

**OPERATIONAL GUIDELINES
LOWER THAMES VALLEY CONSERVATION AUTHORITY**

**DEVELOPMENT, INTERFERENCE WITH WETLANDS AND ALTERATION TO
SHORELINES AND WATERCOURSES REGULATION**

ONTARIO REGULATION 152/06 (UNDER O.R. 97/04)

Staff will use these operational guidelines in reviewing applications under the regulation. If the application complies with the Operational Guideline then it can be recommended to the General Manager or the Water Management Supervisor and the General Manager or Water Management Supervisor can approve the application. If staff recommend that the application should not be approved the owner shall be contacted and informed that the project cannot be recommended for approval. The applicant can then appeal to the Authority's Board of Directors. If the Authority's Board of Directors denies the application the applicant can subsequently appeal to the Mining and Lands Commissioner. The Mining and Lands Commissioner of Ontario is appointed by the Minister of Natural Resources.

Non compliance with a Permit under the Regulation is considered a Provincial Offense.

Under the Conservation Authorities Act of Ontario, the Authority has certain regulations whose objectives are;

- to prevent the loss of life and property due to flooding and erosion,
- to prevent pollution, and
- to conserve and enhance natural resources

The Generic Regulation regulates the following items;

- development within a regulated area
- interference & alterations to watercourses
- interference & alterations to wetlands
- interference & alterations to shorelines

Development is defined in the Conservation Authorities Act as;

- construction & reconstruction
- erection or placing of a building
- any change to a building or structure that has the effect of:
 - changing its use
 - increasing its size
 - increasing the number of dwelling units
- site grading
- placing of or removal of fill

For the purposes of implementing these operational guidelines the following development items are treated as a group;

- construction & reconstruction
- erection or placing of a building
- any change to a building or structure that has the effect of:
 - changing its use
 - increasing its size
 - increasing the number of dwelling units

These items are treated separately as these components will require the issuance of a building permit from the building inspector.

The other components of development are site grading and the placing of, or removal of fill which probably do not require a building permit.

Fill Placement/Removal or Site Grading

In regard to site grading and the placing of or removal of fill in the case of *a watercourse or valley related zone*, the following guidelines are to be used in the review of applications.

- a) any fill placement/removal or site grading must not result in a more unstable slope.
- b) any fill placed shall only be comprised of earth, sand, filter fabric, rock, concrete or, in the case of the installation of a steel breakwall, steel piling. The Department of Fisheries and Oceans no longer approves the installation of new steel piling or concrete adjacent to shorelines other than replacement and repair of existing walls. If materials other than these items are used, staff will inform the Spills Action Centre or appropriate MOE staff.
- c) any fill placement/removal or site grading must not impact flood levels upstream or downstream of the proposed fill placement, movement or site grading.

The guideline in this application is;

- i) that the stage-storage characteristics be at least maintained at 0.3 metre intervals
 - ii) that flood flows are not impeded
 - iii) that the fill placement/removal or site grading be a volume for volume replacement (1 cubic metre removed from floodplain and 1 cubic metre placed in floodplain at the same cross sectional location)
 - iv) that the fill placement/removal or site grading is to return road surfaces (including entranceways) to original grade and condition
- d) any fill placement/removal or site grading must not impact erosion levels upstream or downstream of the fill placement/removal or site grading location.
 - e) any fill placement/removal or site grading placed must not interfere with local drainage.
 - f) any fill placement must be nominal in the sense that the Authority will not approve projects where a significant amount of fill is proposed due to the natural likelihood that the fill will subside and future land uses could be affected by that subsidence.

