

Flood Mitigation Work at the City

Presentation to Council

Rod MacLean, June 22, 2020

Presentation Outline

- ▶ Purpose
- ▶ Initiatives
 - ▶ Internal works
 - ▶ Partnerships
- ▶ Next Steps
- ▶ Questions



Purpose

To demonstrate:

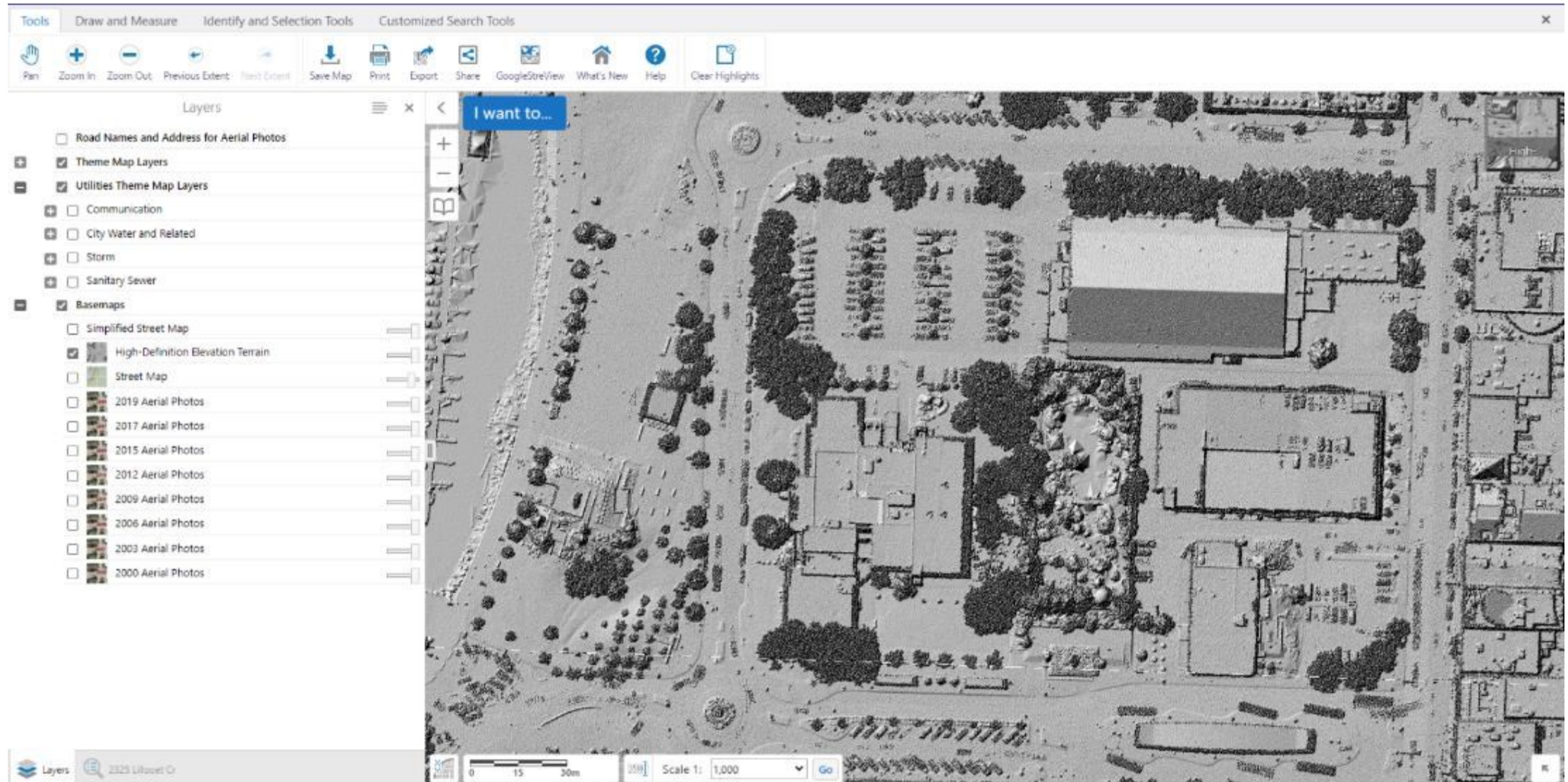
- ▶ The scope of work being conducted.
- ▶ The tools being developed.
- ▶ Where we are working with other communities and organizations
- ▶ The communication of flood information in the future.
- ▶ How this translates into constructed works.



