AORS

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August 6, 2026

On behalf of the Association of Ontario Road Supervisors (AORS), thank you for the opportunity to provide comments regarding ERO 026-0329, proposing updates to the *Technical Guide – River and Stream Systems: Flooding Hazard Limit* and the accompanying *Technical Bulletin – Special Flooding Hazard Conditions in River and Stream Systems*.

AORS represents more than 1,900 municipal public works professionals from municipalities across Ontario. Our members are responsible for planning, constructing, operating, maintaining, and rehabilitating municipal transportation infrastructure, including roads, bridges, culverts, stormwater systems, and other public assets that are directly affected by flood hazard identification, mapping, and flood risk management policies.

AORS supports the Province's objective of modernizing Ontario's flood hazard technical guidance. Updating guidance that has remained largely unchanged since 2002 is both appropriate and necessary to reflect advances in hydrologic and hydraulic modelling, improved technologies, evolving engineering practices, and the increasing impacts of climate change on municipal infrastructure.

We also commend the Ministry for engaging a multi-partner technical working group that included municipalities, conservation authorities, and provincial and federal agencies throughout the development of the proposed updates.

While AORS supports the intent of the proposal, we respectfully submit that the implementation of the updated technical guidance has practical implications for municipalities that extend beyond the technical modelling itself. We encourage the Province to consider the following observations before finalizing the guidance.

Municipal Implementation Costs

The Regulatory Impact Analysis indicates that the proposed updates are not expected to increase municipal costs because they reflect existing industry best practices. While many consulting practitioners have adopted more advanced modelling techniques, AORS believes this statement understates the broader implications for municipalities.

The application of updated modelling methodologies may result in revised flood elevations, expanded flood hazard limits, or changes to floodplain mapping. These outcomes have the potential to influence municipal infrastructure planning, environmental assessments, development approvals, bridge and culvert design, transportation planning, emergency management, and long-term asset management.

Municipalities may be required to commission additional engineering studies, revisit completed infrastructure designs, update capital priorities, revise asset management strategies, or undertake additional technical analyses as flood hazard information evolves. While these impacts may not arise directly from the guidance itself, they represent real implementation costs that municipalities will ultimately bear.

We encourage the Province to recognize these downstream impacts and work collaboratively with municipalities to support implementation.

Public Works Operational Expertise

Flood modelling is an essential component of hazard identification; however, technical models should be complemented by the operational knowledge held by municipal public works professionals.

Our members possess decades of experience regarding infrastructure performance during major storm events, recurring roadway flooding, culvert capacity limitations, drainage deficiencies, ice jam locations, debris accumulation, and emergency response activities. This practical knowledge often provides valuable context that may not be fully captured through modelling alone.

AORS recommends that municipalities be provided an opportunity to validate draft flood hazard mapping using operational public works experience before mapping is finalized. Integrating local knowledge will improve confidence in flood hazard mapping while producing more practical outcomes for municipalities.

Structural Flood Mitigation

The proposed Technical Bulletin introduces updated guidance regarding the consideration of structural flood mitigation measures, including dams, dykes, berms, flood walls, flood protection landforms, and regional flood control facilities.

AORS recognizes that these measures may play an increasing role in flood risk management. However, municipalities require additional clarity regarding the long-term responsibilities associated with these assets.

Specifically, we encourage the Province to provide further guidance regarding:

- ownership and governance responsibilities;
- inspection and monitoring requirements;
- long-term maintenance obligations;
- lifecycle replacement planning;
- asset management expectations; and
- liability considerations where municipalities assume responsibility for flood mitigation infrastructure.

These structures may become long-term municipal assets requiring ongoing maintenance and financial investment. Municipalities should clearly understand these obligations before implementation.

Existing Municipal Infrastructure

Ontario's municipal transportation network includes thousands of kilometres of roads, bridges, culverts, and drainage infrastructure that were designed and constructed under previous engineering standards and historical flood mapping.

AORS recommends that the Province provide additional guidance distinguishing between:

- new infrastructure construction;
- infrastructure reconstruction;
- rehabilitation projects;
- routine maintenance activities; and
- emergency repairs.