- g) it is not necessary to have the work designed by a Professional Engineer unless any of the following applies:
 - i) If the fill placement/removal or site grading is intended to provide a stable bank and erosion protection for a structure that is either presently within or intended to be within the regulated area then the fill placement/removal or site grading (i.e. erosion control project) shall be designed and its construction shall be supervised by a Professional Engineer.
 - ii) If, within Chatham on the Thames River or McGregor Creek, the intention is to construct a structure from between 15 and 22 metres of the water's edge the proponent shall be required to first stabilize the bank and protect that stable bank from erosion. These works shall be designed and their construction supervised by a Professional Engineer.
 - iii) If, within Chatham on the Thames River or McGregor Creek, the intention is to construct a structure within 5 metres of the water's edge then the Authority will require the aforementioned as well as a letter from a Professional Engineer which contains an opinion as to the ability of the constructed works to support the forces of that proposed construction.

In regard to site grading and the placing of or removal of fill in the case of a ***Lake Erie, Lake St. Clair and Rondeau Bay shoreline*** the following guidelines are to be used in the review of applications.

- a) any fill placement/removal or site grading must not result in a more unstable slope.
- b) any fill placed shall only be comprised of sand, earth, concrete, rock, filter fabric or, in the case of the installation of a steel breakwall or jetty, steel piling. The Department of Fisheries and Oceans no longer approves the installation of new steel piling or concrete adjacent to shorelines other than replacement and repair of existing walls. If materials other than these items are used, staff will inform the Spills Action Centre or appropriate MOE staff.
- c) any fill placement/removal or site grading must not impact erosion levels on adjacent properties.
- d) any fill placement/removal or site grading placed must not interfere with local drainage.
- e) if the proposed fill placement/removal or site grading is proposed to be done beneath the water's surface the MNR and DFO shall be informed.
- f) any fill placement must be nominal in the sense that the Authority will not approve projects where a significant amount of fill is proposed due to the natural likelihood that the fill will subside and future land uses could be affected by that subsidence.
- g) if the proposed shoreline protection is required in order to permit the construction of the residence then the shoreline protection shall be designed and approved by a qualified engineer. The shoreline protection will be required to be constructed prior to the issuance of a permit for the residence.
- h) Shoreline protection will be required to provide for flankage.
- i) Reshaping of the bluff to stabilize or terrace will require an approved engineering plan and a signed notification form from each adjacent neighbour stating that they have no objections to the proposed works.

Construction, Reconstruction, Erection or Placing of a Building or Changing a Building

These components of development require the issuance of a building permit and therefore the proponent may be directed to the Conservation Authority prior to the issuance of a building permit.

Flood Prone Areas

The regulation requires that all construction related development be floodproofed. To this end we attempt to insure that municipalities have floodproofing elevations in their Zoning Bylaws and Official Plans. If the municipality does not want the floodproofing elevations in these planning documents then the Authority may request that all building permit applications in flood prone areas be directed to the Authority prior to issuance.

Municipalities should be encouraged to direct proponents within floodprone areas to the Conservation Authority in order to insure that an appropriate floodproofing elevation can be obtained.

In order to protect a residence from riverine flooding it shall be constructed such that there is no opening to habitable space below the Regulatory Flood Datum (RFD). This elevation is determined by adding a freeboard elevation of 0.3 metres to the Regulatory Flood level. The area around the house shall be filled to an elevation not lower than RFD for a distance of 2 metres beyond the exterior walls of the house.

In order to protect a residence from lake related flooding it shall not only be required to be floodproofed to the RFD but in order to protect the house from wave uprush and other water related hazards it is required to be setback 15 metres from the 1:100 year flood line on the Lake Erie and Lake St. Clair shoreline. On Rondeau Bay this setback is 7.5 metres from the 1:100 year flood line. If there is a breakwall in front of the home the 1:100 year flood line shall be considered to be at the breakwall.

In rural areas it is recommended that homes be floodproofed for local area flooding. It is recommended that if the proposed home is located at the downstream portion of the farm lot that the home be constructed with no minimum opening below 0.3 metres above the elevation of the finished road in front. In all other areas it is recommended that there be no minimum opening below 0.5 metres above the pre-construction ground elevation.

If the existing home or structure is not floodproofed and an addition is proposed, the addition can be approved at the existing floor elevation of the home provided the addition has a floor area less than 25% of the existing home.

