



RM of Corman Park
South Saskatchewan River
(Flood Plain) Policy Updates

Engagement Round 2

November 2023



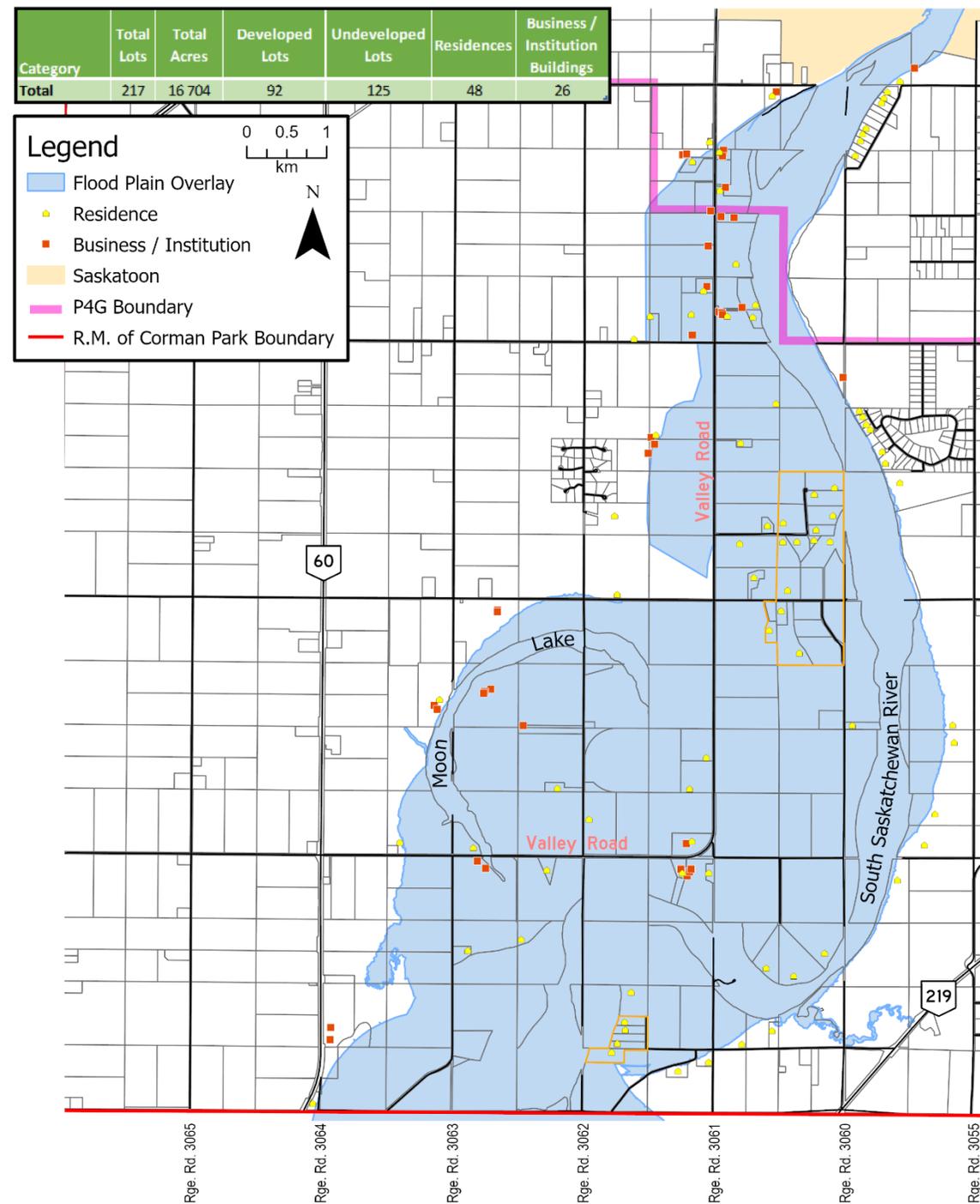


Purpose of engagement

- Share information with landowners and other stakeholders on the development policies being considered for this area
- Share updated mapping and modelling information
- Answer questions and gather feedback
- Discuss the possible implication(s) for new or existing development your land(s).

Existing
Development

Existing Residences, Businesses and Institutions



Goals of this Project

Increase community awareness and understanding about:

- Flooding,
- Risks of flooding,
- Provincial priorities, and
- How the legal planning context applies to private properties

Apply the SPI to the municipal policies:

Official Community Plan

Provides overall framework for organized, sustainable and planned development and outlines long-term vision of communities

- Align with SPI
- Explain the concern of flooding
- Create land use policies for areas prone to flooding

Zoning Bylaw

Regulatory document containing regulations that facilitate the OCP

- Include SPI definitions
- Introduce a two-zone flood hazard map
- Update regulations for development

Flooding Areas Illustrated

Flood Plain

- Any area covered in water from a water course or water body during a 1:500 year flood event and is made up of the **floodway** and **flood fringe**

Flood Fringe

the portion of the flood plain inundated by the 1:500 year flood that is not floodway

- Less than 1m depth and 1 m/s velocity

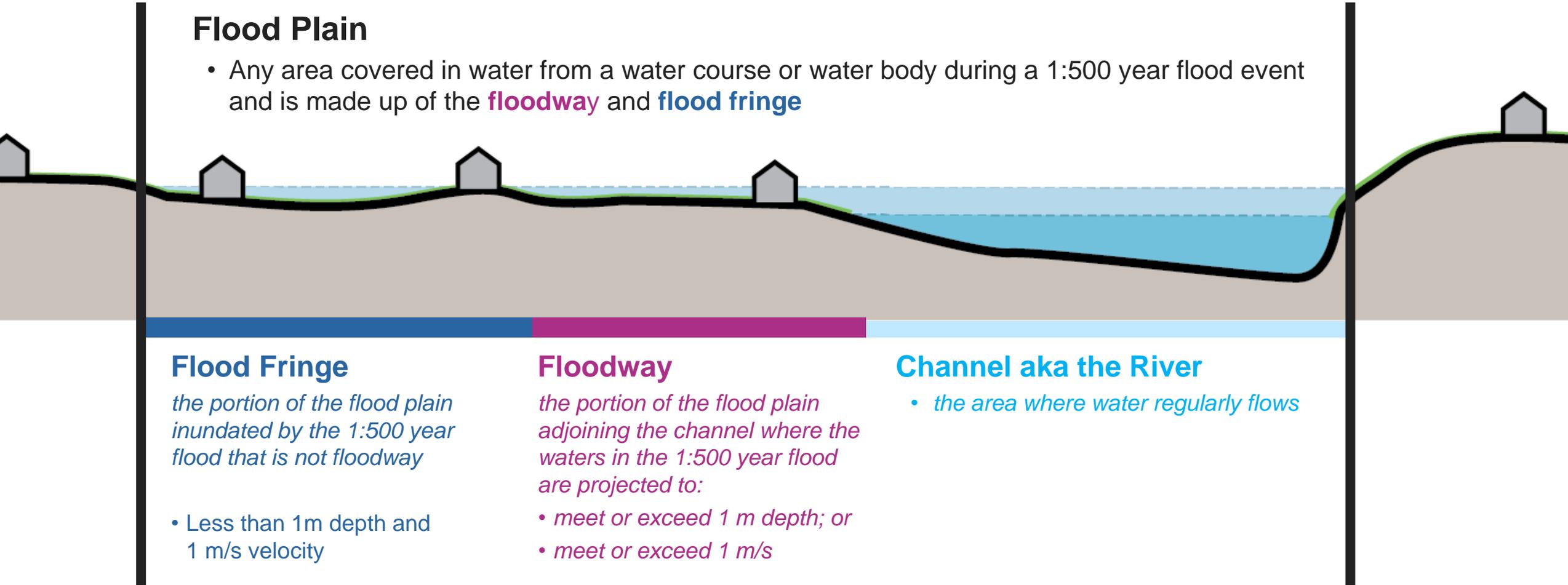
Floodway

the portion of the flood plain adjoining the channel where the waters in the 1:500 year flood are projected to:

- meet or exceed 1 m depth; or
- meet or exceed 1 m/s

Channel aka the River

- *the area where water regularly flows*



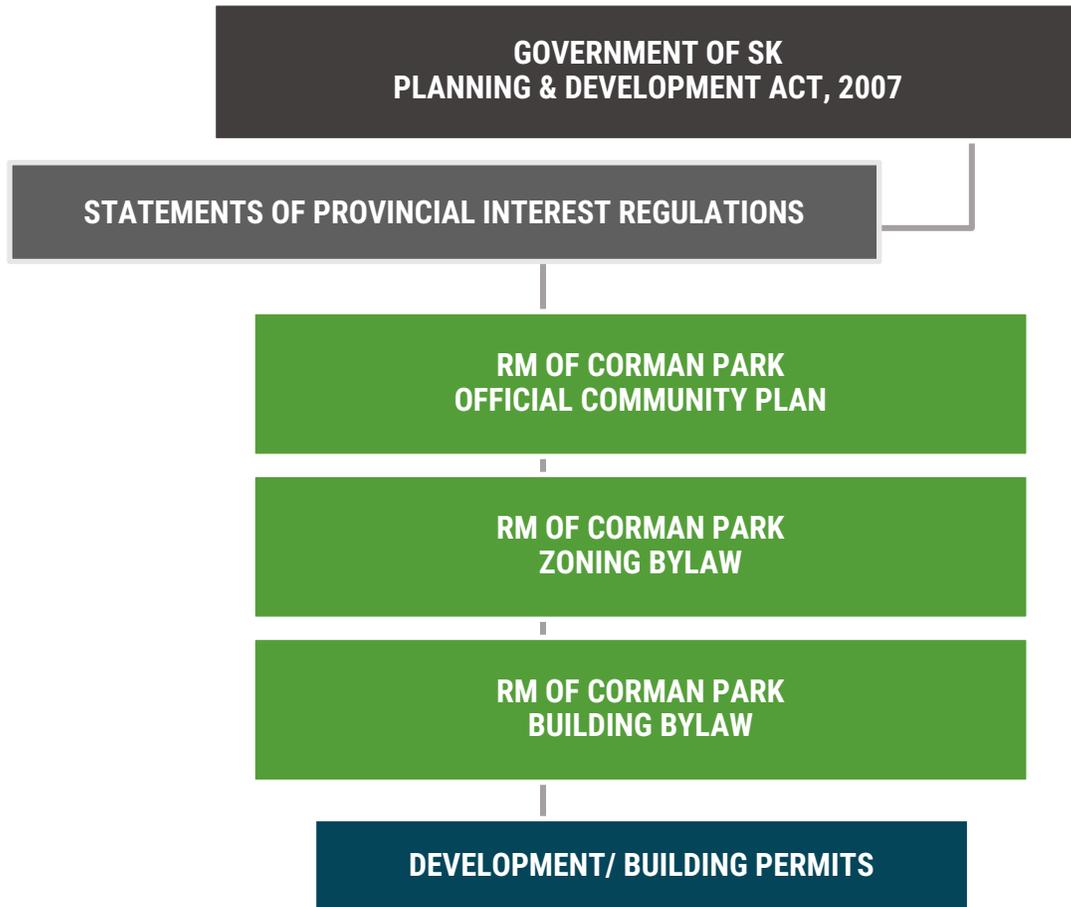
1:500

FLOOD EVENT

- Represents a flow rate; it does not imply that flooding will only occur once every 500 years
- The 1:500 flood event has a 1 in 500 chance (0.2%) of being reached each year
- Over 50 years, the 1:500 flood event has a 9.5% chance of being reached

This standard has been applied in Saskatchewan since 1978

Context



GOVERNMENT OF SASKATCHEWAN

Planning and Development Act

- Outlines municipal powers that regulate planning

Statements of Provincial Interest (SPI) Regulations

- Adopted as regulations under the *Planning and Development Act*

“6.5.3 *Prohibit the development of new buildings and additions to buildings in the floodway of the 1:500 year flood elevation of any watercourse or water body;*

6.5.4 *Require flood-proofing of new buildings and additions to buildings to an elevation 0.5 metres above the 1:500 year flood elevation of any watercourse or water body in the flood fringe;*

6.5.5 *Incorporate available flood mapping into land use planning documents, including zoning bylaws, and decisions;”*

Overview

All recommendations are written in accordance with:

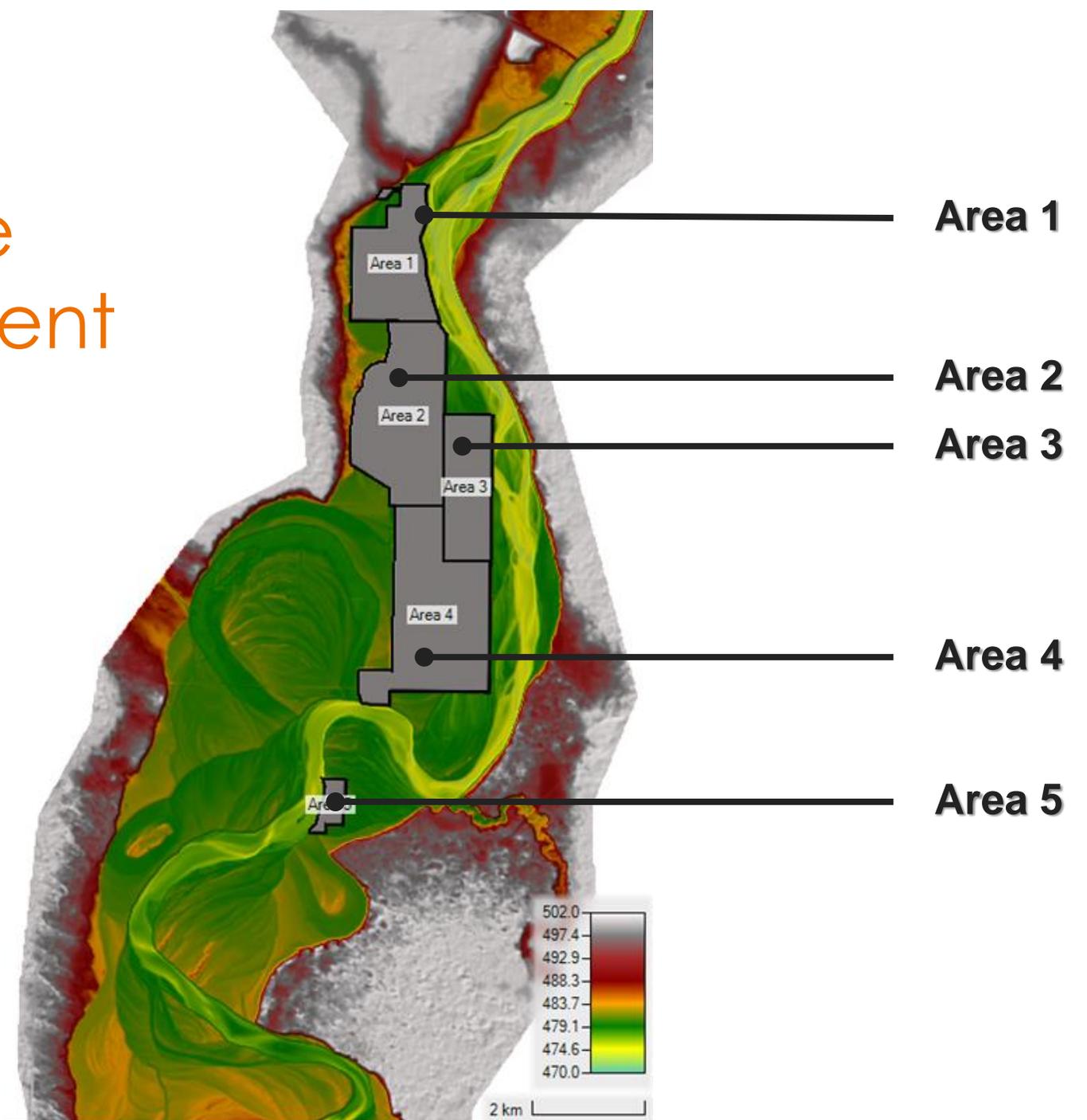
- *Canada's Emergency Management Framework*, which considers the risks to:
 - **Life** (e.g., availability of evacuation),
 - **The environment** (e.g., contamination),
 - **Property** (e.g., short and long-term damages), and
 - **The economy** (e.g., location of critical infrastructure).
- *The Construction Codes Act, which:*
 - Defines BUILDINGS and FARM BUILDINGS
 - Exempts FARM BUILDINGS from construction standards
 - Also allowing municipalities, through their Building Bylaw, to require FARM BUILDINGS to comply with construction standards.

