



**TO:** Electoral Area Services Committee  
**FROM:** J. Zaffino, Chief Administrative Officer  
**DATE:** April 2, 2026  
**RE:** Floodplain Mapping Update – Electoral Areas “C” & “I” (X2025.016-ZONE)

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**Administrative Recommendation:**

**THAT the Okanagan Valley Zoning Amendment Bylaw No. 2800.61 be initiated.**

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**Alternatives:**

1. Status quo; or
  2. THAT the Okanagan Valley Zoning Amendment Bylaw No. 2800.61 be initiated, subject to the following revisions:
    - i) *TBD*
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**Purpose:**

The purpose of this report is to present options and seek further direction from the Board with respect to possible implementation of recommendations contained within the *Park Rill Creek, Horn Creek and Kearns Creek Flood Mapping Report (2022)*, and as they relate to the floodplain mapping contained within the Okanagan Valley Zoning Bylaw No. 2800, 2022.

**Strategic Priorities:** Operational

**Statutory Authority:**

Under Section 524 (Requirements in relation to flood plain areas) of the *Local Government Act*, “if a local government considers that flooding may occur ... [it] *may* [emphasis added], by bylaw, designate the land as a flood plain.”

If a local government designates land as a flood plain it *may*, by bylaw, further “specify ... the flood level for the flood plain, and ... the setback from a watercourse, body of water or dike of any landfill or structural support required to elevate a floor system or pad above the flood level.”

Further, in adopting a flood plain bylaw a local government “must consider the Provincial guidelines”, being the latest version of the *Flood Hazard Area Land Use Management Guidelines (2004)*. The stated objective of these guidelines is to:

*reduce or prevent injury, human trauma and loss of life, and to minimize property damage during flooding events. Experience has shown that regulating land development to keep people out of harm’s way is the most practical and cost effective way of achieving these goals.*

Importantly, in adopting a flood plain regulation bylaw, a local government retains authority to grant exemptions if it considers it advisable *and* the exemption is consistent with the Provincial guidelines,

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or has received a report from a qualified professional that the land may be used safely for the use intended.

**Background:**

In 2022, the Regional District received the *Park Rill Creek, Horn Creek and Kearns Creek Flood Mapping Report* prepared by Northwest Hydraulic Consultants Limited.

This report was prepared in response to the flooding that occurred within the Park Rill Creek, Horn Creek, and Kearns Creek watersheds during the 2018 freshet.

At the time, these watersheds had experienced extensive flooding which had resulted in damage to homes, public infrastructure, loss of property and numerous evacuations.

The main objectives of this project were to:

- *Complete hydrologic and hydraulic modelling of the watersheds.*
- *Prepare detailed floodplain and flood hazard maps for the areas of Twin Lakes, Willowbrook, and Sportsmens Bowl Road.*
- *Assess the associated consequences of flooding.*
- *Identify mitigation measures.*
- *Complete a visual inspection of a 12 km reach of Park Rill Creek between near Twin Lakes and Willowbrook.*

An additional benefit included the development of mapping to be used in the Emergency Operations Centre to assist with operational response decisions.

While the Report contains a number of recommendations and next steps, the main recommendation is that “the designated floodplain maps [contained within the Report] should be adopted for flood planning purposes, including establishing flood construction levels.”

This recommendation was made on the basis that the new floodplain maps could “ limit increased flood risk from unmitigated and/or unrestricted development of the floodplain.”

Official Community Plan (OCP) Bylaws:

The Electoral Area OCP Bylaws generally seek to “ensure [that] development does not occur in areas subject to known hazardous conditions, unless the hazard has been sufficiently addressed and mitigated.”

In support of this, some of the more recently reviewed Electoral Area OCP Bylaws include map designations, in accordance with the requirements of Section 473 of the *Local Government Act*, in which “the use of land that is subject to hazardous conditions” is shown.

Zoning Bylaw:

The Regional District has, since at least 1982, regulated development within the floodplain associated with various watercourses (e.g. lakes, rivers and streams) in the Electoral Areas through its zoning bylaws.

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The mapping that the Regional District has historically relied on to establish floodplains associated with Okanagan Lake, Skaha Lake, Vaseux Lake and Osoyoos Lake as well as the Okanagan River Channel were prepared by the provincial government in the 1980s and 1990s.