For residences, the acceptable floodproofing standard is;

- that there be no minimum openings to habitable space below the RFD (Regulatory Flood Datum)
- that the area around the residence be filled to an elevation not lower than RFD for a distance of 2 metres beyond the exterior walls of the residence

For other structures the acceptable floodproofing standard is;

- that there be no building materials susceptible to flood damage below the RFD
- that there be no mechanical, electrical or heating equipment located below the RFD
- that consideration be given to raising moveable items above the RFD in the event of a flood above the floor of the structure

Erosion Prone Areas

Thames River

The Thames River is largely a valley situation. The 'critical' regulated area is equal to the sum of the erosion allowance plus the stable slope allowance. The regulation provides for an additional 15 metre allowance but the Authority does not normally consider this allowance 'critical'. These allowances are measured from the toe of the slope of the valley. On the outside of a river bend the 100 year erosion allowance is 20 metres. If it is on a straight section of the river the 100 year erosion allowance is 15 metres and on the inside bend of the river the 100 year erosion allowance is 10 metres. The stable slope allowance for the river is a 3 to 1 slope.

If a new lot is proposed and a suitable building envelope does not exist with the above allowances the applicant will be given the option of seeking relief from the stable slope allowance. In order to obtain this relief we would require that the applicant provide an engineers report supporting a reduced stable slope allowance.

Other Watercourses

If it is a valley situation essentially the same method shall be used as that of the Thames River, other than the 100 year erosion rate on the outside bend will be assumed to be 10 metres.

If a new lot is proposed and a suitable building envelope does not exist with the above allowances the applicant will be given the option of seeking relief from the stable slope allowance. In order to obtain this relief we would require that the applicant provide an engineers report supporting a reduced stable slope allowance.

Lake Erie Bluff

In a bluff situation the 'critical' regulated area is equal to the 100 year erosion allowance plus the stable slope allowance based on a 3 to 1 slope. The regulation provides for an additional 15 metre allowance but the Authority does not normally consider this allowance 'critical'. From Wheatley to Charing Cross Road the 100 year erosion allowance is 35 metres. From Lot 99 along Lake Erie in Howard to the Chatham-Kent-Elgin boundary line the 100 year erosion allowance is 44 metres. From the Chatham-Kent-Elgin line to the Authority's eastern boundary the 100 year erosion allowance is 64 metres.

Along Lake Erie, where there is a bluff situation, the 'critical' regulated area will be assumed to be equal to 55 metres from the top of the bank in Raleigh and Romney and 45 metres from the top of the bank in Tilbury East until May 1 of 2011.

If a new lot is proposed and a suitable building envelope does not exist with the above allowances the applicant will be given the option of seeking relief from the stable slope allowance. In order to obtain this relief we would require that the applicant provide an engineers report supporting a reduced stable slope allowance.

Permitted activities within the 'critical' regulated zone are;

- Exterior repairs and interior alterations
- Additions are permitted provided no more than 20% of existing floor area and the addition is located no closer to the hazard
- Unattached garages or other similarly sized, non-inhabitable, accessory structures provided they are located no closer to the hazard than the existing primary structure on the lot.
- Hardship re-buildings as a result of fire or similar calamity are permitted and are encouraged to locate farther from the hazard.
- Stair steps down to the beach would be approved provided they are removed and replaced on a yearly basis.
- Any part of an access ramp down the bluff is required to be at least 8 metres from a property line. Access ramps are required to be drained properly. If any part of an access ramp is within the 8 metres of a property line an engineered plan is required.
- Reshaping of the bluff to stabilize or terrace would be approved provided an engineering plan is undertaken.
- Mobile homes or mobile home communities provided at no time that a mobile home is within 15 metres of the top of the bank.
- Relocation of an existing home to a location farther from the hazard provided the proposed location provides for 80 years of erosion protection and the stable slope allowance.

