






After Disaster REBUILDING Wood Buffalo



REGIONAL MUNICIPALITY
OF WOOD BUFFALO

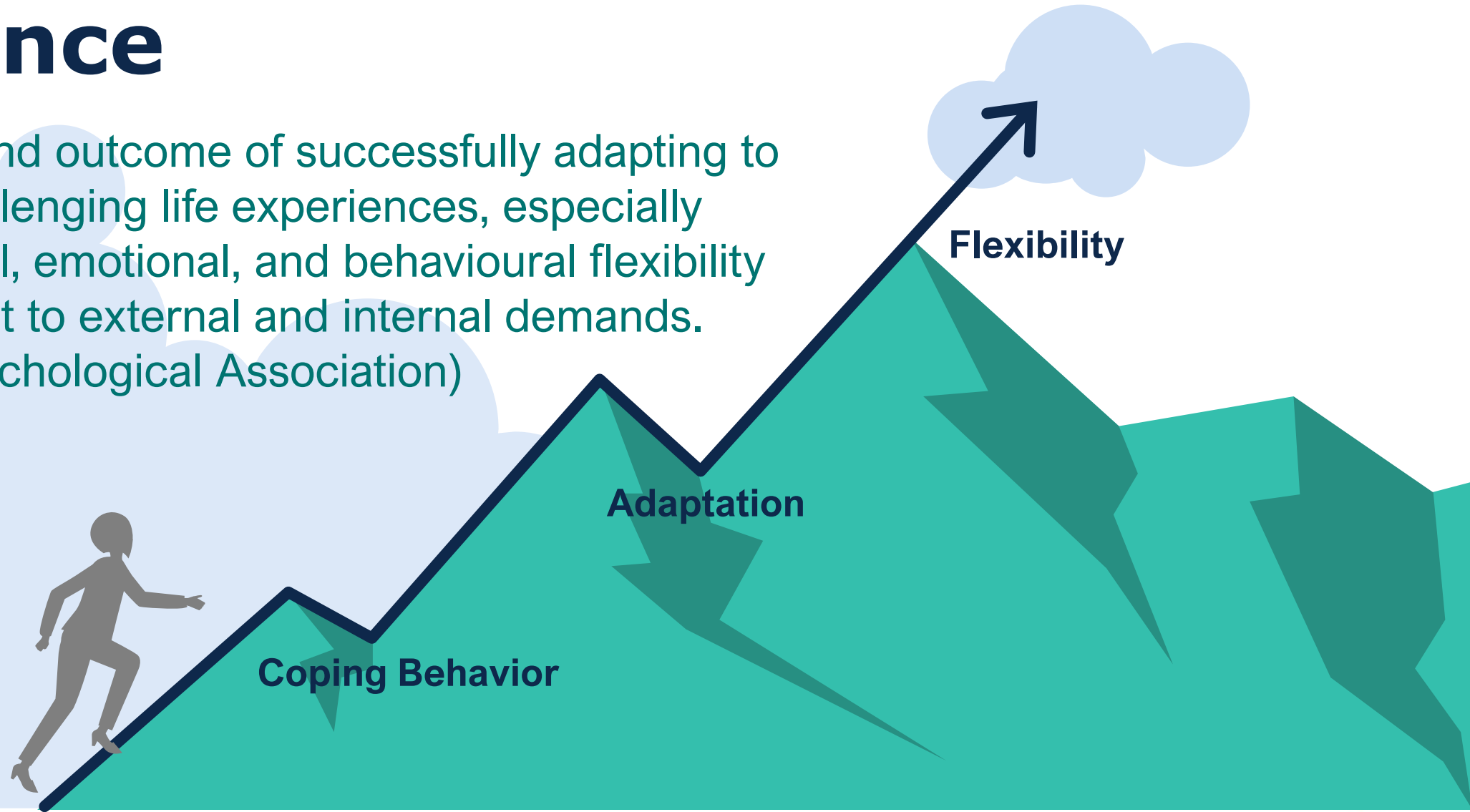
What to Expect

-  Introduction to the Horse River Wildfire
-  Rebuilding - Development Challenges
-  Introduction to the 2020 Flood
-  Development challenges
-  Questions



