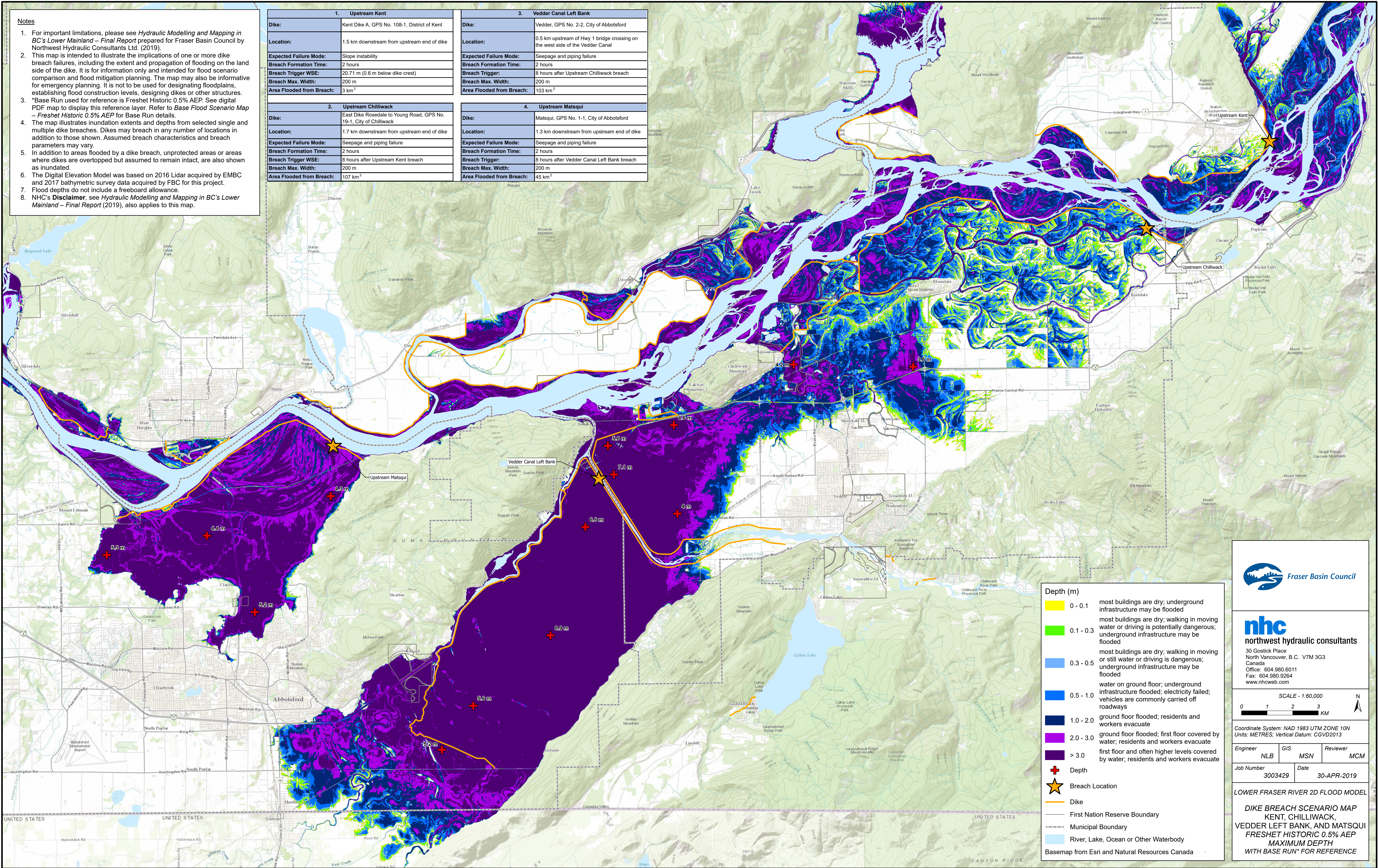


Notes

- 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 Historic 0.5% AEP. See digital PDF map to display this reference layer. Refer to *Base Flood Scenario Map – Freshet Historic 0.5% AEP* 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.
- 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.

1. Upstream Kent		3. Vedder Canal Left Bank	
Dike:	Kent Dike A, GPS No. 108-1, District of Kent	Dike:	Vedder, GPS No. 2-2, City of Abbotsford
Location:	1.5 km downstream from upstream end of dike	Location:	0.5 km upstream of Hwy 1 bridge crossing on the west side of the Vedder Canal
Expected Failure Mode:	Slope instability	Expected Failure Mode:	Seepage and piping failure
Breach Formation Time:	2 hours	Breach Formation Time:	2 hours
Breach Trigger WSE:	20.71 m (0.6 m below dike crest)	Breach Trigger:	8 hours after Upstream Chilliwack breach
Breach Max. Width:	200 m	Breach Max. Width:	200 m
Area Flooded from Breach:	3 km ²	Area Flooded from Breach:	103 km ²

2. Upstream Chilliwack		4. Upstream Matsqui	
Dike:	East Dike Rosedale to Young Road, GPS No. 19-1, City of Chilliwack	Dike:	Matsqui, GPS No. 1-1, City of Abbotsford
Location:	1.7 km downstream from upstream end of dike	Location:	1.3 km downstream from upstream end of dike
Expected Failure Mode:	Seepage and piping failure	Expected Failure Mode:	Seepage and piping failure
Breach Formation Time:	2 hours	Breach Formation Time:	2 hours
Breach Trigger WSE:	8 hours after Upstream Kent breach	Breach Trigger:	8 hours after Vedder Canal Left Bank breach
Breach Max. Width:	200 m	Breach Max. Width:	200 m
Area Flooded from Breach:	107 km ²	Area Flooded from Breach:	45 km ²



Depth (m)

0 - 0.1	most buildings are dry; underground infrastructure may be flooded
0.1 - 0.3	most buildings are dry; walking in moving water or driving is potentially dangerous; underground infrastructure may be flooded
0.3 - 0.5	most buildings are dry; walking in moving or still water or driving is dangerous; underground infrastructure may be flooded
0.5 - 1.0	water on ground floor; underground infrastructure flooded; electricity failed; vehicles are commonly carried off roadways
1.0 - 2.0	ground floor flooded; residents and workers evacuate
2.0 - 3.0	ground floor flooded; first floor covered by water; residents and workers evacuate
> 3.0	first floor and often higher levels covered by water; residents and workers evacuate

Depth

Breach Location

Dike

First Nation Reserve Boundary

Municipal Boundary

River, Lake, Ocean or Other Waterbody

Basemap from Esri and Natural Resources Canada



nhc
northwest hydraulic consultants
30 Gostick Place
North Vancouver, B.C. V7M 3G3
Canada
Office: 604.980.6011
Fax: 604.980.9264
www.nhcweb.com

SCALE - 1:60,000
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	3003429	Date	30-APR-2019
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LOWER FRASER RIVER 2D FLOOD MODEL

DIKE BREACH SCENARIO MAP
KENT, CHILLIWACK,
VEDDER LEFT BANK, AND MATSQUI
FRESHET HISTORIC 0.5% AEP
MAXIMUM DEPTH
WITH BASE RUN* FOR REFERENCE