Detroit Drive in Romney

In this area the 'critical' regulated area is equal to the 100 year erosion allowance plus a 3 to 1 stable slope allowance from the toe of the slope. The regulation provides for an additional 15 metre allowance but the Authority does not normally consider this allowance 'critical'. From 1908 to 2001 the prorated erosion rate for 100 years was found to be approximately 53 metres. The rate of erosion for the bluff from Wheatley Provincial Park to Charing Cross Road was found to be 35 metres per 100 years. The stable slope allowance for a 3 to 1 slope was found to vary from 4 metres at Fishermans Road to 9 metres at Woodland.

Virtually all of the existing homes on the lake front are within the 'critical' regulated area. We are unaware of any lots that have not been developed. All of the homes are on full municipal services.

New construction will be required to be placed outside of the 'critical' regulated area. If new construction is proposed within the 'critical' regulated area, the installation of erosion protection will be required and a setback of at least 20 metres from the top of the bank or shore protection will be encouraged.

Permitted activities within the 'critical' regulated zone are;

- Exterior repairs and interior alterations
- Additions are permitted provided no more than 20% of existing floor area and the addition is located no closer to the hazard
- Unattached garages or other similarly sized, non-inhabitable, accessory structures provided they are located no closer to the hazard than the existing primary structure on the lot.
- Hardship re-buildings as a result of fire or similar calamity are permitted and are encouraged to locate farther from the hazard.

Erie Beach

In this area the 'critical' regulated area is equal to the 100 year erosion allowance plus a 3 to 1 stable slope allowance from the toe of the slope. The regulation provides for an additional 15 metre allowance but the Authority does not normally consider this allowance 'critical'. From 1908 to 2001 the prorated erosion rate for 100 years was found to be approximately 22 metres. The stable slope allowance for a 3 to 1 slope was found to vary from 2.5 metres in the western portion of Erie Beach to 1 metre in the eastern portion.

In general the line depicting the 'critical' regulated area falls midway through most of the homes on the lakefront. Most of the homes in Erie Beach are located approximately 18 to 22 metres from the existing top of bank. We are unaware of any lots that have not been developed. These homes are supplied by municipal water.

There is a sidewalk that is located on municipal property between the homes and the lakefront. There seems to be a communal effort to attempt to preserve the sidewalk and therefore many shore protection works have been installed on the lake side of it. For most of its length the sidewalk is only metres from the top of the bank.

New construction will be required to be placed outside of the 'critical' regulated area. If new construction is proposed within the 'critical' regulated area, the installation of erosion protection will be required and a setback of at least 20 metres from the top of the bank or erosion protection will be encouraged.

Permitted activities within the 'critical' regulated zone are;

- Exterior repairs and interior alterations
- Additions are permitted provided no more than 20% of existing floor area and the addition is located no closer to the hazard
- Unattached garages or other similarly sized, non-inhabitable, accessory structures provided they are located no closer to the hazard than the existing primary structure on the lot.
- Hardship re-buildings as a result of fire or similar calamity are permitted and are encouraged to locate farther from the hazard.

Flood and Erosion Prone Areas

Erie Shores Drive

In this area the 'critical' regulated area is made up of flood prone lands plus a wave uprush allowance plus the 100 year erosion allowance. The regulation provides for an additional 15 metre allowance but the Authority does not normally consider this allowance 'critical'. Using various land surveys dated in the 1920's and 1930's, the prorated erosion rate for 100 years was found to be approximately 33 metres.

Generally all of the existing homes are located within the 'critical' regulated area. We are aware of only a few lots that have not been developed. In any case severances will not be approved. The area is supplied by municipal water.

The area has been studied numerous times to undertake the construction of a comprehensive flood and erosion control protection project. However the cost of the proposed project is very high and it will not be constructed in the foreseeable future.

Staff will not be allowed to approve applications to construct new homes. All of these applications will be referred to the Board of Directors.