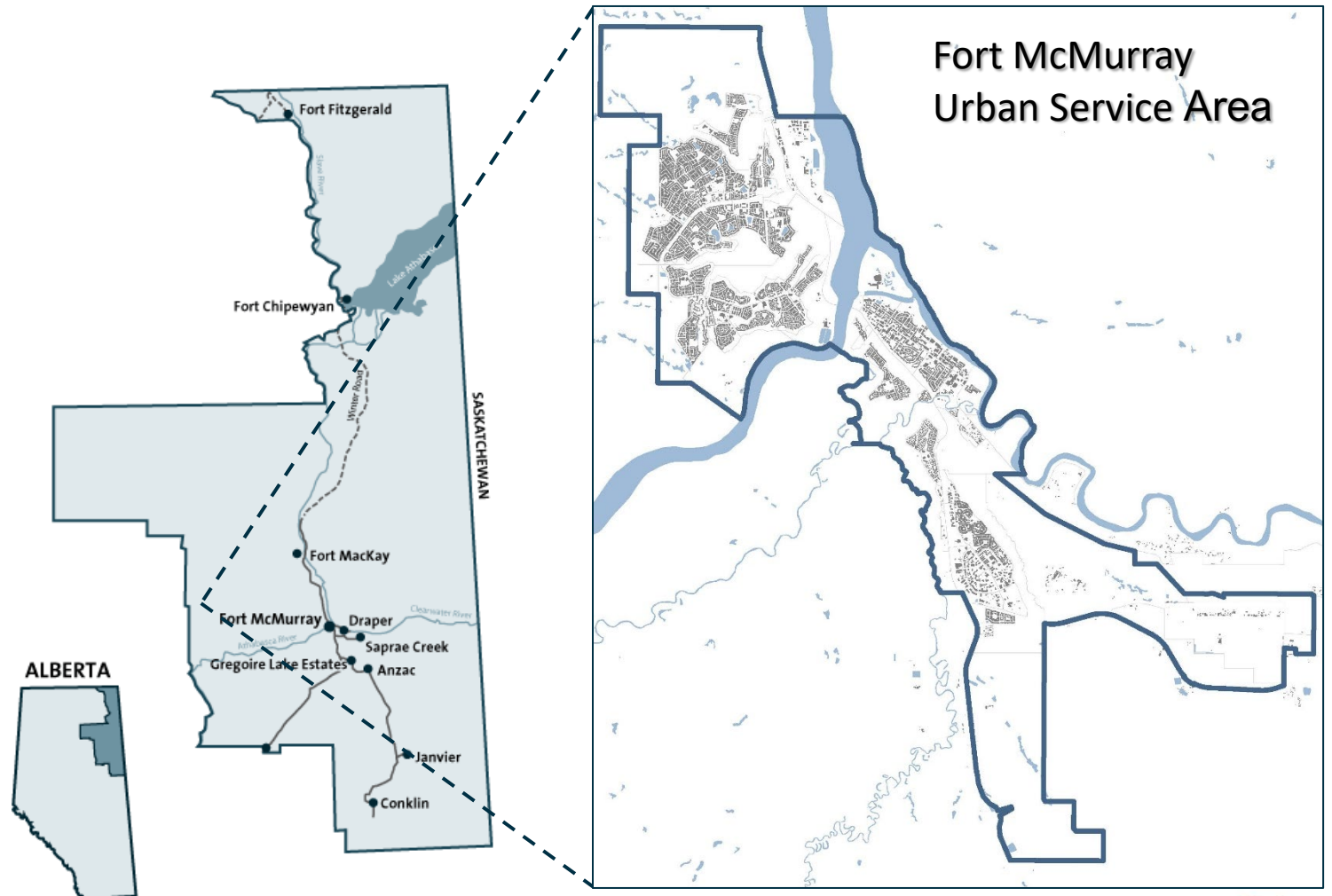
Resilience

The process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioural flexibility and adjustment to external and internal demands.
(American Psychological Association)



Regional Municipality of Wood Buffalo

- **9** Rural Communities
- **1** Urban Service Area
- **111,687** residents (2018)
- **66,361 km²** – total area – **2nd** largest municipality in Canada





