



Board of Directors Meeting

By Zoom

1:00 pm

June 16, 2021

AGENDA

ROLL CALL

Agenda Review

Declarations of Interest (written)

Business Arising

Business

1. Approval of Minutes – Board of Directors, May 19, 2021, Page #2
2. Receive Advisory Committee Minutes
 - a. Finance & Administration, April 9, 2021, Page #8
 - b. Policy & Priorities, April 30, 2021, Page #12
3. Watershed Condition Report, 3148/21 (Jennifer North), Page #16
4. Election of Board Chair and Vice Chair
5. Lower Mississippi River Flood Plain Mapping Study, 3149/21 (Juraj Cunderlik), Page #17
6. Policy & Priorities Advisory Committee Reports (Sally McIntyre):
 - a. Consent Agenda, Report 3138/21, Page #19
 - b. Meeting Remotely, Report 3140/21, Page #21
 - c. Policy & Priorities Committee Mandate, Report 3139/21, Page #25
 - d. MVCA Policies - Shoreline & Wetland Development, Report 3141/21, Page #26
 - e. Off-leash Dog Parks at Conservation Areas, Report 3142/21, Page #123
7. Finance & Administration Advisory Committee Reports (Sally McIntyre):
 - a. K&P Trail and Bridge, Report 3143/21, Page #125
 - b. Carp Erosion Control Project, Report 3144/21, Page #130
 - c. NDMP Flood Risk Assessment Project, Report 3147/21, Page #131
 - d. Shabomeka Lake Dam Project, Report 3145/21, Page #132
 - e. Preliminary Financial Impact Analysis - New Regulations, Report 3146/21, Page #134
8. General Manager Update, Report 3150/21 (Sally McIntyre), Page #136

ADJOURNMENT



Board of Directors

MINUTES

Via Zoom

May 19, 2021

MEMBERS PRESENT

J. Mason, Chair
J. Atkinson, Vice-Chair
F. Campbell
R. Darling
E. El-Chantiry
G. Gower
B. Holmes
J. Karau
P. Kehoe
B. King
P. Sweetnam
A. Tennant
K. Thompson

MEMBERS ABSENT

J. Inglis
C. Kelsey
Representation from Greater Madawaska

STAFF PRESENT

S. McIntyre, General Manager
A. Millar, Treasurer
A. Broadbent, IT Supervisor
M. Craig, Manager of Planning and Regulations
J. Cunderlik, Director, Water Resource Engineering
R. Fergusson, Operations Supervisor
S. Gutoskie, Community Relations Coordinator
J. North, Water Resource Technologist
A. Symon, Watershed Planner
E. Levi, Recording Secretary

J. Mason called the meeting to order at 1:00pm.

B05/19/21-1

MOVED BY: F. Campbell

SECONDED BY: P. Kehoe

Resolved, That the Agenda for the May 19, 2021 Board of Directors meeting be adopted as amended.

“CARRIED”

BUSINESS

1. Approval of Minutes – Board of Directors

B05/19/21-2

MOVED BY: E. El-Chantiry

SECONDED BY: J. Atkinson

Resolved, That the Minutes of the Mississippi Valley Board of Directors Meeting held on April 21, 2021 be received and approved as printed.

“CARRIED”

2. Watershed Conditions

J. North advised that we were able to fill the upper reservoirs, however, Crotch Lake is below target levels for this time of year and that significant rainfall will be vital to maintaining target summer flows. She noted that it may become necessary to issue a Level 1 Low Water Condition if current weather conditions persist.

3. Regulations Consultation Document

S. McIntyre outlined proposed new regulations under the *Conservation Authorities Act*. She highlighted Phase 1 consultations included mandatory and non-mandatory programs and services, municipal MOUs/Agreements, creation of a Community Advisory Committee, the transition period and the proposed consolidation of CA land regulations.

S. McIntyre advised that the next step will be to collaborate with other conservation authorities as well as Conservation Ontario to draft and submit comments to the Province. She confirmed that as the regulation is currently posted for comment, there will likely not be further opportunities to do so.

E. El-Chantiry asked whether the Board of Directors would be committed to implementing recommendations from a Community Advisory Committee, if formed. Sally advised it would be similar to our current advisory boards in that recommendations may be received but ultimate decisions reside with the Board.

4. Corporate Strategic Plan

S. McIntyre reviewed Staff Report 3133/21 regarding the 2021-2025 Corporate Strategic Plan drafted to address the changing mandate, governance, and funding of conservation authorities per Bill 108 and Bill 229, and other key pressures facing MVCA. She outlined the three main objectives of the plan: asset management, community building and people and performance.

E. El-Chantiry stressed the importance of asset reviews and keeping the Board aware and informed about asset management and needs that may be coming forward in the future so proper financial planning may occur. S. McIntyre noted that asset management was done in a phased approach to address priorities within the affordability limits of the organization. While conducting condition assessments and plans upfront across all assets would provide for shovel-ready, it would require a significant increase in the annual municipal level to effect.

J. Mason advised that the General Manager will be reporting regularly to the Board as to how the authority is progressing in terms of the strategic plan's goals.

B05/19/21-4

MOVED BY: E. El-Chantiry

SECONDED BY: R. Darling

Resolved, That the Board approve the 2021-2025 Corporate Strategic Plan, as presented.

"CARRIED"

5. a. PPAC Report- Watershed Plan

A. Symon discussed Report 3131/21, previously presented at the Policy & Priorities Advisory Committee. The report outlines background of how the Draft Watershed Plan was created and highlighted the steps in its development.

A. Symon commented that the draft plan was completed prior to the new regulations being released by the province, which provides some interesting consistency in recommendations as well as potential changes in monitoring and other areas that may need to be revisited. The final plan will be presented to the Board in July after public consultations.

A. Symon noted that due to the pandemic, the Indigenous Engagement Plan (IEP) was not implemented and that it will proceed as things open up. To that end, it is expected that staff will return with an additional Discussion Paper and proposed changes to the Plan based upon matters raised by First Nations.

S. McIntyre advised that she will be visiting municipalities to review the draft plan over the coming weeks.

B05/19/21-5

MOVED BY: J. Atkinson

SECONDED BY: B. King

Resolved, That the Board of Directors direct staff to release the Draft Mississippi River Watershed Plan for public consultation and return with final document for approval.

"CARRIED"

6. Conservation Ontario Governance Accountability and Transparency Initiative

S. McIntyre commented on Report 3134/21 wherein Conservation Ontario requests all 36 conservation authorities endorse and support completion of an Accountability and Transparency Initiative focused on updates to CA Administrative By-Laws, proactive reporting on governance accountability and transparency as well as priorities and promotion/demonstration of results.

B05/19/21-6

MOVED BY: J. Karau

SECONDED BY: B. Holmes

Resolved, That the Board endorse the actions proposed under the Conservation Ontario Governance Accountability and Transparency Initiative; and direct staff to participate and implement as appropriate.

“CARRIED”

7. Eastern Ontario LiDAR Acquisition Project

S. McIntyre summarized Report 3135/21 and explained that only the risk analysis portion of the National Disaster Mitigation Program application was awarded a grant. However, in developing the proposal, political and financial support for the LiDAR project was sought from area municipalities and counties and, collectively, sufficient funds were committed by all parties to allow the LiDAR project to proceed. South Nation Conservation is acting as project lead and will continue to coordinate with partners and the successful vendor throughout the project.

B05/19/21-7

MOVED BY: C. Lowry

SECONDED BY: J. Inglis

Resolved, That the Board of Directors direct staff to:

- a) **enter into agreements with partner Conservation Authorities and Municipalities/ Counties for the Eastern Ontario LiDAR Acquisition Project, valued at approximately \$700,000 plus HST.**
- b) **issue a Purchase Order to the preferred vendor in the amount of approximately \$157,000 plus HST.**

“CARRIED”

8. Budget Control Report

A. Millar reviewed revenues and expenditures outlined in Report 3136/21 noting that revenues are strong this Quarter and 2021 planning revenues are above the 5-year average.

9. a. Mississippi Valley Conservation Foundation – Financial Statements

A. Millar presented the MVC Foundation Financial Statements for 2020. She advised that the auditor, Glenn Street, recommended investing the large balance into a high interest savings account. She noted the balance was due to the Cavanagh donation and is the first in long time since any significant balance was there.

P. Sweetnam questioned the audit fees. A. Millar advised that they were \$2250 + HST. Glenn Street provides audit services to both the Foundation and the Authority and, as there are many duplication transactions, she feels there is time efficiency and the costs are acceptable.

10. General Manager Update Report

S. McIntyre provided updates as outlined Report 3137/21.

There was a brief discussion regarding disposal of the K&P to the counties of Lanark, Renfrew and Frontenac. Further information will be brought to the Board after a meeting held May 31 between the counties and MVCA.

a. Lower Mississippi Flood Plain Mapping

S. McIntyre outlined that a resident on the Lower Mississippi had identified a discrepancy in the April 2020 flood plain mapping and that staff had since reviewed it with John Price, former Director of Water Resources at MVCA. Unlike floodplain mapping carried out for the City of Ottawa, this mapping project was not subject to revisit the model and it is recommended that staff update the model to address the concern raised and have it under go a 3rd party peer review.

S. McIntyre commented that up-to-date LiDAR data helps provide for quality modeling. J. Cunderlik advised that the Province has identified that there is a need for improved and more comprehensive data, and that discussions are on-going with the province.

J. Cunderlik advised that there are limitations to topographic data for modelling the Lower Mississippi, and some areas do not have safe access to obtain it. He noted that the rules and guidelines from the province are very outdated and have not been updated since 2013 so the methodology used for lower Mississippi was completed with those limitations. He commented that there are new tools available which can provide more accurate results.

C. Lowry asked whether it appeared to be confined to a particular area or if it appeared to be wide-spread. S. McIntyre advised that the problems arises in areas where there is flow splitting around islands, not in the tributaries. The entire main stem of the river downstream of Bridge Street in Carleton Place will be reviewed.

Staff were given direction to advise local municipal planners of the current concerns.

B05/19/21-8

MOVED BY: F. Campbell

SECONDED BY: B. Holmes

Resolved, That the Board of Directors direct staff to:

- a) **apply the precautionary principle in administering permits and providing planning advisory services downstream of Bridge Street on the Mississippi River until such time as a new floodplain limit is approved by the Board; and specifically, to**
- b) **assess flood risk hazards on a site by site basis and apply the greater of the flood plain elevation from the original Mississippi River Flood Risk**

- mapping (Regulation 211/88) and the 2020 Lower Mississippi River Flood Plain Mapping Study; and to
- c) provide the Board with a work plan and cost estimate to update the model and to have it Peer Reviewed by a third-party for consideration at the June 2021 meeting.

“CARRIED”

ADJOURNMENT

The meeting was adjourned at 2:54p.m.

B05/19/21-10

MOVED BY: C. Lowry

SECONDED BY: K. Thompson

Resolved, That the Board of Directors meeting adjourned.

“CARRIED”

“E. Levi, Recording Secretary

J. Mason, Chair”



FINANCE AND ADMINISTRATION ADVISORY COMMITTEE

Via Zoom

MINUTES

April 9, 2021

MEMBERS PRESENT:

C. Lowry, Chair
J. Atkinson
E. El-Chantiry
B. King
P. Kehoe
J. Mason
P. Sweetnam
A. Tennant

STAFF PRESENT:

S. McIntyre, General Manager
A. Millar, Treasurer
E. Levi, Recording Secretary

OTHERS PRESENT:

C. Lowry called the meeting to order at 10:00 a.m.

FAAC09/04/21-1

MOVED BY: E. El-Chantiry

SECONDED BY: P. Kehoe

Resolved, That the Agenda for the April 9, 2021 Finance & Administration Advisory Committee meeting be adopted as presented.

“CARRIED”

BUSINESS:

1. Minutes – Finance & Administration Advisory Committee Meeting – February 8, 2021

FAAC09/04/21-2

MOVED BY: J. Mason

SECONDED BY: B. King

Resolved, That the minutes of the Mississippi Valley Finance & Administration Advisory Committee meeting held on February 8, 2021 be received and approved as printed.

“CARRIED”

2. Loan Options for Shabomeka Lake Dam

Mississippi Valley Conservation Authority
Finance & Administration Advisory Committee
April 9, 2021

Page 2

A. Millar reviewed Staff Report 3121/21. Subsequent to the Board of Director's approval to secure a loan through "Infrastructure Ontario or a financial institution" for reconstruction of the Shabomeka Lake Dam, a third option to secure a loan directly from the City of Ottawa was identified. The General Manager and Treasurer will continue to explore the requirements, costs, benefits and risks of partnering with DNE to obtain a loan via Infrastructure Ontario as well as the possibility of partnering with the City of Ottawa on a debenture. This option will be presented to City of Ottawa council in May. Staff will recommend a preferred approach once these options are further explored.

E. El-Chantiry offered his assistance with moving this forward at the City and asked to remain informed of discussions between MVCA and City staff.

FAAC09/04/21-3

MOVED BY: E. El-Chantiry

SECONDED BY: P. Kehoe

Resolved, That the Committee instruct staff to negotiate borrowing options with lenders that offer a fixed interest rate for the entire debt repayment period.

"CARRIED"

3. **Amendment to 2021 Fee Schedules**

A. Millar outlined Staff Report 3122/21 where staff recommend that Schedule D of the MVCA fee schedule be updated to include costs for increased requests to deliver digital models and data which have time, cost, and risk implications. These fees are generally consistent with Rideau Valley Conservation Authority and South Nation Conservation who both charge a flat fee plus staff time for generating digital copies.

S. McIntyre advised that the majority of the requests were from consulting firms.

FAAC09/04/21-4

MOVED BY: J. Atkinson

SECONDED BY: A. Tennant

Resolved, That the Committee recommend that the Board approve amendment of Schedule D of the 2021 Fee Schedule, as presented.

"CARRIED"

4. **2021 – 2022 Insurance Renewal**

A. Millar summarized Staff Report 3123/21 regarding rate changes to MVCA's insurance premiums secured through Marsh Canada Limited. She noted the significant changes were pollution coverage notification requirements; removal of \$25,000 coverage for statutory defense under *Environmental Protection Act* for criminal charges; deductible

Mississippi Valley Conservation Authority
Finance & Administration Advisory Committee
April 9, 2021

Page 3

for vehicles increased to \$1000 from \$500; and increased cost for cyber-attacks, if MVCA wishes to increase the coverage. She noted that coverage was sufficient with the previous attack the Authority incurred.

5. CEWS Grant Update

FAAC09/04/21-5

MOVED BY: A. Tennant

SECONDED BY: P. Kehoe

Resolved, That The committee move to in-camera session for discussion of the following matter:

- **Litigation or potential litigation, including matters before administrative tribunals (e.g. Local Planning Appeal Tribunal), affecting the Authority;**

And Further Resolved, That Sally McIntyre and Angela Millar remain in the meeting.

“CARRIED”

FAAC09/04/21-6

MOVED BY: P. Kehoe

SECONDED BY: B. King

Resolved, That the committee move out of in-camera discussions.

“CARRIED”

FAAC09/04/21-7

MOVED BY: A. Tennant

SECONDED BY: B. King

Resolved, That the Committee direct staff to notify Canada Revenue Agency (CRA) of MVCA’s intent to not appeal the CEWS decision.

“CARRIED”

6. Salary Review Follow-Up

FAAC09/04/21-8

MOVED BY: E. El-Chantiry

SECONDED BY: P. Sweetnam

Resolved, That The committee move to in-camera session for discussion of the following matter:

- **Labour relations or employee negotiations;**

And Further Resolved, That Sally McIntyre and Angela Millar remain in the meeting.

“CARRIED”

FAAC09/04/21-9

MOVED BY: B. King

Mississippi Valley Conservation Authority
Finance & Administration Advisory Committee
April 9, 2021

Page 4

SECONDED BY: P. Sweetnam

Resolved, That the committee move out of in-camera discussions.

“CARRIED”

FAAC09/04/21-10

MOVED BY: P. Kehoe

SECONDED BY: E. El-Chantiry

Resolved, That the Committee recommend that the Board adjust the wage ranges for the Director of Water Resources Engineering and Manager of Planning and Regulation as set out herein, and authorize the General Manager to implement increases over the next two years, commensurate with performance.

“CARRIED”

FAAC09/04/21-11

MOVED BY: B. King

SECONDED BY: E. El-Chantiry

Resolved, That the Committee direct staff to return to the Board with a proposal for how to mitigate work load pressures in the short-term and succession planning requirements in the long-term.

“CARRIED”

ADJOURNMENT

The meeting was adjourned at 11:36 a.m.

FAAC09/04/21-12

MOVED BY: E. Eli-Chantiry

SECONDED BY: A. Tennant

Resolved, That the meeting be adjourned.

“CARRIED”

“E. Levi, Recording Secretary

C. Lowry, Chair”



POLICY AND PRIORITIES ADVISORY COMMITTEE

Via Zoom

MINUTES

April 30, 2021

MEMBERS PRESENT:

J. Atkinson, Chair
F. Campbell, Vice-Chair
R. Darling
J. Inglis
J. Karau
C. Kelsey
J. Mason
K. Thompson

MEMBERS ABSENT:

B. Holmes

STAFF PRESENT:

S. McIntyre, General Manager
M. Craig, Manager, Planning and Regulations
S. Gutoskie, Community Relations Coordinator
A. Symon, Watershed Planner
E. Levi, Recording Secretary

OTHERS PRESENT:

J. Atkinson called the meeting to order at 1:01 p.m.

PPAC30/04/21-1

MOVED BY: J. Inglis

SECONDED BY: G. Gower

Resolved, That the Agenda for the Policy and Priorities Advisory Committee meeting be adopted as presented.

“CARRIED”

BUSINESS:

1. Minutes – Policy & Priorities Advisory Committee Meeting – March 26, 2021

PPAC30/04/21-2

MOVED BY: F. Campbell

SECONDED BY: K. Thompson

Resolved, That the minutes of the Mississippi Valley Policy & Priorities Advisory Committee meeting held on March 26, 2021 be received and approved as amended.

“CARRIED”

2. Update of MVCA Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Policies Interference

M. Craig reviewed Staff Report 3130/21. He highlighted the proposed housekeeping and administrative changes.

J. Karau noted his support of best practices being codified in policy as it provides clarity and guidance.

M. Craig reviewed a proposed new policy that would identify the circumstances under which an access route may be permitted through a Provincially Significant Wetland. He commented that there is some risk associated with the proposed change, but the intent is to allow some landowners to reach areas of their property that are not currently accessible.

J. Mason asked what potential risks may arise. M. Craig gave his opinion that some cases may be mitigated or compromises could be achieved. His concern is if access is granted, the area may be left open for further development on the land which could lead to more intense use of that land within 120 meters of a PSW.

S. McIntyre noted another challenge will be to clarify and keep clear the responsibilities of MVCA from area municipalities. Permitting a driveway through a PSW is an MVCA responsibility; however, it is a municipal decision whether the land may be further developed based upon that access.

J. Karau commented that he does not support vehicle access through PSWs. He is concerned it may set a precedent for more than just MVCA. When moving forward with Watershed Plan, MVCA recognized the importance of PSWs, so if this policy is adopted, it creates confusion. He stated there is a fiduciary duty for MVCA to do whatever it can to preserve PSWs.

M. Craig commented that one other CA has a generic access policy but does not distinguish between unevaluated wetlands and PSWs. In Eastern Ontario, other CAs do not regulate all wetlands and policies on PSWs are non-existent.

J. Atkinson read the motion as presented in the staff report. J. Karau proposed removing item one from the proposed motion.

The committee discussed the role of the regulations committee and the potential impact that changing the policy may have on their ability to make effective decisions. J. Karau questioned if there was a compromise to allow for consideration on case by case basis so as to keep the strength of the policy but also allow for approval in some instances.

M. Craig noted that 75% of cases that make it to a hearing aren't supported by staff. However, he advised that even if the policy says something is not permitted, staff can provide rationale for reasons why it should be.

K. Thompson commented that if the policy indicates no permission should be granted, then that is how it should remain, but also saw value in evaluating on case by case basis.

Mississippi Valley Conservation Authority
Policy & Priorities Advisory Committee
April 30, 2021

Page 3

R. Darling agreed and stated if policies say no, then staff's hands are also tied. She commented that decisions can't be arbitrary and that criteria are required. Our mandate is conservation, but we also don't want to sterilize land.

S. McIntyre explained that all MVCA regulations prohibit development and other activities within regulated areas unless a permit is obtained. And, that to obtain a permit, applicants must meet certain criteria to get a permit. What is proposed is no different—a laneway would not be permitted unless specific conditions were met. The proposed policies provide space to have the conversation about whether access may be allowed, but do *not* obligate the Authority to issue a permit.

J. Karau suggested staff reexamine the matter to improve the approach and language, and that the matter be deferred until a later date. J. Karau withdrew his proposed amendment and indicated his intent to replace it with a motion to defer.

PPAC30/04/21-3

MOVED BY: J. Karau
SECONDED BY: F. Campbell
Resolved, That the decision be deferred.

“CARRIED”

3. **Draft Mississippi River Watershed Plan**

A. Symon reviewed Staff Report 3131/21 regarding the Mississippi River Watershed Plan. She reviewed the work that has been completed to date to produce the draft Plan and the steps to be taken to have it approved by the Board in July. She advised that the General Manager, S. McIntyre, will present the draft Plan to each municipal council. Public engagement will be promoted through multiple channels, with a comment deadline of June 30, 2021. The consultation will be directed to all of the groups and individuals that were consulted in the previous round of engagement.

J. Mason thanked staff for an excellent watershed plan which provides a wealth of information about how the watershed works as a whole.

Staff were directed to continue to consult with the Public Advisory Committee.

PPAC30/04/21-4

MOVED BY: K. Thompson
SECONDED BY: F. Campbell
Resolved, That the Policy & Priorities Committee recommend that the Board of Directors direct staff to release the Draft Mississippi River Watershed Plan for public consultation and return with final document for approval.

“CARRIED”

Mississippi Valley Conservation Authority
Policy & Priorities Advisory Committee
April 30, 2021

Page 4

ADJOURNMENT

The meeting was adjourned at 2:25 p.m.

PPAC30/04/21-5

MOVED BY: R. Darling

SECONDED BY: J. Inglis

Resolved, That the meeting be adjourned.

“CARRIED”

“E. Levi, Recording Secretary

J. Atkinson, Chair”

REPORT

3148/21

TO:	MVCA Board of Directors
FROM:	Jennifer North, Water Resource Technologist
RE:	Watershed Condition Report
DATE:	June 09, 2021

For Information.

The watershed received below average rainfall in May and into June. This combined with above average temperatures have rendered streamflows well below average for this time of year, across the watershed.

The MVCA's Low Water Response Team met on Wednesday June 9th and declared a Low Water Level 1. Given continued forecasted hot dry weather, drought conditions are expected to worsen, with flows and levels continuing to decline throughout the watershed.

Compared to average flows for this time of year, the majority of the river and its tributaries are approximately 35% of normal on the main river (at Ferguson Falls and Appleton) and 30% or less on the tributaries such as Buckshot Creek, Clyde, Fall, Indian and Carp Rivers.

Upper watershed lakes are at or very close to summer target levels however these lakes are beginning to drop due to evaporation and a reduction in inflows from tributaries.

At present, Crotch Lake is roughly 0.30 meters below normal for this time of year. Levels on Dalhousie lake and Mississippi Lake are well below normal due to limited water being stored upstream with little to no excess water to send downstream. Both of these lakes are sitting at late summer levels with Dalhousie at roughly 30 cm lower than normal and Mississippi at 20cm below normal for this time of year.

During the summer months, flows and levels are sustained in the lower reach of the system by drawing down water levels on Crotch Lake. With a hot, dry summer forecasted we cannot afford to release water too early (normally start drawdown on Crotch in July) or we will end up with no water to sustain the lower Mississippi River throughout the summer months.

We have just started augmenting flows from Crotch Lake with one log being pulled at the dam today (June 7th) that will improve conditions slightly, but lake levels will most likely still be at late summer levels. Significant rainfall is needed throughout the watershed in order to alleviate the overall stress on the main system.

REPORT

3149/21

TO:	Board of Directors, MVCA
FROM:	Juraj Cunderlik, Director of Water Resource Engineering
RE:	Review and Update of the Lower Mississippi River Flood Plain Mapping Study – Work Plan and Budget
DATE:	June 7, 2021

Recommendations:

That the Board direct staff to allocate \$110,400 from the Operating Reserve to hire temporary engineering support and retain a consultant to conduct a third-party review of the Lower Mississippi River model and study.

1.0 PURPOSE

Per direction received at the May 2021 meeting of the Board, the purpose of this report is to provide the Board with a workplan, schedule, and budget to review and update the Lower Mississippi River Flood Plain Mapping Study.

2.0 WORKPLAN

Based upon discussions with John Price (former Director of Water Resource Engineering) and analysis conducted to date, the discrepancy between observed flood extents and elevations and model results can be explained by several factors that staff will be able to address in-house through additional field data collection and updating of the model. As discussed previously, a third-party review will be carried out to validate MVCA methodology, assumptions, and results.

The workplan will include the following tasks:

1. A third-party review of the 2019 study in accordance with the standards of the Technical Guide River & Stream Systems: Flooding Hazard Limit (MNRF, 2002).
2. Field reconnaissance of areas of concern where current model is reportedly not representative of flooding.
3. Topo-bathymetric data gap analysis to determine areas where additional data is required to improve model accuracy.
4. Field survey of areas of concern.
5. A model update with additional data, calculations, and assumptions.

6. A model validation against observed flooding information.
7. An update of flood plain maps and regulation limit.

The revised flood plain maps and regulation limit will be presented for adoption to the Board.

3.0 SCHEDULE

The proposed schedule for the Lower Mississippi River flood plain mapping review and update is outlined below. A 6-month duration is anticipated for the project with a completion in December 2021. The revised flood plain maps and regulation limit will be presented to the Board in January 2022.

		July	Aug.	Sept.	Oct.	Nov.	Dec.	Feb.
1	2019 Study Review							
2	Field Reconnaissance							
3	Data Gap Analysis							
4	Field Survey							
5	Model Update							
6	Model Validation							
7	Flood Plain Map Update							
	Board approval							

4.0 BUDGET

Assuming a 6-month project duration, the workplan will require an additional 0.25 FTE of senior engineering time, 0.25 FTE of GIS/junior engineering time, and 0.2 FTE of technical support.

Due to the requirements of this project and current workloads, it is recommended that engineering support staff be retained under a 1-year contract at a cost of approximately \$90,400 (including benefits.) Project disbursements (mileage, equipment) and consultant fees for this project are estimated at \$20,000, for a total of \$110,400 proposed to be paid from the Operating Reserve.

The 2020 Year-end Balance of the MVCA Operating Reserve was \$1,234,594. Less allocations of \$189,599 approved by the Board per the 2021 Budget and the above \$110,400, the projected balance of the Operating Reserve at December 31, 2021 is \$934,595. Due to the 2020 surplus this additional expense from the operating reserve can be accommodated. Impacts on the Reserve Fund may be mitigated at year-end due to higher than projected Planning and Regulation revenues and funding from the National Disaster Mitigation Program.

REPORT

3138/21

TO:	MVCA Policy & Priorities Committee
FROM:	Sally McIntyre, General Manager
RE:	By-law Amendment to Allow Consent Agenda
DATE:	May 31, 2021

RECOMMENDATIONS: (as amended by the P&P Committee)

That the Policy & Priorities Committee recommend that the Board approve amendment of the *MVCA Administrative By-law* to permit Consent Agenda as set out in this report, as amended.

In March, 2021, the Board of Directors approved the recommendations of Report 3119/21, as amended, directing that the *MVCA Administrative By-laws* be amended to allow for consent agenda. The following amendment is tabled for approval.

Add the following new Section **C.5 Consent Agenda** and renumber subsequent by-law sections.

5. Consent Agenda

a) Administrative Procedure

- 1) The Board may use a Consent Agenda to approve minutes, administrative report recommendations and receive information items without discussion and debate.
- 2) Consent Agenda may be used at Board meetings and at Standing Committee meetings.
- 3) Meeting Agenda shall identify items to be included in the Consent Agenda at the time of distribution.
- 4) Board members may direct that an item be removed from the Consent Agenda in advance of or during consideration of the Consent Agenda by informing the meeting Chair.
- 5) If a Member declares a pecuniary interest in an item that is on the Consent Agenda, the Chair shall remove it from the Consent Agenda.

b) Meeting Procedure

- 1) The meeting Chair will ask for a Motion to adopt the Consent Agenda.
- 2) The meeting Chair will call for errors or omissions in Consent Agenda items.
- 3) Members will identify any items to be removed from the Consent Agenda.

