



PROVINCIAL  
EARTHQUAKE  
IMMEDIATE  
RESPONSE  
STRATEGY

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# Acknowledgements

Emergency Management BC (EMBC) Headquarters operates in the unceded territory of the WSÁNEĆ Peoples, including the Tsartlip, Tseycum, Tsawout, and Pauquachin Nations. The Province acknowledges the historical relationship of the WSÁNEĆ Peoples and their land and territory continues to this day.

Emergency planning is a participatory process that reaches the best conclusions when many perspectives are included. The creation of this strategy would not have been possible without the input and support of emergency management partners, including communities and government partners.

The Province recognizes the invaluable contributions, feedback, and experiences shared by First Nations leadership and governments, and Indigenous support and emergency management organizations during the development of this strategy. The Province acknowledges that this strategy is iterative in nature and commits to incorporating wise practices and new information identified through continued engagement with First Nations and Indigenous Peoples to refine and improve service delivery across the Province.

The Province also acknowledges with gratitude the emergency program coordinators and local authority representatives, including from the Integrated Partnership for Regional Emergency Management and the Regional Emergency Management Partnership, who participated in workshops, shared information, and offered important insight into planning efforts.

This strategy was developed through close collaboration with the cross-ministry Catastrophic Preparedness Working Group, led by EMBC. Throughout this process, participants developed the content and frameworks outlined in this strategy; these contributions are essential in advancing B.C.'s preparedness for a catastrophic earthquake. In addition, the Province acknowledges the contributions of federal partners including Public Safety Canada, the Federal Coordination Group, and Natural Resources Canada, as well as the Integrated Disaster Council of BC.

Going forward, the Province remains committed to continuous learning and ongoing collaboration with communities and partners to advance preparedness for and resilience in the midst of emergencies and disasters.

## Document History

This is version 1.0 of the Provincial Earthquake Immediate Response Strategy. This strategy replaces the Earthquake Immediate Response Plan, first published in 2015.

Amendments to this strategy may occur at any time. These will be recorded in the following table:

Revision Number	Description of Change	Date of Publication
1.0	Initial publication	August 2022



# Executive Summary

Emergency Management BC (EMBC) is responsible for leading the management of provincial emergencies and disasters and supporting other authorities within their areas of jurisdiction. The Provincial Earthquake Immediate Response Strategy (PEIRS) is a component of the [Comprehensive Emergency Management Plan \(CEMP\)](#) and focuses on strategic coordination among provincial ministries, other public bodies, federal agencies, and other emergency management partners following a catastrophic earthquake. The frameworks outlined in the PEIRS set the conditions for subsequent operational planning efforts.

The PEIRS details how the Province will lead and coordinate during the immediate response phase and articulates the roles and responsibilities of the provincial government, provincial agencies, and additional government and non-government partners across a number of key functions. It is intended to be used by provincial ministries, crown corporations, and other public sector entities, and integrates federal government partners, First Nations, local authorities, Critical Infrastructure owners and operators, bordering jurisdictions, intergovernmental organizations (IGOs), and non-governmental organizations (NGOs) into the provincial response. Although the PEIRS has been developed for a catastrophic earthquake, it is designed to be flexible and scalable, and it may also be used for other emergency events that have a significant impact on B.C.

The PEIRS has been structured into the following sections to address coordination of immediate response actions and enable activities for subsequent phases: Scenario and Anticipated Impacts; Governance; Roles and Responsibilities; Situational Awareness; Humanitarian Assistance and Relief Services; Critical Infrastructure; Logistics; Surge Capacity; Strategic Communications; and Recovery. Appendices provide further detail on areas such as additional earthquake hazards, related plans and agreements, States of Provincial Emergency and Ministerial Orders, requests for federal assistance, critical information requirements, critical resources, and strategic and public messages.

## ***Scenario and Anticipated Impacts***

For planning purposes, the seismic scenarios for the PEIRS involves major, shallow earthquakes near the urban centres of Greater Vancouver and Greater Victoria. These two locations were chosen due to population density, the location of the seat of provincial government, economic significance, and Critical Infrastructure interdependencies. These scenarios were used to simulate complex emergency situations affecting multiple jurisdictions and requiring provincial coordination, and national and international support. Anticipated impacts address the event's expected effects on residential and commercial buildings, casualties, medical facilities, transportation infrastructure, population displacement, isolated communities, psychosocial and social impacts, environmental safety, animals, energy and utilities, communication technology, food security and supply chains, and the provincial economy. Flexible and scalable planning solutions to address these scenarios enable the Province to apply elements of the PEIRS to other seismic events.

## ***Governance***

The [British Columbia Emergency Management System \(BCEMS\)](#) will guide the Province's response. The provincial emergency management structure will be fully activated with integration from decision-makers, provincial ministries and agencies, all governments including First Nations, federal departments, local authorities, Critical Infrastructure owners and operators, IGOs and NGOs, and the private sector. Due to the complexity of the event

and the need for extensive inter-agency integration and coordination over an extended period of time, a Catastrophic Emergency Response and Recovery Centre (CERRC) may be established to enhance overall provincial coordination, support First Nations and local authorities, coordinate the overall tactical response, and set the conditions for sustained response and recovery. As the event will impact all sectors of society, there will be a need for a “whole-of-government” and “whole-of-society” response, and it is anticipated that policy groups and working groups will be established to address specific needs and direct specific services as they emerge.

### ***Roles and Responsibilities***

A State of Provincial Emergency will be declared with the entire province and all provincial ministries supporting response efforts to the impact area. Ministries will stand up Ministry Operations Centres, assess mission critical services and activate emergency response and business continuity plans. Crown corporations, public sector agencies, Critical Infrastructure owners and operators, and federal government partners will support provincial operations at the appropriate level. First Nations and local authorities will issue Band Council Resolutions or declare States of Local Emergency and activate emergency plans wherever possible. All other response partners will activate emergency plans, conduct needs and impact assessments, and integrate with provincial operations to facilitate provincial coordination, support First Nations and local authorities, and set the conditions for sustained response and recovery.

### ***Situational Awareness***

Situational reporting, combined with needs and impact assessments from all governments, external partners, and emergency response agencies, will contribute to building a common operating picture. Reporting will utilize existing structural and communication mechanisms, and is enhanced through the use of critical information requirements and assessments. These will enable authorities to rapidly process, collate, and analyze information for efficient decision-making, such as decisions related to the prioritization of capabilities and critical resources.

### ***Humanitarian Assistance and Relief Services***

Humanitarian assistance and relief services includes shelter, food, emergency supplies, family reunification, information, childcare, and other support services offered to those impacted by the event. While the provision of humanitarian assistance services will flow from the existing [Emergency Support Services \(ESS\)](#) model, the ESS program is not designed for the scope and scale of services required after a catastrophic earthquake. Multiple governments, IGOs, NGOs, and other agencies will need to come together on a coordinated response. National and international surge capacity and expertise will be required to deliver basic services in alignment with [Core Humanitarian Standards](#) and [Sphere’s Humanitarian Charter and Minimum Standards in Humanitarian Response](#), and in particular to ensure humanitarian assistance is culturally appropriate, trauma-informed, and cognizant of the unique needs of people who may be vulnerable.

### ***Critical Infrastructure***

The Province will coordinate priority needs and impact assessments and restoration efforts to support critical assets and services in conjunction with Critical Infrastructure owners and operators. Restoration of Critical Infrastructure that supports life-saving and life-sustaining activities will initially have priority. As time permits and resources are made available, restoration of additional services and facilities within each Critical Infrastructure sector will be addressed. Prioritization for restoration will be based on BCEMS response goals and should consider whether any specific communities or populations are disproportionately impacted by disruptions to Critical Infrastructure. During the sustained response and recovery phases, Critical Infrastructure restoration activities will be prioritized.



### **Logistics**

The logistics response to a catastrophic earthquake will include the procurement, staging, movement, distribution, and tracking of supplies and personnel, and will require a whole-of-society response, which includes communities, industry, IGOs and NGOs, crown corporations, provincial ministries, and federal agencies. Critical resources will be sourced through supply and procurement efforts; moved throughout the province using multi-modal transportation; and organized, tracked, and prioritized for distribution through staging areas and community points of distribution. The PEIRS identifies transportation routes, multimodal transportation features, and potential provincial and regional staging areas to facilitate the flow of resources into the impact area to support First Nations, local authorities, ministries, and other organizations involved in response activities.

### **Surge Capacity**

Following a catastrophic event, there will be an immediate need for surge capacity to fill roles at all levels of the emergency management system. Existing capacity within First Nations, local authorities, and provincial emergency management organizations will be insufficient to support anticipated response needs. Surge capacity will need to be drawn from multiple sources, including existing public servants, staff from communities outside the impact area, support from out-of-province, IGOs and NGOs, and volunteers.

### **Strategic Communication**

The Province will make every effort to ensure emergency management partners and the public receive critical information in a timely manner by coordinating communications among partners. Large-scale media relations, public information, and strategic communications will be coordinated through a Joint Information Centre co-located with other provincial operations.

### **Recovery**

The [Interim Provincial Disaster Recovery Framework](#) (Recovery Framework) serves as the central coordination, accountability, and oversight mechanism for integrated disaster recovery in B.C., and establishes scalable, flexible, and adaptable coordinating platforms that align key roles and responsibilities. The Recovery Framework establishes provincial roles and responsibilities, provides guidance on funding models for recovery, and outlines the integration of expertise and resources of First Nations, local authorities, other governments, IGOs and NGOs, and private sector partners. Following a catastrophic earthquake, EMBC will act as the provincial coordinating body and will work with ministries to coordinate provincial recovery activities in support of First Nations and local authorities. Although the focus of the PEIRS is provincial coordination during the immediate response phase, recovery actions should be considered and initiated as soon as possible to set the conditions for a successful recovery.

### **Conclusion**

The PEIRS lays the foundation for addressing a shared hazard and responsibility through coordinated and integrated efforts, and sets the conditions for sustained response and recovery. With the goal of continuous improvement, the PEIRS encourages discussion and innovation and will be exercised and further refined from lessons learned and partner engagement.

## Introduction



### PROVINCIAL EARTHQUAKE IMMEDIATE RESPONSE STRATEGY

The PEIRS describes the scenarios and anticipated impacts of a catastrophic earthquake in British Columbia and the governance structure, coordination and integration, priority work streams, and logistics considerations required to respond effectively to save lives and set the conditions for sustained response and recovery. The purpose of this document is to outline the Province's response strategy, and how other governments and key partners will interface with the provincial emergency management structure and response

operations. This strategy is intended to be used by provincial ministries, crown corporations, other public sector entities, and key federal partners. Although specific actions are not assigned to First Nations, local authorities, Critical Infrastructure (CI) owners and operators, inter-governmental organizations (IGOs) and non-governmental organizations (NGOs), or bordering jurisdictions, this strategy considers the important role these partners are anticipated to fulfil in the context of the scenarios presented, and how these partners may integrate into response operations. Emergency Management BC (EMBC) is responsible for leading the coordination of provincial emergencies and disasters, and supporting other authorities within their areas of jurisdiction.

The Province recognizes four phases of emergency management that are progressive and overlapping: preparedness, mitigation, response, and recovery. The response phase can be further broken down into immediate response and sustained response, with immediate response comprising of activities occurring from the onset of the earthquake to the point when a stabilized, integrated, and sustainable response is in place. Transition from immediate response to sustained response is based on conditions met, rather than time, and immediate response and sustained response activities may occur concurrently. This strategy focuses on coordination during the immediate response phase.

For planning purposes, two scenarios were developed to present very high impact earthquake events in B.C.: major, shallow earthquakes near the urban centres of Greater Vancouver and Greater Victoria. These two locations were chosen due to population density, the location of provincial government, economic significance, and CI interdependencies. The large magnitude scenarios were used to create complex emergency situations affecting multiple jurisdictions, requiring provincial coordination, and national and international support.

The Province acknowledges that there are other scenarios that would be considered catastrophic, including the Cascadia subduction zone scenario and earthquakes occurring in locations outside of southwestern B.C. With that in mind, this strategy was designed to be flexible and scalable and can be used for any significant seismic event. For additional information on earthquake hazards in B.C., see Appendix A: Earthquake Hazard in B.C.

## Purpose

The purposes of the PEIRS are to:

- **DEFINE THE FRAMEWORK** for decision-making and coordination to support immediate response operations in the aftermath of a catastrophic earthquake;
- **SUPPORT THE NEEDS** of the impact area in accordance with the [BC Emergency Management System \(BCEMS\)](#) response priorities; and,
- **SET THE CONDITIONS** for sustained response and recovery.

This strategy is a component of the Province's [Comprehensive Emergency Management Plan \(CEMP\)](#) and will guide provincial and support agency responses. This includes coordination with related plans prepared by external partners and use of agreements and partnerships for operational support. Related plans and agreements expected to be activated following a catastrophic earthquake include First Nation and local authority emergency plans, the Canadian Armed Forces' (CAF) Contingency Plan PANORAMA, the Alberta Earthquake Response Plan for a Catastrophic Earthquake in B.C., Memorandums of Understanding (MOUs) for mutual assistance with other provinces, and the Pacific Northwest Emergency Management Arrangement (PNEMA) with neighbouring U.S. states. Additional information about related plans and agreements can be found in Appendix B: Related Plans and Agreements.

## Scope

The PEIRS provides guidance for how the Province will lead and coordinate actions in the event of a catastrophic earthquake and:

- **OUTLINES** the provincial response to a catastrophic earthquake;
- **DESCRIBES** the roles and responsibilities of provincial ministries and agencies, federal departments, and other emergency management partners;
- **IDENTIFIES** anticipated immediate priorities and articulates how they will be addressed in the context of a catastrophic earthquake; and
- **OUTLINES** collaborative intergovernmental relationships and integration between First Nations, local, provincial, federal, and U.S. partners.

## Responsibilities

The PEIRS is a coordination strategy. Detailed operational plans will be required to supplement the PEIRS, and this strategy relies on partners developing their own operational plans and procedures for a catastrophic earthquake. Following a catastrophic earthquake, provincial ministries, First Nations, local authorities, and support agencies are responsible for determining whether their emergency and business continuity plans (BCPs) should be activated and if so, activating them in a timely manner according to their jurisdictional authority. EMBC will coordinate provincial response operations based on the objectives and procedures outlined in this strategy.



## Activation

The PEIRS will be activated following a catastrophic earthquake with significant impacts to B.C. Activation of this strategy may occur:

- **BY DECISION** – this strategy may be activated by:
  - The Minister responsible for emergency management, statutory decision-makers as per emergency management legislation, or delegates of the Minister or a statutory decision-maker;
  - EMBC’s Deputy Minister; or
  - The most senior member of EMBC’s leadership team available if those above are not available, either as a result of the event or for other reasons.
  
- **BY DEFAULT** – in the absence of activation by decision, either due to the unavailability of decision-makers or the inability to communicate or receive communications regarding activation, agencies are to assume activation of this strategy until advised otherwise. Activation by default includes activation by EMBC’s Provincial Duty Manager where necessary. When activated by default, activation of this strategy will be confirmed and communicated by EMBC as soon as possible.

Activation of this strategy will be communicated to partners as soon as possible by any available means.

## Planning Objectives

Objectives in the immediate response phase include:

- **ADDRESSING** BCEMS response goals;
- **ESTABLISHING** shared situational awareness;
- **PROVIDING** humanitarian aid and relief services;
- **RESTORING** critical facilities, communication, utilities, and transportation infrastructure;
- **ESTABLISHING** continuity of government;
- **PROVIDING** public information; and
- **SETTING** the conditions for sustained response and recovery.

Additional information about BCEMS response goals is available in Appendix C: BCEMS.

## Planning Assumptions

The following assumptions and facts have been assessed in the development of the PEIRS:

**States of Local and Provincial Emergency:** The Province will declare a State of Provincial Emergency (SOPE) following the earthquake to enable the use of emergency powers needed to support response activities. Ministerial Orders may be issued under emergency management legislation, and/or other legislation where appropriate, to address specific issues as they arise. First Nations and local authorities are anticipated to issue Band Council Resolutions (BCRs) and/or declare State of Local Emergencies (SOLEs) where appropriate and as they are able to do so.

**First Nations and local authorities are prepared to varying degrees:** First Nations and local authorities are familiar with their rights, roles, and responsibilities under relevant legislation, and with support available under existing agreements. First Nations and local authorities have emergency plans, and under normal circumstances, are proficient at delivering critical interventions throughout their communities, though activation of plans and deployment of resources may be delayed by the event. In general, equipment, supplies, and resources to address an event’s immediate impacts are functional, available, and in good working order,

although deployment within the impact area may be affected by the severity of the event and the need for local responders to attend to their families and personal connections prior to deploying. Additional supplies may be needed as the response progresses.

**Local capacity to respond will be limited and delayed:** Due to the magnitude of the event, it is anticipated that the formal response capacity of First Nations and local authorities within the impact area will be overwhelmed, resulting in local response activities being limited and delayed, and immediate support from the Province and other organizations will be required. Local emergency operations centres (EOCs) may be delayed in activating. As such, the Province will stand up response measures outlined within this strategy and proactively deploy resources into the impact area to support First Nations and local authorities. As First Nations and local authorities assess their capacity and are able to stand up resources, responsibility for response activities will transition to First Nations and local authorities, with the Province resuming a coordination role.

**Provincial emergency management structure is functional:** The Provincial Emergency Coordination Centre (PECC) and Provincial Regional Emergency Operations Centres (PREOCs) will be functional and coordinating in either their primary locations or alternate locations. There may be some delays in fully activating within the impact area as personnel are anticipated to attend to their families and personal connections prior to deploying, and as activation is impaired by damage to infrastructure in some cases.

**Responding agencies are functional to varying degrees:** Responding agencies, including provincial ministries and agencies, will activate wherever possible either in their primary locations or alternate locations, although responses may be impacted where transportation routes are disrupted. While agencies within the impact area will have a reduction in capability or capacity and may be delayed in activating, those outside the impact area will be largely unaffected and functional.

**Communications are functional to varying degrees:** Most responding agencies will be able to communicate, though there will be varying degrees of degradation in primary communication methods or systems and enhanced use of backup systems, such as satellite phone, amateur radio, or other means will be necessary. Communities that do not have access to alternative communications mechanisms may find communication slower and may be more isolated. Communications services such as 911 will also be affected to varying degrees across the impact area.

**Major transportation routes and nodes will be impacted:** Road, rail, air, and marine transportation will be disrupted, and existing supply chains will be inoperable.

**Provincial staging areas are able to activate:** Provincial staging areas are located outside the impact area and will be used to organize, prioritize, and disseminate critical resources.

**Areas will be isolated:** Large parts of the impacted and surrounding area will be inaccessible by road due to earthquake-induced landslides, liquefaction, and other secondary impacts such as bridge collapses, and will be further isolated due to damage to airports and marine ports. If dams fail, settlements and infrastructure downstream in the inundation area may be impacted to varying degrees, further exacerbating this isolation.

**Spontaneous mass evacuation out of the impact area will not take place:** Due to damage to CI and transportation routes, and the need to prioritize the movement of essential personnel and goods, it is anticipated that public messaging will emphasize sheltering within the region, either in place or in designated shelter facilities, in the immediate aftermath of the event. Should mass evacuations from the impact area be required, they will be coordinated after situational awareness has been developed and when necessary for the preservation of life and safety. Critical casualties, essential response personnel, those in imminent danger, and stranded travellers will be re-located as part of the immediate response.





### Humanitarian assistance and relief:

A significant number of people will require shelter, food, water, and additional supports in multiple locations and/or regions. In the immediate aftermath of the event, local capacity is anticipated to be overwhelmed and existing local emergency programs, such as local Emergency Support Services (ESS) programs, will lack capacity to provide these services, requiring the Province to provide support. Informal and spontaneous networks, such as neighbourhood and family networks,

will likely be the first to respond, and over time, as local capacity is restored, local emergency programs and other partners including IGOs and/or NGOs will assume responsibility for ongoing humanitarian assistance and relief through contracts and/or agreements. Commercial accommodation is not anticipated to be available due to damage to facilities, lack of staff to operate facilities, and rapid damage assessment capacity being directed to higher priority locations such as facilities suitable for large-scale shelter and relief services. As response activities stabilize, it may be necessary to assess temporary living sites outside of the impact area.

**Additional supports:** In addition to shelter, food, and water, additional supports including health care, psychosocial and mental health supports, childcare, pet care, translation services, family reunification, and other supports will be required. As disasters are recognized to have a disproportionate impact on First Nations and people with additional vulnerabilities, all supports must be provided in a manner that is culturally appropriate and offers cultural safety, and that considers the unique needs of a diverse community. To support First Nations, this may include utilizing mutual aid agreements between First Nations, providing culturally appropriate foods and spaces for gatherings and ceremonies, providing translation services and dedicated supports for Elders, and engaging Indigenous support organizations and service providers. To support people with additional vulnerabilities, this may include specialized supports for those with mental health considerations, addictions or physical or developmental disabilities, those who are unhoused, unaccompanied minors, single heads-of-household, newcomers to Canada, seniors, stranded travellers, international students, temporary foreign workers, and others.

**Communities informally self-activate:** Due to the catastrophic nature of the event, the response is anticipated to be “whole-of-society”, with engagement across all sectors and throughout communities. Communities will work together without receiving guidance from the Province. This includes neighbour helping neighbour, individuals volunteering within communities, and communities assisting other communities in need. Isolated First Nations, through their intimate knowledge and interconnectedness with the land, maintain their cultural teachings, ceremonies, and practices following the event, which enhances their resiliency. Communities may also seek support from those outside of impact areas through social and other informal networks.

**Response will be “whole-of-government”:** Due to the catastrophic nature of the event, impacts are anticipated across all sectors of society and economic activity, necessitating a whole-of-government response. This will include collaboration between all governments and the involvement of all arms of provincial government (legislative, executive, judicial), provincial ministries, and public sector bodies. Ministries and agencies with expertise in and pre-existing responsibility for certain sectors or programs will be expected to provide leadership in responding to issues that arise within those sectors or programs as a result of the event.



## Sustained Response Transition Conditions

The end of the immediate response phase of a catastrophic earthquake is based on conditions met rather than time elapsed; the beginning of the sustained response phase is an observed state rather than the result of a formal decision, and this transition may occur at different times in different locations. Due to the necessary overlap of activities across all emergency management phases, this transition is not definitive, but can be measured by the transition conditions outlined below:

- **INTEGRATED LEADERSHIP** and coordination have been established throughout the province;
- **LIFE-SAVING EFFORTS**, such as search and rescue, firefighting, and targeted evacuations, are nearing completion;
- **SERVICES TO PROVIDE** for immediate survival needs (critical care services, shelter, food, and water) in the impact area are being or have been established;
- **SITUATIONAL AWARENESS** has been broadly achieved and initial damage assessments for priority areas are in progress;
- **RESTORATION** of Critical Infrastructure, including communication networks where applicable, is in progress;
- **PROVINCIAL AND REGIONAL** staging areas have been established, and relief supplies, response personnel, and other critical resources and goods are moving into, within, and out of the impact area;
- **SURGE CAPACITY** in human and other resources has been identified and deployments to assist across various response agencies are in progress; and
- **PLANNING** for sustained response and recovery is underway and key elements are ready for activation.

Once sustained response is achieved, the provincial emergency management system is fully operational with coordinated and integrated operations across all governments and with key partners including NGOs and CI operators/operators.

## Indigenous Perspectives and Considerations

First Nations communities and Indigenous Peoples are disproportionately impacted by disasters and emergency events, often due to the relative remoteness of communities, delays in service provision, jurisdictional challenges, limited access to emergency services, and discrepancies in the delivery of available services. These disproportionate impacts are also felt by Indigenous Peoples living outside of their communities in other urban and rural settings; while services may be more readily available, systemic barriers may limit access to these services, and culturally-appropriate support networks within communities may be more difficult to access.

The Province is committed to achieving the Truth and Reconciliation Commission Calls to Action (2015) and implementing recommendations from *Addressing the New Normal: 21<sup>st</sup> Century Disaster Management in British Columbia* (2018). The PEIRS is in alignment with the commitments to Indigenous Peoples as per *The Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples* and the B.C. *Declaration on the Rights on Indigenous Peoples Act*.

The Province's renewed and enriched commitment to reconciliation formally recognizes First Nations and Indigenous Peoples as full partners in the governance and operations of emergency management, as demonstrated through the 2019 Emergency Management Services Tripartite Memorandum of Understanding between the First Nations Leadership Council, the Province, and Canada.

Indigenous Peoples and communities have the knowledge and history of how to prepare for, respond to, and recover from disasters in their territories since time immemorial. Indigenous communities have an inherent and constitutionally protected right to self-determination over their people and territories, rights that are grounded in their world views and local knowledge rooted in ancestral laws and principles of relationality and interconnectedness.

Planned engagement sessions, prioritizing First Nations within and adjacent to the scenarios' impact zones as presented in the PEIRS, were carried out to create space and opportunities for First Nations to provide their input and feedback, share experiences, knowledge, and expertise, and validate planning assumptions. Indigenous-led reports, recommendations, findings, and after-action reviews were extensively consulted to ensure the Province is prepared to support First Nations, having learned from previous emergency events.

## Disaster Risk Reduction Approach

In 2018, the Province adopted the [United Nations Sendai Framework for Disaster Risk Reduction 2015-2030 \(Sendai Framework\)](#), which advocates for the substantial reduction of disaster risk and losses in lives, livelihoods, and health, and in the economic, physical, social, cultural, and environmental assets of people, businesses, communities, and countries.

The Sendai Framework is reflected in the PEIRS through the adoption of a four-phased approach to emergency management, enhanced consideration of Indigenous perspectives and the unique needs of populations who may be vulnerable, and application of Gender Based Analysis Plus (GBA+).

The Province recognizes four phases of emergency management: preparedness, mitigation, response, and recovery. These phases are interconnected, and activities within each phase can take place concurrently and in support of each other. For example, recovery should begin shortly after response activities are initiated, and mitigation activities are often integrated with recovery. The four phases are defined as:

- **PREPAREDNESS** – The phase of emergency management during which action is taken to ensure readiness to undertake emergency response and recovery. It includes, but is not limited to, hazard, risk, and vulnerability assessments, planning, resource planning, volunteer management, training, exercises, public/partner education, and continuous improvement.
- **MITIGATION** – The phase of emergency management in which proactive steps are taken to prevent a hazardous event from occurring by eliminating the hazard, or to reduce the severity or potential impact of such an event before it occurs. Mitigation protects lives, property, cultural sites, and the environment, and reduces vulnerabilities to emergencies and economic and social disruption.
- **RESPONSE** – The phase of emergency management during which actions are taken in direct response to an imminent or occurring emergency to prevent, limit and manage impacts. Response includes the initiation of plans and actions to support recovery and may include deployment of registered volunteer resources.
- **RECOVERY** – The phase of emergency management during which action is taken to re-establish social, cultural, physical, economic, personal, and community well-being through inclusive measures that reduce vulnerability to emergencies, while enhancing sustainability and resilience. It includes taking steps to repair a community impacted by an emergency and restore conditions to a level that could withstand a potential future event or, when feasible, improve them to increase resilience in individuals, families, organizations, and communities.

To support EMBC’s disaster risk reduction approach to planning, a GBA+ framework was applied to this strategy. GBA+ is an analytical tool used to assess how diverse groups of people may experience policies, programs, and initiatives. The “plus” in GBA+ acknowledges that this is an intersectional analysis that goes beyond biological (sex) and socio-cultural (gender) differences.

In alignment with both the Sendai Framework and GBA+, this strategy incorporates planning considerations specific to populations who may be vulnerable. Vulnerability varies greatly between individuals and groups, and is experienced in different ways, particularly following catastrophic emergencies, but it is widely acknowledged that populations who may be vulnerable are disproportionately impacted by such events. For example, catastrophic emergencies can disrupt support services for populations who may be vulnerable, and new services established during response operations may be inadvertently inaccessible to certain individuals or populations due to the urgency of meeting immediate needs. Additional information regarding the disproportionate impacts of emergencies and disasters can be found in Appendix D: Disproportionate Impacts.

This strategy incorporates planning considerations related to the unique needs of populations who may be vulnerable to prevent compounding or creating new vulnerabilities during immediate response operations. This strategy includes:

- **ASSESSMENTS** of the impact of a catastrophic earthquake on a variety of populations who may be vulnerable based on the two planning scenarios;
- **CONSIDERATIONS** for how the deployment of response assets, the distribution of resources, and the prioritization of response actions may impact some populations differently; and
- **ATTENTION** to the unique needs of populations who may be vulnerable in the context of supports provided within the impact area(s), including humanitarian assistance and relief services. While this strategy incorporates considerations for populations who may be vulnerable where possible and appropriate, these considerations should also be incorporated into additional supplemental planning materials, such as operational and subject-specific response plans, and operational decision-making.

## Financial Assistance for Response Costs

Under B.C.’s emergency management legislation and response costs policy, First Nations and local authorities can receive reimbursement for certain eligible response costs incurred during a disaster. Provincial ministries are generally ineligible for reimbursement of response costs by EMBC. In the event of a catastrophic earthquake, standard reimbursement protocols will be followed, although additional funding mechanisms may be required given the likelihood of extensive damage. Local authorities should plan to track costs from the beginning of response.

Financial assistance for recovery is addressed in Section 11: Recovery.

## Administration

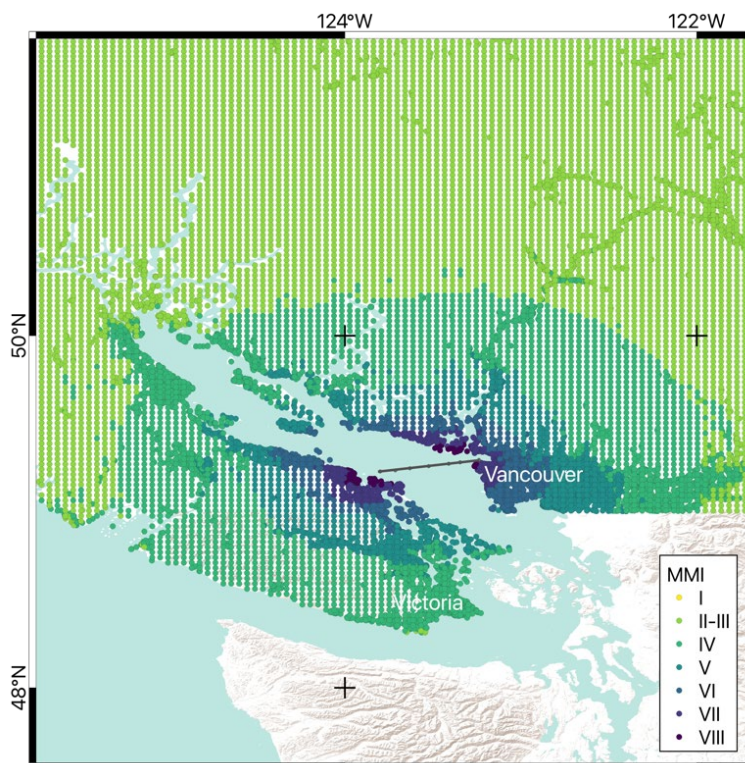
The PEIRS will be reviewed and updated regularly, following lessons learned reviews, or as required.

## Scenario and Anticipated Impacts

### Introduction

For the purposes of the PEIRS, two different shallow, crustal scenarios involving a M7.0 earthquake near Greater Vancouver and a M7.3 earthquake beneath Greater Victoria (Figures 1 and 2) are presented<sup>1</sup>. Both events have the potential to occur<sup>2</sup>, although the return period for such events is on the order of thousands of years. These are high impact scenarios for an earthquake event affecting B.C. due to risks of substantial injuries and casualties, damage to Critical Infrastructure (CI), and economic impacts, and as such present a useful set of events to plan for.

*Figure 1 – ShakeMap for M7.0 in Greater Vancouver*



### Scenario 1: M7.0 Greater Vancouver

The earthquake location and orientation chosen for the Greater Vancouver scenario was based on a previous event that occurred in the Georgia Strait in 1997. The Vancouver scenario fault (see grey line) occurs beneath the Georgia Basin, and is smaller than what is believed to be the maximum magnitude in this region (M7.5). The fault dips at an angle of 47 degrees to a depth of 13 km with its orientation, or strike, being roughly east-west, and extends from near Nanaimo to downtown Vancouver. An event of this size or larger occurs in this broad region roughly once every 1,500 years.

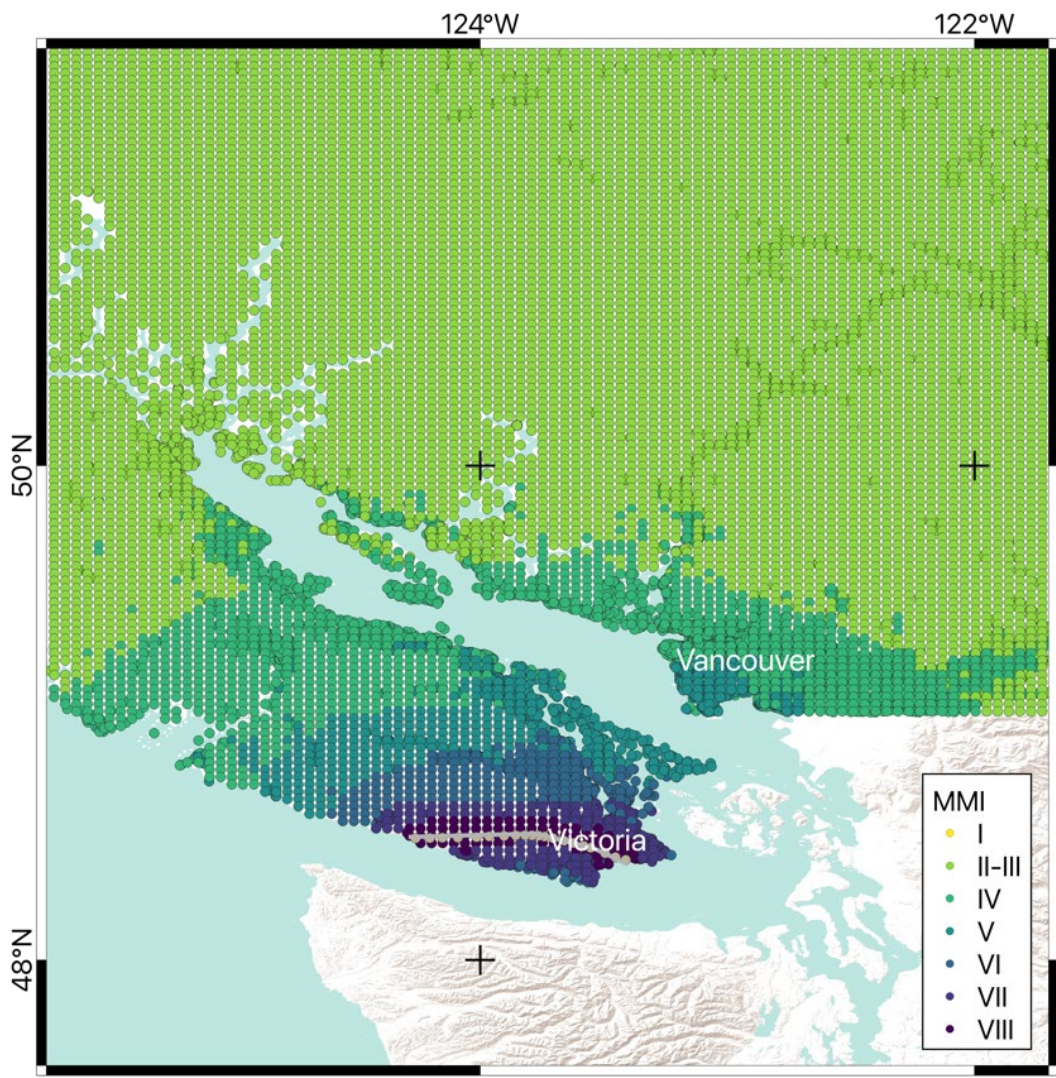
The ground-shaking was calculated for the scenario using equations that relate the earthquake's magnitude and the fault-to-site distance to a ground-shaking intensity, incorporating the effect of soils. This is especially relevant in the thick sediments of the Fraser River delta and Georgia Basin. It produces severe shaking in Vancouver, West Vancouver, Nanaimo, Gibsons, and Gabriola Island. Despite the event rupturing beneath water, a significant tsunami is not expected.

<sup>1</sup> For more information on these events and models used, consult Geological Survey of Canada Open File 8853.

<sup>2</sup> As per the sixth generation Canadian Seismic Hazard Model (2020).



Figure 2—ShakeMap for M7.3 in Greater Victoria



### Scenario 2: M7.3 Greater Victoria

Unlike the Greater Vancouver scenario, the fault assumed for the M7.3 Greater Victoria scenario uses an existing geologic structure: the Leech River fault (see grey line). It is thought that this fault has ruptured twice in the last 15,000 years, and that it can generate earthquakes up to M7.3. The fault is over 60 km long and dips steeply.

Similar to the Vancouver scenario, shaking intensities are modified by soft surface sediments. Shaking from this event is strong to severe in Victoria and along the trace of the fault to the west, including Esquimalt, Langford, View Royal, Colwood, and to the north in Saanich.

## General Scenario

### THURSDAY AT 2:00 P.M., JANUARY

Southwestern B.C. has recently experienced an atmospheric river, bringing continuous, heavy rain and very high freezing levels after a prolonged cold spell in mid-January. Three-day rainfall amounts were in the 180–300-millimetre range. In addition to heavy rains, temperatures increased with freezing levels rising above 2,000 metres, leading to rapid melt of shallow snowpacks at mid-elevation and contributing an additional 30 millimetres of run-off in most watersheds. At lower elevations, the frozen ground is unable to absorb the rain or snowmelt.

In Greater Vancouver, areas most heavily impacted include the North Shore and the Chilliwack Valley. This includes localized drainage issues impacting urban infrastructure, numerous landslides in the mountainous areas of the region, stress on dikes on some medium-sized river watersheds – including the Seymour River, Chilliwack River/Vedder Canal, Squamish River, and Coquihalla River at Hope – with water pooling and low-lying flooding in flat terrain in the Fraser Valley.

On southern Vancouver Island, impacts in the Greater Victoria area are limited to urban drainage issues – broken water mains and basement flooding – and low-lying flooding in agricultural areas. Rock falls affect the Malahat highway. River flooding occurs in the Cowichan Valley, including the need for sandbagging and evacuations.

Emergency crews have been working for the past several days on response operations. Several routes have been diverted to avoid flooding, causing increased traffic on major routes. Anticipating longer traffic delays, many parents and caregivers are picking up children from school early and are on the roadways. Downtown cores are full, with business as usual and the majority of the workforce having returned to work from holidays.

For many, the earthquake is heard before it is felt. The low, rumbling sound is similar to that of a freight train, immediately followed by 10-20 seconds of violent shaking that knocks people located closest to the epicentre from their feet – except for those who remember to “drop, cover, and hold on”. Taller buildings sway with the high intensity shaking. Unsecured objects fall or fly through the air. Roads crack and the ground ruptures in some areas. Buildings on softer, saturated soils lose support through liquefaction – a process in which the ground temporarily behaves like a liquid while being shaken.

Landslides and rock falls are generated in many areas, cutting off transportation routes. Flooding is increased by the recent wet weather event with some dikes failing. Several fires start throughout the impact area from damaged electrical power and ruptured gas lines. A small number of buildings collapse, many shift and crack, and others are destroyed by fire.

Windows break and glass scatters across the pavement. Debris is strewn throughout roadways, cutting off access to areas and blocking vehicle passage. Entire walls from unreinforced masonry buildings fall into the streets. Many of those who try to run outside suffer extreme injury or death from falling and flying objects and thousands are trapped or injured.

## Anticipated Impacts

Impacts have been determined using:

- **HISTORICAL DATA** of similar earthquakes;
- **MODELLING** from Natural Resources Canada;
- **ENGAGEMENT** with First Nations and Indigenous support organizations; and
- **INPUT** from provincial ministries and crown corporations.



The scope of impacts outlined in this section correspond with modelling and anticipated impacts for the PEIRS' two earthquake scenarios and may not necessarily reflect the risks from other earthquake hazards in B.C. For more information on earthquake hazards in B.C., please see Appendix A: Earthquake Hazard in B.C. Although data is based on current scientific and engineering knowledge, it is for planning purposes only and may not match the outcome of real events.