REGIONAL MUNICIPALITY
OF WOOD BUFFALO



FORT MCMURRAY

■ Approx. burn area, June 1



SOURCE: Natural Resources Canada

Horse River Wildfire Timeline

May 1, 2016

*State of local
emergency
declared*

June 1, 2016

*Re-Entry
Begins*

**August 11,
2016**

*First DP
Issued*

**Sept. 27,
2016**

Fees Waived

June 30, 2017

*Deadline to
Demolish*



May 3, 2016

*Mandatory
evacuation of
Fort
McMurray*

**July 27-29,
2016**

*Demolition
Orders Issued*

Sept. 28, 2016

*Wildfire Recovery
Overlay Passed –
Land Use Bylaw
Amendment*

Dec. 31, 2017

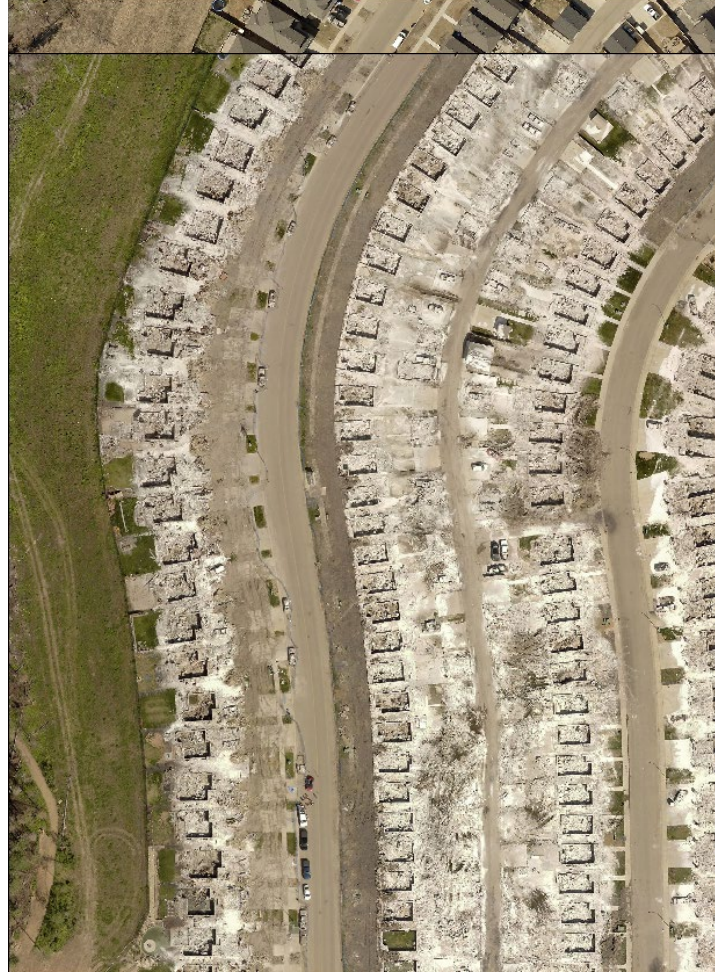
*Post Wildfire
Recovery Period
Ends*



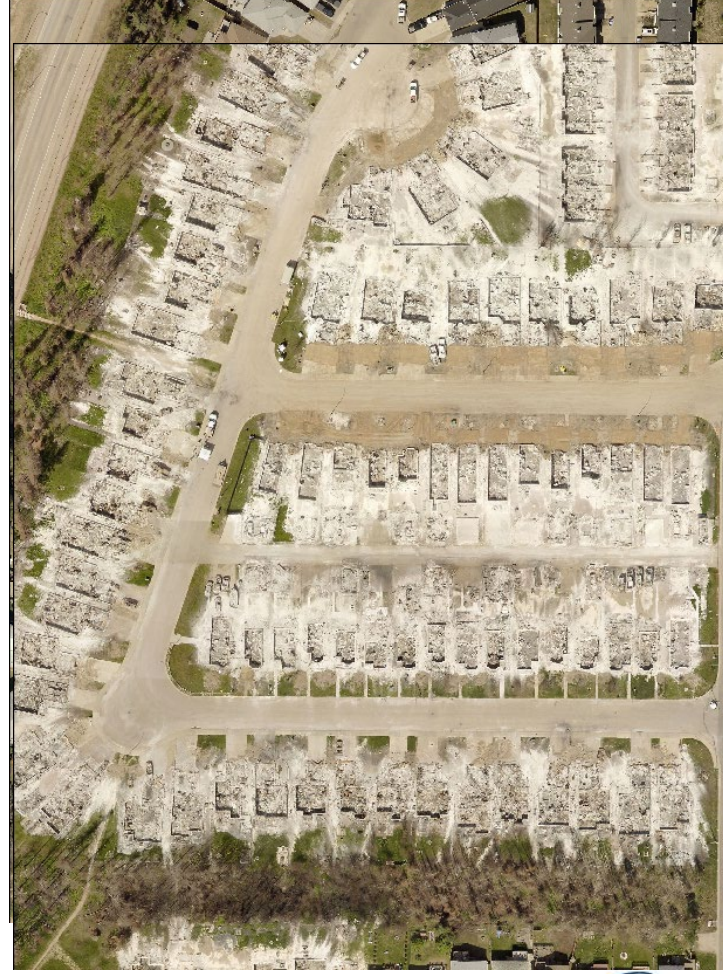
Waterways



Stone Creek



Wood Buffalo Estates



Abasand



Beacon Hill



Abasand



The Extent of The 'BEAST'



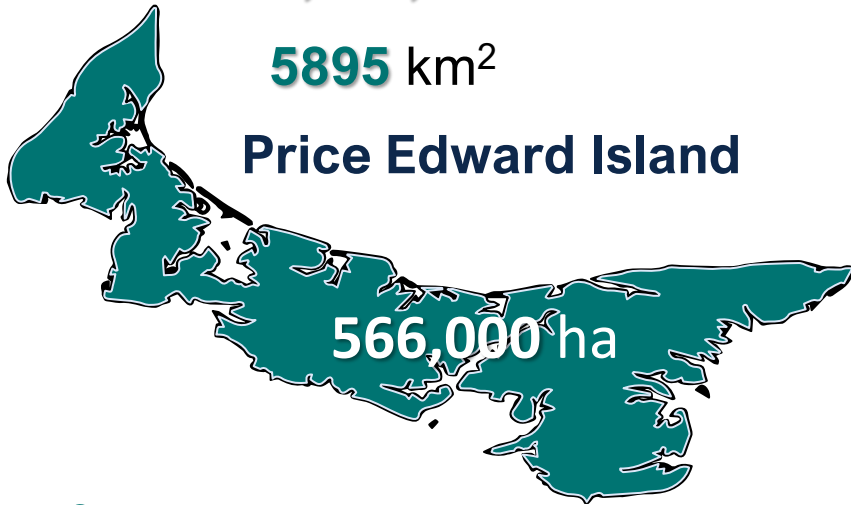
In area:

590,00 ha or

1,500,000 Acres or

5895 km²

Price Edward Island



566,000 ha



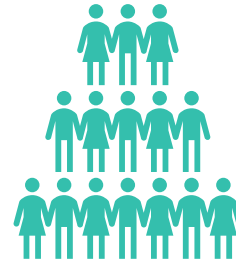
Time lapse:

Started May 1

Under control July 5

Declared fully **extinguished**

15 months later



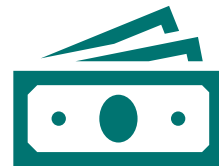
88,00
Evacuees



1500 buildings
+ structures



2500
dwellings



Canada's most costly
disaster

Direct and indirect cost 9.9 billion

Insurance Bureau of Canada's – 3.8

Billion in Insured Damages

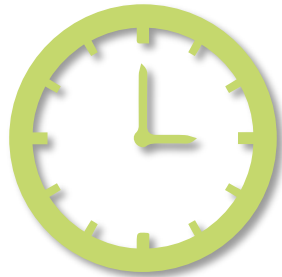


Development Permits

quick actions taken



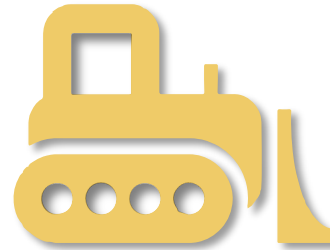
Waived fees
development &
building permits