- 4) The Chair shall call the question on the remaining items with a single motion, including those with minor technical amendments.

REPORT

3140/21

TO:	MVCA Policy & Priorities Committee
FROM:	Sally McIntyre, General Manager
RE:	By-law Amendment to allow for Electronic Meetings and Participation
DATE:	May 31, 2021

RECOMMENDATIONS: (as amended by the P&P Committee)

That the Policy & Priorities Committee recommend that the Board approve amendment of the *MVCA Administrative By-law* as set out in this report, as amended, that will allow Board members to participate in meetings electronically outside of a State of Emergency.

In April 2020, the Board amended the *MVCA Administrative By-law* to allow for electronic participation in meetings during the COVID-19 pandemic. After almost a year of use, in March 2021 the Board determined that electronic meetings and participation have several benefits and should be permitted during normal operations (refer to Report 3118/21.)

Attachment 1 provides the amendments necessary to provide for electronic meetings and participation regardless of the operating environment. It reflects the results of a survey of Members the last week of May; and is based upon best practice identified through solicitation of language in use by other jurisdictions.

ATTACHMENT 1: Proposed Amendment to the MVCA Administrative By-law

1. DELETE 1B. Declared State of Emergency in its entirety:

“During any period where an emergency has been declared to exist, in all or part of an area over which the Authority has jurisdiction, under Section 4 or 7.0.1 of the Emergency Management and Civil Protection Act (EMCPA), that may prevent the General Membership from meeting in person, a Member may participate in meetings electronically and shall have the ability to:

1. register a vote;
2. be counted towards determining quorum; and
3. participate in meetings closed to the public.

During any period where an emergency has been declared to exist, in all or part of an area over which the Authority has jurisdiction, under Section 4 or 7.1 of the Emergency Management and Civil Protection Act, that may prevent the General Membership from meeting in person, any date or timeline requirement established under any Section in this By-law shall be postponed until such time as the General Membership can reasonably address the issue.

During any period where an emergency has been declared to exist, in all or part of an area over which the Authority has jurisdiction, under Section 4 or 7.1 of the Emergency Management and Civil Protection Act, the Authority shall implement best practices to make meetings of the Authority open to the public in accordance with Subsection 15(3) of the Act. Where possible, the Authority will provide for alternative means for the public to participate in meetings electronically.

During any period where an emergency has been declared to exist, in all or part of an area over which the Authority has jurisdiction, under Section 4 or 7.0.1 of the Emergency Management and Civil Protection Act, that may prevent the General Membership from meeting in person, any hearing or appeal dealt with in this By-law may be conducted electronically with provisions for applicants and their agents to participate if the Authority decides to hold any such hearing or appeal.”

2. RENUMBER subsection 1C: Emergency Operations to 1B.

3. DELETE Section C. 10 – Electronic Participation in its entirety.

“10. Electronic Participation

Members may participate in a meeting that is open to the public by telephonic or other electronic means that permits all participants to communicate adequately with each other during the meeting. A Member participating in a meeting electronically shall not be counted in determining quorum. A Member participating in a meeting electronically shall have no vote.

A Member shall not participate electronically in a meeting that is closed to the public.”

4. REPLACE AND RENAME Section C. 10 as follows:

10. Electronic Meetings and Electronic Participation

a) Applicability

1. It is the expectation of the Board that Members attend meetings in-person wherever possible in order to facilitate easy communications and Board cohesion.
2. Board meetings and Standing Committee meetings may occur in whole or part electronically in accordance with the provisions of this by-law, with specific care taken to ensure compliance with sections C.3, C.11, and C.13 governing public participation, delegations, and closed sessions, respectively.
3. Electronic meetings will only be arranged upon request by the Chair or GM, a Member or a Delegate, or as required to comply with legislation. Requests for electronic participation must be made in writing to the General Manager at least five (5) working days in advance of the scheduled meeting.
4. The method of electronic meeting shall be shared with Members, Delegates, and the Public at least two (2) working days in advance of the Meeting and include instructions for participation.

b) Quorum, Voting, and Confidentiality

1. Members participating electronically shall be counted in determining whether a Quorum is present.
2. Members participating electronically may vote in all meetings of the Board and Standing Committees, including a meeting that is closed to the public.
3. Members participating electronically are subject to the same rules and share the same responsibilities as those participating in-person. Members participating electronically shall take particular care to ensure the confidentiality of in-camera items.
4. At any time during a closed meeting, the Chair may ask Members to confirm that:

- i) No other persons can overhear the deliberations; and
 - ii) The internet connection is secure and not publically accessible.
5. Members participating electronically shall inform the Chair of their intention to leave the meeting either on a temporary or permanent basis.
6. Members participating electronically will be deemed to have left the meeting when they are no longer electronically connected to the meeting.
7. All votes shall be by a show of hands or by verbal consent (yes or no).

c) Technical Matters

1. It is the responsibility of Members, Delegates, and the Public to secure appropriate telephonic or internet service, and hardware and software/applications to participate in a meeting electronically.
2. Unless Quorum is lost, meetings will continue if the electronic connection of one or more Members is lost. Where Quorum is lost, the Chair will call a Recess of up to 15 minutes to allow connections to be re-established. If Quorum cannot be re-established, the meeting shall adjourn.
3. Meeting participants should Mute their microphones unless speaking and operate their phone or other electronic device as directed by the Chair.
4. Recordings of open meetings shall be published on the corporate website, and preserved for no less than 12 months from the date of recording.

REPORT

3139/21

TO:	MVCA Policy & Priorities Committee
FROM:	Sally McIntyre, General Manager
RE:	By-law Amendment to Clarify Roles of Policy & Priority Committee
DATE:	May 31, 2021

RECOMMENDATIONS:

That the Policy & Priorities Committee recommend that the Board approve amendment of the *MVCA Administrative By-law* to confirm the mandate of the Policy and Priorities Committee to deal with committee structures, as set out in this report.

Further to Report 3120/21 approved by the Board in March, 2021, the following amendment is tabled for approval. The proposed amendment allows the Policy and Priorities Committee to consider and address policy matters related to committee structure.

Amend Appendix 4 – Terms of Reference for Committees as indicated below.

POLICY AND PRIORITIES ADVISORY COMMITTEE

1. General Terms

The Policy and Priorities Advisory Committee will concern itself with matters of internal policy development and ~~establishing~~ priority setting related to the committees, programs, and services ~~activities~~ of Mississippi Valley Conservation Authority. At the first meeting of the Committee, a Committee Chair and Committee Vice-Chair will be elected from among the members of the Committee.

REPORT

3141/21

TO:	Policy & Priorities Advisory Committee, MVCA
FROM:	Matt Craig, Manager of Planning and Regulations
RE:	Update of MVCA <i>Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Policies</i>
DATE:	May 31, 2021

Recommendations:

That the Policies and Priorities Committee recommend that the Board of Directors:

1. Direct staff to prepare an internal check-list for assessment of any application for vehicle access through a provincially significant wetland (PSW).
2. Approve all proposed housekeeping changes to the *MVCA Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Policies* as presented in Report 3130/21.

1.0 BACKGROUND

Several housekeeping changes to MVCA floodplain and wetland policies were presented at the April 2021 meeting of the Policy & Priorities Committee. Also proposed was a substantive policy change that would provide for the construction of a laneway through a Provincially Significant Wetland (PSW) to facilitate development of a single residential home on an existing lot of record. The latter proposal was in response to a recent application and several inquiries related to laneway development through PSWs.

Several Committee members raised concerns related to potential establishment of a precedent by allowing development in a PSW. The matter was deferred to enable staff the opportunity to consider comments and consult with partner conservation authorities and City of Ottawa staff.

2.0 UPDATE

Based upon discussions with staff and other agencies, it is recommended that existing policies prohibiting laneways through PSWs remain in place; and that an internal check-list be developed for use by the Regulations Committee if a hearing is required to address such applications, and

by staff in responding to Ministerial Zoning Orders (MZOs). The check-list would address several matters such as the following:

- Maximum width and length of laneway.
- Restrictions through open water.
- Limits to clearing of vegetation.
- Mandatory frontage on an opened road allowance.
- Compliance with municipal zoning requirements.
- Alignment minimizes encroachment into regulated areas.
- Environmental Impact Study, geotechnical study, hydrogeological Impact study requirements.
- Mitigation and compensation plans.

3.0 NEXT STEPS

Upon Board approval, staff will notify member municipalities of the administrative updates to the policy document and upload it to the MVCA website.

REPORT

3130/21

TO:	Policy & Priorities Advisory Committee, MVCA
FROM:	Matt Craig, Manager of Planning and Regulations
RE:	Update of MVCA <i>Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Policies</i>
DATE:	April 23, 2021

Recommendations: DEFERRED to May meeting

That the Policies and Priorities Committee recommend that the Board of Directors:

1. Direct staff to conduct public consultation regarding the new section concerning provision of vehicle access through provincially significant wetlands (PSWs), and to report back to the Board with final recommendations; and
2. Approve all other changes to the *MVCA Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Policies* as presented.

1.0 BACKGROUND

MVCA's *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Policies* provide staff and landowners with direction on how Section 28 of *Ontario Regulation 153/06* is to be implemented. Clear documentation is needed to support transparency and consistency in policy application across a wide variety of situations. Periodic update of the document is used to improve clarity and to address gaps or emerging issues.

Most changes proposed in this report are housekeeping in nature and address:

- unclear or gaps in definitions.
- issues identified during review of applications emanating from the 2017 and 2019 floods.
- issues identified since adopting the wetland policies in 2017.

The only new policy introduced through this report pertains to vehicle access through a PSW. MVCA has no policy governing this matter, which became an issue during a recent permit application. All other changes clarify or document current practice. No other matters of

substance are recommended for change at this time due to anticipated changes to regulations arising from Bills 108 and 229.

2.0 ACCESS THROUGH A PSW

Currently, no practice or policy exists that permit vehicle access through a PSW to access adjacent land on an existing lot of record. This has the potential to sterilize land where the entire frontage is a PSW. Staff have been able to provide direction and advice for these types of applications where the wetland is not designated provincially significant, but lack the policy direction to work with landowners where the land is a PSW.

The new policy identifies the circumstances under which an access route may be permitted. While there is concern that providing access through a PSW could lead to future development pressures on the wetland, that potential would need to be addressed during subsequent planning and permit approval processes. Nothing in the proposed policy mandates that staff shall permit access through a PSW; it only provides them with the framework needed to determine whether access can be reasonably permitted.

Because this represents a new policy direction, it is recommended that staff consult with the public before the Board approves the policy.

3.0 ADMINISTRATIVE/HOUSEKEEPING CHANGES

The following sections were amended:

Section 4 - General Policies Regarding Implementation and Interpretation

(iii) Further encroachment towards towards a hazard not supported

(iv) Filling activity

(vi) Permits and Enforcement

Section 6.1.3 - Development with 15 metre Adjacent Allowance (new Section)

Section 6.2.1 - Fill and Grading in Floodway

(vii) one time load of fill permitted

Section 6.2.5 - Major Additions to Existing Buildings – Section deleted

Section 6.2.¹⁵ - Replacement of Buildings Destroyed by Fire or Natural Causes - wording to evaluate rebuilding on case by case basis

Section 6.2.7 – Foundation Reconstruction - clarification on replacement of foundation

Section 6.2.12 - Portable (Mobile) Buildings – seasonal buildings permitted in flood hazard

Section 6.3.4 - Major Additions to Residential Buildings – no increase in dwelling units

¹ Numbering changing through these changes.

Section 9 – changed introduction wording

Section 9.3.8 – 9.3.9 - Access and Boardwalk construction in PSW's

Section 9. 5.1. 11) & 9.5.3 - Boardwalks and Access in other wetlands

Section 9.6 – Compensation and Offsetting – added MZO wording

Appendix A – Added definitions for Detached, Shoreline ecological functions, unsafe building

Appendix B – deleted flood plain mapping section

Appendix B - Clarrification to Access, Fill Aprons and Drainage Swales sections

Appendix E – added h) erosion protection and i) rapid drawdown

Appendix I – new section on Meander Belt Assessments

Adoption of these revisions will:

- provide landowners and staff with clear, concise direction on procedures and policy;
- provide for consistency in reviews and approvals;
- allow for faster processing times; and
- reflect revisions to administrative procedures identified in the last flood events.

4.0 NEXT STEPS

Proposed external consultation for the revisions include:

- Notify the public and member municipalities of the proposed PSW access policies and post for comment on the MVCA website.
- Return to the Board with a final recommendation.
- Notify member municipalities of the administrative updates to the policy document and upload to the MVCA website.

ATTACHMENTS:

Regulations Policies (Proposed Changes)



Development, Interference with Wetlands and Alteration to Shorelines and Watercourses

Regulation Policies

Adopted by MVCA Board of Directors
Updated September 2019



MVCA Policy Document

Notes to Readers

This document was prepared under direction of the Board of Directors of Mississippi Valley Conservation Authority (MVCA) to provide clarification and consistency in the implementation of Ontario Regulation 153/06, MVCA's *Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation*, adopted pursuant to S. 28 of the *Conservation Authorities Act* of Ontario. It received approval from the Board of Directors on September 2019.

A definition is provided in Appendix A.

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MVCA Policy Document

Table of Contents

1.0 Background	5
1.1 Conservation Authorities Act	5
1.2 Planning Act and Provincial Policy Statement (PPS)	6
1.3 Relation of Regulation to Planning Act and PPS	6
2.0 Program Objectives	8
3.0 Section 28 Regulations	9
3.1 Powers Under Section 28 Regulation	9
3.2 Areas Subject to the Regulation	9
3.3 Activities Subject to the Regulation	10
4.0 Section 28 Policies	12
4.1 General Policies Regarding Implementation/Interpretation	12
5.0 Hazardous Lands - General Policies	14
5.1 Activities Deemed to Have Permission By Approval of These Policies	14
5.2 Prohibited Uses	15
5.3 General Policies for Fill Placement, Excavation and Lot Grading	16
6.0 Flood Plain Policies	18
6.1 General Flood Plain Policies	18
6.1.1 Agricultural Uses	19
6.1.2 Parking Lots, Driveways and Roads	19
6.1.3 Development within 15 Metre Adjacent Allowance	20
6.2 Floodway Policies	20
6.2.1 Fill and Lot Grading in the Floodway	20
6.2.2 New Buildings	21
6.2.3 Additions to Existing Buildings	21
6.2.4 Open Additions (attached)	22
6.2.5 Replacement of Buildings Destroyed by Fire or Natural Causes	24
6.2.6 Replacement/Reconstruction of Existing Buildings	24
6.2.7 Foundation Reconstruction	25
6.2.8 Auxiliary Buildings	25
6.2.9 Open Structures (detached)	26
6.2.10 Institutional Uses and Emergency Services	27
6.2.11 Swimming Pools	27
6.2.12 Portable (Mobile) Buildings	27
6.2.13 Boathouses	27
6.3 Flood-fringe Policies	28
6.3.1 Fill and Lot Grading in the Flood Fringe	28
6.3.2 New Residential Buildings	29
6.3.3 Minor Additions to Residential Buildings	29
6.3.4 Major Additions to Residential Buildings	30
6.3.5 Open Additions	30
6.3.6 Replacement/Reconstruction of Residential Buildings	31
6.3.7 Foundation Reconstruction or Replacement	31

MVCA Policy Document

6.3.8 Auxiliary Buildings	31
6.3.9 Open Structures (detached)	32
6.3.10 Commercial and Industrial Buildings	32
6.3.11 Portable (Mobile) Buildings	32
6.3.12 Swimming Pools	32
6.3.13 Boathouses	33
6.4 Safe Access/Egress Policies	33
7.0 River Bank and Steep Slope Policies – Apparent Valley	34
7.1 General Policies	34
7.2 Development Policies	35
7.2.1 Development within 15 Metre Adjacent Allowance	35
7.2.2 Development within the Erosion Hazard	36
8.0 Policies for Meander Belt (Erosion Hazard) - Not Apparent Valley	41
8.1 Development within the Adjacent Allowance – Not Apparent Valley	41
8.2 Development within the Erosion Hazard (Meander Belt)	41
8.2.1 Development Not Permitted within the Erosion Hazard (Meander Belt)	41
8.2.2 Development Permitted within the Erosion Hazard (Meander Belt)	42
9.0 Wetland Policies	45
9.1 Application	46
9.2 PSW – Boundaries	46
9.3 PSW – Permitted Uses	46
9.3.1 Drainage Works	48
9.3.2 Boardwalks	48
9.4 Development within Other Areas adjacent to wetlands	49
9.4.1 Area Within 30 Metres of the <i>Provincially Significant Wetland</i>	49
9.4.2 Areas between 30 and 120 Metres of a <i>Provincially Significant Wetland</i>	50
9.5 Other Regulated Wetlands	51
9.5.1 Permitted Uses	52
9.5.2 Areas within 30 Metres of a <i>Wetland</i>	54
9.6 Compensation and Offsetting	56
10.0 Alterations to Shorelines and Watercourses	57
10.1 General Policies	57
10.2 Alterations to Shorelines	58
10.3 Channel Realignment, Road Crossings, Diversions Dams	59
Appendix A: Definitions	60
Appendix B: Floodproofing Guidelines and Design Standards	70
B.1 General Floodproofing Principles	70
B.2 Safe Access / Egress	70
B.3 Design Requirements for Residential/Habitable Buildings	71
B.4 Design Requirements for Non Residential Buildings	72
B.5 Fill Aprons for the Floodproofing of Buildings	73
B.6 Drainage Swales	73
B.7 Swimming Pools	74

MVCA Policy Document

Appendix C: Cut and Fill Guidelines.....	75
Appendix D: Two-Zone Areas.....	76
Appendix E: Geotechnical Evaluation Requirements.....	77
Appendix F: Environmental and Hydrologic Impact Study and Procedures	79
Appendix G: Guidelines For In-Water and Shoreline Works	87
G.1 General Guidelines	87
G.2 Shoreline Alterations / Modifications.....	88
Appendix I: Guidelines for Meander Belt Width Assessments	91

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1.0 Background

In Ontario, water and related land management are the responsibility of Conservation Authorities working in partnership with municipalities. A principal mandate of Conservation Authorities is to prevent the loss of life and property due to flooding and erosion, and to conserve and enhance natural resources. The Development, Interference with Wetlands & Alterations to Shorelines & Watercourses Regulation is a key tool in fulfilling this mandate because it allows the Conservation Authority to regulate development in areas where the control of flooding, erosion, dynamic beaches, pollution or the conservation of land may be affected.

Mississippi Valley Conservation Authority (MVCA)'s authority to implement the Development Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation is provided under Section 28 of the *Conservation Authorities Act*. There are a number of other provincial acts and related regulations and policy statements which deal with planning, development and activities associated with water resources. They include among others: the *Planning Act*, the *Building Code Act*, the *Public Lands Act*, the *Lakes and Rivers Improvement Act*, the *Ontario Water Resources Act*, and the *Drainage Act*. Policies and regulations made by the Conservation Authority do not take precedence over the regulations or policy statements made under these acts or any other regulations. As such, recommendations or approvals granted by the Mississippi Valley Conservation Authority, under the following policies, do not preclude compliance with any other applicable regulations or agency requirements.

1.1 Conservation Authorities Act

The *Conservation Authorities Act* was originally created in 1946 in response to emergency situations and land conservation problems resulting from flooding and erosion. The Act recognizes that these and other natural resource initiatives are most effectively managed on a watershed basis. The Act provides Conservation Authorities with the legislative responsibility to regulate certain development activities in and adjacent to watercourses (including valley lands), wetlands, shorelines of inland lakes and hazardous lands (unstable soils and bedrock). The development activities that are subject to the regulation are described in Section 3.3. In general, permits (permissions) may be granted where, in the opinion of the Conservation Authority, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land is not affected.

Mississippi Valley Conservation Authority adopted its first "Fill, Construction and Alteration to Waterways" Regulation in 1988. In the late 1990's, as part of the *Red Tape Reductions Act* initiative, the provincial government undertook a review of the *Conservation Authorities Act* and its associated Section 28 regulations. While the *Red Tape Reductions Act* was primarily aimed at streamlining and bringing clarity and consistency to existing provincial government acts and regulations, another key objective was to maintain and improve upon legislation that protects public health, safety and the environment.

Revisions to the *Conservation Authorities Act* were approved by the Ontario Legislature in December 1998. The revisions to the act brought about changes in both what and where

Conservation Authorities can regulate, by providing more concise and broadened definitions for identifying flood and erosion susceptible areas and by expanding the regulated areas to include wetlands. A new process for approving and amending Conservation Authority Section 28 Regulations was also introduced. While traditionally, Section 28 regulations described regulated activities in terms of "fill, construction and alteration to waterways", the regulated activities are now phrased in terms of "development, interference with wetlands and alterations to shorelines and watercourses". The Fill, Construction and Alteration to Waterways Regulation, was amended and renamed the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation, Ontario Regulation 97/04.

1.2 Planning Act and Provincial Policy Statement (PPS)

The Provincial Policy Statement (PPS) 2020 provides policy direction on matters of provincial interest related to land use planning and development. The Provincial Policy Statement (PPS) is referenced when a *Planning Act* application such as a severance, a plan of subdivision or a zoning by-law or official plan amendment is considered. It provides guidance on planning matters related to Natural Hazards and Natural Heritage as well as other matters of provincial interest. The PPS states that development shall generally be directed to areas outside hazardous lands adjacent to river, stream and small inland lake systems which are impacted by flooding hazards and/or erosion hazards. It also directs that development shall not be permitted within provincially significant wetlands, and that development may only be permitted on lands adjacent to the wetland where it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Section 3 of the *Planning Act* requires that a decision of the council of a municipality, a local board, a planning board, a minister of the Crown and a ministry, board, commission or agency of the government, including the Land Planning Appeal Tribunal (LPAT), in respect of the exercise of any authority that affects a planning matter "shall be consistent" with the policy statement. It also requires that comments, submissions or advice that affect a planning matter that are provided by the council of a municipality, a local board, a planning board, a minister or ministry, board, commission or agency of the government "shall be consistent with" the policy statement.

1.3 Relation of Regulation to Planning Act and PPS

The following regulation policies have been developed to reflect the intent of the PPS and other related provincial and municipal guidelines and policies. It is the Authority's intent to administer this regulatory program in a manner that is consistent with the Provincial Policy Statement of 2020 and compatible with municipal requirements related to the undertaking of development adjacent to the shorelines of lakes, rivers and streams.

Staff responsible for the Section 28 applications must note that the principle of development will be established through prior approval of related planning applications where necessary, in advance of Section 28 approval from MVCA. The principal of development is established through the *Planning Act* approval process, whereas the Conservation Authority permitting process provides for technical implementation of matters pursuant to Section 28 of the *Conservation*

Authorities Act (CA Act). Concerns regarding the principle of development should be conveyed to the municipality/planning approval authority during the *Planning Act* approvals process and are not normally addressed through the *CA Act* . Conversely, municipalities in their planning approval role should recognize that the principle of development should be addressed first through the *Planning Act* process. Landowners who are interested in undertaking development activities that may be subject to the *CA Act* regulations should first review and address the requirements for any approvals under the *Planning Act*.

It should be noted that approval of any work under the Regulation does not exempt the landowner/applicant from obtaining other necessary permits from other approval bodies or individuals, public or private.

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2.0 Program Objectives

In implementing the policies of this document, the Authority will provide an objective, impartial and consistent review of all applications submitted under the regulation. The objectives of the "Development, Interference with Wetlands and Alterations to Shorelines and Watercourses" Regulation program are to:

- a) Prevent loss of life as a result of flood or erosion hazards.
- b) Minimize property damage and social disruption resulting from flooding or erosion.
- c) Minimize public and private expenditure for emergency operations, evacuation, disaster relief and restoration.
- d) Prevent hazardous development within flood plains, flood and erosion susceptible shorelines and unstable slopes which in future years may require expensive protection measures.
- e) Ensure that development does not increase risks to upstream and downstream landowners.
- f) Prevent the filling and/or draining of natural storage areas, and development that may limit flood plain storage capacity, increase flood elevations and/or decrease slope stability.
- g) Prevent pollution or other degradation of rivers and other water bodies, and existing and potential aquifer and aquifer recharge areas where the location of such resources is known.
- h) To apply this regulation in a manner that complements the Ontario government's "Provincial Policy Statement" made under the authority of section 3 of the *Planning Act* (as approved by the Lieutenant Governor in Council) as well as their attendant Implementation and Technical Guidelines.

3.0 Section 28 Regulations

3.1 Powers Under Section 28 Regulation

Conservation Authorities powers under the regulation include the ability to:

- a) Prohibit, regulate or provide permission for straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream, watercourse or changing or interfering with a wetland.
- b) Prohibit, regulate or provide permission for development if the control of flooding, erosion, dynamic beaches, pollution or the conservation of land may be affected by the development. (*Conservation Authorities Act, R.S.O. 1990 Chapter 27, S. 28*)

3.2 Areas Subject to the Regulation

The regulation applies to the following:

(i) Hazardous Lands:

As defined under the *Conservation Authorities Act*, hazardous land means lands that could be unsafe for development because of naturally occurring processes associated with flooding, erosion, dynamic beaches or unstable soil or bedrock.

In accordance with the “Mississippi Valley Conservation - *Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation (Generic Regulation) Implementation Policy (Approved by the Board of Directors on November 10th, 2005)*, under this regulation, MVCA will regulate development in hazardous lands where there is engineered flood plain mapping. The extent of regulated area associated with hazardous lands is identified by a Regulation Limit. The Regulation Limit has been mapped for all watercourses in MVCA's watershed for which engineered flood plain mapping is available.

(ii) Wetlands:

MVCA regulates development in and adjacent to all wetlands as outlined in Section 9.

As defined under Section 28 of the *Conservation Authorities Act*, a “wetland means land that:

- a) is seasonally or permanently covered by shallow water or has a water table close to or at its surface;
- b) directly contributes to the hydrological function of a watershed through connection with a surface watercourse;
- c) has hydric soils, the formation of which has been caused by the presence of abundant water; and

- d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water, but does not include periodically soaked or wet land that is used for agricultural purposes and no longer exhibits a wetland characteristic referred to in clause (c) or (d). ("terre marécageuse") 1998, c. 18, Sched. I, s. 12."

The regulation applies to development activities, as defined in Section 3.3 that may result in interference with the hydrologic functions of a wetland.

(iii) Shorelines and Watercourses:

This component of the regulation applies to all watercourses or parts of watercourses including lake shorelines within the Mississippi Valley Conservation Authority watershed. These areas are not required to be defined through mapping or schedules.

3.3 Activities Subject to the Regulation

Mississippi Valley Conservation Authority regulates the following activities:

(i) Development

Development activities are regulated in all hazardous lands, wetlands and lands adjacent to wetlands as delineated by the Regulation Limit and are shown on map schedules prepared by the Authority. The Regulation applies to the following development activities as defined under the *Conservation Authorities Act*:

- a) the construction, reconstruction, erection or placing of a building or structure of any kind;
- b) any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure;
- c) site grading; or
- d) the temporary or permanent placing, dumping or removal of any material, origination on the site or elsewhere. (*Conservation Authorities Act, R.S.O. 1990 Chapter 27, S. 28*)

(ii) Alterations to Shorelines and Watercourses

Activities that are regulated include straightening, changing, diverting or interfering with the existing channel of a river, creek, stream or watercourse.

(iii) Interference with Wetlands

Interference with wetlands includes any development activities as listed above that may result in impacts to the hydrologic or hydrogeologic function of the wetland.

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4.0 Section 28 Policies

4.1 General Policies Regarding Implementation/Interpretation

The implementation of this policy document will be guided by the following general policies:

- (i) Development activity will not be undertaken in a regulated area without written permission from the Authority with the exception of the activities specifically identified under Section 5.1 that are deemed to have permission by the approval of these policies by the MVCA Board of Directors.
- (ii) Where the regulated lands contain more than one regulated feature (i.e. part of a Provincially Significant Wetland that is also within the regulatory flood plain), the more restrictive policies will apply.