To simplify impact descriptors, 'VAN' is used to denote impacts related to the Greater Vancouver area scenario, and 'VIC' is used to denote impacts related to the Greater Victoria area scenario. All other general impact statements can be applied to both.

Figures developed by Natural Resources Canada based on core modelling for both scenarios are summarized in the table below:

Anticipated Impact Categories	Scenario 1	Scenario 2
<i>Note: these figures included are based on impacts from building damage alone</i>		
Primary area impacted	Greater Vancouver	Greater Victoria
Magnitude	7.0	7.3
Earthquake Location	Georgia Basin	Leech River Fault
<b>Buildings</b>		
Uninhabitable (red tagged)	10,000	7,000
Conditionally inhabitable (yellow tagged)	6,100	4,200
<b>Casualties</b>		
Fatalities	2,000	1,000
Critically injured	1,000	500
Non-critical hospital care	6,500	3,200
Paramedic or first aid treatment	21,000	10,000
<b>Displacement (number of households)</b>	70,000	43,000
<b>Economic losses (direct property losses)</b>	\$30 billion	\$20 billion

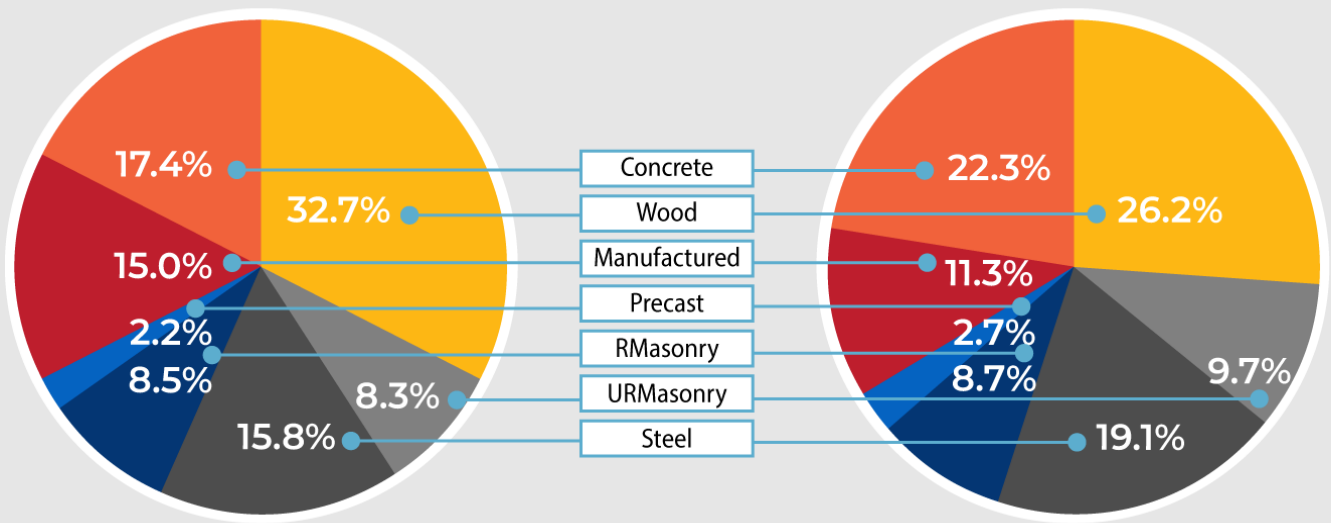
## EFFECTS

- For earthquakes of these magnitudes, strong shaking is the primary effect and will cause most of the damage and casualties.
- Secondary effects may include landslides, liquefaction, flooding, fires, and disease outbreaks. A shallow earthquake, like these, has the potential to also produce a localized tsunami triggered by landslide or sub-marine landslide.
- Hundreds or even thousands of aftershocks, likely as high as M6.0-6.3, can also be expected and will likely continue for months, many causing additional damage, interrupting response efforts, and having psycho-social impacts. There is a small chance that an "aftershock" could be larger than the initial event or "mainshock".
- This strategy will not consider the effect of an earthquake early warning system, although one is expected to be operating in parts of B.C. in the coming years. This early warning system could provide warning in the order of minutes and allow, among other things, stopping high-speed transit, rerouting traffic from tunnels and bridges, stopping surgical procedures, and opening fire hall doors if automated.
- This scenario presents assumptions of what will be happening, but in the event of a real earthquake it may take hours or even days to collect situational awareness equivalent to what is presented here.

Therefore, it is important to develop plans for how to initiate response without information at this level of detail and adjust according to an approximate timeline of when that information would become available.

**BUILDINGS**

- The near-surface earthquake results in high frequency shaking that is most hazardous to short buildings.
- Unreinforced masonry and unreinforced concrete buildings may suffer the greatest damage, including complete collapse and inhabitability.
- Buildings that have been constructed on soft soil types, such as fill, reclaimed marsh lands, or delta sediments, may experience greater shaking intensity than those constructed on rock and may be more likely to suffer damage.
- Modern buildings that include seismic design elements and older buildings with comprehensive retrofits prove the most resistant. Older buildings without such retrofits perform poorly.
- Buildings that are resilient to the shaking may still be impacted by secondary hazards such as structural fires or floods resulting from impacts to utilities. Impacts to utilities within buildings may limit their habitability and functionality.
- VAN: 3% of buildings in Vancouver and Richmond are likely to be severely damaged, and 6% in Nanaimo. Overall, 10,000 buildings are uninhabitable (red-tagged) and 6,100 buildings are conditionally inhabitable (yellow-tagged). Approximately 1.7 million people face damage to their homes.
- VIC: 5% of buildings in Greater Victoria are likely to be severely damaged, including 8% in Victoria and 4% in Saanich. In total, 7,000 buildings are uninhabitable (red-tagged) and 4,200 are conditionally inhabitable (yellow-tagged). Approximately 1 million people face damage to their homes.



*Figure 3: Distribution of building types contributing to the total number of red-tagged buildings for the Victoria Scenario (left) and the Vancouver Scenario (right).*

**CASUALTIES**

- Injuries will far exceed fatalities, and first responders and medical facilities would be overwhelmed.
- First responders may be unable to attend to all injuries in a timely manner, potentially increasing the severity of injury for many.

- Casualty estimates are based on structural and non-structural damage to buildings and do not include casualties from other secondary hazards or complicating factors, including underlying medical conditions, vehicle accidents, falls, explosions, fires, landslides, washouts, tsunamis, or psychological impacts.
- VAN: Of the estimated 1.7 million people facing damage to their homes, 2,000 fatalities are anticipated along with 1,000 critically injured. An additional 6,500 would require non-critical hospital care and 21,000 would require paramedic or first aid treatment.
- VIC: Of the estimated 1 million people facing damage to their homes, this earthquake results in 1,000 fatalities and 500 people needing critical hospital care. An additional 3,200 would require non-critical hospital care, and 10,000 would require paramedic or first aid treatment.
- Due to the collapse of buildings and facilities, casualties may be trapped in buildings throughout the impact area. It is expected that most of those trapped will also have critical injuries due to the severity of trauma inflicted.
- People visiting parks and backcountry areas, including the North Shore mountains, may be unable to escape and require rescue services. Secondary hazards such as liquefaction, landslides, and falling hazards may cause casualties in these areas.

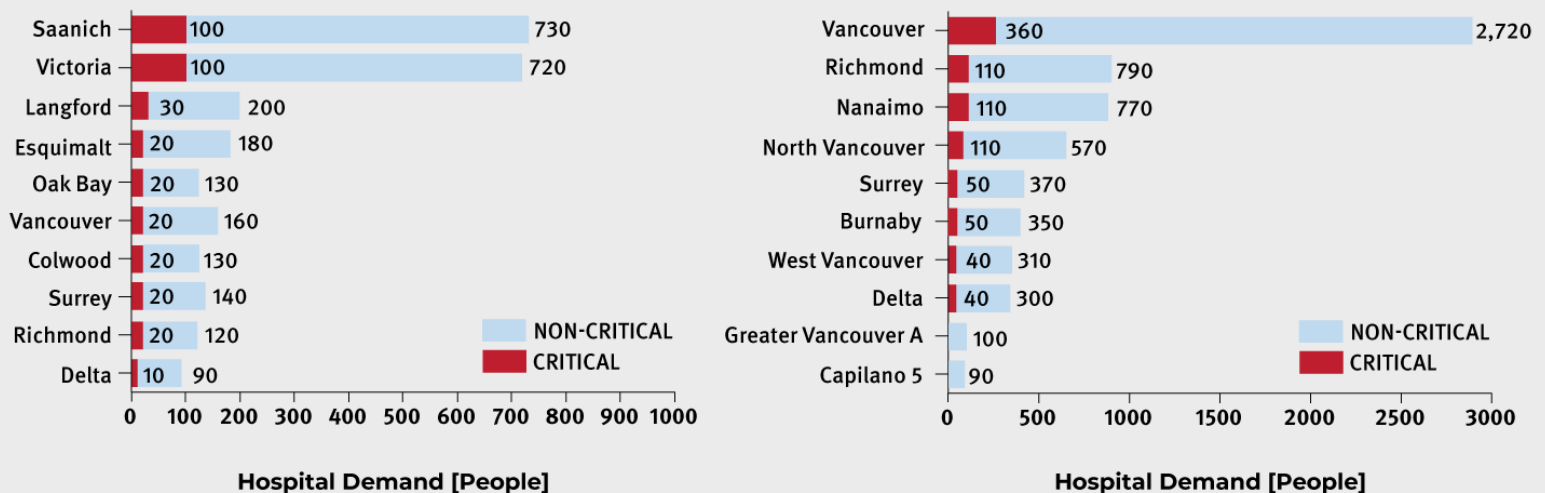


Figure 4: Hospital demand for the Victoria (left) and Vancouver (right) Scenarios, by census subdivision<sup>3</sup>.

### MEDICAL FACILITIES

- VAN: St. Paul's Hospital in downtown Vancouver is an older building with masonry elements and may be significantly impacted by a large seismic event. Other hospitals in this region, including Vancouver General, UBC Hospital, and Lion's Gate Hospital, are likely to see increased demand as a result.
- VIC: Victoria General and Royal Jubilee Hospitals are very close to the earthquake rupture and may suffer damage despite being the most proximal care centres to treat victims. There may be a greater reliance on evacuating patients and victims to medical facilities outside the impact area, such as to Cowichan, Nanaimo, or Vancouver.

<sup>3</sup> These charts are not comprehensive; there is anticipated to be hospital demand in some census subdivisions not listed above.

## TRANSPORTATION

- Major transport routes may be damaged or only partially functional and operating at a much-reduced capacity for an extended period (weeks to months), both from the preceding weather and the large-scale geotechnical failures due to the shaking of such saturated ground.
- Many road surfaces may be damaged or completely washed out in sections, some bridges may be closed due to damage, and large pieces of debris may block routes for vehicle traffic.
- VAN: Liquefaction of roadways in Richmond and Delta may make driving difficult, which may compound impacts to Vancouver International Airport and Tsawwassen Ferry Terminal.
- The rail network in the impact area may be largely unusable during the immediate response phase, due to the sensitivity of railways to ground deformation. Likewise, ports, ferry terminals, and airports may be damaged, disrupting the movement of people and goods.
- Those facilities located in areas prone to liquefaction may receive a greater amount of damage.
- Underground complexes such as tunnels may be damaged or collapsed; specialized training and equipment would be required to support sub-surface rescue and recovery.
- Motor-vehicle incidents may occur during the initial shaking and because of subsequent hazards, such as landslides and falling objects.
- Damage may occur to airports, ferry terminals and other distribution hubs, limiting transportation in and out of the impact area.

## DISPLACEMENT

- VAN: Modelling suggests that around 70,000 households would be displaced, though some would likely find shelter independently and organically.
- VIC: 43,000 households would be displaced, though some would likely find shelter independently and organically.
- Large numbers of people may require interim housing for months to years.
- Commercially available shelter space, such as hotels, may be unavailable due to demand, damage, and reduced staffing capacity.
- Those who were out of their communities during the event may not be able to return home and would need to be accommodated elsewhere.

## ECONOMIC AND FINANCIAL IMPACTS

- Economic impacts and disruption to trade may be significant and affect not only the region, but also the country. For example, Vancouver Fraser Port Authority handles 19 per cent of Canada's Gross Domestic Product and approximately \$647 million/day in cargo; interruption of this, even for a short period of time, would have cascading effects across the country.
- Economic losses are expected to be approximately \$30 billion for Greater Vancouver and \$20 billion for Greater Victoria from direct damage to buildings alone. The overall economic losses are likely to be much higher. Studies indicate that fires following an earthquake in Vancouver could cause an additional \$10 billion in damage.
- Banking services, including ATMs and automated financial transactions such as employee pay services and scheduled payments, may be largely unavailable.
- Small businesses, which make up the majority of businesses in B.C., could be severely impacted, particularly with supply chain disruptions.

## ENERGY AND UTILITIES

- Infrastructure in impact areas may be damaged, disrupted, or inoperable. Power could be out in many regions, and there is a possibility that generators could fail if there are challenges gaining access to sites or insufficient supplies to refuel them.

- Many gas lines may have ruptured and ignited, destroying buildings, impacting transportation routes, and causing injuries and death.
- Disruption to water and wastewater systems are expected for many months following the event. This would present significant issues for communities, organizations, and residents, and will increase public health risks.

### COMMUNICATION TECHNOLOGY

- Common communication service providers, including cellular and landline telephone providers, may be impacted.
- If service is available, networks may be congested or overloaded, making communication extremely challenging. Texts and low-bandwidth data-based services may be the most reliable method of communication when other services are disrupted.
- Radio communication, if operable, may be also congested and impact the ability of first responders if saturated with non-sanctioned operators. There may be increased reliance on backup communication methods, such as satellite phones and amateur radio services.

### SUPPLY CHAIN

- The distribution network of fast-moving consumer goods – products that are sold quickly and at relatively low cost, such as meat, fruits and vegetables, dairy products, baked goods, toiletries, and cleaning products – will be disrupted. It may take weeks or months to recover.
- Supply chains routing into and out of impact areas will be affected as regular transportation routes will be unavailable. Due to the potentially significant impacts of a catastrophic earthquake on road, rail, and marine transportation, air transportation resources will play a key role to facilitate more immediate movement of essential goods and services into and out of impact areas.
- As a result of disruption to supply chains, communities outside the core impact area and across Canada may also experience shortages of critical resources and consumer goods.

### ANIMAL IMPACTS

- Pets will be among the casualties of a catastrophic earthquake, and many will go missing. Lack of preparedness and disaster experience by veterinarians may mean lack of access to care and humane euthanasia.
- Some animals, pets, and livestock may survive when their owners do not; this could result in animals without caretakers.
- Pets, including cats, dogs, and exotic animals, will accompany many to shelters and evacuation centres and will require food, water, and medical attention. Finding shelter for animals may be difficult because buildings will be prioritized for people.
- Livestock may be displaced and have unique requirements to sustain their needs; farms may offer to host displaced livestock.
- Animals in facilities such as zoos, labs, and rehabilitation centres may be affected.
- Impacts to supply chains may limit access to feed supplies and other necessary resources to support livestock and pets.
- Large-scale loss of life among livestock and pets will result in the need to suitably manage casualties, utilizing methods to reduce the risk of infection and disease to other animals and the human population. Activation of mass carcass disposal plans may be required.

### ISOLATED COMMUNITIES

- As a result of both the primary event and secondary hazards such as landslides, liquefaction, flooding, and fires, communities will be isolated if they do not have access to secondary and tertiary egress routes.

These communities may experience supply chain and transportation disruptions which affect their ability to stock and safeguard critical life-sustaining resources.

- Indigenous communities may be particularly vulnerable to isolation due to remote communities having only one road or bridge in and out of their community.
- Highway and bridge damage may cause significant barriers to reaching communities in the immediate response phase and communities will need to be self-sufficient until additional emergency personnel arrive to support them.

### PSYCHOSOCIAL IMPACTS

- Unexpected incidents such as those experienced during periods of disaster and emergency can trigger painful and harmful memories, issues, and emotions for Indigenous Peoples. This is especially prevalent during periods of evacuations as a result of intergenerational trauma reminiscent of residential schools. Recent historic evacuations are often remembered as negative experiences for many due to an absence of culturally appropriate services.
- Experiencing a catastrophic disaster can result in considerable mental health impacts and trauma which will affect victims, responders, and those indirectly impacted. The psychological impact to individuals and communities may last for a short period, or for years afterward.
- Family separation may reduce the ability of people to cope with what is occurring around them.

### SOCIAL IMPACTS

- The earthquake will have differential physical and social impacts on people depending on their social vulnerability. Vulnerability factors such as class/income, race and ethnicity, gender, age, disability, health, language and literacy, and household type will affect the capacity of individuals to withstand, cope with, and recover from immediate and longer-term impacts. Those with relatively higher social vulnerability will require more support to meet their needs and access services after an earthquake. For more information on social vulnerability, see Appendix D: Disproportionate Impacts.
- Those who depend on medical services, such as some elderly persons, those with pre-existing conditions, those who are sick, and those with substance dependencies, may be vulnerable to injury or death shortly after the event because of the reduced capacity for health care. Damage to infrastructure that supports these services, such as hospitals or long-term care facilities, can further increase the vulnerability of these persons.
- Those with financial insecurity, such as some low-income adults, unemployed workers, or tenants in subsidized housing, may have a reduced capacity to afford food, shelter, or other key resources needed to withstand the disaster. These populations will likely require humanitarian aid quickly after the event and may face barriers, such as language, to accessing services.
- Those who depend on social services, such as some elderly persons, those with substance dependencies, those who are un- or under-housed, new Canadians, single-parent families, or those with disabilities, may suffer increased disaster-related impacts as the support services they require to meet their typical daily needs become disrupted.
- Persons with physical disabilities or reduced mobility, such as elderly persons, or those in wheelchairs, may face increased accessibility barriers as infrastructure is damaged. For example, some elevators will become inoperable, and fallen debris may block passageways.
- Without effective intervention, the impacts socially vulnerable groups will experience will likely amplify overtime if their needs are unmet and their coping capacity is continually strained. This may instigate, propagate, or exacerbate cycles of vulnerability.
- Tourists and newcomers to B.C., including temporary foreign workers and international students, may experience unique challenges due to a lack of familiarity to services provided in the region and in some cases, language barriers. Services provided and public communications should account for the experience of non-English speakers.



## ENVIRONMENTAL IMPACTS

- Public health surveillance may be necessary related to contaminated water and wastewater.
- Large quantities of debris will require appropriate disposal in the immediate and longer-term and be outside of local disposal and recycling capacity.
- If fires begin, there is risk of smoke inhalation and exposure to hazardous materials, particularly for those responding to the event and those evacuated.
- Hazardous material spills may occur from numerous sources such as pipelines, storage tanks, wastewater infrastructure, tankers and vehicles, and marine vessels. There is significant potential for contamination from hazardous materials such as fuel or chemicals as storage facilities may be breached by the earthquake.
- Environmental hazards such as chemical spills and fires may affect the usability of facilities for emergency shelters or staging areas.
- Many simultaneous hazardous material spills will likely put a strain on the responders that are trained and equipped to respond to these scenarios, further limiting access to certain areas and potentially exacerbating public health concerns for those in impact areas.
- Disruptions to waste collection may result in biological hazards.
- Dike failures are likely to occur and will cause localized flooding that requires spontaneous, targeted evacuation.
- Dam failures are possible; widespread destruction of homes, buildings, and infrastructure downstream of a breached reservoir will occur if dams fail. Immediate evacuation will be necessary for level 3 dam failure events.
- Due to mass congregation in shelter spaces and possible inadequate disposal of garbage and biological waste, disease outbreaks are possible.
- If prolonged power outages occur, refrigerated goods may spoil and the protections offered by refrigeration, such as for biological and viral matter, may lapse, potentially resulting in biological threats to human health through infection and disease.
- Human-made debris is likely to contain hazardous materials that requires special disposal. The debris could threaten human life, public safety, infrastructure, water, or soil quality.
- Ground shaking, soil liquefaction, landslides, and flooding in basements may dramatically affect human structures resulting in massive amounts of debris.

## GOVERNMENT OPERATIONS

- All government operations within the impact area will experience capacity challenges; workloads will be challenging, staff will be absent, some facilities will be inaccessible, transportation routes and mobility will be impacted, and there will be limited support from other governments and external agencies.
- CI and utilities services such as water supply and waste management provided by First Nations and local authorities may be impacted. If such facilities are operable, they may be running at reduced capacity.
- It is anticipated there will be a delay in governments' ability to implement business continuity plans and restore critical services.
- Many workers will be unable to access workplaces due to transportation challenges, particularly those that do not live in the community in which they work and those that typically rely on public transportation.
- First responders will be limited, particularly in the early stages, in their ability to respond to the overwhelming needs. First responders will likely face challenges in travelling to their worksites and transporting affected people within the impact area.
- Impacts to communications technology and services such as internet and power will limit the capacity of government to respond effectively and continue to deliver services to the public.

## Introduction

This section describes the governance structures and mechanisms that will be used to provide effective leadership, integration, and decision-making to achieve a coordinated response.

The BC Emergency Management System (BCEMS) response goals will guide response activities. Due to the complexity of the event, enhanced integration and flexibility is required with decision-makers and between all governments, Critical Infrastructure (CI) owners/operators, non-governmental organizations (NGOs) and other partners to encourage innovative solutions, merge decision-making and information sharing networks, and achieve unity of effort by synchronizing response actions and resources. This integration will be required across multiple entities, including First Nation and local authority emergency operations centres (EOCs), Provincial Regional Emergency Operations Centres (PREOCs), and the Provincial Emergency Coordination Centre (PECC) or Catastrophic Emergency Response and Recovery Centre (CERRC). Where possible, this will be supported by having a centralized location for elected officials and decision-makers, agency co-location, provision of liaisons, and integrated planning and collaboration.

Following the event, the provincial response structure will work to organize and deploy resources immediately based on the assumption that First Nations and local authorities are unable to stand up standard emergency response functions, such as emergency support services (ESS), search and rescue (SAR), damage assessment, and shelter for evacuees. The PEIRS assumes that First Nation and local authority response capacity to respond will be limited and delayed due to the catastrophic nature of the event. Provincial and federal resources will be required to support response operations in the immediate aftermath. First Nations and local partners will be integrated into the governance structure as representatives for their jurisdictions as soon as practicable. These partners will be involved in decision-making processes that impact response operations in their jurisdictions, such as through a unified command structure.

## BC Emergency Management System

[BCEMS](#) is a provincial emergency management system founded on the principles of the Incident Command System (ICS) and includes common language, span of control, management by objective, and scalability. BCEMS ensures a consistent, coordinated, and organized approach to the management of emergency events and disasters and is used across ministries and jurisdictions in B.C. Additional information about BCEMS is available in Appendix C: BCEMS.

## State of Provincial Emergency

Under emergency management legislation, the responsible Minister and the Lieutenant Governor in Council have authority to declare a State of Provincial Emergency (SOPE) where circumstances warrant the use of extraordinary powers available through a declaration. First Nations have authority to issue Band Council Resolutions (BCRs) and local authorities may declare States of Local Emergency (SOLEs), however a SOPE may supersede SOLEs when and where necessary. See Appendix E: States of Provincial Emergency and Ministerial Orders for additional information regarding SOPE declarations.

## Unified Command

Unified command is an authority structure in which multiple agencies or jurisdictions share responsibility for incident management, and in which decision-making may be shared by multiple individuals representing these agencies or jurisdictions. A unified command structure may be used when multiple agencies or jurisdictions have mandated responsibility for a single incident to provide coordinated leadership without affecting individual agency or jurisdictional authority, responsibility, or accountability. Unified command manages an incident by establishing a common set of incident objectives, strategies, and action plans, and communicates through a single communication protocol. Under a unified command structure, incident commanders supervise a single command structure and general staff organization.

In the case of a catastrophic earthquake, a unified command structure may be advantageous. Unified command would include the provincial government and could include other partners to integrate federal, provincial, First Nations, and local governing bodies into decision-making. A unified command structure may be established as soon as practicable following the event and will continue to evolve through the transition to sustained response.

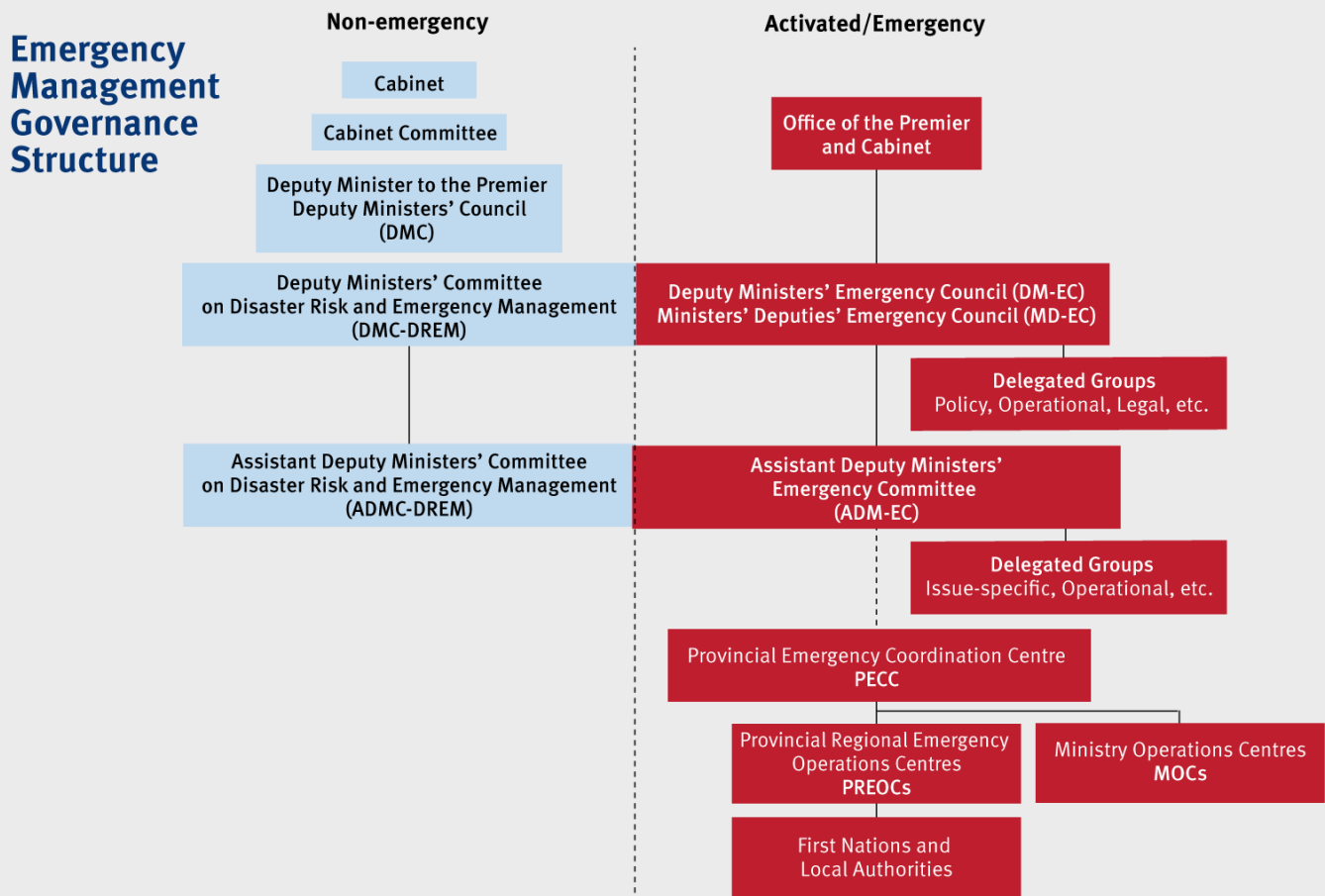
## Provincial Emergency Management Governance Structure

Following a catastrophic earthquake, it is anticipated that all of government will shift its focus to support immediate response needs during the immediate response phase. As a catastrophic earthquake will impact all sectors of government and society, a consolidated governance structure will be necessary to expedite response efforts. In general, strategic direction will be provided by the Premier, Cabinet, the Legislative Assembly, and the Lieutenant Governor. Engagement with these decision-makers will be coordinated through Cabinet Operations and the Office of the Premier.

Under normal circumstances, disaster risk and emergency management actions are directed by the Deputy Ministers' Committee on Disaster Risk and Emergency Management (DMC-DREM) and the Assistant Deputy Ministers' Committee on Disaster Risk and Emergency Management (ADMC-DREM). Following a catastrophic earthquake, these committees will activate and transition to the Deputy Ministers' Emergency Council (DM-EC), Ministers' and Deputies' Emergency Council (MD-EC), and the Assistant Deputy Ministers' Emergency Committee (ADM-EC), respectively (see Figure 5, below). These committees are responsible for ensuring coordinated response and recovery activities, approving a cross-government communications approach, and ensuring the full support of all provincial ministries, crown corporations, and provincial agencies for an integrated response. These committees will provide executive-level policy decisions and serve as the links between executive decision-makers and the provincial emergency response structure, while the PECC/CERRC retains responsibility for tactical and operational decisions.

Working groups may also be established where additional strategic or policy direction is required to address specific issues, such as humanitarian assistance and relief, and the impacts of the event on social or economic sectors.

Figure 5 – Provincial Emergency Management Governance Structure



## Provincial Emergency Management Structure

BCEMS defines the provincial structure for managing an emergency in four levels of response: provincial central coordination; provincial regional coordination; site support; and site level.

### PROVINCIAL EMERGENCY COORDINATION CENTRE

During the immediate response phase, the PECC will maintain overall coordination of the integrated provincial response.

The PECC coordinates the integrated provincial emergency response according to strategic directions received from executive decision-makers. The PECC ensures senior provincial government officials are kept apprised of provincial response activities and situational awareness; it also serves as the coordination and communication link with federal and international counterparts as well as ministry emergency operations through Ministry Operations Centres (MOCs). The PECC serves as a central point for the collecting, analysing, and disseminating information, supporting and/or making provincial operational decisions as appropriate, and supporting PREOCs. Branches and units are activated as required to coordinate provincial responses or when First Nation, local authority and/or PREOC resources are exhausted.

The PECC will initially reside at EMBC headquarters in Victoria, but may be established in an alternate location as deemed necessary by the event to provide the best effect. EMBC's alternate locations, as well as procedures for mobilizing employees following a catastrophic earthquake, are addressed in EMBC's internal business continuity plans.

Additional information about EMBC's office locations is available in Appendix F: EMBC Regional Offices and Contact Information.

### CATASTROPHIC EMERGENCY RESPONSE AND RECOVERY CENTRE

When the scope of the emergency, the scale of response, and complexity of the event requires extensive cross-agency integration and coordination for an extended period of time, the Province may establish a CERRC. The requirement for the CERRC will be determined by the Province during the immediate response phase; until the CERRC is established and transition of response coordination is possible, the PECC will coordinate the provincial response<sup>4</sup>.

The CERRC will be a centralized location for decision-making, response operations, advance planning, strategic communications, and integration, and may employ a unified command model that integrates federal, provincial, First Nations, and local governing bodies into decision-making as needed. The structure of the CERRC will be based on BCEMS and ICS, and will assume the responsibilities of the PECC and impacted PREOC(s), including:

- **PROVIDE** overall provincial coordination;
- **SUPPORT** First Nations, local authorities, and other partners;
- **COORDINATE** overall earthquake response actions; and
- **SET THE CONDITIONS** for recovery with the co-location and integration of a Recovery Task Force.

The CERRC, through a Joint Information Centre (JIC), will coordinate large-scale media relations, public information, and strategic communications provincially to ensure consistent, coordinated public messaging.

The CERRC is not a pre-established facility. The location will be determined by the Province and established in an area to provide the best effect. When the conditions for transition to recovery are met, the CERRC will become the Provincial Earthquake Recovery Centre and responsibility for overall provincial coordination will be assumed by the Recovery Task Force. With this transition, the PECC and PREOC functions will be extracted from the centre to return to normal operations.

### PROVINCIAL MINISTRIES AND MINISTRY OPERATIONS CENTRES

Provincial ministries have MOCs that will be activated to coordinate ministry responses to the emergency and continuity of ministry business, with an emphasis on actions taken to address matters within their normal areas of operation. MOCs will advise on status of ministry operations and business continuity to their Deputy Ministers and by providing a liaison to the PECC/CERRC and/or by working with the Government Services Branch at the PECC/CERRC. Regionally, collaboration between the Ministry Regional Emergency Operation Centres (if applicable) and EMBC will occur through agency representatives located in the PREOC.

Although EMBC will assume a leading role in coordinating overall response operations, provincial ministries are expected to make all reasonable efforts to support implementation of the PEIRS, resolve issues that arise within their sector as a result of the event, support external partners within their sector, and continue their normal operations wherever possible, particularly where normal operations involve critical functions and services for operations outside of the impact area.

<sup>4</sup> Although PECC/CERRC are jointly referenced through this strategy. Immediately following an event the PECC will activate per standard procedures, while activation of the CERRC will be based on an assessment of the circumstances, a recommendation to senior leadership, and a decision by the Province. Activation of the CERRC will occur over time and is likely to continue into sustained response.

## PROVINCIAL REGIONAL EMERGENCY OPERATIONS CENTRE

Each geographic region within the province has facilities and capacity to operate a PREOC. Each PREOC coordinates regional response activities, supports local EOCs, assigns regional critical resources, provides regional messaging, and provides situational awareness to the PECC/CERRC. If required, PREOCs located outside the impact area will be activated to provide additional support. When the CERRC is activated, PREOCs located within the impact area will be incorporated into the CERRC.



*Figure 6– EMBC regions and PREOC locations*

Under the scenarios considered in the PEIRS, the two PREOCs most likely to be substantially impacted are the Vancouver Island–Central Coast Region (VIC), co-located at EMBC headquarters in Victoria, and the Southwest Region (SWE), located in Surrey. Alternate locations, as well as procedures for mobilizing employees following a catastrophic earthquake, are addressed in EMBC’s internal business continuity plans.

Additional information about EMBC regions is available in Appendix F: EMBC Regional Offices and Contact Information.

## FIRST NATIONS AND LOCAL AUTHORITIES

First Nations and local authorities have primary responsibility for the management of an emergency response within their jurisdiction. Under typical emergency response circumstances, First Nations or local authorities will activate their EOCs to support site activities and perform other functions, including the implementation of extraordinary powers to address the emergency. EOCs will conduct impact assessments and through communication and integration with PREOCs, request resources and capabilities, conduct advance planning, and share information to assist with response operations and contribute to the provincial common operating picture.



It is assumed that the capacity of First Nations and local authorities to respond will be limited and delayed, and that the Province and other partners will be required to work with First Nations and local authorities to provide substantial resources to save lives and reduce suffering in the immediate response phase. In the immediate aftermath of a catastrophic earthquake, the minimum functions of a First Nation or local authority are anticipated to include, where possible:

- **ASSESSING DAMAGES AND IMPACTS** within the First Nation or local authority's jurisdiction, including coordinating assessments through external agencies; and
- **ASSESSING THE RESPONSE CAPACITY** of the First Nation or local authority, and activating any functions and/or plans it is able to effectively resource and support.

Following the event, the provincial response structure will assume that First Nations and local authorities are unable to stand up standard emergency response functions, such as emergency support services (ESS), search and rescue (SAR), damage assessment, and shelter for evacuees, and will work to organize and deploy resources immediately.

The Province will work in collaboration with First Nations with the objective of providing supports that are consistent with the *Declaration on the Rights of Indigenous Peoples Act*, and commitments and agreements founded on the recognition of Indigenous rights, including treaty and title rights, and the right to self-determination.

### **ADDITIONAL PARTNERS**

The Province relies on partnerships to mitigate, prepare for, respond to and recover from disasters. The following list identifies key partners that will be engaged in a catastrophic earthquake. This list is indicative rather than exhaustive. In addition to these partners, EMBC maintains numerous agreements with other jurisdictions and service providers; these agreements are outlined in Appendix B: Related Plans and Agreements.

#### ***Indigenous Agency Working Group***

The Indigenous Agency Working Group (IAWG) is composed of Indigenous support organizations working across the spheres of leadership, emergency management, and community health and well-being, as well as provincial ministries and federal departments. Indigenous support organizations include the First Nations Leadership Council (FNLC), the First Nations' Emergency Services Society (FNESS), the First Nations Health Authority (FNHA), the BC Association of Aboriginal Friendship Centres (BCAAFC), and the Métis Nation of BC (MNBC). Provincial ministries include EMBC and the Ministry of Indigenous Relations and Reconciliation; the Government of Canada is represented by Indigenous Services Canada (ISC).

The IAWG facilitates situational awareness and provides local and provincial coordination in support of impacted First Nations and Indigenous Peoples and communities. The purpose of the IAWG is to provide a platform to create space and opportunity to identify, analyze, and provide a coordinated response to emerging issues and needs experienced by Indigenous communities. During periods of emergency event activation, the IAWG is integrated in the PECC organizational structure and provides regular updates to the Indigenous Peoples Advance Planning Unit and the Indigenous Peoples Operations Branch to facilitate cross-ministry coordination. The IAWG actively participates in FNLC briefings, virtual town halls, and coordination calls with communities to strengthen key connection points. The IAWG also provides operational linkages to the other provincial working groups to support alignment as part of a whole-of-government approach.

Agency-specific roles and responsibilities are outlined in Section 4: Roles and Responsibilities.

### ***Integrated Partnership for Regional Emergency Management***

The Integrated Partnership for Regional Emergency Management (IPREM) is an intergovernmental partnership between the Province and the 21 local authorities, one Treaty First Nation, and one electoral area that compose the Metro Vancouver Regional District (MVRD). IPREM was formed to coordinate regional emergency planning and emergency management activities.

IPREM's members have adopted a Regional Decision-Making for Emergencies model to address extraordinary regional issues that are beyond the capacity of a local EOC, such as where:

- An event crosses (or has the potential to cross) jurisdictional boundaries;
- There is potential negative impact(s);
- There is a heightened risk to other jurisdictions;
- There are competing demands for critical resources; and/or
- There is limited access to a specific or required resources in a timely manner.

It is anticipated that a catastrophic earthquake impacting Greater Vancouver would create regional issues that would require the activation of this model. This model can be activated either by MVRD members or by the Province and brings together Chief Administrative Officers (CAOs) and subject matter experts to make decisions as needed. Once activated, the SWE PREOC organizes a coordination call to provide situational awareness, and discuss issues, options, and priorities. CAOs relay this information to local EOCs and others as appropriate, and collaborate with the SWE PREOC and other MVRD members to implement decisions and directions.

### ***Regional Emergency Management Partnership***

The Regional Emergency Management Partnership (REMP) was established in 2016 through a Memorandum of Understanding between the Province and the Capital Regional District (CRD), on behalf of its member municipalities and electoral areas, to enhance regional emergency management planning priorities. It is an equal partnership between the Province and the local authority representatives within Greater Victoria, representing equal representation from both partners on the steering committee.

REMP's Regional Concept of Operations model establishes a CAO decision-making framework during an event of regional significance, such as a catastrophic earthquake impacting southern Vancouver Island. This Concept of Operations supports regional collaboration and streamlined communication channels with EMBC's VIC PREOC. Either the Province or any local authority member of REMP can activate the Concept of Operations when:

- An event crosses (or has the potential to cross) jurisdictional boundaries;
- There is potential negative impact(s);
- There is a heightened risk to other jurisdictions;
- There are competing demands for critical resources;
- There is limited access to a specific or required resources in a timely manner; and/or
- The event or issue is of interest to media or public throughout the region that requires specific coordination.

Once activated, EMBC's VIC PREOC organizes a coordination call between all CAOs within Greater Victoria to provide situational awareness, and discuss issues, options, and priorities. CAOs report outcomes and decisions back to their local authority's EOC, and actions are taken to implement the decisions and directions.

# Roles and Responsibilities

## Introduction

This section identifies anticipated high-level roles and responsibilities of EMBC, provincial ministries, federal agencies, Indigenous support agencies, Critical Infrastructure (CI) owners and operators, and other emergency management partners. The actions listed do not contain standard response tasks and are not exhaustive. These actions focus on immediate response, but in some cases also reflect sustained response actions where appropriate depending on agency mandates.