48
Hours

Accelerated permit
turnaround times

Demolition
Permits
\$200



Development
Permits
\$75

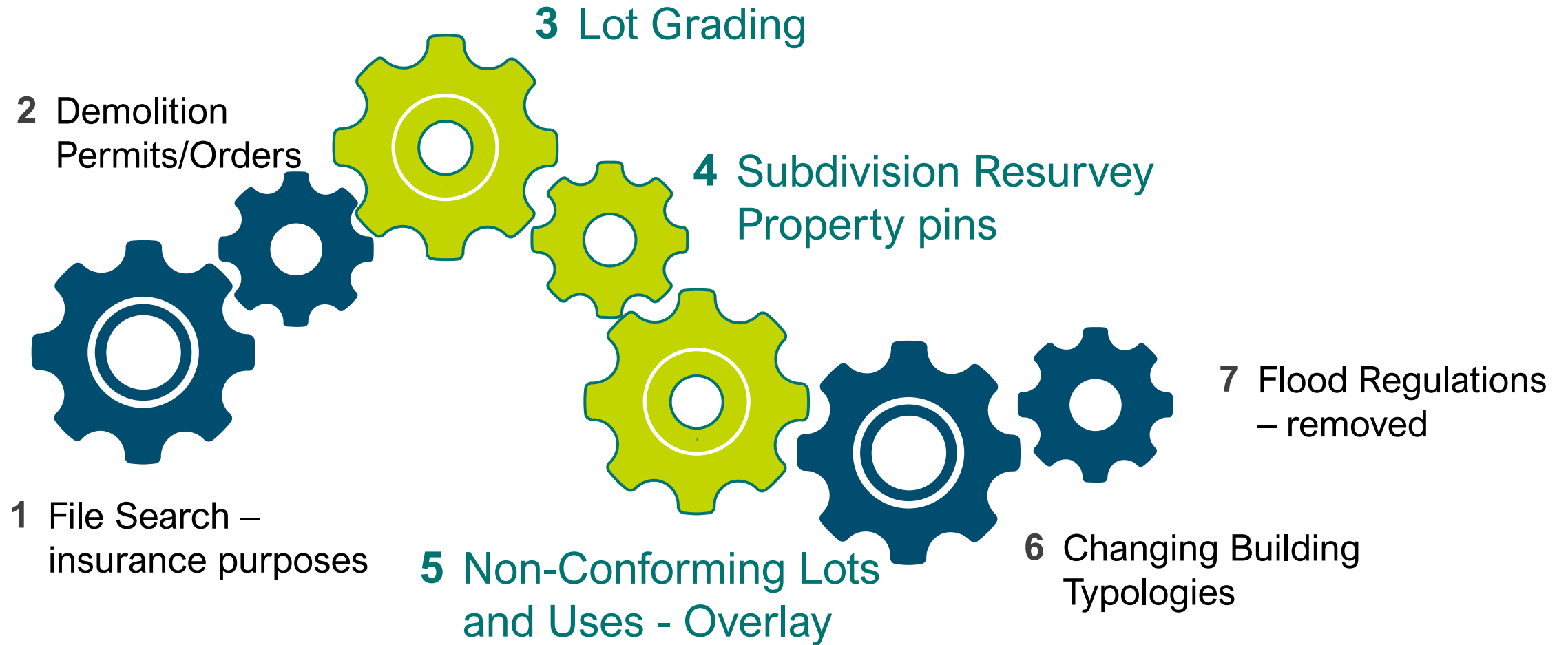
Over **\$400k** Waived



Average **33** Permits
received per day in
August 2016



Rebuild Efforts - Planning & Development



Lot Grading Challenges

Variety of grade changes throughout neighbourhoods

Challenges include:

1. Limited Records
2. Destroyed Retaining Walls
3. Conflicts Between Properties

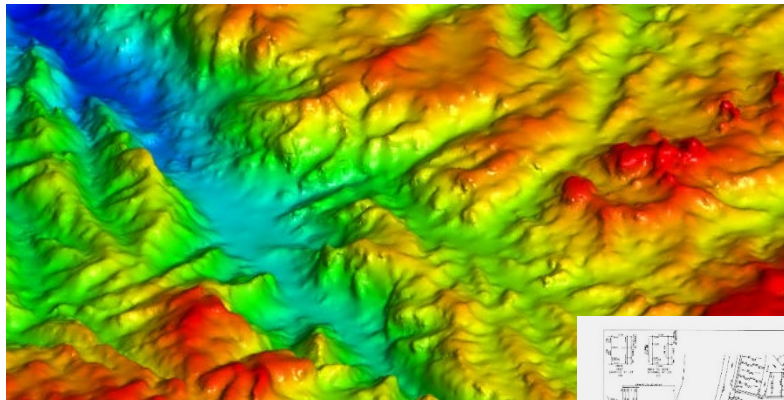


grade change could be up to 2.5m (8 feet) between two lots backing onto one another



Lot Grading Challenges

No Records of master grading plans



LiDAR Data was used to review applications

Master Grading Plans were later developed for those neighbourhoods without them



Retaining Walls destroyed

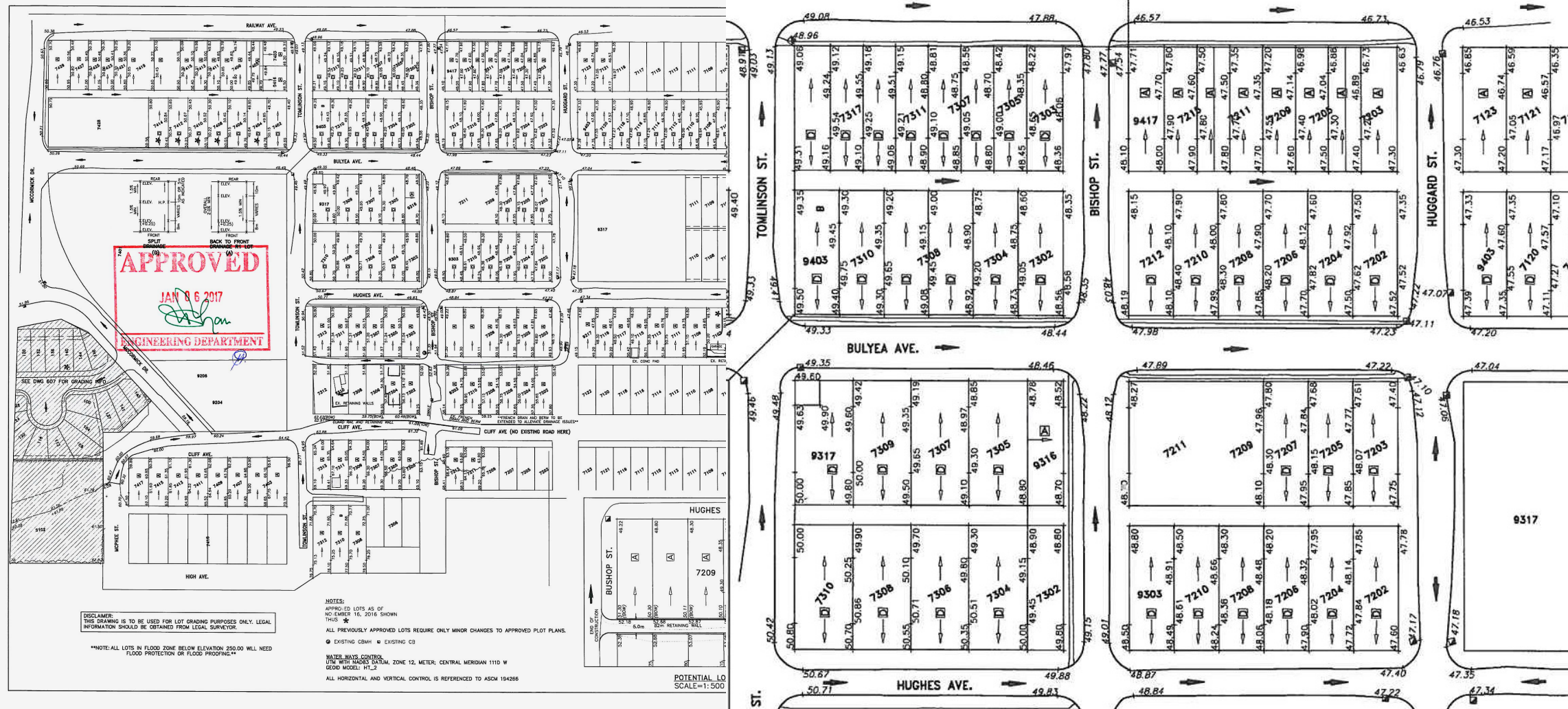


Lot Grading Challenges

Conflict between pre & post Master Grading Plan approved grades



Subdivision Grading Plan



Major Rebuilding Challenges – Resurvey

- Survey Pins - a meter long metal rod placed in the ground to define the property corners
- Survey Pins lost during rebuilding
- Fort McMurray was the largest re-survey in the Province of Alberta by the Director of Surveys