(iii) Further encroachments towards a hazard are not supported.

(iv) Approved filling activity in the flood plain, that inadvertently results in a change in the flood plain zone (e.g. floodway to flood fringe or non-floodplain), is not intended to facilitate future development. These lands will retain their original (pre-filling) designation for the purpose of implementing MVCA's Regulation Policies.

(v) The Appendices form part of the policies of this document.

(vi) Permits and Enforcement

Development in areas described in Ontario Regulation 153/06, requires a permit from MVCA. Each application shall be evaluated on its own merits, on a case-by-case basis, and consistent with the policies outlined in this document.

Development and/or interference undertaken in Regulated Areas without MVCA permission are in violation of the *Conservation Authorities Act*. Every person who contravenes Ontario Regulation 153/06 may be subject to a fine of not more than \$10,000 or to a term of imprisonment of not more than three months (*Conservation Authorities Act*, R.S.O. 1990, c. C.27, s. 28 (16)).

If convicted, the party may be ordered to remove the development/interference at their own expense. The party may also be subject to a court order to rehabilitate.

Retroactive permits will require double the required fee as outlined in the approved Fee Schedule.

Note: With the exception of works falling under Section 10.0 (*Alterations to Shorelines and Watercourses*), where feasible, the Authority will encourage the implementation of a minimum setback of 30 metres from the high water mark of any watercourse or wetland for new

(constructed and/or hardened) development. Exceptions may be considered on a site-specific basis in areas of existing development, where the works will not encroach into the setback any further than the existing building/structure and where because of the size, configuration and physical layout of the property, no other alternative exists. Additional setbacks may be required as per other agency approvals, by-laws, regulations or guidelines.

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5.0 Hazardous Lands - General Policies

As defined under the *Conservation Authorities Act*, hazardous land means lands that could be unsafe for development because of naturally occurring processes associated with flooding, erosion, dynamic beaches or unstable soil or bedrock. The following policies generally apply to all flood and/or erosion prone lands that are subject to this regulation. Additional policies for new and existing development are presented for each classification of hazard land further on in this document. The policies under this section do not apply to wetlands (See Section 9 for wetland policies).

Consistency with Provincial Policy Statement

These policies are intended to be consistent with the Section 3.1 of the Ontario government's "Provincial Policy Statement" issued under Section 3 of the *Planning Act* on May 1, 2020 and the "Technical Guide: River & Stream Systems Planning Policy Statement - Implementation Guidelines" (M.N.R., 2002). MVCA staff may also refer to the Technical Guide for guidance on more specific matters that may arise through the implementation of these policies.

5.1 Activities Deemed to Have Permission By Approval of These Policies

- (i) The policies under this section do not apply to regulated areas associated with wetlands. (See Section 9 for wetland policies)
- (ii) The following activities or works that are passive in nature and would not pose a threat to public safety if subject to flooding or erosion may be permitted within the Regulation Limit and by the approval of this policy document have the permission of Authority under Section 28 of the *Conservation Authorities Act*:
 - a) Passive non-structural activities involving no grading or alteration to the landscape, such as public or private recreation areas, agricultural crop land, or grazing.
 - b) Small Accessory Structures - One non-habitable accessory structures with a gross floor area less than 10 square metres. The Authority encourages that a minimum 7.5 m setback from the top of slope or the toe of a valley slope and/or a 15 m setback from the channel bank of any watercourse is maintained.
 - c) Fencing is considered exempt from permission required under the Section 28 regulation. However, where fencing is required in a regulated area where it could aggravate potential flood or erosion hazards, MVCA will recommend that the fencing is constructed in such a manner that it will not impede the conveyance of flow and will limit the potential for collection of debris during high flow/flooding events. Stone or concrete walls are not included under this exemption.
 - d) Minor Fill Placement - A onetime placement of fill, less than or equal to 10 m³ in volume provided the following criteria are met:

- a minimum setback of 7.5 m from the top of slope and a minimum setback of 15 m from the channel bank of any watercourse, is maintained:
 - the filled and re-graded area is immediately stabilized: and
 - the fill does not have an effect on Regulatory Flood elevations as demonstrated to the satisfaction of the Authority.
- e) Resurfacing of existing driveways and parking lots, where the final grade is within 50 mm of the existing grade.
- f) The repair of an existing foundation.
- g) Other minor development activities that, based on the size and scale of the proposal and the specific site conditions, the authority determines will not result in a negative impact to flood, erosion or the conservation of land.

5.2 Prohibited Uses

- (i) Due to potential public safety concerns, the following uses, will be prohibited within the regulatory flood plain, the stable slope limit and the erosion hazard limit:
- a) uses associated with the manufacture, collection, storage, disposal, and/or consumption of hazardous substances that may pose an unacceptable threat to public safety if they were to escape their normal containment/use as a result of flooding, failure of flood-proofing and/or protection works and/or erosion;
 - b) institutional and associated uses such as hospitals, nursing homes, pre-schools, day cares and schools, which may pose a significant threat to the safety of the inhabitants if involved in an emergency evacuation situation as a result of flooding, failure of flood-proofing and/or protection works, and/or erosion;
 - c) uses associated with essential services such as those provided by fire, police and ambulance stations and electrical substations that may be impaired during a flood emergency as a result of flooding, failure of flood-proofing, and/or protection works;
 - d) new stormwater management facilities

5.3 General Policies for Fill Placement, Excavation and Lot Grading

Activities subject to this section include but are not limited to placement of fill, excavations, stockpiling, site grading, the installation of sewage disposal systems, and other grade altering activities. The following policies apply to fill placement, excavation and lot grading where permitted by other policies within this document.

- (i) Fill placement may be considered on flood plain lands only if flood plain storage volume impacts are addressed and upstream and downstream water levels and/or flow velocities related to increased flood risk or damage are unaffected. An acceptable hydraulic analysis may be required, at the discretion of the Authority, to ensure that these matters have been addressed.
- (ii) Fill placement, excavation and lot grading activities must not adversely affect the flood and/or erosion susceptibility of buildings or properties located at the fill site, or upstream or downstream of the fill site.
- (iii) Only clean fill may be placed.
- (iv) Controls will be required to ensure that sediment transport from the fill site into adjacent watercourse, wetlands and other water bodies shall not occur. These controls must be in place before and during construction and until the site is permanently stabilized.
- (v) For regulated areas in which fill placement, excavation or lot grading activities could result in slope instability, geotechnical analysis may be required at the landowner/applicant's expense.
- (vi) Permitted fill placement, excavation and lot grading activities may be seasonally restricted and subject to a specified time frame.
- (vii) Upon completion of permitted fill placement, excavation, and lot grading activities, the landowner/applicant may be required to submit a plan to the Authority showing that finished grades are in accordance with the grading plan approved by the Authority. This plan shall be prepared and certified by a Professional Engineer or Ontario Land Surveyor and must be referenced to geodetic datum. The submission must be received within 30 days following completion of the fill operation.
- (viii) Fill placement, excavation and lot grading activities will not be permitted where it may result in pollution and/or adversely affect conservation of land.
- (ix) The authority may waive any of the above requirements where there will clearly be no detrimental effects on the control of flooding, erosion, pollution or the conservation of land.

- (x) Fill placement, excavation and lot grading activities for septic systems must be limited to the required area and depths as specified by the approving agency under Part 8 of the Ontario Building Code (OBC).
- (xi) Under certain circumstances an incrementally balanced cut and fill may be considered according to the guidelines set out under Appendix C.
- (xii) Fill imported on site for grading, backfilling, floodproofing or road construction may require confirmation for suitability by a Professional Engineer or a Professional Geoscientist licensed in the Province of Ontario.

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6.0 Flood Plain Policies

6.1 General Flood Plain Policies

- (i) The limits of the regulatory flood plain are defined by the 1:100 year flood level.
- (ii) With the exception of those areas subject to the policies under 6.1(iii) and 6.3, the flood plain shall consist of one zone defined by the Regulatory Flood Standard. Where the one zone concept is applied, the entire flood plain is treated as floodway (Figure 1.)

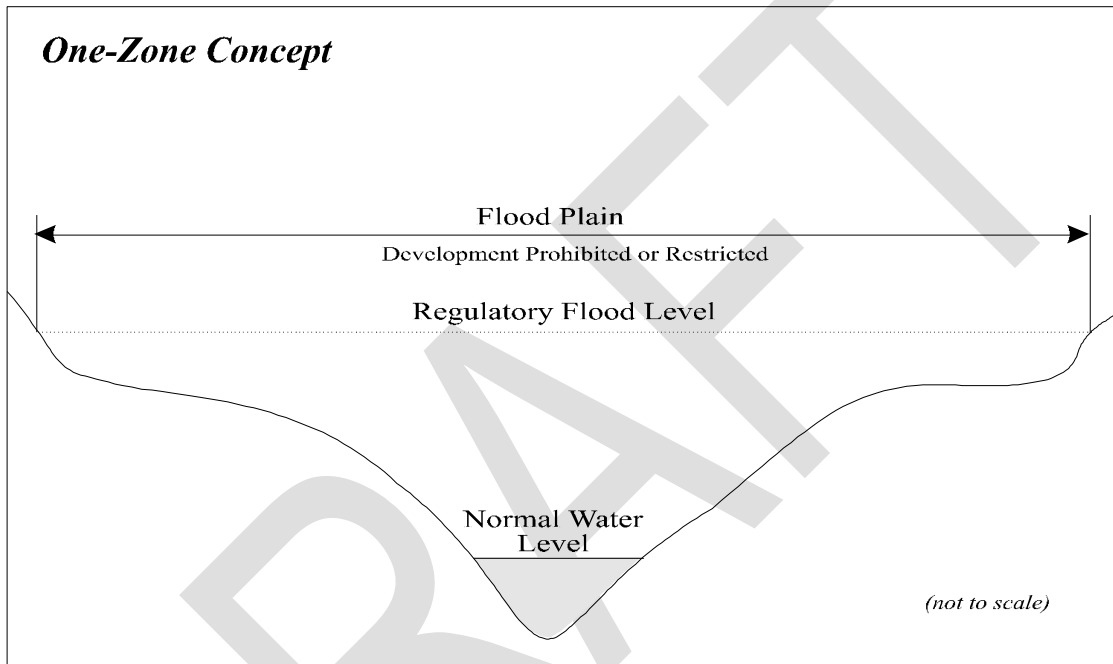


Figure 1. One-Zone concept flood plain and regulatory flood levels

- (iii) The two-zone (floodway-flood fringe) concept shall be applied only in specific areas where it has been adopted by the Conservation Authority, in cooperation with the member municipality. The areas where the two-zone concept has been adopted are described in Appendix D.
- (iv) For proposals involving a building, where the exterior wall or a portion of that wall abuts the limit of the regulatory flood plain or a portion of the building encroaches into the flood plain the following shall apply:
 - a) Where the existing grades are such that the structure would be subject to greater than 0.3 m (1 ft) depth of flooding during a 1:100 year flood event or more than 50% of the existing footprint is in the floodplain, the structure will be considered as flood susceptible and the flood plain policies under Section 6 of this document shall apply.

- b) Where the existing structure would be subject to less than 0.3 m (1 ft) depth of flooding during a 1:100 year flood event and less than 50% of the existing footprint is in the floodplain, the Authority may consider permitting expansions, enlargement or redevelopment of the existing structure in accordance with the policies under 6.3.3, 6.3.4, 6.3.5 and 6.3.6.

6.1.1 Agricultural Uses

- (i) Within the flood hazard limits (regulatory flood plain and associated regulation limits), the use of land for ongoing cropland, grazing, orchards and nurseries, and associated activities such as plowing and fencing, are not considered site alterations provided there is no alteration to existing grades.
- (ii) The construction of farm buildings (excluding residences, commercial greenhouses and large-scale enclosed livestock facilities) may be considered within the flood hazard limit, where there is no reasonable site for the proposed works outside of the flood hazard limit and where the buildings will be floodproofed.

6.1.2 Parking Lots, Driveways and Roads

- (i) A parking lot, driveway or road may be permitted within the flood hazard limit (regulatory flood plain and associated regulation limit) subject to the following criteria:
 - a) where the flood plain is within an apparent valley, a parking lot, driveway or road is permitted only within a property containing existing development where there is acceptable access to the site;
 - b) where the flood plain is within a non-apparent valley, the parking lot, driveway or road must be located outside of the meander belt allowance;
 - c) the existing pre-development grade is not more than 0.3 metres below the regulatory flood elevation;
 - d) the parking lot, driveway or road is designed to account for access and egress under regulatory flood conditions;
 - e) driveways and access routes to access high points of land completely surrounded by the Regulatory flood plain within flood susceptible properties shall not be permitted;
 - f) to minimize the amount of fill and grading used in the construction of the parking lot, driveway or roadway, the Authority will require at-grade construction wherever feasible.

6.1.3 Development within 15 Metre Adjacent Allowance

- (i) Development may be permitted within the 15 metres allowance adjacent to the flood plain, subject to information and site plans being submitted to demonstrate the following:
 - a) the development does not create or aggravate the flood hazard;
 - b) the development does not change drainage or vegetation patterns that would impact the flood plain;
 - c) safe access in accordance with the guidelines under Appendix B;
 - d) floodproofing in accordance with Appendix B, may be required;
 - e) fill placement and/or lot grading does not modify the extent of the flood plain or impact adjacent properties.

6.2 Floodway Policies

The policies under this section apply to:

- a) The entire flood plain in all areas where the One-Zone concept is applied.
- b) The floodway, as defined in Appendix A, in all areas where the Two-Zone concept is applied (Appendix D).

6.2.1 Fill and Lot Grading in the Floodway

Filling in the flood plain can result in negative impacts on water flow and storage capacity of the flood plain which can cause or increase flooding and/or erosion on other nearby properties. Filling in the flood plain can also cause sedimentation which can impact water quality. To prevent these negative impacts, fill placement and lot grading activities within the floodway are generally restricted to what is required for floodproofing purposes. The placement of fill for landscaping purposes is generally not permitted.

In addition to policies 5.3, proposals involving fill and/or lot grading in the floodway shall be subject to the following:

- (i) Fill and lot grading activities shall not be permitted within a floodway except as permitted under, or in association with, the following policies.
- (ii) Minor site grading, without the introduction of new material, may be permitted provided there is no change in the flood-fringe or floodway designation. A vegetated buffer in the near shore riparian area must be maintained or established.

- (iii) Fill placement and lot grading may be permitted for floodproofing purposes to the minimum amount required in accordance with guidelines under Appendix B in relation to constructed development as permitted under Section 6.2.3 (minor additions) and Sections 6.2.6 and 6.2.7 (replacement buildings).
- (iv) Fill placement and lot grading may be permitted and site-servicing works including access as permitted under Section 6.1.2 (see floodproofed access requirements under Appendix B) or the replacement of a sewage disposal system if an alternative site outside of the flood plain does not exist.
- (v) Fill placement and lot grading for septic systems shall be limited to the required area and depths as specified by the septic system approval agency. The design of the septic system should minimize the amount of fill placement in the flood plain.
- (vi) The placement of fill at the shoreline for shoreline stabilization and/or erosion control purposes may be permitted in accordance with the policies under Section 10.
- (vii) A one-time placement of less than or equal to 10 m³ of imported fill is permitted in the flood plain provided the flow of flood water is not impeded.

6.2.2 New Buildings

- (i) New buildings (including residential, commercial, industrial and institutional uses) shall not be permitted in the floodway except as permitted under Section 6.2.5, 6.2.6, 6.2.8 6.2.9, and 6.2.13.

6.2.3 Additions to Existing Buildings

- (i) An enclosed minor addition onto an existing building may be permitted in any part of the flood plain including the floodway where it can be demonstrated that:
 - a) the size of the addition does not exceed 20% of the gross floor area of the existing building or 20 square metres (215 square feet), whichever is less;
 - b) the number of dwelling units is not increased;
 - c) all habitable floor space is at or above the existing ground floor elevation, no basement is proposed and any crawl space is non-habitable and designed to facilitate services only in accordance with floodproofing requirements under Appendix B.
- (ii) An addition resulting in an increase of between 20% and 50% in gross floor area but not exceeding 50 square metres (538 square feet) may be permitted in the floodway provided

all of the following provisions are met:

- a) the addition meets the floodproofing provisions outlined in Appendix B; and
 - b) the number of dwelling units is not increased;
 - c) access is safe as per Appendix B.2 (Safe Access / Egress).
- (iii) Additions that exceed 50 square metres are not permitted in the floodway.
- (iv) Additions that will result in a cumulative enlargement exceeding (i) and/or (ii) and/or (iii) above, as based on the original gross floor area, shall not be permitted (in the floodway). This will be determined based on the total floor area of all additions constructed after the date that the original MVCA Regulation came into effect on May 15, 1988.
- (v) Where possible, the addition shall be located outside the flood plain or to the least flood susceptible location within the property.
- (vi) Additions that are open and peripheral in nature such as an open deck or carport shall be subject to the policies under Section 6.2.4(attached) and 6.2.9(detached).

6.2.4 Open Additions (attached)

The following policies apply to any addition designed as an open construction (such as a deck, porch, and carport) or at grade patio that is to be attached to an existing structure. For the purposes of these policies, an open structure is defined as a structure with no walls, which is constructed on piers or an above-grade foundation, for use as outdoor living area or storage area.

- (i) An open addition onto an existing building maybe permitted in the floodway subject to all of the following criteria:
 - a) the total building area of all attached open structures (existing and new) shall not exceed 20 square metres. Where there are existing open structures attached to the building that already exceed 20 square metres in building area, additional open structure shall not be permitted;
 - b) the structure is properly anchored to the ground to prevent flotation in the event of a flood;
 - c) water storage will not be reduced and flood flows not be impeded;
 - d) it is designed to allow for the free flow of water, under, over and around the structure.

- (ii) The enclosure of an existing open addition shall be treated as a minor addition and shall be subject to the policies of Section 6.2.3. Enclosure is defined as any of the following activities:
 - a) the construction of a foundation under the structure, and/or
 - b) the construction of walls on any side(s) of the structure.
- (iii) The extension of a roof or awning over an open addition is permitted.
- (iv) Open structures that are not attached to the main building are subject to the policies under Section 6.2.9.

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6.2.5 Replacement of Buildings Destroyed by Fire or Natural Causes

Any building located in the flood plain that has been destroyed by forces beyond the owner's control, other than flooding, may be rebuilt provided all of the following criteria are met:

- (i) The former building was in a habitable condition prior to its destruction and the permit application for reconstruction/replacement of the destroyed building is received by Mississippi Valley Conservation Authority within 18 months of the date that the structure was destroyed. Evidence of this must be provided by the landowner/applicant to the satisfaction of the Authority.
- (ii) Buildings located in the floodway will be permitted to be replaced subject to the following:
 - a) the replacement building is designed so that it is not more flood susceptible than the original building (i.e. the floor elevation of the replacement dwelling is at the same elevation or higher than the original building);
 - b) the gross floor area and the footprint of the replacement building is the same or less than the original building;
 - c) the resulting use of the replacement building is the same or a less intensive than the use of the original building; and
 - d) the replacement building contains the same number of, or fewer, dwelling units.
- (iii) Proposals involving the reconstruction of an existing building to a larger size will be subject to the policies for additions under 6.2.3 and 6.2.4.
- (iv) The replacement/reconstruction of a building destroyed as a result of natural flooding from the watercourse will be considered as new construction and the corresponding policies for new buildings generally shall apply. Any new construction will be evaluated on a case by case basis and will consider velocity and flood plain storage impacts.
- (v) The Authority will require, that the replacement building be floodproofed to the regulatory flood standard or and relocated outside the flood plain or to the least flood susceptible location within the property.

6.2.6 Replacement/Reconstruction of Existing Buildings

The following section applies to the voluntary replacement/reconstruction of existing buildings that have not been destroyed by fire or natural causes. This does not apply to unsafe abandoned buildings. In reviewing proposals to reconstruct existing buildings located in the floodway, it is the Authorities goal to achieve a net gain in terms of reducing the level of risk associated with

the development. It is the intent of the Authority to allow the continued existing use of the building provided the following policies are addressed:

- (i) Where possible, the replacement building is located outside the flood plain or to the least flood susceptible location within the property.
- (ii) Proposals involving the reconstruction of an existing building to the same or smaller gross floor area and the same or smaller footprint of the original building shall be permitted provided the number of dwelling units is not increased.
- (iii) Proposals involving the reconstruction of an existing building to a larger size will be subject to the policies for additions under 6.2.3, 6.2.4 and 6.2.5.
- (iv) The reconstruction must be floodproofed in accordance with the floodproofing guidelines outlined in Appendix B.
- (v) For buildings that have been demolished prior to the date of submission of the application, the landowner/applicant must provide proof to the satisfaction of the Authority, confirming that the building existed within the 18 months prior to the date of the submission of the application and confirming the gross floor area and location of the building.
- (vi) Permission will not be granted for the reconstruction of unsafe abandoned buildings in the floodway.

6.2.7 Foundation Reconstruction

- (i) The construction of a new foundation under an existing building located within the regulatory flood plain will be permitted provided that accepted floodproofing and erosion control measures are incorporated into the foundation design.
- (ii) Applications for the construction of a new foundation in combination with the construction of an addition shall also be subject to the applicable policies for additions as set out in this document.
- (iii) Repair of existing foundation is permitted if less than 50% of the existing foundation is replaced.

6.2.8 Auxiliary Buildings

- (i) Non-residential auxiliary buildings with a gross floor area larger than 10 square metres and up to 50 square metres (total of all combined auxiliary structures) may be permitted in the floodway provided that:

- a) it is located in an area where the depth of flooding does not exceed 0.3 metres and it is firmly anchored to withstand the effects of flooding without structural damage;
 - b) it is floodproofed;
 - c) the building contains no habitable space;
 - d) the building is detached.
- (ii) Agricultural buildings may be exempt from the above requirements depending on location, use, local conditions, etc. (see also the policies under Section 6.1.1).
- (iii) Permitted auxiliary buildings shall be located outside the flood plain or to the least flood susceptible location within the property.

6.2.9 Open Structures (detached)

The following policies apply to any stand-alone (detached) structure of open construction, such as a deck, carport, gazebo or picnic shelter.

- (i) For the purposes of these policies, an open structure is defined as a structure with no walls, except for use as outdoor living area, recreational area or storage area.
- (ii) To be considered detached it must be located at least 1.5 metres from the main building. Any open structures within 1.5 metres of a building shall be considered attached and shall be subject to the policies under Section 6.2.4.
- (iii) An open structure may be permitted in the floodway provided the following policies are met:
 - a) the primary use is already established on the property (ex. there is already a dwelling on the property);
 - b) the total building area of all detached open structures (existing and new) shall not exceed 20 square metres;
 - c) the structure is properly anchored to the ground to prevent flotation in the event of a flood;
 - d) the structure is designed to allow for the free flow of water, under, over and around the structure; and
 - e) water storage will not be reduced and flood flows not be impeded.

- (iv) The enclosure of an existing open structure shall not be permitted. Enclosure includes the following activities:
 - a) the construction of a foundation under the structure, and/or
 - b) the construction of walls on any side(s) of the structure.
- (v) The construction/installment of a roof, awning or other covering over an open addition may be permitted.

6.2.10 Institutional Uses and Emergency Services

- (i) Development associated with institutional uses and emergency services as described under Section 5.2 are not permitted in the floodway.

6.2.11 Swimming Pools

- (i) The construction/placement of an above-ground or in-ground pool is not permitted in the floodway.

6.2.12 Portable (Mobile) Buildings

- (i) Permanent placement of portable (mobile) building is not permitted in the floodway.
- (ii) Temporary placement for seasonal/recreational use is permitted provided the building is moved out of the hazard area before spring freshet.

6.2.13 Boathouses

- (i) A boathouse with a gross floor area larger than 10 square metres and up to 50 square metres may be permitted in the floodway provided that:
 - a) the design of the boathouse meets the definition of a boathouse in Appendix A;
 - b) the boathouse contains no habitable space;
 - c) the boathouse is detached;
 - d) electrical servicing is floodproofed;
 - e) there is a maximum of one boathouse per lot.

6.3 Flood-fringe Policies

In areas where the Two-Zone Concept is applied, the flood fringe means the outer portion of the flood plain between the floodway and the regulatory flood line (Figure 2). Flood depths and velocities tend to be less severe in the flood fringe as compared to those in the floodway. The flood fringe defines the area where development may be permitted subject to appropriate floodproofing.

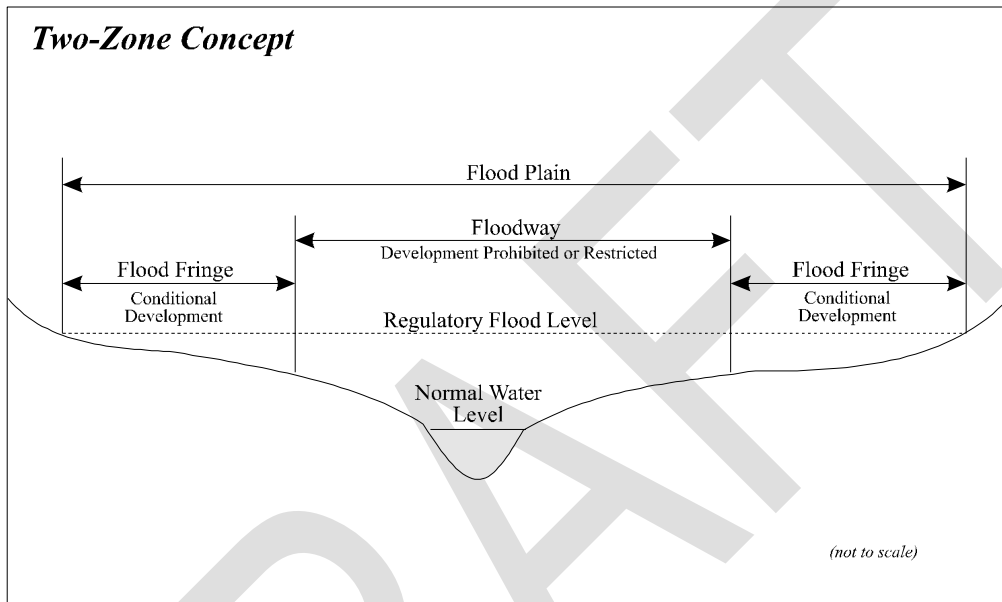


Figure 2. Two-Zone concept regulatory flood levels

The following policies apply only to the flood fringe portion of the flood plain in areas where the Two-Zone concept is applied, as described in Appendix D. For development proposed in the floodway portion of the flood plain, the policies for floodway under Section 6.2 shall apply.

6.3.1 Fill and Lot Grading in the Flood Fringe

The following policies for fill placement and/or lot grading in the flood fringe are in addition to the general fill and lot grading policies under Section 5.3 and applicable policies for access/parking (6.1.2) and for floodproofing (Appendix B).

- (i) Fill placement and or lot grading for the purpose of floodproofing may be permitted in the flood fringe provided all of the following criteria can be met.
 - a) Fill placement and/or grading must be carried out in a way that will not result in additional runoff/drainage being directed onto adjacent properties.

- b) Where a lot is being filled and/or graded to an elevation that exceeds the grade of an adjacent property, and where an adequate drainage swale does not already exist, a grassed drainage swale may be required for the area between the fill area and the lot line.
- c) Where a drainage swale is required it must be designed in accordance with the guidelines under Appendix B.
- d) Fill placement and lot grading for the purpose of providing a fill apron shall also be subject to the guidelines under Appendix B.

6.3.2 New Residential Buildings

The following polices apply to residential buildings and/or buildings all or part of which are used for human habitation. For commercial, industrial or agricultural buildings see the applicable policies under Section 6.3.10.

- (i) A new residential building may be permitted in the flood fringe provided that:
 - a) wherever possible, the new residential building should be located outside the flood plain or to the least flood susceptible location within the property;
 - b) the building is floodproofed in accordance with Appendix B;
 - c) access is safe in accordance with Appendix B.

6.3.3 Minor Additions to Residential Buildings

- (i) In two zone flood plain areas, a minor addition onto an existing building may be permitted in any part of the flood plain, subject to the following:
 - a) In the floodway, minor additions shall be subject to the policies for minor additions under Section 6.2.3.
 - b) In the flood fringe, an addition that will increase the original gross floor area of the existing building by less than 20%, the addition shall not be more vulnerable to flooding than the existing building (where possible protection to the 100 year flood level should be provided).
 - c) In the flood fringe, an addition that will increase the original gross floor area of the existing building by 20% to 50%, to a maximum of 50 square metres, the addition shall be floodproofed in accordance with the floodproofing guidelines as outlined in Appendix B.