Permitted activities within the 'critical' regulated zone are;

- Exterior repairs and interior alterations
- Additions are permitted provided no more than 20% of existing floor area and the addition is not located closer to the hazard. Only one addition per 10 year period.
- Unattached garages or other similarly sized, non-inhabitable, accessory structures provided they are located no closer to the hazard than the existing primary structure on the lot.
- Raising of existing structures to attain floodproofing elevation if the structure is located outside of the wave uprush zone.
- Raising of existing structures to attain floodproofing elevation within the wave uprush zone provided the footings and foundations are suitably engineered.

Rondeau Bay

In this area the 'critical' regulated area is made up of flood prone lands plus a wave uprush allowance plus the 100 year erosion allowance. The regulation provides for an additional 15 metre allowance but the Authority does not normally consider this allowance 'critical'. The wave uprush zone is considered to be 7.5 metres from the 100 year flood line.

There are pockets of development on the shoreline of Rondeau Bay. Most notable are Erieau, Rondeau Bay Estates, Shrewsbury and the area immediately outside and within Rondeau Park. All of these areas are or will be serviced by municipal water. The construction of shoreline protection works are considered to be economical and effective on the Rondeau Bay shoreline.

New construction will be required to be placed outside of the ‘critical’ regulated area. In order to ensure that erosion is not a factor in determining the ‘critical’ regulated area, erosion protection will be required. Hardship re-buildings as a result of fire or similar calamity will be encouraged to be constructed at least 15 metres from the top of the bank.

Permitted activities within the ‘critical’ regulated zone are;

- Exterior repairs and interior alterations
- Additions are permitted provided no more than 20% of existing floor area and the addition is located no closer to the hazard. Only one addition per 10 year period.
- Unattached garages or other similarly sized, non-inhabitable, accessory structures provided they are located no closer to the hazard than the existing structure.

Lighthouse Cove

In this area the ‘critical’ regulated area is made up of the flood zone and wave uprush zone. The regulation provides for an additional 15 metre allowance but the Authority does not normally consider this allowance ‘critical’. If shore protection is in place the erosion rate is assumed to be zero. The wave uprush zone is considered to be 15 metres from the 100 year flood line.

We are unaware of any lots that have not been developed. These homes are supplied by municipal water. The construction of shoreline protection works are considered to be economical and effective on the Lake St. Clair shoreline.

New construction will be required to be placed outside of the ‘critical’ regulated area. In order to ensure that erosion is not a factor in determining the ‘critical’ regulated area, shore protection will be required. Hardship re-buildings as a result of fire or similar calamity will be encouraged to be constructed at least 15 metres from the top of the bank.

Permitted activities within the ‘critical’ regulated zone are;

- Exterior repairs and interior alterations
- Additions are permitted provided no more than 20% of existing floor area and the addition is located no closer to the hazard. Only one addition per 10 year period.
- Unattached garages or other similarly sized, non-inhabitable, accessory structures provided they are located no closer to the hazard than the existing structure.

Dynamic Beach Areas

Erieau and Bates Drive in Harwich and Howard

In this area the ‘critical’ regulated area provides for flooding, wave uprush and a dynamic beach allowance. The regulation provides for an additional 15 metre allowance but the Authority does not normally consider this allowance ‘critical’. The wave uprush line is 15 metres landward of the 100 year flood line and the dynamic beach allowance is 45 metres from the 100 year flood line.

Most of the area has been developed, but a few lots still remain unoccupied. These lots are/or will be supplied by municipal water.

The ‘critical’ issue in relation to dynamic beach is that proposed structures be well founded. Proposed new construction will be encouraged to be located out of the dynamic beach region but if that is not possible the proposed construction will be required to not be lakeward of the rear building line of adjacent properties. Any new construction will be required to be located outside of the wave uprush zone and be suitably floodproofed. If the rear building line is within 5 metres of the wave uprush zone, the proponent shall be required to install footings and foundations to a sufficient depth to protect against undermining. The Authority will discourage shore protection works within the dynamic beach region as the protection works may disrupt sand deposition.