For any land not shown on the provincial floodplain maps — such as Park Rill Creek, Horn Creek and Kearns Creek — the Zoning Bylaw has designated the following as “floodplain”;

- land that is less than 3.0 metres above the natural boundary of the Okanagan River and the Okanagan River Channel; and
- any land that is less than 1.5 metres above the natural boundary of any other watercourse.

These regulations have further required that the floor system or pad which supports a habitable area (e.g. the underside of the wooden floor system), is not lower than the flood construction level).

**Analysis:**

In considering the recommendations contained within the *Park Rill Creek, Horn Creek and Kearns Creek Flood Mapping Report (2022)*, Administration notes that the flood maps prepared for the Lower Twin Lakes, Willowbrook and Sportsmens Bowl Road areas constitute the first flood mapping efforts in these communities.

The mapping produced by Northwest Hydraulic Consultants (2022) is understood to integrate LiDAR elevation data, two-dimensional hydraulic modelling, climate-adjusted hydrological analysis, channel assessments, and professional engineering guidelines to delineate the 200-year floodplain under future climate conditions.

These maps provide a level of accuracy, consistency, and defensibility that cannot be achieved through written floodplain descriptions alone and will enhance clarity and consistency in the application of existing floodplain regulations in these communities for both staff and the public.

In comparison, the zoning bylaw currently relies on text descriptions to identify areas subject to setback and elevation requirements. This makes identification of the floodplain challenging when assessing development proposals for compliance with the zoning regulations as well as the consistent application of the floodplain regulations difficult.

It is also Administration’s understanding that the floodplain mapping that has been prepared attempts to capture geomorphic changes that resulted from the 2018 freshet, including channel incision, erosion, sediment deposition, and altered flow paths.

This is beneficial as, in multiple areas, the physical channel *may* no longer resemble its pre-2018 form and that these types of hydrologic changes can create significant uncertainty when attempting to define a “natural boundary” or a fixed setback through bylaw text alone.

Importantly, having historically used a text designation to establish floodplains for these communities, it is difficult for Administration to confirm if the transition to a floodplain map will result in an expansion of flood hazard area.

Alternative:

Conversely, the option to retain the current floodplain maps and not include the mapping for Park Rill Creek, Horn Creek and Kearns Creek is available to the Board.

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Under this option, the establishment of the floodplain in these communities would continue to be done by text within the zoning bylaw.

While a local government can be liable for negligence, this is not the case if the alleged negligent act or omission is the result of a “policy decision”. As a matter of policy, any decision(s) would likely, therefore, be immune from liability for negligence.

For instance, if the Board resolves not to implement any of the recommendations contained within the *Park Rill Creek, Horn Creek and Kearns Creek Flood Mapping Report (2022)* after weighing of competing interests, value judgments, and budget considerations with potential broad impacts and applicability to the community generally rather than targeting any particular individual or group, this would be a matter of “policy”.

**Summary:**

The introduction of mapped floodplains provides a clearer, more accurate, and more defensible framework for regulating development in flood-prone areas.

Mapping translates complex hydrology, hydraulic modelling, and climate projections into a form that can be consistently applied by staff and easily understood by the public.

Continued reliance on bylaw text alone would not reflect current flood hazard knowledge, nor would it align with provincial and national standards.

Adoption of the new floodplain mapping is therefore recommended to ensure modern, science-based flood regulation and to support the long-term resilience of affected communities.

**Financial Implications:**

Financial implications have been considered and none were found.

**Communication Strategy:**

The proposed bylaw amendment(s) will be notified in accordance with the requirements of the *Local Government Act* as well as the Regional District’s Development Procedures Bylaw No. 2500, 2011.

Will a PowerPoint presentation be presented at the meeting?    Yes

**Respectfully submitted:**

  
C. Garrish, Senior Manager of Planning

**Endorsed By:**

Allen Fillion  
A. Fillion, Managing Director, Dev. & Infrastructure

**Endorsed By:**

Deborah Jones Middleton  
D. Jones-Middleton, Senior Manager of Protective Services

**Attachments:** No. 1 – Park Rill Creek, Horn Creek and Kearns Creek Flood Mapping Final Report (2022)