- d) All additions constructed after May 15, 1988 will be counted toward the maximum allowable increase in floor area and footprint.
- e) It is located outside the flood plain or to the least flood susceptible location within the property.

Note: In areas serviced by private on-site services, certification from the applicable septic system approval authority may be required to confirm the existing septic system will sustain the proposed use.

6.3.4 Major Additions to Residential Buildings

- (i) In two zone flood plain areas major additions may be permitted in the flood fringe only, subject to following:
 - a) the addition is located within the flood fringe only and no part of the addition extends into the floodway;
 - b) for an addition that will increase the original gross floor area of the existing building greater than 50% or 50 square metres, the addition must be floodproofed in accordance with the floodproofing guidelines as outlined in Appendix B and the landowner/applicant must demonstrate that every reasonable effort has been made to floodproof the original gross floor area of the building;
 - c) access is floodproofed in accordance with the guidelines of Appendix B;
 - d) it is located outside the flood plain or to the least flood susceptible location within the property.
 - e) the replacement building contains the same number of, or fewer, dwelling units.

Note: In areas serviced by private on-site services, certification from the applicable septic system approval authority may be required to confirm the existing septic system will sustain the proposed use.

6.3.5 Open Additions

The following policies apply to any addition designed as an open construction, such as a deck, porch, and carport, or above grade patio, which may be either attached or detached from the main structure. For the purposes of these policies, an open structure is defined as a structure with no walls, except for railings, which is constructed on piers or an above-grade foundation, for use as outdoor living area or storage area.

- (i) An open addition onto an existing building may be permitted in the flood fringe subject to all of the following criteria:

- a) the structure is properly anchored to the ground to prevent floatation in the event of a flood;
 - b) water storage will not be reduced and flood flows not be impeded;
 - c) it is designed to allow for the free flow of water, under, over and around the structure.
- (ii) The enclosure of an existing open addition shall be treated as an addition and shall be subject to the applicable policies under Section 6.3.3 (minor additions) or 6.3.4 (major additions), depending on the size of the area to be enclosed. Enclosure is defined as any of the following activities:
- a) the construction of a foundation under the structure, and/or
 - b) the construction of walls on any side(s) of the structure.
- (iii) The extension of a roof or awning over an open addition is permitted.

6.3.6 Replacement/Reconstruction of Residential Buildings

The replacement/reconstruction of an existing residential building in the flood fringe shall be subject to the policies for New Residential Buildings, under Section 6.3.2, the policies for Minor Additions to Residential Buildings, under Section 6.3.3 and the policies for Major Additions to Residential Buildings, under Section 6.3.4.

6.3.7 Foundation Reconstruction or Replacement

See policies under Section 6.2.7

6.3.8 Auxiliary Buildings

- (i) A non-residential auxiliary building with a gross floor area larger than 10 square metres and up to 50 square metres may be permitted in the flood fringe provided that:
 - a) it is firmly anchored to withstand the effects of flooding without structural damage;
 - b) it is floodproofed in accordance with the guidelines of Appendix B;
 - c) the building contains no habitable space;
 - d) the building is detached.
- (ii) The auxiliary building shall be located outside the flood plain or to the least flood susceptible location within the property.

- (iii) Agricultural buildings may be exempt from the above requirements depending on location, use, local conditions, etc. (see also the policies under Section 6.1.1).

6.3.9 Open Structures (detached)

See policies under Section 6.2.9

6.3.10 Commercial and Industrial Buildings

- (i) A commercial or industrial building may be permitted in the flood fringe provided that:
 - a) the building is floodproofed in accordance with the floodproofing guidelines outlined in Appendix B;
 - b) there is no storage/ containment of hazardous materials or chemicals which could pose an unacceptable threat to public safety (ex. contamination/deterioration of water quality);
 - c) a foundation design and site grading plan is prepared by a professional engineer, at the applicant's expense, to the satisfaction of the Authority.
- (ii) The Authority will also recommend that the building shall be located outside the flood plain or to the least flood susceptible location within the property.
- (iii) Additions onto existing commercial or industrial buildings in the flood fringe shall be subject to the applicable floodproofing guidelines under Appendix B.

6.3.11 Portable (Mobile) Buildings

- (i) The permanent placement of a portable (mobile) building may be permitted in the flood fringe provided that the building is floodproofed in accordance with the floodproofing guidelines as outlined in Appendix B; it is firmly anchored to withstand the effects of flooding without structural damage; and access is safe in accordance with Appendix B.
- (ii) The Authority will require that where possible, the mobile building shall be located outside the flood plain or to the least flood susceptible location within the property.

6.3.12 Swimming Pools

- (i) Swimming pools will be permitted within the flood fringe area subject to the following:
 - a) where an alternative area outside of the flood plain does not exist;
 - b) electrical servicing must be floodproofed;

- c) potential impacts to flood conveyance may impact the location and design.

Concerns regarding swimming pools in the flood plain are outlined in Appendix B.

6.3.13 Boathouses

- (i) A boathouse with a gross floor area larger than 10 square metres and up to 50 square metres may be permitted in the flood fringe provided that:
 - a) the design of the boathouse meets the definition of a boathouse in Appendix A;
 - b) the boathouse contains no habitable space;
 - c) the boathouse is detached;
 - d) electrical servicing is floodproofed;
 - e) there is a maximum of one boathouse permitted per lot.

6.4 Safe Access/Egress Policies

In areas where the property has suitable area to construct above the 1:100 year flood plain; however, access to the property does not meet safe access standards, development may be permitted subject to the following:

- (i) a new or replacement residential building may be permitted provided that access is made safe in accordance with the guidelines under Appendix B.2.
- (ii) a minor addition onto an existing building may be permitted, subject to following:
 - a) the addition will not increase the original gross floor area of the existing building by more than 50 square metres,
 - b) all additions constructed after May 15, 1988 will be counted toward the maximum allowable increase in the original gross floor area.
- (iii) a major addition (i.e. greater than a 50 square metres of the original gross floor area) may be permitted, provided that safe access is established in accordance with the guidelines of Appendix B.

7.0 River Bank and Steep Slope Policies – Apparent Valley

The policies under this section apply in areas where there is an apparent valley and where potential erosion and/or slope instability are the operative hazards. For development within the erosion hazard (meander belt) of a not apparent river or stream valleys refer to the policies in Section 8.0.

7.1 General Policies

- (i) As defined in the Mississippi Valley Conservation Authority - Reference Manual for the Preparation of Regulation Schedules, February 2005 (3.2(I)) the regulation limit of banks associated with watercourses is based on three components: an erosion allowance; a stable slope limit; and a 15 m allowance setback (Figure 3).

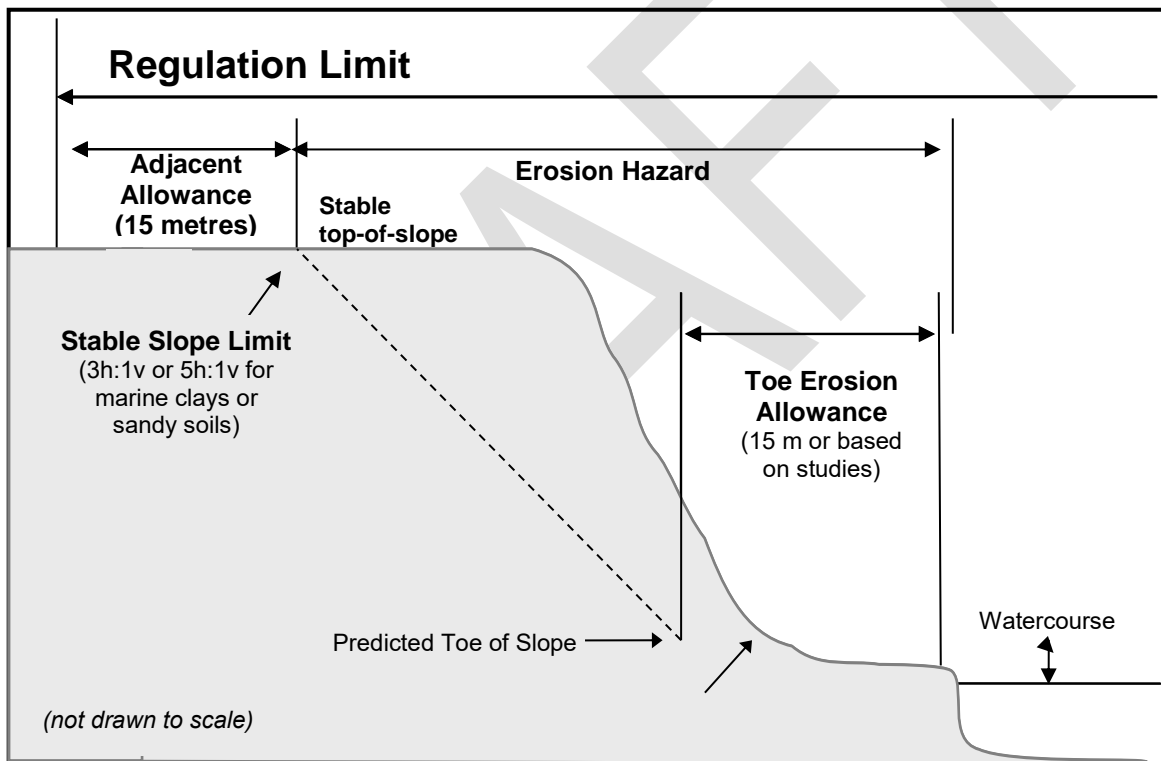


Figure 3. Cross Sectional Diagram Showing Components of Slope Regulation Limit

- (ii) Where these standard criteria for determining the hazard limits are deemed insufficient or where the identified setbacks come into question, a geotechnical slope evaluation by a Professional Engineer (Appendix E) may be required, at the landowner/applicant's expense, for any new development proposed in the vicinity of a steep bank or slope.
- (iii) Development and/or land uses that may be susceptible to damage from erosion or may cause or aggravate bank erosion or slope failure will not be permitted.

7.2 Development Policies

In areas of known risk where, based on soils mapping or through more detailed geotechnical analysis, the soil composition is identified as a sensitive marine (Leda) clay, the following shall apply:

- a) A geotechnical assessment, completed by a qualified accredited professional at the landowner's cost to confirm that the lot can be safely developed and to address all of the requirements outlined in Appendix E, must be prepared for review and approval by the Authority.

7.2.1 Development within 15 Metre Adjacent Allowance

- (i) Development may be permitted within the 15 metre allowance, without the need for a geotechnical assessment, subject to information and site plans being submitted to demonstrate the following:
 - a) The development does not create or aggravate an erosion hazard;
 - b) the development is set back a sufficient distance from the stable top of bank to avoid increases in loading forces on the top of the slope;
 - c) the development does not prevent access to and along the top of the valley slope (wherever feasible the development should be designed to provide a minimum 6 metre access allowance along the top of the slope);
 - d) the development does not change drainage or vegetation patterns that would compromise slope stability or exacerbate erosion of the slope face;
 - e) the potential for surficial erosion has been addressed through proper drainage, erosion and sediment control and site stabilization/restoration plans; and
 - f) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed.
- (ii) To ensure slope stability will not be compromised, standard mitigation measures may be required as part of the submitted plans and/or as conditions of approval. They may include:
 - a) measures to address potential drainage impacts;
 - b) requirements to ensure that access (for emergency vehicles, equipment and machinery for repair and maintenance work, etc.) to and along top of slope is maintained;

- c) stabilization and/or sediment control measures to prevent surficial erosion.
- (iii) Plans should be designed to maintain an access allowance along the stable top of bank in order to provide access during emergencies and for regular maintenance or repair of failed structure or slopes. In keeping with the Natural Hazard guidelines for the Provincial Policy Statement an access allowance of 6 metres from the stable top of bank is recommend as a sufficient safety zone for people, vehicles and equipment to enter and exit an area during an emergency such as a slope failure and to provide room for equipment to carry out maintenance repairs to the building or the slope.
- (iv) Where the above requirements under 7.2.1(i) have not been met to the satisfaction of the Authority, it may be a requirement that geotechnical assessment completed by a qualified accredited professional be carried out at the landowner's cost to confirm that the lot can be safely developed and to address all of the requirements outlined in Appendix E.
- (v) Swimming pools may only be permitted subject to the following criteria :
 - a) a geotechnical assessment by a qualified engineer (at the expense of the applicant), may be required to determine the location of the stable top of bank and to determine if the proposed development would have a negative impact on slope stability; and
 - b) a 6 metre setback from the stable top of bank is provided in order to provide for an erosion access allowance as per the Provincial Policy Statement.

7.2.2 Development within the Erosion Hazard

7.2.2.1 Development Not Permitted

- (i) Development associated with the following uses will not be permitted within the erosion hazard of an apparent river valley:
 - a) Institutional uses associated with hospitals, nursing homes, preschool, school nurseries, day care and schools, where there is a threat to the safe evacuation of the sick, the elderly, persons with disabilities or the young during an emergency as a result of erosion and/or failure of protection works/measures; or
 - b) Essential emergency services such as those provided by fire, police and ambulance stations and electrical substations which would be impaired during an emergency as result of erosion, or any other hazard associated with erosion and/or as a result of failure of protection works/measures; or
 - c) Uses associated with the disposal, manufacture, treatment or storage of hazardous substances.

7.2.2.2 Permitted Development

- (i) The following may be permitted within the erosion hazard 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 :
 - a) Development associated with public parks (e.g. passive or low intensity outdoor recreation and education, trail systems);
 - b) Minor development associated with existing uses as per the applicable policies for minor additions, replacement structure, replacement septic systems;
 - c) Minor removal and placement of fill and site grading;
 - d) Stream bank, slope and valley stabilization to protect existing development or conservation or restoration projects, subject to the activity being approved through a satisfactory Environmental Assessment process for large scale projects;
 - e) Public infrastructure (e.g. roads, sewers, flood and erosion control works) and various utilities (e.g. pipelines) subject to the activity being approved through a satisfactory Environmental Assessment process.

In all cases, the provisions for safe access as outlined in Appendix B must be met.

7.2.2.3 New Buildings

- (i) New buildings are not permitted within the erosion hazard of an apparent river or stream valley.
- (ii) Minor encroachments: Where there is insufficient area to place the development entirely outside of the stable slope limit, the authority may permit minor encroachment of part of a new building into the stable slope limit provided it is located where it will be least susceptible to damage and subject to the following requirements:
 - a) A geotechnical assessment completed by a qualified accredited professional must be carried out at the landowner's cost to confirm that the lot can be safely developed and to address all of the requirements outlined in Appendix E must be prepared for review and approval by the Authority.
 - b) The new development must incorporate all structural, landscaping and surface drainage requirements that are recommended through the geotechnical evaluation.

7.2.2.4 Additions to Existing Building

- (i) Within the stable slope allowance, but outside of the toe erosion allowance, a minor addition to an existing building may be permitted subject to the following criteria:
 - a) the size of the minor addition does not exceed 20% of the original gross floor area, or 40 square metres whichever is less;
 - b) the addition does not extend any further into the stable slope limit than the existing building;
 - c) the addition does not extend into the toe erosion allowance;
 - d) the Authority may require that the proposal is supported by a geotechnical evaluation demonstrating that the development activities will not aggravate the hazard and that the slope is stable enough to support both the existing dwelling and the addition.
- (ii) Additions exceeding 20% of the gross floor area or 40 square metres may be permitted subject to all of the following criteria being met:
 - a) the size of the minor addition does not exceed 50% of the original gross floor area, or 50 square metres whichever is less;
 - b) a geotechnical assessment completed by a qualified accredited professional at the landowner's cost to confirm that the lot can be safely developed and to address all of the requirements outlined in Appendix E must be prepared for review and approval by the Authority;
 - c) the new development must incorporate all structural, landscaping and surface drainage requirements that are recommended through the geotechnical evaluation;
 - d) the addition does not extend any further into the stable slope limit than the existing building;
 - e) the addition does not extend into the toe erosion allowance.

7.2.2.5 Reconstruction/Replacement of an Existing Building

- (i) The reconstruction or replacement of a building within the erosion hazard of an apparent river or stream valley may be permitted provided that it has not been damaged or destroyed by erosion and it has been demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or conservation of land will not be affected. The submitted plans should demonstrate that the building:
 - a) cannot be relocated to an area outside the erosion hazard and if there is no feasible alternative site, that it is located in an area of least (and acceptable) risk;
 - b) will be protected from the erosion hazard through incorporation of appropriate building design parameters; and
 - c) the replacement does not encroach any closer to the stable top of bank than the existing development at its closest point.
- (ii) Where the existing development is closer than 6 metres to the stable top of bank, the replacement structure must be situated at least 6 metres of the top of bank to provide for an erosion access allowance.
- (iii) A geotechnical study may be required at the expense of the applicant, by a qualified geotechnical engineer to determine the location of the stable top of bank and to determine if the proposed development will have a negative impact on slope stability.
- (iv) Reconstructions and replacement which propose an increase in gross floor area or footprint that exceed the original structure shall be subject to the policies for additions under Section 7.2.2.4.

7.2.2.6 Sewage Disposal Systems

- (i) The replacement of sewage disposal systems may only be permitted within the erosion hazard of an apparent river or stream valley where all of the following criteria can be met:
 - a) there is no feasible alternative location outside of the erosion hazard;
 - b) the septic system does not extend into the toe erosion allowance and it is located in the area of lowest risk;
 - c) a geotechnical assessment completed by a qualified accredited professional is carried out at the landowner's cost to confirm that the development activities will not aggravate the hazard and that the slope is stable enough to support the development that is proposed;

- d) the design of the system must incorporate all structural, landscaping and surface drainage requirements that are recommended through the geotechnical evaluation.
- (ii) A new sewage disposal system shall not be permitted with the erosion hazard of an apparent river or stream valley.

7.2.2.7 Access, Driveways, Private Roads

- (i) Development associated with the construction of a driveway or access way through the erosion hazard of an apparent river or stream valley in order to provide access to lands outside of the apparent river or stream, valley, may be permitted subject to the following:
 - a) there is no viable alternative outside of the regulated area, and
 - b) the provisions for safe access as outlined in Appendix B are addressed.
- (ii) Depending on the site characteristic and the scale of the proposed access, the Authority may require that the application is supported by a geotechnical evaluation demonstrating that the development activities will not aggravate the hazard and that the slope is stable enough to support both the development that is proposed.

7.2.2.8 Fill Placement, Excavation or Grading Activities

- (i) Minor lot grading excavation or fill placement may be permitted where it is undertaken in association with any of the uses permitted above and/or for slope stabilization, erosion control or floodproofing purposes may be permitted within the erosion hazard.
- (ii) Depending on the site characteristic and the scale of the proposal, the Authority may require that the application is supported by a geotechnical evaluation demonstrating that the development activities will not aggravate the hazard and that the slope is stable enough to support the development that is proposed.

7.2.2.9 Swimming Pools

- (i) Swimming pools shall not be permitted with the erosion hazard of an apparent river or stream valley.

8.0 Policies for Meander Belt (Erosion Hazard) - Not Apparent Valley

8.1 Development within the Adjacent Allowance – Not Apparent Valley

The following policies apply to the allowance adjacent to the erosion hazards associated with not apparent valleys. For development within the erosion hazard (meander belt) of a not apparent river or stream valleys refer to the policies in Section 8.2.

- (i) Development may be permitted within the allowance adjacent to the meander belt 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. The submitted plans should demonstrate that:
 - a) the development does not create or aggravate the erosion hazard;
 - b) the development does not prevent access to and along the meander belt;
 - c) the potential for surficial erosion has been addressed through proper drainage, erosion and sediment control and site stabilization/restoration plans;
 - d) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented, and flooding hazards have been adequately addressed.

8.2 Development within the Erosion Hazard (Meander Belt)

The following policies apply to the erosion hazards associated with not apparent valleys. For development within the allowance adjacent to not apparent (unconfined) river or stream valleys refer to the policies in Section 7.

8.2.1 Development Not Permitted within the Erosion Hazard (Meander Belt)

- (i) Except as permitted under 8.2.2. new development shall not be permitted within the meander belt of a not apparent river or stream valley.
- (ii) Development associated with the following activities or uses shall not be permitted within the erosion hazard (meander belt) of a not apparent river or stream valley.
 - a) institutional uses, essential emergency services and/or uses associated with hazardous substances as specified in 5.2;
 - b) stabilization works to allow for future/proposed development or to provide for an increase in development envelope/area;
 - c) stormwater management facilities.

8.2.2 Development Permitted within the Erosion Hazard (Meander Belt)

- (i) Notwithstanding 8.2.1 certain development within the erosion hazard (meander belt) may be permitted under the policies of 8.2.2(ii), 8.2.2.1, 8.2.2.2, 8.2.2.3 and 8.2.2.4 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. The submitted plans should demonstrate that:
 - a) the development does not create or aggravate the erosion hazard;
 - b) the development does not prevent access to and along the meander belt;
 - c) the potential for surficial erosion has been addressed through proper drainage, erosion and sediment control and site stabilization/restoration plans;
 - d) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed.
- (ii) Development associated with the following activities/uses may be permitted within the erosion hazard (meander belt) of a not apparent river or stream valley subject to the activity being approved through a satisfactory Environmental Assessment process (if required):
 - a) development associated with public parks (e.g. passive or low intensity outdoor recreation and education, trail systems);
 - b) public infrastructure (e.g. roads, sewers, flood and erosion control works) and various utilities (e.g. pipelines) subject to the activity being approved through a satisfactory Environmental Assessment process (if required);
 - c) stream bank, slope and valley stabilization to protect existing development or for conservation or restoration projects subject to the activity being approved through a satisfactory Environmental Assessment process (if required);
 - d) minor removal of fill or placement of fill or site grading, as specified in 5.1.d) and subject to policies 8.2.1.

8.2.2.1 Access through the Erosion Hazard

- (i) Development associated with the construction of a driveway or access way through the erosion hazard of an apparent river or stream valley in order to provide access to lands outside of the apparent river or stream valley, may be permitted where:
 - a) it has demonstrated that there is no viable alternative outside of the regulated area; and
 - b) the provisions for safe access as identified in Appendix B have been met.

8.2.2.2 Development Associated With Existing Uses

- (i) Development associated with existing uses located within the meander belt, such as minor additions, non-habitable accessory buildings, pools, landscaping retaining walls, grading, decks, etc., may be permitted where it has been demonstrated to the satisfaction of the Conservation Authority that:
 - a) there is no feasible alternative site outside of the meander belt and the proposed development is located in an area of least (and acceptable) risk;
 - b) the development will not prevent access into and through the meander belt in order to undertake preventative actions/maintenance or during an emergency;
 - c) the development will have no negative impacts on natural stream meandering/fluvial processes;
 - d) the potential for surficial erosion has been addressed through the submission of proper drainage, erosion and sediment control and site stabilization/restoration plans;
 - e) natural features and/or ecological functions contributing to the conservation of land are protected, pollution is prevented and flooding hazards have been adequately addressed;
 - f) non-habitable structural development would not be susceptible to stream erosion; and
 - g) minor additions to habitable structures would not be susceptible to stream erosion within the 100 year planning horizon.

8.2.2.3 Reconstruction/Relocation of a Building

- (i) Development may be permitted for the reconstruction or relocation of a building within the meander belt provided that it has not been damaged or destroyed by erosion and if it has been demonstrated to the satisfaction of the Conservation Authority that the building:
 - a) cannot be relocated to an area outside the erosion hazard and if there is no feasible alternative site, that it is located in an area of least (and acceptable) risk; and
 - b) will be protected from the erosion hazard through incorporation of appropriate building design parameters; and
 - c) will not exceed original habitable floor area or the original footprint area of the previous structure.

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9.0 Wetland Policies

Wetlands have hydrologic, ecosystem and human benefits:

- (i) From a hydrologic function perspective, wetlands retain water during the spring freshet and storm events, allowing water to slowly release into watercourses, infiltrate into the ground, and to evaporate.
- (ii) When located within the flood plain of a watercourse, wetlands also reduce the energy of moving water including boat wakes, and mitigate associated shoreline erosion.
- (iii) From an ecosystem perspective, wetlands sustain biodiversity by providing wildlife habitat including for species at risk, and support maintenance of natural cycles (carbon, water, nitrogen) and food chains.
- (iv) From a human perspective, wetlands provide social and economic value including flood attenuation, improvement of water quality, recharge of ground water supplies, support for fishing and other recreational activities, production of valuable products (e.g. wild rice), and educational opportunities.

Section 9 policies address three types of areas: wetlands, other/adjacent land, and provincially significant wetlands.

Wetlands are defined in Section 28(25) of the *Conservation Authorities Act*. That definition is repeated verbatim in the Appendix A of this document and forms part of the MVCA policy. MVCA regulates all wetlands greater than 0.5 ha in size that have hydraulic connectivity.

Other land abutting or linked hydrologically to wetlands play an important role in maintaining the integrity of wetlands. For this reason, provincial laws, regulations, and policy statements and MVCA policies provide for the regulation of buffer areas to protect the hydrologic, ecological and human functions of a wetland. MVCA regulates land lying within 120 meters of a provincially significant wetland and within 30 meters of all other regulated wetlands.

Provincially significant wetlands are a subset of wetlands that have been evaluated by the Ministry of Natural Resources and Forestry (MNRF) using the *Ontario Wetland Evaluation System* (OWES) and found to exceed a specific score. The evaluation system provides a standard approach, methodology and scoring system, and is the basis for designating PSWs, and regulating them under *Ontario Regulation 153/06*.

Most wetlands within the watershed have not been evaluated due to financial constraints. Of those that have been evaluated and deemed provincially significant, not all are identified in municipal planning documents. O.Reg. 153/06 and MVCA PSW policies apply regardless of whether a PSW is identified in municipal planning documents. MVCA applies PSW policies to land that:

- (i) has been evaluated using the OWES; and
- (ii) achieves an OWES score indicating provincial significance; and
- (iii) meets the *CA Act* definition of a wetland.

9.1 Application

The *Conservation Authorities Act*, O.Reg 153/06 and Section 9 policies apply to the development and interference of wetlands as illustrated in Figure 4. Where additional hazards exist on a site such as flood hazards or unstable soil or slope hazards, other applicable policies of this document shall also be addressed.

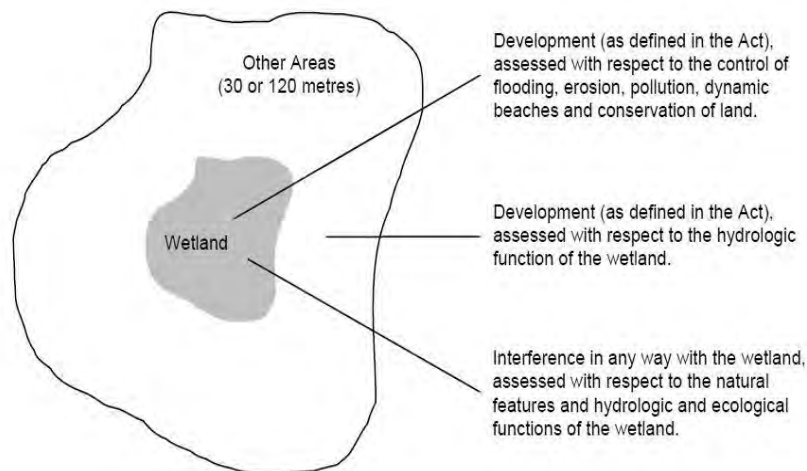


Figure 4. Three ways in which wetlands and other areas are regulated

9.2 PSW – Boundaries

Wetland boundaries have been established by and are maintained by the Ministry of Natural Resources and Forestry (MNRF) based on the Ontario Wetland Evaluation System (OWES). Data is held within the provincial Land Inventory Ontario database. Should the precise location of a PSW boundary be contested, the PSW must be evaluated by a qualified professional trained in application of the OWES to delineate the PSW boundary. Where a wetland boundary identified on-site differs from the approved MNRF boundary, the proponent is responsible for submitting information and obtaining acceptance of the new wetland boundary from the MNRF.

Ontario Regulation 153/06 and Section 9 policies apply to a PSW effective the date that the PSW boundary is approved by the MNRF.