Permitted activities within the ‘critical’ regulated zone are;

- Exterior repairs and interior alterations
- Additions are permitted in the wave uprush allowance provided no more than 20% of existing floor area and the addition is located no closer to the hazard. Only one addition per 10 year period.
- Unattached garages or other similarly sized, non-inhabitable, accessory structures provided they are located no closer to the hazard than the existing structure.
- Leveling of sand dunes

Alteration of Watercourses

The alteration of waterways portion of the regulation applies to all waterways within the jurisdiction of the Authority. We consider the circulation of Drainage Reports under the Drainage Act to be the member municipality’s request for alteration for those waterways. In reviewing works proposed to be constructed under the Drainage Act, staff will use the Ontario Ministry of Agriculture and Food “Design and Construction Guidelines for work under the Drainage Act” dated December 1979 and the Thames River Implementation Committee’s “Practical Guide for Municipal Drains” dated Spring 1982. The following guidelines are to be used in the review of applications to alter, change or divert all other natural watercourses in the Authority.

- a) any alteration must not result in a more unstable stream bank slope.
- b) any alteration must not impact flood levels upstream or downstream of the altered location.
- c) any alteration must not impact erosion levels upstream or downstream of the altered location.

All applicants who apply to alter a natural watercourse shall be informed that “Our review has not covered fish, wildlife and Ontario Crown land management legislation administered by the Ministry of Natural Resources. You may require their authorization before commencing your project. For further information in these areas please contact your local MNR Field Office prior to undertaking the proposed work.”

Interference With Wetlands

Provincially Significant Wetlands (PSW) and Wetlands defined as such under the Conservation Authorities Act are affected by this regulation. The lands adjacent to these areas may be regulated by the Minister of Natural Resources via the “other lands” designation. In the case of PSW’s the

regulated adjacent land is 120 metres from the PSW and in the case of wetlands defined under the Conservation Authorities Act the regulated adjacent land is 30 metres from the wetland.

If development is proposed **within** the Provincially Significant Wetlands (PSW), the MNR shall be informed, their response determined and their response supported. If the development is proposed **within** a wetland as defined under the Conservation Authorities Act (but is not a PSW) then we shall work with the applicant to encourage conservation of as many of the wetland features as possible. In either case proponents will first be encouraged to place any development outside of the wetland.

If the development is proposed within an area adjacent to either of the above wetlands, the following guide will be used,

- If the development is a plan of subdivision, or an OP, OPA, ZB or ZBA to allow construction of 3 or more homes the proponent will be required to undertake the preparation of a Environmental Impact Study.
- If the development is an OP, OPA, ZB or ZBA to allow the creation of 2 or fewer lots, the proponent will be required to develop a site plan for each of the lots, which contains methods that will be used to reduce the effect that the development has on the wetland.
- If the development is the construction of structures on established lots;
 - the Authority will work with the landowner to achieve a satisfactory placement of structures away from sensitive areas where possible,
 - the Authority will consider prior studies undertaken by the proponent, such as a Nutrient Management Plan or an Environmental Farm Plan, in its site evaluation process, and
 - only where the situation warrants will an Environmental Study be requested

Provincial Ministries, Federal Departments and Crown Agencies

The *Conservation Authorities Act* does not contain a subsection that specifically “binds the Crown”. Therefore activities of Provincial Ministries, Federal Departments and Crown Agencies or “Crown Corporations” are not bound by the Act and these entities are not legally required to obtain permission under the *Conservation Authorities Act*. Voluntary compliance with the technical review process is encouraged with the Crown and their Agencies.

Summary

Staff will use the above operational guidelines in reviewing applications and either recommend approval or denial. The General Manager or Water Management Supervisor can approve any application. If staff recommend denial of the application the owner shall be contacted and informed that the project cannot be recommended for approval. The owner is then told that they are eligible to have a hearing before the Authority’s Board of Directors. If a hearing is held the “Hearing Guidelines” that were circulated by the ACAO in 2005 shall be used.