The following are immediate roles and responsibilities common to all agencies:

- **ASSESS** immediate impacts and damage to understand any immediate needs and safety concerns.
- **ACTIVATE** emergency response and business continuity plans, including assessing the availability of executive leadership.
- **TAKE IMMEDIATE ACTION** as per agency-specific roles and responsibilities, articulated below, and provide liaisons to the Provincial Regional Emergency Operations Centres (PREOCs) and Provincial Emergency Coordination Centre (PECC) or Catastrophic Emergency Response and Recovery Centre (CERRC) as needed.
- **VERIFY** functioning communications systems and establish communication with other response agencies.
- **COMPILE**, update, and share situational awareness and impact assessments with the PREOC(s) and the PECC/CERRC (see Section 5: Situational Awareness).
- **PROVIDE** PREOC or PECC/CERRC with consolidated and prioritized personnel, equipment, and supply requests, including anticipated needs.

To support response operations, provincial ministries will provide a ministry liaison to the PECC/CERRC, and crown corporations and other agencies will integrate response efforts through the provision of liaison(s) to the PECC/CERRC and/or PREOC, as appropriate. Provincial ministries and agencies that do not have specific response tasks identified below should anticipate requests for support and integrate with provincial operations, as required.

## Emergency Management BC

### *EMBC Executive*

- **ACTIVATE** the PEIRS and the provincial emergency management structure.
- **MAKE A RECOMMENDATION** to the Minister responsible for B.C.'s emergency management legislation to declare a State of Provincial Emergency (SOPE).
- **ACTIVATE** the Assistant Deputy Ministers' Emergency Committee (ADM-EC), the Deputy Ministers' Emergency Council (DM-EC), and/or the Ministers'-Deputy Ministers' Emergency Council (MD-EC) as needed to confirm leadership and gather situational awareness.

### **Provincial Emergency Coordination Centre**

*\*If the PECC is not operational or communication with the PECC is not established, the Central PREOC will assume responsibilities of the PECC as needed and as per EMBC's business continuity and mobilization plans.*

#### **Activation and Leadership**

- ▶ Activate this plan, all PECC/CERRC functions, and staffing for applicable branches, including through the Temporary Emergency Assignment Management System (TEAMS) and other sources as per Section 9: Surge Capacity.
- ▶ Establish communication with ministries, PREOCs, and federal Government Operations Centre (GOC).
- ▶ Advise if a CERRC structure is required, and if so, take initial steps to activate.
- ▶ Support the continuity of government and provincial business continuity requirements.
- ▶ Manage public alerting, as necessary.

#### **Agreements and Aid**

- ▶ Contact Public Safety Canada to request federal assistance (see Appendix G: Requests for Federal Assistance (RFA) and Appendix H: Critical Resource List) and confirm activation of CONPLAN PANORAMA.
- ▶ Contact Alberta Emergency Management Agency (AEMA) to confirm activation of *Alberta Emergency Response Plan for a Catastrophic Earthquake in BC* and in coordination with the GOC, to deploy critical resources (see Appendix H: Critical Resource List).
- ▶ Contact Canadian Red Cross Society (CRC) to request activation of Emergency Response Units (ERUs) and Field Assessment Coordination Team (FACT) resources.
- ▶ Establish non-governmental organization (NGO) coordination calls, including the Integrated Disaster Council of BC (IDCBC) and other interested aid agencies, to share information, identify gaps, promote collaboration, and coordinate an integrated approach to program and service delivery.
- ▶ Coordinate the deployment and use of national and international aid.
- ▶ Contact relevant agencies to activate other agreements, as required (see Appendix B: Related Plans and Agreements).

#### **Logistics**

- ▶ Coordinate the identification, prioritization, acquisition, and movement of critical resources, including activation of provincial/regional staging areas and movement of resources to community points of distribution (CPODs) (see Appendix H: Critical Resource List).
- ▶ Define and coordinate priority of movement through ministerial orders.

#### **Situational Awareness**

- ▶ Contact Public Safety Canada to submit a "Request for Surveillance" (see Appendix G: Request for Assistance).
- ▶ In coordination with partners, consolidate regional, provincial, and federal assessments to develop and share a common operating picture (COP) using critical information requirements (see Appendix I: Critical Information Requirements).
- ▶ Distribute situational awareness to PREOCs and partner agencies.
- ▶ Assess the availability of rapid damage assessment teams to support local capacity.

### **Critical Infrastructure**

- ▶ Initiate coordination calls with CI owners and operators to obtain situational awareness and assist with restoration of CI.
- ▶ Provide support, leadership, and guidance to the CI branches in affected PREOCs.

### **Strategic Communications**

- ▶ Activate the Joint Information Centre (JIC).
- ▶ Provide provincial messaging in coordination with JIC and Government Communications and Public Engagement (GCPE) as per Appendix J: Strategic and Public Messages.

### **Impacted PREOC(s)**

- ▶ Attempt to establish contact with impacted First Nations, local authorities, regional ministry offices and external agencies.
- ▶ Coordinate support for First Nations and Indigenous Peoples and communities with Indigenous support organizations, including the First Nations' Emergency Services Society (FNESS), First Nations Health Authority (FNHA), and other partners including the Ministry of Indigenous Relations and Reconciliation and Indigenous Services Canada (ISC).
- ▶ Support communities' provision of humanitarian aid and relief services including shelter, food, water, medical services, and other supports.
- ▶ Assist communities in identification and activation of CPODs, shelter sites, and information/reception sites.
- ▶ Determine required structure, including activation of specific branches, in alignment with the PECC/CERRC.
- ▶ Coordinate resources to support targeted community evacuations where required.
- ▶ Liaise with communities and the Ministry of Transportation and Infrastructure via the activated Transportation Branch for status of and support required for reopening key and critical transportation routes.
- ▶ Liaise with impacted jurisdictions, collect information, and ensure information is consolidated to the COP.

### **All PREOCs**

- ▶ Activate immediately.
- ▶ Identify and provide personnel and equipment to assist other regions.
- ▶ Assist with location and activation of provincial and regional staging areas in coordination with the PECC/CERRC.
- ▶ Assist with the movement of critical resources to support communities and to sustain response efforts (see Appendix H: Critical Resource List).
- ▶ Prepare for coordination calls with the PECC/CERRC.
- ▶ If affected by disrupted transportation routes, obtain situational awareness, and support efforts to re-open critical response routes.
- ▶ Monitor and support emergency response efforts unrelated to the earthquake event outside the impact area.



**Office of the Fire Commissioner**

- ▶ Establish contact and provide a liaison to the PECC/CERRC and PREOCs to establish Fire Service Branches.
- ▶ Initiate communications with fire departments and fire service partners throughout the province to confirm available resources.
- ▶ Assign regional Fire Service Advisors outside of impact areas with regional staging capabilities.
- ▶ Assign Fire Service Advisors to support and manage any structure fire resources deployed to the impact area.
- ▶ Consolidate and prioritize lists of structure fire service resources (personnel, supplies, and equipment) requiring transport into and from the impact areas.

**Provincial Strategic Governance****Judiciary**

- ▶ Fulfil the duties of provincial government should the elected government and Lieutenant Governor be unable to do so.
- ▶ Determine whether courts can open.

**Office of the Premier**

- ▶ Provide leadership and strategic direction to the DM-EC/MD-EC.
- ▶ Provide strategic communication.
- ▶ Convene Cabinet to establish strategic response and recovery priorities.

**Lieutenant Governor**

- ▶ Ensure the continued existence of a functioning government.
- ▶ Provide Royal Assent to provincial legislation and regulations.
- ▶ Sign Orders-in-Council, proclamations, and other legal instruments before they have the force of law.
- ▶ Present Bills by Message to the Legislature when relating to taxation or expenditure of public money.

**Deputy Ministers' Emergency Council/Ministers' and Deputies' Emergency Council**

- ▶ Provide executive policy decisions, strategic direction, and leadership to the overall response.
- ▶ Validate the need for a declaration of SOPE.
- ▶ Authorize extraordinary funds to support disaster risk management and emergency management activities.
- ▶ Ensure the full support of all provincial ministries, crown corporations, and agencies for the integrated government response.
- ▶ Support the development of strategic public communications.

**Assistant Deputy Ministers' Emergency Committee**

- ▶ Develop and recommend strategic direction and associated priorities to DM-EC/MD-EC.
- ▶ Carry out tasks/projects to support DM-EC/MD-EC's deliverables and accountabilities.

## Provincial Ministries

All provincial ministries will activate ministry operations centres (MOCs), gather situational awareness, assess impacts to ministry business, activate ministry emergency and business continuity plans (BCPs), and liaise with the Government Services Branch of the PECC/CERRC.

All ministries will assess their ability to provide staff to Temporary Emergency Assignment Management System (TEAMS), which allows staff to be assigned roles within emergency operation centres (EOCs) to increase surge capacity.

### ***Ministry of Advanced Education and Skills Training***

- ▶ Respond to PECC/CERRC inquiries and provide sector expertise.
- ▶ Coordinate and collect sector situational awareness from post-secondary institutions.
- ▶ Provide sector support, as required, to meet immediate needs.

### ***Attorney General***

#### **Legal Services Branch**

- ▶ Assist with risk management and provide expertise, including providing advice to provincial ministries and government corporations on legal matters relating to preparing and promulgating of emergency orders, regulations, declarations, and contractual arrangements.

### ***Ministry of Agriculture and Food***

- ▶ Establish and lead the Agriculture Branch at the PECC/CERRC.
- ▶ Coordinate support for and/or manage agricultural animal relocation.
- ▶ Provide advice to farmers, aquaculturists, and fishers on the protection of crops, livestock, and provincially managed fish and marine plant stocks.
- ▶ Consult with and provide support to impacted agricultural industries.
- ▶ Assist the Ministry of Health with inspection and monitoring of food safety and quality.
- ▶ Develop emergency response plans for, monitor, and diagnose animal disease outbreaks.
- ▶ Administer provision of agriculture business risk management programs.

### ***Ministry of Children and Family Development***

- ▶ Provide a liaison to the PECC/CERRC to support the Humanitarian Assistance Branch.
- ▶ Provide for the safety of children in care and unaccompanied children.
- ▶ Provide expertise and/or policy direction regarding reunion services, child protection, children and youth with special needs, and child and youth mental health.

### ***Ministry of Citizens' Services***

- ▶ Provide a liaison(s) to the PECC/CERRC as needed.
- ▶ Provide technical advice and assistance with the acquisition and recovery of network, telecommunications infrastructure, equipment, systems, services, devices, and computers.
- ▶ Procure and support communication, and technology requirements for the provincial response.
- ▶ Ensure that digital platforms and digital/data services are available to support government ministries' emergency management activities.
- ▶ Manage public engagement across government.
- ▶ Activate public contact centre, if required, to address public inquiries and provide information about available relief services.
- ▶ Provide priority allocation of government buildings for operational accommodation, storage, or other emergency requirements.

- ▶ Make emergency rental or lease agreements for private sector buildings or other infrastructure.
- ▶ Assess damage(s) to government buildings within ministry jurisdiction; provide support to damage assessment outside this jurisdiction as needed.
- ▶ Support leasing or purchase of emergency supplies and equipment as needed.
- ▶ Support provincial activities related to shipping, receiving, and tracking of emergency supplies if required.
- ▶ Facilitate printing and mail distribution services through BC Mail Plus.
- ▶ Provide situational awareness and impact assessments, and recommend resource solutions within scope of responsibility.

#### ***Ministry of Education and Child Care***

- ▶ Provide a liaison to the PECC/CERRC to support the Humanitarian Assistance Branch.
- ▶ Provide expertise and/or policy direction regarding school system requirements and accountabilities.
- ▶ Provide support to school boards and independent school authorities to interpret policy and revise guidelines to meet the immediate needs of students during the emergency.
- ▶ Provide information about the status of school facilities in impacted areas.
- ▶ Support and coordinate access to school facilities and school district resources.
- ▶ Liaise with school boards, independent school authorities, and childcare providers.

#### ***Ministry of Energy, Mines, and Low Carbon Innovation***

- ▶ Support the CI Branch at the PECC/CERRC.
- ▶ Liaise with agencies, boards, and commissions with emergency management roles and other utility providers to coordinate impact assessments.

#### ***Ministry of Environment and Climate Change Strategy***

- ▶ Establish and lead the Environmental Branch at the PECC/CERRC.
- ▶ Establish contact with other ministries/agencies/partners, including the PECC/CERRC and PREOCs, to support the Environmental Branch.
- ▶ Provide an assessment of environmental impacts.
- ▶ Support and coordinate responses to hazardous material spills.
- ▶ Provide technical expertise, assess, and monitor air and water quality.
- ▶ Provide professional and technical advice and guidance on waste management issues and potential cross-border movement of waste and debris.
- ▶ Ensure the proper disposal of hazardous wastes, debris, and pollutants.
- ▶ Provide conservation officers to act as special constables to reinforce police forces in law enforcement and traffic duties.
- ▶ Support exceptions/amendments to transportation of dangerous goods and landfill permits, including to support disaster debris removal.
- ▶ Provide emergency response to fire, avalanche, flood, tsunami, or other circumstance that requires evacuation and/or closure of parks.

#### ***Ministry of Finance***

- ▶ Establish and lead the Finance Section at the PECC/CERRC.
- ▶ Establish process to facilitate and manage the volume of emergency payments as well as provide service to the public under emergency conditions.
- ▶ Provide risk management services at the PECC/CERRC to aid in effective decision-making.

***Government Communications and Public Engagement (GCPE)***

- ▶ Establish and lead the JIC at the PECC/CERRC.
- ▶ Coordinate provincial public information and engagement and manage media relations.
- ▶ Act as Information Officers in provincial and regional operations centres as required.
- ▶ Monitor media, report findings and clarify/correct factual errors as necessary.
- ▶ Establish a provincial communications strategy.
- ▶ Coordinate social media messaging.

***Liquor Distribution Branch/BC Liquor Stores/BC Cannabis Stores***

- ▶ Provide a liaison to the PECC/CERRC to support the Transportation Branch and Logistics Section, if available.
- ▶ Provide impact assessment of Liquor Distribution Branch infrastructure.
- ▶ Provide warehouse space, personnel, and logistical expertise for the distribution of supplies, if available and if personnel are present.
- ▶ Assist in the distribution of emergency supplies as needed and if available personnel are present.

***Public Service Agency (PSA)***

- ▶ Provide corporate messaging and guidance to Public Service employees related to health and safety and employee human resources matters through established communication channels.
- ▶ Work to ensure implementation of alternative pay methods for Public Service employees impacted by an event and suffering loss of normal pay channels or methods.
- ▶ Liaise with unions and professional associations for any necessary temporary changes to employment terms and conditions.
- ▶ Provide human resource expertise and services in support of ministry immediate response and recovery actions, including facilitating any needed temporary hiring to meet emergency requirements.

***Ministry of Forests***

- ▶ Through the BC Wildfire Service, establish and lead the Air Branch as a part of the activated Transportation Branch at the PECC/CERRC and support Air Operations at the PREOCs.
- ▶ Establish and lead the Water Branch at the PECC/CERRC.
- ▶ Provide personnel, equipment, supplies, telecommunications equipment, aviation support, and weather and predictive services information to assist coordination and response operations.
- ▶ Support or lead damage assessment related to dam and dike safety.
- ▶ Provide professional guidance to direct works to restore or continue access, deal with environmental mitigation works, and reduce safety risk.
- ▶ Conduct analysis, emergency, and mitigation planning related to landslides and landslide risks, and provide recommendations on mitigations, restrictions, and evacuations.

***Ministry of Health***

- ▶ Establish a health system liaison at the PECC/CERRC.
- ▶ Activate the Health Emergency Coordination Centre (HECC).
- ▶ Identify available capacity across the health sector and, as necessary, coordinate the provision of personnel, equipment, and supplies to the impact area.
- ▶ Coordinate medical evacuations out of the impact area with assistance from PECC/CERRC, federal partners, and external agencies, as required.
- ▶ Coordinate the provision of additional medical teams to the impact area.
- ▶ Identify capacity across the health sector to support community health.
- ▶ Coordinate the provision of mental health and disaster psychosocial services.

- ▶ Perform rapid public health risk assessments and surveillance and collect data to provide appropriate public health messaging.
- ▶ Coordinate any national or international medical assets deployed to B.C.
- ▶ Coordinate the implementation of Disaster Recovery Plans of key clinical systems.
- ▶ Provide public non-emergency health information and advice through existing tele-health and web services.

#### ***Ministry of Indigenous Relations and Reconciliation***

- ▶ Staff agency liaison and agency representative positions in the PREOCs and PECC/CERRC, and support staffing of TEAMS.
- ▶ Provide subject matter expertise and strategic guidance, as well as comprehensive analysis support of data and reporting tools.
- ▶ In partnership with EMBC, facilitate relationships with Indigenous-led organizations.

#### ***Ministry of Jobs, Economic Recovery, and Innovation***

- ▶ Provide situational awareness, advice, and support related to economic impacts and implications across B.C. communities, small business sector considerations, private sector engagement, and trade.
- ▶ Support the transition to economic recovery.

#### ***Ministry of Land, Water and Resource Stewardship***

- ▶ Through GeoBC, provide information and spatial mapping support.
- ▶ Coordinate and provide collated assessment information related to building damage assessments based on data provided by BC Assessment.
- ▶ Provide mapping services and mobile solutions.
- ▶ Provide inventories of pipelines and other linear structures throughout the province.

#### ***Ministry of Municipal Affairs***

- ▶ Provide advice and support for efforts related to local authority infrastructure, governance, and emergency authorities, as well as specific community impacts.
- ▶ Provide guidance to public libraries and service delivery partners.
- ▶ Represent the needs of immigrant communities.
- ▶ Liaise with Immigration, Refugees, and Citizenship Canada regarding immigration-related matters impacting evacuees, particularly temporary foreign workers.

#### ***Ministry of Public Safety and Solicitor General (excluding EMBC)***

##### **BC Coroners Service**

- ▶ Activate the Mass Fatality Response Plan and lead the Mass Fatality Branch at the PECC/CERRC.
- ▶ Designate temporary morgue space(s) and fatality collection points.
- ▶ Coordinate with search technicians to support timely and appropriate recovery of deceased victims.
- ▶ Take custody of deceased once remains are recovered.
- ▶ Ensure appropriate transportation and storage of deceased.
- ▶ Ensure identification and cause of death are established and issue the Medical Certification of Death.
- ▶ Manage the chain of custody for deceased and belongings found on their person.
- ▶ Lead and coordinate public reporting regarding confirmation of death and identification of deceased.
- ▶ Liaise with the Family Assistance Centre as needed.



## Corrections

- ▶ Provide status updates regarding provincial corrections facilities and anticipated resource needs within the impact area in support of the Police Branch of the PECC/CERRC. For example, Police Branch may need to know the security of the facility, resource needs including additional labour force (inmates) available to build sandbags, and/or correctional facilities available to house people.

## Policing and Security Branch

- ▶ Establish contact with and provide a liaison to the PECC/CERRC.
- ▶ Establish communication with the police agency of jurisdiction's leadership for situational awareness and coordination.
- ▶ Prepare, share, and implement orders relating to law enforcement and internal security.
- ▶ Provide, through the jurisdictional police service:
  - Advice to local authorities respecting the maintenance of law and order;
  - Reinforcement of local police services;
  - Security control of emergency areas; and
  - Traffic and crowd control.

## *Ministry of Social Development and Poverty Reduction*

- ▶ Provide a liaison to the PECC/CERRC.
- ▶ Provide for increased requirements for Income and Disability Assistance.
- ▶ Ensure staff have access to provincially-coordinated counselling.
- ▶ Target supports and provide sector expertise to assist vulnerable clients and those with complex care needs.
- ▶ Provide situational awareness on community living services to assist adults with developmental disabilities and their families, and anticipated resource challenges.

## *Ministry of Tourism, Arts, Culture and Sport*

### Tourism Sector Strategy Division

- ▶ Liaise with the PECC/CERRC.
- ▶ Activate Tourism Emergency Response Team in cooperation with tourism industry leaders.
- ▶ Consolidate information to create situational awareness to address immediate impacts and start recovery planning.
- ▶ Assist in the mobilization of provincial tourism assets to support the Humanitarian Assistance Branch as required (e.g., accommodation, transportation, humanitarian assistance).

## *Ministry of Transportation and Infrastructure*

- ▶ Coordinate the activated Transportation Branch within the Operations Section of the PECC/CERRC to provide situational awareness and damage assessment from the multimodal transportation units of road, rail, marine, air, and transit, and to assist in identifying response priorities for these units.
- ▶ Share alerts and safety messages, monitor for misinformation to be corrected, and respond to questions/comments from the public or partners with relevant transportation information.
- ▶ Conduct preliminary visual damage assessment of provincially-owned critical highway infrastructure.
- ▶ Authorize the closure of provincial transportation routes, including highways and inland ferries.
- ▶ Attend to the safety, protection, and repair of provincial highways.
- ▶ Coordinate and arrange for transportation operations, engineering, and construction resources for provincially-owned critical highway infrastructure.
- ▶ When requested by a PREOC, support local authorities to reopen critical routes.

- ▶ Coordinate exemptions from selected road rules and regulations, such as driver hours and vehicle weights, if requested by the PECC/CERRC.
- ▶ Analyze and provide heavy-haul routes for logistics transport as required.
- ▶ Assist the Logistics Section of the PECC/CERRC in the sourcing and procurement of transport assets.

### ***Ministry of Mental Health and Addictions***

- ▶ Participate in the HECC.
- ▶ Work with the Ministry of Health to identify available capacity across the health sector to support community health.
- ▶ Work with ministry partners and service providers to coordinate the provision of mental health and disaster psychosocial services.

## **Indigenous Support Organizations**

### ***Indigenous Agency Working Group (IAWG)***

The IAWG consists of representatives from the First Nations Leadership Council (FNLC), FNESS, FNHA, the BC Association of Aboriginal Friendship Centres (BCAAFC), Métis Nation British Columbia (MNBC), ISC, the Ministry of Indigenous Relations and Reconciliation, and EMBC. The primary responsibilities of the working group following a catastrophic earthquake include:

- ▶ Ensuring implementation of the Multi-Agency Support Team Standard Operating Procedures.
- ▶ Discussing issues, concerns, and funding for non-standard costs for impacted Indigenous communities.
- ▶ Maintaining overall situational awareness pertinent to impacted Indigenous communities to ensuring information dissemination is being shared between the PREOC, PECC/CERRC, and Indigenous communities.

### ***First Nations Leadership Council (FNLC)***

The FNLC consists of executive representation from the BC Assembly of First Nations, the First Nations Summit, and the Union of BC Indian Chiefs. In 2019, the FNLC, Government of Canada, and Province endorsed the Emergency Management Services Memorandum of Understanding that establishes the process signatories follow to advance meaningful recognition and enhance capacity of First Nations within all pillars of emergency management (i.e., preparedness, mitigation, response, and recovery).

In the event of a catastrophic earthquake, the FNLC supports Indigenous Peoples through coordination and continuous political-, senior official-, and technical-level engagement with First Nations, Canada, and the Province. This may include, but is not limited to:

- ▶ Exchanging experiences, strategic advice and best practices for relationship building with First Nations through information sharing and capacity development.
- ▶ Discussing emergency concerns, considerations, policy, and process issues to deliver province-wide First Nations values, Indigenous laws, and approaches to emergency management.
- ▶ Recognizing and supporting other established mechanisms and forums to ensure the success of other Indigenous support organizations and agencies in delivering and achieving their mandates.

### ***First Nations Health Authority (FNHA)***

The FNHA works in partnership with First Nation communities and service providers to plan, design, and manage the delivery of Indigenous health programs across B.C. The FNHA works to align program and service delivery with the First Nations Perspective on Health and Wellness and the 7 Directives that guide FNHA operations.

In the event of an emergency, the FNHA's Health Emergency Management program ensures that First Nation communities and leadership are integrated into the provincial emergency response system and receive the same level of support to that of non-Indigenous communities. This may include:

- ▶ Working with Indigenous and provincial leadership to ensure the commitments, intentions, and indicators of the BC Tripartite Framework Agreement on First Nation Health Governance, the Health Partnership Accord, the Tripartite First Nations Health Plan, the Reciprocal Accountability Framework are safeguarded and operationalized.
- ▶ Supporting Indigenous Peoples' mental wellness, cultural needs, and environmental public health prior to, during, and after a community is displaced and recommended to an evacuation centre.
- ▶ Supporting the delivery of culturally safe services and programs that remain aware of the unique needs and circumstances of First Nation communities.

### ***First Nations' Emergency Services Society (FNESS)***

The FNESS supports Indigenous communities through direct action and indirect advisory and liaison functions.

In the event of a catastrophic earthquake, the FNESS serves as a critical linkage, integrating Indigenous communities into the provincial emergency response. This may include:

- ▶ Directing staffing of key resource roles and/or positions with the PECC/CERRC, PREOCs, and Indigenous EOCs.
- ▶ Deploying strike teams and drawing in support staff from adjacent provinces and territories trained in emergency management. This includes, but is not limited to structural protection, flood mitigation, and command support units to aid in site-level response.
- ▶ Connecting Indigenous Peoples with emergency responders and emergency responders with Indigenous Peoples with a specific interest to ensure Indigenous communities and governments are receiving first-hand information in a timely and effective manner.

### ***Métis Nation BC (MNBC)***

The MNBC established its Emergency Preparedness Committee in 2020 to identify systems and enhance its efforts to support Métis communities and citizens in emergency preparedness and readiness initiatives.

The MNBC represents Métis Chartered Communities to enhance their existing emergency support services.

The MNBC supports the urban Métis population and Chartered Communities. During the immediate response phase following a catastrophic earthquake, the primary roles of the MNBC may include:

- ▶ Ensuring members receive the supports required to promote a safe and efficient response.
- ▶ Supporting members when navigating the regulatory and unfamiliar registration services to ensure they are receiving assistance, as required.
- ▶ Delivering humanitarian assistance services, such as shelter, food, and care – in addition to hosting cultural practices to reduce the psychosocial impacts associated with the emergency.

### ***BC Association of Aboriginal Friendship Centres (BCAAFC)***

The BCAAFC is the umbrella association for the 25 Friendship Centres in B.C. The BCAAFC offers culturally safe programs and services, and provides a welcoming space for all members of the Indigenous community to share knowledge and connect with others.

In the event of a catastrophic earthquake, the BCAAFC supports Indigenous Peoples through direct response, health and well-being initiatives, and continued support of local Friendship Centres providing direct culturally safe and Indigenous-calibrated services. This may include:

- ▶ Providing advisory and liaison services between Indigenous leadership and non-governmental support organizations and the Province to ensure Indigenous Peoples receive equitable care and consideration during an emergency event.
- ▶ Acting as a familiar and safe meeting place to provide critical evacuation services and assistance.
- ▶ Supporting Indigenous Peoples when navigating regulatory and unfamiliar registration services to ensure they are receiving assistance, as required.
- ▶ Delivering humanitarian assistance services, such as shelter, food, and care, in addition to hosting cultural practices to reduce the psychosocial impacts associated with an emergency.

## Federal Departments and Agencies

### ***Agriculture and Agri-food Canada (AAFC)***

- ▶ Establish contact with the Federal Coordination Group (FCG).
- ▶ Establish contact with key agriculture and agri-food partners and key government partners to understand regional and national sector and food supply chain impacts.
- ▶ Support federal government response (policy, program, analysis).
- ▶ Support provision of food and water as part of Essential Support Function (ESF) 3 of the Federal Emergency Response Plan (FERP), in coordination with other federal departments, upon receipt of an RFA.

### ***Canadian Armed Forces JOINT TASK FORCE PACIFIC (JTFF)***

- ▶ Establish contact and liaison with the PECC/CERRC and REOCs.
- ▶ Report status of Canadian Armed Forces (CAF) in B.C. and response actions.
- ▶ Be prepared to reinforce first responders to provide initial actions to save lives.
- ▶ Conduct reconnaissance and contribute to situational assessment for impact area.
- ▶ Be prepared to provide personnel and equipment to augment provincial response.
- ▶ Commence preparations for receiving CAF reinforcements from outside the impact area.
- ▶ Begin preparations for receiving US Military reinforcements under the Civil Assistance Plan (CAP).

### ***Canada Border Services Agency (CBSA)***

- ▶ Gather situation reports from impacted operations to develop situational awareness.
- ▶ Activate Regional Operations Centre (ROC) or establish an Event Response Team (ERT).
- ▶ Liaise with Border Operations Centre (BOC) and establish a business cycle for communication and reporting.
- ▶ Establish contact with Public Safety Canada Regional Office (PSRO) and/or Federal Coordination Centre (FCC), if activated.
- ▶ Notify partners regarding operational impacts that may affect core service delivery and establish the required response strategy.
- ▶ Establish contacts and mechanism for communication and coordination with US Customs and Border Protection (USCBP) at the port of entry level to ensure continuity of operations and reduced impacts to normal border operations.
- ▶ Facilitate potential cross-border movement of personnel and equipment as required to support provincial or state entities as per *Procedures for Processing Emergency Support Personnel CBSA – Pacific Region* and the Government of Canada *Plan for the Movement of People and Goods During and Following an Emergency*.

**Canada Energy Regulator (CER)**

- ▶ Activate CER EOC to support emergency response activities.
- ▶ Liaise with potentially impacted CER-regulated pipeline companies.
- ▶ Liaise with the GOC, FCG, and PECC/CERRC.
- ▶ Oversee emergency response activities from CER-regulated companies.
- ▶ Provide support for ESF 4 of the FERP – Energy Production and Distribution.
- ▶ Gather situation reports from impacted operations to develop situational awareness.
- ▶ Participate in awareness sharing with relevant PECC/CERRC/federal working groups.
- ▶ Continue to monitor pipeline operations for impacts, and safe restart of lines when possible.

**Canadian Coast Guard (CCG)**

- ▶ Increase activation level of ROC.
- ▶ Establish contact with Public Safety Canada and deploy representative to PECC/CERRC.
- ▶ Alert all CCG ships and stations to put to sea. After all clear signal, provide logistical, humanitarian, and infrastructure support as directed.
- ▶ Provide situational awareness based on area assessments from CCG vessels and stations.
- ▶ Enhance monitoring for safety/distress radio calls.
- ▶ Respond to search and rescue (SAR) distress alerts and coordinate marine SAR planning.
- ▶ Provide CCG fleet resources to support tasks for special maritime operations, consequence management, security or to clear navigation channels.
- ▶ Enhance activities to regulate vessel traffic movements and provide specialized surveillance.
- ▶ Broadcast marine safety information.
- ▶ Issue navigational warnings (NAVWARNs).

**Department of Fisheries and Oceans (DFO)**

- ▶ Establish contact with the FCC and PECC/CERRC.
- ▶ Regional Offices establish contact with PREOCs and DFO Regional Headquarters.
- ▶ Stand up a virtual Senior Management EOC until such time as a physical EOC can be established.
- ▶ Initiate movement of DFO assets to support DFO Critical Services in the impact area. If requested, support recovery efforts, specifically with airborne and appropriately trailered vessels with trained staff, and self-sufficient with trailered accommodations. DFO locations farther from the impact area may backfill locations closer to the impact area to support necessary DFO Critical Services and other operational continuity.
- ▶ Report on the impacts to the Canadian and First Nation Fisheries.
- ▶ Provide support for marine spills and emergencies.
- ▶ DFO Conservation and Protection Officers to provide law enforcement support to the RCMP should it be requested.

**Environment and Climate Change Canada (ECCC)**

- ▶ Provide meteorological forecast and consultation services (Meteorological Service of Canada (MSC)).
- ▶ Broadcast Tsunami Alerts on ECCC's dissemination systems on behalf of EMBC (MSC).
- ▶ Provide emergency Disposal at Sea permit(s) for debris management (Environmental Protection Operations Directorate (EPOD)/Marine Programs).
- ▶ Establish contact with the GOC, FCG, and EMBC/PECC/CERRC (National Environmental Emergency Centre (NEEC)).
- ▶ Establish contact with key government response partners to develop situational awareness, collaborate and support response activities as required; as well inform/support potentially impacted partners as possible (NEEC).



- ▶ Notify internal and external partners (NEEC).
- ▶ Provide scientific and technical advice for environmental emergencies including: spill trajectory modelling; air dispersion modelling; fate and effects of hazardous substances and the identification and prioritization of sensitive areas (NEEC).
- ▶ Notify the US Environmental Protection Agency (EPA) as per the Inland Plan – CANUSWEST SOUTH Annex, and assist with potential cross-border coordination and prioritization of critical environmental response equipment/personnel (NEEC).
- ▶ Notify partners regarding operational impacts that may affect core service delivery and establish the required response strategy (NEEC, MSC).

### ***Government Operations Centre (GOC)***

- ▶ Activate the GOC to Level 3.
- ▶ Establish contact with region and partners.
- ▶ Identify potential suppliers and/or initiate the acquisition process and deploy critical resources upon request (See Appendix H: Critical Resource List).
- ▶ Provide assessments of the disposition and status of deployed assets.
- ▶ Coordinate federal department/agency situational assessment contributions.
- ▶ Establish contact within regional FCC through the PSRO.
- ▶ Initiate senior Government of Canada meetings to facilitate information sharing related to assets and resources.

### ***Health Portfolio (Public Health Agency of Canada, Health Canada)***

- ▶ Establish contact with the National Health Portfolio Operations Centre.
- ▶ Liaise with the HECC.
- ▶ Liaise with PSRO and participate in regional FCC.
- ▶ Deploy liaison to the HECC and/or the PECC/CERRC.
- ▶ Activate the Regional Emergency Coordination Centre or alternate site to collate information and coordinate activities.

### ***Indigenous Services Canada (ISC)***

- ▶ Support communities in their response to emergencies on reserve in partnership with EMBC, FNHA, other federal and provincial departments and agencies.
- ▶ Provide funding for unmet emergency response and recovery needs eligible under the Emergency Management Assistance Program (EMAP).
- ▶ Coordinate across all ISC programming.

### ***Innovation Science and Economic Development Canada (ISED)***

- ▶ Liaise with telecommunications service providers to determine the impact on telecommunications in the affected areas and to provide situational awareness to ensure carriers can manage their network safely.
- ▶ Liaise with PSRO and PECC/CERRC to obtain situational awareness and keep both apprised of the state of telecommunications.
- ▶ Deploy liaison to the PECC/CERRC, if requested, to establish or support the CI Branch to coordinate the telecommunications planning and restoration activities between the telecommunications service providers and the PECC/CERRC. This would usually occur if the incident has a large and sustained impact on telecommunications services.
- ▶ Assist with cross-border coordination and prioritization of critical telecommunications goods or services if required.

### **Natural Resources Canada (NRCAN)**

- ▶ Using data continuously collected by the NRCAN-operated Canadian National Seismograph Network (CNSN), provide notifications of Canadian earthquakes to emergency measures organizations, CI operators, government agencies, media, and the public:
  - NRCAN notifications may be automated for earthquakes with magnitudes greater than magnitude 4.0 within range of the CNSN; and,
  - NRCAN notifications may also be initiated by Seismologists On Call following information requests, felt reports, or based on expert judgement.
- ▶ Establish contact with the PECC/CERRC through Seismologists On Call.
- ▶ Provide authoritative and objective scientific and technical information regarding earthquakes affecting Canada.
- ▶ If the event results in a national electricity emergency/energy supply disruption, monitor the situation, provide policy advice and technical information to relevant private and public-sector infrastructure operators, and First Nations, municipal, regional, provincial, territorial, and federal government organizations.
- ▶ Increase direct involvement if:
  - The emergency was in areas over which the federal government had jurisdiction;
  - Assistance was requested by the Province, which had already exercised its own emergency powers; or
  - A national emergency is declared via Order-in-Council (in extraordinary circumstances).
- ▶ Provide analysis and advice to departmental management on the potential use of fuel-related federal emergency legislation.
- ▶ Report on national market impact to oil and refined product supply.

### **Public Safety Canada**

- ▶ Activate the Pacific FCC to Level 3 – “Coordination of Federal Response.”
- ▶ Establish contact with the GOC.
- ▶ Deploy or assign a Liaison Officer to the PECC/CERRC.
- ▶ Establish contact with and convene the FCG to develop a COP and understand impacts to other government departments and their personnel, assets, and resources.
- ▶ Coordinate federal resources or activities, including surge capacity requirements, and RFAs in support of provincial or federal requirements (see Appendix G: Requests for Federal Assistance and Appendix H: Critical Resource List).

### **Transport Canada (TC)**

- ▶ Establish contact with critical transportation partners, PSRO, and key government partners to gather information, collaborate and support response activities as required.
- ▶ Activate the Regional Emergency Coordination Centre or alternate site to collate information and coordinate regional departmental response activities in support of the federal and provincial government responses.
- ▶ Report on the impacts to the Canadian transportation system.
- ▶ Provide subject matter expertise where necessary, to address transportation issues, as required.
- ▶ Implement existing authorities, or facilitate voluntary compliance, as required to restrict movement or issue exemptions as required regarding the movement of goods and services.
- ▶ Maintain TC critical services and address surge capacity needs.
- ▶ Consider TC assets (aircraft) to support initial response and recovery.
- ▶ Implement air space and marine traffic controls within the impact area.

### **Global Affairs Canada (GAC)**

- ▶ Facilitate and coordinate requests for assistance for capabilities sourced internationally, for example through the U.S. in coordination with the U.S. Department of State.
- ▶ Collaborate with and assist foreign embassies in Canada as/if requested by the country and/or consulate generals of the countries of origin of foreign travelers impacted by the earthquake.

## **Health Agencies**

### **Health Authorities**

- ▶ Establish contact with the HECC and PREOCs.
- ▶ Manage patient surge.
- ▶ Determine physical condition and operational capability of health facilities within the impact area.
- ▶ Evacuate facilities identified as unsafe, including:
  - Identify and prioritize patients/residents for evacuation/relocation;
  - Identify appropriate patient/resident destinations and establish pick-up/drop-off details with BC Ambulance Service (BCAS); and,
  - Work with BCEHS and the patient transfer network to move patients to designated evacuation assembly areas with relevant documentation.
- ▶ Establish appropriate alternative locations for the provision of care.
- ▶ Forward consolidated non-medical support requests to HECC including requests for supplies, equipment, engineering, utilities, and transport.

### **Office of the Provincial Health Officer**

- ▶ Expand public health services with an emphasis on sanitation, education, and disease prevention. Enhance radiological and toxicological services as required.

### **BC Emergency Health Services (EHS) and BC Patient Transfer Network**

- ▶ Establish contact with HECC, PREOC, and PECC/CERRC.
- ▶ Determine and prioritize the number of patients requiring evacuation and co-ordinate with HECC, PREOC and the Transportation Branch in the PECC/CERRC for transportation.

## **Critical Infrastructure Owners and Operators**

### **BC Hydro**

- ▶ Provide a liaison officer to the PECC/CERRC and PREOCs, as needed, to support the Cle Branch.
- ▶ Provide risk and impact assessments of BC Hydro infrastructure, status of outages, anticipated resource challenges and restoration priorities.
- ▶ Coordinate the restoration of electric facilities, taking into account domestic, commercial, industrial and government responsibilities.
- ▶ Interrupt hydro services when they pose a threat to life or property.
- ▶ Conduct safety measures with respect to BC Hydro dams, including initiating warnings in the event of dam failures.
- ▶ Liaise with PECC/CERRC for air reconnaissance flights.

**BC Oil and Gas Commission**

- ▶ Act as a liaison between industry operators and the provincial emergency management structure to provide situation updates related to threatened oil and gas assets.
- ▶ Assist the PECC/CERRC and PREOCs with fuel management plans.
- ▶ Establish liaison with oil and gas providers and coordinate situational awareness.
- ▶ Liaise with PECC/CERRC to gain access to/or provide air reconnaissance flights.

**BC Railway (BCR)**

- ▶ Activate the BCR Roberts Bank Terminal Emergency Procedures plan.
- ▶ Assess damage to railway CI on the BCR Port Subdivision portion of the Roberts Bank Rail Corridor.
- ▶ Establish contact, provide situational awareness and coordinate response with Roberts Bank Emergency Management Group organizations, Roberts Bank carrier railways, Technical Safety BC and PECC/CERRC.
- ▶ Coordinate repair of damaged infrastructure and clearing of debris that prevents movement of rolling stock on the BCR Port Subdivision.
- ▶ Provide support with connecting railways for CI damage assessment and repair.
- ▶ Provide rail traffic control services of the Roberts Bank Rail Corridor, ensuring priority dispatching of emergency personnel, equipment, and essential goods.
- ▶ Contribute expertise to the Rail Unit of the PECC/CERRC Transportation Branch to support planning and logistical efforts requiring rail industry expertise.