Recommendations

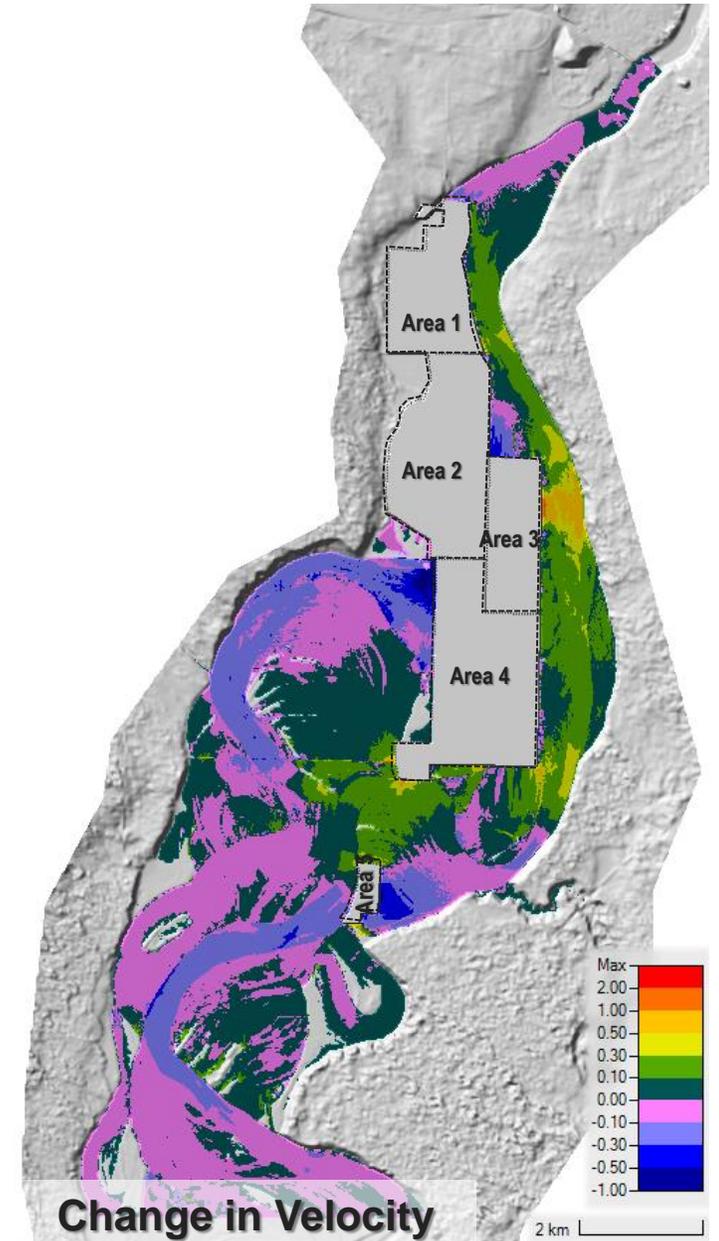
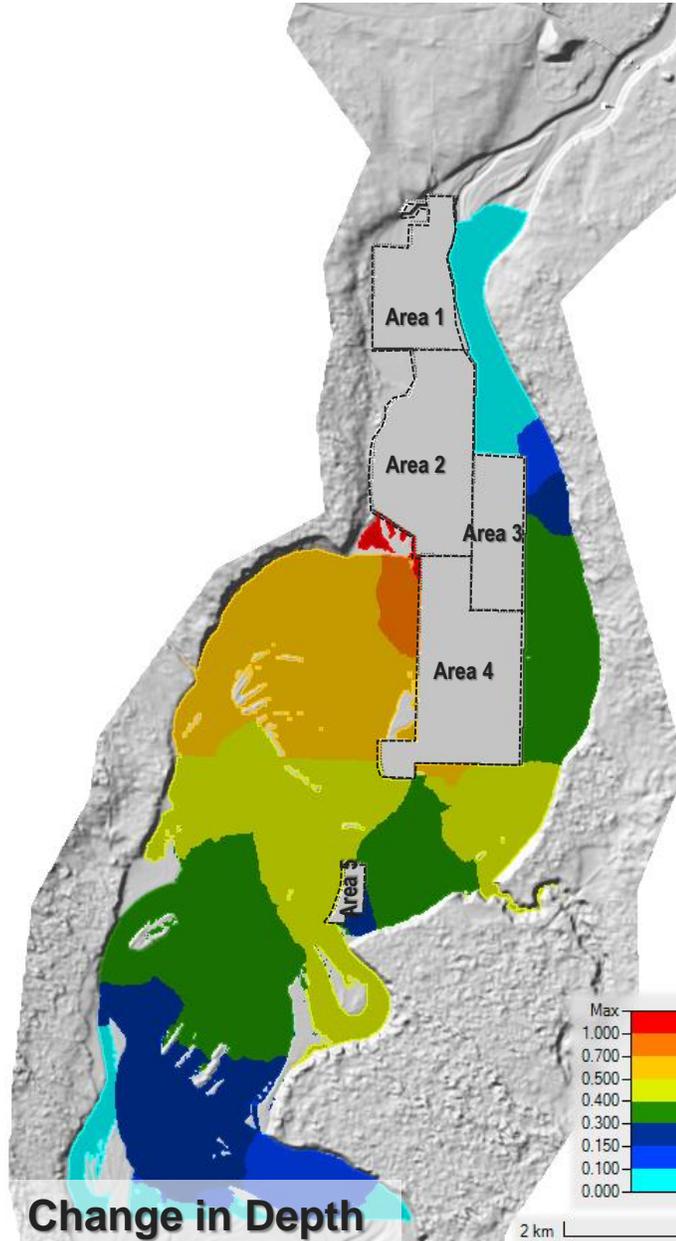
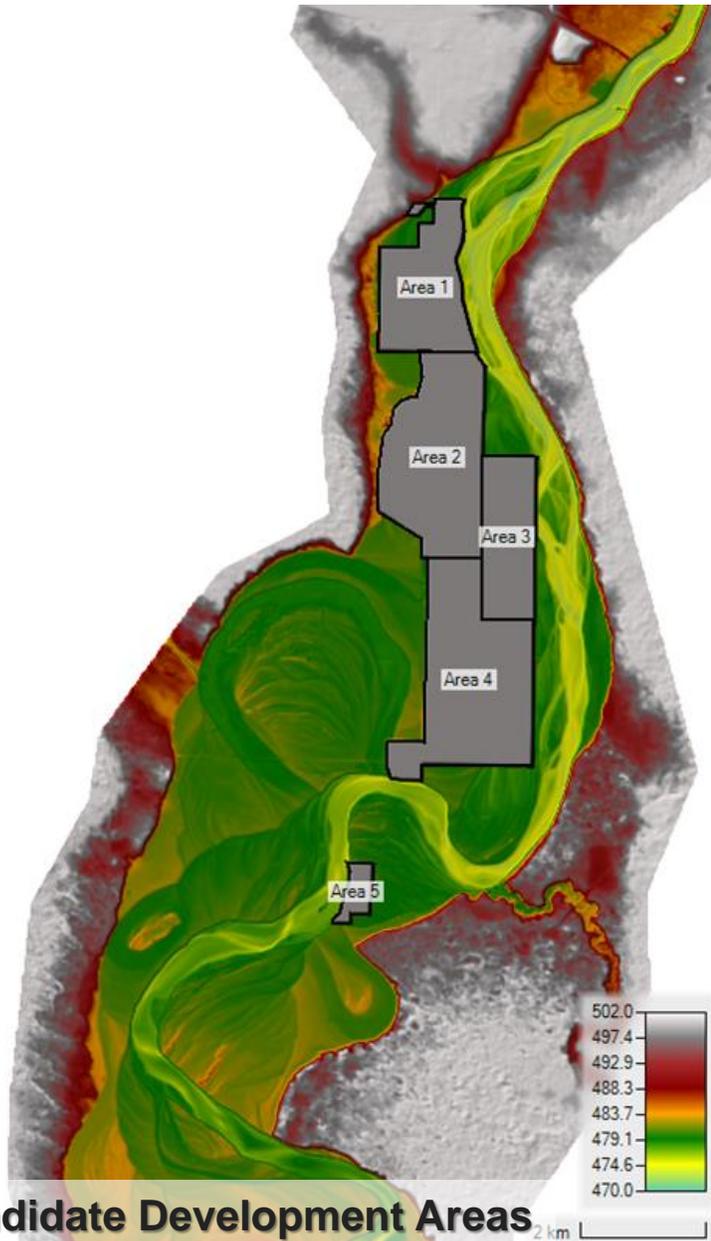
Flood Mapping

- Used to determine flood risk areas
- SPI requires a 2-zone approach to identify **Flood Fringe** and **Floodway**, using set definitions
- Must be prepared through flood modelling of the 1:500 year flood event and approved by the Water Security Agency (WSA)
- WSA provided two general principles for the modelling:
 - Minimize potential loss of life and property by restricting development within the Flood Plain
 - Plan for emergency access and egress during a 1:500 flood event