9.3 PSW – Permitted Uses

- I. Development and site alteration shall not be permitted in Provincially Significant Wetlands.
- II. No person shall change or interfere in any way with a PSW without a valid permit from the MVCA.
- III. New stormwater management facilities shall not be permitted within Provincially Significant Wetlands.

- IV. Except as may be permitted elsewhere in this section, new ponds, new drains and peat extraction shall not be permitted within Provincially Significant Wetlands.
- V. Notwithstanding Section 9.3.1., public infrastructure (e.g. roads, sewers, flood and erosion control works) and various utilities (e.g. pipelines) may be permitted within Provincially Significant Wetlands provided that:
 - (i) There is a satisfactory completion of an Environmental Assessment under the *Environmental Assessment Act*; and
 - (ii) Alternative locations have been evaluated to the satisfaction of the MVCA, and it has been determined that there is no reasonable location for the infrastructure outside of the wetland; and
 - (iii) The interference with natural features and the hydrologic and ecological functions of the Provincially Significant Wetland is deemed as acceptable by MVCA; and
 - (iv) It has been demonstrated that the control of flooding, erosion, pollution or the conservation of land will not be affected, to the satisfaction of the MVCA.
- VI. Notwithstanding Section 9.3.1 the following activities may be permitted within Provincially Significant Wetlands provided it has been demonstrated to the satisfaction of the MVCA that the control of flooding, erosion, pollution or the conservation of land will not be affected, and the interference on the natural features and hydrologic and ecological functions of the Provincially Significant Wetland have been deemed to be acceptable by the MVCA. Permitted activities include:
 - (i) Conservation and restoration projects;
 - (ii) Development associated with public parks (e.g. passive or low intensity outdoor recreation and education, trail system);
 - (iii) Flood and erosion control works adjacent to lacustrine or riverine wetlands that are proposed to protect private land, where alternate approaches such as stewardship activities (including intensive naturalization of the riparian zone) are not feasible;
 - (iv) Repair, renovation or maintenance of existing marine facilities;
 - (v) Maintenance of an existing public or private road;
 - (vi) Replacement, reconstruction or minor additions to existing structures subject to satisfaction of the following factors:
 - a) the viability of relocating the structure outside the wetland boundary is evaluated and determined to be unfeasible ;
and

- b) any expected hydrological impacts can be mitigated ; and
- c) any expected ecological impacts can be *mitigated*.

Completion of an Environmental Impact Study (EIS) of a scope appropriate to the nature of the feature and the scale of the project may, however, be required at the Authority's discretion to the satisfaction of the MVCA, to identify mitigation and enhancement opportunities. See the Appendices to this document for information on the content and approach of an EIS or HIS.

Existing agricultural activities within the wetland boundary

Nothing in this policy is intended to limit the ability of existing agricultural uses to continue. **No new agricultural activity, buildings, or structures are permitted within a Provincially Significant Wetland.**

9.3.1 Drainage Works

New drainage works within a provincially significant wetland are not permitted. Repair and/or maintenance to existing drainage works under the *Drainage Act* may be permitted provided the work results in the restoration of the drain to the specifications described in the approved Engineers Report for that drain.

9.3.2 Boardwalks

Development of boardwalks (e.g. narrow, raised planked trails) may be permitted within a PSW where:

- (i) The control of flooding, erosion, pollution or the conservation of land will not be affected; and**
- (ii) Any interference on the natural features and hydrologic and ecological functions of the wetland are deemed acceptable.**

MVCA alone will determine whether conditions 9.3.9 (i) and (ii) are met through review of an Environmental Impact Study (EIS) submitted by the applicant in accordance with Appendix F. The EIS shall also demonstrate that the proposed boardwalk will be:

- (i) Above the applicable flood elevation; and**
- (ii) No greater than 1.5 metres wide; and**
- (iii) Constructed with materials that will not leach hazardous substances to the natural environment; and**
- (iv) The design and construction method should minimize the development footprint in the wetland.**

In water and near shore works may be prohibited at certain times of year to prevent interference with spawning, hatching and rearing of young fish. These restrictions may vary according to the identified nature of the fishery (e.g. cold and warm water).

9.4 Development within Other Areas adjacent to wetlands

The following policies apply to other areas adjacent to wetlands identified as being within 120 metres from the boundary of Provincially Significant Wetlands. In these areas, development will be evaluated with a view to its expected effects on interference with the hydrologic function of the wetland.

9.4.1 Area Within 30 Metres of the *Provincially Significant Wetland*

- I. Development shall not be permitted within 30 metres of the boundary of a Provincially Significant Wetland.
- II. Notwithstanding Section 9.4.1., the following developments may be permitted within 30 metres of a Provincially Significant Wetland if the interference with the hydrologic functions of the wetland has been deemed to be acceptable by the MVCA:
 - (i) Development associated with public parks (including, for instance, passive or low intensity outdoor recreation and education, trail system);
 - (ii) A marine facility;
 - (iii) Stormwater outlets;
 - (iv) Public infrastructure (e.g. roads, sewers, flood and erosion control works and various utilities (e.g. pipelines) that is supported by an appropriate Environmental Assessment or a Comprehensive Environmental Impact Study which demonstrates that there will be no adverse effect on the hydrologic function of the wetland to the satisfaction of the MVCA.
- III. Notwithstanding Section 9.4.1., the following additional developments may also be permitted within 30 metres of a Provincially Significant Wetland if the interference with the hydrologic functions of the wetland has been deemed to be acceptable by MVCA. Best Management Practices as prescribed by MVCA shall be implemented to address expected interference with the hydrologic function of the wetland. The completion of an HIS with a scope appropriate to the nature of the feature and the scale of the proposed development may be required as per Appendix F. Development activities include:
 - (i) Development of a single detached dwelling and/or related auxiliary structure and associated grading activity on an existing vacant lot of record with

insufficient lot depth to accommodate a setback greater than 30 metres and no alternative location options exist;

- (ii) Repairs, reconstruction and/or one-time minor additions to existing buildings and structures;
 - (iii) Replacement or construction of a new sewage system in accordance with Part 8 of the OBC; tertiary treatment systems may be required to minimize site disturbance as well as adverse effects on the hydrologic function of the wetland);
 - (iv) Maintenance of existing public or private access roads;
 - (v) Maintenance of existing conservation or wetland restoration projects;
 - (vi) A one-time development involving fill (not to exceed 100 m³) or minor site grading / landscaping activities associated with an existing use.
- IV. Existing agricultural activities within 30 metres of the boundary of a provincially significant wetland. These policies are not intended to limit the ability of existing agricultural activities to continue.
- V. Where, in the opinion of the MVCA, measures beyond standard Best Management Practices will unlikely mitigate expected impacts, the completion of an HIS with a scope appropriate to the nature of the feature and the scale of the proposed development shall be required as per Appendix F.

9.4.2 Areas between 30 and 120 Metres of a *Provincially Significant Wetland*

1. Development may be permitted in the area between 30 and 120 metres of a provincially significant wetland, if the interference with the hydrologic functions of the wetland has been deemed to be acceptable by MVCA. Best Management Practices as prescribed by MVCA shall be implemented to address expected interference with the hydrologic function of the wetland. The completion of an HIS with a scope appropriate to the nature of the feature and the scale of the proposed development may be required as per Appendix F.
2. Where no feasible alternatives exist, the following typical developments may be permitted in the area between 30 and 120 metres of a provincially significant wetland where Best Management Practices acceptable to MVCA are used to mitigate potential impacts to the hydrologic function of the wetland feature. Representative activities include:

- (i) New single detached residential dwelling and associated small accessory buildings;
 - (ii) Repairs, reconstruction and/or one-time minor additions to existing buildings and structures;
 - (iii) New accessory structures to an existing single detached residential dwelling including deck, shed, swimming pool;
 - (iv) Replacement or construction of a new sewage system in accordance with Part 8 of the OBC; where no other alternative sewage envelope exists on the property;
 - (v) Maintenance of existing public or private access roads;
 - (vi) Maintenance of existing conservation or wetland restoration projects;
 - (vii) A one-time development involving fill (not to exceed 100 m³) or minor site grading / landscaping activities associated with an existing use;
 - (viii) A new agriculture building/structure or expansions to existing facilities where the gross floor area of the building is equal to or less than 500 m² (5382 ft²) in size;
 - (ix) Public infrastructure (e.g. roads, sewers, flood and erosion control works and various utilities (e.g. pipelines) that is supported by an appropriate Environmental Assessment or a Comprehensive EIS and impacts to the hydrologic function of the wetland feature are to be appropriately addressed.
3. Existing agricultural activities in the area between 30 and 120 metres of a provincially significant wetland. These policies are not intended to limit the ability of existing agricultural activities to continue.
 4. Where, in the opinion of the MVCA, measures beyond standard Best Management Practices are required to mitigate expected impacts, the completion of an HIS with a scope appropriate to the nature of the feature and the scale of the proposed development shall be required as per Appendix F.

9.5 Other Regulated Wetlands

Section 9.5 applies to wetlands that:

- (i) Are greater than 0.5 ha (1.2 acres) in size; and
- (ii) Have hydraulic connectivity to a waterbody/watercourse, and;
- (iii) Meet the definition of a wetland under Section 28 (25) of the *Conservation Authorities Act*.

MVCA has maps that delineate known and potentially regulated wetlands. Wetland boundaries are approximate and subject to on-the-ground confirmation. Maps are updated as resources allow and are intended for reference use only. It is the responsibility of landowners to determine whether their property contains a wetland that is subject to regulation.

9.5.1 Permitted Uses

- 1) **No development** shall occur within a wetland that impacts the control of flooding, erosion, pollution or the conservation of land.
- 2) No person shall change or interfere in any way with a wetland without a **valid permit** from the MVCA.
- 3) **New ponds and drainage works** within other wetlands may be considered where it is demonstrated that the wetland is not provincially significant and that the pond and drainage work will not cause adverse effects on the ecological or hydrologic function of the feature.
- 4) Repair and/or maintenance to **existing drainage works** under the *Drainage Act* may be permitted provided the work results in the restoration of the drain to the specifications described in the approved Engineers Report for that drain.
- 5) Excavation of **existing ponds** within a wetland is permitted subject to the appropriate flood plain hazard policies and provided: the dredging does not have an adverse impact on the wetland feature and function, all dredging material is placed at a suitable distance from the wetland, and the interference on the natural features and hydrologic and ecological functions of the *wetland* has been deemed to be acceptable by the MVCA;
- 6) In general, **stormwater management facilities** shall not be permitted within wetlands;
- 7) Notwithstanding Section 9.5.1 1), **public infrastructure** (e.g. roads, sewers, flood and erosion control works) and various utilities (e.g. pipelines) is permitted within a wetland if it has been demonstrated to the satisfaction of the MVCA that the control of flooding, erosion, pollution, or the conservation of land will not be affected and the interference on the natural features and hydrologic and ecological functions of the wetland has been deemed to be acceptable by the MVCA;
- 8) Notwithstanding Section 9.5.1 1), **erosion control works** and conservation or restoration projects is permitted within a wetland if it has been demonstrated to the satisfaction of the MVCA that the control of flooding, erosion, pollution, or the conservation of land will not be affected and the interference on the natural features and hydrologic and ecological functions of the wetland has been deemed to be acceptable by the MVCA;
- 9) Notwithstanding Section 9.5.1 1), development associated with **public parks** (e.g. passive or low intensity outdoor recreation and education, trail system) is permitted within a

wetland if it has been demonstrated to the satisfaction of the MVCA that the control of flooding, erosion, pollution, or the conservation of land will not be affected and the interference on the natural features and hydrologic and ecological functions of the wetland has been deemed to be acceptable by the MVCA;

- 10) Reconstruction of **existing structures** is permitted provided the replacement structure is reconstructed to its original footprint or smaller and there is no feasible alternative location on the subject lot outside of the wetland.
- 11) A single dwelling and accessory building are permitted on an **existing vacant lot** of record within a wetland provided:
 - (i) The use, erection and location is permitted by the applicable municipal zoning by-law;
 - (ii) There is no alternative location for the dwelling on the subject lot outside of the wetland;
 - (iii) Hazards related to organic soils can be addressed; and
 - (iv) The applicant demonstrates, to the extent possible, that the development will not adversely affect the wetland feature and functions. An Environmental Impact Statement will be required to assess the ecology of the wetland and identify mitigation measures and best efforts to minimize impacts. If best efforts are not demonstrated to the satisfaction of MVCA, a permit may not be issued.

12) Development of **boardwalks** (e.g. narrow, raised planked trails) may be permitted within a regulated wetland where:

- (i) the control of flooding, erosion, pollution or the conservation of land will not be affected; and
- (ii) any interference on the natural features and hydrologic and ecological functions of the wetland are deemed acceptable.

MVCA alone will determine whether conditions a) and b) are met through review of an Environmental Impact Study (EIS) submitted by the applicant in accordance with Appendix F. The EIS shall also demonstrate that the proposed boardwalk will be:

- (i) above the applicable flood elevation; and
- (ii) no greater than 1.5 metres wide; and
- (iii) constructed with materials that will not leach hazardous substances to the natural environment.

In water and near shore works may be prohibited at certain times of year to prevent interference with spawning, hatching and rearing of young fish. These restrictions may vary according to the identified nature of the fishery (e.g. cold and warm water).

- 13) Constructed **access** through a regulated area may be permitted for a Lot of Record provided that:
- (i) The parcel and the proposed access have frontage on an opened road allowance.
 - (ii) The proposed development is on the same parcel as the regulated feature.
 - (iii) The proposed development meets municipal zoning requirements and all other requirements of this document.
 - (iv) There is no other compliant route available to access the developable area of the parcel from the opened road allowance.
 - (v) The proposed alignment minimizes encroachment into the regulated area to the greatest extent possible.
 - (vi) The control of flooding, erosion, pollution, or the conservation of land will not be affected;
 - (vii) The interference of the natural features and hydrologic and ecological functions of the wetland have been determined to have no negative impact through the submission of the appropriate studies (e.g. Environmental Impact Study, geotechnical study, hydrogeological study) prepared to the satisfaction of the MVCA; and
 - (viii) A mitigation plan is prepared to the satisfaction of the MVCA to compensate for the loss of wetland features and function.
 - (ix) A compensation/offsetting agreement is executed, where appropriate.
- 14) Land uses with **existing *Planning Act* approvals** as of adoption of this policy are permitted. Notwithstanding Section 9.5.1 1), work associated with the following is permitted:
- a) Works approved through existing an Municipal Class Environmental Assessment
 - b) Activities on Crown Land
 - c) Existing agricultural uses
 - d) Selective tree harvesting for private use
 - e) Accessory buildings under 10 m²

9.5.2 Areas within 30 Metres of a *Wetland*

- 1) In general, development shall not be permitted within 30 metres of the boundary of a wetland;
- 2) Notwithstanding Section 9.5.2 1), public infrastructure (e.g. roads, sewers, flood and *erosion* control works) and various utilities (e.g. pipelines) is permitted within 30 metres

- of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the MVCA;
- 3) Notwithstanding Section 9.5.2 1), conservation or restoration projects are permitted within 30 metres of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the MVCA;
 - 4) Notwithstanding Section 9.5.2 1), development associated with public parks (e.g. passive or low intensity outdoor recreation and education, trail system) is permitted within 30 metres of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the MVCA;
 - 5) A single dwelling on an existing vacant lot of record, minor additions to existing buildings/structures, accessory building/structures (less than 50 m²), and reconstruction of existing buildings are permitted provided it has been demonstrated to the satisfaction of MVCA that:
 - (i) all development (including grading) is located outside the wetland and maintains as much buffer as feasible;
 - (ii) a minimum vegetated buffer of 15 metres from the wetlands is established;
 - (iii) disturbances to natural vegetation communities contributing to the hydrologic function of the wetland are avoided;
 - (iv) the overall existing drainage patterns will be maintained;
 - (v) disturbed area and soil compaction is minimized;
 - (vi) where appropriate, development is located above the high water table;
 - (vii) all septic systems are located a minimum of 15 metres from the wetland and a minimum of 0.9 metres above the water table;
 - (viii) impervious areas are minimized;
 - (ix) best management practices are used to:
 - i. Maintain water balance
 - ii. Control sediment and erosion
 - iii. Buffer wetlands
 - iv. Limit impact of development on wildlife species
 - 6) Notwithstanding Section 9.5.2 1), development associated with the importation of fill for the construction of a private access road, associated filling and lot grading is permitted within 30 metres of a wetland on a constrained lot if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the MVCA, the development does not affect the control of flooding, and MVCA floodproofing guidelines and access standards can be achieved. A technical study is requested to assess the hydrologic impact.
 - 7) Notwithstanding Section 9.5.2 1), structural repairs to an existing building or structure is permitted within 30 metres of a wetland if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the MVCA;

- 8) Notwithstanding Section 9.5.2 1), development is permitted within 30 metres of a wetland if the proposed development does not encroach further into the setback from the wetland boundary than existing development and if the interference on the hydrologic functions of the wetland has been deemed to be acceptable by the MVCA;
- 9) In instances where there are two or more natural hazards associated with a development proposal, the greater setback allowance will be applied.

9.6 Compensation and Offsetting and Ministerial Zoning Order (MZO) – All Wetlands

MVCA may require compensation or offsetting to address matters related to the control of flooding, erosion, pollution and the conservation of land. The type and scale of compensation/offsetting required shall be based upon the following:

- (i) the ecological and hydrologic characteristics and the significance of the regulated area affected; and
- (ii) the characteristics of the proposed land use; and
- (iii) the scale, proximity to, and severity of the impacts on the regulated area.

Applicants shall follow the impact assessment procedures contained in the Appendices in order to allow MVCA to determine appropriate compensation and offsetting requirements.

All costs incurred by MVCA for the negotiation, drafting, review, and registration of compensation and offsetting agreements shall be born by the applicant. Approval by the MVCA Board of Directors may be required before entering into such an agreement.

10.0 Alterations to Shorelines and Watercourses

Alterations to shorelines and watercourses activities include altering, straightening, changing, diverting or interfering, in any way, with the channel of any watercourse within the watershed. This may also include shoreline rehabilitation and erosion control on lakes.

The Authority supports the application of "Natural Channel Design" principles in all proposals, public or private, in recognition of the environmental, human health, economic and aesthetic benefits of the approach. Where opportunities exist to restore, enhance or re-establish natural conditions those opportunities should be utilized as maintaining healthy and functional channel processes will serve to minimize the need for future restoration and mitigation.

The Authority's review of riverfront protection / improvement applications will be conducted in cooperation with the appropriate District / Area Office of the Ontario Ministry of Natural Resources and Forestry. The Authority will consult with the Ministry of Natural Resources and Forestry, the Department of Fisheries and Oceans (Canada) or other partners where proposed work may interfere with fish habitat.

10.1 General Policies

- (i) Shoreline hardening techniques such as the use of concrete, steel, railway ties, gabion baskets, armour stone (cap rock, limestone blocks) and other vertical structures will generally not be permitted.
- (ii) The design of projects involving shoreline alterations where natural heritage features such as Areas of Natural or Scientific Interest (ANSI) and shoreline wetlands may be present, will be required to take into consideration the ecological functions of the watercourse while allowing for compatible development.
- (iii) In water or near shore works may be prohibited at certain times to prevent interference with spawning, hatching and rearing of young fish. Timing restrictions may vary according to the identified nature of the fishery (cold and warm water).
- (iv) Base flows must not be adversely affected by any work.
- (v) All surplus excavated material must be immediately removed from the flood plain to an approved area outside of all regulatory limits (wetlands, erosion hazards) and at a minimum of 30 metres from the waterbody.
- (vi) Erosion and sediment control measures are to be in place before and during construction and until the site is permanently stabilized. This will include, where applicable, the use and maintenance of check dams, silt screens, sediment ponds, buffer strips or other effective measures.

- (vii) It is the responsibility of the landowner/applicant to provide any studies or reports necessary for the Authority's review and evaluation of the proposal.
- (viii) The Authority may waive any requirements where there will clearly be no detrimental effects on the control of flooding, erosion, pollution or the conservation of land.

10.2 Alterations to Shorelines

Shorelines are the interface where land meets a body of water. Shorelines are dynamic in nature and are subject to fluvial and coastal processes. They act as a natural water quality filter for surface runoff and often absorb certain nutrients and contaminants, as well as trap sediment.

Naturalized shorelines with an abundance of vegetation provide erosion protection by assisting with the mitigation of surface runoff. Plant and tree root systems also bind the soil in place preventing further erosion of earthen material that is often lost due to natural processes such as wave action or changes in water level.

- 1) In general, alterations to a shoreline shall not be permitted.
- 2) In general, shoreline hardening will not be permitted unless there is active erosion occurring along a shoreline or watercourse and the site is not suitable for bio-engineering or the re-establishing of natural conditions are not feasible options.
- 3) Notwithstanding Section 10.2 2), where natural conditions cannot be re-established due to active erosion or site-specific constraints, shoreline alteration proposals may be permitted provided that:
 - (i) upstream water levels (backwater effects) will not be increased;
 - (ii) alignment will not affect river hydraulics or base flows;
 - (iii) proposed protection will not alter local erosion, debris accumulation or undesirable changes in local currents or sediment transport nor impact abutting shoreline properties.
 - (iv) where the shoreline is in the vicinity of marginally stable or unstable slope, professional geotechnical engineering input may be required at the Authority's discretion and at the landowner/applicant's expense; and
 - (v) the shoreline alterations are constructed in accordance with Appendix G.
- 4) Notwithstanding Section 10.2 1) & 2), an alteration to a shoreline or development that by its nature is located along the shoreline such as the construction or reconstruction of a marine facility and erosion control measures may be permitted if it has been demonstrated to the satisfaction of the MVCA that the control of flooding, erosion, pollution, dynamic beaches or the conservation of land will not be adversely affected. The MVCA may request a technical study to ensure that the development is not subject to unacceptable risk. The submitted plans must demonstrate that:

- (i) the potential for surficial erosion has been considered and addressed;
 - (ii) impacts of ice force on the development have been considered and addressed;
 - (iii) wave uprush impacts have been considered and addressed;
 - (iv) structures and erosion control measures meet requirements under Appendix G.
- 5) Notwithstanding Section 10.2 1), dredging may be permitted along the shoreline if it has been demonstrated to the satisfaction of the MVCA that the interference will not be adversely affect the natural features and hydrologic and ecological functions of the *watercourse* and the control of flooding, erosion, pollution, dynamic beaches or the conservation of land. The submitted plans must demonstrate that:
- (i) all dredged material is removed from the waterbody and placed in an upland area (i.e., outside of the regulatory flood plain and/or a minimum of 30 metres from the watercourse);
 - (ii) the dredged material is transported in a contained fashion; and
 - (iii) Appropriate *erosion* and sediment control measures are implemented.

10.3 Channel Realignments, Road Crossings, Diversions Dams

- (i) Projects such as channelization, bridges, culverts, dams, dykes, weirs, outlet structures, etc. and shoreline works associated with stormwater treatment facilities and other related activities will require a design prepared by a Professional Engineer, at the landowner/applicant's expense, addressing the hydrotechnical aspects of the proposal including backwater effects and upstream water levels, local streamflow velocities and erosion protection measures, and implications for lost channel and / or flood plain storage volume.
- (ii) It is advised that projects should be designed to incorporate "Natural Channel Design" features as much as possible including the creation of pools, riffles, gravel beds, and natural stream meanders. In this regard, professional ecological services may have to be retained by the proponent to ensure that the appropriate measures are incorporated into the design.

Appendix A: Definitions

Agricultural uses: means the growing of crops, including nursery and horticultural crops; raising of livestock; raising of other animals for food, fur or fibre, including poultry and fish; aquaculture; apiaries; agro-forestry; maple syrup production; and associated on-farm buildings and structures.

Agriculture-related uses: means those farm-related commercial and farm-related industrial uses that are small scale and directly related to the farm operation and are required in close proximity to the farm operation.

Alternative energy systems: means sources of energy or energy conversion processes that significantly reduce the amount of harmful emissions to the environment (air, earth and water) when compared to conventional energy systems.

Apparent valley: are those where the watercourse is located within a valley corridor, either with or without a flood plain, and is confined by valley walls. The watercourse may be located at the toe of the valley slope, in close proximity to the toe of the valley slope (less than 15m) or removed from the toe of the valley slope (more than 15 m). The watercourse can contain perennial, intermittent or ephemeral flows and may range in channel configuration, from seepage and natural springs to detectable channels. A river or stream valley is apparent if

- the slope is 3 metres or greater in height and
- the slope is 5 :1 or steeper

Area of interference: means those lands where development could interfere with the hydrologic function of a wetland.

Areas of natural and scientific interest (ANSI): means areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education.

Basement: The area of a dwelling located below the main floor habitable space that is equal or greater than 1.8 metres in height measured from the lowest point of the main floor assembly (underside of floor joist) to the ground or other surface below and is used for any occupancy.

Bank: means any steep acclivity, whether rising from a river, a lake or the sea, or forming the side of a ravine, or the steep side of a hillock on a plain. When we speak of the earth in general adjoining a lake or the sea, we use the word shore; but a particular steep acclivity on the side of a lake, river, or the sea, is called a bank. *The Imperial Dictionary* (1854), vol. 1, p. 154

Best management practice (BMPs): design, construction, and maintenance practices and criteria that can minimize the impact of a project on the hydrology and/or ecology within the Regulated area.

For wetlands a combination of site specific mitigation measures intended to reduce the effect of a development on the hydrologic function of a wetland. Such measures typically include building

site selection, limitations on fill, drainage management and the preservation and augmentation of vegetation on site to ensure that post development site conditions closely emulate the pre-development condition with no adverse hydrologic effects.

Boathouse: an accessory *building* that does not contain habitable living space; has an opening to the waterbody of an appropriate size to accommodate a boat; and is connected to the waterbody by a boat slip, boat lift, or marine railway. Any component of the boathouse that is in contact with the waterbody at any time of the year must consist of untreated material (e.g. cedar, tamarack, hemlock, rocks, plastic, etc.). Treated lumber may contain compounds that can be released into the water and become toxic to the aquatic environment.

Building: The Building Code Act (Ontario) defines a building as:

- a) a structure occupying an area greater than ten square metres consisting of a wall, roof and floor or any of them or a structural system serving the function thereof including all plumbing, works, fixtures and service systems appurtenant thereto;
- b) a structure occupying an area of ten square metres or less that contains plumbing, including the plumbing appurtenant thereto;
- c) plumbing not located in a structure;
 - (c.1) a sewage system; or
- d) structures designated in the building code; (“bâtiment”).

Buffer: An area or band of permanent vegetation, preferably consisting of native species, located adjacent to a natural heritage feature and usually bordering lands that are subject to development or site alteration. The purpose of the buffer is to protect the feature and its functions by mitigating impacts of the proposed land use and allowing an area for edge phenomena to continue. The buffer may also provide area for recreational trails and provides a physical separation from new development that will discourage encroachment. (Adapted from a definition in Fisher and Fischenich, 2000, citing Castelle et al., 1994 in Natural Heritage Reference Manual, MNR 2010)

Carpport: A roofed enclosure used for the storage or parking of motor vehicles with a maximum 40 per cent of the total perimeter enclosed by walls, doors or windows. A minimum of 60 per cent must remain unenclosed in the form of full or half open walls.

Conservation of Land: For purposes of this document means the protection, management, or restoration of lands within the watershed ecosystem for the purpose of maintaining or enhancing the natural features and hydrologic and ecological functions within the watershed.

Conservation activities: means projects intended to maintain, enhance, or restore the functions of a wetland, or to create a wetland where one did not exist previously. Projects and activities

can include for example: plantings, wetland creation or alteration, landscaping, grading, hydrologic manipulation, and invasive species removal.

Conservation projects: means projects intended to maintain, enhance or restore the functions of a wetland, or to create a wetland where one did not exist previously. Projects and activities can include, for example: plantings, wetland creation or alteration, landscaping, grading, hydrologic manipulation, and invasive species removal.

Crawlspace: The area of a dwelling that is less than 1.8 metres in height measured from the lowest part of the main floor assembly (underside of floor joist) and the ground or other surface below

Cumulative effects assessment: cumulative effects represent the sum of all individual effects occurring over space and time, including those that will occur in the foreseeable future (Natural Heritage Reference Manual). An assessment includes consideration for the incremental effects of an action on the environment when the effects are combined with those from other past, existing and future actions (Cumulative Effects Assessment Practitioners Guide, Hegmann *et al.* 1999).