Overlay Bylaw

Land Use Planning Framework for the redevelopment in the wildfire affected areas

Main Objective

Rebuilding the Community

Solution

Flexible tool to comply with the LUB and allow for re-development



Main Issue

Non-conforming lots

Advantages

Certainty to owners on rebuild options



Tools : Overlay Bylaw

The “Wildfire Recovery Overlay” (Part 11):

- Applied to parcels affected by the fire
- Allowed for “like-for-like” development
- Applied to Land use Districts in the affected areas
- Rebuilding required a development permit
- Single Detached Dwellings shall comply with the Site Provision and shall not be refused due to lot size (area/width)



Examples of Non-conforming lots

The Land Use Bylaw passed 1999 leaving several land uses and lots legally non-conforming or grandfathered



Environmental Constraints

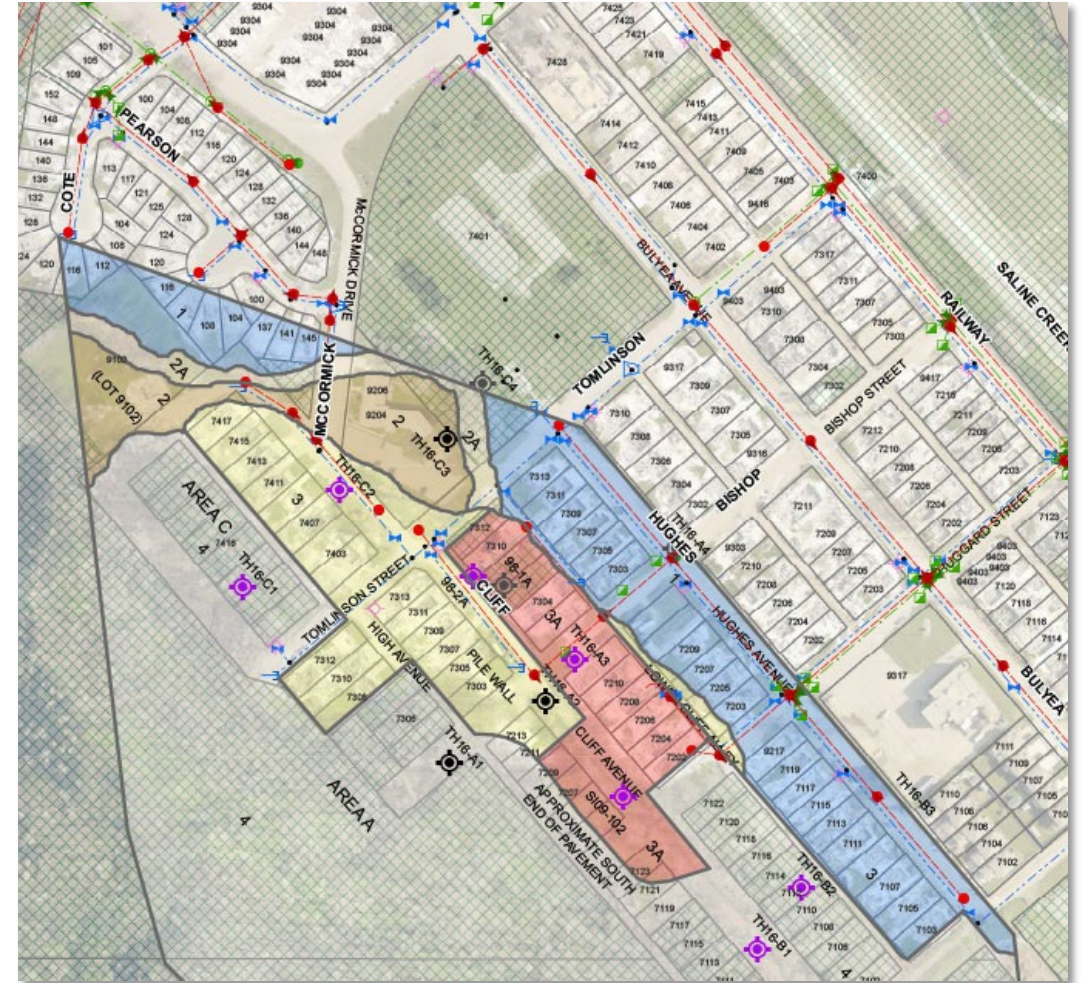
Many affected lots had environmental constraints which restricted rebuilding options