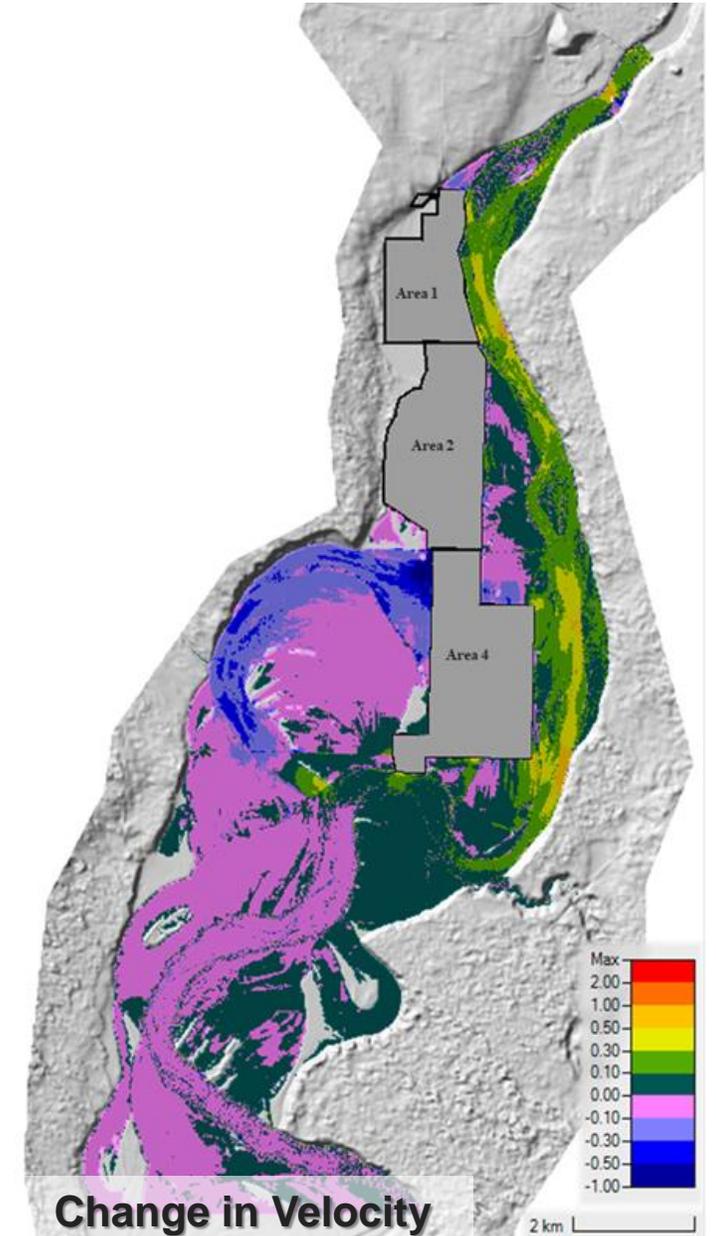
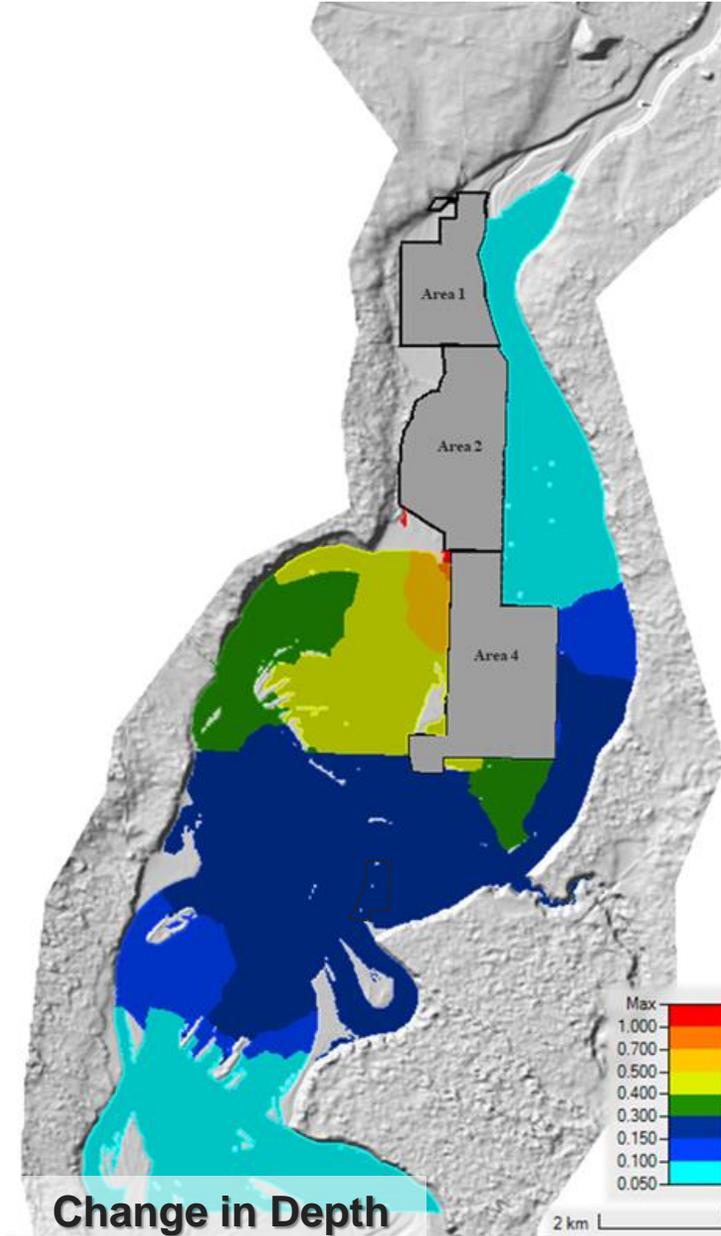
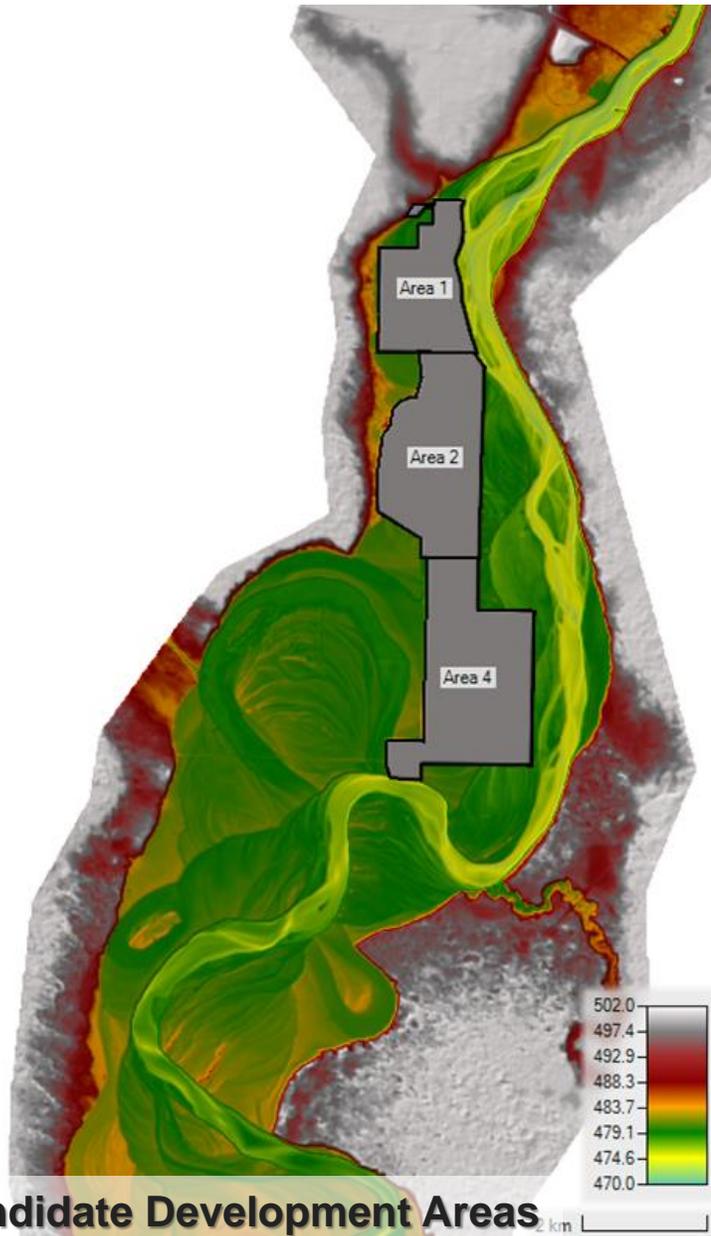
Candidate Development Areas