Initiatives



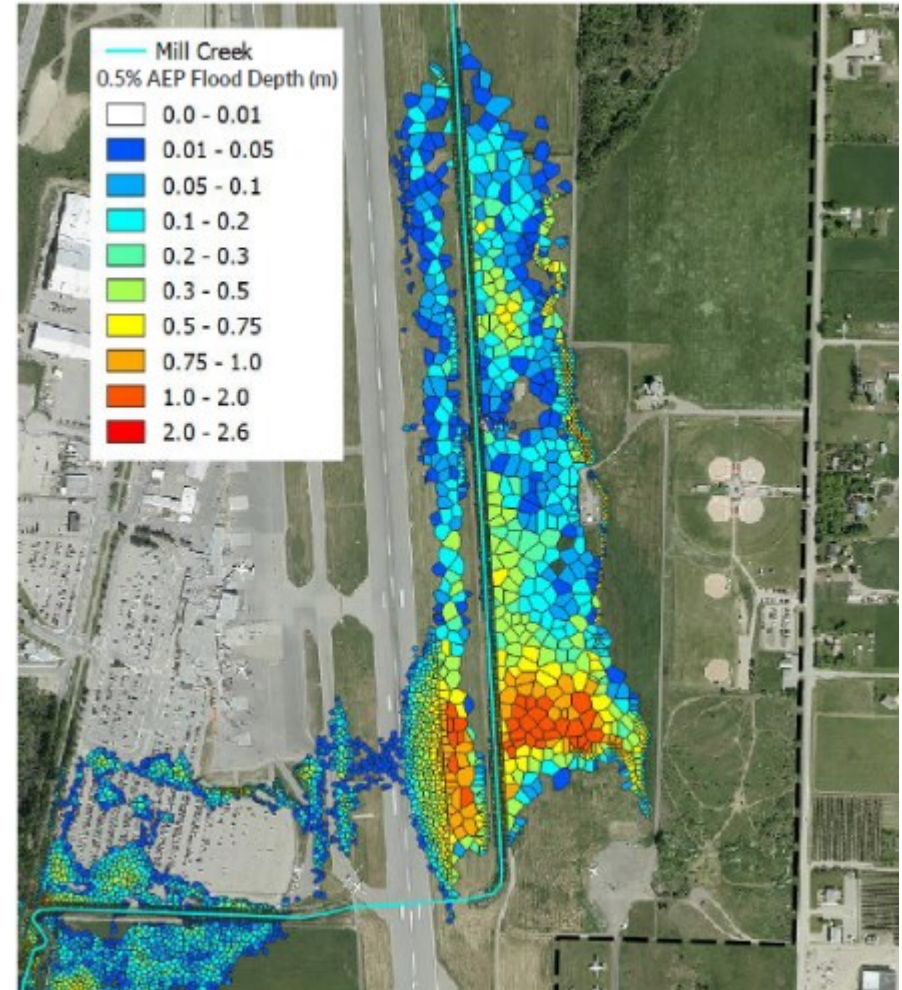
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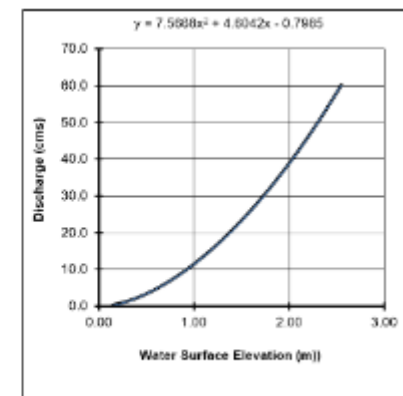
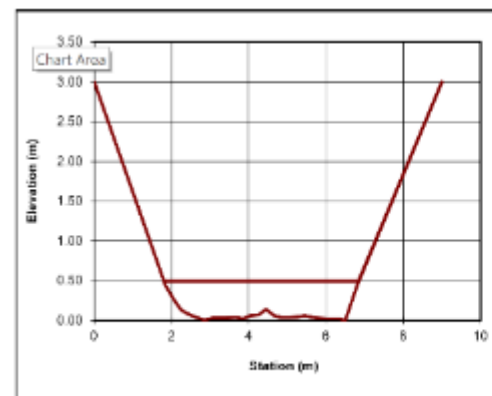
Mill Creek Flood & Hazard Mapping