**BC Transit**

- ▶ Provide a liaison to the PECC/CERRC to support the Transportation Branch.
- ▶ Provide impact assessments of BC Transit systems and infrastructure.
- ▶ Coordinate requirements for response personnel and public transportation, including school and privately owned buses.

**Fortis BC**

- ▶ As available, provide a liaison officer to the PECC/CERRC and PREOC to support the CI Branch.
- ▶ Provide situational awareness of Fortis BC infrastructure including impact assessments, status of outages, anticipated resource challenges and restoration priorities.
- ▶ Liaise with PECC/CERRC for air reconnaissance flights.

**BC Ferries**

- ▶ Activate internal EOC to assess:
  - The immediate safety of employees, including ensuring timely and prioritized medical attention to those in need;
  - Key impacts to safely conducting/resuming operations on all or some of BC Ferries' routes, including terminal, jetty, and key route infrastructure assessments; and
  - Impacts to key linkages critical to maintaining operations, including fuel, supply chains, and crew availability.
- ▶ Connect with the PECC/CERRC Transportation Branch to provide assessment on capabilities, limitations and any impacts to operations.
- ▶ Be prepared to respond to requests for assistance from the Province that allow for continuation or resumption of services to connect customers and communities to the people and places needed to most effectively manage the emergency response and post-disaster recovery.

**TransLink**

- ▶ Provide a liaison officer to the Southwest (SWE) PEOC to support the Transportation Branch.
- ▶ Provide situational awareness of TransLink infrastructure and ability to deliver transit service, including impact assessments, anticipated resource challenges and restoration priorities.

**Vancouver (YVR) Airport Authority**

- ▶ Address immediate life-safety issues on Sea Island.
- ▶ Activate the YVR EOC.
- ▶ Assess operability of aircraft movement surfaces, dikes, pump houses, bridges, roadways, and structures.
- ▶ Establish contact with other agencies/partners, and with applicable regional EOCs, including the Air Unit of the PECC/CERRC Transportation Branch, SWE PEOC, and the federal GOC.
- ▶ Once YVR-specific functions have been assessed and properly resourced, determine how YVR can support the provincial response as a CI operator within the region.

**Vancouver Fraser Port Authority (VFPA)**

- ▶ Activate VFPA response plan to ensure the safety of employees and continuity of port operations.
- ▶ Assess impact to critical port infrastructure, including terminals, land routes, and rail routes.
- ▶ Provide situational awareness and coordination relating to navigational channels within port jurisdiction in conjunction with Marine Communication Traffic Services and other marine partners.
- ▶ Support of the continued movement of essential personnel, resources, and equipment through port facilities and jurisdiction.
- ▶ Connect critical emergency services with potential water movement resources, including barge and tow companies, for the movement of fuel and first responders.
- ▶ Establish contact with other agencies/partners, and with applicable regional EOCs, including the PECC/CERRC and SWE PEOC, to support the Marine Unit of the Transportation Branch.

**Telecommunications Providers (Telus, Rogers, Bell, Shaw, etc.)**

- ▶ Provide a liaison officer to the PECC/CERRC and PEOCs to support the CI Branch.
- ▶ Provide update on the status of telephone, cellular and other network infrastructure including impact assessments, status of outages, anticipated resource challenges, and restoration priorities.
- ▶ Liaise with PECC/CERRC Transportation Branch for air reconnaissance flights.

**Other Agencies and Crown Corporations****Technical Safety BC**

- ▶ Provide technical support including inspection and assessment services relating to the technical equipment and systems covered by the Safety Standards Act, including gas, electrical, elevating devices, boiler, and pressure vessel technologies.
- ▶ Liaise with local authorities that have delegated responsibility for gas and/or electrical under the Safety Standards Act.

**WorkSafeBC**

- ▶ Provide a liaison officer to the PECC/CERRC and/or PEOC(s) as a support for information sharing and guidance as related to site specific immediate, versus longer term (recovery) worker/workplace safety needs.
- ▶ Provide support to the provincial government in any immediate workplace safety needs or in support of return-to-work needs assessment.



### **Destination BC**

- ▶ Create provincial-level tourism messaging for both tourists and tourism businesses based on timely, specific information from official sources.
- ▶ Amplify messages through primary tourism channels including social media and local visitor centres.
- ▶ Provide ongoing, updated information to international tour companies about travel to B.C.

### **BC Housing**

- ▶ Establish and lead the Building Damage Assessment Branch at the PECC/CERRC.
  - Provide Post-Disaster Building Assessment training, assessment coordination, action plans, response/recovery priorities in collaboration with the Ministry of Citizens' Services for provincial government buildings.
  - Support at the Provincial level when the ability of the local authority or indigenous community to provide and coordinate their own building damage assessments has been exceeded.
- ▶ Provide Post-Disaster Building Assessment training, assessment coordination, action plans, response/recovery priorities, and authority to access and restrict access to provincial government housing property (i.e., BC Housing directly managed and non-profit housing providers).
- ▶ Support the Humanitarian Assistance Branch in the provision of shelter assistance by coordinating and deploying the provincial group lodging stockpile.

## **Regional Partnerships**

### ***Integrated Partnership for Regional Emergency Management Regional Decision Making for Emergencies***

For a catastrophic earthquake event affecting the Greater Vancouver region, the SWE PREOC, or any Chief Administrative Officers (CAO) in the Metro Vancouver Regional District can request the activation of the Integrated Partnership for Regional Emergency Management (IPREM) Regional Decision Making for Emergencies model if/when necessary. Roles and responsibilities of local authorities participating in this model include:

- ▶ Participate in conference calls coordinated by the SWE PREOC to share situational awareness, discuss a specific regional issue(s) and identify and discuss potential options for resolution.
- ▶ Provide further situational awareness from the local authority perspective that may change the recommended options presented and consult with SWE PREOC on a course of action that best meet the needs of the Greater Vancouver region.
- ▶ Make resources available to support a critical need in a neighboring jurisdiction, if required.



### **Regional Emergency Management Partnership Regional Concept of Operations**

For a catastrophic earthquake event affecting the Greater Victoria region, the Vancouver Island Coastal (VIC) PREOC or any CAO within the Capital Regional District can request the activation of the Regional Emergency Management Partnership (REMP) Concept of Operations decision-making model if/when necessary. Roles and responsibilities of local authorities participating in this model include:

- ▶ Participate in conference calls coordinated by the VIC PREOC to share situational awareness, discuss a specific regional issue(s) and identify and discuss potential options for resolution.
- ▶ Provide further situational awareness from the local authority perspective that may change the recommended options presented and consult with VIC PREOC on a course of action that best meet the needs of the Greater Victoria region.
- ▶ Make resources available to support a critical need in a neighboring jurisdiction, if required.

## **Mutual Aid Resources**

### **Canadian Red Cross Society**

- ▶ Provide a liaison officer to the PECC/CERRC.
- ▶ Provide information on the availability, capacity, module contents, potential configurations, and other specifications of ERU and FACT resources.
- ▶ Identify and allocate personnel and resources for strategic, operational, and technical coordination functions.
- ▶ Coordinate and execute ERU and FACT deployments into B.C., and/or identify barriers to deployment.
- ▶ Coordinate and distribute joint public messaging regarding ERU and FACT deployment.
- ▶ Act as a lead and portal with the International Red Cross and Federation on the acquisition of additional disaster response personnel and assets.

### **Government of Alberta**

- ▶ Establish contact with the PECC/CERRC and GOC via AEMA.
- ▶ Be prepared to assist the GOC in the mobilization and coordination of necessary personnel, goods, and/or transportation resources.
- ▶ Activate *Alberta Emergency Response Plan for a Catastrophic Earthquake in B.C.*

### **Integrated Disaster Council of BC**

- ▶ Establish contact with the PECC/CERRC to share information and address emergency management and humanitarian aid gaps and unmet needs.
- ▶ Mobilize resources and deliver services according to each member organization's respective roles and mandates.
- ▶ Ensure information is clearly communicated and shared between service agencies, those receiving assistance, and the PECC/CERRC.
- ▶ Provide support for First Nations governments, local authorities, and agencies in the delivery of services.
- ▶ Work with NGOs, government, and private industry to assess and meet personal and community recovery needs.

### ***Pacific Northwest Emergency Management Arrangement (PNEMA)***

- ▶ Coordinate cross-border mutual disaster preparedness, response, and recovery among the member jurisdictions – States of Alaska, Idaho, Oregon, and Washington, Yukon Territory, and Province of B.C. – via the PNEMA.
- ▶ Provide interjurisdiction mutual aid following request for assistance from PECC/CERRC.
- ▶ Coordinate with other member jurisdictions on behalf of PECC/CERRC.
- ▶ Arrange for mobilization and deployment of Mutual Aid Branch to PECC/CERRC.
- ▶ Assist PECC/CERRC in requesting resources.
- ▶ Seek alternative solutions to secure the needed resource.
- ▶ Document offers of assistance in response to specific requests in order as received.
- ▶ Integrate activities with the PECC/CERRC organizational procedures.
- ▶ Monitor and assist PNEMA personnel deployed from other jurisdictions, providing logistical and technical support as requested.
- ▶ Document and track resources/missions requested and assigned.
- ▶ Facilitate the movement of evacuees, civil emergency personnel, equipment, or other resources into or across its territory, or to a designated staging area.
- ▶ Ensure that residents of B.C. are provided emergency health services and emergency support services in a manner no less favourable than that provided to the receiving member jurisdiction's own citizens.

### ***Emergency Management Mutual Aid Arrangement (EMMA)***

- ▶ Establish communication with PECC/CERRC following request for assistance.
- ▶ Coordinate and facilitate the provision of assistance from the other Canadian Council of Emergency Management Organizations members in accordance with the EMMA Standard Operating Procedures.
- ▶ Coordinate with Public Safety Canada regarding any federal assistance being provided.
- ▶ Establish and test capability to communicate with other EMMA-POCs.
- ▶ Arrange for travel, transportation, and enroute accommodations for personnel deploying to the PECC/CERRC.
- ▶ Monitor the status of deployed EMMA personnel and or resources and provide logistical and technical support.



## Introduction

Effective response to any emergency event is predicated on situational awareness, or having a clear understanding of what has and is occurring in relation to an event. All decision-makers and emergency management partners need situational awareness to make risk-informed decisions. As a catastrophic earthquake will cause extensive damage across a substantial geographic area and is anticipated to impact telecommunication networks, developing situational awareness will be challenging and resource intensive. To support the development of situational awareness, Critical Information Requirements (CIRs) have been developed and are included in Appendix I: Critical Information Requirements. CIRs help focus information-gathering and information-sharing efforts to answer key questions, including:

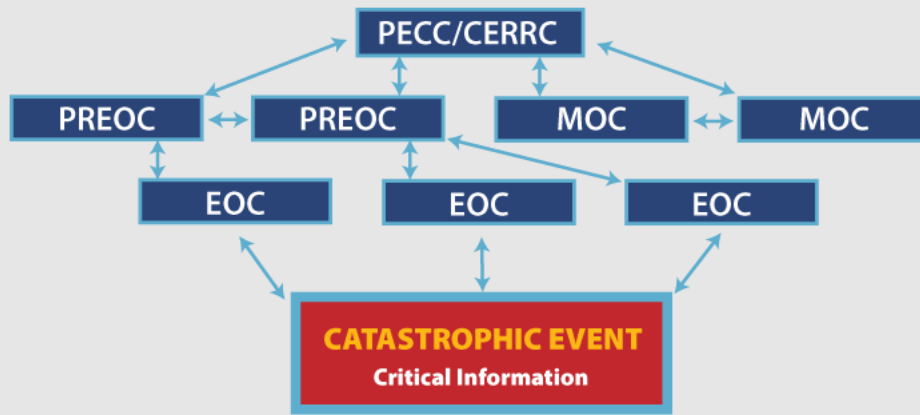
- What happened?
- Where is the earthquake's epicentre?
- What was the earthquake's magnitude?
- What is the extent and severity of damage?
- Which communities are affected?
- How many people are affected and how have they been affected?
- What groups of people are impacted differently or have unique needs?
- How have local first responders and emergency management organizations been impacted?
- What Critical Infrastructure is affected?

Gathering, sharing, and reporting critical information will require a “whole-of-society” and “whole-of-government” effort from all emergency management partners, including First Nations, local authorities, provincial agencies, and federal departments, as well as non-governmental organizations (NGOs) and Critical Infrastructure (CI) owners and operators. All partners are encouraged to review CIRs prior to an event and develop procedures to gather, share, and report critical information.

## Situational Reporting

Reporting on critical information generally flows from the site-level to the local emergency operations centre (EOC), Provincial Regional Emergency Operations Centre (PREOC), and Provincial Emergency Coordination Centre (PECC) or Catastrophic Emergency Response and Recovery Centre (CERRC) respectively and vice-versa (see Figure 7). Situational awareness is developed through communication and collaboration between governments and other partners through mechanisms such as coordination calls and situation reports. This situational awareness is then shared throughout the provincial emergency management structure and with other emergency management partners such as First Nations, local authorities, and provincial ministries, and contributes to overall provincial situational awareness.

**The PREOC and PECC/CERRC may also initiate and facilitate conference calls or coordination calls for the purpose of sharing information with emergency management partners. Partners are encouraged to dial in and share information to develop and maintain a collective understanding.**



A catastrophic event will likely impact several jurisdictions involving multiple EOCs/MOCs

Figure 7– Critical information flow

## Communication Methods

Normal communication channels used during routine operations, such as telephone (landline/cellular) and networks (email/VoIP (Voice over Internet Protocol)), should be used during a catastrophic event if operable. If normal communication channels are degraded or disrupted, it will be necessary to use alternative communication mechanisms such as satellite, commercial radio or amateur radio. Appendix K: Agency Communication and Telecommunication Procedures prioritizes communication mechanisms and designates the order for use during a catastrophic event.

EMBC, through the Provincial Emergency Radio Communications Service (PERCS), has aligned with many amateur radio organizations across the province, and has installed amateur radio equipment at each PREOC. A volunteer team of radio operators supports each PREOC and many EOCs across the province; however, some regions have a limited number of radio operators.

## Mapping and Geographical Information

Some critical information has geographical context and needs to be analyzed in relation to nearby geographical features. EMBC, in partnership with GeoBC, developed the Common Operating Picture (COP), an online mapping and analysis tool with numerous data layers that represent geographic features. The COP can be utilized to develop situational awareness and as a central location where all partners can upload, view, and analyze critical information.

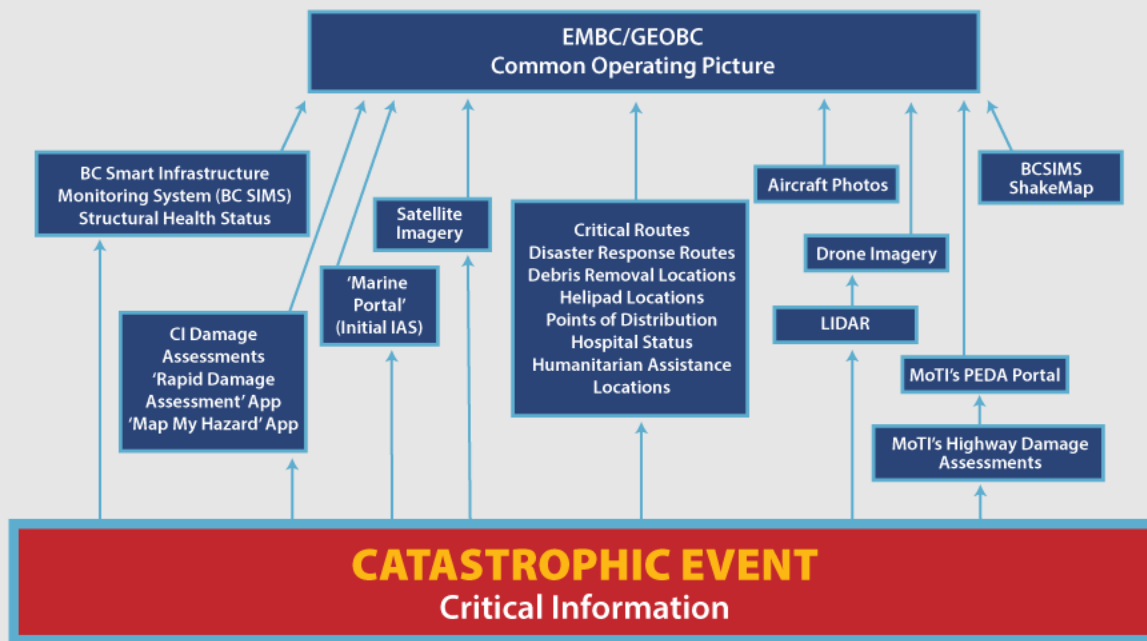
All partners are encouraged to upload any relevant event photographs and damage-assessment information into the COP. GeoBC developed two mobile solutions to support collecting and uploading damage assessment information into the COP. The “Map My Hazard” App was developed to conduct “windshield” damage assessments. The “Rapid Damage Assessment” App was developed for conducting building damage assessments. More information for both solutions can be found on the COP.

Access the COP online here: [Common Operating Picture](#).

Please contact the appropriate EMBC regional office for username and password; see Appendix F: EMBC Regional Offices and Contact Information.

When the PEIRS is activated, EMBC will contact Public Safety Canada and submit a “Request for Surveillance” through a Request for Assistance; see Appendix G: Requests for Federal Assistance (RFA). Public Safety Canada’s Government Operations Centre (GOC) will mobilize appropriate resources to help determine the extent and severity of damage. Resources may include fixed-wing aircraft, satellites, and other remote-sensing systems. Once the photos and/or imagery is processed, GeoBC will upload these products into the COP.

The overall goal is for all partners to add all relevant information to the COP to develop shared situational awareness; partners may also use information in the COP to inform decision-making and operations. Figure 8 below is an example that illustrates how the COP will be used during a catastrophic event.



*Figure 8: Common Operating Picture*

## Social Media

The PECC/CERRC may mobilize an Intelligence Branch to collect information to help inform decision-makers and enhance situation awareness. The Intelligence Branch may also integrate a Social Media Unit. A Social Media Unit would actively monitor a variety of social-media platforms to collect information such as photographs showing damage and reports on critical needs. Once information is validated and georeferenced, key information may be uploaded into the COP for emergency management partners to access as needed.

This Social Media Unit, which is focused on gathering information to support situational awareness, has a different function from the Joint Information Centre (JIC), which distributes consistent, coordinated, and reliable information via social media. See Section 10: Strategic Communications for additional information about the role of the JIC.

**It is important to review and follow current government guidelines on social media use to manage information collected from social media appropriately.**



## Introduction

Humanitarian assistance is aid that seeks to save lives and alleviate the suffering of a crisis-affected population. Following a catastrophic earthquake, humanitarian assistance will include shelter, food, emergency supplies, reunification, information, childcare, and provision of psychosocial, emotional, cultural, and spiritual supports. This has previously been referred to as “mass care.”

Following a catastrophic earthquake, damage to homes, buildings, supply chains, and transportation and communication networks will create significant needs within communities. While many individuals and families will be able to shelter in their homes or yards, tens of thousands of people will need to leave their homes and properties and require emergency shelter within impacted communities. Additionally, people who are able to shelter in their homes and properties may not have access to water, sanitation, food, first aid, or information. Communities may be cut off from essential services, even if they experience fewer initial structural impacts.

**During a disaster, local and provincial government resources will be overwhelmed. In such an event, one’s family and neighbours are likely to be the only available first responders. While people living in B.C. should be prepared to be without formal government support for a minimum of 72 hours, people living in an earthquake zone should aim to be self-sufficient for up to two weeks. Prepared neighbourhoods, families, and individuals will reduce pressure on overwhelmed government agencies and allow available resources to go where they are most needed.**

## Distinctions between Humanitarian Assistance and Emergency Support Services

In B.C., the [Emergency Support Services](#) (ESS) program provides short-term basic support to people impacted by disasters. ESS is delivered by local emergency programs and is designed to provide up to 72 hours of support to individuals and families displaced from their homes. ESS Level 3 is defined as a major emergency that exceeds local capacity to respond and requires assistance from neighbouring jurisdictions. While the provision of humanitarian assistance services will flow from the existing ESS model, the ESS program is not designed for the scope and scale of services required after a catastrophic earthquake. The humanitarian assistance required following a catastrophic earthquake will exceed the capability and mandate of ESS programs due to the scope and duration of supports required. In the immediate response phase, humanitarian assistance will be provided broadly without a registration or referral system in place. Multiple governments, non-governmental organizations (NGOs), and other agencies will need to come together to provide a coordinated response.

Communities that have ESS mobilization plans for major earthquakes should activate these plans and deploy staff and volunteers based on established procedures or direction from their local emergency operations centre (EOC). Trained and experienced ESS providers around the province will be an important source of personnel to staff various humanitarian assistance functions.

Provincial Regional Emergency Operations Centres (PREOCs) and the Provincial Emergency Coordination Centre (PECC) or Catastrophic Emergency Response and Recovery Centre (CERRC) will establish a Humanitarian Assistance Branch as needed. Provincial working groups may also be established to coordinate and integrate various humanitarian assistance functions. It is recommended that First Nations and local authorities create a position within their EOCs that serves a parallel function as soon as possible.

## Core Principles and Key Functions of Humanitarian Assistance

Humanitarian assistance is defined as “aid that seeks to save lives and alleviate suffering of a crisis affected population.”<sup>5</sup> Assistance should align with [Core Humanitarian Standards](#) and [Sphere’s Humanitarian Charter and Minimum Standards in Humanitarian Response](#), which centre communities and people impacted by disasters<sup>6</sup>. The provision of humanitarian assistance and relief services involving Indigenous Peoples must be culturally safe and respect First Nations’ inherent right to self-governance and self-determination.

Although not all humanitarian assistance services need to be centralized into one or multiple key locations, there are three groupings which should be co-located when practical and possible. In addition to these three groupings, services and essential goods may require direct distribution within the impact zone for those unable to access distribution sites/facilities.

*Figure 9– Co-location of humanitarian assistance services.*

Humanitarian Assistance Sites	Key Services/Functions
<p style="text-align: center;"><b>1.</b> <b>COMMUNITY POINTS OF DISTRIBUTION (CPODS)</b></p>	<ul style="list-style-type: none"> <li>▶ Distribution of food, water, and non-food items</li> </ul>
<p style="text-align: center;"><b>2.</b> <b>RECEPTION AND INFORMATION SITES</b></p>	<ul style="list-style-type: none"> <li>▶ Information</li> <li>▶ Family reunification</li> <li>▶ Psychosocial, emotional, cultural, and spiritual supports</li> <li>▶ Language interpretation</li> <li>▶ First aid and health liaison</li> <li>▶ Child friendly spaces/care and protection of children and youth</li> <li>▶ Convergent volunteer coordination information</li> </ul>
<p style="text-align: center;"><b>3.</b> <b>SHELTER SITES</b></p>	<ul style="list-style-type: none"> <li>▶ Tent camps in fields and other open areas</li> <li>▶ Group lodging in buildings assessed as safe</li> <li>▶ Transportation to shelter sites</li> <li>▶ Mobile sanitation facilities</li> <li>▶ Childcare</li> <li>▶ Pets and domestic animals</li> </ul>

<sup>5</sup> <https://www.who.int/hac/about/reliefweb-aug2008.pdf>

<sup>6</sup> <https://corehumanitarianstandard.org/the-standard>

## LOCATIONS OF HUMANITARIAN ASSISTANCE SITES

The location of CPODs, shelter, and information sites will vary by community and should consider:

- Whether buildings have been assessed as safe and habitable;
- Organic gathering places in communities;
- Ability to accept shipments of goods;
- The amount of space available to operate safely;
- The location of those most impacted by the event, and/or areas best suited to support localized evacuations;
- Spaces where groups who may be vulnerable already congregate, such locations of community service organizations; and
- Proximity to medical facilities, such as hospitals, and other critical services, such as water distribution infrastructure.

## Coordination of Humanitarian Assistance Over Time

The coordination of humanitarian assistance will evolve from limited coordination to full coordination as the response progresses. The following provides an overview of the response concept. More detail is provided in Figure 10.

First Nations and local authorities will have varying levels of capacity to respond and coordinate humanitarian assistance, and will re-establish their capacity to coordinate the local response at varying times within the immediate and sustained response timeframe. The Province will be required to shift between a proactive and reactive community support model throughout the response.

### IMMEDIATE RESPONSE – LIMITED COORDINATION

A “whole-of-society” response, with neighbour helping neighbour, will prove critical in the first days following a catastrophic earthquake. Spontaneous assistance will be provided by individuals, neighbours, and community-based organizations and are unlikely to be coordinated by government agencies. First responders and local response agencies will activate and begin rescue and relief efforts as soon as possible after the event. Self-organizing support networks will also likely emerge following the event. Impacted First Nations and local authorities will likely be overwhelmed and will have limited capacity to mobilize resources immediately, and all governments will require time to organize themselves while staff attend to personal needs and begin to deploy. The Province will begin to proactively provide supplies and personnel, and coordinate with available NGOs in the impact area based on anticipated needs, although situational awareness will be limited.

### IMMEDIATE RESPONSE – EARLY COORDINATION

As response activities are mobilized by all governments, multiple government agencies and NGOs will begin to set up CPODs, shelter sites, and information sites in the impact area. Local capacity may still be overwhelmed, and the Province will need to take a proactive role in coordinating supports for site-level response, supporting and providing resources to community-led sites as well as standing up large-scale site-level responses. The provision of humanitarian assistance will remain a shared responsibility, and the coordination of sites will vary within and between communities.

Several scenarios will emerge simultaneously:

- 1.** Community-led CPODs and shelter sites with provincial support;
- 2.** Provincial-led CPODs, shelter, and information sites; and/or
- 3.** Community-led CPODs and shelter sites that are self-sustaining.

Where capacity exists, sites should be coordinated by First Nations and local authorities. Resources to support these sites can be requested and supported through PREOCs. The Province may establish provincially-run CPODs and shelter sites, with the support of federal assistance. Ad-hoc, community-run CPODs and shelter sites are likely to emerge; these sites will be integrated into the official response and supported with provincial resources over time and as required. It is anticipated that some CPODs and shelter sites run by community groups will be self-sustaining through established social networks. As the transition to sustained response occurs, CPODs and shelter sites should be fully established and integrated into logistics activities within the broader response structure. They should also establish routine operations and follow any standard operating procedures that are available.

As soon as possible during the immediate response phase, PREOCs and the PECC/CERRC will partner with local EOCs to undertake rapid community needs assessments to identify the distinct needs of various groups, including equity-seeking groups, and to ensure humanitarian services are appropriate. Community-based organizations providing services to populations who may be vulnerable should be engaged in this assessment.

### **SUSTAINED RESPONSE – FULL COORDINATION**

As First Nations and local authorities regain capacity, needs are assessed, and situational awareness increases, the coordination of humanitarian assistance sites will be transferred to First Nations and local authorities. It is expected that this will take place gradually and that the Province, NGOs, and other agencies may continue to operate and/or support some sites. Local EOCs will assess gaps in services, and the PECC/CERRC will coordinate NGOs, contractors, and other surge supports to address gaps.

Moving into sustained response phase, a provincial registration system will be established to register impacted people, begin individualized assessments of needs, and provide targeted supports.





Figure 10– Coordination of Humanitarian Assistance Over Time

Phase	Coordination Level Characteristics	Key Activities
<p><b>Immediate Response</b></p>	<p><b>Limited Coordination</b></p> <ul style="list-style-type: none"> <li>Local capacity overwhelmed with limited capacity to coordinate response</li> <li>Spontaneous assistance and self-organizing networks emerge</li> <li>First responders and local response agencies activate</li> <li>CPODs and shelter sites begin to emerge organically without official coordination</li> <li>No system and/or multiple independent systems will be established</li> <li>Limited situational awareness of needs and/or capacities</li> <li>Limited ability to prioritize resources</li> <li>Urban Indigenous and off-reserve populations may begin to gather at Indigenous organizations and gathering places, such as local Friendship Centres, as they are familiar and culturally safe places</li> </ul>	<ul style="list-style-type: none"> <li>Individuals and families activate personal emergency plans</li> <li>EOCs and PREOCs identify CPOD locations and shelter sites</li> <li>PECC/CERRC and PREOCs proactively begin to push emergency supplies to staging areas and CPODs</li> <li>Rapid damage assessment teams mobilized</li> <li>Rapid community needs assessments are initiated</li> </ul>
<p><b>Immediate Response</b></p>	<p><b>Early Coordination</b></p> <ul style="list-style-type: none"> <li>Local capacity is limited and varies across and between communities</li> <li>Multiple government agencies and NGOs respond</li> <li>Provincial support is proactively provided</li> <li>Needs and capacities are assessed, reported, and shared</li> <li>Situational awareness increases</li> <li>Reception/information sites established</li> <li>CPODs and shelter sites brought into the provincial response and become more routine, following standard operating procedures where available</li> <li>Rapid damage assessment complete and sites for indoor group lodging identified</li> </ul>	<ul style="list-style-type: none"> <li>Confirm location and leads of all CPODs, shelter, and information sites</li> <li>EOCs and PREOCs establish coordinated structure and staffing; regional or shared local EOCs may be considered</li> <li>Conduct gap analysis of site location and distribution</li> <li>Establish standard protocols and guidance for the operation of CPODs and shelter sites</li> <li>Consistent information content and guidance created and pushed into communities</li> <li>Reception/information sites set up at CPODs</li> <li>Plan for shelter transition to culturally safe indoor group lodging</li> </ul>
<p><b>Sustained Response</b></p>	<p><b>Full Coordination</b></p> <ul style="list-style-type: none"> <li>First Nations and local authorities begin to re-gain capacity and coordinate humanitarian assistance sites</li> <li>Full situational awareness on status of CPODs and shelter sites</li> <li>CPODs and shelter sites are linked into logistics systems</li> <li>Surge capacity deployed</li> </ul>	<ul style="list-style-type: none"> <li>Province transitions site-level coordination to First Nations and local authorities and continues coordinating the distribution of goods from staging areas to CPODs</li> <li>PECC/CERRC coordinates deployment of ESS teams, NGOs, and contractors to CPODs, shelter, and information sites</li> <li>PECC/CERRC partners with Indigenous support organizations to provide support to CPODs, shelter, and information sites</li> <li>Registration system activated</li> <li>Post-disaster needs assessments initiated</li> <li>Interim housing plans developed</li> </ul>

## Additional Considerations

### HUMANITARIAN ASSISTANCE FOR FIRST NATIONS AND INDIGENOUS PEOPLES

The Province has committed to provide culturally safe humanitarian assistance and relief services to assist First Nations and Indigenous Peoples following a catastrophic earthquake. Examples of these commitments include, but are not limited to:

- Respecting inherent rights to self-governance and self-determination as protected Indigenous rights under Section 35 of the federal Constitution Act;
- Recognizing that First Nations are the experts for their communities, provincial and federal agencies and other partners must make every effort to provide support and relief services as determined by the First Nation as per their constitutionally protected Indigenous rights;
- Respecting agreements First Nations may have with other partners to provide culturally appropriate assistance;
- Reflecting on lessons learned that document racism, discrimination, and culturally inappropriate and unsafe practices occurring at provincially operated and funded evacuation centres, and immediately addressing any further occurrences;
- Ensuring culturally safe environments that foster the health and well-being of Indigenous Peoples living in urban settings. Approximately 80-85% of Indigenous Peoples in B.C. do not live in a First Nation or on reserve;
- Recognizing that there is great diversity among Indigenous Peoples in B.C., including those who live both on- and off-reserve, who have substantially different cultural and spiritual histories and needs, and who may experience intersecting and compounding vulnerabilities, and that humanitarian assistance needs to be flexible to adapt to and address this diversity;
- Coordinating and collaborating government-to-government to determine whether alternative arrangements to provide humanitarian assistance for First Nations and Indigenous Peoples may be needed; and
- Ensuring culturally safe environments that foster the health and well-being First Nations and Indigenous Peoples in partnership with Indigenous support organizations, such as the First Nations Health Authority (FNHA), the First Nations Emergency Services Society (FNESS), and the BC Association of Aboriginal Friendship Centres (BCA AFC), to support both urban and non-urban Indigenous populations.

### GBA+ CONSIDERATIONS

Applying a GBA+ lens to the provision of humanitarian assistance is particularly important as service delivery directly intersects with and is a key determinant of vulnerability. Emergencies are known to have a disproportionate impact on populations who may be vulnerable, and humanitarian assistance should be delivered in a manner that seeks to reduce rather than exacerbate vulnerability. Examples of GBA+ considerations in delivering humanitarian assistance include, but are not limited to:

- All services need to be provided in a trauma-informed manner that supports the wellbeing of all recipients, which includes leveraging existing community services and networks to both understand the diversity of needs present and how to create safe spaces for service delivery;
- Additional security may be required in locations where humanitarian assistance is being provided to protect against abuse, assault, harassment, and human trafficking;
- There will be individuals and groups who will not be able to access CPODs, reception, and shelter sites either due to physical barriers to accessibility or for other safety reasons, such as the risk of encountering abusers for those fleeing intimate partner or familial violence;



- All functions need to consider how to mobilize people to transport supplies, either on foot or by vehicle, provide information, and identify the needs of people with disabilities or other groups who may be marginalized and who service providers may experience difficulty in reaching through standard communication channels;
- Specialized services may need to be established for people with substance dependencies, including safe supply services, safe injection sites and related health protections, and services and spaces that safely accommodate those who are actively under the influence of substances;
- Those most in need of services will likely be most inhibited in accessing services for a range of reasons. Services should be provided to vulnerable communities in a way which actively overcomes barriers rather than delivered through an access-by-request model;
- Provincial, federal, First Nations, and local authority support will need to be targeted towards those who are more likely to live in homes which become uninhabitable, those who have fewer social networks to receive support from friends and family, and those who have complex needs. These groups may include Indigenous Peoples living in urban environments, unaccompanied minors, newcomers, tourists, low-income individuals and families, people with disabilities or mental health considerations, seniors, and people who are gender diverse;
- All services must be inclusive, safe, and welcoming spaces for people with varying ethnic, racial, cultural, religious, socio-economic, sexual, and gender identities; and
- Multiple modes for communicating about humanitarian assistance should be used, including using a variety of communication mediums and platforms, and distributing public messages in multiple languages as well as in braille, large-font, and ways that are compatible with text readers for those with visual impairments.

### **PETS AND DOMESTIC ANIMALS**

All local, regional, and provincially-coordinated humanitarian assistance sites, particularly those providing shelter, will need to consider how to accommodate and provide care for pets and domestic animals. This may require coordination with local veterinary and animal care service providers. Local EOCs may also need to partner with appropriate organizations supporting animals to ensure hobby farm animals are accommodated.



## Introduction

Critical infrastructure (CI) refers to processes, systems, facilities, technologies, networks, assets, and services essential to the health, safety, security, or economic well-being of people and the effective functioning of government. CI can be stand-alone or interconnected and interdependent within and across provinces, territories, and national borders; CI components can also be publicly or privately owned and operated. Disruptions to CI could result in loss of life, human suffering, adverse economic effects, and significant harm to public confidence.

Nationally and in British Columbia, CI is classified by ten sectors with corresponding sub-sectors:

SECTOR	SUB-SECTOR
Energy Utilities	Electricity; Petroleum and Crude Oil; Natural Gas; Other
Communications	Telecommunications; Radio; Broadcasting; Satellite
Transportation	Rail; Road; Marine; Air
Water	Potable Water; Wastewater; Dams; Dikes
Health	Critical Care; Extended Care; Blood/Organ Facilities; Pharmaceutical Facilities
Safety	Police/Law Enforcement; Fire; Ambulance; Emergency Management
Government	Federal; Provincial; First Nations; Local Authority
Food	Farming/Production; Processing/Packaging; Storage/Distribution
Finance	Banking/Financial Institutions; Securities/Investments; Point of Sale/ATM Machines
Manufacturing	Defense Industrial Base Manufacturing; Critical Manufacturing

*Figure 11 – CI sectors and sub-sectors*

Each of these ten sectors has its own set of CI owners and operators, regulatory regimes, and unique emergency management considerations. Interdependencies between and across sectors adds another layer of complexity to the landscape of CI, and this contributes to the importance of sharing information across sectors before, during, and after emergencies. For example, fire rescue services are dependent on water supply, fuel, passable roads, and a functional dispatch system to support overall coordination. Sharing information across CI sectors allows for key interdependencies to be identified and considered in further operational and planning actions.

## Roles and Responsibilities of Critical Infrastructure Owners and Operators

Prior to any emergency, all CI owners and operators, including government owners and operators, should identify mission critical systems for their CI, particularly those that are significant for public safety and emergency management efforts. CI owners and operators should consider these mission critical systems in their emergency management and business continuity plans (BCPs) to ensure that appropriate procedures are in place to mitigate disruptions to critical services, and that the resources necessary to enable sustained operations have been considered.

Immediately following a catastrophic earthquake, CI owners and operators have the following roles and responsibilities:

- Conduct rapid and detailed assessments to identify:
  - Immediate public safety hazards in relation to damaged CI;
  - The extent of damage to CI and the resources/time required for restoration; and,
  - The consequences of loss related to impacted CI, including any critical service losses.
- Report any immediate public safety concerns to the appropriate authorities.
- Where possible, mitigate further public safety hazards and secondary impacts to CI.
- Establish contact with the appropriate PREOC, and PECC/CERRC if CI disruptions appear province-wide, to:
  - Obtain and share information contributing to situational awareness, including the results of the rapid and detailed assessments of CI (see Appendix I: Critical Information Requirements, for key information to develop situational awareness);
  - Rapid damage assessments may be collected via mobile app and uploaded into the Province's Common Operating Picture (COP);
  - Advise of any immediate resource needs and resources that may be available to support other impacted parties;
  - Provide any further critical information, such as whether any communities or population groups are disproportionately impacted by certain disruptions and what those impacts are (e.g., inability for a neighbourhood to access community points of distribution (CPODs) or humanitarian assistance; inability for a community to communicate using landlines or cellular phones); and,
  - Provide updates on which communities and areas are impacted by the disruption.
- Commence restoration activities.
- Consolidate personnel and equipment required to safely conduct prolonged activation.
- Continue to reassess CI and report updates to the PREOC and PECC/CERRC.



## Critical Infrastructure Coordination

Coordination of CI activities are facilitated provincially in the PECC/CERRC through a CI Branch. PREOCs may also mobilize a CI Branch to enhance coordination efforts and to focus on specific regional issues. Both branches may be mobilized during the immediate response phase to facilitate coordination calls for CI owners and operators and to develop situational awareness.

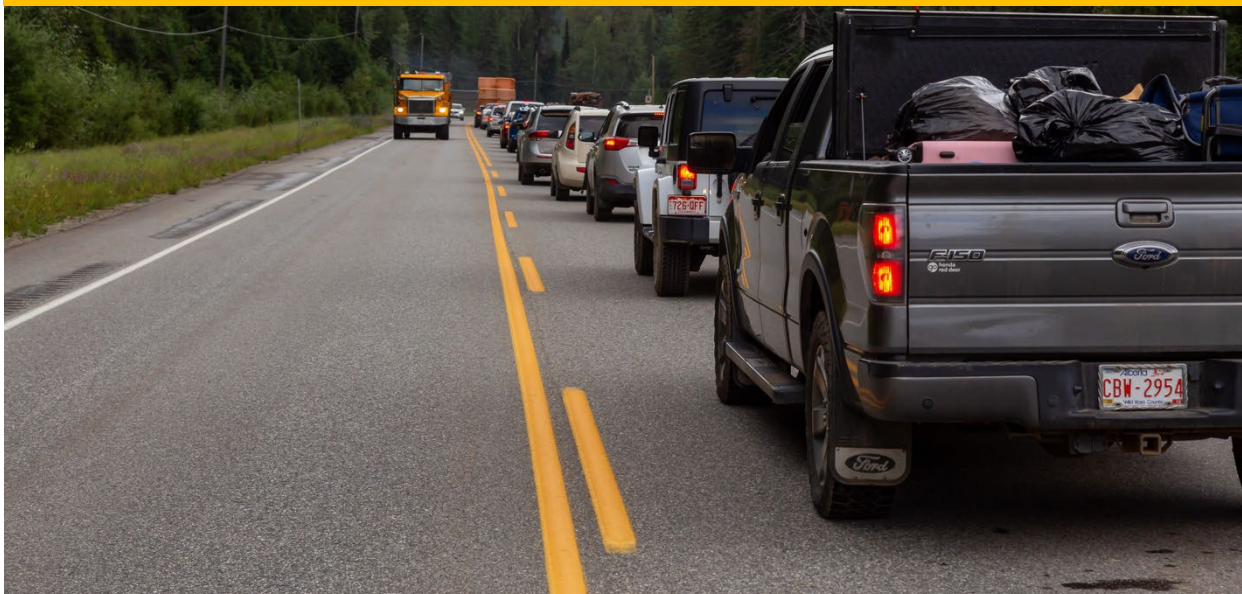
It is important to establish communication early to develop situational awareness. To support coordination and the sharing of information, a variety of tools may be used, including CI coordination calls, consolidated situation reports, the COP, and bilateral outreach. Information shared using these mediums may be limited in the initial aftermath of the event, but should become more fulsome as the event unfolds.