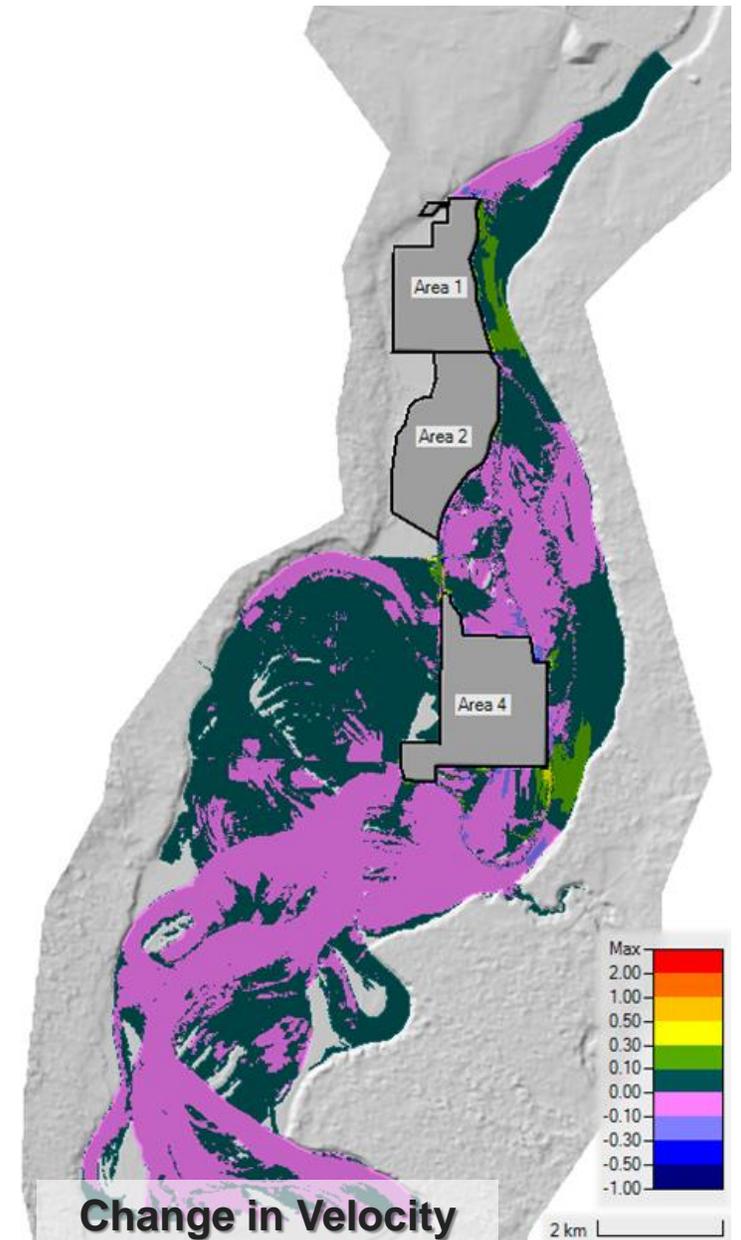
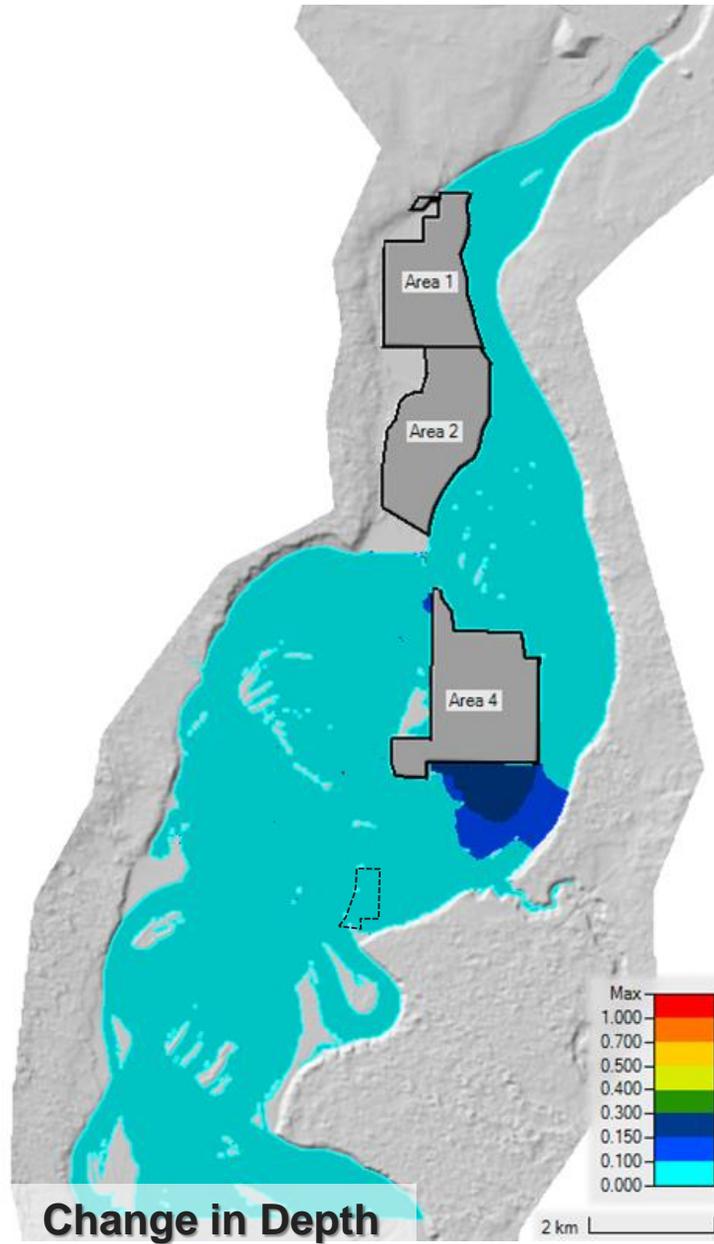
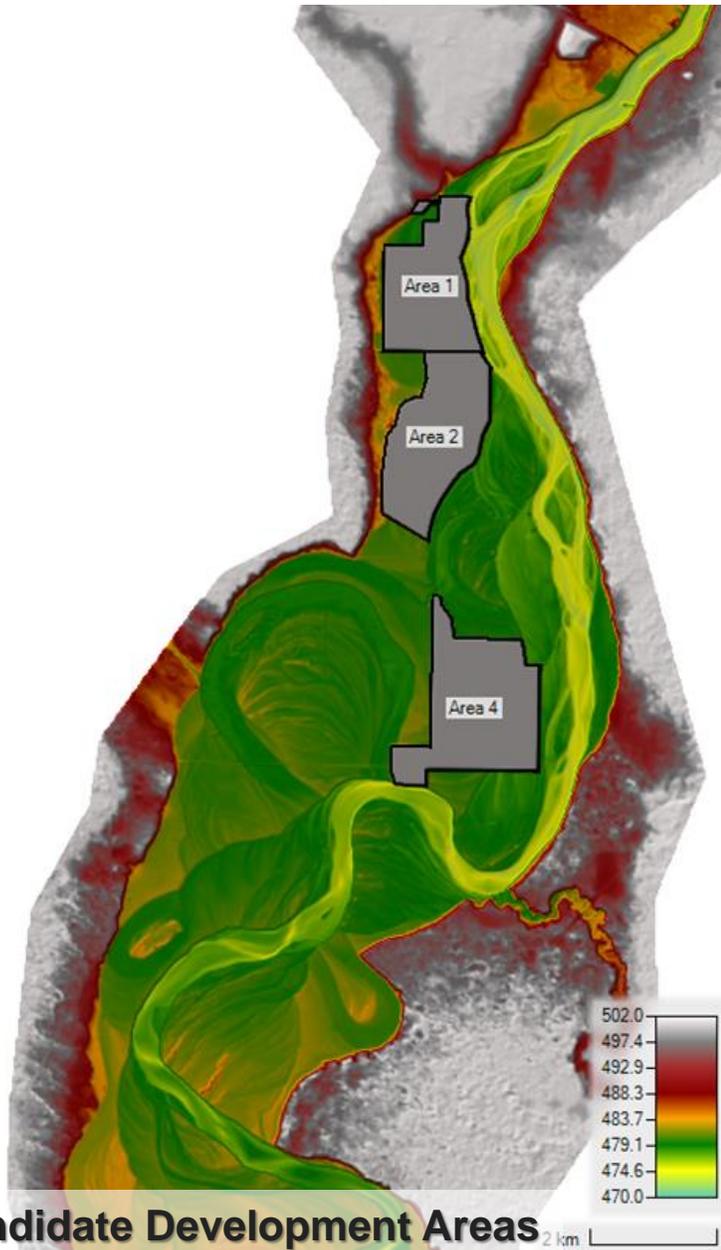
Iteration 1 4,200 m³/s