Waterways & Draper

Flood hazard on one side

Slope stability issues

on the other



Development Permit Statistics

Single Detached

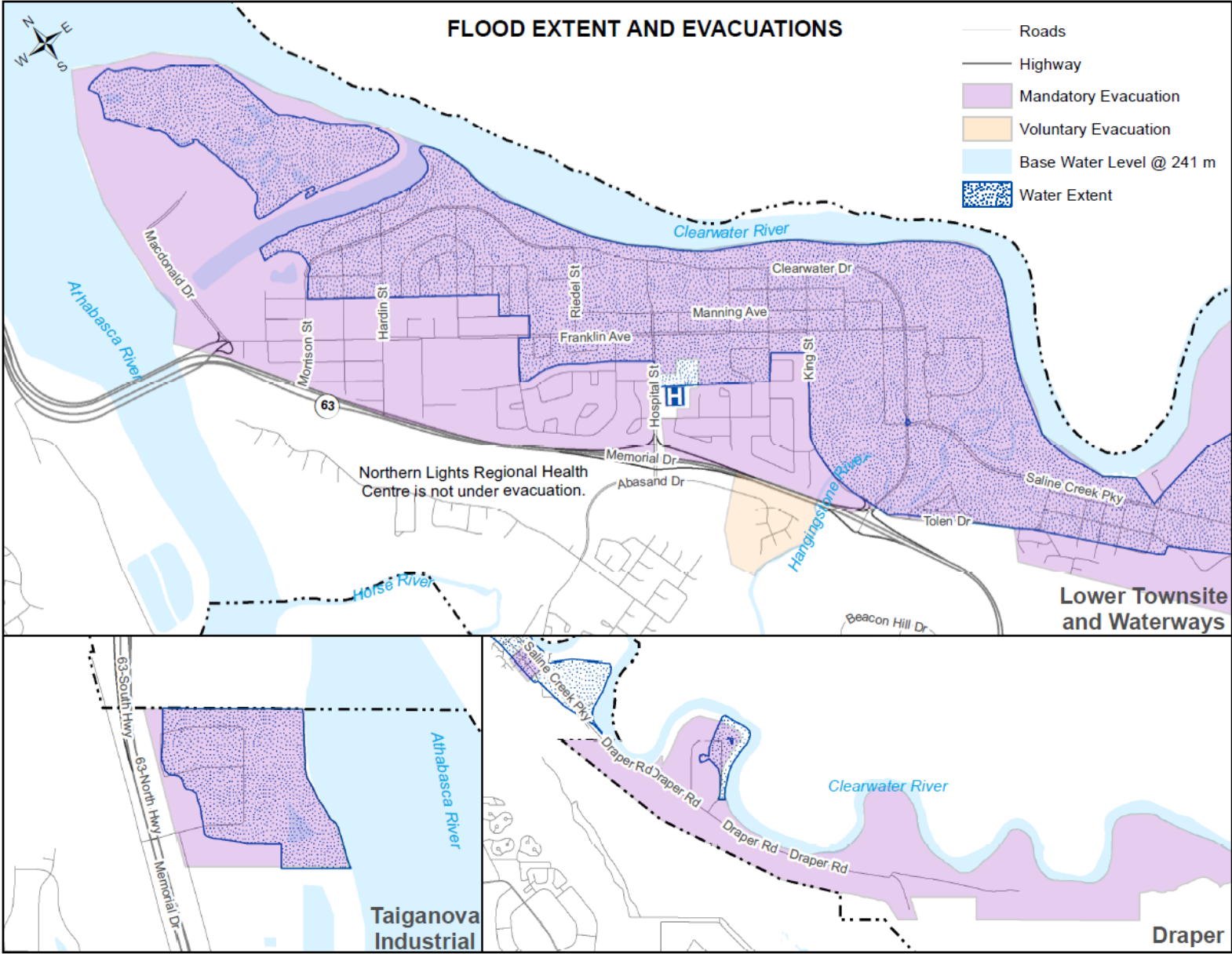




REGIONAL MUNICIPALITY
OF WOOD BUFFALO

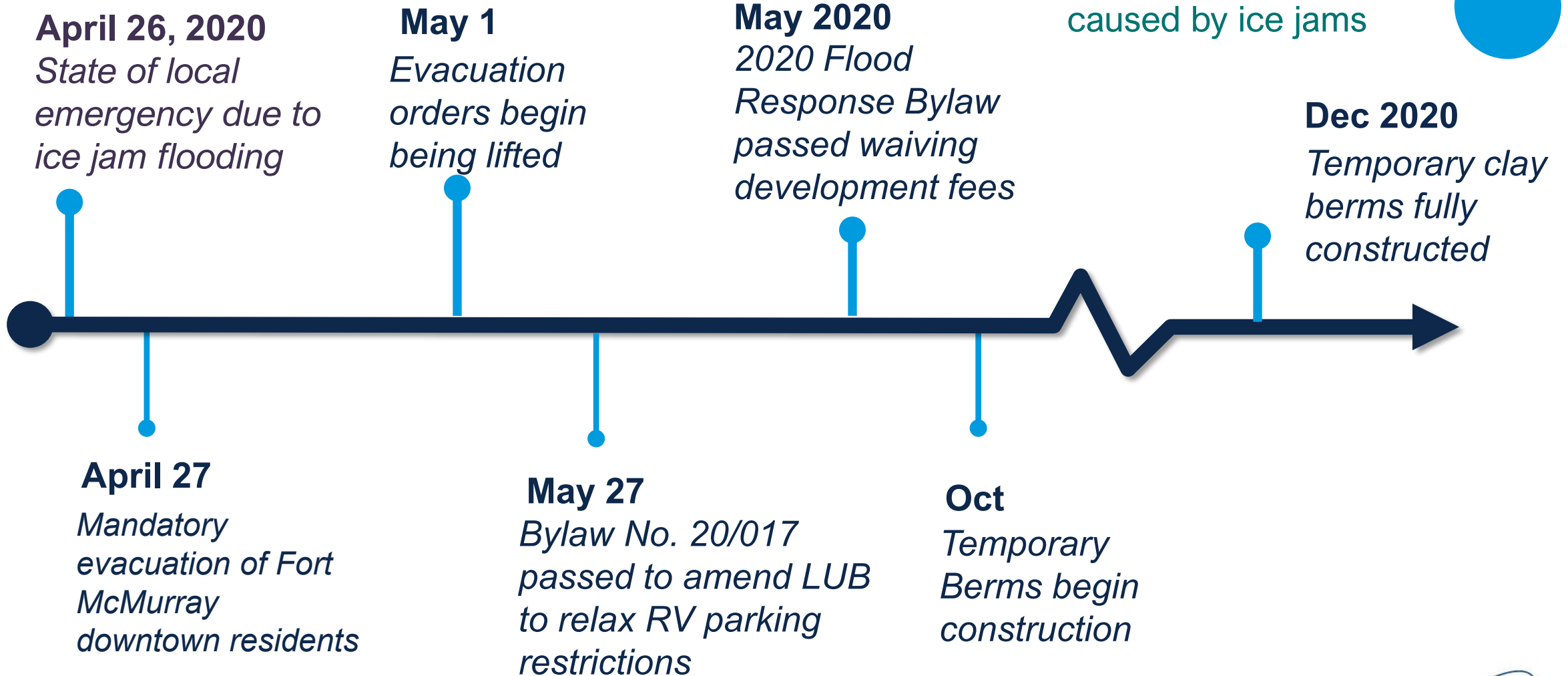
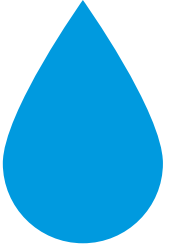
Water