## Critical Infrastructure Restoration

As CI owners and operators are conducting damage assessments, the CI Branches in both the PECC/CERRC and PREOC will gather and consolidate CI information. Information collected includes CI impacts, affected communities, issues, consequences, needs, CI objectives, and anticipated timelines for restoration with current resources. The summary produced through these efforts may be utilized to help prioritize restoration and resource allocation as a catastrophic event will likely involve extensive damage. Prioritizing restoration will likely involve decision-makers depending on immediate needs.

As a guideline, CI restoration and resource allocation should be based on the [BC Emergency Management System \(BCEMS\) response goals](#); see Appendix C: BCEMS for additional information about these goals. BCEMS response goals are listed in order of priority and are meant to guide decision makers in prioritizing response efforts. Restoration of CI that ensures the well-being of responders and supports lifesaving and life-sustaining activities has priority. As time permits and resources are made available, restoration of non-critical assets, goods, and services within each CI sector will be addressed.

**It is important to include First Nations and local authorities in discussions about CI restoration and resource allocation. Community leadership needs this information to make informed decisions involving response actions, and can provide valuable situational awareness and information about immediate needs to inform decision-making.**



## Introduction

The logistics response to a catastrophic earthquake in B.C. encompasses the procurement, staging, movement, distribution, and tracking of critical resources with two main objectives:

- Maintaining the supply of critical resources to communities and critical organizations to adequately meet BC Emergency Management System (BCEMS) response goals, primarily sustaining human life. See Appendix C: BCEMS for additional information about BCEMS; and
- Sustaining the response effort.

The logistics response to meet these objectives requires whole-of-society support, including provincial ministries, federal departments, First Nations, local authorities, industry and the private sector, non-governmental organizations (NGOs), and crown corporations.

A catastrophic earthquake, particularly impacting Greater Vancouver, will affect the supply chains that support the distribution of goods to other parts of the province and the country, potentially causing shortages of critical resources both inside and outside the impact area.

In the immediate response phase, the logistics response will be focused on the temporary provision of critical resources to the impact area and communities isolated by the event. Critical resources include, but are not limited to, food, water, personnel, shelter, and medical supplies. Fuel also holds a unique position as a critical resource due to its requirement in the distribution of all other supplies, first responder activities, and enabling functionality of certain impacted facilities and infrastructure that rely on generators. While the immediate response will not achieve the restoration of supply chains, coordination with industry and Critical Infrastructure (CI) partners to begin restoration and the establishment of temporary supply arrangements will commence as soon as possible after the initial event.

The following three sections will further outline the overall logistics response:

- **ACQUISITION** – identifying how to acquire critical resources;
- **MULTIMODAL TRANSPORTATION** – outlining how and through which means critical resources will move throughout the province; and
- **STAGING AREAS** – outlining the organization and tracking of critical resources' movement through control and distribution points.

The Provincial Emergency Coordination Centre (PECC) or Catastrophic Emergency Response and Recovery Centre (CERRC) will take a coordination role in each of the three aspects of logistics response mentioned above, including prioritizing the movement of critical resources.

The continuity of health services and the supplies and resources necessary to maintain these services will be coordinated by the health sector. However, the distribution of those resources will likely require provincial coordination during a catastrophic event. Provincial leadership will be critical to ensure health sector resources are coordinated efficiently.

Under the Federal Emergency Response Plan (FERP), Public Safety Canada is the primary department for Emergency Support Function (ESF) 11 – Logistics Operations Management, which is responsible for preventing the duplication of response efforts by government and non-government organizations. Key requirements of this function include:

- **CAPACITY** to conduct large-scale logistical operations that can integrate and supplement provincial/territorial/local logistical systems by leveraging resources within both the public and private sector. This includes a location to strategically stage federal assets in advance of, or as part of, a Request for Assistance (RFA).
- **CAPABILITY** to identify, dispatch, mobilize, and demobilize, and to accurately track and record available critical resources.
- **ALIGNMENT** with provincial, regional, and local staging areas.
- **FUNCTIONS** by utilizing a multi-modal approach (air, marine, rail, ground).

The Government Operations Centre (GOC) currently carries out these functions through provision of interdepartmental coordination aiming at defining requirements from requesting organizations, identification of sources of assets from federal entities from existing stockpiles or through procurement, and coordination of transport and delivery.

## Acquisition

The acquisition of critical resources will require flexibility and the engagement of multiple partners to ensure needs are being met effectively. Stocks of critical supplies in B.C. are not centralized but rather situated in locations throughout the province and owned by bodies including provincial ministries, federal departments, First Nations, local authorities, NGOs, and other public and private entities. Just-in-time resourcing also creates reliance on national and international supply chains.

In the initial days after an earthquake, affected communities may independently obtain critical resources through various means:

- Without being prompted, some community groups, NGOs, businesses, and agencies will offer to donate goods and supplies directly to communities. Impacts to transportation routes will affect the distribution of donations within the province, but some local agencies within the impact area will be able to reach affected populations.
- Immediately after the event, communities will self-activate and support each other prior to receiving direction from government; neighbours will share goods and supplies with one another. Local sources of supply, including grocery stores and warehousing facilities, will make resources available if possible.
- Once regular communication is established, regional collaboration will occur. Communities outside of the impact area are anticipated to support communities within the impact area.
- Household-level preparedness will support readiness for an earthquake but will vary based on a range of factors. For example, those with lower incomes may be less likely to have stocks of food and water available.

Understanding the critical, time-sensitive needs of impacted populations, a proactive approach to mobilizing and distributing resources will be required provincially. This consists of the expedited and unprompted delivery of critical supplies directly into communities. The Province will immediately take steps to coordinate the flow of critical resources to impacted communities.



The PECC/CERRC will support acquisition of critical resources specifically by:

- Understanding gaps in communities' supply of critical resources;
- Supporting the Ministry of Citizens' Services in the identification of supplies to fulfill critical resource needs;
- Submitting requests for assistance to other governments, NGOs, and external agencies;
- Supporting the Ministry of Citizens' Services in the acquisition/procurement of critical resources; and
- Managing donations.

Potential critical resources are outlined in Appendix H: Critical Resource List.

### **SOURCING CRITICAL RESOURCES**

To expedite the provision of resources, the supply of goods would generally be prioritized in the following order:

- 1.** Local sources
- 2.** Neighbouring communities/regional sources
- 3.** Provincial sources
- 4.** Interprovincial and national sources
- 5.** International sources

Given the possibility of catastrophic damage to ground transportation routes, a multimodal approach to transportation will be adopted. Procurement and sourcing may need to consider the location of supplies relative to the impact area and their ability to be moved by means other than ground transportation.

Within the impact area, supply chains may be disrupted, leaving critical goods stranded across various points in the process, including warehousing, transportation, and distribution. The Province may need to assist the private sector, including by prioritizing movement, to re-establish supply chains.

Both scenarios will result in impacts to Washington state and other northwestern states. The extent of impacts to Washington state may affect the supply of critical resources that the U.S. is able to provide.

### **DONATIONS MANAGEMENT**

Agencies, individuals, and communities both within and outside the impact area are anticipated to offer support in the form of donations of supplies. Due to the logistical challenges with managing a large volume of unsolicited donations from various sources, donations in the form of financial contributions will be encouraged. This message will be amplified through strategic public messaging. Nonetheless, humanitarian assistance sites and staging areas must be prepared to address unsolicited donations.

It is expected that the private sector, in addition to distributing goods through contracts with government, will offer critical supplies in the form of donations. Large corporate donations may be critical in achieving adequate supply and will be considered on a case-by-case basis.

### **PROCUREMENT**

Collaboration with the private sector will be critical to understanding and enabling supply inventory, production capacity, distribution, scalability, and mitigating challenges. Procurement will be conducted as necessary, including through emergency provisions, to expedite the acquisition and distribution of critical resources to impacted communities and enable response efforts.

The Procurement Unit in the PECC/CERRC, led by the Ministry of Citizens' Services, will manage emergency contracts as required to help meet the needs of communities and the provincial response requirements.

## Multimodal Transportation

Transportation in B.C. is a shared responsibility among federal departments, provincial ministries and agencies, First Nations, local authorities, and private entities. In practical terms, the efficient operation and regulation of B.C.'s transportation system relies on the close cooperation of all partners and the private sector to help ensure safety, efficiency, environmental sustainability, and security. During a catastrophic earthquake, transportation systems will be significantly impacted and the capacity of these systems will be limited. Coordination, cooperation, and preparedness among of all modes of transportation is essential to support an effective immediate response.

The Ministry of Transportation and Infrastructure is responsible for coordinating all modes of transportation—road, air, marine, and rail—in a whole-of-government, multi-agency, integrated response to a major earthquake event. This is achieved through an integrated Transportation Branch. The Transportation Branch is to provide situational awareness, monitor risks and collaborate across the spectrum of internal and external partners to establish priorities and strategies to repair services affecting road, air, marine, and rail networks.

The coordination, including sourcing, procurement, and tracking, of transportation for response personnel, equipment, and supplies will be achieved by close teamwork between the Transportation Branch and the Logistics Section of the PECC/CERRC.

In the immediate response phase, the primary objective for transportation partners will be to assess and re-open critical routes to support the effective and timely movement of essential goods and resources to the impact zone, and to and from staging areas or critical facilities. Critical transportation routes are defined as multi-modal routes in the impact area that provide access to and from key facilities or hubs, such as staging areas or hospitals, for safety, security, and continuity of essential services. To achieve this objective, critical transportation routes within the impact area will require prioritized triage, damage assessment, debris removal, and repair. For additional information, see Section 7: Critical Infrastructure.

Critical routes for each planning scenario are listed in Appendix M: Critical and Key Transportation Routes and Features. Should the actual impact area be different, the critical transportation routes and features will be re-defined.

If it is necessary to control public access to certain transportation routes to achieve specific and time-bound movements required for emergency response, such as the movement of first responders or evacuees, additional routes may be designated as Disaster Response Routes. These are coordinated as needed, and do not necessarily need to coincide with critical routes.

### ROAD

Road infrastructure in B.C. is owned and maintained by a number of jurisdictions, including federal departments, provincial ministries and agencies, First Nations, and local authorities as well as private entities. Ground transportation is regulated by both federal and provincial legislation.

Road owners are to contact and provide situational awareness to the Province and the Transportation Branch to support integrated and coordinated response actions and identify common objectives. See Section 5: Situational Awareness and Appendix I: Critical Information Requirements. An Integrated Road Unit may be established as part of the Transportation Branch to:

- Maintain situational awareness;
- Coordinate and integrate response efforts related to roadways;
- Prioritize the repair of roads; and/or
- Contribute expertise to planning.

## AIR

A coordinated aviation response is key to the success of response and logistics efforts when road networks may be impacted. There are owners and operators of aviation assets across government and the private sector, and efforts need to be coordinated for safety, efficiency, and prioritization of a potentially limited asset. An Integrated Air Unit will be established by the BC Wildfire Service as part of the Transportation Branch to:

- Maintain and communicate situational awareness with key aviation industry partners, including the status and availability of critical aviation facilities, fuel, assets, personnel, aviation weather, and priority operations;
- Centrally coordinate and integrate all aviation response operation efforts related to use of aviation assets and personnel, and prioritize the use of aviation resources;
- Establish aviation supply chain arrangements as required;
- Establish regularly scheduled temporary air service to impacted areas, as required, for efficiency and re-establishment of supply chain to support partner ministries and agencies;
- Coordinate partner response agencies (e.g., RCMP Air Services, Canadian Armed Forces Air Force, Coast Guard Air, etc.) through prioritization and integration of their liaison officers into the planning process;
- Make recommendations to federal partners regarding airspace management requirements and any regulatory support required;
- Support partners in the prioritization and the repair of aviation facilities upon request;
- Establish temporary facilities as required to support field aviation operations, including facilities, fuel and personnel;
- Establish and maintain appropriate aviation safety and flightwatch services where required;
- Coordinate the provision of qualified aviation personnel to support aviation operations as required (e.g., Helibase Managers, Loadmasters);
- Procure and supply aviation fuel, personnel and aircraft to meet priority requests; and
- Contribute expertise to planning and decision-making.

National and international support will be limited to airports that have facilities for managing larger aircraft. The primary locations for consideration for wide-body aircraft in B.C. are:

Abbotsford (YXX)	Comox (YQQ)
Vancouver (YVR)	Nanaimo (YCD)
Kelowna (YLW)	Victoria (YYJ)
Kamloops (YKA)	Prince George (YXS)
Cranbrook (YXC)	

## MARINE

Marine transportation, shipping, and navigation infrastructure are primarily areas of federal jurisdiction. Federal and provincial agencies will coordinate and aim to establish common situational awareness and identify common objectives. An Integrated Marine Unit may be established as part of the Transportation Branch to:

- Maintain situational awareness;
- Coordinate and integrate response efforts related to marine infrastructure and assets;
- Prioritize the repair of marine transportation networks, such as ports, docks and wharfs; and/or
- Contribute expertise to planning.

## RAIL

During the immediate response phase, it is expected that rail lines will be compromised and impassable. However, as much as possible, rail will be engaged to provide transportation of commodities, including fuel and heavy equipment.

Two national railways, Canadian National (CN) and Canadian Pacific (CP), have rail lines that connect B.C. ports to stations across North America. Both CN and CP own rail lines from the Port of Vancouver that run along both sides of the Fraser River. CN also maintains a line from North Vancouver to Prince George that connects the Port of Prince Rupert.

Burlington Northern Railway (BNR) maintains a spur line that crosses the Canada-U.S. border at Sumas, approximately five kilometers east of the Abbotsford airport, and the main line that runs along the coast from Seattle to Vancouver, which crosses the Canada-U.S. border at the Peace Arch.

Southern Railway of BC (SRY) owns and operates a rail line from New Westminster to Sumas, as well as rail infrastructure on Vancouver Island.

TransLink maintains a light commuter rail service within the Greater Vancouver area.

An Integrated Rail Unit may be established as part of the Transportation Branch to:

- Maintain situational awareness;
- Coordinate and integrate response efforts related to rail infrastructure;
- Prioritize the repair of rail transportation networks; and/or
- Contribute expertise to planning.

## Staging Areas

The logistics response requirements will likely exceed existing provincial warehousing availability. To expand warehousing, prioritization, and tracking activities, provincial and regional staging areas may be established by the Province to support the distribution of critical resources to community points of distribution (CPODs) and critical organizations involved in response efforts. A staging area is a movement control point where resources are received and organized prior to deployment. Intermodal transfer points will be identified in cooperation with transportation infrastructure owners and communities.

Existing distribution facilities operated by provincial ministries, partner agencies, and industry may also be used to deliver critical resources to CPODs. Resources are not required to be transported through a provincial or regional staging area.

Staging areas may host supplies and/or personnel and have the following objectives:

- Receiving shipments of critical resources from other staging areas and outside sources;
- Providing warehousing and storage;
- Organizing and staging response personnel;
- Tracking the arrival and departure of resources and personnel;
- Facilitating effective transportation between staging areas and to CPODs; and
- Establishing contact and maintaining consistent communication with PREOCs and/or the PECC/CERRC.

Staging areas may require nearby auxiliary space to support their operations.

Additional information about staffing for staging areas, CPODs, and other aspects of the logistics response is available in Section 9: Surge Capacity.

## TYPES OF STAGING AREAS

**PROVINCIAL STAGING AREAS:** Managed under the direction of the Province and will be established outside the impact area, provincial staging areas will manage transport to regional staging areas or CPODs as appropriate.

### Potential locations include:

- Kamloops
- Prince George
- Kelowna and/or Cranbrook
- Prince Rupert

**REGIONAL STAGING AREAS:** Established as close to the impact area as possible, regional staging areas will be managed under the direction of the Province and will manage transport to CPODs.

### Potential locations include:

#### Lower Mainland and Sunshine Coast:

- Vancouver Airport (YVR)
- Abbotsford Airport (YXX)
- Port of Squamish

#### Southern Vancouver Island:

- Victoria Airport (YYJ)
- Nanaimo Airport (YCD)

#### Northern Vancouver Island and remote coastal mainland:

- Comox Airport (YQQ)
- Port Hardy Airport (YZT)

## COMMUNITY POINTS OF DISTRIBUTION

CPODs are centralized locations within impact areas that will support the distribution of resources directly to impacted populations, and may be a function of First Nations' and local authorities' emergency management plans. CPODs should be prepared to accept shipments from provincial and regional staging areas and other sources. See Section 6: Humanitarian Aid and Relief Services for more information.

As the response progresses, CPODs, as informally activated within communities, will become closely integrated with the provincial response and structure of provincial and regional staging areas. Some CPODs will become formally operated by the provincial government, while others will be operated directly by communities or NGOs.





# Surge Capacity

## Introduction

Surge capacity addresses how the Province will staff personnel roles in all areas of emergency response to provide timely leadership, support provincial coordination, and fill gaps in site-level operations. There will be a substantial and immediate need for staffing for emergency operations centres (EOCs), first response programs, such as fire and ambulance, components of the logistics systems, humanitarian aid and relief services, and for those qualified to conduct damage assessments.

Surge capacity to support staffing response operations will need to be drawn from multiple sources. Existing public servants, staff from communities outside of the impact area, support from out-of-province, non-governmental organizations (NGOs), contractors, and volunteers will be critical components of the immediate response. Consultation with legal counsel is needed for fields requiring specific qualifications or fields that are subject to regulation or oversight bodies, such as medical or engineering professionals, to ensure they are authorized to practice in B.C. This may involve the establishment or recognition of equivalent certifications or other qualifications through Ministerial Orders, emergency amendments to regulatory legislation, or other means, as per legal advice.

## CONSIDERATIONS

- Existing emergency management personnel and volunteers will focus on ensuring the safety of themselves, their family and neighbours as their first priority immediately after an event.
- Transportation will likely be a challenge for those who commute to work, particularly those who live further from work locations. A catastrophic earthquake is expected to have significant impacts to roadways and bridges, leaving some people unable to get to work locations.
- There will likely be a high demand for personnel in the initial hours following the event to initiate response actions and gain situational awareness.
- Convergent volunteers are expected, and challenges and opportunities with unaffiliated, self-deploying volunteers from outside the impact area will need to be managed.

## Sources of Supplementary Staffing

### TEMPORARY EMERGENCY ASSIGNMENT MANAGEMENT SYSTEM

The Temporary Emergency Assignment Management System (TEAMS) is a provincial staffing system that maintains a resource pool of qualified public servants from various ministries who have the appropriate skills and experience to work in the Provincial Emergency Coordination Centre (PECC), Catastrophic Emergency Response and Recovery Centre (CERRC), Provincial Regional Emergency Operations Centres (PREOCs), Ministry Operations Centres (MOCs), and other EOCs. The number of staff available through TEAMS may be impacted due to requirements within their regular positions, supporting ministry emergency response actions.

### PUBLIC SERVICE TEMPORARY APPOINTMENTS, EMERGENCY RECRUITMENT, AND SECONDMENTS

While many public servants will be required to stay in their regular roles to ensure continuity of government and to support their MOCs, the Public Service Agency (PSA) may put out a call to recruit staff to temporarily help in emergency response roles. PSA may also recruit support from outside of the public service, through mechanisms such as secondments from partner organizations or public recruitment campaigns. Short-term appointments may be made through a variety of mechanisms. The PSA will advise on the most appropriate approach to short-term staffing.



## INTER-PROVINCIAL AND INTERNATIONAL ASSISTANCE

Out-of-province and international staffing support may be required. Appendix B: Related Plans and Agreements outlines several of the agreements that can be drawn upon to request personnel support. The PECC/CERRC will organize all offers of assistance with coordination assistance from the federal Government Operations Centre (GOC).

## CANADIAN ARMED FORCES

Support from the Canadian Armed Forces (CAF) is available through a Request for Assistance (see Appendix G: Requests for Federal Assistance) and may be deployed as per Contingency Plan PANORAMA (see Appendix B: Related Plans and Agreements). The CAF can mobilize at staging areas on Vancouver Island, the lower mainland, and/or the southern interior, and provide support to impacted communities through functions such as situational awareness, communication, logistics management, and specialist capabilities.

If CAF members are deployed into Indigenous communities, consideration should be given to the appropriateness of the services provided and whether the presence of uniformed personnel may be triggering for people with traumatic lived experiences. CAF should only be deployed into Indigenous communities after consultation and consent from First Nations.

## CONTRACTED PRIVATE SECTOR SUPPORT

There may be instances when private sector organizations with relevant experience are contracted to provide surge capacity to meet specific operational needs. For example, structural and/or civil engineering companies may be contracted to support rapid damage assessment needs. Contracts for surge capacity will be sought on an as-needed basis and in consultation with Procurement Services.

## COMMUNITY-TO-COMMUNITY SUPPORT

First Nations and local authorities outside of the impact area may be able to deploy Emergency Program Coordinators (EPCs) and other EOC staff to impacted communities. First Nations and local authorities should activate any existing mutual aid agreements and leverage existing relationships to coordinate external support. The PECC/CERRC may also solicit non-impacted communities to provide staff and coordinate requests for local EOC staff. [Policy 5.11](#) provides further details on deploying trained emergency responders to an EOC in a jurisdiction requiring surge support, and on deploying additional personnel responding to, or preparing for, an emergency.

## INDIGENOUS SUPPORT ORGANIZATIONS

There are many organizations and agencies in B.C. that specifically support First Nations. These organizations may be in a position to provide personnel and expertise to support First Nation EOCs in the delivery of culturally appropriate emergency services and programs. For additional information on the roles and responsibilities of various Indigenous support organizations, see Section 4: Roles and Responsibilities.

## NON-GOVERNMENTAL ORGANIZATIONS

NGOs and humanitarian aid organizations will be available to support the provision of humanitarian assistance. The Province has agreements with certain organizations that may be leveraged for additional surge capacity (see Appendix B: Related Plans and Agreements). The PECC/CERRC will initiate coordination with NGOs that include the Integrated Disaster Council of BC (IDCBC), which coordinates the activities of several NGOs engaged in emergency response, and other interested humanitarian assistance agencies to share information, address gaps, promote collaboration, and coordinate an integrated approach to program and service delivery. Many NGOs will likely self-deploy and coordinate among themselves locally.

Additionally, Search and Rescue (SAR) is a key volunteer-based group with specialized operational skills. SAR assets would be requested to assist in response efforts. For additional information about available SAR resources, see Appendix N: Search and Rescue.

## **VOLUNTEER COORDINATION**

Volunteers will need to be coordinated through NGOs, local organizations, and local EOCs, which should have their own intake and referral processes. While NGOs deploying volunteers should be self-sufficient for food, water, and temporary shelter, additional resource requests can be made to the PECC/CERRC to support these needs.

Management of volunteer resources encompasses a significant level of risk and liability management and requires development of orientation, training, and supervision procedures following human resource management best practices.

### **Convergent Volunteers**

Convergent volunteers are those who spontaneously offer help and are not registered or affiliated with traditional or recognized NGOs. Following a catastrophic earthquake, many people will want to contribute to response and recovery efforts. While a valuable resource, if not coordinated, they can challenge response efforts by impacting transportation routes, distracting first responders concerned about volunteer safety, and creating accountability, logistical and administrative challenges. The PECC/CERRC, First Nations, local authorities, NGOs, and volunteer agencies can support the efficient use of volunteer resources through collection, coordination, and sharing of information about volunteer resource needs and capacity.

Responding agencies can make the most of convergent volunteers through advance planning with organizations, agencies, and jurisdictions regarding:

- Operational use of convergent volunteers;
- Public information and outreach;
- Abbreviated intake and referral processes; and
- Public messaging.

During the immediate response, it is unlikely that convergent volunteers can be thoroughly screened and/or complete criminal record checks. Unscreened volunteers should not be assigned roles that have direct and/or solitary contact with children, dependant adults or others who may be vulnerable.

To minimize risk and protect people and property, responding agencies engaging convergent volunteers should use risk management strategies, such as pairing unaffiliated volunteers with an affiliated, trained volunteer as their team leader.

## **Public Messaging**

Public messaging from governments, partner agencies and organizations should discourage self-deployment of convergent volunteers from outside the impact area. Those interested in supporting response efforts should be directed to register with established NGOs, First Nations or local authorities.

## Introduction

The primary purpose of strategic communications is to deliver accurate, clear, concise, and timely information during situations where the health, safety, security, and property of B.C. residents may be compromised. Ensuring a simple, straightforward, and consistent approach to compiling, verifying, and disseminating information that everyone can rely on is essential. Due to degraded communication, effective dissemination of information will be impacted. However, every effort will be made to ensure partners and the public receive timely and critical information.

Audiences of strategic communications include:

- People impacted by the event;
- General public;
- Local, national and international media;
- All governments;
- Responding agencies; and/or
- Response and recovery partners.

Within the provincial emergency management system, Government Communications and Public Engagement (GCPE) is responsible for providing external provincial government communications services, in consultation with ministries as needed. GCPE's Deputy Minister is a member of the Deputy Ministers' Committee on Disaster Risk and Emergency Management (DMC-DREM), the Ministers' and Deputies' Emergency Council (MD-EC), and the Deputy Ministers' Emergency Council (DM-EC), advising on all strategic communications issues and providing a link to the Premier's Office. Depending on the scope and scale of the event and/or the complexity of issues involved, GCPE will also staff and manage Provincial Emergency Coordination Centre (PECC) or Catastrophic Emergency Response and Recovery Centre (CERRC) and Provincial Regional Emergency Operations Centre (PREOC) Information Sections with Public Information Officers. As required, GCPE will assist First Nations and local authorities with strategic and public communications.

During the immediate response phase, GCPE-EMBC communication staff will ensure information is shared with all relevant ministry GCPE teams and GCPE headquarters, for an efficient and coordinated flow of cross-government public information.

## Joint Information Centre

During the immediate response phase, the Information Section will activate as usual within the PECC/CERRC. Depending on the scale of the event and coordination required, a Joint Information Centre (JIC) may be established by EMBC's Deputy Minister to ensure an efficient and coordinated flow of information. JIC leadership will be identified by GCPE and will be co-located with the CERRC.

The JIC will include information officers from GCPE and other key response agencies locally, regionally, and nationally. Partners such as Critical Infrastructure owners, inter-governmental organizations, and non-governmental organizations will be at the JIC to ensure coordinated public messaging.

## Activation of Strategic Communications

The Communications Director will request the GCPE Assistant Deputy Minister to deploy a Quick Response Team to the PECC/CERRC Information Section, which will be led and managed onsite by GCPE-EMBC communications staff (Director and/or Manager). Deployment of the Quick Response Team depends on availability and direct ministry response implications, and will be comprised of operational teams with the following functional roles:

- Issues management and media relations;
- Public information in a variety of languages;
- Partner relations; and
- MLA/MP Liaisons.

## Methods for Gathering and Disseminating Information

### MEDIA CONFERENCES AND TECHNICAL BRIEFINGS

- Senior spokespeople of key agencies in attendance.
- GCPE media relations officer moderates.
- Scheduled at least once a day during immediate response phase.
- Provides updates from previous briefing.
- Conference line open for media not in attendance.

If the required infrastructure remains operational, the above may be livestreamed on available social media platforms for the public to watch.

### PUBLIC MEETINGS

- Informs the public about the emergency.
- Representatives from lead agencies and local officials update public and answer questions.
- Typically held in a local community centre but may be virtual as needed.
- May be arranged by First Nations, local authorities, and/or provincial ministries or agencies as appropriate.



### INFORMATION BULLETINS

- Disseminates written information to the media and general public.
- Frequent factual updates disseminated as new information received.

### NEWS RELEASES

- Updates information with additional context, background, news angles and quotes.

### MEDIA ADVISORIES

- Notifies media of upcoming media briefings, public meetings, etc.
- An advisory will notify media that the Information Branch has been established and will include contact information.
- Contains the basic information of who, what, when, where, and why of an event of interest to the media and the public.

### MEDIA MONITORING

#### Reviews media coverage to:

- Correct factual errors;
- Flag issues for leadership groups and committees;
- Identify gaps in media coverage; and
- Identify opportunities for clearer communication

### SOCIAL MEDIA

EMBC's [EmergencyInfoBC](#) online platform and Twitter feed (@EmergencyInfoBC) provide consistent, coordinated, and reliable information. Examples of information shared include tsunami watches and warnings, evacuation alerts and orders, reception centre locations and road conditions. Information is also provided through the Provincial government's Twitter feed (@BCGovNews) and [Facebook page](#).

- Disseminates written information from various governments to the media and general public via online channels.
- Frequent factual updates disseminated as new information is received.

## Strategic and Public Messages

Sample public messages are listed in Appendix J: Strategic and Public Messages. These messages may need to be adjusted prior to release.





## Introduction

Although peak recovery activities will occur weeks to months after the onset of the event, recovery work should be initiated during the immediate response phase. The 2019 [Interim Provincial Disaster Recovery Framework](#) (Recovery Framework) serves as the central coordination, accountability, and oversight mechanism for integrated disaster recovery in B.C., and establishes scalable, flexible, and adaptable coordinating platforms that align key roles and responsibilities. The Recovery Framework establishes provincial roles and responsibilities, provides guidance on funding models for recovery, and outlines the integration of expertise and resources of First Nations, other governments, non-governmental organizations (NGOs), and private sector partners.

Recovery consists of short-, medium-, and long-term stages and the promotion of disaster risk reduction to minimize future damage to the community and environment. It includes measures such as the return of evacuees, provision of psychosocial support, resumption of impacted businesses and services, provision of financial assistance, and the generation of economic impact assessments and recovery strategies, infrastructure repairs, and environmental rehabilitation. For events with catastrophic impacts to a community, the recovery process can take years, is complex, and requires a collaborative effort from many partners to enable community resilience.

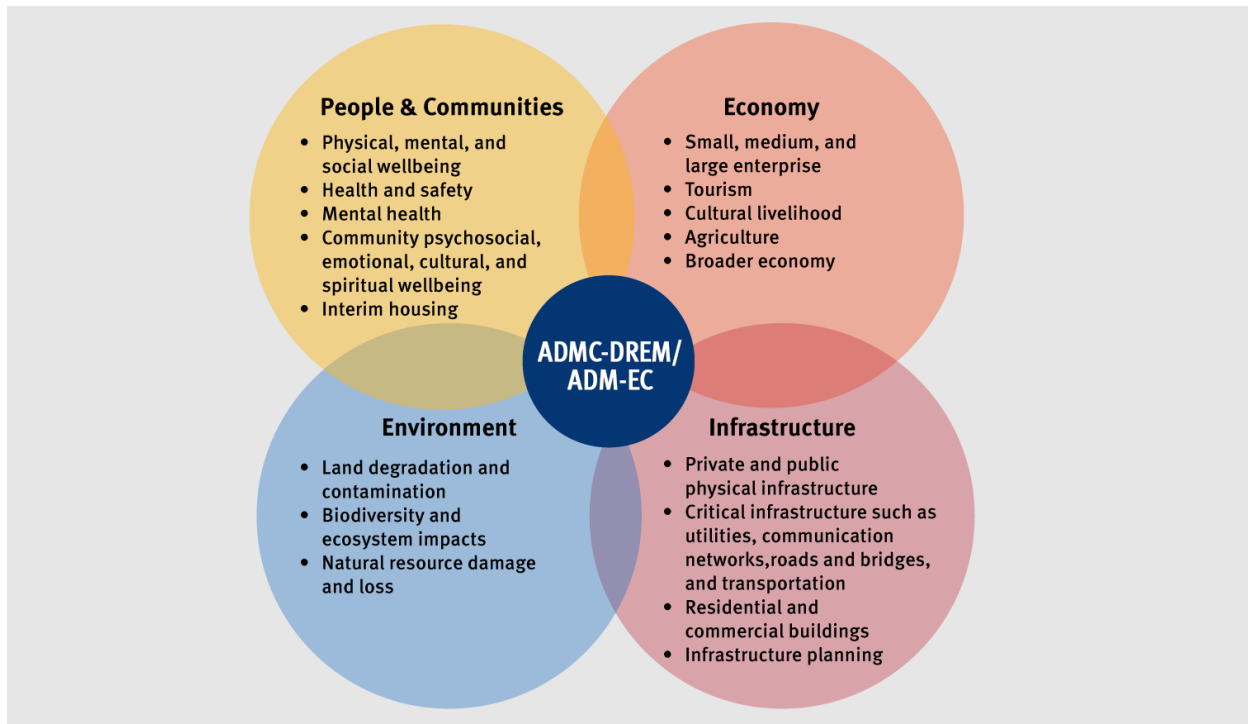
**The Recovery Framework articulates the vision for recovery as “re-established social, cultural, physical, economic, personal and community well-being through inclusive measures that reduce vulnerability to disaster, while enhancing sustainability and resilience.”**

## Recovery Operational Structure

Following a catastrophic earthquake, EMBC will act as the provincial coordinating body and will work with ministries to coordinate provincial recovery activities in support of First Nations and local authorities.

The Recovery Framework identifies sectors to support and integrate recovery activities. Each sector has a ministry responsible for reporting on recovery strategies and initiatives for the sector, as well as membership from primary ministries, crown corporations, and other partners that are key to achieving the sector’s recovery objectives. The recovery sectors are:

- **PEOPLE AND COMMUNITIES:** This sector considers impacts on the physical, mental, spiritual, and social well-being of the population. This sector primarily concerns, but is not limited to, health and safety, mental health, community psychosocial, emotional, cultural, and spiritual well-being, vulnerable populations and cultural aspects.
- **ECONOMY:** This sector considers direct and indirect impacts on the local economy. This sector primarily concerns small, medium, and large enterprise, tourism and cultural livelihood, agriculture and the broader economy.
- **ENVIRONMENT:** This sector considers impacts on the environment and steps needed to re-establish a healthy state while mitigating long-term impacts. This sector primarily concerns land degradation and contamination, biodiversity and ecosystem impacts, cultural land use and natural resource damage/loss.
- **INFRASTRUCTURE:** This sector considers impacts on private and public physical infrastructure. This sector primarily concerns residential and commercial buildings, utilities and infrastructure planning.



*Figure 12 – Recovery sectors*

A key component of supporting recovery is financial support for individuals, businesses, and communities over both the short- and long-term. Additional information about recovery funding mechanisms is available in Appendix O: Recovery Funding Mechanisms.

As recovery from a catastrophic earthquake will involve a whole-of-society effort, engaging partners external to government will be necessary. Additional partners may include, but are not limited to:

- First Nations, the First Nations Leadership Council (FNLC), Métis Nation of BC (MNBC), the First Nations' Emergency Services Society (FNESS), the BC Association of Aboriginal Friendship Centres (BCAAFC), and the First Nations Health Authority (FNHA), and other Indigenous support organizations;
- Local authorities, regional partnerships, and the Union of BC Municipalities;
- Federal partners, such as Public Safety Canada and Indigenous Services Canada (ISC);
- NGOs and community organizations, and the Integrated Disaster Council of BC (IDCBC);
- Equity-seeking groups and organizations serving vulnerable or marginalized populations, such as the Representative for Children and Youth, the BC Seniors' Advocate, the BC Civil Liberties Association, and/or Community Living BC;
- Critical Infrastructure (CI) owners and operators;
- Businesses and industry representatives, such as Chambers of Commerce and Business Improvement Associations; and/or
- Insurance industry partners, such as the Insurance Corporation of BC, the Insurance Bureau of Canada, and the Municipal Insurance Association of BC.

**Where necessary and based on the nature of consequences and impacts, additional recovery sectors may be established on an ad hoc basis once appropriate coordinating and governance structures are in place. For example, recovery sectors to address matters such as housing, food security, protection, and education depending on needs. A coordinator, primary ministries, and primary crown corporations and partners will be identified based on the needs and tasks of the sector.**

Engagements will be informed by the vision and guiding principles, particularly community leadership, inclusivity, and transparency. All recovery efforts must promote reconciliation and equity, and each recovery sector is responsible for ensuring the Province's obligations as per the *Declaration Act* and to provide for GBA+ considerations.

## Recovery Transition Conditions

Recovery actions should be initiated as quickly as possible, generally after life-safety issues have been addressed. Recovery actions are often conducted concurrent to response activities. Due to the overlap of response and recovery, the transition from response to recovery is not a definitive point in time, but is a fluid timeline depending on local and provincial factors. Some recovery activities may start immediately after an event while other activities may be delayed to prioritize response activities.

Indicators suggesting a transition of efforts from the immediate and sustained response phases to the recovery phase following a catastrophic earthquake may include, but are not limited to:

- Circumstances have stabilized – for example, aftershocks, land slippage, tidal activity, major fires and other after-effects of seismic activity are under control and/or no longer causing significant damage;
- Immediate response priorities have been addressed and there is capacity to address matters beyond the needs of immediate response, such as re-establishing economic activity, clearing debris, and repairing secondary infrastructure;
- Immediate survival needs, such as shelter and medical care, have been met;
- Basic governance and decision-making structures, such as band and local councils and the executive, judicial, and legislative branches of provincial government, have been re-established and are operating effectively;
- Damage and impact assessments for priority areas have been conducted and situational awareness has been broadly achieved;
- Infrastructure necessary to the delivery of essential goods and services and for logistics management and governance, including transportation routes, staging areas, warehousing facilities, and community points of distribution (CPODs), has been restored, or effective temporary infrastructure has been established;
- Surge capacity in human and material resources have been deployed/employed to assist across response agencies at various levels;
- Planning for recovery, such as post-disaster needs assessments, is underway, and elements of these plans are ready for activation; and
- Social networks and civil society functions, such as the provision of social welfare and educational programs, are being re-established, although the characteristics for these networks and functions may be different from pre-event standards – for example, services may be provided in different or temporary locations.

Effective long-term recovery activities of a community should, over time, transition into sustainable development and disaster risk reduction activities that enable resilience and align with the guiding principles outlined in the Recovery Framework.

