



Dike:	River Road Delta, GPS No. 45-1, City of Delta
Location:	175 m west of upstream end of dike at floodbox outlet of Cougar Canyon Creek (near Alex Fraser Bridge)
Expected Failure Mode:	Seepage and piping failure
Breach Formation Time:	2 hours
Breach Trigger WSE:	3.40 m (0.6 m below dike crest)
Breach Max. Width:	100 m
Area Flooded from Breach:	68 km ²

Notes

- For important limitations, please see *Hydraulic Modelling and Mapping in BC's Lower Mainland – Final Report* prepared for Fraser Basin Council by Northwest Hydraulic Consultants Ltd. (2019).
- This map is intended to illustrate the implications of one or more dike breach failures, including the extent and propagation of flooding on the land side of the dike. It is for information only and intended for flood scenario comparison and flood mitigation planning. The map may also be informative for emergency planning. It is not to be used for designating floodplains, establishing flood construction levels, designing dikes or other structures.
- *Base Run used for reference is Freshet Climate Change year 2100 0.2% AEP with 1 m SLR. See digital PDF map to display this reference layer. Refer to *Base Flood Scenario Map – Freshet Climate Change year 2100* for Base Run details.
- The map illustrates inundation extents and depths from selected single and multiple dike breaches. Dikes may breach in any number of locations in addition to those shown. Assumed breach characteristics and breach parameters may vary.
- The extensive flooding outside of Delta is due to dike overtopping from river or ocean levels and is unrelated to the dike breach in Delta. To simulate the extent of flooding from a breach, the Delta dikes were raised in the model to prevent any overflow except for the breach location. None of the other dikes (e.g. Lulu Island and Westham Island) were raised for this simulation.
- In addition to areas flooded by a dike breach, unprotected areas or areas where dikes are overtopped but assumed to remain intact, are also shown as inundated.
- The Digital Elevation Model was based on 2016 Lidar acquired by EMBC and 2017 bathymetric survey data acquired by FBC for this project.
- Flood depths do not include a freeboard allowance.
- NHC's **Disclaimer**, see *Hydraulic Modelling and Mapping in BC's Lower Mainland – Final Report* (2019), also applies to this map.

Depth (m)

0 - 0.1

0.1 - 0.3

0.3 - 0.5

0.5 - 1.0

1.0 - 2.0

2.0 - 3.0

> 3.0

most buildings are dry; underground infrastructure may be flooded

most buildings are dry; walking in moving water or driving is potentially dangerous; underground infrastructure may be flooded

most buildings are dry; walking in moving or still water or driving is dangerous; underground infrastructure may be flooded

water on ground floor; underground infrastructure flooded; electricity failed; vehicles are commonly carried off roadways

ground floor flooded; residents and workers evacuate

ground floor flooded; first floor covered by water; residents and workers evacuate

first floor and often higher levels covered by water; residents and workers evacuate

★ Breach Location

— Dike

— First Nation Reserve Boundary

— Municipal Boundary

— River, Lake, Ocean or Other Waterbody

Basemap from Esri and Natural Resources Canada



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SCALE - 1:50,000
0 1 2 3 KM

Coordinate System: NAD 1983 UTM ZONE 10N
Units: METRES; Vertical Datum: CGVD2013

Engineer	NLB	GIS	MSN	Reviewer	MCM
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Job Number	Date
3003429	29-APR-2019

LOWER FRASER RIVER 2D FLOOD MODEL

DIKE BREACH SCENARIO MAP
UPSTREAM DELTA
FRESHET CLIMATE CHANGE
YEAR 2100, 0.2% AEP WITH 1 M SLR
MAXIMUM DEPTH
WITH BASE RUN* FOR REFERENCE