2020 Flood

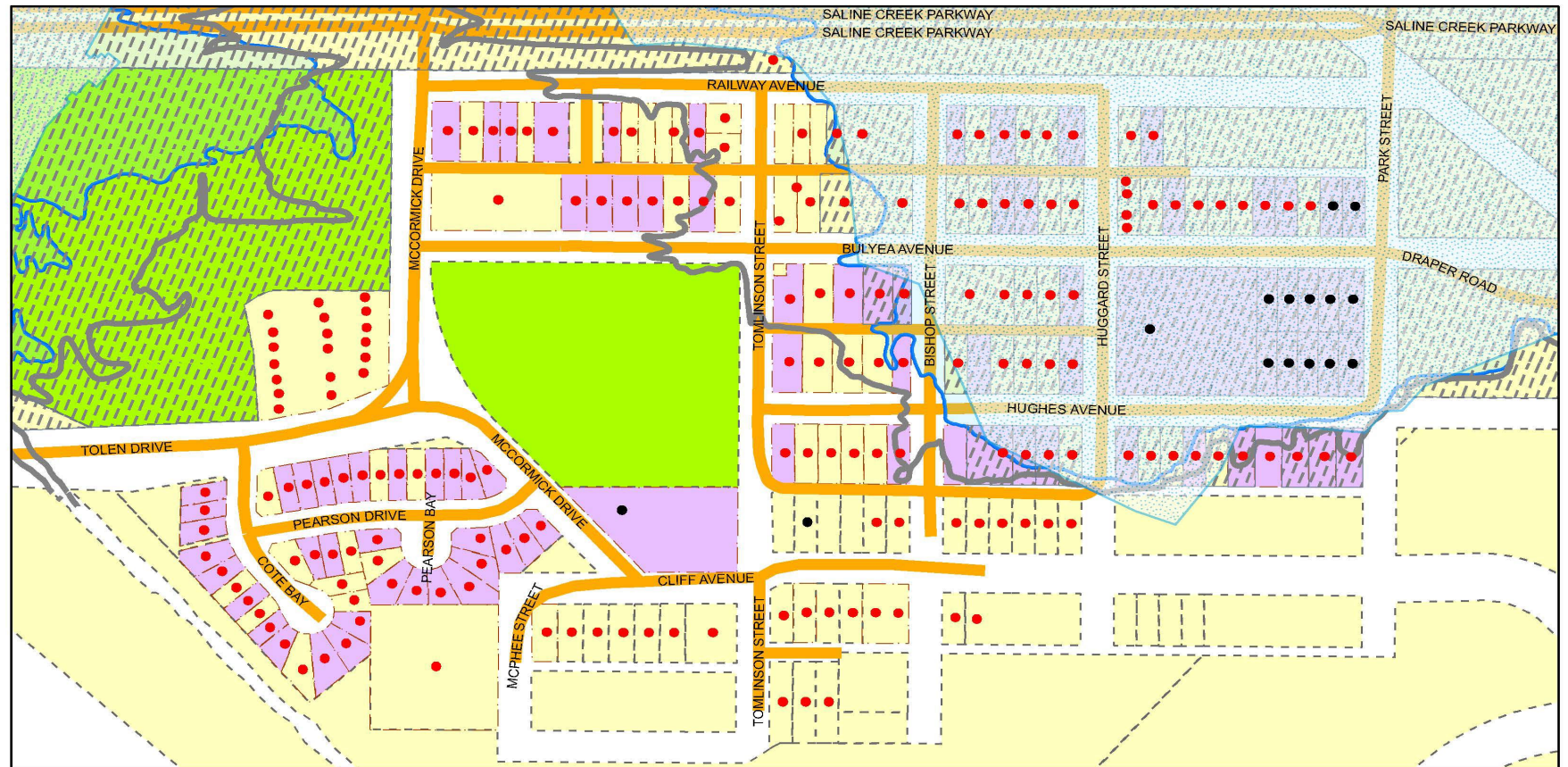


2020 Floods Timeline

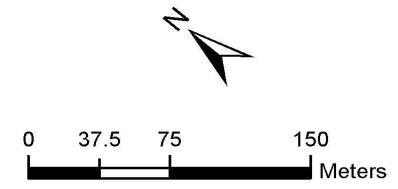
17 notable floods since 1835, 16 of them caused by ice jams



Map - Flood and Fire



- | | |
|-----------------------------|-------------------------|
| ● Destroyed (Wildfire) | — Roads |
| ● Restricted Use (Wildfire) | - - - Municipal Land |
| ● Unsafe (Wildfire) | - - - Private Land |
| ▨ Flood Extent | ■ Developed Land |
| ▨ Flood Affected | ■ Open-Space/Recreation |
| — 250 Meters Elevation | ■ Vacant Land |
| ▨ Flood Way | |



**2020 FLOOD EXTENT
WATERWAYS**

Prepared By: Planning and Development
Created on: 22 May 2020

REGIONAL MUNICIPALITY
OF WOOD BUFFALO

Handwritten signature and date: L. M. 22

Proposed Options

- ◆ Allow Development + require a caveat



03 Impose development conditions



02 Status Quo

- ◆ Allow Development Flood Affected Areas



01 Restrict Development

- ◆ Restrict new buildings in Flood Affected Areas



Restricting Development - Analysis

\$3B

Estimating costs on buyouts for areas where berm systems are not feasible

Combined Handout for Downtown, Longboat Landing, Waterways, Ptarmigan Park, Draper & Taiganova

Assessment Value for Total Number of Properties in Downtown, Longboat Landing, Waterways, Ptarmigan Park, Draper & Taiganova:

Area	Total Number of Properties	% of Total Number of Properties	Assessment Value	Total
Downtown				
Total	6307	100%	\$ 2,096,203,690.00	\$ 2,096,203,690.00
Private Properties	5871	93%	\$ 1,811,013,370.00	
Municipal Properties	431	7%	\$ 282,738,430.00	
Longboat Landing				
Total	360	100%	\$ 97,515,560.00	\$ 97,515,560.00
Private Properties	360	100%	\$ 97,515,560.00	
Municipal Properties	0	0%	\$0	
Waterways				
Total	224	100%	\$70,660,350	\$70,660,350
Private Properties	162	72%	\$56,745,040	
Municipal Properties	62	28%	\$13,915,310	
Ptarmigan Park				
Total	80	100%	\$14,300,490	\$14,300,490
Private Properties	69	86%	\$13,999,980	
Municipal Properties	11	14%	\$300,510	
Draper				
Total	98	100%	\$60,304,000	\$60,304,000
Private Properties	98	100%	\$60,304,000	
Municipal Properties	0	0%	\$0	
Taiganova				
Total	94	100%	\$513,746,540.00	\$513,746,540.00
Private Properties	81	86%	\$463,414,220.00	
Municipal Properties	13	14%	\$50,332,320.00	
Grand Total	7,163	---	\$2,852,730,630.00	