# List of Acronyms

<b>AAFC:</b> Agriculture and Agri-food Canada	<b>CCEMO:</b> Canadian Council of Emergency Management Organizations
<b>ADM:</b> Assistant Deputy Minister	<b>CD:</b> Communications Director
<b>ADM-EC:</b> Assistant Deputy Ministers' Emergency Committee	<b>CEMP:</b> Comprehensive Emergency Management Plan
<b>ADMC-DREM:</b> Assistant Deputy Ministers' Committee on Disaster Risk and Emergency Management	<b>CERRC:</b> Catastrophic Emergency Response and Recovery Centre
<b>AEMA:</b> Alberta Emergency Management Agency	<b>CI:</b> Critical Infrastructure
<b>AERP:</b> Alberta Earthquake Response Plan	<b>CIR:</b> Critical Information Requirement
<b>B.C.:</b> British Columbia	<b>CN:</b> Canadian National Railway
<b>BCAAFC:</b> BC Association of Aboriginal Friendship Centres	<b>CNSN:</b> Canadian National Seismograph Network
<b>BCAS:</b> British Columbia Ambulance Service	<b>COP:</b> Common Operating Picture
<b>BCCS:</b> British Columbia Coroners Service	<b>CP:</b> Canadian Pacific Railway
<b>BCEMS:</b> British Columbia Emergency Management System	<b>CPOD:</b> Community Points of Distribution
<b>BCF:</b> BC Ferries	<b>CPPB:</b> Corporate Policy and Priorities Branch
<b>BCP:</b> Business Continuity Plan	<b>CRC:</b> Canadian Red Cross
<b>BCR:</b> BC Railway	<b>CRD:</b> Capital Regional District
<b>BCR:</b> Band Council Resolution	<b>CSZ:</b> Cascadia subduction zone
<b>BOC:</b> Border Operations Centre	<b>CTL:</b> Central Region (EMBC)
<b>BNR:</b> Burlington Northern Railway	<b>DFO:</b> Department of Fisheries and Oceans
<b>CAP:</b> Civil Assistance Plan	<b>DM-EC:</b> Deputy Ministers' Emergency Council
<b>CAF:</b> Canadian Armed Forces	<b>DMC-DREM:</b> Deputy Ministers' Committee on Disaster Risk and Emergency Management
<b>CANUS CAP:</b> Canada-United States Civil Assistance Plan	<b>DND:</b> Department of National Defence
<b>CAO:</b> Chief Administrative Officer	<b>DOC:</b> Department Operations Centre
<b>CASARA:</b> Civil Air Search and Rescue Association	<b>DRR:</b> Disaster Response Route
<b>CBP:</b> United States Customs and Border Protection	<b>ECCC:</b> Environment and Climate Change Canada
<b>CBSA:</b> Canada Border Services Agency	<b>EHS:</b> BC Emergency Health Services
	<b>EMBC:</b> Emergency Management British Columbia

<b>EMMA:</b> Emergency Management Mutual Aid Agreement	<b>ID:</b> identification
<b>EOC:</b> Emergency Operations Centre	<b>IDCBC:</b> Integrated Disaster Council of British Columbia
<b>EPA:</b> Emergency Program Act	<b>IGO:</b> Intergovernmental Organization
<b>EPC:</b> Emergency Program Coordinators	<b>INSARAG:</b> International Search and Rescue Advisory Group
<b>ERT:</b> Emergency Response Team	<b>IPREM:</b> Integrated Partnership for Regional Emergency Management
<b>ERU:</b> Emergency Response Units	<b>ISC:</b> Indigenous Services Canada
<b>ESF:</b> Emergency Support Function	<b>ISED:</b> Innovation Science and Economic Development Canada
<b>ESS:</b> Emergency Support Services	<b>JIC:</b> Joint Information Centre
<b>FACT:</b> Field Assessment Coordination Team	<b>JOA:</b> Joint Operations Area
<b>FCC:</b> Federal Coordination Centre	<b>JRCC:</b> Joint Rescue Coordination Centre
<b>FCG:</b> Federal Coordination Group	<b>JTFP:</b> Joint Task Force Pacific
<b>FEMA:</b> US Federal Emergency Management Agency	<b>LGIC:</b> Lieutenant Governor in Council
<b>FERP:</b> Federal Emergency Response Plan	<b>LMS:</b> Logistics Management System
<b>FM:</b> frequency modulation	<b>LOA:</b> letter of agreement
<b>FNESS:</b> First Nations' Emergency Services Society	<b>MCTS:</b> Marine Communication Traffic Services
<b>FNHA:</b> First Nations Health Authority	<b>MD-EC:</b> Ministers-Deputies Emergency Committee
<b>FNLC:</b> First Nations Leadership Council	<b>MERCC:</b> Marine Emergency Response Coordination Centre
<b>GAC:</b> Global Affairs Canada	<b>MNBC:</b> Métis Nation British Columbia
<b>GBA+:</b> Gender Based Analysis Plus	<b>MO:</b> Ministerial Order
<b>GC:</b> Government of Canada	<b>MOC:</b> Ministry Operations Centre
<b>GCPE:</b> Government Communications and Public Engagement	<b>MoTI:</b> Ministry of Transportation and Infrastructure
<b>GoA:</b> Government of Alberta	<b>MOU:</b> memorandum of understanding
<b>GOC:</b> Government Operations Centre	<b>MSAT:</b> mobile satellite telecommunications
<b>HC:</b> Health Canada	<b>MSC:</b> Meteorological Service of Canada
<b>HECC:</b> Health Emergency Coordination Centre	<b>MVRD:</b> Metro Vancouver Regional District
<b>HUSAR:</b> Heavy Urban Search and Rescue	<b>NAVWARNs:</b> navigational warnings
<b>IAWG:</b> Indigenous Agency Working Group	<b>NEA:</b> Northeast Region (EMBC)
<b>ICP:</b> Incident Command Post	
<b>ICS:</b> Incident Command System	



<b>NEEC:</b> National Environmental Emergency Centre	<b>RSA:</b> Regional staging area
<b>NERS:</b> National Emergency Response System	<b>RTMC:</b> Regional Transportation Management Centre
<b>NGO:</b> Non-governmental organization	<b>SAR:</b> search and rescue
<b>NOTMARS:</b> Notice to Mariners	<b>SEA:</b> Southeast Region (EMBC)
<b>NOTSHIPS:</b> Notice to Ships	<b>SOLE:</b> State of Local Emergency
<b>NRCan:</b> Natural Resources Canada	<b>SOPE:</b> State of Provincial Emergency
<b>NTWC:</b> National Tsunami Warning Centre	<b>SRY:</b> Southern Railway of BC
<b>NWE:</b> Northwest Region (EMBC)	<b>SWE:</b> Southwest Region (EMBC)
<b>OFC:</b> Office of the Fire Commissioner	<b>TC:</b> Transportation Canada
<b>OIC:</b> Order in Council	<b>TEAMS:</b> Temporary Emergency Assignment Management System
<b>PAHO:</b> Pan American Health Organization	<b>UHF:</b> ultra-high frequency
<b>PCT:</b> Provincial Coordination Team	<b>UN OCHA:</b> United Nations Office for the Coordination of Humanitarian Assistance
<b>PECC:</b> Provincial Emergency Coordination Centre	<b>US:</b> United States
<b>PENS:</b> Provincial Emergency Notification System	<b>USCBP:</b> US Customs and Border Protection
<b>PERCS:</b> Provincial Emergency Radio Communications Services	<b>VAN:</b> Greater Vancouver area
<b>PHAC:</b> Public Health Agency of Canada	<b>VFPA:</b> Vancouver Fraser Port Authority
<b>PHSA:</b> BC Public Health Services Authority	<b>VHF:</b> very high frequency
<b>PIO:</b> Public Information Officer	<b>VIC:</b> Vancouver Island Coastal Region (EMBC)
<b>PMV:</b> Port Metro Vancouver	<b>WHO:</b> World Health Organization
<b>PNEMA:</b> Pacific Northwest Emergency Management Arrangement	<b>YCD:</b> Nanaimo Airport
<b>PREOC:</b> Provincial Regional Emergency Operations Centre	<b>YKA:</b> Kamloops Airport
<b>PSA:</b> Public Service Agency	<b>YLW:</b> Kelowna Airport
<b>PSRO:</b> Public Safety Canada Regional Office	<b>YQQ:</b> Comox Airport
<b>RCMP:</b> Royal Canadian Mounted Police	<b>YVR:</b> Vancouver International Airport
<b>RD:</b> Regional Director	<b>YXC:</b> Cranbrook Airport
<b>REMP:</b> Regional Emergency Management Partnership	<b>YXS:</b> Prince George Airport
<b>RFA:</b> Request for Federal Assistance	<b>YXX:</b> Abbotsford Airport
<b>ROC:</b> Regional Operations Centre	<b>YYJ:</b> Victoria International Airport
	<b>YZT:</b> Port Hardy Airport

# Glossary

**affiliated volunteers:** Individuals who are registered and have completed prerequisites to be officially recognized by a recognized volunteer agency or organization.

**aftershocks:** Secondary tremors that may follow the largest shock of an earthquake sequence. They can extend over a period of weeks, months, or years. Aftershocks are formed as the crust around the displaced fault plane adjusts to the effects of the main shock.

**Band Council Resolution:** Legal instruments that reflect a Band Council's decision made in accordance with the *Indian Act* and regulations.

**British Columbia Emergency Management System (BCEMS):** An emergency management system founded on the principles of the Incident Command System. All ministries and crown corporations, many other jurisdictions in B.C. are required to use BCEMS.

**business continuity:** An ongoing process supported by senior management and funded to ensure that the necessary steps are taken to identify the impact of potential losses and maintain viable recovery strategies, recovery plans, and continuity of services.

**catastrophic earthquake:** An earthquake causing extraordinary levels of mass casualties, damage or disruption severely affecting the population, infrastructure, environment, economy, and government functions. The impact almost immediately exceeds the resources normally available to local, provincial, and private sector authorities in the impacted area, could result in sustained national impacts over a prolonged period of time, and significantly interrupts government operations and emergency services to an extent that national security could be threatened.

**Catastrophic Emergency Response and Recovery Centre (CERRC):** The CERRC may be established when the scope of an emergency, the scale of response, and complexity of the event requires extensive cross-agency integration and coordination for an extended period of time. The CERRC is not a pre-established facility, but will be determined during the immediate response phase. It will be established in a location to provide the best effect when activated during the sustained response phase.

**continuity of government:** The principle of establishing defined procedures that allow a government to continue essential operations/functions in the event of a catastrophic emergency.

**Community points of distribution (CPODs):** Location where the public may go to pick up emergency supplies following a disaster. The need for CPODs is based on lack of infrastructure to support emergency distribution of food, water, or other supplies. The First Nation or local authority determines the need, staffing, location, and commodities to be distributed.

**common operating picture:** A single understanding of the relevant information about the emergency situation shared by more than one operational element.

**convergent volunteers:** Individuals who spontaneously offer help during a disaster, who are not registered or affiliated with recognized non-governmental volunteer organizations, nor pressed into service by someone of authority.

**critical infrastructure:** The processes, systems, facilities, technologies, networks, assets, and services essential to the health, safety, security, or economic well-being of people and the effective functioning of government.

**critical resources:** Resources deemed critical to the response phase.

**critical transportation routes:** Multi-modal routes to and from staging areas within the Greater Vancouver or Greater Victoria areas.

**damage assessment:** A report on the extent of damage caused by an event.

**debris:** The remains of something broken down or destroyed.

**debris dams:** A natural damming of a river by some kind of mass wasting: i.e., landslide, debris flow, rock avalanche or volcano.

**earthquake:** Ground shaking and radiated seismic energy caused most commonly by sudden slip on a fault, volcanic or magmatic activity, or other sudden stress changes in the Earth.

**emergency lodging:** Either an emergency shelter or medium-term lodging.

**Emergency Operations Centre:** The physical location at which the coordination of information and resources to support domestic incident management activities normally takes place. An Emergency Operations Centre (EOC) may be a temporary facility or may be located in a more central or permanently established facility, perhaps at a higher level of organization within a jurisdiction.

**emergency powers:** Extraordinary powers authorized for use under the *Emergency Program Act* once a State of Provincial Emergency or State of Local Emergency has been declared. See 10(1) and 13(1) of the *Emergency Program Act* for a full list of emergency powers available under each declaration.

**emergency shelter:** A place for people to seek safety and live temporarily when they cannot live in their normal residence due to a specific type of situation, such as an emergency or disaster. It is typically available for three to six months maximum. Shelter is most often a shared, congregate service and is always considered transitional. People typically transition from emergency shelter to medium-term lodging, and eventually to long-term housing.

**Emergency Support Services (ESS):** Short-term assistance to people who are forced to leave their homes because of fire, floods, earthquakes or other emergencies. This assistance includes food, lodging, clothing, emotional support and family reunification. In B.C., First Nations and local authorities are responsible for planning and operating emergency responses, including ESS, within their jurisdiction.

**epicentre:** The point on the Earth's surface vertically above the point (focus or hypocentre) in the crust where a seismic rupture originates.

**family reunification:** A function that facilitates the reunification of families separated by emergencies, generally through web-based connection sites.

**Government Operations Centre (GOC):** Provides strategic-level coordination on behalf of the Government of Canada in response to an event affecting the national interest. It provides 24/7 monitoring and reporting, national-level situational awareness, warning products and integrated risk assessments, as well as national-level planning and whole-of-government response management.

**humanitarian assistance:** An emergency response function coordinating congregate sheltering, feeding, distribution of emergency supplies, reunification of children and dependant adults with their parents/ guardians, first aid, psychosocial considerations, recovery transition needs, information services, and household pet/service animal coordination. These services are offered by governments, IGO/NGOs, and community organizations. Following a catastrophic incident, humanitarian assistance can be provided to people by

neighbours, private businesses, families, or individuals. Services can be formally coordinated and administered by authorities, or informally provided and coordinated within communities by people, using a “whole of community” approach.

**immediate response:** The immediate response phase comprises activities occurring from the onset of the earthquake and focuses on lifesaving, integration of leadership and coordination, logistics, and setting the conditions for a sustained, coordinated response and recovery effort.

**information management:** The collection and management of information from one or more sources and the distribution of that information to one or more audiences.

**Integrated Disaster Council of British Columbia (IDCBC):** A forum for a collaborative approach to enhance community disaster resiliency based on a four-pillar approach to emergency management within B.C. IDCBC coordinates the efforts of the many government, intergovernmental, and non-government agencies engaged in disaster human consequence management to support First Nations and local authority emergency management activities.

**Integrated Partnerships for Regional Emergency Management:** An inter-governmental entity working to improve emergency management with all governments and partners across Greater Vancouver area.

**Inter-governmental organization (IGO):** An inter-governmental organization (or international governmental organization) is composed primarily of sovereign states (referred to as member states), or other inter-governmental organizations. IGOs are often called international organizations, although that term may also include international non-governmental organizations, such as international non-profit organizations or multinational corporations.

**Intermodal transfer point:** A location where two or more modes of transportation intersect and resources or personnel are transferred from one mode to another to move through the logistic management system.

**Joint Information Centre (JIC):** A centralized function established to ensure an efficient and coordinated flow of information led by Government Communications and Public Engagement and co-located with the CERRC.

**Joint Operations Area:** The area identified by the Province where operations will be conducted by the agencies and/or departments responding to the event.

**Key transportation routes:** Key transportation routes and features that allow for access to the Greater Vancouver or Greater Victoria areas.

**Key transportation infrastructure:** Transportation infrastructure vital to the social and economic survival of the region.

**liquefaction:** The process of soil and sand behaving like a dense fluid rather than a wet solid mass during an earthquake.

**local authority:** Under Section 1(1) of the *Emergency Program Act*, a local authority means:

- a) for a municipality, the municipal council,
- b) for an electoral area in a regional district, the board of the regional district, or
- c) for a national park, the park superintendent or the park superintendent's delegate if an agreement has been entered into with the government of Canada under section 4 (2) (e) in which it is agreed that the park superintendent is a local authority for the purposes of the Act.

**long-term housing:** Refers to the permanent homes that people occupy and is not considered interim or transitional.

**long-term recovery:** Phase of recovery that may continue for months or years and addresses complete redevelopment and revitalization of the impacted area, rebuilding and relocating damaged or destroyed social, economic, natural, and built environments and a move to self-sufficiency, sustainability, and resilience.

**magnitude:** A number that characterizes the relative size of an earthquake. Magnitude is based on measurement of the maximum motion recorded by a seismograph (sometimes for earthquake waves of a particular frequency), corrected for attenuation to a standardized distance.

**major earthquake:** An earthquake of either a Magnitude 7 or greater, or where the impacts are sufficient for the Province to activate the PEIRS.

**mass evacuation:** Movement of people away from the threat or actual occurrence of a hazard.

**medium-term lodging:** Lodging is an interim service, typically provided or used between the shelter and housing stages. The lodging period could begin immediately following the initial emergency response phase, but could last for several months or even years. Lodging typically includes more private or semi-private services than shelter, but may include some shared services and is also considered transitional.

**mission critical systems:** Refers to any factor of a system (equipment, process, procedure, software, etc.) whose failure will result in the failure of business operations. It is critical to the organization's "mission."

**mitigation:** The phase of emergency management when proactive steps are taken to prevent a hazardous event from occurring by eliminating the hazard, or to reduce the severity or potential impact of an event before it occurs. Mitigation protects lives, property, cultural sites, and the environment, and reduces vulnerabilities to emergencies, and economic and social disruption.

**National Emergency Response System (NERS):** NERS focuses on joint Federal/Provincial/Territorial emergency management and is not activated unless provincial or federal government issues a formal request for assistance. Once activated, NERS supersedes other working agreements that a provincial government may have with individual federal departments. NERS positions Public Safety Canada, through the GOC, as the federal point of contact for information flow, logistics support, response coordination and decision making during an event jointly managed by federal and provincial emergency measures organizations.

**Non-governmental organization:** Private organizations that pursue activities to relieve suffering, promote the interests of disadvantaged people, protect the environment, provide basic social services, or undertake community development.

**operational area:** Geographic area defined for conducting or coordinating the response and recovery operations.

**plate tectonics:** A theory supported by a wide range of evidence that considers the Earth's crust and upper mantle to be composed of several large, thin, relatively rigid plates that move relative to one another. Slip on faults that define the plate boundaries commonly results in earthquakes. Several styles of faults bound the plates, including thrust faults along which plate material is subducted or consumed in the mantle, oceanic spreading ridges along which new crustal material is produced, and transform faults that accommodate horizontal slip (strike slip) between adjoining plates.

**potable water:** Water safe to be consumed by humans or used with low risk of immediate or long-term harm.



**preparedness:** The phase of emergency management when action is taken to ensure readiness to undertake emergency response and recovery. It includes, but is not limited to, hazard, risk, and vulnerability assessment, planning, resource planning, volunteer management, training, exercises, public/partner education and continuous improvement.

**Provincial Emergency Coordination Centre (PECC):** The central emergency operations centre activated to provide overall coordination of the integrated provincial response to an emergency or disaster. The PECC manages the overall provincial government response, including the provision of support for regional levels. This may include consultation with senior elected officials, management of emergency information for the public, resource coordination and policy guidance. Communications and collaboration with external agencies such as crown corporations, federal emergency response agencies, IGO/NGOs, and other provinces are managed at the PECC level.

**Provincial Regional Emergency Operations Centre (PREOC):** Responsible for coordinating regional response activities, supporting local authority EOCs, assigning regional critical resources, providing regional messaging, and providing situational understanding to the PECC/CERRC.

**psycho-social impacts:** Relates to one's psychological development in, and interaction with, a social environment. Psycho-social support is an approach to survivors of disaster, catastrophe, or violence to foster resilience of communities and individuals. It aims at easing resumption of normal life, facilitating affected people's participation to their convalescence and preventing pathological consequences of potentially traumatic situations.

**reception centre:** Sites where evacuees may be received and registered during a disaster. May be a facility such as a recreation centre, church hall, school, hotel lobby, or even a tent – depending on what is available in the community or what is needed.

**reconnaissance:** Obtaining information by visual observation or other detection methods about the conditions of Critical Infrastructure and other essential facets of a particular area.

**recovery:** The phase of emergency management when action is taken to re-establish social, cultural, physical, economic, personal and community well-being through inclusive measures that reduce vulnerability to emergencies, while enhancing sustainability and resilience. It includes taking steps to repair a community impacted by an emergency and restore conditions to a level that could withstand a potential future event or, when feasible, improve them to increase resilience in individuals, families, organizations and communities.

**Recovery Task Force:** An organization identified by Provincial Cabinet, which will be determined during immediate response, activated for sustained response, and responsible for leading and coordinating recovery efforts. With transition from sustained response to recovery, the Recovery Task Force will assume leadership for overall provincial coordination.

**Regional Emergency Management Partnership:** An inter-governmental entity working to improve emergency management with all governments and partners across the Greater Victoria area.

**regular channels:** Routine or usual lines of communication and/or reporting.

**Request for Federal Assistance:** The formal process for B.C. to request the federal government to provide support towards the emergency response efforts.

**response:** The phase of emergency management when actions are taken in direct response to an imminent or occurring emergency to prevent, limit and manage impacts. It includes the initiation of plans and actions to support recovery and may include deployment of registered volunteer resources.

**seismic retrofit:** The modification of existing structures to make them more resistant to seismic activity, ground motion, or soil failure due to earthquakes.

**situational awareness:** The continual process of collecting, analysing, and disseminating intelligence, information, and knowledge to identify, comprehend and process high priority information about the incident and its effects in impact areas to develop a common operating picture. This process allows organizations and individuals to anticipate requirements and respond effectively.

**situation report:** Periodic operational summaries of the disaster situation, including the status of operations, threat and geographical information, identification of operational priorities and requirements, reports on their major response and recovery activities, unmet needs, and recommended actions, as well as data on emergency social services, infrastructure, and other critical information requirements.

**staging area:** A movement control point where resources are received, prioritized, and organized prior to deployment.

**State of Local Emergency:** A temporary emergency authority measure that may be exercised by a local authority or First Nation during an emergency. It is a legal instrument authorized by the *Emergency Program Act* that makes extraordinary emergency powers available to the local authority or First Nation.

**State of Provincial Emergency:** A temporary emergency authority measure that may be exercised by the Province during an emergency. It is a legal instrument authorized by the *Emergency Program Act* that makes extraordinary emergency powers available to the Province.

**strategic communications:** Refers to policy-making and guidance for consistent information activity within an organization and between organizations. Strategic communication management could be defined as the systematic planning and realization of information flow, communication, media development and image care in a long-term horizon.

**subduction zone:** Subduction is the process that takes place at convergent boundaries by which one tectonic plate moves under another tectonic plate and sinks into the mantle as the plates converge. A region where this process occurs is known as a “subduction zone”. Nine out of the 10 largest earthquakes in the last century were subduction zone events.

**surge capacity:** The ability to obtain adequate staff, supplies and equipment, structures, and systems to provide sufficient capability to meet immediate operational requirements following a large-scale emergency or disaster.

**sustained response:** Characterized by defined operational periods and resources necessary to support response operations, sustained response continues until life/health issues and other critical response objectives are addressed.

**transportation node:** A node is any key location within a transportation route or network where resources, personnel or vehicles can enter or change route.

**tsunami:** An impulsively generated sea wave of local or distant origin that results from large-scale seafloor displacements associated with large earthquakes, major submarine slides, or exploding volcanic islands.

**unreinforced masonry/concrete:** A type of building where load bearing walls, non-load bearing walls or other structures, such as chimneys are made of brick, cinderblock, tiles, adobe, or other masonry material, which is not braced by reinforcing beams.

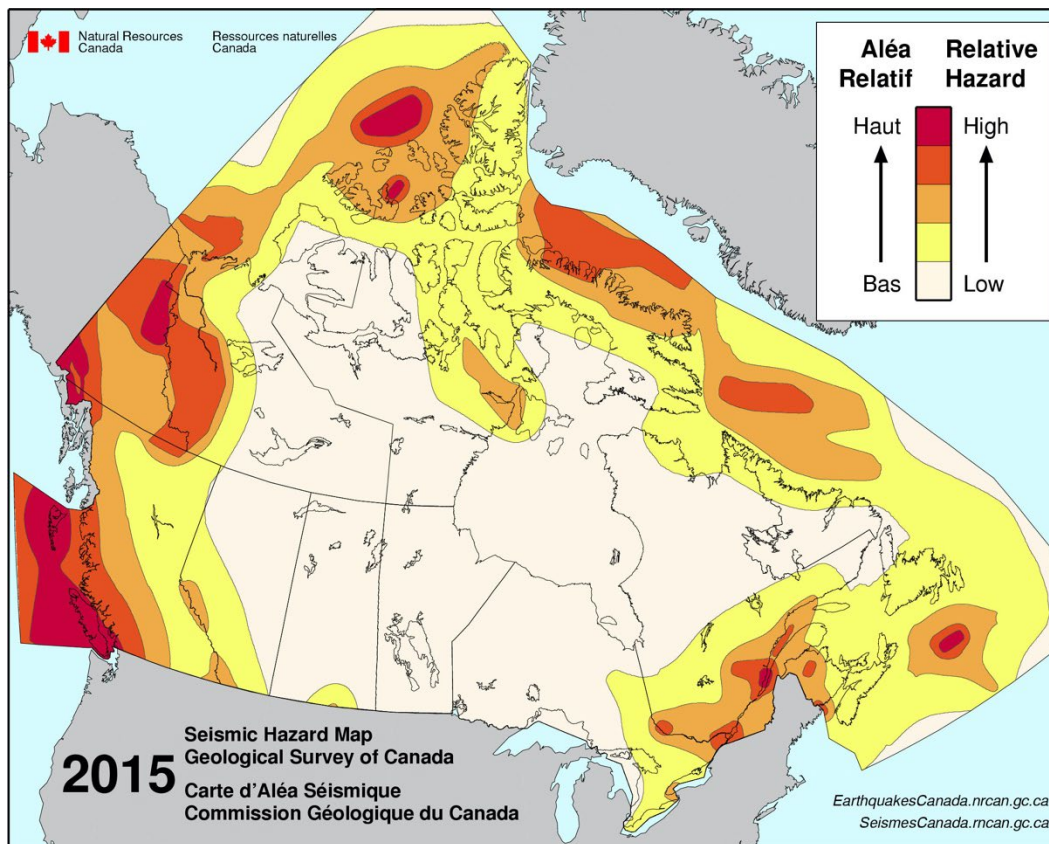
**volunteers:** People who offer their services without expectation of financial compensation. They are a critical component of emergency response.

# Earthquake Hazard in B.C.

## Introduction

The threat of a catastrophic earthquake in B.C. is real. On average, several thousand earthquakes occur in the province every year with the Pacific coast identified as among the most earthquake-prone regions of Canada (see Figure 13).

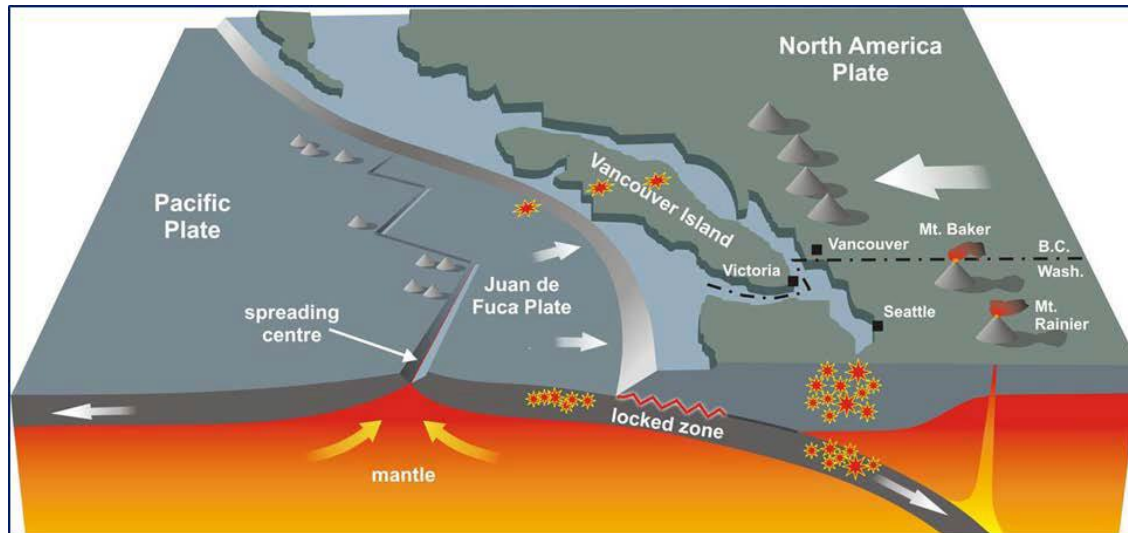
Figure 13– 2015 Seismic Hazard Map, Geological Survey of Canada<sup>7</sup>



This significant seismic activity is due to the three types of earthquakes that can occur in B.C. (see Figure 14):

- Shallow earthquakes in the North America plate (e.g., 1946 M7.3 near Courtenay);
- Deep earthquakes in the subducting oceanic plate (e.g., 2001 M6.8 Nisqually earthquake near Olympia Washington that was felt in Victoria and the lower mainland); and
- Large subduction zone earthquakes that occur between the interface of the Juan de Fuca plate and North American plate (e.g., 1700 M9 in Cascadia earthquake).

<sup>7</sup> This figure represents simplified hazard modelling. Additional detailed hazard modelling maps are available at <https://earthquakescanada.nrcan.gc.ca/hazard-alea/zoning-zonage/NBCC2020maps-en.php>

*Figure 14 – British Columbia Region, Cross Section*

### Cascadia Subduction Zone

The Cascadia subduction zone (CSZ) is a fault approximately 1,100 kilometres long that parallels the coastline of western North America from the northern tip of Vancouver Island to northern California. This fault contains a currently locked segment which lies beneath the continental shelf and extends to the west coast of Vancouver Island. Substantial earthquakes have occurred along this subduction zone in the past between 100 and 1,100 years apart; the most recent was a Magnitude 9 in 1700. Seismologists have determined that these events occur on average every 400-500 years. Since the last event was in 1700, the next event is most likely to occur around 2100-2200 but can occur anywhere within the period from 1800-2800.

Although impacts to B.C.'s coast differ significantly from the U.S., a CSZ event would be devastating to B.C. as impacts would be felt over a very broad region, many remote communities might be cut off from aid, and the U.S. will be unable to deliver mutual aid if they are also overwhelmed by impacts. The threat of tsunami is also greatest for a CSZ event, which could create a dangerous wave that could arrive at the west coast of Vancouver Island within tens of minutes after the earthquake. It is expected that tsunami amplitudes will diminish as the wave wraps around the southern end of Vancouver Island, producing relatively smaller waves in Victoria and Vancouver than in Tofino, Ucluelet, Port Renfrew, Port Alberni, Jordan River, and other communities along the coast. However, when shaking is long and strong it is always a good practice to move away from the ocean and not return until authorities issue an all-clear.

### Most Significant Earthquake Risks

Shallow earthquakes within the earth's crust are smaller than subduction zone earthquake, reaching magnitudes of 6-7.5 as opposed to magnitudes up to 9.5 for subduction zone earthquakes. A major, shallow earthquake near the urban centres of Greater Vancouver or Greater Victoria would be characterized by some of the most significant potential impacts to B.C. because shaking is strongest closest to the source. These events have the potential to do greater damage due to population density, the location of government, economic significance, and Critical Infrastructure interdependencies. These shallow events are uncommon, and in Canada, there are relatively few mapped faults capable of producing them. However, studies from the U.S. have shown that these types of faults exist in Washington State and extend up to the B.C. border. Further work may be needed to understand the potential for shallow crustal earthquakes near major cities in B.C.

## **Haida Gwaii Scenario and Anticipated Impacts**

While the main two scenarios explored in the PEIRS are focused on the urban centres of Greater Vancouver and Greater Victoria, other coastal communities in B.C. are vulnerable to experiencing a significant earthquake. Notably, a M7.8 event near Haida Gwaii on Oct. 27, 2012 was the second largest earthquake recorded in Canada.

The 2012 Haida Gwaii earthquake was a predominantly thrust movement earthquake along the Queen Charlotte Fault, found between the Pacific and North American Plates. This same fault has produced several of the largest earthquakes in Canada, including an M7 in 1929, M8.1 in 1949, and M7.4 in 1970.

Based on these historical events, future earthquakes near Haida Gwaii may be characterized by:

- Shaking for about two minutes that may be felt at significant distance from the rupture zone, including throughout B.C., and into Alberta, Alaska, Yukon, and the northwestern U.S.;
- Secondary effects such as landslides, tsunamis, and other geological phenomena; and/or
- Numerous aftershocks weeks following the initial event.

Anticipated effects may include:

### ***Building and Infrastructure***

- Little damage to building and infrastructure is anticipated. Based on historic events, population centres were all located at least 80 kilometres from the epicentre and 60 kilometres from the fault rupture.
- Damage may consist of mostly moderate failures to chimneys, cracked plaster, cracked foundation slabs, road slumps, and disarray of interior contents.

### ***Landslides***

- Landslides throughout the region, but mostly anticipated outside of population centres and in wilderness areas.

### ***Tsunami Risk***

- A M7.8 has the potential to cause a sizable tsunami, with runups of up to 13 metres. Primary inundation is anticipated to be in the uninhabited west coast of Haida Gwaii.

### ***Geological Phenomena***

- Thermal hot springs on Hotspring Island, in Gwaii Haanas National Park Reserve may dry up because of the earthquake. This would have further implications as it is considered a sacred site by the Haida Nation and is a popular recreation destination.

### ***Psychosocial Social Impacts***

- Physical injuries would likely be minor and limited to contusions and abrasions. However, psychosocial impacts are expected to be more significant as the earthquake may be a traumatizing event for those directly affected.



## Related Plans and Agreements

### Agreements

There are several agreements in place between B.C. and other entities. Individual ministries may have emergency response agreements for specific hazards and/or resources within other jurisdictions. The following agreements have important linkages to the PEIRS.

#### *Pacific Northwest Emergency Management Arrangement (PNEMA)*

PNEMA is an inter-jurisdiction agreement between Alaska, Idaho, Oregon, Washington, the Yukon, and B.C. for cooperating during emergency events, including the provision of emergency management assistance requested by the impacted member jurisdiction. In a catastrophic event, B.C. would verify the need for assistance and contact PNEMA's International Coordination Group (ICG). The group exercises overall coordination and control of all activations of the PNEMA system. Therefore, it would coordinate among PNEMA leadership and B.C., and compile resource lists offered by member signatories. The ICG will also determine the need to deploy a PNEMA resource management team (known as an A-Team) to B.C. to coordinate requests for assistance from PNEMA signatories, and to deploy and manage PNEMA resources in support of B.C. earthquake response efforts.

#### *Interprovincial/Territorial Assistance*

In 2010, a Memorandum of Understanding (MOU) for inter-jurisdictional Emergency Management Assistance, known as the Emergency Management Mutual Aid Arrangement (EMMA), was finalized between the members of the Canadian Council of Emergency Management Organizations (CCEMO). The EMMA provides the ability to access mutual assistance between the provinces and territories, and mutual cooperation and collaboration in emergency management activities. It allows B.C. to request mutual aid from one or more signatories. The CCEMO EMMA Standard Operations Procedures define the processes for initiating, implementing, and closing a request for assistance.

In addition, a MOU has been established between B.C. and Alberta for interprovincial emergency management assistance. This MOU will expedite the movement of people and resources between the two provinces in the event of a disaster.

#### *First Nations*

The federal government, through Indigenous Services Canada (ISC), holds the legislated responsibility for emergency management activities on First Nations reserve lands. EMBC provides support in emergency response and recovery to First Nations reserve communities when requested by either ISC or the Band Council as per the following agreements:

- FNHA-EMBC [Declaration of Commitment](#);
- FNHA-EMBC [Letter of Understanding](#);
- FNLC-BC-Canada Tripartite [Emergency Management Services Memorandum of Understanding](#);
- EMBC-ISC Bilateral Emergency Services Agreement; and
- Nation-based Collaborative Emergency Management Agreements.

### ***Canadian Red Cross***

A Memorandum of Understanding (MOU) between the Province and the Canadian Red Cross regarding the development of an official Auxiliary to Government role provides a framework for collaboration in the delivery of public humanitarian programs and services to the people of B.C. A Letter of Agreement between the Province and the Canadian Red Cross outlines coordination mechanisms and responsibilities for the timely and effective deployment of out-of-province Emergency Response Units (ERU) and Field Assessment Coordination Teams (FACT) as a temporary resource into B.C. in times of major disaster. ERU and/or FACT deployment may be requested immediately following a catastrophic earthquake.

### ***International Assistance***

There are several international organizations that provide response capabilities and assistance following emergencies and disasters. B.C. may require expertise in the coordination of humanitarian assistance provided by these organizations, such as the United Nations Office for the Coordination of Humanitarian Assistance. Additional international assistance may also be available through the U.S. Federal Emergency Management Agency. Requests for international assistance will be approved by executive leadership, prepared jointly by EMBC, the Intergovernmental Relations Secretariat, and provincial ministries with subject matter expertise, and coordinated by the Government of Canada through Global Affairs Canada.

## **RELATIONSHIPS AND INTERDEPENDENCIES WITH OTHER PLANS**

The PEIRS is a component of the [Comprehensive Emergency Management Plan \(CEMP\)](#) and will guide provincial and support agency response. Concurrent plan activations by responding and supporting partners include:

### ***First Nations and Local Authorities***

Emergency management legislation and regulations establish the responsibility of local authorities to develop emergency plans. Although subject to federal legislation rather than provincial legislation or regulations, First Nations generally follow similar guiding principles in emergency planning, and receive support from EMBC, the Ministry of Indigenous Relations and Reconciliation, and ISC across the four phases of emergency management through various bilateral and trilateral agreements. First Nation and local authority plans guide local responses and the PEIRS guides the provincial response. During a State of Provincial Emergency (SOPE), it is anticipated First Nations and local authorities will activate their plans with the provincial declaration working to support their efforts by properly sourcing, prioritizing and providing resources from the supporting area to the impact area.

### ***Alberta Earthquake Response Plan for a Catastrophic Earthquake British Columbia***

The Alberta Emergency Response Plan for a Catastrophic Earthquake in B.C. outlines how Alberta will coordinate assistance to support B.C. in response to a catastrophic earthquake. The plan outlines activities that work in coordination with the federal government's Federal Emergency Response Plan and the PEIRS. [Alberta Emergency Management Agency](#)

### ***Federal Plans***

The Federal Emergency Response Plan and its associated Emergency Support Functions (ESFs), and the National Emergency Response System (NERS), support provincial emergency response activities. Public Safety Canada is the primary department coordinating the Government of Canada's response through the Government Operations Centre (GOC). Other federal plans that may be activated are the Government of Canada Plan for the Movement of People and Goods During and Following an Emergency and internal department and agency emergency response plans. [Public Safety Canada](#).

### ***Canadian Armed Forces – Contingency Plan PANORAMA***

Following a catastrophic earthquake event affecting southern Vancouver Island and/or the Greater Vancouver area, Joint Task Force Pacific (JTFP) will assess the situation and, if required, activate the Canadian Armed Forces (CAF) regional Contingency Plan (CONPLAN) PANORAMA. CONPLAN PANORAMA is the CAF regional response to a catastrophic earthquake effecting B.C. Engagement with civil authorities will occur early and at multiple levels to determine how and where military forces will be best engaged in immediate response activities in support of the Province. CONPLAN PANORAMA is linked to and integrated with other CAF regional and higher-level plans. Combined, these plans detail actions of the CAF units, bases and formations in B.C., and the reinforcement of JTFP with other high readiness CAF elements throughout Canada. Reinforcement will occur through a combination of pre-planned deployments and through the Request for Assistance (RFA) process (Appendix G: Requests for Federal Assistance).

### ***BC Tsunami Notification Process Plan***

In the event a tsunami is generated, such as from a North American plate earthquake, Cascadia Subduction Zone earthquake or a far field seismic event, notification will be transmitted from the National Tsunami Warning Centre (NTWC) to the Emergency Coordination Centre at EMBC. From this, the BC Tsunami Notification Process Plan will be activated by EMBC to disseminate tsunami notifications for the Province using the Provincial Emergency Notification System (PENS).

# BC Emergency Management System

The [BC Emergency Management System \(BCEMS\)](#) is a provincial emergency management system founded on the principles of the Incident Command System (ICS) and includes common language, span of control, management by objectives, and scalability. BCEMS ensures a consistent, coordinated, and organized response to emergency events and disasters and is used across ministries and jurisdictions in B.C.

BCEMS establishes the following response goals, in priority sequence:

1. Ensure the safety and health of responders;
2. Save lives;
3. Reduce suffering;
4. Protect public health;
5. Protect infrastructure;
6. Protect property;
7. Protect the environment; and
8. Reduce economic and social losses.

BCEMS identifies four operational levels:

**Site level** – Response on-site is directed by single command or unified command from a single on-site incident command post or, if there are several sites, by Area Command. Responders may represent all governments and the private sector.

**Site support** – When the site level response requires off-site support, an emergency operations centre (EOC), including local authority, and the private sector, may be activated to:

- provide communication with the site level;
- provide policy guidance;
- manage the local multiple-agency support to the site level; and
- acquire and deploy additional resources, obtained locally, from other EOCs or the provincial/regional level.

**Provincial regional coordination** – The provincial regional coordination level acts in support of the site support level, through Provincial Regional Emergency Operations Centres (PREOCs), and:

- manages the assignment of multiple-ministry and agency support to individual site support locations or multiple site support level locations;
- acquires and deploys resources at the request of the site support level; and
- provides emergency response services where incidents cross local authority boundaries, or where local authorities are not organized to fulfill their role.

**Provincial central coordination** – The provincial central coordination level, through the Provincial Emergency Coordination Centre (PECC) or Catastrophic Emergency Response and Recovery Centre (CERRC), manages the overall provincial government response, which includes the provision of support for the regional levels, and:

- seeks direction of senior elected officials;
- obtains authority of the minister for a declaration of a provincial emergency;
- provides provincial policy guidance;
- establishes provincial priorities;
- manages provincial emergency public information activities;
- manages the acquisition and deployment of provincial, federal, inter-provincial, and international resources; and
- provides coordination and other support services to provincial ministry and crown corporation operations centres, as well as federal emergency response agencies.