► 1D-2D PCSWMM Dynamic Model





Hydrometric Stations





City of Kelowna



Kelowna Major Systems Flood Risk Assessment

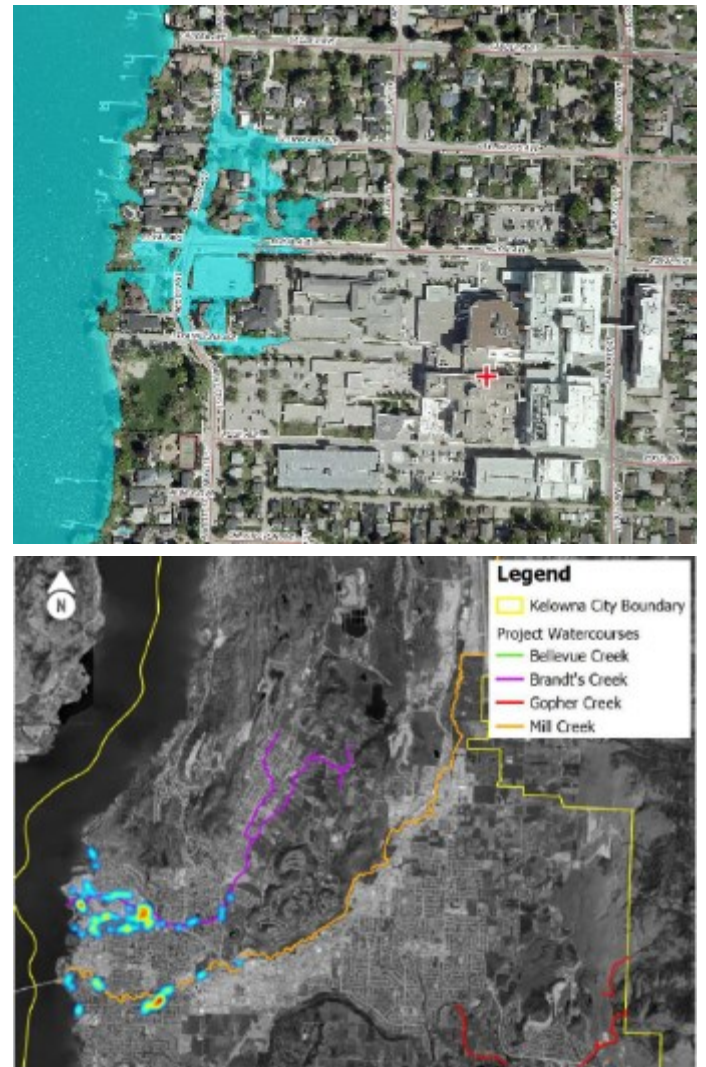
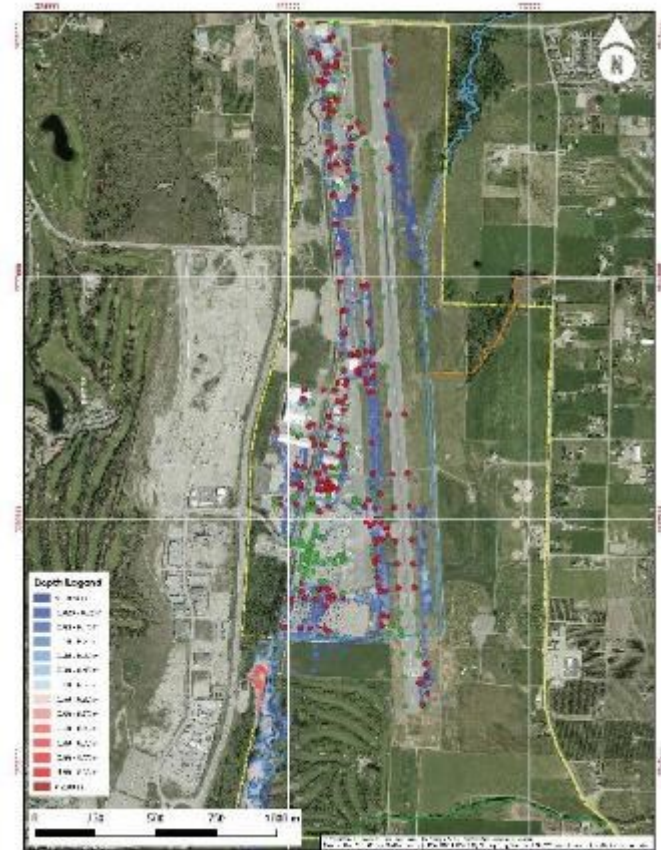
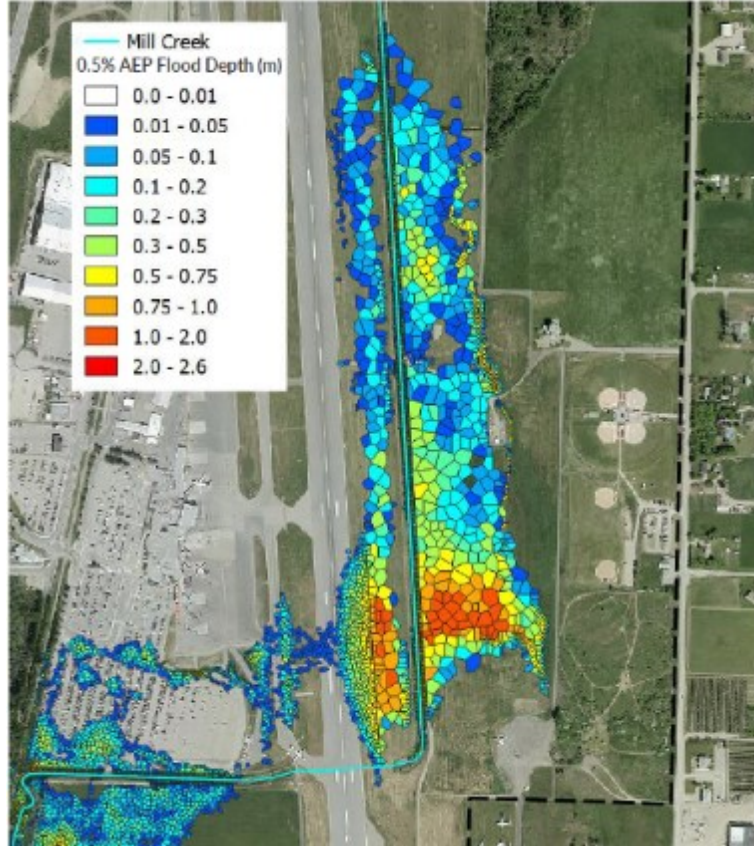