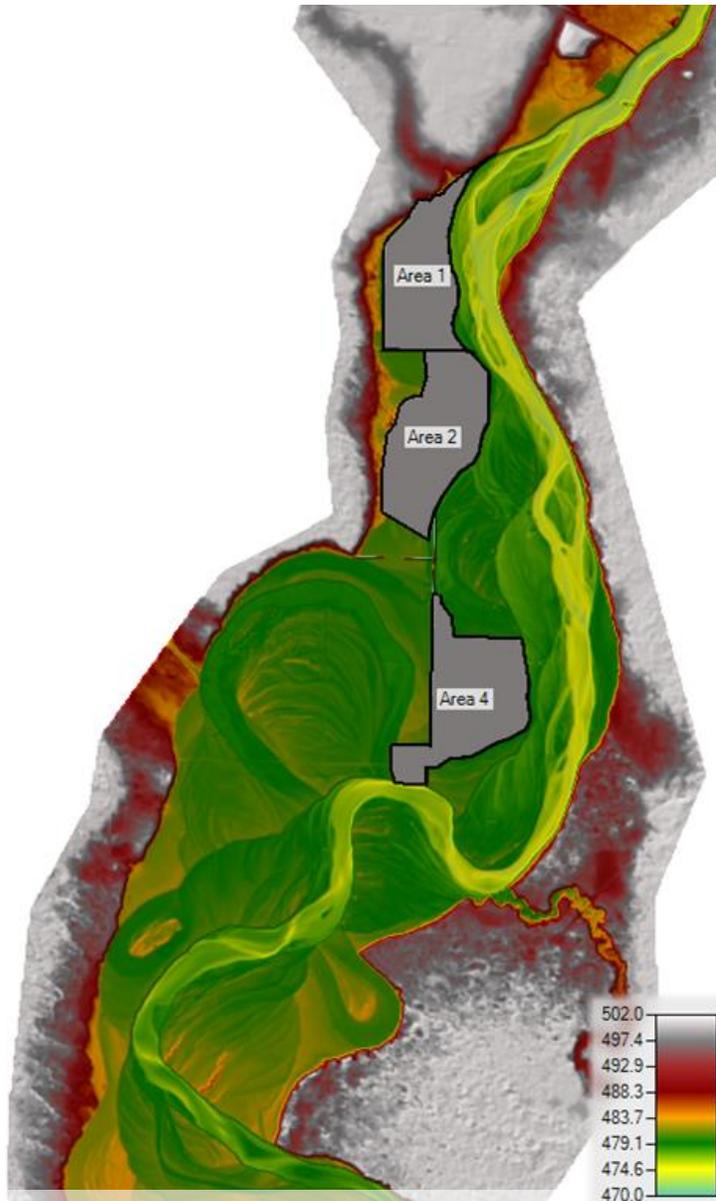
Iteration 2 4,200 m³/s



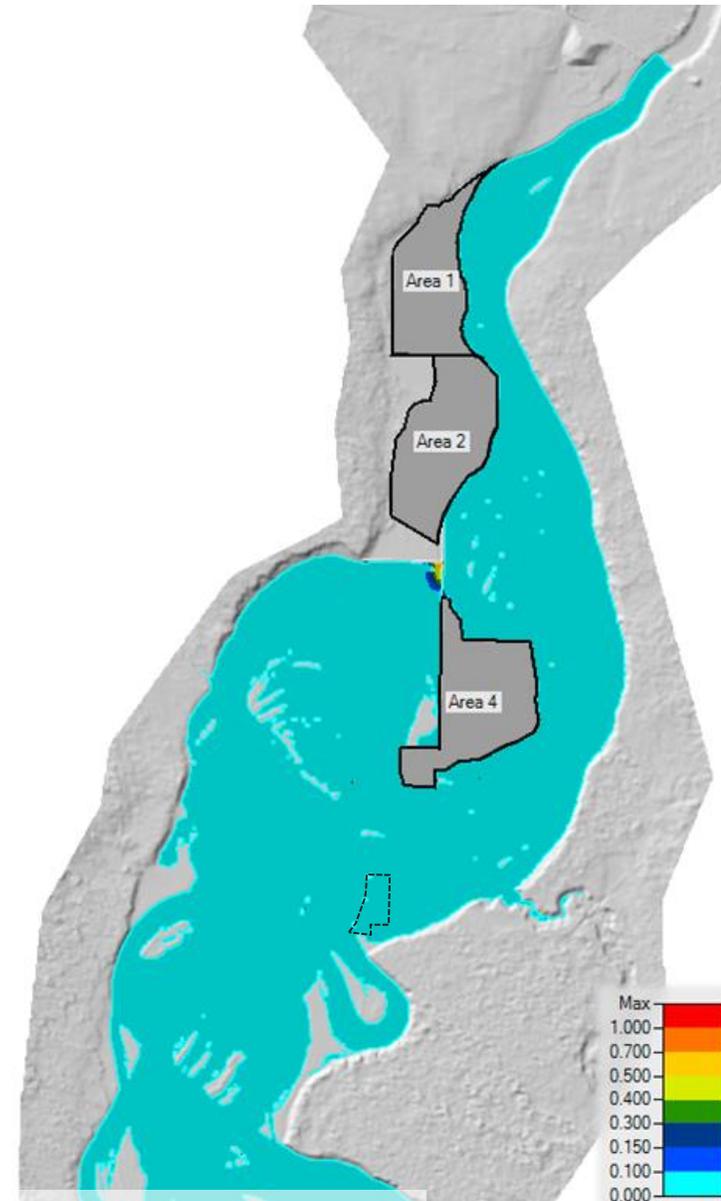
Iteration 3 4,200 m³/s



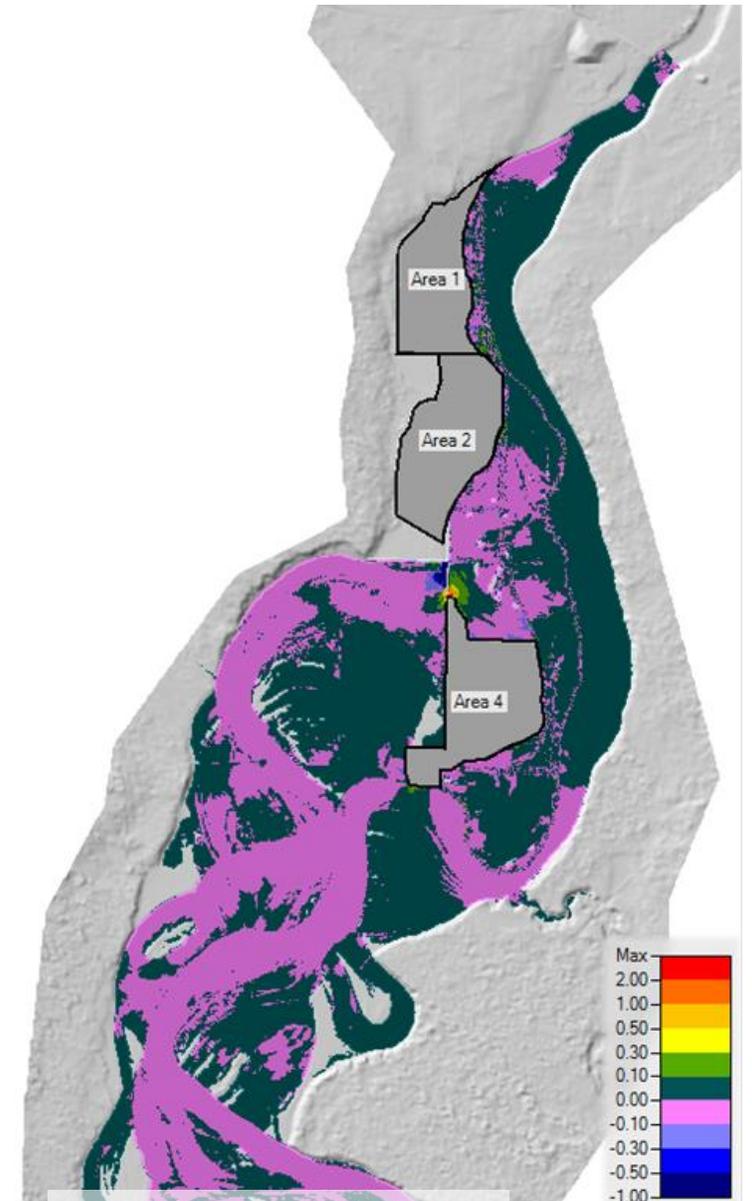
Iteration 4 4,200 m³/s



Candidate Development Areas



Change in Depth



Change in Velocity

Flood Mapping Results

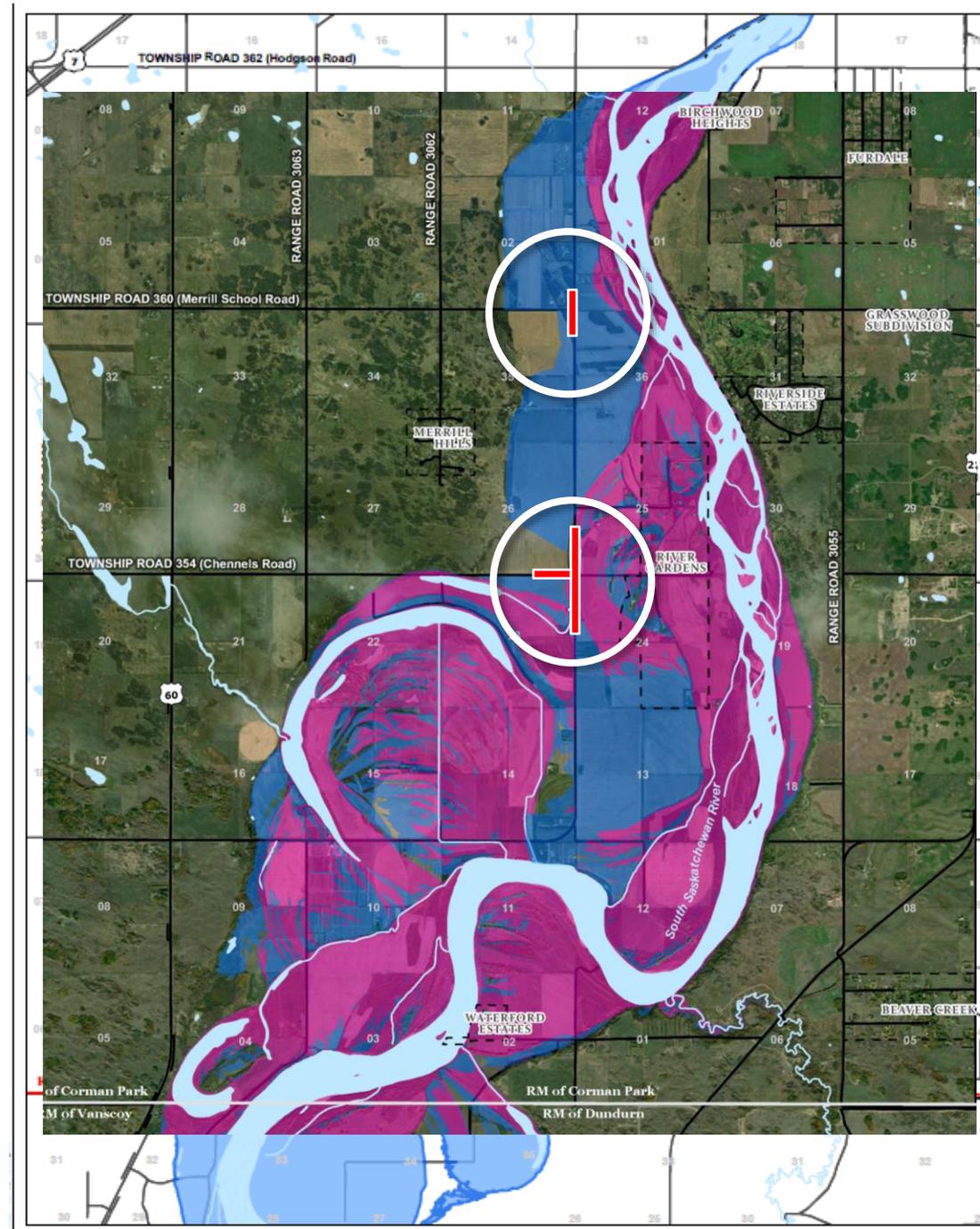
- Development in Candidate Development Areas does not have significant impact on other areas in the Flood Plain
 - Depth changes typically < 0.1 m
 - Velocity changes typically ± 0.1 m/s

	Less than 1 m depth	Greater than 1 m depth
Less than 1m/s velocity	Flood Fringe	Floodway
Greater than 1m/s velocity	Floodway	Floodway

- Valley Road
 - Province stated that it must be raised to provide safe access to Candidate Development Areas in the **Flood Fringe**
 - Large culvert expansion required to pass flows under road at Twp Rd 354 (Chennels Road)

Roadway Improvements

- Intended to provide safe access and egress during a 1:500 year flood event.
- Required by WSA to support development in the **Flood Plain**.
- Will raise the elevation of Valley Road above the 1:500 year flood elevation level (dry floodproofing).



Land Use Regulations

OFFICIAL COMMUNITY PLAN AMENDMENTS

- Incorporate the regulations of the SPI
 - Introduce the use of a two-zone flood risk map