# Disproportionate Impacts

## Introduction

The consequences of a catastrophic earthquake in either Greater Vancouver and Greater Victoria would be widespread and affect all communities in the impact area. However, there are individuals and communities who would face disproportionate impacts from such an event. Experiences with past emergencies have shown that systemic inequities may lead to disproportionate impacts on certain populations. In the immediate response phase, resources and personnel will be limited, the scope of impacts will be significant and widespread, and time will be critical. Without concerted effort, response efforts may be insufficient to meet the immediate needs of those disproportionately impacted. This strategy recognizes the essential need to provide additional supports to these individuals and communities after a catastrophic earthquake.

This appendix summarizes how disproportionate impacts are considered throughout the strategy and includes a collection of maps prepared by Natural Resources Canada to accompany the earthquake scenario information provided in Section 2: Scenario and Anticipated Impacts.

## People and Communities

There are a variety of factors that can make people more likely to experience disproportionate impacts in the event of a catastrophic earthquake. These factors do not stand alone, but rather intersect in ways that impact one's ability to recover from a significant emergency event. See Section 6: Humanitarian Assistance and Relief Services and Section 2: Scenario and Anticipated Impacts for more information on factors that may cause people to experience disproportionate impacts.

A key step in mitigating disproportionate impacts is identifying which individuals and communities are most likely to experience these impacts. Future work to create operational-level plans may reveal gaps or identify opportunities to foster resilience. All future planning efforts should maintain a GBA+ perspective, and continue to engage with and respect Indigenous knowledge and ways of knowing.

## Isolated Communities

The unique consequences of a catastrophic earthquake have the potential to lead to the sudden geographic isolation of relatively remote communities. This is likely to exacerbate challenges in responding, particularly related to logistics and the provision of humanitarian aid. For more information on anticipated impacts for isolated communities, see Section 2: Scenario and Anticipated Impacts.

## First Nations

There is a recognized need for response efforts that are culturally appropriate – founded in wise practices and respectful of Indigenous values, expertise, and knowledge – to address the unique needs of First Nations and Indigenous Peoples. This is based on experience with previous emergency events, which demonstrated:

- First Nations are the experts for their communities. Provincial and federal agencies and other partners must make every effort to provide support as determined by the First Nation as per their constitutionally protected Indigenous rights;
- Emergency events are increasing in complexity, magnitude and frequency, and First Nations have varying levels of capacity to prepare for, respond to, and recover from these events;

- The absence of a culturally sensitive, flexible emergency management framework as a whole, and rigid western response and decision-making systems lack the tools to promote healing and curative practices during an emergency event;
- Historical evacuations are remembered as negative experiences due to an absence of culturally appropriate relief services;
- Community members routinely face prejudice in accessing emergency services; and
- Responding agencies made decisions for First Nations without recognizing rights to self-determination and existing Indigenous emergency systems in place.

Specific response considerations for First Nations in this strategy have been identified through:

- Engagement sessions with First Nations leadership, governments, and communities;
- Consultation with First Nations Emergency Program Coordinators (EPCs);
- Engagement with Indigenous emergency support organizations and response agencies; and
- Thorough and comprehensive literature review of Indigenous-led – and non-Indigenous – discussions papers, lessons learned, reports, findings, and recommendations.

## Social Vulnerability Mapping

Disproportionate impacts from a catastrophic earthquake cannot be defined by a single factor; a complete understanding must consider the multiple and compounding facets of a person's lived experience both simultaneously and in complement. While the insights gained through an intersectional lens can be difficult to integrate into larger-scale population considerations, efforts to do so can provide critical insight into furthering the understanding of disproportionate impacts.

Social vulnerability refers to an increased susceptibility of certain populations to the effects of natural hazards and depends on social factors that influence a community's capacity to identify, respond, and recover from natural hazard events<sup>8</sup>. The following three maps have been developed by Natural Resources Canada and lay out the theorized social vulnerability in relation to the two earthquake scenarios identified in this strategy. This quantitative analysis provides a visualization of complex social inequities, helps demonstrate how social vulnerability is experienced over space, and provides a basis for which qualitative information can be built.

Social vulnerability is mapped using a social vulnerability index. Values for this index range from 0 to 12, and higher values correspond with higher social vulnerability. The data incorporated include census population, demographic, and housing statistics and emphasizes four main themes: social capital, individual autonomy, housing conditions, and financial agency<sup>9</sup>. Communities or individuals that have greater access to resources that would help them withstand a natural hazard event are generally considered less socially vulnerable, while communities or individuals who may struggle to meet their needs in an emergency event are considered more socially vulnerable<sup>10</sup>.

The quantitative nature of the data used to produce these maps is included as demonstrative of the importance of considering social vulnerability across all catastrophic planning efforts.

8 Cutter, S. Finch, C. (2008). Temporal and spatial changes in social vulnerability to natural hazards. *PNAS*, 105(7) 2301 – 2306.

9 Journeay, J., Yip, J., Wagner, C., LeSueur, P., and Hobbs, T. (2022). Social vulnerability to natural hazards in Canada. Geological Survey of Canada, Open File, in preparation:xx.

10 Wisner, B., 2004. *At Risk: Natural Hazards, People's Vulnerability, and Disasters* (Vol. 2nd Edition). Routledge, London.

Figure 15 – Social Vulnerability Mapping of Greater Victoria

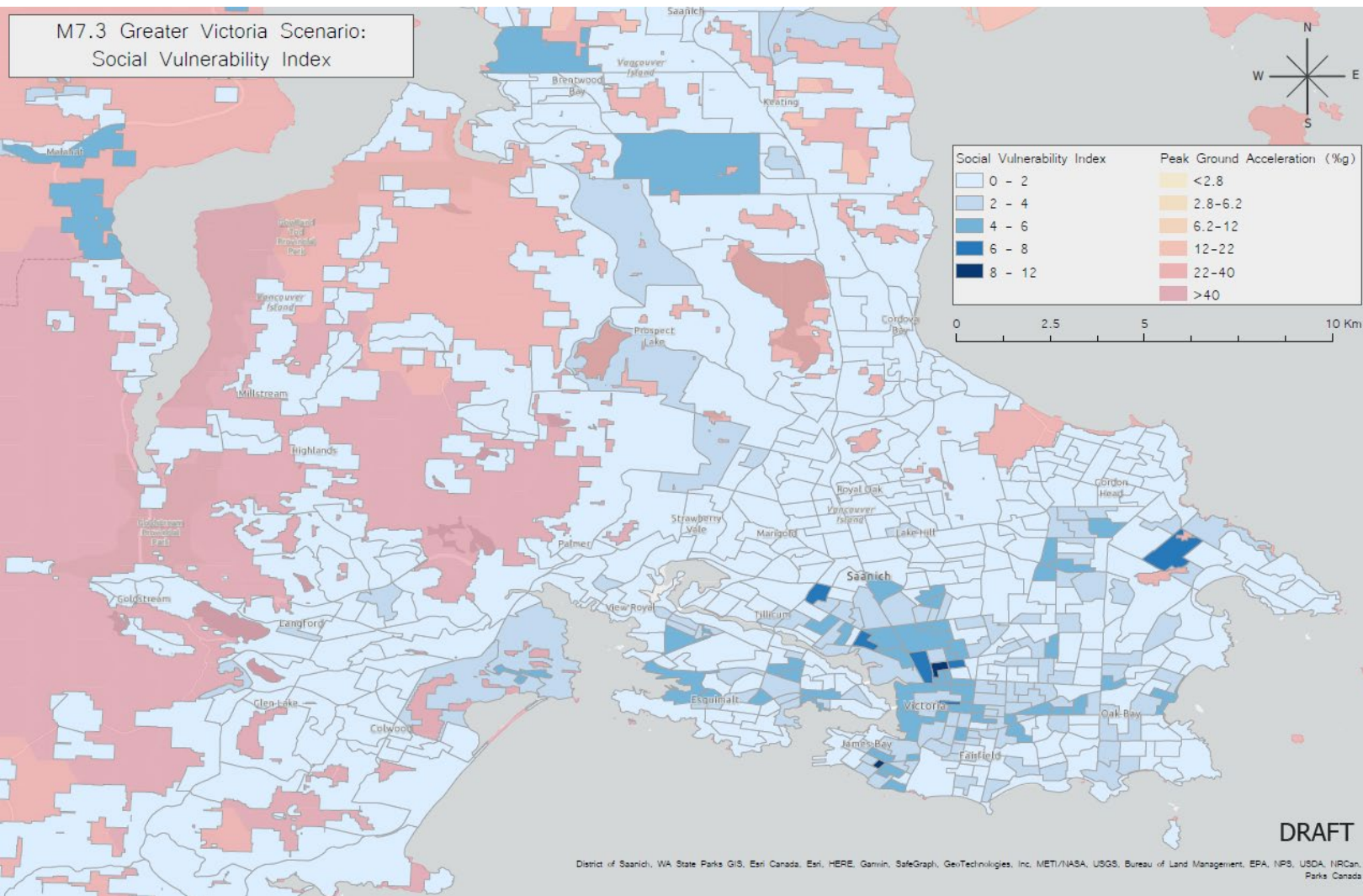




Figure 16– Social Vulnerability Mapping of Greater Vancouver

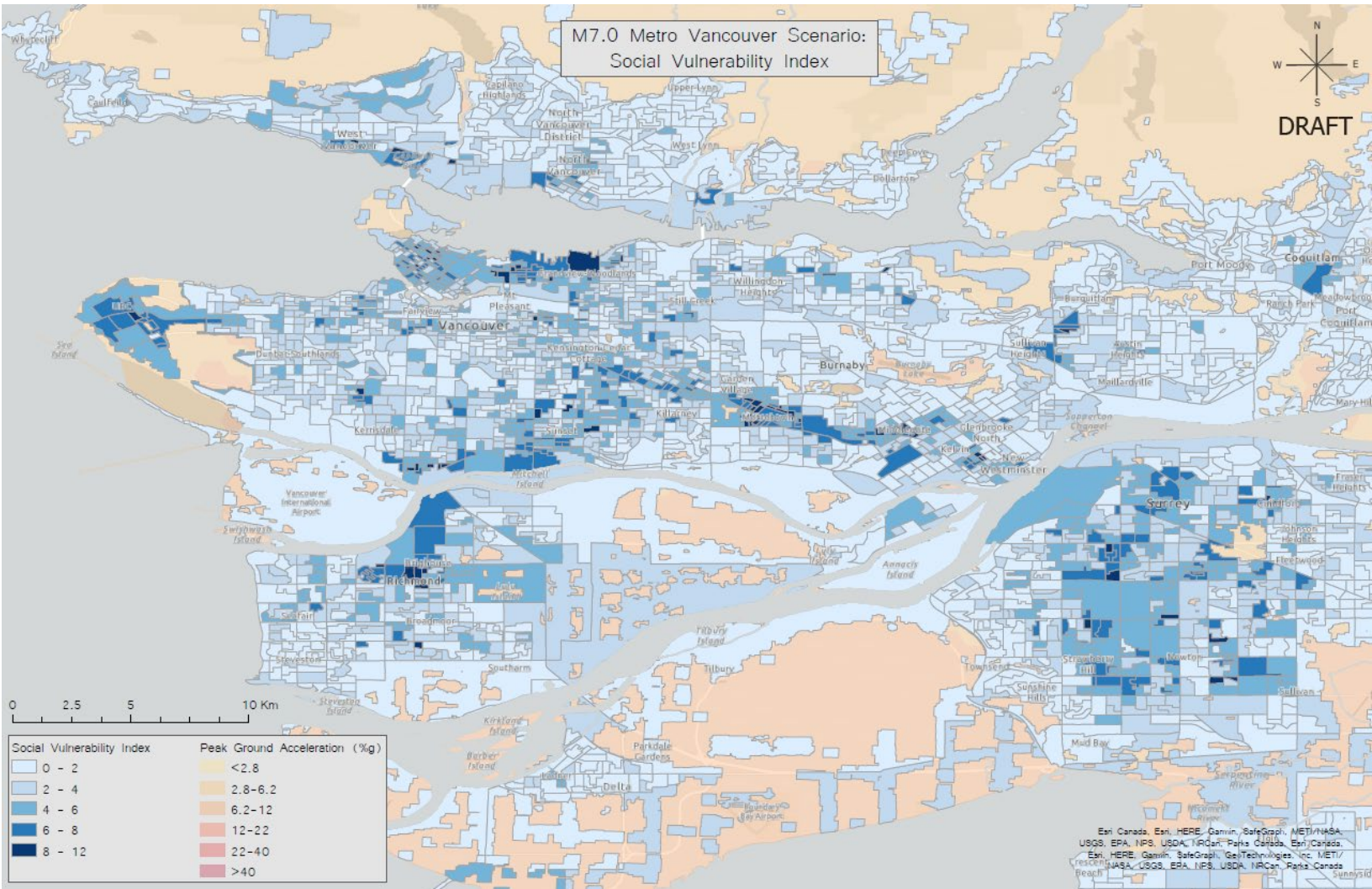
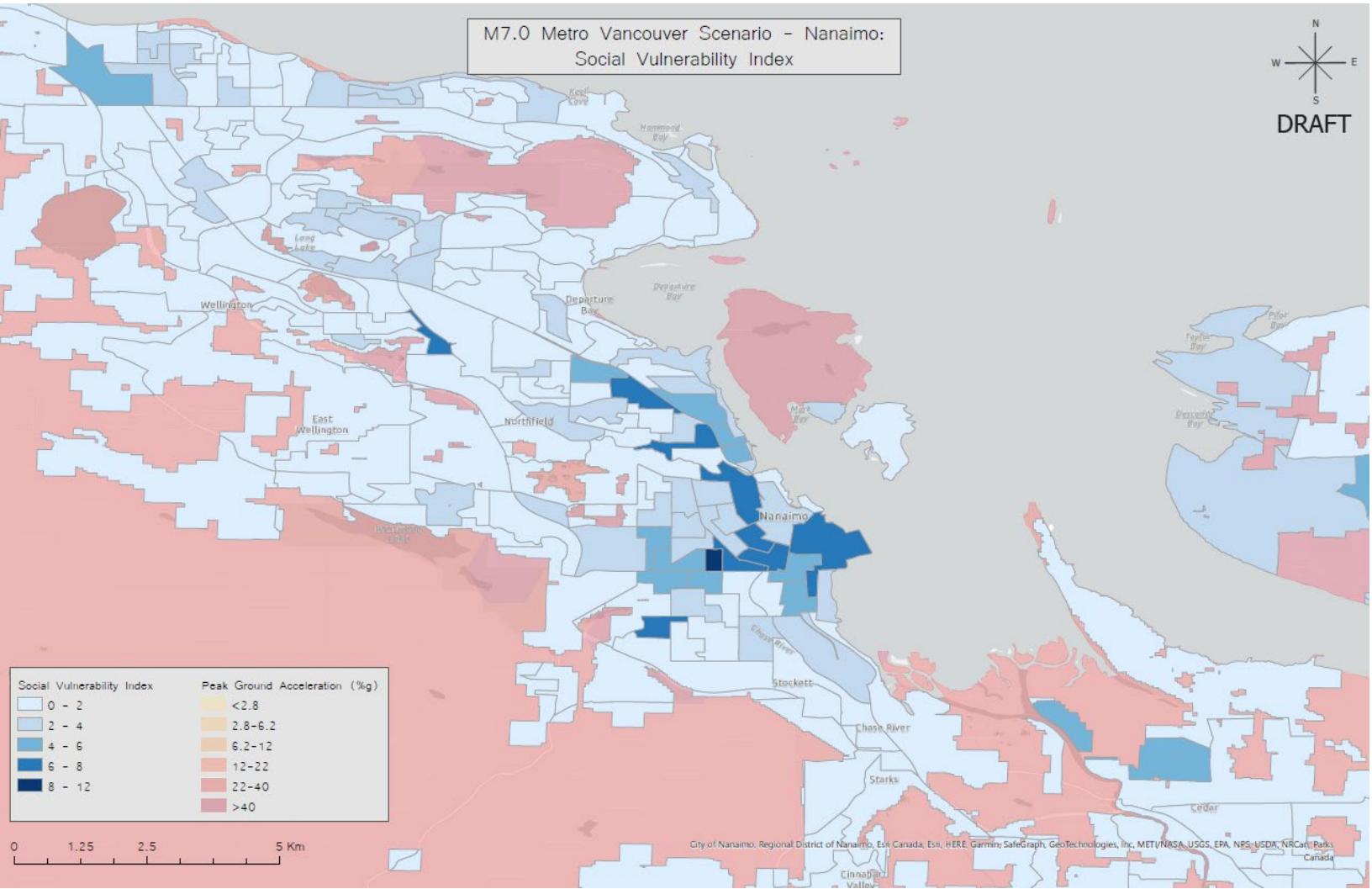


Figure 17 – Social Vulnerability Mapping of Nanaimo





# States of Provincial Emergency and Ministerial Orders

## Process for declaring a State of Provincial Emergency

- EMBC makes the recommendation to the Minister responsible for B.C.'s emergency management legislation to declare a State of Provincial Emergency (SOPE);
- If the Lieutenant Governor in Council or Minister is satisfied that an emergency exists or is imminent, they may, by order, make a declaration of a SOPE relating to all or part(s) of the province;
  - EMBC collaborates with Legal Services Branch to draft the SOPE declaration;
  - The SOPE declaration must describe the nature of the emergency and state the area to which the declaration is applicable;
  - A declaration expires 14 days after it is made, but the LGIC may extend the declaration in 14-day increments.
- Once made, the Minister must publish the SOPE declaration as soon as possible.

## State of Provincial Emergency Template

WHEREAS an earthquake occurs in the Province of British Columbia;

AND WHEREAS there exists an emergency and there is an imminent threat to lives, property and public safety;

AND WHEREAS this earthquake emergency requires prompt coordination of action or special regulation of persons or property to protect the health, safety or welfare of people or to limit damage to property;

NOW THEREFORE:

IT IS HEREBY ORDERED pursuant to Section 9(1) of the *Emergency Program Act* that a state of emergency exists in the entire Province of British Columbia;

IT IS FURTHER ORDERED THAT the Province of British Columbia, its employees, servants, and agents are empowered pursuant to Section 10(1) of the *Emergency Program Act* to do all acts and implement all procedures that are considered necessary to prevent or to alleviate the effects of the emergency.

ORDERED by the Minister responsible for the *Emergency Program Act* this date [date] to remain in force for 14 days until [date] at midnight unless cancelled by order of the Minister responsible or the Lieutenant Governor in Council.

[Signature]

## Process for issuing Ministerial Orders

- Once a SOPE is declared, the Minister may do all acts and implement all procedures considered necessary to prevent, respond to or alleviate the effects of an emergency or disaster, through Ministerial Orders (MOs);
- Draft MOs are prepared by EMBC in collaboration with Legal Services Branch, and may be co-developed with First Nations and/or Indigenous support organizations as needed;
  - Legal Services Branch advises on the necessary form and content of the MO;
  - Advance notice of forthcoming MOs is provided to EMBC’s Deputy Minister’s Office, Minister’s Office and Government Communications and Public Engagement (GCPE) Director, the Ministry of Public Safety and Solicitor General’s Corporate Policy and Priorities Branch (CPPB);
  - CPPB is to be included in distribution of draft and final MOs;
  - EMBC identifies considerations related to timing, including obtaining necessary signatures, and publication of and communication about MOs.
- Upon finalization, CPPB sends the MO to the Minister’s Office for signature;
- CPPB sends the signed MO to the Order-in-Council (OIC) office, where it is numbered and sent to the Queen’s Printer for publication to BCLaws;
- CPPB and/or the OIC office sends the final (signed and numbered) MO to EMBC, which provides the final MO to others for policy and/or operational purposes as needed and retains the final MO internally;
- EMBC communicates the use of MOs to emergency management partners through the Provincial Regional Emergency Operations Centres (PREOCs), the Provincial Emergency Coordination Centre (PECC), and/or the Catastrophic Emergency Response and Recovery Centre (CERRC).

## Emergency powers

Based on the *Emergency Program Act*, the matrix below identifies the powers available to the Minister in a declared SOPE per *Division 2 – Declaration of State of Emergency*. Powers (d) to (l) may also be used by local authorities in a State of Local Emergency. This matrix also contains examples of possible actions and considerations that may be taken during a catastrophic earthquake.

Section	Emergency Power	Potential Effects*	Planning Considerations
<b>10(1)(a)</b>	Implement a provincial emergency plan or any provincial emergency measure	Activation of relevant plans including the PEIRS, the Comprehensive Emergency Management Plan, the Mass Fatality Plan, and others.  Activation of regional decision-making structures for IPREM, REMP.	Availability of personnel to activate plans and address roles and responsibilities.  Impact of broader government operations.  Communicating plan activation.
<b>10(1)(b)</b>	Authorize a local authority to implement a local emergency plan or emergency measures for all or any part of the jurisdictional area for which the local authority has responsibility	Empowers local authorities to implement their emergency plans, including earthquake plans where present.	Despite this power, the capacity of local authorities to implement plans will likely be limited and delayed, so immediate effect may be limited.

Section	Emergency Power	Potential Effects*	Planning Considerations
10(1)(c)	Require a local authority for a municipality or an electoral area to implement a local emergency plan or emergency measures for all or any part of the municipality or electoral area for which the local authority has responsibility	Requiring local authorities to implement emergency plans through a MO.	<p>Impact of this action on relationship between Province and local authorities.</p> <p>Local authority capacity to respond will likely be limited and delayed, so immediate effect may be limited.</p> <p>Power cannot be delegated.</p>
10(1)(d)	Acquire or use any land or personal property considered necessary to prevent, respond to or alleviate the effects of an emergency or disaster	Building temporary public works, or using property for provincial and regional staging areas, community points of distribution, temporary morgues, or humanitarian assistance sites.	<p>Province may be required to assume liability and pay compensation for use.</p> <p>Impacts on and disruptions to other uses, programs, and services.</p>
10(1)(e)	Authorize or require any person to render assistance of a type that the person is qualified to provide or that otherwise is or may be required to prevent, respond to, or alleviate the effects of an emergency or disaster	Increasing surge capacity and supports prioritizing the delivery of emergency response and other essential services. May include activating skilled trades workers, medical personnel, professional engineers, or equipment operators.	<p>Availability of personnel.</p> <p>Exemptions from civil liability and compensation and reimbursement for services.</p> <p>Employment protection for activated personnel.</p>
10(1)(f)	Control of prohibit travel to or from any area of British Columbia	Restricting unnecessary access to/within the impact area, prioritizing access for emergency responders and other essential personnel, or controlling and prioritizing access to major transportation hubs and routes.	<p>Availability of personnel to implement and enforce travel restrictions.</p> <p>Impacts to economic activity and supply chains outside the impact area.</p>
10(1)(g)	Provide for the restoration of essential facilities and the distribution of essential supplies and provide, maintain, and coordinate emergency medical, welfare and other essential services in any part of British Columbia	Ordering the deployment of resources, directing companies with specialized expertise to support operations, or prioritizing and directing resources to restore critical facilities such as shelters, utilities, and critical transportation routes.	<p>Competing mandates, legislation, and priorities.</p> <p>Availability of personnel, materials, and equipment to support.</p> <p>Necessity of collaborating with private industry viz. <i>Competition Act</i>.</p> <p>Defining “essential”, applying cultural considerations and GBA+ assessment.</p>

Section	Emergency Power	Potential Effects*	Planning Considerations
10(1)(h)	Cause the evacuation or persons and the removal of livestock, animals, and personal property from any area of British Columbia that is or may be affected by an emergency or a disaster and make arrangements for the adequate care and protection of those persons, livestock, animals and personal property	Evacuating unsafe buildings, activating humanitarian assistance supports for impacted people and animals, providing security for evacuated areas.	<p>Ensuring coordination between partners, including the Ministry of Agriculture and Food, other provincial and federal partners, and relevant NGOs.</p> <p>Culturally-appropriate evacuations and GBA+ assessment to ensure protections are in place.</p> <p>Availability of personnel and supplies to support.</p> <p>Psychosocial implications of concern for pets and livestock.</p>
10(1)(i)	Authorize the entry into any building or on any land, without warrant, by any person in the course of implementing an emergency plan or program or if otherwise considered by the Minister to be necessary to prevent, respond to or alleviate the effects of an emergency or disaster	Allows for damage assessments, access to utilities that are located on private property, and mitigative and/or repair works to prevent further damage or address risks to public safety.	<p>Necessary to have a clear rationale for accessing specific private properties.</p> <p>Exemptions from civil liability and trespass charges for responders.</p>
10(1)(j)	Cause the demolition or removal of any trees, structures, or crops if the demolition or removal is considered by the Minister to be necessary to prevent, respond to or alleviate the effects of an emergency or disaster	Demolition of unsafe structures, removal of debris to re-establish critical transportation routes or other utilities, restoring critical environmental features (e.g., river flows) to mitigate risks to public safety.	<p>Protection for culturally significant sites, heritage sites, and important environmental features (e.g., traditional food sources).</p> <p>Provincial, federal, Indigenous, and local coordination.</p> <p>Potential loss of income due to removals.</p>
10(1)(k)	Construct works considered by the Minister to be necessary or appropriate to prevent, respond to or alleviate the effects of an emergency or disaster	Construction of temporary roads, bridges, or access routes to re-establish critical transportation routes, temporary housing, or other public works.	<p>Exemptions to building codes/standards and zoning.</p> <p>Access to personnel, materials, and equipment.</p> <p>Linkages to longer-term recovery.</p>

Section	Emergency Power	Potential Effects*	Planning Considerations
10(1)(l)	Procure, fix prices for or ration food, clothing, fuel, equipment, medical supplies and the use of any property, services, resources, or equipment within any part of British Columbia for the duration of the state of emergency	Ensures that responders have access to limited resources and that the public has access to essential supplies. Rationing may enable the equitable sharing of critical or limited resources.	<p>Impacts on markets, supply and demand, fair pricing, and <i>Competition Act</i>.</p> <p>Public confidence in supply chains.</p> <p>GBA+ assessment, economic equity, and market stabilization.</p> <p>Enforcement of resource distribution.</p>

**\*Note:** Potential effects described are examples and are not exhaustive.



## EMBC Regional Offices and Contact Information



Note: This map is only an approximation. The EMBC Regions are based on the existing boundaries of regional districts, and municipalities.

Region	Contact Information	Regional Districts/Municipalities
<b>Vancouver Island Coastal Region</b>	Block A – Suite 200 2261 Keating Cross Road Saanichton B.C. V8M 2A5  Tel: 250-952-5848 Fax: 250-952-4304  Email: <a href="mailto:EMBC.VIRAdmin@gov.bc.ca">EMBC.VIRAdmin@gov.bc.ca</a>	Regional District of Alberni-Clayoquot Capital Regional District Central Coast Regional District Comox Valley Regional District Cowichan Valley Regional District Mount Waddington Regional District qathet Regional District Strathcona Regional District

Region	Contact Information	Regional Districts/Municipalities
<p><b>South West Region</b></p>	<p>14292 Green Timbers Way Surrey B.C. V3T 0J4</p> <p>Tel: 604-586-4390 Fax: 604-586-4334</p> <p>Email: <a href="mailto:EMBC.SWEAdmin@gov.bc.ca">EMBC.SWEAdmin@gov.bc.ca</a></p>	<p>Fraser Valley Regional District Metro Vancouver Regional District Squamish-Lillooet Regional District Sunshine Coast Regional District</p>
<p><b>Central Region</b></p>	<p>1255-D Dalhousie Drive Kamloops B.C. V2C 5Z5</p> <p>Tel: 250-371-5240 Fax: 250-371-5246</p> <p>Email: <a href="mailto:EMBC.CTLAdmin@gov.bc.ca">EMBC.CTLAdmin@gov.bc.ca</a></p>	<p>Regional District of Central Okanagan Regional District of Okanagan-Smilikameen Thompson-Nicola Regional District Regional District of Columbia Shuswap (only the area including the communities of: Anglemont, Falkland, Salmon Arm, Sicamous, Canoe, Malakwa, Sorrento, Tappen) Regional District of North Okanagan</p>
<p><b>South East Region</b></p>	<p>101-333 Victoria Street Nelson B.C. V1L 4K3</p> <p>Tel: 250-354-5904 Fax: 250-354-6561</p> <p>Email: <a href="mailto:EMBC.SEAAdmin@gov.bc.ca">EMBC.SEAAdmin@gov.bc.ca</a></p>	<p>Regional District of Central Kootenay Regional District of Columbia-Shuswap (less the area including the communities of: Anglemont, Falkland, Salmon Arm, Sicamous, Canoe, Malakwa, Sorrento, Tappen) Regional District of East Kootenay Regional District of Kootenay Boundary</p>
<p><b>North West Region</b></p>	<p>Suite 1B-3215 Eby Street Terrace B.C. V8G 2X8</p> <p>Tel: 250-615-4800 Fax: 250-615-4817</p> <p>Email: <a href="mailto:EMBC.NWEAdmin@gov.bc.ca">EMBC.NWEAdmin@gov.bc.ca</a></p>	<p>Regional District of Bulkley-Nechako Regional District of Kitimat-Stikine North Coast Regional District Stikine (Unincorporated)</p>

Region	Contact Information	Regional Districts/Municipalities
<p><b>North East Region</b></p>	<p>3235 Westwood Drive Prince George B.C. V2N 1S4</p> <p>Tel: 250-612-4172 Fax: 250-612-4171</p> <p>Email: <a href="mailto:EMBC.NEAdmin@gov.bc.ca">EMBC.NEAdmin@gov.bc.ca</a></p>	<p>Northern Rockies Regional Municipality Cariboo Regional District Regional District of Fraser-Fort George Peace River Regional District</p>
<p><b>Headquarters</b></p>	<p>Block A – Suite 200 2261 Keating Cross Road Saanichton B.C. V8M 2A5</p> <p>Tel: 250-952-4913 Fax: 250-952-4888</p>	<p>N/A</p>

## Requests for Federal Assistance

### Request for Federal Assistance Process

A Request for Assistance (RFA) is the formalization of the need, at the request of the Province, for the federal government to provide support towards emergency response efforts. The Province must indicate the desired effects and/or capabilities they require, and confirm that all other potential resources within the Province, including private sector/commercial resources, have been considered and are already engaged, inadequate, unavailable or non-existent. The Government Operations Centre (GOC) is the point of entry of the RFA into the Government of Canada and the Public Safety Canada Regional Director (RD) acts as the senior GOC representative in the federal region.

The RD maintains a liaison capability with the Province, within the PECC/CERRC, on behalf of the GOC and facilitates direct information sharing between the PECC/CERRC and the GOC. The facilitation/liaison function includes working with the Province as it prepares correspondence to the federal Minister of Public Safety requesting federal assistance. The formal RFA will be made by the Minister responsible for emergency management in B.C. In cases of urgency, a senior official with authority to speak on behalf of the Province may request the assistance with formal ministerial correspondence to follow.

Once received, the GOC's primary logistics responsibility requires the coordination of sourcing and deployment of materiel and human resources in response to the request. Concurrently, the RD will source within the region through the Federal Coordination Group (FCC), which coordinates the regional federal response planning in support of and in conjunction with national planning at the direction of the GOC.

### REQUEST FOR FEDERAL ASSISTANCE TEMPLATE LETTER

[Date]

The Honourable [Minister's Name]  
 Minister of Public Safety and Emergency Preparedness  
 House of Commons  
 Ottawa, Ontario K1A 0A6

Dear Minister:

The Province of British Columbia has been severely affected by a catastrophic earthquake in the impacted area resulting in a catastrophic impact on the people and Critical Infrastructure. It is immediately apparent that the situation requires resources beyond those currently available in British Columbia, although the Province is still determining the specifics of the destruction. Life-saving efforts are the immediate priority while life-sustaining capabilities will also be required at the earliest opportunity as the available resources will be quickly expended.

As such, the Province of British Columbia immediately requires the following capabilities (NOTE: the following are examples only and should be modified as needed; see also Appendix H: Critical Resource List):

- **Heavy urban search and rescue capabilities** to operate in a self-sufficient mode in austere conditions within a large, high-density city where the estimated casualties are [#] and the size of the search area is [#].
- **Reconnaissance** of the following sites impacted and surrounding areas [*identify impact area*] by satellite, aerial, and marine modes to provide imagery and comprehensive reports on status of these sites to develop the common operating picture.
- **Engineering expertise** to augment provincial resources to conduct engineer/structural assessments of life-safety and life-sustaining Critical Infrastructure.
- **Nourishment and water**, including food storage capability, to feed, hydrate and maintain healthy conditions for [#] people for an indeterminate period of time, to be clarified at a later date.
- **Air and/or marine transportation** [*add additional detail including type of assets*] to support the movement of essential goods and personnel, to be staged in [*staging location*].
- **Provision of adequate sewage disposal and sanitation** for # people.
- **Provision for the coordination of international humanitarian organizations** with a view to ensuring they are principled, timely, effective and efficient, and contribute to longer-term recovery
- **Provision of mass fatality temporary storage capability** to safely store # fatalities
- **Provision of humanitarian assistance** to provide cots and bedding for # people
- **Provision of temporary lodging facilities**, including portable structure for # people
- **Provision of auxiliary power** to [*identify numbers and required capacity*]

Therefore, I, [Minister's name], British Columbia Minister responsible for emergency management, request provision of federal resources to meet the desired effects in support of the current response to this disaster. These resources will be released at the earliest opportunity when they are no longer required for life-safety or life-sustaining measures.

{{Minister's Signature}}



## Critical Resource List

The following resources have been identified as potential requirements for the response effort. These resources are considered critical as they may be in high demand, need to be supplemented because existing resources are inadequate, or are not available within the province. In the immediate response phase following a catastrophic event, the Provincial Emergency Coordination Centre (PECC)/Catastrophic Emergency Response and Recovery Centre (CERRC) and Provincial Regional Emergency Operations Centres (PREOCs) will proactively begin to push emergency supplies into staging areas and community points of distribution (CPODs) to then assist impacted communities. The coordination and allocation of the following resources may be handled by the PECC/CERRC to support the response effort in the event of shortages or competition for scarce resources. In addition, the Province of Alberta, coordinated through the Alberta Emergency Management Agency (AEMA), and the Government of Canada, coordinated through the Government Operations Centre (GOC), will source procure and deploy these resources based on requests to activate the Alberta Emergency Response Plan for a Catastrophic Earthquake in B.C. and requests for assistance (RFA). The Province may also request these resources through regional and national agreements, such as the Emergency Management Mutual Aid Agreement (EMMA) and the Pacific Northwest Emergency Management Arrangement (PNEMA).

Resources deemed critical to the response will be coordinated by the PECC/CERRC, and, on request, will be allocated to agencies, PREOCs or emergency operations centres (EOCs) permanently or on a temporary basis, within a fixed time limit. As the situation stabilizes, resources may no longer be deemed critical and will be made available as a general resource.

Number	Capability	Requirement
1	Urban Search and Rescue Teams	<ul style="list-style-type: none"> <li>• Must be logistically self-supporting.</li> <li>• Must be self-deployable to B.C.</li> <li>• Must meet International Search and Rescue Advisory Group (INSARAG) standards.</li> </ul>
2	Rescue/ Personnel Teams	<ul style="list-style-type: none"> <li>• All rescue personnel/teams to augment on-ground resources.</li> <li>• Must be self-supporting for seven days.</li> </ul>
3	Damage Assessment	<ul style="list-style-type: none"> <li>• Building inspectors, structural and civil engineers to assess buildings, Critical Infrastructure and unstable ground. Likely to have no limit to the number of qualified rapid damage assessors required.</li> <li>• Geotechnical engineers to assess landslides, slope stability issues, foundation issues, liquefaction issues and other geotechnical issues.</li> </ul>
4	Air Transportation (Helicopter)	<ul style="list-style-type: none"> <li>• Likely no limit on the number of helicopters required.</li> <li>• Helicopter providers may be required to be based from remote field conditions.</li> <li>• Should be able to provide own maintenance.</li> </ul>

Number	Capability	Requirement
5	Air Transportation (Airplane)	<ul style="list-style-type: none"> <li>• Movement of supplies, casualties, and personnel.</li> </ul>
6	Marine Transportation	<ul style="list-style-type: none"> <li>• Ideally, ships will be equipped with cranes.</li> <li>• Amphibious vessels capable of beach landings or loading landing craft.</li> <li>• Roll-on, roll-off capability.</li> </ul>
7	Ship Ports and Loading Infrastructure	<ul style="list-style-type: none"> <li>• Facilities and equipment to receive cargoes, load containers and ships, and forward manifests.</li> </ul>
8	Reconnaissance	<ul style="list-style-type: none"> <li>• Satellite imagery.</li> <li>• Aerial reconnaissance (including fixed-wing aircrafts and drones).</li> <li>• Marine reconnaissance.</li> <li>• Ground reconnaissance.</li> </ul>
9	Telecommunications Support Staff	<ul style="list-style-type: none"> <li>• Capable of digital transmission.</li> <li>• Able to be integrated into standard computer networks.</li> <li>• Satellite telephones and data.</li> <li>• Telecommunications infrastructure (mobile towers for re-establishing cell networks).</li> <li>• Portable FM radio towers.</li> <li>• Amateur radio operators.</li> </ul>
10	Coordination of Humanitarian Assistance	<ul style="list-style-type: none"> <li>• Trained expertise in leading and coordinating the efforts of humanitarian organizations with a view to ensuring that they are principled, timely, effective and efficient, and contribute to longer-term recovery.</li> <li>• Trained in cluster coordination, data and information management, needs assessments, joint planning, monitoring, evaluation and reporting.</li> </ul>
11	Emergency Operations Centre Staff	<ul style="list-style-type: none"> <li>• Trained ICS staff to augment EOCs.</li> </ul>
12	Auxiliary PowerSources	<ul style="list-style-type: none"> <li>• For generation of residential services.</li> <li>• For generation of emergency services, such as hospitals and other services.</li> </ul>
13	Critical Utilities (see CI Section) Specialists and Trades	<ul style="list-style-type: none"> <li>• Engineers, technicians and equipment for restoration of services.</li> </ul>

Number	Capability	Requirement
14	Fuel and Fuel Storage	<ul style="list-style-type: none"> <li>• All types of fuel will be required:               <ul style="list-style-type: none"> <li>• Gas</li> <li>• Natural gas</li> <li>• Diesel</li> <li>• Aviation fuel</li> <li>• Oil</li> <li>• Propane</li> <li>• Other fuel types</li> </ul> </li> <li>• Mobile fuel transport, storage vehicles (e.g. bowzers) and temporary storage facilities (e.g. bladders).</li> </ul>
15	Water (Distribution and Storage)	<ul style="list-style-type: none"> <li>• Storage for up to 15 million litres of bulk and bottled potable water per day.</li> <li>• Includes large and small storage sites and distribution capabilities.</li> </ul>
15a	Water Purification	<ul style="list-style-type: none"> <li>• Up to five million tablets per day.</li> <li>• Desalination capabilities.</li> <li>• Mobile purification capabilities.</li> <li>• Must meet World Health Organization (WHO) standards.</li> </ul>
16	Food and Water Provisions (for public, first responders, and surge support)	<p>Food and water for one million people:</p> <ul style="list-style-type: none"> <li>• three meals per day for an average of 2,100 calories per person.</li> <li>• 15 litres of water/day for drinking, cooking, and hygiene.</li> </ul>
16a	Meal Delivery	<p>Capability to provide cooked meals in an emergency/field setting for displaced people and response personnel.</p>
17	Refrigeration (for food and medical supplies)	<ul style="list-style-type: none"> <li>• Variation of requirements ranging from ice and portable coolers to industrial size fridges and freezers.</li> <li>• Large, transportable storage containers.</li> </ul>
18	Shelter (ability to accommodation large numbers of evacuees and surge support staff)	<ul style="list-style-type: none"> <li>• Requirements will vary depending on impact, season, and weather (e.g., heating and/or cooling capabilities for shelters).</li> <li>• Large shelter arrangements for responders and hospital patients.</li> <li>• Small shelter arrangements for individual/family units.</li> </ul>
17	Refrigeration (for food and medical supplies)	<ul style="list-style-type: none"> <li>• Variation of requirements ranging from ice and portable coolers to industrial size fridges and freezers.</li> <li>• Large, transportable storage containers.</li> </ul>
18	Shelter (ability to accommodation large numbers of evacuees and surge support staff)	<ul style="list-style-type: none"> <li>• Requirements will vary depending on impact, season, and weather (e.g., heating and/or cooling capabilities for shelters).</li> <li>• Large shelter arrangements for responders and hospital patients.</li> <li>• Small shelter arrangements for individual/family units.</li> </ul>

Number	Capability	Requirement
18a	Temporary Shelter Staffing	<ul style="list-style-type: none"> <li>Shelter support teams to plan, prepare, provide, manage, and maintain temporary shelters.</li> </ul>
18b	Sleeping Supplies	<ul style="list-style-type: none"> <li>Ability to provide sleeping supplies for up to 35,000 people<sup>10</sup>.</li> <li>Includes mattresses, cots, and bedding (blankets/sleeping bags, pillows, etc.) for # personnel.</li> </ul>
19	Hygiene Facilities	<ul style="list-style-type: none"> <li>Washing facilities, including maintenance capability, for large numbers of people and emergency services facilities.</li> </ul>
20	Sanitation (including sewage removal)	<ul style="list-style-type: none"> <li>5,000-10,000 portable toilets.</li> <li>Sewage and waste disposal capabilities.</li> </ul>
21	Hygiene Supplies	<ul style="list-style-type: none"> <li>Toilet paper, paper towels, cleaning supplies, feminine hygiene products and diapers.</li> </ul>
22	Heavy Equipment	<ul style="list-style-type: none"> <li>Various types of heavy equipment and heavy equipment operators to transport and dispose of large amounts of debris.</li> </ul>
23	Healthcare (Emergency, Critical, Acute, Surgical)	<ul style="list-style-type: none"> <li>Teams and equipment to augment existing medical facilities.</li> <li>Distribution site for pharmaceuticals.</li> <li>Deployable field hospitals with medical teams that are logistically self-supporting.</li> <li>Meets WHO/Pan American Health Organization standards.</li> </ul>
24	Healthcare (Primary Care)	<p>Medical teams:</p> <ul style="list-style-type: none"> <li>Must meet WHO/Health Canada standards.</li> <li>Must meet provincial and health authority licensing requirements.</li> </ul>
25	Psycho-Social Support	<ul style="list-style-type: none"> <li>Psycho-social teams of trained psychological first aid providers.</li> </ul>
26	Critical Patient Transport (Air and Ground)	<ul style="list-style-type: none"> <li>Medical evacuation platforms for casualty transport.</li> <li>Ambulances, air ambulances, and crews.</li> <li>Meet operational and licensing requirements of BC Ambulance Service.</li> </ul>
27	Ground Transportation (for Response Personnel)	<ul style="list-style-type: none"> <li>Various passenger vehicles with drivers to transport response personnel.</li> </ul>
28	Animal Intake Facilities	<ul style="list-style-type: none"> <li>Facilities and staff to intake and care for displaced animals.</li> </ul>

Number	Capability	Requirement
29	Pet Supplies	<ul style="list-style-type: none"> <li>• Food for dogs, cats, small pets, hobby farm animals, and exotic pets (dry and wet).</li> <li>• Litter and hay.</li> <li>• Crates and bedding.</li> </ul>

<sup>10</sup> This number is based on 70,000 displaced persons for the Greater Vancouver Scenario. Approximately half are expected to shelter in place or with friends and family. Half of the remaining will be sourced provincially with approximately 35,000 individual sleeping supplies required.