Figure 4-5
Relative concentration of potable water assets affected by flooding in Kelowna



YLW Stormwater Management Plan (DRAFT)



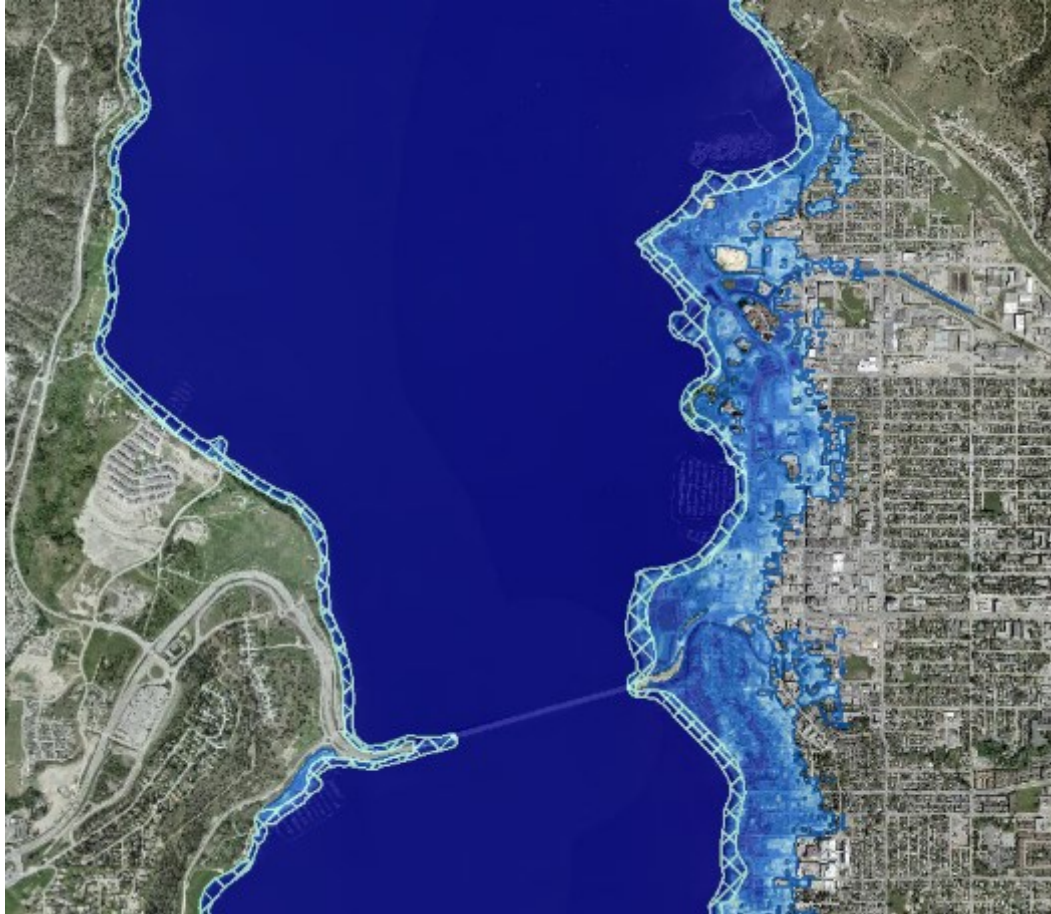
Area Based Water Management Plan

- Strategic Plan and Policy initiatives.