Development:

- a) the construction, reconstruction, erection or placing of a building or structure of any kind;
- b) any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure;
- c) site grading; or
- d) the temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere (S. 28 (25) CA Act of Ontario).

Detached: to be considered detached is a structure must be located at least 1.5 metres from the main building

“Development, Interference with Wetlands and Alterations to Shorelines and Watercourses” regulation: A regulatory authority under Section 28 of the *Conservation Authorities Act* of Ontario related to activities on hazard lands, in wetlands or along watercourses as defined. Replaced the **“Fill, Construction and Alteration to Waterways”** regulation.

Dry floodproofing: the object of dry floodproofing is to keep a development and its contents completely dry during flood events. Dry, passive floodproofing includes the use of fill, columns or design modification to elevate openings in the structure above the level of the regulatory flood so that there is no need for action to put the flood protection into effect. Dry, active floodproofing

requires some action to keep the development dry during flood events by use of water tight doors and seals or sandbagging to prevent water from entering openings below the regulatory flood elevation. Dry floodproofing of structures that will have portions below the level of the regulatory flood requires additional special design attention so that the structure will resist all loads including hydrostatic pressures.

Dwelling unit: means one or more habitable rooms, occupied or capable of being occupied as an independent and separate housekeeping establishment, in which separate kitchen and sanitary facilities are provided for the exclusive use of the occupants.

Ecological function: means the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes. These may include biological, physical and socio-economic interactions.

Environmental Impact Study: means a document produced by a qualified professional usually to a prescribed standard that examines the environmental consequences of a development project.

Erosion: means a continual loss of earth material (i.e. soil) over time as a result of the influence of water or wind.

Fill: means any material capable of being used to raise, lower, or in any way affect the contours of the ground.

Fill Material: Clean material that when buried will have no adverse effect on people or the environment. Includes natural materials such as clay, soil, and rock, and other inert materials such as concrete or brick that are free of combustible, putrescible, degradable or leachable components. Fill material must not be susceptible to washout, scour, or erosion of any kind, must be placed to ensure the long term stability of slopes in accordance with sound engineering standards and be composed of inert material.

Flood fringe: the outer portion of the flood plain between the floodway and the regulatory flood. Flood depths are generally less severe in the flood fringe than those experienced in the floodway

Floodproofing: means a combination of structural changes and/or adjustments incorporated into the basic design and/or construction or alteration of individual buildings, structure or properties subject to flooding so as to reduce or eliminate flood damages and to provide for the continued occupancy of the structure throughout a flood event of the regulatory flood magnitude

Floodway: the channel of a watercourse and that inner portion of the flood plain where flood depths and velocities are generally higher than those experienced in the flood fringe. The floodway represents that area required for safe passage of flood flows and/or velocities are considered such that they pose a potential threat to life and/or property damage

Ground water feature: refers to water-related features in the earth's subsurface, including recharge/discharge areas, water tables, aquifers and unsaturated zones that can be defined by surface and subsurface hydrogeologic investigations.

Gross floor area: The total area of each floor with headroom height of 1.8 metres or greater, whether located above, at or below grade, measured from the interior of outside walls and including floor area occupied by interior walls and floor area created by bay windows.

Habitable: means room or space required and intended for overnight occupancy, and includes facilities for storage, heating, air-conditioning, electrical, hot water supply, plumbing, waste connections, etc. which are necessary to maintain the habitable condition.

Hazardous sites: means property or lands that could be unsafe for development and site alteration due to naturally occurring hazards. These may include unstable soils (sensitive marine clays [leda], organic soils) or unstable bedrock (karst topography).

Hazardous substances: means substances which individually, or in combination with other substances, are normally considered to pose a danger to public health, safety and the environment. These substances generally include a wide range of materials that are toxic, ignitable, corrosive, reactive, radioactive or pathological.

Hydrologic Function: the functions of the hydrological cycle that include the occurrence, circulation, distribution and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things.

Hydrologic Impact Study (HIS): a site specific study produced by a qualified professional or group of professionals, usually to a prescribed standard, that examines the hydrologic consequences of a development project (see Appendix F).

Hydroperiod: means the period of time for which a given area has standing water, or water at surface.

Individual on-site sewage services: means individual, autonomous sewage disposal systems within the meaning of s.8.1.2, O.Reg. 403/97, under the *Building Code Act*, 1992 that are owned, operated and managed by the owner of the property upon which the system is located.

Individual on-site water services: means individual, autonomous water supply systems that are owned, operated and managed by the owner of the property upon which the system is located.

Interference in any way: any anthropogenic act or instance which hinders, disrupts, degrades or impedes in any way the natural features or hydrologic and ecologic functions of a wetland or watercourse.

Karst: a landscape shaped by the dissolution of a layer or layers of soluble bedrock, usually carbonate rock such as limestone or dolomite. Many *karst* regions display distinctive surface features including sinkholes and fractures. See also “hazardous land”.

Marine facility: a boathouse, boat dock, boat slip or marine railway

Meander belt allowance: The term meander belt allowance is the maximum extent that a water channel migrates. Other terms associated with meander belts are amplitude, wavelength, bend radius, bankfull width, point bars, pools, riffles and concave and convex banks. A meandering channel is a series of interconnected reaches. A reach is a length of channel over which the channel characteristics are stable or similar. For each reach, the meander belt should be centred on a line of axis drawn through the middle of the meanders or riffle zones, a line that essentially divides each of the meanders in half.

The width of a meander belt can be determined by analyzing the bankfull channel width of the largest amplitude meander. The meander belt allowance is defined as 20 times the bankfull channel width of the reach and centred on the meander belt axis. When determining the meander belt for these relatively straight reaches, the meander belt should be centred on the mid-line of the channel.

Minor Additions: Relates to limits on the type of use (i.e. residential habitable, residential non-habitable, commercial, industrial, institutional, etc. in hazardous areas. For residential uses where safe access is not available the size of the addition shall not exceed 20% of the gross floor area of the existing building or 20 square metres (215 square feet) whichever is the lesser. Where safe access is available somewhat larger additions resulting in increases of between 20% and 50% but not exceeding a maximum of 50 square metres (538 square feet) may be considered subject to applicable policies. No more than one minor addition will be considered per structure, and there can be no increase in occupancy or the number of dwelling units. Requirements are more specifically quantified in policy.

Mitigation: means a reducing of the adverse effects.

Non-apparent valley: are those drainage systems where the watercourse is not located within a valley corridor with discernable slopes, but relatively flat to gently rolling plains and is not confined by valley walls. The watercourse can contain perennial, intermittent or ephemeral flows and may range in channel configuration, from seepage and natural springs to detectable channels.

100 year flood: the flood, based on analysis of precipitation, snowmelt, or a combination thereof, having a return period of 100 years on average, or having a 1% chance of occurring or being exceeded in any given year

One-zone concept: Using this, planning authorities determine the flooding hazards limit, based on the 100-year flood or major storm-centred event, and prohibit all development or site alteration within those boundaries. This is the most effective way of minimizing threats to public

health or safety or property damage. The one zone concept is the preferred approach for the management of flooding hazards within river and stream systems as it provides the most cost effective means of minimizing potential threats to life and risks of property damage and social disruption. Where the one zone concept is applied, the entire flood plain or the entire flooding hazard limit defines the floodway (Figure 1)

Other water related hazards: water associated phenomena acting on shore lands other than flooding and wave uprush. This includes, but is not limited to, wave spray, ponding due to wave overtopping, ice accumulation and ice forces.

Peat Extraction: Peat extraction is an activity that can have significant negative impacts on the ecological, hydrological, social and economic values of wetlands. Impacts of extraction can include loss of vegetation and associated habitat for animals (potentially including species at risk); a lowering of the water table (due to drainage), which can affect local human uses and water supplies; degraded water quality; release of sequestered carbon; degraded air quality; and increased risk of fire.

Pond: A body of stagnant water without an outlet, larger than a puddle and smaller than a lake; or a like body of water with a small outlet.

Portable mobile building: means any dwelling that is designed to be mobile, and constructed or manufactured to provide a permanent or seasonal residence for one or more persons. This includes a park model trailer.

Protection works standards: means the combination of non-structural or structural works and allowances for slope stability and flooding/erosion to reduce the damage caused by flooding hazards, erosion hazards and other water-related hazards, and to allow access for their maintenance and repair.

Provincially Significant Wetlands: Wetlands that have been evaluated by the Ministry of Natural Resources as Class 1, 2 and 3 wetlands, as defined in the Ontario Government - Policy Statement on Wetlands"

Quality and quantity of water: means a parameter measured by indicators such as minimum base flow, depth to water table, aquifer pressure, oxygen levels, suspended solids, temperature, bacteria, nutrients and hazardous contaminants, and hydrologic regime.

Redevelopment: means the creation of new units, uses or lots on previously developed land in existing communities, including brownfield sites.

Regulation limit: The Upper limit of regulatory jurisdiction for a Conservation Authority regulation as defined by Section 2 of the applicable Section 28 *CA Act* regulations.

Regulatory flood plain: The 100 Year Flood Event Standard meaning rainfall or snowmelt, or a combination of rainfall and snowmelt producing at any location in a river, creek, stream or

watercourse, a peak flow that has a probability of occurrence of one per cent during any given year.

Repair: means to mend, remedy, restore, renovate to a good or sound state; contemplates an existing structure or thing which has become imperfect and return it to the condition in which it originally existed, as near as may be. (

Restoration means: to bring back to original state or bring back to a former place or condition; restoration is the act of restoring (may also apply to rebuilding or repairing).

Riprap: means a layer of stone of a prescribed specification to prevent the erosion of soil.

River, stream and small inland lake systems: means all watercourses, rivers, streams, and small inland lakes or waterbodies that have a measurable or predictable response to a single runoff event.

Safe Access: Vehicular and pedestrian access routes are considered safe if the depth of flooding, at the regulatory (1:100 year) flood level, along the full length of the travelled surface does not exceed 0.3 metres and the flood velocity does not exceed 1.0 metres/second.

Sewage works: means sewage works as defined in subsection 1 (1) of the *Ontario Water Resources Act*. (OBC Section 1.4 Defined Terms).

Sensitive: in regard to surface water features and ground water features, means areas that are particularly susceptible to impacts from activities or events including, but not limited to, water withdrawals, and additions of pollutants.

Shoreline ecological functions: the work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline's natural ecosystem. Shoreline ecological functions include, but are not limited to:

- a) Streams. Fish and wildlife habitat; transport of water, sediment and organic material; and floodwater storage and attenuation;
- b) Wetlands. Fish and wildlife habitat; pollution assimilation; sediment retention; shoreline stabilization; floodwater storage, attenuation and conveyance; wave energy attenuation; stream base-flow maintenance; and groundwater discharge/recharge;
- c) Lakes. Fish and wildlife habitat; sediment retention; pollution assimilation; and floodwater attenuation, storage and conveyance;
- d) Riparian Habitat Areas (shoreline vegetation). Habitat for water dependent and riparian dependent fish and wildlife; noise and visual screening; large woody debris and other natural organic matter recruitment; floodwater attenuation and storage; temperature maintenance; pollution assimilation; streambank stabilization; and supply of sediments and nutrients.

Site alteration: means activities such as grading, excavation and the placement of fill that would change the landform and natural vegetative characteristics of a site. (Provincial Policy Statement 2005)

Small quantities of fill: means a volumetric amount of fill not exceeding 10 cubic metres.

Stable slope limit: is the limit, or the setback that ensures safety if the slumping or slope failure occur. It represents the limit to which the slope would recede if it were to reach the long term stable slope inclination; at which point it would resist slumping and rotational slipping. The stability of slopes can be affected by everything from increases in loading, such as the placement of buildings, and changes in drainage patterns to erosion of the toe of a slope and loss of stabilizing vegetation on the slope face.

The stable slope allowance is determined by using a horizontal allowance measured landward from the toe erosion allowance equivalent to three times the height of the slope (3:1) OR through a valid study. The 3:1 is considered a minimum allowance.

Structure: means any material, object or work erected either as a unit or constructed or assembled of connected or dependent parts or elements, whether located under, on and/or above the surface of the ground. (i.e. swimming pools, hot tubs and fences)

Toe-erosion allowance: or the setback that ensures safety if the toe of the slope adjacent to the river or stream erodes and weakens the bank, increasing the risk of slumping. It includes:

- a) average annual recession rate, based on a minimum 25 years of record or data to determine the toe erosion allowance over a 100-year planning horizon;
- b) a 15 m toe erosion allowance measured inland horizontally and perpendicular to the toe of the watercourse slope (Figure 3) where the distance between the watercourse and the base of the valley wall is 15 metres or less (used as the default value for mapping of Regulation Limit);
- c) toe erosion allowance based on a valid study which is based on at least 25 years of erosion data;
- d) toe erosion allowance based on soil types and hydraulic processes (flow rates, volume, etc.), based on observations or analytical studies, and where the watercourse is 15 metres or less from the base of the valley wall.

Two-zone concept: This concept identifies the floodway and the flood fringe. The floodway refers to that portion of the flood plain where development and site alteration would cause a threat to public health and safety and property damage. In other words it is that portion of the flood plain required for the safe passage of flood flow and/or that area where flood depths and/or velocities are considered to be such that they pose a potential threat to life and property damage. (See figure 2). The flood fringe is the portion of the flood plain where development may be permitted subject to certain established standards and procedures. Because conditions vary, there is no province wide standard for determining the more hazardous areas of flood plains. But some factors to take into account include depth of water: velocity of flow, combined depth and velocity, vehicle access and structural integrity. These factors along with critical depth and

velocity limits are discussed in the Technical Guide, River and Stream Systems, Flooding Hazard Limit.

Unsafe Building: means the physical state of a property, structure, barrier, fence and/ or building(s), whether vacant or occupied, that in the opinion of the Property Standard Officer is a hazard to the public regarding fire, accident, health or safety.

Valleylands: means a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year.

Watercourse: means an identifiable depression in the ground in which a flow of water regularly or continuously occurs

Wet floodproofing: involves the design of a structure to intentionally allow flood waters to enter while maintaining the structural integrity and minimizing water damage to the structure. Its use is generally limited to certain specific non-residential/non-habitable structures (e.g. arena, stadium, parking garage), but many of the techniques of wet floodproofing can be used with certain dry floodproofing approaches. The intent of wet floodproofing is to maintain structural integrity by avoiding external unbalanced forces from acting on buildings during and after a flood, to reduce flood damage to contents, and to reduce the cost of post flood clean up. As such, wet floodproofing requires that the interior space below the level of the regulatory flood remain unfinished, be non-habitable, and be free of service units and panels, thereby ensuring minimal damage. Also this space must not be used for storage or immovable or hazardous materials, that are buoyant, flammable, explosive or toxic. Furthermore, access ways into and from a wet floodproofed building must allow for safe pedestrian movement.

Wetland: means land that:

- a) is seasonally or permanently covered by shallow water or has a water table close to or at its surface; and
- b) directly contributes to the hydrological function of a watershed through connection with a surface watercourse; and
- c) has hydric soils, the formation of which has been caused by the presence of abundant water; and
- d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water, but does not include periodically soaked or wet land that is used for agricultural purposes and no longer exhibits a *wetland* characteristic referred to in clause c) or d).

Wetland boundary: the point where 50% of the plant community consists of *wetland* plant species as listed in Appendix 5 of "The Ontario *Wetland* Evaluation System – Southern Manual", Ministry of Natural Resources, 1993.

Appendix B: Floodproofing Guidelines and Design Standards

"Floodproofing" encompasses all protective measures required to ensure that a building and its contents will not sustain flood damages and that continued occupancy of the building can occur at least throughout the early stages of a 100 year flood. Since there will always be a probability of a flood event exceeding a 100 year flood, total protection from flood damage cannot always be assured.

B.1 General Floodproofing Principles

- (i) Development that, according to these policies, is permitted in the flood plain must be protected by accepted floodproofing actions or measures.
- (ii) Access for new buildings must be such that vehicular and pedestrian movement can occur during times of flooding.
- (iii) Dry, passive floodproofing must be used whenever possible.
- (iv) Residential/habitable buildings must always incorporate dry floodproofing measures.

B.2 Safe Access / Egress

The Provincial Policy Statement and associated technical guideline, identify safe access as a primary consideration before approval is granted for flood plain development. The availability of safe access is directly related to flood depth and water velocity. Access is safest if it is floodproofed to the 100 year flood level.

Access concerns include but are not limited to:

- a) vehicular access routes (municipal roadways and private rights-of way);
- b) pedestrian access routes (private laneways, driveways and walkways between residences and vehicular access routes).

B.2.1 Access in Flood Hazard Areas

- (i) Where floodproofing to the regulatory flood level is not possible, vehicular access and parking lots must be designed such that the maximum depth of flooding will not exceed 0.3 metres and the maximum flood velocity will not exceed 1.0 metres/second.
- (ii) Driveways/access roads may be filled to a minimum of 0.3 metres below the Regulatory Flood Level and to a maximum of 0.3 metres above the Regulatory Flood Level, with the sides of the driveway tapering down to existing grade at a 3:1 slope angle. (with the exception of required vehicular access to a structure that is floodproofed, then minimal fill and grading may be considered to allow for access.)
- (iii) Driveway/access road side slopes should be stabilized with appropriate ground cover or another stabilization treatment.
- (iv) Access routes must be designed to allow for passage of normal flow and flood waters without obstructing or impeding flow.
- (v) An assessment by a Professional Engineer may be required, at the landowner's expense, for access in areas prone to flooding.

B.2.2 Access in Slope and/or Erosion Hazards

- (i) Access must be constructed such that it is not prone to erosion or instability and will not cause or aggravate erosion or instability on neighbouring properties.

An assessment by a Professional Engineer may be required, at the landowner's expense, for access in areas prone to erosion or instability.

B.3 Design Requirements for Residential/Habitable Buildings

- (i) New development, infilling, replacement and additions for a residential/habitable use must be dry, passive flood-proofed to the regulatory flood level. Where such requirements impact on, or are significantly out of context with neighbouring properties, other floodproofing approaches may be considered.
- (ii) The design requirements for dry passive floodproofing are as follows:
 - a) the underside of the floor assembly closest to grade and all building openings must be at least 0.3 metres above to 100 year flood level;
 - b) where wave uprush may occur, the building must include measures addressing this impact, which in the MVCA watershed requires floodproofing to an additional 0.3 metres above the required floodproofing level described in a);

- c) habitable space, including a basement, is not permitted below the regulatory flood level;
- d) a crawlspace may be permitted subject to the following:
 - height must not exceed 1.8 metres
 - for a concrete slab floor the drawings must be stamped by a Professional Engineer, otherwise the floor must remain unfinished (i.e. gravel floor)
 - the minimum floor elevation must be at least the 5 year flood level;
- e) foundations, walls and floors located below the elevation of the 100 Year Flood level must be designed to withstand hydro-static pressures associated with this flood level;
- f) materials for construction must be of a type not subject to deterioration by alternate wetting and drying;
- g) all mechanical and electrical service shutoffs must be located at least 0.3 metres above the 100 Year Flood level.

B.4 Design Requirements for Non Residential Buildings

- (i) Buildings that are used for non-residential purposes including commercial and industrial uses may be permitted in the flood fringe subject to the following:
 - a) the building and access must be floodproofed in accordance with the methods outlined in Appendix B.1 and B 2.;
 - b) for commercial or industrial uses, a foundation design and site grading plan must be prepared by a Professional Engineer to the satisfaction of the Authority;
 - c) any part of the building that is intended to be used for overnight occupancy must be dry-passive floodproofed to the standards required for residential uses.

Non-residential buildings intended for any of the uses listed under Section 5.2 (essential services, institutional uses and uses involving hazardous substances) are not permitted in the flood plain.

B.5 Fill Aprons for the Floodproofing of Buildings

Excessive filling in the flood plain can have negative impacts on water flow and storage capacity of the flood plain which can cause or increase flooding and/or erosion on other nearby properties. Excessive filling in the flood plain can also cause sedimentation resulting in impacts to water quality. To reduce these negative impacts, fill placement within the flood plain is generally limited to what is required for floodproofing purposes, which includes fill aprons. **If warranted, a fill apron is permitted and is not mandatory.** The placement of excessive fill for landscaping purposes is generally not permitted.

- (i) Fill placement for the purposes of floodproofing a habitable dwelling shall be limited to a fill apron extending a maximum of 4.5 metres out from the foundation walls.
- (ii) The top of the fill apron must be graded up to at least the regulatory flood level where it meets the exterior of the foundation wall, and up to a maximum of 0.15 metres above regulatory flood level.
- (iii) The fill apron must be graded away from the foundation wall at a slope no steeper than 3:1 (horizontal:vertical).

B.6 Drainage Swales

Drainage swales that are required as a result of development or fill placement must be designed by a qualified professional to ensure that there is no impact to adjacent lands or the receiving waterbody.

Where a lot is being graded to an elevation that exceeds the grade of the adjacent property the lot grading must not result in additional runoff being directed onto adjacent properties. Grassed drainage swales must be provided between the fill area and the lot line where a natural drainage swale does not already exist (see details below).

- (i) Where drainage swales are required, they should be designed to the following minimum standards:
 - a) The swale must be located entirely within the limits of the lot and shall not extend beyond the side yard lot lines into neighbouring properties.
 - b) The base of the swale should be to 0.2 to 0.3 metres (8 to 12 inches) in width.
 - c) The minimum depth of the swale should be 0.15 metres to a max. depth of 0.60 m.
 - d) The side slopes of the swale should not exceed a 3h:1v slope.
 - e) A 2% (50h:1v) minimum slope along the bottom of the swale is recommended for proper drainage - maximum grade of 8% (12.5h:1v).

- f) The bottom of the swale should be graded smoothly concave.
- g) The inside surface of the swale should be permanently stabilized with grass seed and mulch and/or other vegetation.
- h) Rock check dams may be required in areas of potentially high flow.

B.7 Swimming Pools

Principal objectives of the Provincial Policy Statement are to prevent loss of life and to minimize property damage. A concern with swimming pools in flood prone areas (particularly in floodway situations) is the potential increased risk of property damage. Damage could occur in one or more of the following scenarios:

- pool fills with silts and other debris
- vinyl liner is punctures or torn
- side walls collapse or bottom cracks / heaves due to hydrostatic pressures
- pumps, heaters and filtration equipment damaged from high water levels and silting
- storage shed or other accessory buildings damaged
- chlorine or other pool chemicals spill causing contamination
- fencing traps debris and directs flood waters onto other flood-prone land
- pool is actually dislodged (if above-ground) becoming an obstruction to flood flow

Landowners are advised that filter / heater equipment, electrical connections, chemical storage, etc. should be constructed taking local flood levels into account.

Appendix C: Cut and Fill Guidelines

Site Grading

Within a floodway, MVCA may approve site grading/site alteration, in limited circumstances, in situations that meet the following conditions:

1) Minor Site Grading (Cut and Fill Balance Works)

The site grading/site alteration will be considered minor and generally can be approved without further detailed hydraulic analysis if:

- a) The modification of the flood plain is required to obtain a useable area for building above (outside) of the Regulatory (1:100 year) flood plain. (i.e. part of the property is presently outside of the Regulatory flood plain but the distribution or orientation of this area is not suitable for development.
- b) Does not create a new building area at a location that is presently totally within the flood plain.
- c) The property is located in an area of existing development.
- d) The site alteration is confined to lands with existing ground elevations that are no more than 0.3 metres lower than the estimated 1:100 year water surface elevation of the river or stream.
- e) The area of the proposed cut or fill zones will be roughly equal to one another.
- f) Safe access is available.
- g) The loss of flood plain storage volume within the 1:100 year flood plain which will result from the placement of fill shall be fully compensated for by an incrementally balanced cut (or excavation) to be carried out in close proximity to and concurrently with the placement of the fill. This cut and fill operation must occur on the same property.
- h) The resulting development meets all floodproofing requirements.

Appendix D: Two-Zone Areas

The following reaches of watercourses are administered using the Two Zone Concept:

Constance Bay - Ottawa River

Location: The lands within the Village of Constance Bay and Armitage Ave

Floodway: The floodway is defined by an elevation of less than 60.0 metres.

Flood fringe: The flood fringe is defined as the area between 60.0 metres and 60.8 metres (the 100 year flood elevation)

Mississippi Lake

Location: The entire lake shore of Mississippi Lake.

Floodway: The floodway is defined by the elevation of 135.0 metres or less.

Flood fringe: The flood fringe is defined as the area between the elevations of 135.0 metres and 135.73 metres.

Carleton Place

refer to River Corridor Study (Along High street)

Shirley's Brook (Klondike Area)

refer to Kanata North Environmental Management Plan/Stormwater Management Plan

Stittsville

refer to Amber lakes Flood Plain Study

20 and 50 Frank Nighbor Place

Appendix E: Geotechnical Evaluation Requirements

The following is a list of the items that are required to fulfill the Mississippi Valley Conservation Authority's requirements for a geotechnical slope evaluation. All of the following items must be carried out by a qualified geotechnical engineer.

- a) Undertake a physiographic assessment of the slope and site features, through aerial photography review and field reconnaissance survey, to check for active erosion, shallow slips transitional type slopes, zones of active seepage or surficial erosion, etc. Identify areas of potential failure and identify the mechanisms of failure.
- b) Survey and map the slope in detail.
- c) Prepare surveyed cross-sections at the critical locations of the slope.
- d) Carry out a field drilling program where appropriate to provide suitable assessment of the subsurface conditions of the slope including groundwater and bedrock conditions (the location, number and depth of borings needed is to be determined by the geotechnical engineers undertaking the study).
- e) Carry out on-site testing, sampling, piezometric measurements and laboratory testing as determined appropriate by the geotechnical engineer.
- f) Analyze existing static and seismic slope stability including factor of safety and determine the stable slope configuration for the site and appropriate development setbacks from the top and/or base of the slope based on the information obtained from items (a) to (e).
- g) Determine and map the most suitable building envelope based on item (f) for each lot affected.
- h) Include appropriate erosion protection and/or mitigation measures to the watercourse where active erosion exists on its slope side.
- i) Identify any rapid drawdown of water level on slope plain, and if it present, demonstrate how the potential impact on slope stability assessed.
- j) Prepare a report containing the findings of the study and include: a site map, all borehole logs, test pit results, survey cross sections, slope stability assessment, a map showing lot boundaries and building envelopes, existing regulation limits, Limit of Hazard line with setback lines determined in (f) and an outline of structural, landscaping, and surface drainage measures that may be necessary as part of a future site plan agreement to maintain the long term stability of the structures and property.

NOTE: Depending on the site specific characteristics and the nature of the development proposal, additional information may be required.

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Appendix F: Environmental and Hydrologic Impact Study and Procedures

IMPACT ASSESSMENT – WETLAND NATURAL HERITAGE FEATURES ¹

Discussion

Consistent with the conservation authority's responsibilities to address the effects of proposed development, it may be necessary to demonstrate that a development proposal will result in no negative impacts on natural heritage features and areas. From a regulatory perspective inside the wetland such negative impacts would include effects on the control of flooding, erosion, pollution and the conservation of land and would include both hydrological and ecological function. Around the wetland (within 120 metres) the CA requires that there be no adverse effects on the hydrologic function of the wetland.

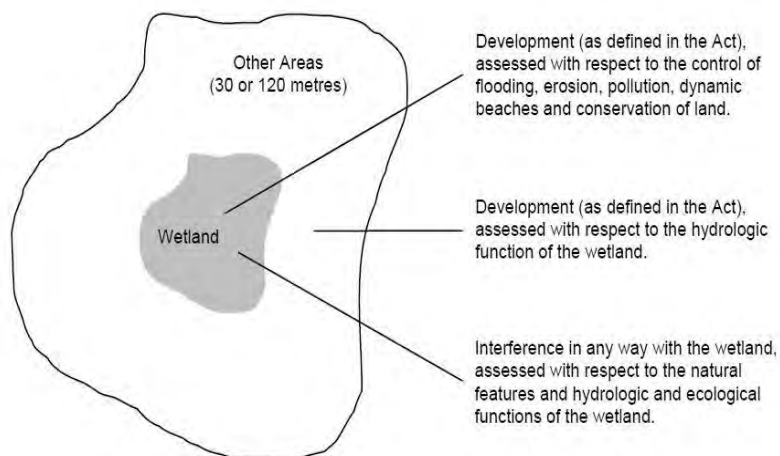


Figure 5. Three ways through which the *Conservation Authorities Act* and Individual CA Regulations address wetlands and other areas

The scale of the project and the characteristics of the feature will play a significant role in determining the scope of any necessary studies. In some cases, especially in more developed areas, available information ² on natural heritage features may be sufficient to determine whether assessment is required. The impacts of smaller scale development (e.g. construction of a small addition or a small auxiliary building on an already developed lot) may sometimes be addressed simply by the application of best management practices. In other areas, however, determining whether an impact assessment is needed may be difficult, and a site investigation

¹ Most municipal Official Plans contain policies for protecting natural features. Municipal zoning documents identify specific areas to which OP protection policies apply.

