



Committee of the Whole Report For the Meeting of September 29, 2022

To: Committee of the Whole
From: Daniel Atkinson, Acting Fire Chief
Subject: Regional Tsunami Portal MOU

Date: September 20, 2022

RECOMMENDATION

That Council

1. Authorize the Mayor and City Clerk to execute an agreement which allows City of Victoria Tsunami modelling data to appear on the Capital Region Tsunami Information Portal hosted and managed by GeoBC.

EXECUTIVE SUMMARY

New Tsunami modelling was completed for the Capital Region in 2020 by Associated Engineering. The tsunami data was provided to and belongs to each municipality for their associated area. This new tsunami data has been added to Vic-Map, replacing the old data from the AECOM (2013) Modelling of Potential Tsunami Inundation Limits and Run-Up for the Capital Regional District. Staff have shared Victoria's tsunami data from the 2020 [Capital Region Coastal Flood Inundation Mapping Project](#) with GeoBC, to create a regional tsunami portal, which will assist residents and guests in the capital region in understanding their tsunami hazard risk anywhere within the Capital Region. This regional approach also allows emergency managers to collaborate and provide consistent and clear messaging and education to the public. A series of workshop sessions and research was conducted in order to identify consistent and standardized messaging such as map colours, terminology, etc. The colours and terminology used on Vic-Map align with the ones used on the GeoBC tsunami map for example.

It is well understood that the Pacific Northwest region of BC is one of the most seismically active regions in Canada, and most people understand that a damaging earthquake could occur at any time which may result in a tsunami. Under the BC Local Government Act and the *Emergency Program Act*, local governments are responsible for understanding and managing flood risk through land use planning and regulations and through emergency planning and preparedness activities. In addition, Section 25(1) of the *BC Freedom of Information and Protection of Privacy Act* confirms that the local authority must warn where a natural hazard poses a significant risk.

The Capital Region Tsunami Portal supports common local authority's practice of disclosing natural hazard information and promoting public education to reduce risk and improve public safety. Non-disclosure may be associated with medium- to long-term liability, including life safety and injury. Non-disclosure could contribute to reputational risk by eroding public trust if tsunami hazard information is improperly disclosed or seen to be hidden.

PURPOSE

The Purpose of this report is Authorize the Mayor and City Clerk to execute an agreement (Sign an MOU) which allows City of Victoria Tsunami modelling data to appear on the public Capital Region Tsunami Information Portal hosted and managed by GeoBC.

BACKGROUND

In July 2020, the [Capital Region Coastal Flood Inundation Mapping Project](#) was completed for the Capital region, inclusive of First Nations communities, with approximately \$705,000 in funding support through the National Disaster Mitigation Program (NDMP). The results include average surface elevation and approximate arrival times for 11 tsunami sources as well as five detailed inundation models for Victoria harbour, Esquimalt, Sidney, Saanich, Oak Bay, Sooke, and Port Renfrew. The majority of the capital region's coastline is quite elevated with limited risk of tsunami and a majority of the region is at minimal or no risk of a tele-tsunami (distant tsunami). This project helps planners and emergency managers prepare the region for tsunami events that may strike off southern Vancouver Island and the Southern Gulf Islands.

Local emergency management practitioners of the Local Government Emergency Program Commission (LGEPAC) unanimously supported translating the 2020 Associated Engineering Tsunami Modelling and Mapping report into a regional public education tool, agreeing on a two-zone approach that delineates the tsunami hazard zone and outside the tsunami hazard zone.

Associated Engineering completed additional GIS processing and mapping under the Development of Public Education Safety Zones Project in 2021 to communicate 'high-ground safe zones' to stakeholders and the public. The methodology combined the inundation extent from all 11 modelled tsunami scenarios to create a single, worst-case inundation extent. The 'safe zone' areas represent all land area in the Capital Regional District boundaries that is not within the inundation extents. Edges of the 'safe zones' were smoothed to provide a clearer boundary. Each emergency program in the 13 municipalities and three electoral areas financially contributed to the \$10,934.70 cost for additional GIS processing.

ISSUES & ANALYSIS

For GeoBC to share the 2020 tsunami data publicly on behalf of EMBC, they are requesting that each municipality/township/First Nation sign a Memorandum of Understanding with EMBC to consent to be included on the Tsunami Portal (an interactive tsunami map of the capital region). The regional tsunami portal will be released publicly on September 20, 2022. Any municipalities, townships, or First Nations that have not signed the Memorandum of Understanding for the Capital Region Tsunami Information Portal will not be included in the public tsunami portal (the data layers for those municipalities will be turned off on the public maps). When the MOU is signed the data layers can be turned on by GeoBC and will be included on the public Tsunami Portal. The same

data is currently being shared publicly on Vic-Map.

OPTIONS & IMPACTS

Option 1: Authorize the Mayor and City Clerk to execute an agreement (Sign an MOU) which allows City of Victoria Tsunami modelling data to appear on the public Capital Region Tsunami Information Portal hosted and managed by GeoBC (Recommended).

Option 2: That Council does not authorize the Mayor and City Clerk to execute an agreement (Sign an MOU) which allows City of Victoria Tsunami modelling data to appear on the public Capital Region Tsunami Information Portal hosted and managed by GeoBC.

Accessibility Impact Statement

The Tsunami Portal has been designed using colours that are easy to differentiate and see for those with visual impairments based on research and best practices. The terminology used is also based on research and best practices to be easily understood. The Tsunami portal is accessible to all users with a computer or smart phone and the maps can be printed.

2019 – 2022 Strategic Plan

This project aligns with the City of Victoria's 2019-2022 Strategic Plan objective of Health, Well-Being and a Welcoming City. Collaborating with regional partners, GeoBC, and EMBC and creating resources that will support emergency preparedness, mitigation, response and recovery aligns with strategic objective one: Good Governance and Civic Engagement.

This report and its directions are directly aligned with Strategic Objective 6: Climate Leadership and Environmental Stewardship and specifically the implementation of the City's Climate Leadership Plan.

Impacts to Financial Plan

This project does not require budget contribution from the City of Victoria. Staff have worked closely with the Regional Emergency Management Partnership who have dedicated staff time and resources to facilitating this regional project.

Official Community Plan Consistency Statement

Emergency Management activities align with the Official Community Plan goals outlined in Section 18 – Emergency Management:

- Victoria is prepared to deal with known hazards and emerging threats, to limit the adverse impacts of events, and effectively manage emergencies;
- Victoria is able to respond rapidly and effectively to all emergencies, including events with long-term impacts and recovery times; and
- Victorians can rely on significant local sources for food, energy, and materials to meet daily needs under emergency conditions.

CONCLUSIONS

Regional Tsunami modelling was conducted in 2020, replacing the 2013 AECOM tsunami modelling data. To accurately communicate tsunami risk to the public and provide effective education and develop response plans, it is imperative that our resources are up to date. A tsunami is a regional hazard that will not stop at municipal borders. By signing this agreement / MOU the City's up to date tsunami modelling will be published on the regional tsunami portal which will allow residents and guests in the capital region to understand their tsunami hazard risk and allow emergency managers to collaborate for a consistent approach to preparedness and response.

Respectfully submitted,

Tanya Patterson
Emergency Program Coordinator

Daniel Atkinson
Acting Fire Chief

Report accepted and recommended by the City Manager

List of Attachments

- Tsunami Portal Memorandum of Understanding
- REMP-GeoBC Tsunami Portal Briefing Package