stage-storage discharge relationships and floodplain flow regimes for a range of rainfall events including the Regional Storm are maintained, and all excavated material is removed from the Riverine Flooding Hazard and
e) design and maintenance performance requirements as determined by the GRCA for the receiving watercourse are met and the effect of the floodplain flow regime on the intended function of the facility is incorporated into the siting and design.

("Effective Flow Area" means that part of a river, stream, creek or watercourse where there are significant flow velocities and most of the flow discharge is conveyed.)

Credit Valley Conservation

http://www.creditvalleyca.ca/wp-content/uploads/2011/01/004-CVC-WPR-Policies_APR-2010.pdf

p.57:
e) CVC will not permit stormwater management facilities to be located within hazardous land. Notwithstanding this, CVC may permit stormwater management facilities within the flood hazard limit if it can be demonstrated, to the satisfaction of CVC, that:
i. there is no feasible alternative site outside of the flood hazard;
ii. the proposal will result in a public benefit and ecological gain;
iii. there will be no loss of floodplain storage or conveyance;
iv. the proposal will not prevent access for emergency works, maintenance and evacuation;
v. the facility is not located within the one hundred year flood or areas subject to an erosion hazard;
vi. the facility is located outside of defined valleylands to the extent feasible; and
vii. all other concerns related to the control of flooding, erosion, dynamic beaches, pollution or the conservation of land have been addressed.

Toronto and Region Conservation:

http://trca.on.ca/dotAsset/154082.pdf

p. 123:

Stormwater Management (SWM) Facilities Infrastructure:

SWM facility infrastructure projects includes new facilities and alterations to existing facilities designed to manage stormwater and the infrastructure necessary to support the function of the facility. Examples of SWM facilities include but are not limited to: SWM ponds, infiltration trenches, bioretention facilities, enhanced swales, and oil and grit eparators. Examples of supporting infrastructure include but are not limited to outfall structures, plunge pools, outfall channels and maintenance access roads.

8.9.7 That development, interference and alterations associated with stormwater management (SWM) facilities shall not be permitted:

a) within watercourses (on-line), wetlands or natural features, areas or systems contributing to the conservation of land;

b) within the meander belt, the 100-year erosion limit or the 100-year flood plain of a watercourse, whichever is greater;

c) on a valley wall subject to erosion; or

d) within the stable slope allowance or dynamic beach hazard along the Lake Ontario shoreline.

8.9.10 That development, interference and alterations associated with SWM facility infrastructure may be permitted where it has been demonstrated to the satisfaction of TRCA that:

a) the location and function of SWM facilities and supporting infrastructure are consistent with a Master Environmental Servicing Plan (MESP), an environmental assessment process or equivalent supported by TRCA;

b) the specific location, sizing and design of the SWM facility infrastructure has been addressed in a Stormwater 8 Management Report, or equivalent, in accordance with TRCA's Stormwater Management Criteria Document;

Central Lake Ontario Conservation Authority

http://www.cloca.com/resources/Approved%20Policy%20and%20Procedural%20Document.pdf

p.60:
3) Stormwater management facilities shall be encouraged to locate outside of the flood hazard. However quantity control facilities may be permitted within the flood hazard provided they are outside of the 100 year floodplain. Quality treatment facilities may be permitted provided they are outside of the 25 year floodplain. Both quantity and quality facilities must:

a) ensure outlets are outside of the 2 year floodplain; and
b) demonstrate there is no impact on flood hydraulics and flood storage; and
c) be located outside of the natural heritage system as defined in the Watershed Plan.

Conservation Halton

http://www.hrca.on.ca/uploads//Final_Policy_Document_162-06.pdf

p.40:
3.24.5 Stormwater Management Facilities

End-of-pipe stormwater management (SWM) facilities, such as ponds and wetlands, should normally be located outside of the Regional Storm flood plain.

3.24.5.1 A stormwater management facility may be permitted within the Regional Storm flood plain if there is sufficient technical justification and it meets the following requirements:
a) The facility will not be located within a confined valley;
b) The facility will be located outside of the 1:100 year flood plain;
c) The facility will be located outside of the 1:1 00 year meander belt allowance and a 6 metre erosion access allowance;
d) There will be no loss of flood plain storage or conveyance, achieved by the removal of fill from the flood plain or through an incremental balanced cut and fill analysis. Flood storage provided by the facility itself is excluded from the flood plain storage; and,
e) All other recommended Ministry of Environment guidelines (see Section 5).

Lake Simcoe Region Conservation Authority

http://www.lsrca.on.ca/pdf/watershed_development_policies.pdf

p.11:
6.6 The SWM facilities are to be located above the existing 1:100 year floodplain. However, incremental storage between the 1:100 year and regulatory floodlines is to be maintained. The volume below the pond's high water level shall not be considered as available storage for the regulatory floodplain. Berming, for such facilities within the floodplain, shall not exceed a 0.3m elevation higher than the existing ground elevation.

http://www.lsrca.on.ca/pdf/swm_guidelines.pdf

p.10:
2.7 Siting of Stormwater Management Facilities
End-of-pipe stormwater management facilities are to be located outside of the 1 in 100 year flood plain. If the SWM facility is used for flood control, it must be located above the highest design flood level. Facilities will not be accepted with the following:

• Environmental features and associated buffers.
• Valley lands and associated setbacks.
• Unstable slopes and areas susceptible to erosion.

Subject to the above, in some instances SWM facilities may be located within the floodplain between the 100 year storm and the Regional storm floodlines subject to the following technical requirements:
- No loss of floodplain storage, taking into consideration cumulative impacts
- No obstruction to flood flow
- No negative impacts on the fluvial processes in the floodplain
- Outside environmental features and associated buffer areas
- No impact to environmental features.

Upper Thames Region Conservation Authority

http://www.thamesriver.on.ca/Planning_Permits_and_Maps/images/Env_Planning_Policy_Manual/Policy_Manual_Sept_%208_2006.PDF

p.3-11:

2. The Authority generally does not support:
a) on-line SWM ponds designed to enhance water quality;
b) the use of natural wetlands for SWM;
c) SWM facilities within natural hazards; and
d) SWM facilities within significant natural heritage features.

3. Consistent with Section 3.5.2.3, SWM facilities, with the exception of outlets, will be directed to areas located outside of the defined limits of the natural hazard. SWM facilities and associated measures may only be permitted in the flood plain if it can be demonstrated that there is a net public benefit in selecting the flood plain location and if all other potentially viable locations have been dismissed. Encroachment of SWM facilities into the flood plain must be justified with a catchment scale assessment as part of a Catchment Strategy, Area Plan, Subwatershed Plan, Master Drainage Plan or Environmental Assessment Act process. This type of assessment provides the opportunity to evaluate the location and function of SWM facilities based on technical, environmental, economic, and social factors. The following principles will be considered when assessing proposals to locate SWM facilities in the flood plain:
a) The impact of the SWM facility on flood plain function (conveyance, flood storage etc) and implications for other natural hazards;
b) The net ecological benefit of locating the SWM facility in the flood plain; and
c) Cultural benefits of locating the SWM facility in the flood plain. While cultural benefits are considered, the natural hazard and natural heritage implications are paramount.

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