² Watershed plans, municipal environmental management plans, community design plans and similar will often address the protection of natural heritage features. In other cases site specific information may have been collected associated with a specific development application.

and inspection may be required to identify potentially significant natural heritage features and areas requiring further investigation and analysis.

Methodology

To assist municipalities with administering their responsibilities under the Planning Act the Province has prepared guidelines for protecting natural heritage features. Such guidelines are contained within the Ministry of Natural Resources and Forestry (MNRF) **Natural Heritage Reference Manual** (Second Edition, March 2010); these policies are heavily based on requirements contained in this document. In addition, particularly with respect to hydrologic function, it is expected that proponents will rely on guidance contained in the Ministry of the Environment (MOE) **Stormwater Management Planning and Design Manual** (March 2003) and particularly Chapter 3 of that document. Frequently CAs assist municipalities with similar responsibilities by providing advice on applications under the Planning Act for which the municipality is the approval authority. The intent with the MVCA approach is to attempt to have municipal requirements and CA requirements be as complimentary as possible so as to avoid, wherever possible, duplication of effort.

Process for and Relationship between Impact Assessment Components

It is strongly recommended that the proponent consult with CA staff as early as possible concerning the proposed development.

Determining an Appropriate Level of Assessment



Figure 6. Steps to determine appropriate level of assessment (MNRF Natural Heritage Manual)

Once it has been established that a development application triggers the need for an impact assessment, the appropriate level of detail and effort required to assess the development impacts will vary, depending on the characteristics of the site and the proposed development.

Determining an appropriate level of assessment for an EIS or equivalent study is typically measured by factors that include the following:

- level of effort is correlated with the likelihood of a significant natural heritage feature or area being present (e.g., significant wildlife habitat is deemed to be present on the basis of factors such as the geographic range of a species or known occurrences of the species in the general area).
- the assessment effort is correlated with the level of analysis that may have occurred previously as part of a separate planning process (e.g., comprehensive studies to identify natural heritage areas and systems including significant features and areas).
- any field observations and investigations are scheduled to occur when the feature would be expected to be visible, if present.

In terms of the above factors, not all impact assessments have to be detailed and may be tailored to the situation. An appropriate level of effort for an adjacent lands study (i.e., EIS or equivalent study) could, for instance, take into account existing development, existing land use entitlements and the existing land use fabric.

A detailed assessment is appropriate, however, in cases in which:

- the potential impacts of a proposal are unknown and a precautionary approach is needed;
- impacts on natural heritage features are likely to occur;
- appropriate impact mitigation techniques may not be readily available;
- the significance level of the natural heritage feature is high;
- the planning stage for the proposed development is advanced;
- the proposal may lead to multiple or successive development or site alteration activities; and
- the potential development would result in the elimination of a significant natural heritage feature.

In situations in which comprehensive planning studies or natural heritage systems have been completed with site level information, the need for a detailed assessment may be reduced, and a more focused assessment may provide an adequate evaluation of potential impacts.

Regardless of the assessment undertaken, the level of detail must be sufficient to demonstrate that there will be no negative impacts on the natural features or their ecological functions. An impact assessment is more than a description of constraints on a property. It is an evaluation that must anticipate the implications of changes in land use and the interaction of these changes with the features and functions of an area. This requires a thorough inventory of abiotic conditions, flora and fauna; documentation of vegetation; analysis of the interrelationships among the biotic and abiotic elements of a site (i.e., its ecology); and determination of the effect the proposed

changes will have on the existing conditions. Most importantly, an EIS must determine whether the likelihood of negative impacts occurring on the natural features or their ecological functions is definite or probable if the development proceeds under a given proposed design. Decision makers need this information to determine the need for modifications to proposed plans, buffers and other mitigation strategies and to evaluate the change in the use of the land.

Contents of an Environmental Impact Study

The conservation authority can provide direction on the contents of an EIS or other equivalent study for impact assessment as part of the early consultation process for evaluating and demonstrating that there will be no negative impacts on natural features (including adjacent lands) or on their ecological or hydrologic functions. Discussion between CA staff and the proponent including, where necessary, qualified professionals acting on the proponents' behalf are, however, critical to ensuring site investigations and subsequent analysis are undertaken in a useful and meaningful way.

- Specific requirements and content provisions are set out in Sections 4, 6, 13 and Appendix B of the MNRF **Natural Heritage Reference Manual** (Second Edition March 2010). Section 13.5 (Impact Assessment Process pp. 123 - 132) provides the primary framework for analysis.
- Hydrologic function matters need to be addressed as outlined in Figure 8 of this document; where more detailed analysis is required particular attention should be given to Chapter 3 (Water Balance, Water Quality, Erosion Control and Water Quantity) of the **MOE Stormwater Management Planning and Design Manual**, MOE March 2003.

Review of Assessment

The proponent submits an impact assessment to the conservation authority. The conservation authority reviews the assessment to determine whether it is acceptable in terms of the completeness of the inventory and description of features, the thoroughness of the evaluation of potential negative impacts, the adequacy of the mitigation measures and monitoring programs identified, and so on.

The CA may request may be made that further information be provided or alternative mitigation and monitoring measures be considered. In addition, MNRF and other agencies may be consulted regarding technical aspects.

Using the sample review list provided in Appendix B.2.2 can help a planning authority determine whether all issues have been adequately addressed in the impact assessment. The planning authority should review the impact assessment for completeness and technical accuracy.

13.5.6 Conservation Authority Decision

In making its decision about a proposed development, the conservation authority would consider the results of the assessment review, along with its effects on acceptance from a CA policy perspective. The conservation authority's decision will in particular be based on an assessment of the effect of the proposal on the control of flooding, erosion, pollution, the conservation of land and effects with respect to the hydrologic function of the wetland. The development or interference may be approved, approved with conditions or denied.

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Contents of an Environmental Impact Study - SAMPLE CHECKLIST

C.2.2 Sample Checklist for Use in Assessing Impacts of Development

Site-specific assessments of development impacts could include these and other types of information:

1. General Information

- identity of proponent
- identity of proponent's representative (consultant)
- impact assessment submission date
- executive summary

2. Background Information

- site setting
- surface and subsurface soils
- landform type
- landform position
- natural heritage area boundary
- catchment boundary
- drainage pattern
- vegetation communities
- general habitats
- critical habitats
- significant species
- land use patterns
- resource use
- type/position of the development
- summary of key ecological functions
- potential impacts
- predicted effects

3. Elements of Site-Specific Assessments of Impacts

- understanding of hydrogeological setting, including fluvial geomorphology
- hydrological information and modelling
- water-balance exercise
- water-quality information
- habitat assessment details for terrestrial and aquatic systems
- modelling of habitat, if required
- ELC
- confirmation and detailed characterization of significant features
- characterization of linkages (terrestrial and aquatic)
- characterization of values
- characterization of impacts on key ecological functions
- mitigation strategy, net effects predictions and monitoring recommendations
- compatibility with planning area natural heritage systems, or other natural heritage strategies

4. Site-Specific Impact Assessment Map

Depending on the type of assessment and the nature of the development, site-specific impact assessment map scales can vary (e.g., 1:10,000 to 1:2,000) and could include the following information:

- title
- north arrow
- scale
- legend: date of production/revision, identity of proponent and representative
- natural heritage area and adjacent lands
- detailed drainage patterns; inflows and outflows
- presence of control structures, culverts, etc.
- water-level gauge locations
- basins and sub-basins
- soil textures

- regional and local groundwater flow patterns including seepage zones (conceptual)
- water-quality sampling locations
- detailed terrestrial and aquatic habitat information (i.e., community boundaries)
- spot locations of significant flora and fauna
- locations of critical habitat
- general cover types of adjacent lands
- locations of terrestrial and aquatic linkages
- locations of resource harvest/use
- impact/effect identification:
 - drainage boundary change
 - outfall locations
 - detailed development footprint (e.g., pervious and impervious surfaces, lot fabric, excavation locations and depths, grading information, topsoil storage locations, stormwater management design)
 - habitat removal
 - effects on significant features (e.g., fish barriers)
 - linkage fragmentation
 - value displacement

- mitigation:
 - facility locations that use best management practices
 - protective barriers (temporary and permanent)
 - rehabilitation/enhancement measures
 - plantings
 - monitoring

Figure 7. Sample checklist for assessing impacts of development

Items identified in the checklist only represent minimum reporting requirements for the development proposals; additional requirements may be identified depending on specific site conditions encountered and the scope of the actual development proposed. Pre-consultation will determine the scale of the development impacts; a full site EIS or a comprehensive EIS may be required dependent on the nature of what is proposed and site conditions encountered.

Step 1: Identify aspects of the Proposed Development or Alteration that could trigger impacts

- Will overland flow pathways to or from the wetland be altered by regrading of surface contours or re-routing of existing ditches or watercourses?
- Does the application involve the installation of any temporary or permanent drainage works, including surface ditches or channels and subsurface piped systems, with or without pumping equipment?
- Will the project result in the removal of native soil and its replacement by structures or materials with different water retention and hydraulic conductivity characteristics?
- Will grades be raised in such a way as to cause consolidation of subgrade materials and changes in their water retention and hydraulic conductivity characteristics?
- Will site runoff, evapo-transpiration or infiltration amounts change (annually, seasonally) due to changes in site imperviousness, land cover, or topography, or due to maintenance practices such as snow removal?
- Is the proposed development or site alteration for the purpose of establishing a land use or activity that will require the withdrawal of water from the wetland?

If the answer to any of the questions in Step 1 is NO, the proposed development will be deemed to have no effect on the hydrologic functions of the wetland. No further assessment of potential impacts will be required, and permission will be granted with standard conditions requiring the application of best management practices appropriate to the proposed activities.

If the answer to any one of the Step 1 questions is yes, further assessment of the application's impact on hydrologic functions will be required. The required scope of the hydrologic impact assessment will be determined in consultation with CA specialists in hydrology, groundwater sciences and wetland ecology, and may include, but not necessarily be limited to the following steps.

Step 2: Characterize the key hydrologic characteristics and functions of the wetland, from a watershed management perspective

To understand the impact of the development on the wetland and its role in the hydrology of the catchment and sub-watershed in which it is located, the following information is required, at a minimum:

- connectivity of the wetland to the local stream fabric (in terms of streams flowing into the wetlands and streams flowing out of the wetland)
- a conceptual understanding of the surficial geology of the wetland's surroundings, the wetland's catchment area, the wetland's position within and areal extent relative to the subwatershed in which it is located; watershed report cards and associated catchment reports / data sheets may be of assistance
- a conceptual understanding of the subsurface conditions within the wetland (the nature of its substrate and underlying materials, depth to bedrock, etc.)
- an understanding of water table elevations within the wetland and adjacent areas and their normal range of fluctuation throughout a typical year; and characterization of the hydroperiod of the wetland
- if available for the subcatchment, historical streamflow and water level records should be obtained and interpreted

Based on this information, an interpretation of the role of the wetland in moderating extreme flows (during period of heavy precipitation or snowmelt, or extended droughts) and its importance in terms of recharging ground water resources can be made.

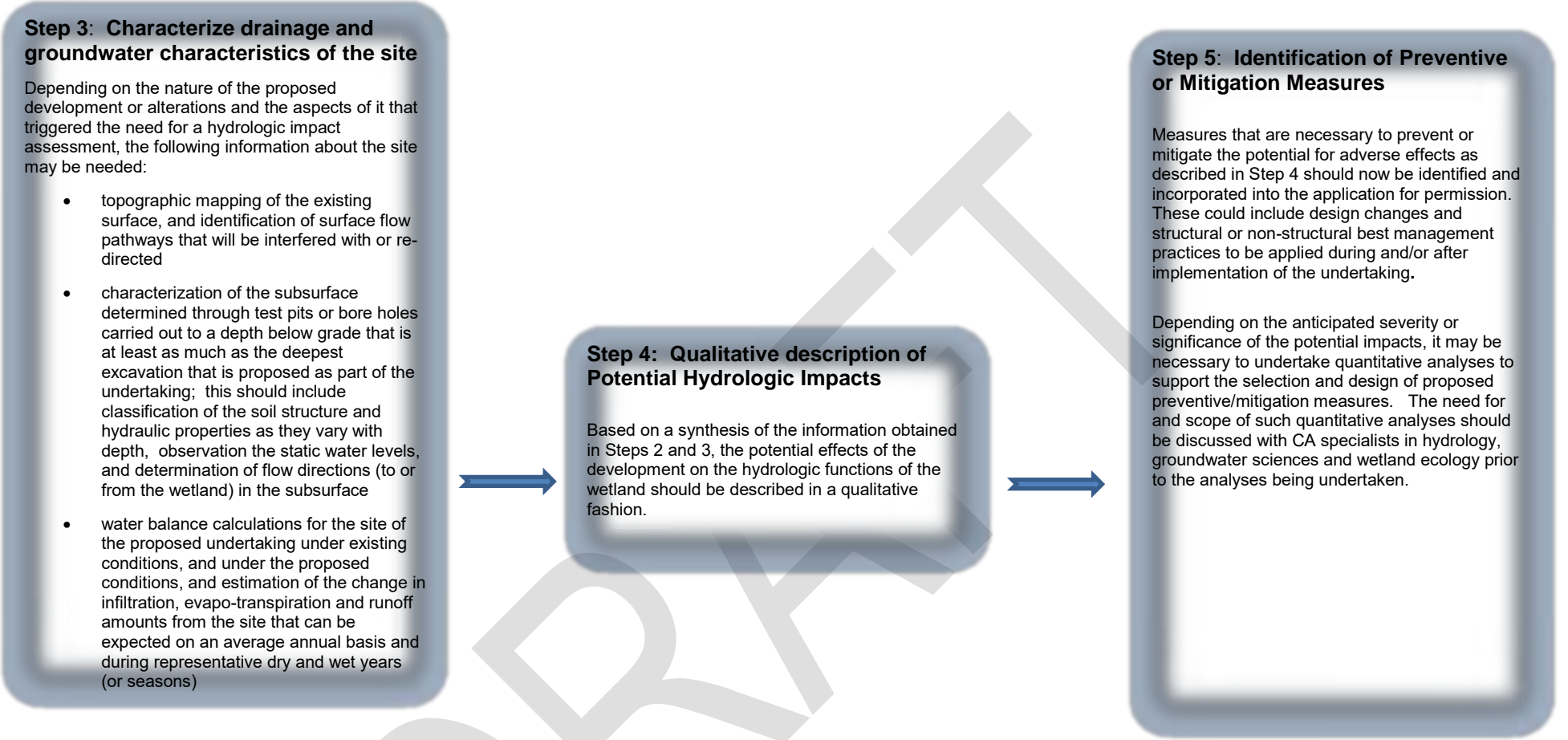


Figure 8. Hydrologic Impact Assessment Procedures

Appendix G: Guidelines For In-Water and Shoreline Works

Introduction

Alterations or works within or along a watercourse or shoreline require written permission from MVCA prior to the works being undertaken, in accordance with Ontario Regulation 153/06. In-water works are often required to realign watercourse, protect shorelines, repair and replace infrastructure and for water taking activities.

These guidelines apply to in-water and shoreline works, and related activities. They will be used by MVCA to review permit applications to ensure that these proposed activities meet the intent of the Section 28 Program Objectives for implementing of Ontario Regulation 153/06.

G.1 General Guidelines

The following general guidelines will be considered in reviewing applications under Ontario Regulation 153/06 for all in-water, watercourse alterations and shoreline works.

- (i) Base flows must not be adversely affected by any watercourse or shoreline alterations.
- (ii) The design of projects involving shoreline or watercourse alterations where natural heritage features, such as Areas of Natural or Scientific Interest (ANSI) and shoreline wetlands, may be present will be required to take into consideration the ecological functions of the watercourse and related features while allowing for compatible development.
- (iii) Timing windows restrict in-water work related to an activity during certain periods in order to protect fish and/or other species from impacts of works or undertakings in and around water during spawning migrations and other critical life stages. In or near-water works must respect the timing window guidelines for fish spawning and turtle nesting (as established by the Ontario Ministry of Natural Resources and Forestry) and species listed as threatened or endangered under the *Endangered Species Act* (administered by MECP) or *Species at Risk Act* (administered by DFO for aquatic species).
- (iv) Erosion and sediment control (ESC) measures must be installed before, during and post construction and remain until the site is permanently stabilized. ESC measures may include the use and maintenance of check dams, silt fences or barriers, inlet screens, sediment ponds, buffer strips or other effective measures deemed necessary by the MVCA. Ontario Provincial Standard Drawings (OPSD) for ESC measures can be used as a reference for installation and application of control measures.
- (v) The use of materials that may result in pollution will not be permitted for the construction of near or in-water structures that will be temporarily or permanently inundated with water (i.e.

railway ties, pressure treated lumber). Native, untreated materials (i.e. white cedar, hemlock) will be required in these applications.

- (vi) All on site activities, including maintenance procedures, are to be conducted in a manner that will prevent the entry of petroleum products, debris, rubble, concrete or other deleterious substances into the water.
- (vii) It will be the responsibility of the landowner/applicant to provide any studies or reports necessary for the Authority's review and evaluation of the proposal.

G.2 Shoreline Alterations / Modifications

These works include bio-engineering, rip-rap and vertical shoreline walls usually composed of armour stone, masonry rock, concrete, steel, wood and plastic or gabion baskets.

While vertical shore walls have short term benefits, the retention of existing emergent aquatic vegetation and planting of trees and shrubs on the shoreline bank is the preferred method of shoreline protection. Retention of existing shoreline vegetation can be an effective method of preventing erosion and shall be incorporated into shoreline alteration proposals. Rip-rap, which is the placement of clean angular stone or rock rubble on a slope, should be used in combination with bio-engineering methods where bio-engineering methods alone would be ineffective. Properly sized rip-rap placed along the waterfront over a geotextile filter fabric dissipates wave action and prevents soil particles from washing out while allowing land-based moisture to naturally infiltrate back into the waterbody.

- (i) Preservation or enhancement of natural vegetated shorelines and buffers is be required before other alternatives are considered.
- (ii) Where the only alternative to preventing shoreline erosion is shoreline hardening, the accepted method is rip rap, which is defined as angular blast rock backed with non-woven geotextile filter fabric, placed on a 2:1 (H:V) slope, following the natural contour of the shoreline and supplemented with native vegetation along the top.
- (iii) Where required the upland slope shall be excavated to create the appropriate slope angle. Filling, excavation or dredging of the lake or river bed to accommodate rip-rap shall not be permitted.
- (iv) The construction of vertical structures (retaining walls (concrete, armour stone), gabion baskets, etc.), will not be permitted immediately along the shoreline of a lake, river or watercourse where it can be expected that under normal conditions, the structure will be in contact or inundated by water for an extended period of time.

- (v) The replacement of a vertical structure is deemed to be new construction, in which, the reestablishment of natural conditions is required to be achieved or a less invasive form of erosion control (i.e. rip rap, bioengineering) shall be installed, if feasible.
- (vi) The construction of a vertical structure may be permitted along the shoreline of a watercourse if the following conditions are met and it has been deemed acceptable by the MVCA:
 - a) The vertical structure is located above the normal high water mark of the watercourse or an area that is seasonally or temporarily inundated with water;
 - b) Encroachment on the bed of or into the watercourse will not occur to minimize placement of fill in the flood plain;
 - c) The height of the vertical structure does not exceed the existing grade of the property if it is located within an identified regulatory flood plain;
 - d) The toe of the vertical structure is protected with rip rap or a natural vegetated buffer along the base of the retaining wall;
 - e) Filter cloth shall be installed behind the shore wall to prevent the migration of fines into the water;
 - f) All backfill shall be clean imported material;
 - g) Any material excavated as part of construction shall be removed off site in a contained manner and disposed of within an approved area outside of any regulatory flood plains, wetlands or other regulated areas, and a minimum distance of 30 metres from the watercourse; and
 - h) Construction of a vertical structure is the only effective option to repair active erosion due to the site conditions (bank height, soil type)
- (vii) Vertical structures that exceed 1.0 metres (3.3 feet) in height, must be designed and approved by a Professional Engineer.
- (viii) Erosion control measures shall not be placed or encroach beyond the existing toe of the shoreline slope.
- (ix) Encroachment of rip-rap up to 1 metre onto the lake or riverbed may be supported if the encroachment is required to protect trees that support shoreline stabilization.

- (x) A proposal will be considered a repair if the proposed work affects less than 50% of the existing erosion protection along the shoreline and there is no change in the dimensions (width, height, length) of the existing erosion protection.

DRAFT

Appendix I: Guidelines for Meander Belt Width Assessments

Where permitted by policies within this document, a meander belt width assessment may be submitted to provide further understanding of an erosion hazard within a not apparent valley. The Ministry of Natural Resources (Technical Guide for River and Stream Systems: Erosion Hazard Limit, 2002) recommends that the following list components should be included within any meander belt width assessment prepared by a qualified professional:

- (i) Discharge regimes;
- (ii) Slope, sinuosity, width-to-depth ratios, particle size of sediment in river/stream beds and banks, stream entrenchment ratios and landform feature/stability class;
- (iii) Drainage areas and patterns of the system;
- (iv) Determination of the meander pattern (e.g. amplitude, radius of curvature, meander length, concave and convex banks, spacing of pool and riffle zones, and the presence or remnant meanders or oxbow lakes);
- (v) Bedload, suspended load or dissolved loads;
- (vi) Channel roughness and shear stress required to move sediment loads;
- (vii) Bankfull discharge and channel determination; and
- (viii) Potential for lateral or downstream migrations of the meander belt allowance.

REPORT

3142/21

TO:	Policy & Priorities Committee, Mississippi Valley Conservation Authority
FROM:	Shannon Gutoskie, Community Relations Coordinator
RE:	Dogs Off Leash, Conservation Areas
DATE:	May 31, 2021

For Information

Section 10 of Regulation 120 under the *Conservation Authorities Act* prohibits dogs at conservation areas unless permitted by the Authority; and specifies that an animal is considered to be “at large” unless on a leash 2 metres or less.

At the March 2021 meeting, the Board approved enhanced compliance promotion at conservation areas to curb off-leash dog walking. Staff also received direction to consult with other conservation authorities to assess how widely dog runs are used and potential costs.

COMPLIANCE PROMOTION

A press release was issued on May 4, 2021 to kick off a month-long awareness campaign. In addition to daily social media posts (Facebook, Instagram, Twitter), a “Tip of the Week” flyer was posted at high-traffic areas at Morris Island and the Mill of Kintail. Immediate public feedback indicated that there was a concern of dogs off-leash and that people were grateful to MVCA for making public education on the subject a priority.

DOG RUN/PARK FINDINGS

Only three conservation authorities: Kawartha Conservation, Lake Simcoe Region, and Mattagami Conservation Authority responded to a query send to all CAs regarding use of a dog park or other off-leash area. Findings are summarized in Table 1.

Table 1: Survey Results - Dog Runs/Parks at Ontario Conservation Authorities

Conservation Authority	Capital Cost	Entry Fee	Size
Ken Reid (Kawartha)	\$60,000	\$4/day; \$84.75 Annual Pass	"large"
Scanlon Creek (LSRCA)	Unknown	N/A	3 acres
Hershey Lake (Mattagami)	N/A	N/A	1,350 m loop

Local pricing to fence an area of 200'x200' would be approximately \$12,000-\$15,000 in materials plus installation.

Staff will continue to monitor compliance and report back to the Board as needed.

REPORT

3143/21

TO:	Finance & Administration Committee
FROM:	Sally McIntyre, General Manager AND Ross Fergusson, Operations Manager
RE:	K&P Trail and Bridge: Status and Next Steps
DATE:	June 1, 2021

RECOMMENDATION (as amended and approved by the F&A Committee)

That the Finance and Administration Committee recommend that the Board ~~direct~~ authorize ~~staff to:~~ sale of the K&P Trail to the counties of Lanark, Renfrew, and Frontenac for a nominal sum with the understanding that it remain unconverted at the time of sale and that MVCA does not incur any additional costs.

- ~~a) investigate options and obtain time and cost estimates to secure clear ownership over MVCA's 35km of the K&P Trail for the purpose of purchase/sale; and~~
- ~~b) seek professional advice on the best means for restricting vehicle use of the bridge over the Clyde River.~~

MVCA owns a 35 km¹ section of the K&P Trail that extends roughly from Snow Road to Barryvale. In November 2019, the Board confirmed its intent to dispose of the property. In 2020, a structural assessment of the Clyde River bridge indicated that it did not meet current standards, and the railings were replaced in partnership with the Snow Road Snowmobile Club to enable the trail to remain open during the winter of 2020/21.

Earlier this year, consultations were carried out with local stakeholders regarding long-term use of the bridge to help inform decisions regarding the construction standard to be set for replacement of the decking and railing. As well, a grant was sought to offset replacement costs. Formal discussions began with the counties of Lanark, Frontenac, and Renfrew for potential purchase of the property and, most recently, a property valuation was obtained for the Trail. The purpose of this report is to provide an update regarding findings and results to date, to outline issues of risk and liability, and to obtain direction regarding next steps.

1.0 PUBLIC CONSULTATION

¹ Approximately 20.7 km in Lanark Highlands, 7.9 km in North Frontenac, and 6.8 km in Greater Madawaska.

Public consultation was carried out regarding replacement options for the bridge between December 17, 2020 and March 19, 2021. During this period, letters were sent to key stakeholders including businesses that have held Secondary Use Permits in recent years; a press release and social media notices were published; and a webinar was held on February 15, 2021 that was advertised in local papers. Signs were also installed at key locations on the trail. An article regarding the bridge was published in the Perth Courier and featured on Lake 88 FM. It is felt that there was good awareness in the community regarding the initiative. Nine (9) attended the webinar, which received 63 views on YouTube. Limited written response was received during the public consultation period. The following points were heard during the consultations:

- Several were unaware that the K&P Conservation Area had a Master Plan, and that the Plan stated that the trail was designated for recreational use.
- Some indicated that the trail should be maintained for recreational use only.
- Others indicated that they depend on the bridge for logging, and that the new 5 tonne limit at the bridge impacts their operations.
- Logging companies indicated that they help to maintain the trail by bringing in and grading gravel, brushing, and carrying out repairs of the culverts.
- Some have Crown Licenses and state that use of the bridge is needed to ensure success of their operation in that area.

2.0 BRIDGE COSTS AND FUNDING

Cost estimates for the recommended bridge works range from \$125,000 to \$236,000 depending upon the standard to which the bridge is repaired, as follows:

Decking	Railing	Related site works
<ul style="list-style-type: none">• \$30,000 like-for-like• \$125,000 Pre-cast concrete deck panels	<ul style="list-style-type: none">• \$20,000 all timber• \$36,000 all steel	<ul style="list-style-type: none">• \$75,000

Replacement of the railings in December 2020 was a temporary measure taken to allow the bridge to remain open last winter. A permanent railing is still required, which would be installed during replacement of the decking.

MVCA spent approximately \$20,000 in 2020 to investigate the bridge condition and prepare engineered drawings for replacement of the railings; and \$5,000 in 2021 to obtain the property valuation. A further \$99,000 is identified in the *10-year Capital Plan* for capital improvements of the bridge and trail.

The lowest cost to bring the bridge into full compliance for recreational use is approximately \$125,000. This would provide like-for-like replacement of the timber deck, with a projected life of 15 years. By comparison, concrete and proprietary decking materials cost roughly double and have an expected life of 50 years.

MVCA was unsuccessful in its grant application to the Community Foundation of Canada, but will be reapplying during the second round. If successful, the earliest that work could be carried out is late fall, and only if MVCA were to commence the design and approval processes this summer. Further investment in the design and repair of the bridge at this time is only recommended if MVCA is to be compensated by those purchasing the asset.