# Critical Information Requirements

The following table contains Critical Information Requirements (CIRs) to guide information gathering and reporting efforts. The table describes:

1. CIRs;
2. Information Categories: category groups of information within a CIR. Note: some information categories may not be applicable to a given CIR;
3. Specific Information Required: the specific questions to be answered for each information category within a CIR. Note: Some questions may not be applicable to a given information category;
4. Information Source: the potential ministries, agencies, authorities, and sources that may have the required information. Information sources may “push” the required info, or the responsible authority may “pull” the information from the source;
5. Responsible Authority: responsible agencies tasked with collecting, analyzing, collating, and disseminating the information to the Provincial Emergency Coordination Centre (PECC)/Catastrophic Emergency Response and Recovery Centre (CERRC); and
6. Reporting Requirements: the method for transmitting the information. Information should be transmitted as soon as possible.

CIR#	CIR	Information Categories	Specific Information Required	Information Source	Responsible Authority	Reporting Requirements
1	Event characteristics and impacts	<ul style="list-style-type: none"> <li>• Initial earthquake event</li> <li>• Secondary effects:               <ul style="list-style-type: none"> <li>• Aftershocks</li> <li>• Tsunamis</li> <li>• Fires</li> <li>• Landslides</li> <li>• Liquefaction</li> <li>• Hazardous Material</li> <li>• Flood/Inundation</li> <li>• Environmental</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Date/Time</li> <li>• Location</li> <li>• Event parameters (depth, size, scope, magnitude, area)</li> <li>• Distances from communities</li> <li>• Severity of damage</li> <li>• Extent of damage</li> <li>• Affected jurisdictions (national, provincial, regional, First Nations, Local Authorities)</li> <li>• Assets at risk</li> <li>• Hazards or threats</li> </ul>	<ul style="list-style-type: none"> <li>• Earthquake — NRCan, USGS</li> <li>• Tsunami — DFO, NOAA, NTWC</li> <li>• BC SIMS (Ministry of Transportation and Infrastructure)</li> <li>• First Responders</li> <li>• EOCs — First Nations and Local Authorities</li> <li>• CI owners/operators</li> <li>• Media</li> <li>• Social media</li> <li>• B.C. Government Website: gov.bc.ca</li> <li>• Call Centre</li> </ul>	<ul style="list-style-type: none"> <li>• Federal Government departments/agencies</li> <li>• Provincial Ministries — MOCs/DOCs</li> <li>• EMBC Emergency Coordination Centre (ECC)</li> <li>• PREOCs</li> <li>• EOCs — First Nations and Local Authorities</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal and/or electronic</li> <li>• Updates</li> <li>• Coordination conference calls</li> <li>• Initial damage assessments</li> <li>• Amateur Radio</li> <li>• Situation</li> <li>• Remote Sensing Systems</li> </ul>

CIR#	CIR	Information Categories	Specific Information Required	Information Source	Responsible Authority	Reporting Requirements
2	<b>Casualty status and impacts</b>	<ul style="list-style-type: none"> <li>Deaths</li> <li>Injuries</li> <li>Trapped persons</li> <li>Displaced persons</li> <li>Special needs</li> <li>Vulnerable populations</li> </ul>	<ul style="list-style-type: none"> <li>Numbers</li> <li>Locations</li> <li>Status</li> <li>Onsite capacity to manage</li> <li>Prioritized triage</li> <li>Special-care needs</li> <li>Resource concerns/needs</li> <li>Vulnerable populations</li> </ul>	<ul style="list-style-type: none"> <li>Responder agencies</li> <li>Medical facilities</li> <li>EOCs — First Nations and Local Authorities</li> <li>Media</li> <li>Social media</li> <li>Community-based organizations</li> <li>B.C Government Website: gov.bc.ca</li> <li>Call Centre</li> </ul>	<ul style="list-style-type: none"> <li>Federal Government departments/agencies</li> <li>Provincial Ministries — MOCs/DOCs</li> <li>PREOCs</li> <li>EOCs — First Nations and Local Authorities</li> <li>Private sector EOCs</li> </ul>	<ul style="list-style-type: none"> <li>Verbal and/or electronic</li> <li>Updates</li> <li>Coordination conference calls</li> <li>Amateur Radio</li> <li>Situation reports</li> </ul>
3	<b>Structures status and impacts</b>	<ul style="list-style-type: none"> <li>Government</li> <li>Commercial</li> <li>CI (dams, bridges, etc.)</li> <li>Schools</li> <li>Hospitals</li> <li>Prisons</li> <li>Residential</li> </ul>	<ul style="list-style-type: none"> <li>Location</li> <li>Impacts</li> <li>Usability</li> <li>Generator run time (how long will generators run based on current fuel supply)</li> <li>Hazards or threats</li> </ul>	<ul style="list-style-type: none"> <li>PREOCs</li> <li>EOCs — First Nations and Local Authorities</li> <li>Provincial ministries</li> <li>CI owners/operators</li> <li>Private sector</li> <li>Social media</li> <li>B.C. Government Website: gov.bc.ca</li> <li>Call Centre</li> </ul>	<ul style="list-style-type: none"> <li>Provincial Ministries — MOCs/DOCs</li> <li>PREOCs</li> <li>EOCs — First Nations and Local Authorities</li> <li>Private sector EOCs</li> </ul>	<ul style="list-style-type: none"> <li>Verbal and/or electronic</li> <li>Updates</li> <li>Coordination conference calls</li> <li>Initial damage assessments</li> <li>Amateur Radio</li> <li>Situation reports</li> <li>Remote Sensing Systems</li> </ul>
4	<b>Key government leadership and EOCs status and impacts</b>	<ul style="list-style-type: none"> <li>Cabinet facilities</li> <li>Cabinet</li> <li>MOCs/DOCs</li> <li>Regional EOCs</li> <li>Local authority EOCs</li> </ul>	<ul style="list-style-type: none"> <li>Operational status</li> <li>Estimated scope of damage, time to resumption of operations</li> <li>Impacts</li> <li>Resource concerns/needs</li> </ul>	<ul style="list-style-type: none"> <li>Provincial ministries</li> <li>Crown corporations</li> <li>EOCs — First Nations and Local Authorities</li> <li>Media</li> <li>Social media</li> <li>B.C. Government Website: gov.bc.ca</li> <li>Call Centre</li> </ul>	<ul style="list-style-type: none"> <li>Federal departments/agencies</li> <li>Provincial Ministries — MOCs/DOCs</li> <li>PREOCs</li> <li>EOCs — First Nations and Local Authorities</li> </ul>	<ul style="list-style-type: none"> <li>Verbal and/or electronic</li> <li>Updates</li> <li>Coordination conference calls</li> <li>Situation reports</li> </ul>
5	<b>Emergency services status and impacts</b>	<ul style="list-style-type: none"> <li>Federal Government departments/agencies</li> <li>Police</li> <li>Fire</li> <li>Ambulance</li> <li>Hospital</li> <li>SAR</li> <li>Public Safety Lifeline Volunteer (PSLV) groups</li> </ul>	<ul style="list-style-type: none"> <li>Operational status</li> <li>Estimated scope of damage</li> <li>Estimated time to operational</li> <li>Impacts</li> </ul>	<ul style="list-style-type: none"> <li>Responder agencies</li> <li>Health authorities</li> <li>SAR groups</li> <li>PSLV groups</li> </ul>	<ul style="list-style-type: none"> <li>Provincial Ministries — MOCs/DOCs</li> <li>PREOCs</li> <li>EOCs — First Nations and Local Authorities</li> </ul>	<ul style="list-style-type: none"> <li>Verbal and/or electronic</li> <li>Updates</li> <li>Coordination conference calls</li> <li>Situation reports</li> </ul>

CIR#	CIR	Information Categories	Specific Information Required	Information Source	Responsible Authority	Reporting Requirements
6	<b>Communication Systems status and impacts</b>	<ul style="list-style-type: none"> <li>• Government</li> <li>• Emergency-services communications               <ul style="list-style-type: none"> <li>• 911 service</li> <li>• First responder</li> </ul> </li> <li>• communication systems</li> <li>• Telecom               <ul style="list-style-type: none"> <li>• Voice network</li> <li>• Data network</li> <li>• Wireless network</li> <li>• Satellite network</li> <li>• Radio network</li> <li>• Television network</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Operational status</li> <li>• Capacity/capabilities</li> <li>• Estimated scope of damage</li> <li>• Estimated time to operational</li> <li>• Impacts</li> <li>• Resource concerns/needs</li> </ul>	<ul style="list-style-type: none"> <li>• MOCs</li> <li>• IT Operations Centre (Citizens' Services — OCIO)</li> <li>• Telecom CI owners/operators</li> <li>• Industry Canada</li> <li>• Public Safety Answering Points</li> <li>• Radio Network operators (e.g. E-Comm,CREST)</li> <li>• Internet Service Providers (ISPs)</li> <li>• Fibre Optic Network owners</li> </ul>	<ul style="list-style-type: none"> <li>• PREOCs</li> <li>• Provincial Ministries — MOCs/DOCs</li> <li>• IT Operations Centre (Citizens' Services — OCIO)</li> <li>• EOCs — First Nations and Local Authorities</li> <li>• Federal Government Departments/Agencies</li> <li>• Private sector operations centres</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal and/or electronic</li> <li>• Updates</li> <li>• Coordination conference calls</li> <li>• Amateur Radio</li> <li>• Situation reports</li> </ul>
7	<b>Transportation CI status and impacts</b>	<ul style="list-style-type: none"> <li>• Road</li> <li>• Rail</li> <li>• Air</li> <li>• Marine</li> </ul>	<ul style="list-style-type: none"> <li>• Operational status</li> <li>• Estimated scope of damage</li> <li>• Estimated time to operational</li> <li>• Impacts</li> <li>• Resource concerns/needs</li> </ul>	<ul style="list-style-type: none"> <li>• CI owners/operators</li> <li>• EOCs — First Nations and Local Authorities</li> <li>• Social media</li> <li>• Ministry of Transportation and Infrastructure (MOTI)</li> <li>• Transport Canada</li> <li>• BC Government Website: gov.bc.ca</li> <li>• Call Centre</li> <li>• NAVCAN</li> </ul>	<ul style="list-style-type: none"> <li>• CI owners/operators</li> <li>• PREOCs</li> <li>• Provincial Ministries — MOCs/DOCs</li> <li>• EOCs — First Nations and Local Authorities</li> <li>• Transport Canada Situation Centre</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal and/or electronic</li> <li>• Updates</li> <li>• Coordination conference calls</li> <li>• Situation reports</li> </ul>
8	<b>Critical utilities status and impacts</b>	<ul style="list-style-type: none"> <li>• Power</li> <li>• Water</li> <li>• Wastewater</li> <li>• Natural gas</li> </ul>	<ul style="list-style-type: none"> <li>• Operational status</li> <li>• Estimated scope of damage</li> <li>• Estimated time to operational</li> <li>• Impacts</li> <li>• Resources concerns/needs</li> </ul>	<ul style="list-style-type: none"> <li>• CI owners/operators (BC Hydro, Fortis)</li> <li>• EOCs — First Nations and Local Authorities</li> <li>• Oil and Gas Commission</li> <li>• Providers of water</li> <li>• Social media</li> <li>• B.C. Government Website: gov.bc.ca</li> <li>• Call Centre</li> </ul>	<ul style="list-style-type: none"> <li>• CI owners/operators</li> <li>• PREOCs</li> <li>• Provincial Ministries — MOCs/DOCs</li> <li>• Federal Department/Agencies</li> <li>• EOCs - First Nations and Local Authorities</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal and/or electronic</li> <li>• Updates</li> <li>• Coordination conference calls</li> <li>• Situation reports</li> </ul>

CIR#	CIR	Information Categories	Specific Information Required	Information Source	Responsible Authority	Reporting Requirements
9	<b>Key logistics status and impacts</b>	<ul style="list-style-type: none"> <li>• Water</li> <li>• Food</li> <li>• Medical supplies</li> <li>• Temporary shelter</li> <li>• POL (petroleum, oil, lubricants)</li> <li>• Staging areas</li> </ul>	<ul style="list-style-type: none"> <li>• Critical needs</li> <li>• Existing capacity and time to depletion</li> <li>• Activation of staging areas</li> <li>• Multi-modal capacity of staging areas</li> <li>• Impacts</li> <li>• Resource concerns/needs</li> </ul>	<ul style="list-style-type: none"> <li>• PREOCs</li> <li>• MOTI</li> <li>• EOCs — First Nations and Local Authorities</li> <li>• Private sector transportation owner/operators</li> </ul>	<ul style="list-style-type: none"> <li>• PREOCs</li> <li>• EOCs — First Nations and Local Authorities</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal and/or electronic</li> <li>• Updates</li> <li>• Coordination conference calls</li> <li>• Situation reports</li> </ul>
10	<b>Critical Resource needs and constraints</b>	<ul style="list-style-type: none"> <li>• Other immediate response activities</li> <li>• Sustained response planning/activities</li> <li>• Recovery planning/activities</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritized needs</li> <li>• What capacity is required where</li> <li>• When required</li> <li>• Receiver contact</li> <li>• Special needs, concerns</li> </ul>	<ul style="list-style-type: none"> <li>• PREOCs</li> <li>• MOCs/DOCs</li> <li>• EOCs — First Nations and Local Authorities</li> <li>• Private sector</li> </ul>	<ul style="list-style-type: none"> <li>• PREOCs</li> <li>• EOCs — First Nations and Local Authorities</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal and/or electronic</li> <li>• Updates</li> <li>• Coordination conference calls</li> <li>• Situation reports</li> </ul>
11	<b>Weather impacts</b>	<ul style="list-style-type: none"> <li>• Current</li> <li>• Forecast</li> </ul>	<ul style="list-style-type: none"> <li>• Current</li> <li>• Short term forecasts</li> <li>• Long term forecasts</li> <li>• Impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Forecasting agencies</li> </ul>	<ul style="list-style-type: none"> <li>• Environment and Climate Change Canada</li> <li>• BC Wildfire Service</li> <li>• River Forecast Centre</li> </ul>	<ul style="list-style-type: none"> <li>• Coordination conference calls</li> <li>• Electronic products</li> </ul>
12	<b>Status of Assistance</b>	<ul style="list-style-type: none"> <li>• Pre-planned</li> <li>• Un-planned offers</li> </ul>	<ul style="list-style-type: none"> <li>• Agreements activated</li> <li>• Approvals for activation status and concerns</li> <li>• Status of critical/available resources</li> <li>• Reception, staging, and logistic requirements to accept offers of assistance</li> </ul>	<ul style="list-style-type: none"> <li>• Assisting agencies</li> <li>• NGOs</li> <li>• GOC</li> <li>• PNEMA signatories</li> <li>• AEMA</li> </ul>	<ul style="list-style-type: none"> <li>• Assisting agency operations centres</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal and/or electronic</li> <li>• Updates</li> <li>• Coordination conference calls</li> <li>• Situation reports</li> </ul>

## Strategic and Public Messages

Public messages that may be used by provincial agencies are listed below. Local authorities will need to adapt these messages to suit their needs. Updated information will be shared regularly through Emergency Info BC at [emergencyinfobc.gov.bc.ca](https://emergencyinfobc.gov.bc.ca) on the web and at @emergencyinfobc on Twitter, as well as through the Provincial government's news updates, official website, and main social media channels.

### General Provincial, Regional and Local Messages

- We are in the initial hours following a catastrophic earthquake. We do not have all the specifics on damages and injuries but continue to work with first responders to gather details. We will communicate information as it becomes available. When we know, you'll know.
- Our emergency plans have been activated and we are responding as quickly and safely as possible.
- The Province is providing leadership and communicating with local authorities and related agencies for a coordinated response.
- Do not call 911 unless it's a clear life-and-death emergency. It's vital that lines are kept open for critical calls, and that we don't unnecessarily overwhelm first responders.

### General Earthquake Messages

- A catastrophic earthquake has occurred in [impact area].
- Expect aftershocks. Each time you feel the earth shake, drop, cover, and hold on. When the shaking stops, count to 60 before getting up, giving loose objects time to settle.
- We are working with our partners from Natural Resources Canada to confirm information, such as the magnitude and epicentre of the earthquake.
- *(Note: If earthquake has occurred offshore only)* We are working with our partners at the National Tsunami Warning Centre to determine the risk of a tsunami.
- If there is a risk of a tsunami, notifications will be provided through the Provincial Emergency Notification System, and updates are being provided at [emergencyinfobc.gov.bc.ca](https://emergencyinfobc.gov.bc.ca) on the web and at @emergencyinfobc on Twitter. An emergency alert may be issued through the Alert Ready system.
- *(Note: Only use for earthquakes that are felt on the coast)*. If you felt shaking and are on or near the shore, move to higher ground immediately as a tsunami may have been generated.
- We are also in contact with emergency and community officials in the impacted area and working to identify any effects or needs.
- A formal update is being planned. In the interim, provincial information about this event will be available and updated regularly at [emergencyinfobc.gov.bc.ca](https://emergencyinfobc.gov.bc.ca) on the web and at @emergencyinfobc on Twitter.
- Our thanks to the media for helping to provide public safety information.
- Keep phone lines and cell networks clear unless a life is in danger. Do not call 911 to report the earthquake.
- Police, fire, and ambulance personnel will respond to the most serious incidents first.
- Try to remain calm and assist others where possible, but do not move seriously injured people unless they are in imminent danger of further harm.
- Do not evacuate the area unless directed to do so. We will share information about shelter sites and other support services as soon as it becomes available.
- If you want to donate to or volunteer for the response, please contact [add information as appropriate].

## Safety Messages

### *Stay Clear*

- There's been a strong earthquake in [impact area] and the danger may not be over. Stronger shaking is possible.
- Expect aftershocks. Each time you feel the earth shake, drop, cover and hold on. When the shaking stops, count to 60 before getting up, giving loose objects time to settle.
- Stay clear of windows and take cover under a sturdy piece of furniture or crouch near an inside wall.
- Cover your head and neck with your arms until the shaking stops.
- Unless you believe the building you're in is unsafe, you are advised to stay inside.
- If an aftershock begins when you are outdoors, stay in the open and away from buildings, signs, and overhead wires.
- If you are in a tsunami hazard zone, wait for shaking to stop and immediately move inland or seek higher ground.
- Follow the instructions provided by emergency personnel, and monitor information sources for additional information.

### *Gas and Electricity*

- It is vital to your safety to check around you for damage, especially to utility lines and connections to appliances.
- If you smell smoke or hear or smell leaking gas, open your windows and get everyone out of the building right away.
- If you suspect a gas leak is occurring, do not touch or use electric light switches. Use flashlights only—never use matches, lighters, or candles, as a spark or open flame could start a fire or even cause an explosion.

### *First Steps at Home*

- If you're at home, these are the first steps to take:
  - Check on the location and status of your family members.
  - Use a fire extinguisher to put out small fires. Never use water on electrical or gas fires. If a fire can't be controlled quickly, evacuate the building right away.
  - Check for gas leaks. If you smell or hear gas, open the windows, and move everyone outside.
  - Look and listen for any signs of possible collapse by inspecting your home's foundation, walls, and chimney.
  - If your home is in a tsunami hazard zone, do not return to the area until emergency officials indicate it is safe to do so.
- In addition:
  - If you are at home and there are no immediate signs of building collapse, fires, or gas leaks, begin to check all your utility connections.
  - Turn off any appliance that was on when the earthquake hit and check it for damage.
  - Check your water heater. If the earthquake caused it to fall over it may have broken a gas, electric, or water line.
  - If your utilities appear damaged, turn them off at the main source.



- If you are safe where you are, remain there and do the following:
  - Help the people around you – your family, neighbours, and coworkers.
  - Clean up flammable liquids and other hazardous materials.
- If you must move from your current location, leave a note on the front door of your home to alert family and emergency workers about where you have gone.

### **On the Road**

- It's safer to not drive on roads right now, but if you must drive and another earthquake strikes, pull over and stop at the first open, safe place you can find. Avoid all underpasses, power lines, overhanging signs, and rock slopes.
- If stopped and in a safe location away from hazards, stay inside your car.
- If driving on a bridge or an overpass, carefully continue moving until you're off the bridge, then look for a safe, open place to stop until the shaking passes.
- When present, follow the directions of traffic control authorities.
- Avoid unnecessary travel to reduce traffic on the roads and to allow for priority use of roads by emergency responders. If you must travel by road, expect to encounter extensive emergency vehicle traffic and remember that these vehicles have priority.

### **People Check**

- Emergency first responders are currently dealing with the most urgent problems, so the best source of help for your family, friends, and neighbours right now is you.
- If your area has suffered damage, check on other people nearby — your family, neighbours, or co-workers.
- Small children and seniors will need special attention and reassurance, even if they seem OK. People with access and functional needs may also need extra help.

### **Phone Lines**

- Emergency first responders are aware of the situation and are busy responding to the most serious problems first.
- Do NOT call 911 to report the earthquake. Only call if a life is at stake. Keep lines available for emergency use.
- Please do NOT make unnecessary telephone calls, including cell phone calls, unless you need to report a life-threatening injury or fire. Unnecessary calls could keep lifesaving calls from getting through for those most in need.
- Text messages may go through if phone lines are busy and may be an alternative.
- Do not text emergency responders through 911; they cannot receive text messaging.

### **Social Media Messages**

- An earthquake has occurred in [impact area].
- Expect aftershocks. Each time you feel the earth shake, drop, cover, and hold on. When the shaking stops, count to 60 before getting up, giving loose objects time to settle.
- If you felt shaking and are on or near the coast, move to higher ground immediately as a tsunami may have been generated – do not wait for an official warning
- Do NOT call 911 to report the earthquake. Only call if a life is at stake. Keep lines available for emergency use.
- Keep phone lines and cell networks clear unless a life is at stake. Do not call 911 to report the earthquake. Phone lines will clog with increased call volume – please keep the lines available for emergency use.
- We are working with our partners from Natural Resources Canada to better define the magnitude and epicentre as well as validate other specifics.
- A formal update will be provided at [date and time]. Also stay tuned to local TV/radio and listen to emergency officials.
- Do not evacuate the area unless directed to do so. We will share information about shelter sites and other support services as soon as it becomes available.
- If you want to donate to or volunteer for the response, please contact [add information as appropriate].
- We are in contact with emergency and community officials in the affected area(s) and working to identify any impacts or needs.
- Try to stay calm and assist others where possible, but do not move seriously injured people unless they are in imminent danger of further harm.

### **Key Links**

- [Earthquakes Canada/Natural Resources Canada](#)
- [US Geological Survey \(USGS\) Earthquake Hazards Program](#)
- [Emergency Info BC](#)
- [National Weather Service U.S. Tsunami Warning System](#)

## Agency Communication and Telecommunication Procedures

Following a catastrophic earthquake, agency representatives are to contact their emergency operations centres (EOCs) according to their business continuity procedures. If the EOC is not available, agency representatives are to call the appropriate Provincial Regional Emergency Operations Centre (PREOC) to establish communication and share information. If the PREOC is not available, agency representatives can call the PREOC's satellite-phone number. See Appendix F: EMBC Regional Offices and Contact Information for further details.

**PREOC satellite-phone numbers are not published in this document. Prior to an emergency event, agency EOC representatives are encouraged to contact the PREOC to obtain the satellite phone number(s) and dialing instructions.**

Normal communication channels, such as landline, cellular, email, and fax, will likely be degraded or disrupted during a catastrophic event, making it necessary to use other mechanisms such as satellite technology and radio systems. Operators may be less familiar with these other mechanisms and how they function, and as such it is essential to periodically test these mechanisms in advance of an event. It is important for operators to speak clearly and keep messaging concise.

**Cellular networks are designed to have sufficient bandwidth for normal communications. However, emergency events often overload networks with increased call volume which diminishes bandwidth. If voice calls are disrupted, text messaging (short message service) may work as a text message uses much less bandwidth. All partners are encouraged to obtain and highlight phone numbers capable of receiving text messages.**

Figure 18 identifies and categorizes several communication mechanisms using 'PACE' methodology. PACE uses four categories — "primary," "alternative," "contingency," and "emergency" — that are arranged by priority to designate the order for utilizing communication mechanisms during an emergency event.

If an EOC needs to contact a PREOC, the operator should utilize the communication mechanisms in the primary category first. Primary mechanisms are normal communication channels used for day-to-day operations. If the primary mechanisms are disrupted, the operator should then utilize alternative communication mechanisms, followed by alternative, contingency, and emergency mechanisms in order.

Category		Technology		
1	Primary	Phone	Voice	Landline/Cellular
			Data	Email/Fax
2	Alternative	Satellite	Voice	MSAT, Iridium, Globalstar
			Data	Galaxy, Starlink
3	Contingency	Commercial Radio	Voice	VHF, UHF, HF
			Data	*
4	Emergency	Amateur Radio	Voice	HF
			Data	HF Winlink

\* Not available via EMBC

*Figure 18 - Telecommunication Prioritization*

# Initial Impacts Assessment Form

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## Critical and Key Transportation Routes and Features

“Critical” transportation routes and features for road, air, marine and rail provide access to and from key facilities or hubs (e.g., hospitals, airports, etc.) for safety, security, and continuity of essential services in the impact areas. “Key” transportation routes and features provide access to the impact area.

The following chart categorizes transportation routes and features for the assumed impact areas (Greater Vancouver and Greater Victoria) of the PEIRS. If the actual impact area differs, the critical or key transportation routes and features will be re-defined. The possibility still exists of actual critical routes post-disaster deviating from pre-designated critical routes due to the unpredictable nature of disasters.

Transportation infrastructure owners/authorities/response organizations are required to report the status of critical and key transportation routes and features per Appendix I: Critical Information Requirements via the reporting channels mentioned within the PEIRS.

Category	No.	Information Requirement	Source Agencies	Notes
Highways, includes major bridges	1	Hwy 1 (between B.C.-Alberta border near Golden and Horseshoe Bay and between Departure Bay and Victoria)	MoTI	Key and Critical Route
	2	Hwy 2 (between B.C.-Alberta border and Dawson Creek)	MoTI	Key Route
	3	Hwy 3 (between B.C.-Alberta Border near Sparwood and Hope)	MoTI	Key Route
	4	Hwy 4 (between Port Alberni Port and Hwy 19)	MoTI	Key Route
	5	Hwy 5 (between Tete Jaune Cache and Hope)	MoTI	Key Route
	6	Hwy 7 (between Hope and Coquitlam)	MoTI	Critical Route
	7	Hwy 7B (Mary Hill Bypass)	MoTI	Critical Route
	8	Hwy 9 (between Hwy 1 and Agassiz)	MoTI	Critical Route
	9	Hwy 10 (between Hwy 1 and Hwy 91)	MoTI	Critical Route
	10	Hwy 11 (between Canada-U.S. border in Abbotsford and Mission)	MoTI	Critical Route
	11	Hwy 13 (between Canada-U.S. border in Aldergrove and Hwy 1)	MoTI	Critical Route
	12	Hwy 14 (between Hwy 1 and Sooke)	MoTI	Critical Route
	13	Hwy 16 (between B.C.-Alberta border near Mt. Robson and Prince Rupert)	MoTI	Key Route
	14	Hwy 17 (South Fraser Perimeter Road and between Swartz Bay and Victoria)	MoTI	Critical Route
	15	Hwy 19 (between Duke Point and Campbell River)	MoTI	Key Route
	16	Hwy 49 (between B.C.–Alberta border and Dawson Creek)	MoTI	Key Route



Category	No.	Information Requirement	Source Agencies	Notes
Local Roads	17	Hwy 91 (between Hwy 99 in Delta and Hwy 99 in Richmond)	MoTI	Critical Route
	18	Hwy 91A (between Alex Fraser Bridge and Stewardson Way)	MoTI	Critical Route
	19	Hwy 97 (between Dawson Creek and Cache Creek)	MoTI	Key Route
	20	Hwy 99 (between Cache Creek and the Canada-U.S. border in Surrey)	MoTI	Key and Critical Route
	21	King George Boulevard	City of Surrey	Critical Route
	22	Golden Ears Way	TransLink	Critical Route
	23	Golden Ears Bridge to Hwy 7	TransLink	Critical Route
	24	Stewardson Way, Front Street, Brunette Avenue	City of New Westminster	Critical Route
	25	Marine Way, Southeast Marine Drive, Southwest Marine Drive (between Queensborough Bridge and Grant McConachie Way)	City of Burnaby and City of Vancouver	Critical Route
	26	Boundary Road (between Marine Way and Highway 1)	City of Burnaby and City of Vancouver	Critical Route
	27	Knight Street and Clark Drive (from Hwy 91 to East Hastings Street)	City of Vancouver, TransLink	Critical Route
	28	West Georgia Street; and Stanley Park Causeway (between Lions Gate Bridge and Burrard)	City of Vancouver	Critical Route
	29	Burrard Street (between West Georgia and West Hastings Street)	City of Vancouver	Critical Route
	30	Broadway (from Boundary Road to Oak Street)	City of Vancouver	Critical Route
Ports and ferry terminals. Note: several smaller ferry terminals available	31	Grant McConachie Way (from Southwest Marine Drive to YVR airport)	YVR Airport Authority, Transport Canada	Critical Route
	32	Deltaport Way, Roberts Bank Way (from Highway 17)	MoTI	Critical Route
	33	Port Metro Vancouver	SWE PREOC, Port Metro Vancouver	
	34	Port of Squamish	SWE PREOC, Port of Squamish	
	35	Victoria Harbour	VIR PREOC, Victoria Harbour Authority	

Category	No.	Information Requirement	Source Agencies	Notes
Ports and ferry terminals. Note: several smaller ferry terminals available	36	Prince Rupert Harbour	NWE PREOC, Prince Rupert Harbour Authority	
	37	Tsawwassen Ferry Terminal	SWE PREOC, BC Ferries	
	38	Swartz Bay Ferry Terminal	VIR PREOC, BC Ferries	
	39	Duke Point Ferry Terminal	VIR PREOC, BC Ferries	
	40	Departure Ferry Terminal	VIR PREOC, BC Ferries	
	41	Horseshoe Bay Ferry Terminal	SWE PREOC, BC Ferries	
	42	Brentwood Bay Ferry Terminal	VIR PREOC, BC Ferries	
	43	Mill Bay Ferry Terminal	VIR PREOC, BC Ferries	
Airports, heliports, etc.	44	Vancouver Airport (YVR)	SWE PREOC	Airport authorities report to Transport Canada. Transport Canada approved aerodromes in: VIR = 85, SWE = 39
	45	Abbotsford Airport (YXX)	SWE PREOC	
	46	Victoria Airport (YYJ)	VIR PREOC	
	47	Nanaimo Airport (YCD)	VIR PROEC	
	48	Comox Airport (YQQ)	VIR PREOC	
	49	Kelowna Airport (YLW)	CTL PREOC	
	50	Kamloops Airport (YKA)	CTL PREOC	
	51	Prince George Airport (YXS)	NEA PREOC	
Railway network in B.C.	52	BC Railway	Delta to Surrey	
	53	BNSF Railway	New Westminster to Seattle	
	54	CP Rail	Vancouver to Calgary	
	55	CN Rail	Vancouver to Edmonton	
	56	CN Rail	North Vancouver to Fort Nelson	
	57	CN Rail	Prince Rupert to Edmonton	
	58	Southern Railway of BC	New Westminster to Abbotsford	
	59	Southern Railway of BC	Victoria to Courtenay	

## Search and Rescue

Search and Rescue (SAR) operational capabilities that exist within B.C. include ground, marine, air and urban SAR. SAR volunteers typically assist in searching for lost recreationalists or help in accessing and transporting injured people when specialized skills or equipment are needed. In addition to their primary operational tasks, following a catastrophic earthquake, SAR assets could be used to provide situational awareness and contribute to a common operating picture.

Following a catastrophic earthquake, additional SAR assets would be requested and deployed to B.C. to assist with SAR response, specifically the urban component. SAR assets will be coordinated by the Province through the Provincial Emergency Coordination Centre (PECC)/Catastrophic Emergency Response and Recovery Centre (CERRC) in conjunction with the responsible requesting authorities: BC Ambulance Service, BC Coroners Service, Canadian Armed Forces (CAF), Canadian Coast Guard, Parks Canada, and fire departments.

<p><b>Heavy Urban Search and Rescue (HUSAR)</b></p>	<p>The Government Operations Centre (GOC), upon notification of a catastrophic event in B.C., will immediately coordinate the request and movement of domestic HUSAR task forces for deployment to B.C. HUSAR task forces are teams comprised of specialists from across the emergency management spectrum and include capabilities such as search and rescue, communications, logistics, emergency medical assistance, technical and canine search, and structural assessment.</p> <p>Public Safety Canada currently funds six HUSAR task forces, located in Vancouver, Calgary, Toronto, Halifax, Montreal and Manitoba.</p> <p>It may also be an option for the Province to employ mutual aid agreements, such as the Pacific Northwest Emergency Management Arrangement (PNEMA), with neighbouring states for HUSAR support. The Province will control, coordinate and prioritize the deployment of all civilian HUSAR assets within B.C. based on local authority and First Nations needs assessment. However, it should be noted that these neighbouring jurisdictions may be unavailable to support B.C. as they will also be impacted by an earthquake.</p>
<p><b>Aeronautical and Marine SAR</b></p>	<p>Joint Rescue Coordination Centre (JRCC) Victoria at Canadian Forces Base Esquimalt is responsible for the coordination and control of marine and air assets in the Victoria SAR Region, which encompasses waters in the eastern Pacific Ocean, B.C. and the Yukon Territory. JRCC Victoria would continue to coordinate these assets in support of the provincial response.</p>
<p><b>Air</b></p>	<p>The Provincial Emergency Program Air/Civil Air Search and Rescue Association (PEP Air/CASARA) is a volunteer aviation association that provides air search support services to the National SAR Program. PEP Air/CASARA would be used as a resource for both SAR and building situational understanding. CASARA capabilities primarily include searching for downed aircraft, but also can be used in searching for lost people, aerial communications platforms and light transportation.</p> <p>Note there are some limitations to CASARA assets, including the need for accessible fueling infrastructure and require a functional air strip for operations.</p>
<p><b>Ground</b></p>	<p>Ground SAR assets in B.C. are comprised of volunteers who do not have the capacity or training to conduct heavy urban search and rescue. There may be a very limited capacity for light urban search and rescue. Ground SAR assistance can be requested through the appropriate agency for activities such as locating and rescuing a missing person or person in distress, medical rescue, or a search for and recovery of human remains where technical skills are required for access.</p> <p>The Province would coordinate the deployment of ground SAR assets from out-of-area to the impact area to assist in locating missing persons or for deployment by First Nations and local authorities in support of their all hazard plans, when required.</p>



## Recovery Funding Mechanisms

The recovery funding mechanisms available after a disaster vary depending on the scope and impact of the disaster.

The first source of recovery funding would be through existing insurance coverage. Once that coverage is determined, the next step would be to assess damages that are not covered by the insurance policy. Additional recovery funding support might then be obtained through the provincial Disaster Financial Assistance (DFA) program, and/or any event specific disaster assistance programs that may be stood up to support people in B.C. Available funding support would depend on meeting the eligibility requirement of each funding source.

Please contact the EMBC Provincial Disaster Recovery Branch with any questions on event specific disaster assistance programs at [EMBC.Recovery@gov.bc.ca](mailto:EMBC.Recovery@gov.bc.ca).

Canada may also provide recovery support to Indigenous Communities through the Emergency Management Assistance Program (EMAP) through Indigenous Services Canada (ISC).

Further information on provincial Disaster Financial Assistance (DFA) funding, EMAP, and federal Disaster Financial Assistance Arrangements is listed below.

### ***Disaster Financial Assistance***

Following a disaster, the provincial government may declare the event eligible for DFA. Once declared, the DFA program may provide financial assistance to applicants for essential uninsurable losses and/or to repair or replace essential elements of the property to pre-disaster condition. Enhancements and/or mitigative costs are not eligible expenses under the current legislation.

### ***Eligible entities:***

Private sector: homeowners, tenants, small business, farms, and charitable organizations.

Public sector: local authorities, and First Nations.

For more information on the DFA program:

- [Private Sector Information](#)
- [Community Recovery Information](#)

### ***Indigenous Services Canada***

In partnership with First Nations communities, provincial and territorial governments, and non-government organizations, ISC's Emergency Management Assistance Program (EMAP) helps communities on reserve access emergency assistance services.

EMAP provides funding to First Nations communities so they can build resiliency, prepare for natural hazards and respond to them using the four phases of emergency management:

- mitigation
- preparedness
- response
- recovery

When emergency response and recovery needs go beyond the capacity of the individual people and First Nations or tribal councils, EMAP can help.

EMAP reimburses response and recovery activities due to emergencies, helping the community recover in a timely, durable and holistic way. Eligible emergencies include ongoing or imminent:

- wildfires
- floods
- storms
- earthquakes

Further information on EMAP can be found at:

[Emergency Management Assistance Program](#)

### ***Disaster Financial Assistance Arrangements***

Government of Canada provides financial assistance to **provincial and territorial governments** in the event of large-scale natural disasters when response and recovery costs exceed what individual provinces or territories could reasonably be expected to bear on their own. Funding helps to offset provincial expenditures associated with response and recovery efforts.

For more information about Disaster Financial Assistance Arrangements please visit: [Disaster Financial Assistance Agreements](#)