Municipalities require certainty that routine maintenance or emergency response activities will not inadvertently trigger unnecessary redesign requirements where no significant increase in public risk exists.

Cumulative Watershed Development Impacts

AORS respectfully submits that flood hazard management should account not only for the performance of existing infrastructure, but also for the cumulative impacts of land alteration and development occurring throughout a watershed.

Across many Ontario municipalities, public works departments are observing increased flood frequency, higher peak flows, and greater stress on existing roads, culverts, bridges,

drainage systems, shoreline outlets, and receiving watercourses. In many cases, these impacts are occurring even where individual developments meet current stormwater management requirements.

While flood hazard mapping appropriately identifies flood-prone areas, municipalities continue to face challenges associated with the cumulative effects of:

- increased impervious surface coverage;
- reductions in natural infiltration and groundwater recharge;
- loss of wetlands and natural storage features;
- accelerated runoff volumes and rates;
- increased flow conveyance through municipal drainage systems; and
- changing watershed hydrology resulting from incremental development over time.

Many municipal drainage outlets, lake outlets, watercourse crossings, culverts, and other hydraulic structures were designed using historical watershed conditions and may no longer have sufficient capacity to accommodate current or future runoff conditions. The resulting increases in water levels and flows can contribute to upstream flooding, shoreline erosion, infrastructure damage, and increased municipal maintenance costs.

AORS encourages the Province to provide additional guidance regarding how cumulative watershed development impacts should be evaluated and incorporated into flood hazard studies, hydraulic assessments, and future flood mapping updates. This may include guidance respecting:

- watershed-scale water balance considerations;
- preservation and restoration of natural infiltration functions;
- cumulative impact assessments for developing watersheds;
- evaluation of infrastructure capacity relative to future watershed build-out conditions;
- consideration of receiving watercourse and outlet constraints; and
- integration of flood hazard management with municipal asset management and climate adaptation planning.

Recognizing and addressing the cumulative effects of development on watershed hydrology will help ensure that flood hazard mapping not only identifies areas at risk but also supports more sustainable and resilient long-term infrastructure planning.

Asset Management and Long-Term Planning

Municipalities are required to prepare comprehensive asset management plans under Ontario Regulation 588/17. Updated flood hazard mapping has the potential to alter infrastructure risk profiles and influence long-term capital investment decisions.

Changes in flood hazard information may require municipalities to reassess infrastructure priorities, revisit lifecycle assumptions, update climate adaptation strategies, and adjust long-term financial plans.

AORS encourages the Province to recognize these implementation challenges and consider providing technical resources, guidance documents, and appropriate transition periods to support municipalities as updated mapping is incorporated into infrastructure planning.

Consistent Provincial Application

Consistency in applying the updated guidance will be essential to ensuring confidence in flood hazard mapping across Ontario.

Variations in interpretation among conservation authorities or practitioners may create uncertainty for municipalities responsible for infrastructure planning and development review.

AORS recommends that the Province develop standardized implementation guidance, technical bulletins, training opportunities, and interpretation resources to promote consistent application throughout Ontario.

Funding Considerations

Municipalities continue to face significant infrastructure funding pressures while adapting to increasingly frequent and severe weather events.

Should implementation of updated flood hazard mapping result in additional engineering studies, infrastructure upgrades, or revised capital priorities, municipalities will require access to financial support to successfully implement these changes.

AORS encourages the Province to recognize that climate resilience is a shared provincial and municipal responsibility and that future implementation should be accompanied by appropriate funding opportunities wherever practical.

Conclusion

AORS supports the Province's efforts to modernize Ontario's flood hazard technical guidance and appreciates the collaborative approach taken during its development.

As the Province moves toward implementation, we respectfully encourage consideration of the operational realities facing municipalities responsible for owning, maintaining, and replacing critical public infrastructure. Ensuring that municipalities have adequate implementation guidance, access to technical support, reasonable transition periods, and recognition of the financial implications associated with updated flood hazard mapping will contribute to successful implementation and improved resilience across Ontario.

Thank you for the opportunity to provide comments on this important initiative. AORS looks forward to continuing to work collaboratively with the Province on matters affecting municipal public works and infrastructure.