Coquitlam Dam Emergency Preparedness

March 2018

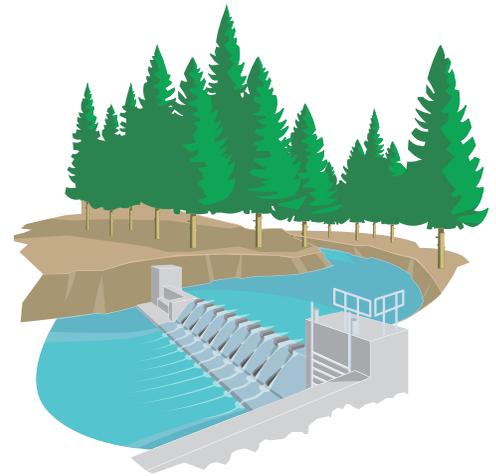### BC HYDRO DAM SAFETY AND EARTHQUAKE PREPAREDNESS

BC Hydro works together with municipalities, government agencies, First Nations and key stakeholders on emergency preparedness and planning for earthquakes. This includes providing resource information about our system, emergency conditions and our emergency response in the unlikely event that a major earthquake causes damage to our reservoir dams.

We have a comprehensive dam safety program that collects and reports data about the 79 dams at 41 locations across the province that we maintain and operate. Please visit **bchydro.com/damsafety** for more information.

ABOUT THE COQUITLAM DAM

The Coquitlam Dam is one of our newest dams. In 2008, we completed the construction of a new earth and rock–filled embankment immediately downstream of the original dam.

The dam is safe and can withstand ground motions that would be expected in the event of an extreme earthquake (1 in 10,000 chance of occurring in any one year). This fully meets the expectations of the Canadian Dam Association.

FLOOD AREAS AFTER AN EXTREME EARTHQUAKE

Following a major earthquake, BC Hydro would assess the Coquitlam Dam and take action to protect it from further damage. This may involve lowering the reservoir which could cause Coquitlam River levels to rise.

In the highly unlikely event that an extreme earthquake causes failure of the dam, water from behind the dam would flow into the cities of Coquitlam and Port Coquitlam. To ensure public safety, we would coordinate with emergency response personnel.

The table and map below show projected water level rises and anticipated arrival times. These may be affected by other earthquake impacts occurring in the immediate area such as water diversions created by fallen debris.

PROJECTED FLOOD LEVEL AND TIMING

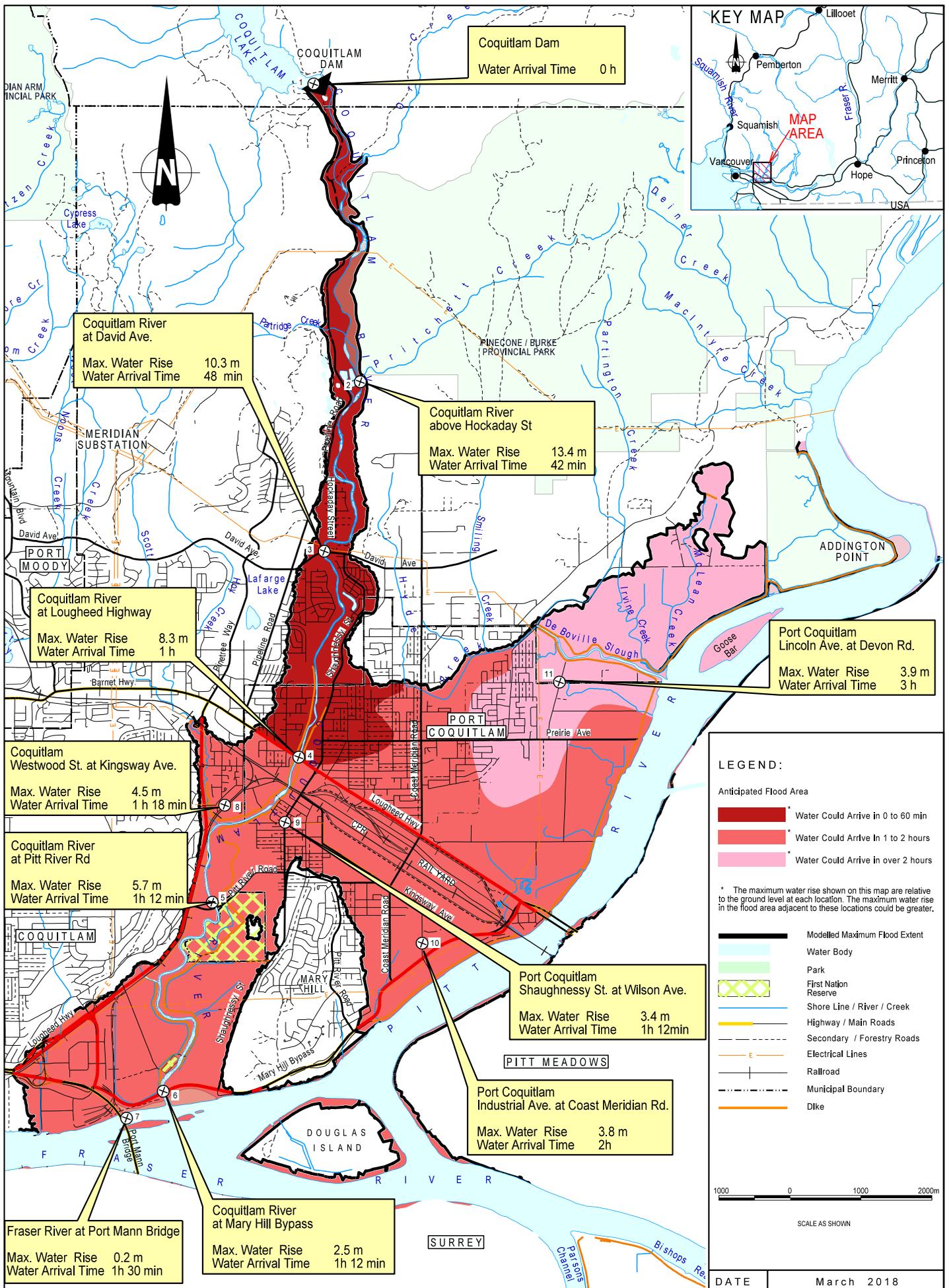| Location in Coquitlam or Port Coquitlam	Maximum Water Level Rise Projected	Water Arrival Time Anticipated
Coquitlam River above Hockaday Street	13.4 metres	42 minutes
Coquitlam River at David Avenue	10.3 metres	48 minutes
Coquitlam River at Lougheed Highway	8.3 metres	1 hour
Coquitlam River at Pitt River Road	5.7 metres	1 hour 12 minutes
Shaughnessy Street at Wilson Avenue	3.4 metres	1 hour 12 minutes
Industrial Avenue at Coast Meridian Road	3.8 metres	2 hours
Lincoln Avenue at Devon Road	3.9 metres	3 hours