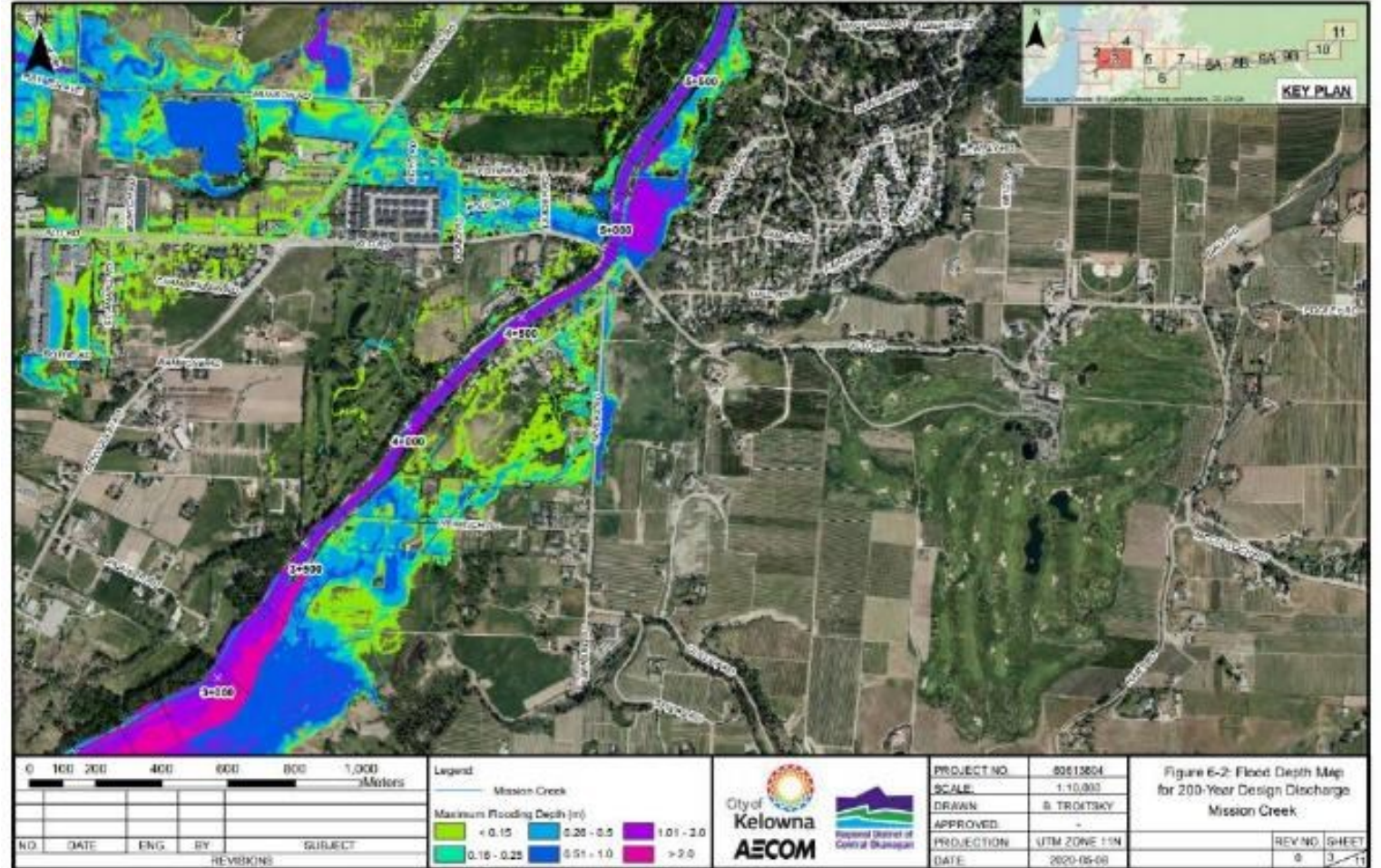
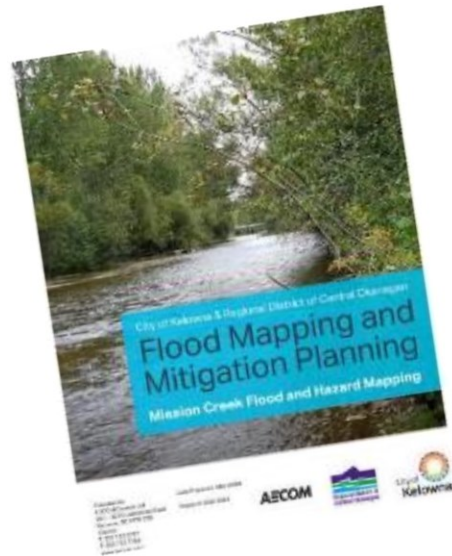
Okanagan Mainstem Floodplain Mapping