3.0 RISK AND LIABILITY

Several measures were implemented in December 2020 to allow for safe snowmobile use during the winter as recommended by HP Engineering Inc..² However, nothing in the consultant report provides for continued year-round use of the bridge by other vehicles.

The two elements of the existing bridge that were found to be non-compliant with current safety standards / codes are (i) the timber deck and (ii) the timber railing. These elements are considered to pose a high safety risk for public safety if they are not brought up to current safety standards; therefore, it is not recommended that this strategy be employed (i.e. maintain status quo). For the deck, this is a structural issue so if not properly addressed, failure of deck timbers could occur if loading exceeds the capacity of the timbers. For the railing, this would only be an issue if loads are actually applied to the railing (i.e. vehicular collision, cycling fall) as the railing would only be able to withstand a very low level of loading based on its current condition. In addition, the overall geometry of the railing poses a high level of risk for public safety given its height and configuration.

Some of these concerns were addressed through replacement of the railing, however, that was not a complete solution and it is recommended that additional measures be implemented to mitigate risks at the bridge. Options for consideration include:

- Install signs that indicate that the bridge is for recreational use only.
- Reduce the weight limit at the bridge from 5 tonnes a weight recommended by a qualified engineer.
- Install barriers at either end of the bridge to restrict its use to recreational use.

² HP Engineering Inc. *K&P TRAIL CLYDE RIVER BRIDGE (MILE 30.03) INVESTIGATION AND ANALYSIS REPORT.* February 3, 2021.

Unfortunately, there is a history of sign vandalism and removal along the K&P Trail and there is little confidence that signs alone will have significant or lasting impact. Barriers, depending on their design, could be moved in late fall to facilitate snowmobile use during the 2021/22 season. However, though intended as a safety measure, the addition of any barrier in the interim could pose a safety risk to those exceeding speed limits. Professional advice would be needed to ensure that barriers were installed in a manner appropriate to the situation and intended use.

4.0 LAND REGISTRATION STATUS, VALUE AND SALE

The 1997 Provincial policy previously shared with the Board regarding the sale of Conservation Authority land was found to be out of date. The 1999 policy, currently in effect, allows for “nominal sum dispositions to municipalities” provided that “such transfers retain the lands in open space/conservation purposes” and that associated agreements “recognize the Provincial share towards the original acquisition of the land.” This supersedes previous policy and comments made regarding the need to sell conservation area properties at market rates.

Letters were sent in March 2021 to the counties of Lanark, Frontenac, and Renfrew soliciting interest in the property. They subsequently met and nominated Lanark to lead discussions with MVCA. Initial discussions have allowed for the sharing of information and preliminary discussions regarding price and legal matters.

Key matters raised for consideration at this time are the following:

- The counties agree that they are appropriate buyers given overall trail plans and administrative structures now in place. For example, the County of Lanark administers a Trails Committee made up of councillors and members of public including representatives from the local ATV and Snowmobile clubs.)
- The counties feel that the land should be transferred at nominal cost for the following reasons:
 - It is a transfer of public land between public agencies.
 - The significant cost to bring the asset up to current standards and projected operations and maintenance (O&M) costs. (The County of Lanark expended net \$2.2 million on the Ottawa Valley Rail Trail (OVRT) and Tay-Havelock Trail over the period 2018-2020, including purchase of approximately 61 km from CPR for \$115,341.
- The assessed value of the property in May 2021 was \$170,000. MVCA paid \$7,500 for the land in 1990, of which 50% was paid by MNRF.
- While MVCA has composite survey plans with Instrument Numbers on file with the three registry offices located in Renfrew, Lanark, and Frontenac, the following issues have been raised by legal counsel regarding establishing legal ownership:

- There are approximately 20 PINs associated with the MVCA portion of the K&P trail in Lanark County alone. A full search of all PINs may be required in order to determine if all parts of the K&P have been properly registered in the name of MVCA.
- Not all PINs were converted from the Land Registry to Land Titles and each unconverted property may require full searches to determine the reason why.
- Surveys may be required for those portions that were not converted to Land Titles.
- There may be issues associated with road rights-of-way (ROW) where ownership may not be clearly documented as resting with the local municipality.
- This, in turn, could necessitate conveyance of some portions of the trail to area municipalities prior to conveyance of the trail to the respective county.
- The above land ownership matters could take significant time and expense to resolve, so options, costs, and benefits should be considered and a preferred approach determined before proceeding.
- MVCA is still working to resolve an ownership claim made by an adjacent landowner over a very small portion of the K&P. This matter went before a judge in 2017, and the court decision was in MVCA's favour. While MVCA agreed to provide and has surveyed an easement for the owners, they have refused the proposed terms and failed to comply with the Court Order. MVCA will likely need to return to the court to have this matter resolved.

Given the above conditions, it may be desirable to enter into an Option to Purchase agreement with the counties that spells out key terms including the sharing of legal costs before proceeding to make significant additional investment in preparing the land for sale.

REPORT

3144/21

TO:	MVCA Finance & Administration Committee
FROM:	Sally McIntyre, General Manager AND Juraj Cunderlik, Director of Water Resources Engineering
RE:	Carp River Erosion Control Project
DATE:	June 2, 2021

RECOMMENDATION

That the Finance and Administration Committee recommend that the Board authorize staff to award construction of the Carp Erosion Control project following receipt of written approval of the preferred tender by the City of Ottawa.

MVCA was retained by the City of Ottawa in 2017 to project manage the environmental assessment, project design and approvals, and construction of an erosion remediation project on a small section of the Carp River located in the community of Glen Cairn. The contract compensates MVCA on a time and expense basis. All project costs such as the retaining of consultants and contractors are funnelled through MVCA and reimbursed by the City.

The environmental assessment was finalized in Spring 2021, and preparation of tender documents is nearing completion. Construction is scheduled to commence in July, and contract tendering and award are to occur between the June and July Board meetings. Accordingly, permission is being sought for leave from the following section of MVCA's *Purchasing Policy and Procedures*:

Purchases \$50,000 and above:

- *Approval of the Board of Directors is required before awarding of the successful tender and a motion to approve must be recorded in the MVCA's official minutes.*

The estimated contract value is between \$250,000-\$300,000 including a 10% contingency. MVCA staff will adhere to all other elements of the policies, and recommend that written authorization from the City of Ottawa stand in lieu of Board approval prior to awarding and executing a contract with the preferred vendor. In short, the tender would only be awarded if the City accepts in writing the vendor, the price, and any terms and conditions that may apply. A motion to approve the tender would be brought to the Board to endorse at its next meeting.

REPORT

3147/21

TO:	MVCA Finance & Administration Committee
FROM:	Sally McIntyre, General Manager
RE:	NDMP Flood Risk Assessment Project – contract award
DATE:	June 4, 2021

RECOMMENDATION

That the Finance and Administration Committee recommend that the Board delegate approval of the Purchase Order for completion of the Flood Risk Assessment project to the Board Chair or Vice Chair, for subsequent endorsement by the Board in accordance with MVCA's *Purchasing Policies and Procedures*.

MVCA and its partners Rideau Valley Conservation Authority (RVCA) and South Nation Conservation (SNC) recently learned that we were successful in receiving a grant under the National Disaster Mitigation Program (NDMP) for the completion of a Flood Risk Assessment that will allow us to prioritize areas of the watershed for the creation of new flood plain maps and updating of existing mapping.

All NDMP projects are to be completed no later than March 31, 2022. Therefore, the team has moved quickly to develop and release a competitive RFP for completion of the project. Submissions are to be received by the end of June with the goal of awarding the project in the first week of July in order to provide the consultants with the maximum time possible to complete the work.

MVCA's portion of the project is expected to exceed \$50,000 and, per MVCA's *Purchasing Policies and Procedures*, will require approval of the Purchase Order by the Board. Given that the next Board meeting isn't until the third week of July, permission is sought to delegate this responsibility to the Board Chair or Vice Chair.

This project falls within the 2021 Budget, and MVCA staff will be working with RVCA and SNC to assess, score and recommend a preferred vendor.

REPORT

3145/21

TO:	MVCA Finance & Administration Committee
FROM:	Sally McIntyre, General Manager AND Juraj Cunderlik, Director of Water Resources Engineering
RE:	Shabomeka Lake Dam Project – Status Update
DATE:	June 1, 2021

For Information

The purpose of this report is to inform the Committee of the status of this project and to flag potential concerns.

Funding

While we have heard informally that MVCA has been approved for a Water & Erosion Control Infrastructure (WECI) grant, we have yet to have this in writing. This is impeding our ability to negotiate a loan with the City of Ottawa and Infrastructure Ontario as rates change regularly and both parties want to see that the other half of the project is funded. With respect to the City of Ottawa, ongoing delays in official notification may prevent MVCA from accessing a planned green bond / debenture opportunity with the City.

Permit Approvals

The Ministry of Natural Resources and Forestry (MNRF) has signed off-on the 90% final design and is prepared to issue a permit, however, comments and approvals are still outstanding from the Ministry of Environment, Conservation, and Parks (MECP) regarding matters related to Bon Echo Provincial Park and permits to access and use park property; and from the federal Department of Fisheries (DFO) regarding potential permits for construction. We are in the process of preparing the final design documents.

Easements

North Frontenac has agreed in principle to easements on the shoreline allowance. Legal counsel is currently reviewing a draft easement agreement. Permission will be sought to survey the area subject to easement after construction is complete and new landmarks and distances are available.

Tendering and Construction

This project is to be tendered in July for construction in September. The above delays in funding and approvals could delay tendering and result in a smaller field of vendors, higher prices, and a delay in construction start. As well, a special meeting of the Board may be required if the tender process is not completed before the July Board meeting.

REPORT

3146/21

TO:	MVCA Finance & Administration Committee
FROM:	Sally McIntyre, General Manager
RE:	Preliminary Financial Impact Analysis of New Regulations
DATE:	June 2, 2021

For Information

The purpose of this report is to provide a preliminary assessment of the potential impact of proposed regulatory changes on Authority funding of existing programs and services.

DISCUSSION

Table 1 shows the program and service areas that will impacted by the proposed regulations, and the estimated amount of operating dollars to be raised through either municipal levy or other sources of revenues if those programs and services are to continue.

Table 1: Programs and Services Affected by Proposed Regulatory Changes

Programs and Services	Mandatory	MOU or Other
Water Control Structures (WCS) – O&M	9.30%	
WCS – Preventative Maintenance	3.70%	
Flood Forecasting and Warning	6.90%	
Conservation Areas and HQ	1.00%	6.90%
Technical Studies & Watershed Planning	19.60%	5.10%
Planning and Regulations	16.90%	6.30%
Communications		3.50%
Stewardship and Education		2.50%
Visitor Services		0.70%
Vehicles and Equipment	0.40%	
Information & Communication Tech.		0.30%
Administration	14.50%	2.40%
Breakdown by Revenue Source (%)	72.30%	27.70%
Total (2021 Budget)	\$1,799,896	\$689,580

Today, roughly 11% (~\$268,800 in 2021) of revenues are generated via municipal Memoranda of Understanding (MOU) and associated fees. These MOU are largely for the provision of technical services related to the review of planning applications, biological field work, and the delivery of stewardship programs. For the purpose of this analysis, it is assumed that those revenues remain relatively constant post implementation of the regulatory changes.

If the Authority is to continue to deliver the same suite of programs and services, the balance of approximately \$420,700 will need to be raised through the negotiation of new bi-lateral or multi-lateral MOUs, the raising of existing fees and introduction of new fees, and through fundraising or grant programs.

While most programs and services deemed non-mandatory are delivered on a watershed-wide basis, site specific programs and services associated with the conservation areas are not. There is concern that one or more municipalities may not be supportive of continuing to fund the operation of conservation areas located outside their jurisdiction for recreational purposes. If that were to occur, the following scenarios/options are possible:

- The remaining municipalities could assume a greater percentage of the operating cost via MOUs;
- There could be a reduction in the scope of programs and level of service;
- There could be an increase in user fees;
- The site could be leased or sold to another operator (e.g. local municipality or County); and
- One or more sites could be closed to the general public for recreational purposes.

Fundraising and grants are not listed as they are an unreliable source of revenue and are time limited. That said, they could support seasonal operation of the sites, with all sites being closed during the winter months.

The province's consultation document¹ indicates that one or more of these actions will need to be taken by the end of 2022 to offset reductions in the mandatory portion of the municipal levy. Staff will be engaging with Board members over the coming months to discuss potential impacts and options for the organization and member municipalities.

¹ <https://ero.ontario.ca/notice/019-2986>

REPORT

3150/21

TO:	Board of Directors, Mississippi Valley Conservation Authority
FROM:	Sally McIntyre, General Manager
RE:	GM Update
DATE:	June 8, 2021

For Information.

EXTERNAL

1. **CA Act Regulations**

Eastern Ontario CAs and smaller CAs met over the past few weeks and provided consolidated comments to Conservation Ontario to support preparation of a submission to the Province. Refer to Attachment 1. Separately, I have raised concern that 4-year MOUs may not provide the long-term commitment to capital renewal needed for proper management of major public assets (e.g. bridges and public washrooms).

2. **MNRF Operating Contract**

MVCA's contract with MNRF to operate four of its dams expired this spring. MVCA signed a short-term agreement with MNRF to allow for a period of renegotiation. The current contract value is ~\$7,000 per year. The main objective is to improve language around roles and responsibilities to manage risk to MVCA.

3. **ALUS Agricultural Grant Program**

MVCA has been in discussions in recent weeks with Climate Network Lanark, the County of Lanark, ALUS Ontario, and the Rideau Valley Conservation Authority (RVCA) about potential delivery of an ALUS program in Lanark. ALUS provides funding and technical support to farmers to build nature-based solutions to enhance the sustainability of their operations and provide ecosystem services in their communities. Should funding be awarded, the program would be integrated into MVCA's 3-year Stewardship Pilot Project. A report will be brought to the Board when funding is confirmed.

4. Mississippi Valley Conservation Foundation

- a) Governance Review: the Foundation approved hiring a part-time analyst to conduct research and set out options to improve efficacy through organizational and Board design, recruitment, partnering, and staffing.
- b) Wetland Study: the Foundation approved use of the Cavanagh Wetland Fund to identify and delineate wetlands under development pressure; determine land ownership and planning status; collect and assess available site condition data; and identify priority areas for further analysis and stewardship outreach.
- c) Research Project: the Foundation is partnering with Carleton University and Ottawa University on an application to the [Climate Action and Awareness Fund](#) for a grant to conduct research into wetlands as carbon sinks.

5. Draft Watershed Plan Outreach – Council Briefings

I am scheduled to attend council meetings as follows. Please contact me if there is an opportunity to present earlier than August and September. Some councils meet the same day, which works if I am slotted at sufficiently different times. I can also meet with standing committees if that makes sense. The final Plan is to go to the Board in July.

- June 8: Central Frontenac, and Carleton Place
- June 18: North Frontenac
- June 21: Greater Madawaska
- June 22: Drummond North Elmsley
- July 6: Addington Highlands, and Beckwith
- August 10: Tay Valley
- August 24: Lanark Highlands
- September 7: Mississippi Mills

6. Shabomeka Lake Dam Easement Agreement with North Frontenac

A draft agreement has been sent to the Township for consideration. It is hoped that the agreement will be approved at Council's meeting on June 18, 2021.

7. Palmerston Lake Beach land transfer to North Frontenac

This initiative continues to languish due to lack of response from adjacent land owners. To the best of our knowledge, all documentation has been prepared and agreed to by both legal counsels. We will continue to pursue this matter.

8. 2021 Gypsy Moth Outlook

Gypsy moth outbreaks occur every 7 to 10 years. The Ministry of Natural Resources and Forestry conducted sampling across the infected zone and forecast “severe” defoliation if eggs hatch successfully and develop through all larval stages. In late July, spongy egg masses will be observable on the trunks and branches of infected trees. Check out this [webpage](#) for how to protect trees during an outbreak.

INTERNAL

9. Filming at the Mill of Kintail

MVCA is in the process of reviewing a contract with Fireside Pictures who proposes to use the site June 15 to film a movie. MVCA will receive \$1,500 for rental of the property plus compensation for staff overtime to supervise the production. Filming will not interfere with facility operations.

10. Opening of the Mill of Kintail Museum

The province is to commence Step One of the Roadmap to Reopen on June 11, which is to last for at least 21 days. If by July 9 the province has vaccinated 70 per cent of adults with one dose and 20 per cent of adults with two doses and other public health and health system indicators and doing well, the province intends to move to Step Two of the Roadmap, which we understand will allow us to open the museum to the public.

11. Staff Changes

- Our new Administrative Assistant is Morgan “Lee” Williams.
- Our new Educational Stewardship Technician is Julie Falsetti.
- We have retained 3 summer students this year (grant program):
 - Andrew VanCampen returns as an Automated Sensing Technician (CSJ)
 - Jordan Byerley – Monitoring Student (OFAH)
 - Currently securing – Water Resource Technician (CSJ)
- Shannon Gutoskie, our Communications Coordinator, will be leaving us to join South Nation Conservation at the end of June. We wish her well in her new position and look forward to collaborating on future initiatives.
- Daniel Dickson, our Full Stack Developer, will be leaving us later this month to join the world of “gaming”. We wish him well in the next stage of his career.

12. Murder of Crows

MVCA had its own murder of crows resulting from the successful nesting of a breeding couple at the front of the administrative building this spring. Protective covering will be added this fall or early next spring to prevent guano build-up on the building front should they or other birds return to the nest next year.

MECP Phase 1 Consultation Guide
Summary of Recent Discussions and Potential ERO Comments
(June 4, 2021 – Version 2)

The following document is based on recent discussions with Eastern and Small CAs as well as a review of CO's draft ERO comments. It captures:

- Key questions and points of clarification
- Direction to Conservation Ontario
- Potential ERO comments for CA consideration

Natural Hazards

Questions / Points of Clarification:

- Would the regulation require conservation authorities to deliver all mandatory programs and services or will delivery still be contingent on local capacity? Some conservation authorities would not be able to deliver all mandatory programs and services without a significant increase in municipal levy or provincial funding. For example, funding limitations currently prevent some conservation authorities from:
 - Delineating and mapping all hazard areas in their watershed
 - Operating water control infrastructure
 - Providing ice management services
 - Providing low water monitoring and communication
- Confirm that the list of “mandatory programs and services related to the risk of natural hazards” is exhaustive meaning these are the only programs and services that can be considered mandatory related to the risk of natural hazards (conservation authorities cannot consider other programs and services related to the risk of natural hazards as mandatory)?

Direction to Conservation Ontario:

- There have been conversations during past GM meetings about proposing a new funding model to the Province regarding Section 39 funding where smaller CAs would receive a higher proportion than larger CAs or reintroducing supplemental grants for smaller CAs. This conversation should be revisited to explore opportunities to improve provincial funding for smaller CAs to better support their delivery of mandatory programs and aid with consistency.

Potential ERO Comments:

- Conservation authorities look forward to the release of updated Provincial Flood Forecasting and Warning Guidelines which we understand are currently under review.
- Conservation authorities also strongly support the implementation of Ontario's Flooding Strategy which recognizes "the most cost-effective and sustainable way of reducing risks is to keep people and property out of high-risk areas". The most critical priorities in the strategy are to have the province update standards for flood mapping, update existing technical guidelines and provide the necessary tools and resources to maintain wetlands and pervious surfaces.
- Conservation authorities also encourage the province to restore Section 39 funding to 2018 levels. In 2019, provincial funding provided to conservation authorities to deliver their natural hazards program was cut by 50%. This reduction in funding makes it difficult for many conservation authorities to deliver mandatory natural hazard programs across the province.

Conservation Lands

Questions / Points of Clarification:

- Confirm that providing recreational opportunities on a property still allows non-recreation management and maintenance costs on that property to fall under mandatory programs and services?
- Will MECP prescribe a deadline for the completion of strategies, policies and management plans now required for conservation lands?

Direction to Conservation Ontario:

- CO develop a sample strategy for conservation authority lands
- CO develop a sample land securement / acquisition and disposition policy
- CO create a section on their website for CAs to post sample management plans (would be beneficial to have a range from simple to complex)

Potential ERO Comments:

- Conservation authorities strongly support the ability to cover multiple conservation authority lands under one management plan where the properties are similar in nature. This flexible and practical approach supports the efficient use of taxpayer dollars.

- Conservation authorities believe that passive recreational opportunities (such as walking trails) that are provided free of charge to the public should be eligible as a mandatory activity on conservation authority lands. These green spaces provide sought after outdoor recreation that is highly valued by local residents and no more so than during the pandemic when visitors to conservation areas jumped 50% or more across the province. Some conservation authorities have also found that having passive recreation on properties can help reduce encroachment and other illegal activities.
- It is important that conservation authorities have adequate time after the finalization of municipal agreements and 2023 budgets to prepare strategies, policies and management plans now required for all conservation authority lands as the outcome of municipal agreements may shape the content of these documents. It is preferable that conservation authority Boards of Directors establish reasonable timelines for completion, however, should the province set timelines, it is suggested that completion be phased in like requirements under the AODA where smaller conservation authorities are given more time to complete the new requirements.

Drinking Water Source Protection

Questions / Points of Clarification: none

Direction to Conservation Ontario:

- Continue to advocate for ongoing provincial DWSP funding through the Joint Advisory Committee and other avenues.

Potential ERO Comments:

- It is essential that the province continue to fully fund the Drinking Water Source Protection program as long as conservation authorities are required to exercise and perform the powers and duties of a source protection authority and implement mandatory programs and services related to those responsibilities. Municipalities do not have the capacity to absorb these program costs.

Core Watershed-based Resource Management Strategy

Questions / Points of Clarification:

- Will MECP prescribe a deadline for the completion of these strategies?
- “Municipal agreements” should be listed as a “potential funding mechanism” for all programs and services (this option always exists between municipalities and conservation authorities without limitation). There are omissions in the chart in the consultation guide which have been acknowledged by MECP.

Direction to Conservation Ontario:

- Form a working group of CAs to prepare a sample strategy that provides general introductory language about the importance and value of each type of natural resource that individual CAs can then add their own watershed specific information to (data, maps, program details). This will provide CAs with a template if they do not have an existing document to use, update or start from.
- Create a section on their website where CAs can post sample strategies or existing documents that fulfill the intent of the strategy.

Potential ERO Comments:

- Conservation authorities strongly support the inclusion of core watershed-based resource management strategies as a mandatory program and service because it provides a framework for conservation authorities and their member municipalities to identify and prioritize the programs and services most needed in each watershed to protect people and property from natural hazards and conserve natural resources.
- It is important that conservation authorities have adequate time after the finalization of municipal agreements and 2023 budgets to prepare resource management strategies as the outcome of municipal agreements may shape these strategies. It is preferable that conservation authority Boards of Directors establish reasonable timelines for completion, however, should the province set timelines, it is suggested that completion be phased in like requirements under the AODA where smaller conservation authorities are given more time to complete the new requirements.

Provincial Water Quality and Quantity Monitoring

Questions / Points of Clarification:

- Should OBBN be included?

Direction to Conservation Ontario: none.

Potential ERO Comments: none.

Organizational Costs

Questions / Points of Clarification:

- Will costs associated with Community Advisory Boards be included in the on-going organization costs that conservation authorities are allowed to levy municipalities for (like costs associated with our Boards of Directors)?
- Will administrative costs (General Managers, finance, IT) have to be split between mandatory and non-mandatory programs or will the full cost of core administrative staff be considered mandatory organizational costs?
- It is most appropriate that organizational costs be apportioned to member municipalities following the modified CVA formula as part of the conservation authority's municipal levy.

Direction to Conservation Ontario: none.

Potential ERO Comments:

- Conservation authorities strongly support the inclusion of on-going organizational costs under mandatory programs and services as these costs are necessary to deliver all other programs and services and should therefore be apportioned to municipalities as part of the conservation authority's municipal levy.

Transition Plans and Municipal Agreements

Questions / Points of Clarification:

- For conservation authorities to complete transition plans by December 31, 2021 and municipal agreements by January 1, 2023, we need final regulations shortly including the levy regulation. A substantial delay in the finalization of regulations may make these timelines unachievable.
- The upcoming municipal election could make it difficult for some municipalities to execute agreements with their conservation authorities in 2022. The Minister's ability to grant an extension would be a solution.
- When preparing a transition plan, conservation authorities have to consult with municipalities on the inventory to ensure they agree with the classification of each program and service. What happens if a municipality disagrees with the classification?

Direction to Conservation Ontario:

- Create a section on their website for conservation authorities to post sample agreements (many CAs have indicated that they will have to use agreement templates that mirror or align with existing agreements they have with their municipalities or the style of agreement their municipalities favour or are used to).

Potential ERO Comments:

- Conservation authorities strongly support allowing flexible agreement arrangements with municipalities (e.g. agreements with multiple municipalities, agreements covering multiple programs and services) as this practical approach will ensure the most efficient use of taxpayer money and be the least administratively burdensome for member municipalities.
- Conservation authorities also strongly support the Minister being able to grant an extension for completing municipal agreements where an authority, with the support of one or more municipalities, submits a written request.

Community Advisory Boards

Questions / Points of Clarification:

- Will MECP stipulate a date by which community advisory boards must be appointed?
- Some conservation authorities intend to use existing committees to fulfill the intent of the community advisory board so long as the formation and function of their existing committees meets any criteria laid out in the regulation
- Some conservation authorities will call their community advisory board by a different name (e.g. advisory committee) but their Administrative By-law and/or Terms of Reference will stipulate that this committee or working group fulfills the regulatory requirements of the community advisory board.

Direction to Conservation Ontario:

- Create a section on their website for conservation authorities to post sample Terms of Reference, advertisements, etc.

Potential ERO Comments:

- If conservation authorities are required to form a community advisory board, it is important that it augment not duplicate the work of the conservation authority's Board of Directors. Conservation authorities therefore support the requirement that Boards of Directors develop and approve a Terms of Reference that outlines the composition, activities, functions, duties, and procedures of the community advisory board for their authority.
- Conservation authorities encourage the province to prescribed as few requirements as possible for community advisory boards to enable local flexibility and effectiveness based on watershed needs and capacity.
- It is important that conservation authorities be able to use an existing committee(s) to fulfill their community advisory board, so long as it meets the minimum requirements.
- Conservation authorities' Administrative Bylaws already enable and govern the establishment of advisory boards and committees so there should be no need to prescribe separate procedures and processes for community advisory boards in regulation. Bylaws can be updated as needed to adequately address procedures such as formation, meetings, code of conduct, conflict of interest, attendance, reporting and removal.

- Conservation authorities request that indigenous representatives be exempt from the requirement that members reside in the authority’s jurisdiction as indigenous communities with an interest in a conservation authority’s watershed may have representatives who live outside the jurisdiction.
- Conservation authorities recommend changing the maximum authority representation on community advisory boards from 15% to 20% if the province intends for one member be a conservation authority member (minimum number of members is 5).
- Conservation authorities recommend that the minimum number of members be changed from 5 to “5 or 3 where a conservation authority has fewer than 10 municipally-appointed members on its Board of Directors”.
- Conservation authorities may also require time following the completion of transition plans, municipal agreements and 2023 budgets to prepare a Terms of Reference, advertise and appoint a community advisory board. It is requested that conservation authority Boards of Directors be permitted to defer the establishment of community advisory boards until 2023.
 - OPTION B: Conservation authorities request that it not be mandatory for conservation authorities to form a community advisory committee or that the Minister be able to grant an exception from this requirement where an authority, with the support of one or more municipalities, submits a written request. In some watersheds, it could be challenging to recruit interested members of the public to sit on the committee and for smaller conservation authorities providing administrative support to the committee could stretch already limited capacity.

Section 29 Minister’s Regulation

Questions / Points of Clarification: none.

Direction to Conservation Ontario: none.

Potential ERO Comments:

- All public green space (conservation areas, municipal parks, provincial parks) experienced a significant increase in use during the pandemic. This increase, which is expected to continue post-pandemic, challenged conservation authority staff, municipal bylaw officers and provincial park wardens. It is recommended that a working group be formed of enforcement staff from conservation authorities, municipalities and the

province to ensure all parties and levels of government have the tools they need to ensure the orderly use of their properties and to ensure public and staff safety and security. This may require a redesign of the Section 29 regulation to better align with the *Municipal Act* and the *Provincial Parks and Conservation Reserves Act*.