 - Update flooding definitions
 - Reference the Zoning Bylaw as the tool used to regulate development in the Flood Plain
- Introduce policies that mitigate the negative impacts of flooding (e.g., land use regulations, emergency management)

Land Use Regulations

ZONING BYLAW AMENDMENTS

- New FPO Flood Plain Overlay District
 - Intended to regulate development on lands in the Flood Plain to:
 - preserve the capacity of the South Saskatchewan River channel during a 1:500 flood event,
 - safely convey flood waters, and
 - limit negative impacts of flooding on development
- Sits on “top” of existing zones (e.g., Agriculture, Country Residential, etc) and provide an additional level of regulation.
- Will create non-conforming uses and buildings, which will be managed in accordance with the *Planning and Development Act*

Flood Plain Overlay District

General Regulations

- Development that may require evacuation during a flood event requires safe roadway access above the 1:500
- Apply to all areas within the boundary, including those not **floodway** or **flood fringe**

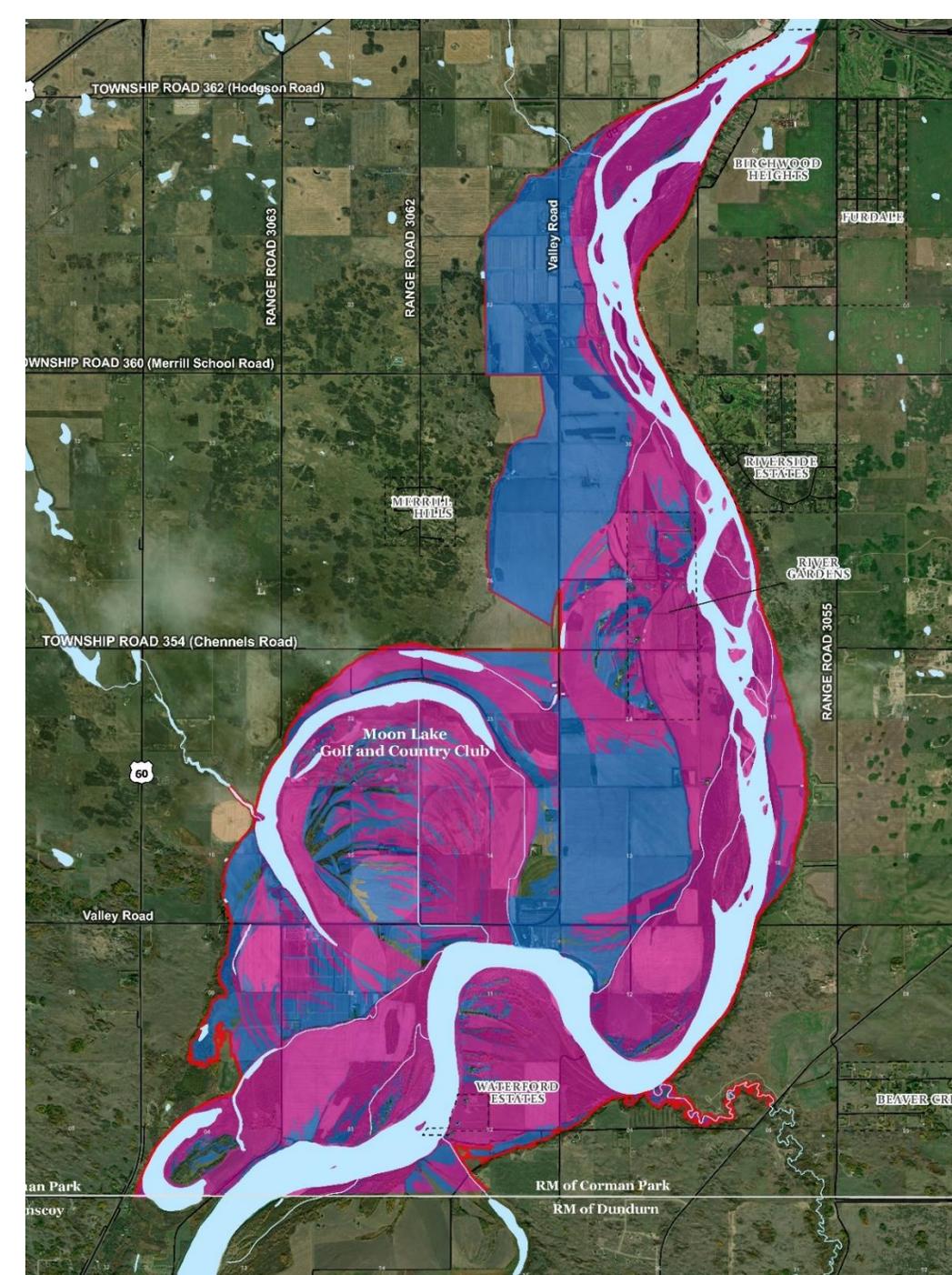
Floodway

- Prohibits uses associated with risk to life, the environment, property, or the economy.
- Prohibits buildings and additions to buildings.