- Maximum water level rise: the highest level of water projected for the area under a worst–case scenario of an extreme earthquake and dam failure

- Water arrival time: the initial water arrival time anticipated under a worst–case scenario

BE PREPARED TO RESPOND TO AN EARTHQUAKE

Earthquakes strike without warning, so it is important to be prepared. A portable emergency kit will be necessary and should be a key part of your preparation. A standard emergency kit provides supplies for the first 72 hours. Check your kit twice a year to replace expired supplies, including food, batteries and medicines. Whether you purchase a kit from a retailer or make it yourself, here's a partial list of what it should include:

- Water: at least two litres of water per person, per day
- Food: energy bars and dried foods that won't spoil
- Hand crank charger, or way to charge your smartphone and other electronics
- Power bank (charged)

- A manual can opener
- First aid kit
- Medications, including prescription and over–the–counter
- Source of light (e.g. headlamp, flashlight)
- Batteries
- Radio

- A multi–function tool
- Keys for your house and vehicles
- Cash: include smaller bills
- A printed copy of your emergency plan, including emergency contact information
- Photocopies of personal documents

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Coquitlam Dam Emergency Flood Map

Coquitlam Dam

Water Arrival Time   0 h

KEY MAP

MAP AREA

Coquitlam River at David Ave.

Max. Water Rise   10.3 m
Water Arrival Time   48 min

Coquitlam River above Hockaday St

Max. Water Rise   13.4 m
Water Arrival Time   42 min

Coquitlam River at Lougheed Highway

Max. Water Rise   8.3 m
Water Arrival Time   1 h

Port Coquitlam Lincoln Ave. at Devon Rd.

Max. Water Rise   3.9 m
Water Arrival Time   3 h

Coquitlam Westwood St. at Kingsway Ave.

Max. Water Rise   4.5 m
Water Arrival Time   1 h 18 min

Coquitlam River at Pitt River Rd

Max. Water Rise   5.7 m
Water Arrival Time   1h 12 min

Port Coquitlam Shaughnessy St. at Wilson Ave.

Max. Water Rise   3.4 m
Water Arrival Time   1h 12min

Port Coquitlam Industrial Ave. at Coast Meridian Rd.

Max. Water Rise   3.8 m
Water Arrival Time   2h

Fraser River at Port Mann Bridge

Max. Water Rise   0.2 m
Water Arrival Time   1h 30 min

Coquitlam River at Mary Hill Bypass

Max. Water Rise   2.5 m
Water Arrival Time   1h 12 min

LEGEND:

Anticipated Flood Area

* Water Could Arrive in 0 to 60 min
* Water Could Arrive In 1 to 2 hours
* Water Could Arrive in over 2 hours

* The maximum water rise shown on this map are relative to the ground level at each location. The maximum water rise in the flood area adjacent to these locations could be greater.

Modelled Maximum Flood Extent
Water Body
Park
First Nation Reserve
Shore Line / River / Creek
Highway / Main Roads
Secondary / Forestry Roads
Electrical Lines
Railroad
Municipal Boundary
Dike

1000   0   1000   2000m

SCALE AS SHOWN

DATE   March 2018

NOTE: The map shows the anticipated flood areas and fastest time of potential water arrival in the worst–case scenario of an extreme earthquake (1 in 10,000 chance of occurring in any one year) causing failure of the Coquitlam Dam. If an area is colour–coded, it should be assumed that it may flood.

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