City of Kelowna

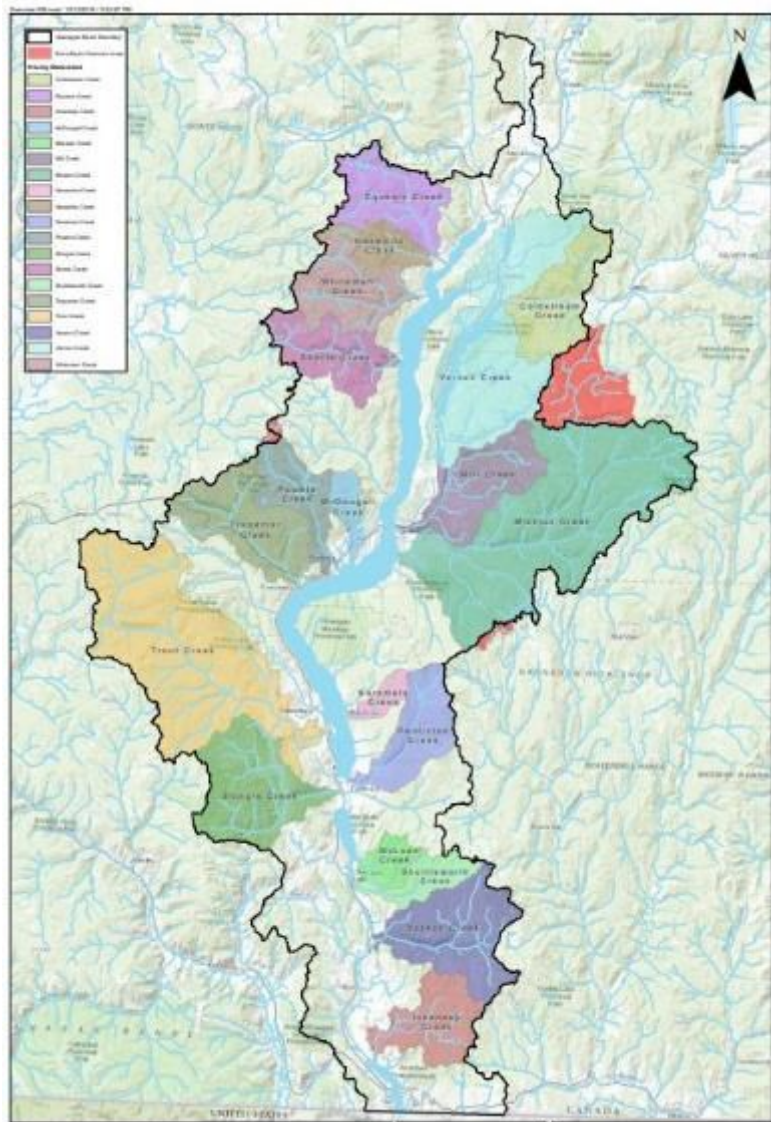


Mission Creek Flood Mapping Project





Okanagan Basin Hydrology and Flood Routing



City of Kelowna



Web Portal



Flooding in the Okanagan - An Introduction



There have always been floods in the Okanagan – a valley born of water and ice. As times change, with different weather and different ways we live on the land, the story of flooding in the Okanagan changes with each generation. It is a story of resilience, regeneration, balance, and community.

After highwater events in 2017 and 2018, the Okanagan Basin Water Board (OBWB) led a valley-wide partnership of local governments and Indigenous

The Okanagan Flood Story Web Portal

Okanagan Flood Story

https://okanagan-basin-flood-portal-rdco.hub.arcgis.com/app/d817d8f949634e39b9a320a6055e91f5

CoK Viewer | Agresso | Budget Capture | Bylaws

Okanagan Basin | Flood Maps | History | Changing Climate | Responsibility | Reducing Risk | How to Prepare | Response | Recovery | Mobile | FAQs

Instagram | Twitter | Facebook

Okanagan Flood Story

RESPONSIBILITY

HOMEOWNER RESPONSIBILITY


LOCAL AND FIRST NATION GOVERNMENT RESPONSIBILITY

PROVINCIAL GOVERNMENT RESPONSIBILITY

The Government of B.C. is responsible for coordinating support for local governments for "all emergency management activities, including planning, training, testing and exercising" (Emergency Management BC).

In the Okanagan, the Government of B.C. manages the dams along the Okanagan River to their provincial operating rules. Smaller dams on other lakes in the area are operated by local governments or private owners.

FEDERAL GOVERNMENT RESPONSIBILITY




B.C. wildfire firefighters in the City of Kelowna. Photo: Michael Hintringer, provided by City of Kelowna, 2017.




esri | A Story Map


Flood Maps (Tab)

← → ↺ 🏠 🔒 https://okanagan-basin-flood-portal-rdco.hub.arcgis.com/app/c6ad2e783be1432bad51e23142187288 ⚙️ ☆ ⭐ 📁 👤 ⋮

🗺️ CoK Viewer 📄 Agresao 📄 Budget Capture 🎨 Bylaws 📁 Other favorites

 Flood Maps History Changing Climate Responsibility Reducing Risk How to Prepare Response Recovery Mobile FAQs



1

WHAT IS FLOOD MAPPING?

2

HOW TO USE THE MAPS

3

OKANAGAN LAKE AND RIVER FLOODPLAIN MAP

4

COMPLEMENTARY FLOOD MAPS

Brandts Creek, City of Kelowna

Flood extents are modeled for the following scenarios:

- 5 year average recurrence interval (Q5)
- 10 year average recurrence interval (Q10)
- 25 year average recurrence interval (Q25)
- 100 year average recurrence interval (Q100)

Bellevue Creek, City of Kelowna

Flood extents are modeled for the following scenarios:

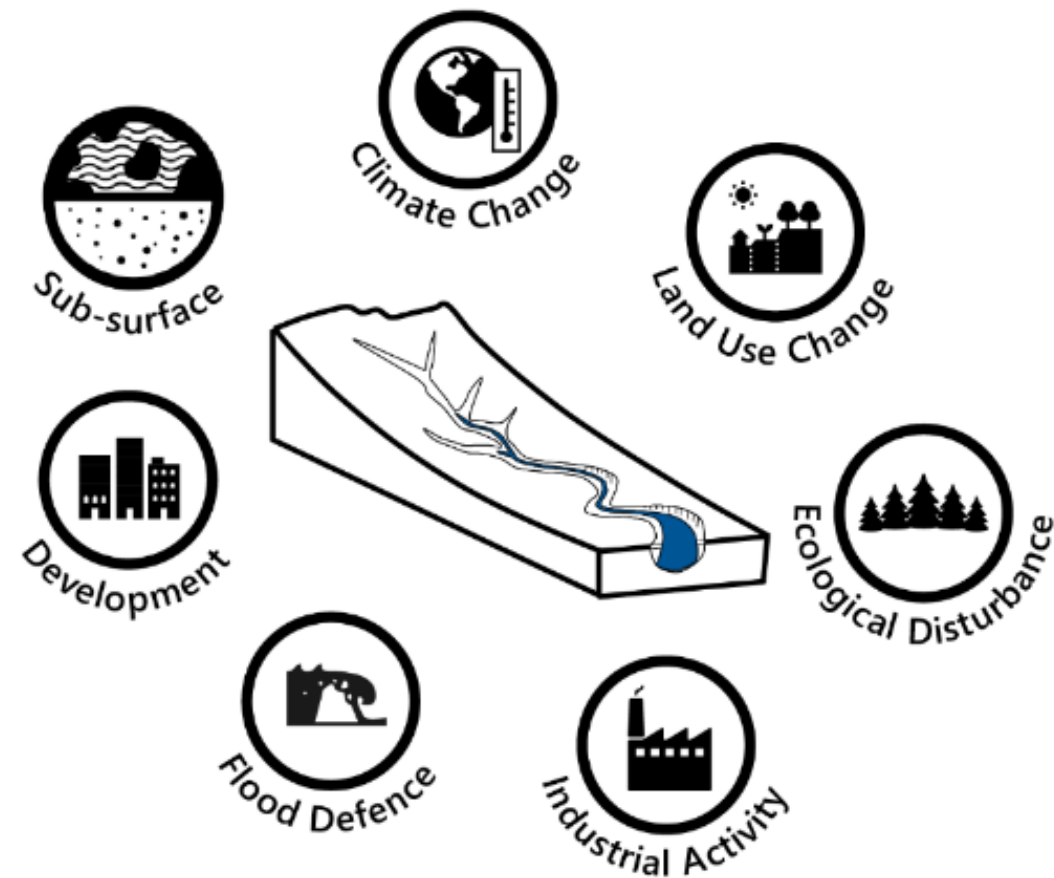
- 100 year average recurrence interval (Q100)
- 200 year average recurrence interval (Q200)

Mill Creek, City of Kelowna

While not shown on the map, Mill Creek has been mapped and a floodplain bylaw applies within the City of Kelowna.