Flood Fringe

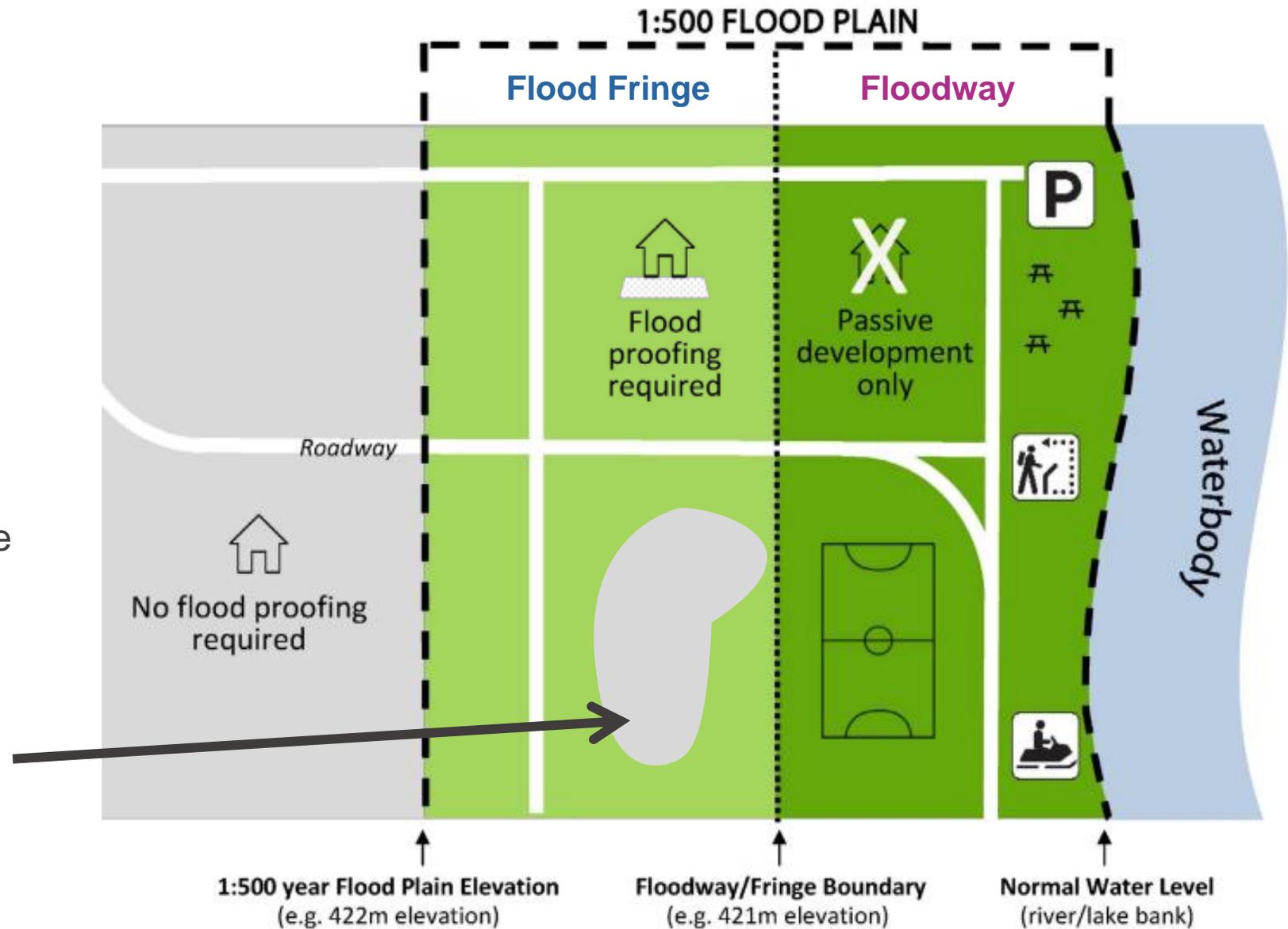
- Limits uses to reduce risk to life, the environment, property, or the economy.
- All development requires **floodproofing** (dry or wet).

Note: There are many nuances with these regulations



Recommendations

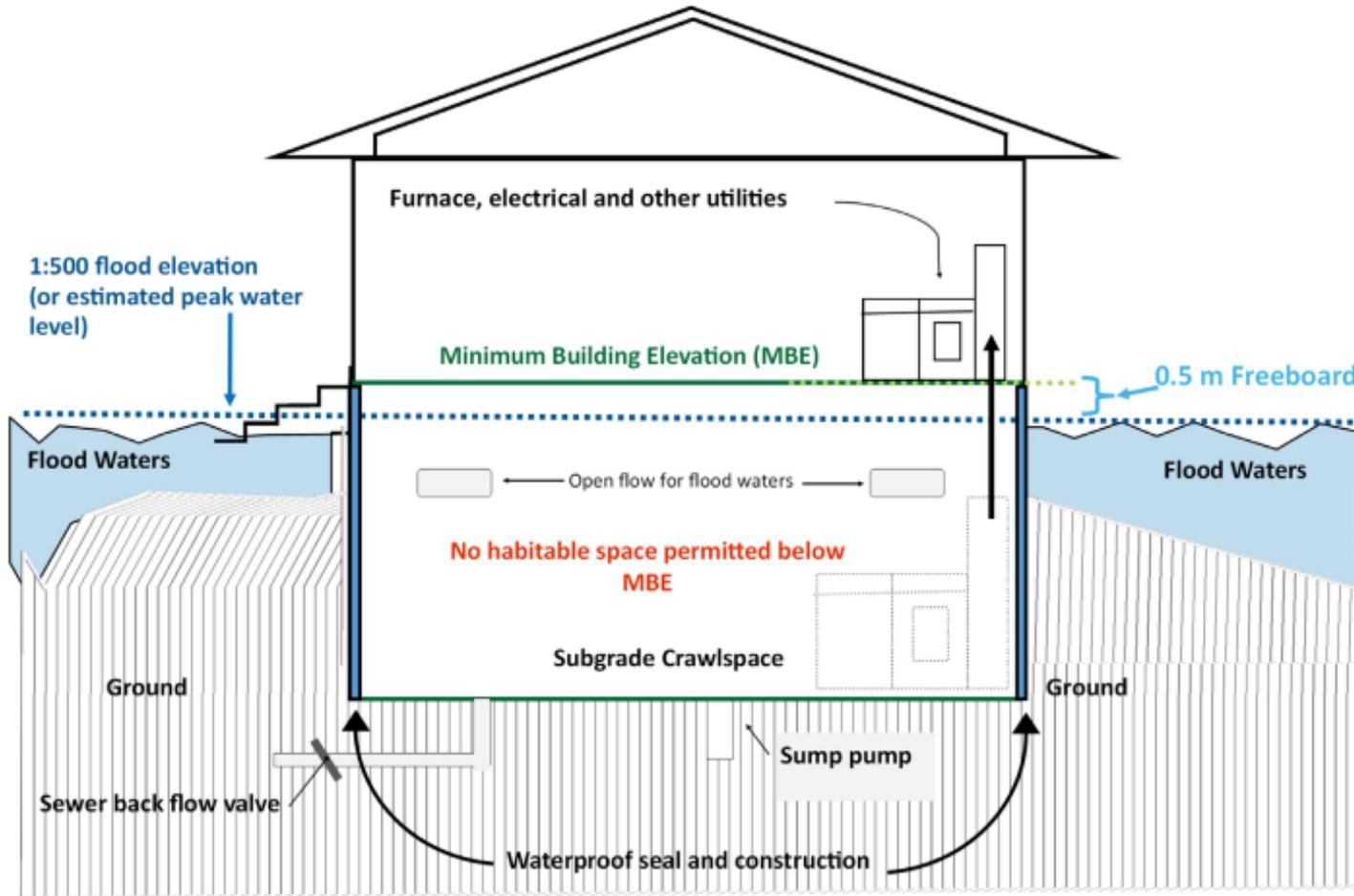
- All uses in the **Flood Plain** must consider safe access/egress during a flood event – can they be safely evacuated? If not, they pose a risk to life.
- Some “islands” of neither **floodway** or **flood fringe**, surrounded by areas covered in water during a flood event, also exist in the **Flood Plain**. They are essentially floodproofed; however, they do not have safe evacuation during a flood event.



Example of Higher-Risk Uses

- Human and animal life
 - Animal kennel
 - Community care facility
 - Equestrian facility, Type II
 - Intensive Livestock Operation
- Environmental contamination
 - Land farm
 - Outdoor storage without floodproofing
 - Railway freight yard
 - Sheltering of livestock
 - Storage of chemicals, explosives, flammable liquids, and/ or toxic or waste materials
- Economy
 - Critical infrastructure (e.g., energy generation, airports, firehalls, hospitals)
- Uses susceptible to erosion:
 - Animal cemeteries
 - Animal columbarium
 - Cemeteries
 - Columbarium
 - Mausoleum

Building Bylaw Amendments



- Outlines what flood proofing standards are required for buildings in the **Flood Fringe**
 - **Dry Flood Proofing** (e.g., building to above the min. building elevation)
 - **Wet Flood Proofing** (e.g., allowing water to move through the building during a flood event without damage)
 - Not appropriate for uses that contain lives or materials that could cause environmental contamination
- All flood proofing must be designed by an architect or professional engineer

Implications for Development

Implications for Development

Permitted

Discretionary
(by Council)

Not Permitted

Non-Conforming
(grandfathered)

Next Steps

- Review feedback received from the RM of Corman Park and ratepayers
 - One-on-one meetings can be held to discuss specific properties and situations
- Finalize the recommendations
- A final report will go to Council
- Formal amendments to the Official Community Plan, Zoning Bylaw, and Building Bylaw





To discuss this further,
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