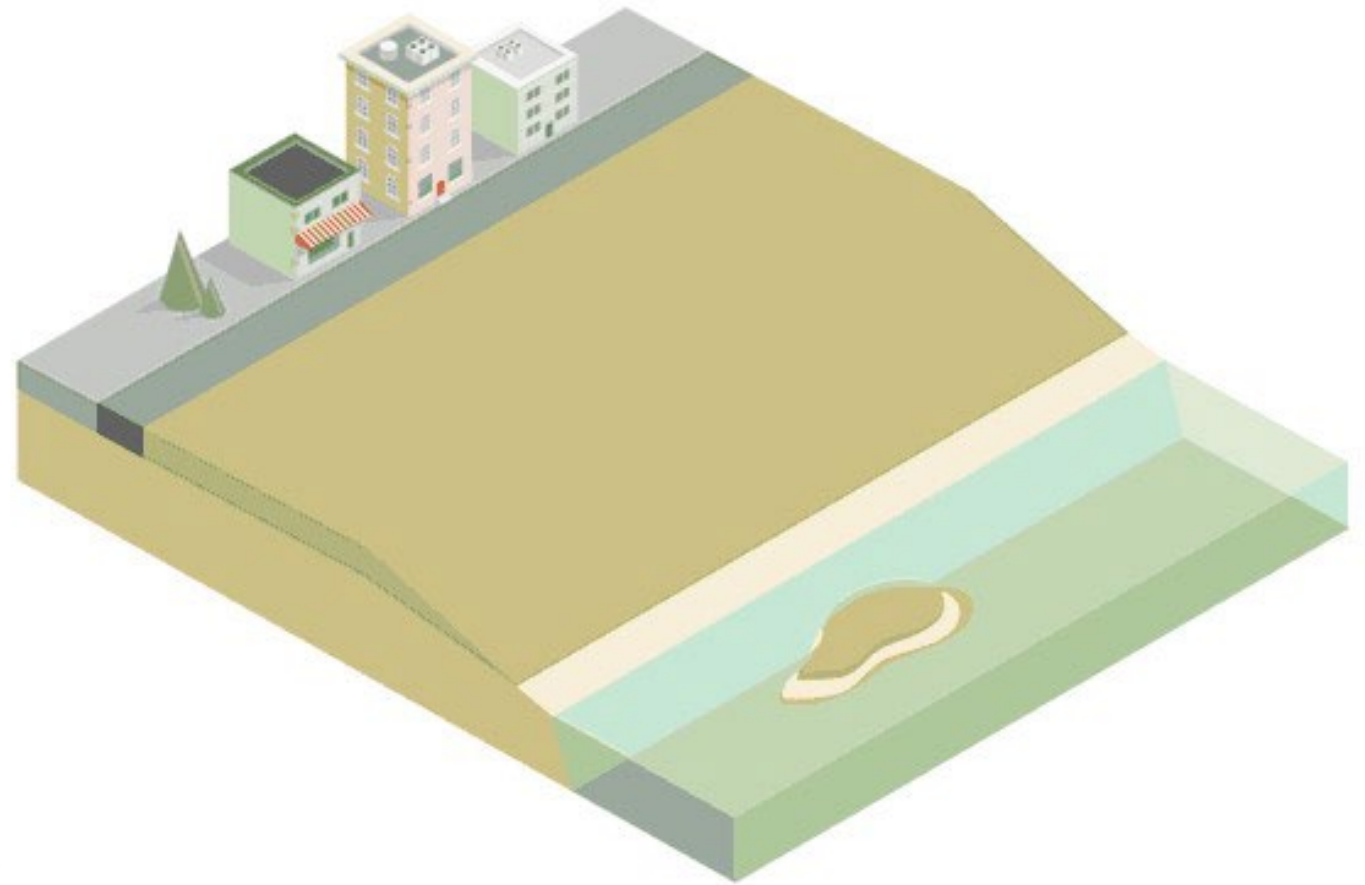


Protecting our Community

\$42 M

Flood Mitigation
Including berms, retaining
walls, and flood barriers

LUB + **Flood Regs**



Map produced by GIS group on Feb. 23, 2023. TICK88789_Flood_Mitigation_Program



Permitting



Some quick actions taken

Waived fees development & building permits



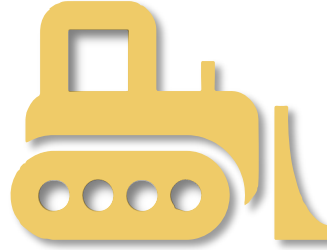
48
Hours

Accelerated permit turnaround times

Demolition Permits

\$200

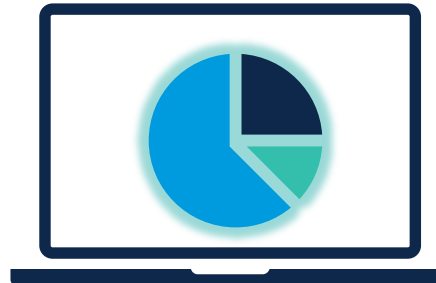
Over



Development Permits

\$75

\$2M Waived



4364
Permits
Processed



Ptarmigan Court

Buyout Option Or Raise buildings

Remaining Lots zoned as
ER – Environmental Reserve



Draper

**DRAPER VOLUNTARY BUYOUT ASSUMED ELIGIBILITY (MAP 2)
UNDERSIDE FLOOR JOIST UNDER 250.9M**



Expressed Interest in Appraisal
Not Assumed Eligible (TBD)
Properties Assumed Eligible for Voluntary Buyout
10 Properties / 1 Property TBD

1:16,985

Map created by the Land Administration Department
The use of this map is for reference only.
21 Apr 2023 / JM540-VBO2-1

**DRAPER HOUSEHOLD FLOOD RISK REDUCTION PROGRAM
ASSUMED ELIGIBILITY (MAP 2) - EXTERIOR UNDER 250.9M**



Properties Assumed Eligible for Grant
15 Properties

1:16,280

Map created by the Land Administration Department
The use of this map is for reference only.
10 Mar 2023 / JM540-GP6

After Fire and Water



After fire and Water



Abasand



After Fire and Water



Longboat Landing



Questions