Complementary Flood Maps

Syilx Okanagan Flood and Debris Flow Risk Assessment

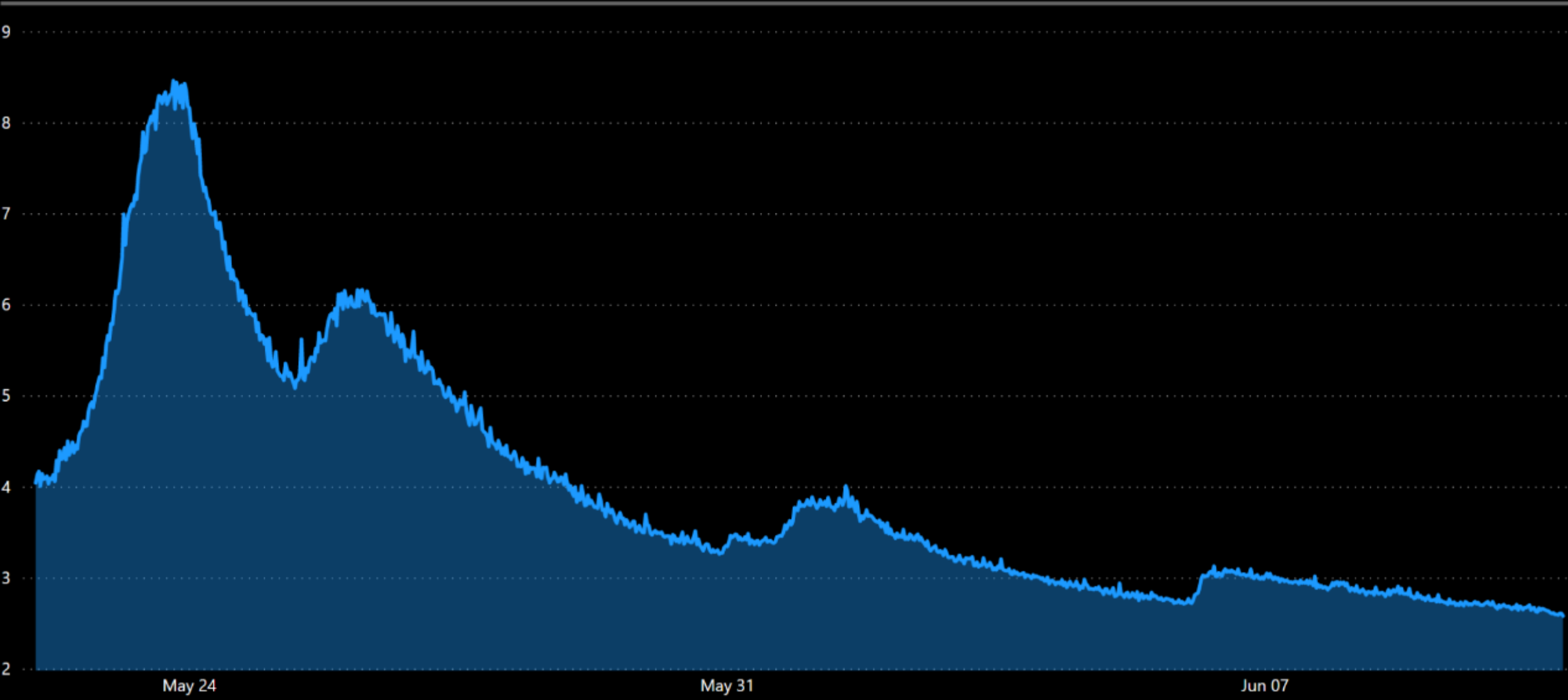




Data Access Portals and Dashboards



Brandts Creek	Clark Creek	Dennis Creek	Kalamalka Lake	Mill Creek @ Fenwick	Mill Creek Regional Park	Okanagan Lake	Okanagan River @ Mcl...	Okanagan River @ Oliver	Osoyoos Lake	Similkameen River	Vaseux Lake
Camp Creek	Coldstream Creek	Ellison Lake	Middle Vernon Creek	Mill Creek @ Sutherland	Mission Creek	Okanagan River	Okanagan River @ OK ...	Okanogan River @ Oro...	Scotty Creek @ Old Vernon	Skaha Lake	Vernon Creek



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City of Kelowna

Council priorities 2019-2022

Storytelling

Help



Sign In



Hydrometric Data 2018

Last updated last year | 80,011 Records



Overview

Data

API Explorer

4/15/2019

Table



Custom License

Download

APIs

The readings and calculated flows from the City's 2018 hydrometric network. For station locations, data quality and status, please refer to the Hydrometric Station Location dataset. DateTime field is in UTC format. Water_Level is in cubic meters.

Attributes

Chart • Map Visualization

DateTime
Date or Time

Discharge
Number

ID
Text

Water_Level
Number

SHOW MORE
2 Attributes

About

Environmental group

Shared By: CityofKelowna_GIS

Data Source: services3.arcgis.com

View Metadata

Create Webmap

Create a Story Map

Related Data

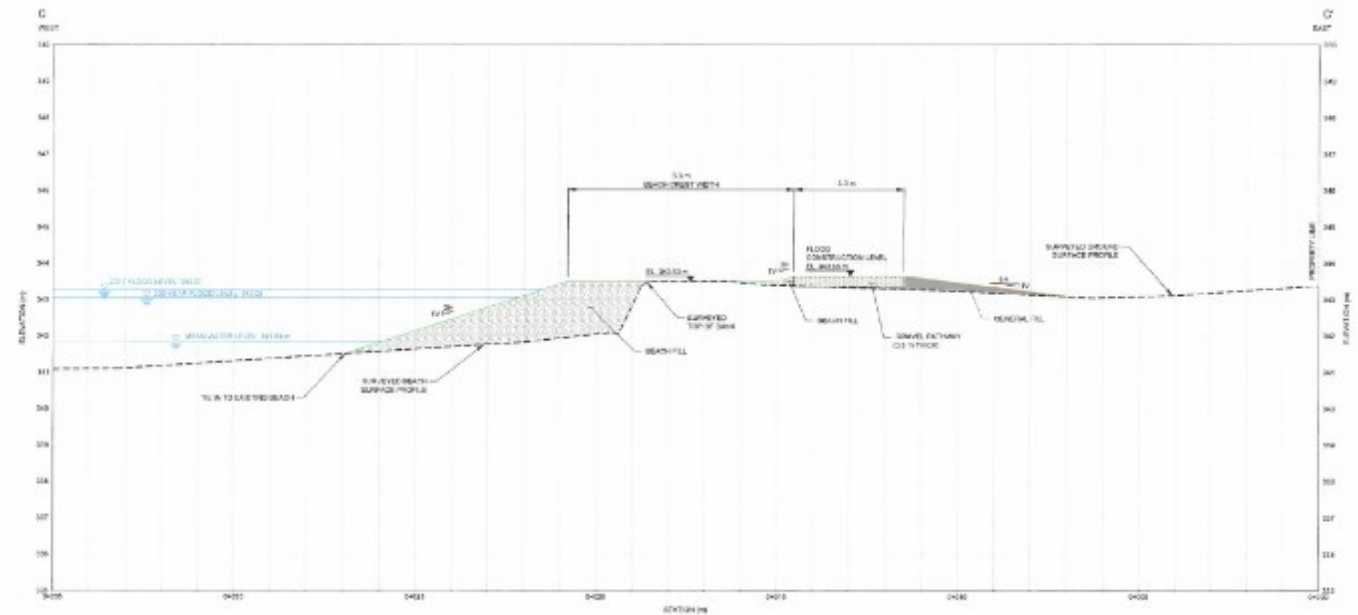


Spencer Road Culvert



City of Kelowna







MILL CREEK DIVERSION LINEAR PARK

DRAFT VERSION 1.0 JUNE 2020



MILL CREEK DIVERSION CLEMENT AVENUE

DRAFT VERSION 1.0 JUNE 2020

Next Steps

- ▶ Get more information and data out.
- ▶ Allow space for creeks to flow more naturally.
- ▶ Focus on Mill Creek project outcomes
- ▶ More measurement



Questions

