

**CITY OF KELOWNA
BYLAW NO. _____**

A bylaw of the City of Kelowna to designate land as flood plain for Mill Creek and regulate the development of land that is subject to flooding by Mill Creek.

WHEREAS the City considers that flooding may occur on certain lands;

AND WHEREAS the City may, pursuant to s. 910 (1.1) of the *Local Government Act*, designate land as flood plain;

AND WHEREAS the City may, pursuant to s. 910 (2) of the *Local Government Act*, specify the flood construction level for the flood plain, and specify 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 construction level;

AND WHEREAS the City must, pursuant to s. 910 (3) of the *Local Government Act*, consider Provincial guidelines, and comply with the Provincial regulations and a plan or program the local government has developed under those regulations;

AND WHEREAS the City may, pursuant to s. 910 (3.1) of the *Local Government Act*, make provisions in relation to areas, land uses, types of geological or hydrological formations, and buildings or other structures;

AND WHEREAS the City may, pursuant to s. 903 (1)(c)(iii) of the *Local Government Act*, make provisions in relation to the siting of buildings and other structures;

NOW THEREFORE, Council of the City of Kelowna, in an open meeting assembled,
ENACTS AS FOLLOWS:

Section 1 - Introduction

1.1 Title

This bylaw may be cited as "City of Kelowna Mill Creek Floodplain Regulation Bylaw No. _____, 2009".

1.2 Definitions

Definitions may be found in Schedule "B" of this Bylaw.

1.3 General Provisions

1.3.1 Unless otherwise defined herein, all words and phrases in this Bylaw shall have the meaning given to them in the *Local Government Act* and the *Community Charter*.

1.3.2 Words in this Bylaw directing or empowering any officer or employee of the City to do any act or thing, or to otherwise applying to him by name of office, include his successors in such office and his lawful deputy, and any person the Council may from time to time by bylaw or resolution designate to act in his place.

1.3.3 A reference in this Bylaw to any enactment of British Columbia is a reference to the enactment as amended, revised, consolidated or replaced from time to time, and a reference to any bylaw of the City is a reference to the bylaw as amended, revised, consolidated or replaced from time to time.

1.3.4 No person shall construct, build, erect or place, or allow to be built, erected, or placed any building or structure contrary to the provisions of this Bylaw.

1.4 Compliance with Other Bylaws or Enactments

Compliance with this Bylaw or an exemption authorized by the City, in relation to a specific parcel of land or a use, building or other structure on a parcel of land, shall not be deemed to be a representation by the City that the use of land, building or other structure on a parcel of land complies with all applicable bylaws or other enactments. The owner of the land, building or other structure remains responsible to ensure compliance with all bylaws and other enactments.

Section 2 – Designation of Flood Plain

The land designated as the flood plain for Mill Creek is as identified on the attached Schedule “A1, “A2, “A3”, “A4”, “A5” and “A6” Mill Creek Flood Plain Map (Hereafter referred to as Schedule “A”);

Section 3 – Flood Construction Level for the Floodplain

The flood construction levels for the Mill Creek Flood Plain are the higher of:

- a) 600 mm above the elevation of the storm main invert, known or anticipated high ground water table or 100-year Hydraulic Grade Line within the storm main, whichever is higher, as enacted in the City of Kelowna Subdivision, Development and Servicing Bylaw 7900.
- b) as identified on the attached Schedule “A” Mill Creek Flood Plain Map.

Unless specified elsewhere in this Bylaw, no building, Manufactured Home or unit, shall be constructed, reconstructed, moved, extended or located with the underside of a wooden floor system or top of a concrete slab of any area used for basement, entrance foyer, habitation, institutional use, assembly use, tourist accommodation use, business, or storage of goods damageable by floodwaters or in the case of a Manufactured Home or unit the Pad on which it is located, no lower than as defined by the higher of a) or b) above.

Section 4 – Setback from a Watercourse, Body of Water or Dike

4.1 Pursuant to s. 910. (2)(b) of the *Local Government Act*, the minimum 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 is:

- a) as defined by the City of Kelowna 2020 Official Community Plan Bylaw 7600 for the Mill Creek main stem as:

- i) 15 m downstream of Hardy Road
- ii) 30 m upstream of Hardy Road

The specified setback distance shall be measured from the top-of-ravine bank, top-of-bank, or from the natural boundary where the top-of-bank is not clearly defined. The specified setback distance shall be measured to the nearest part of the building or structure including roofs, eaves, and any over-hanging components or cantilevered portions of a building, or to the toe of a fill slope.

- b) for all other water courses, drainage channels and waterbodies as defined in the City of Kelowna 2020 Official Community Plan Bylaw 7600 and the City of Kelowna Consolidated Zoning Bylaw No. 8000.

Section 5 – Exemption

5.1 General Exemption to the Flood Level in a Flood Plain

Despite Section 3 of this Bylaw, but subject to Provincial regulations and a plan or program the City has developed under those regulations, the underside of any floor system, or the top of any pad supporting any space or room, including a manufactured home that is used for dwelling purposes, business, or the storage of goods which are susceptible to damage by floodwater, may be below the applicable flood level specified in this Bylaw, in the following cases:

- a) where a building or other structure is legally non-conforming to the flood level provisions of this bylaw, and the use and density of the building or other structure conforms to the Zoning Bylaw, the building or other structure may be renovated or repaired, at the original non-conforming floor elevation such that the increase in the size of the building or structure totals less than 25 percent of the building footprint existing at the time of enactment of this bylaw, provided that the degree of non-conformity regarding setback is not increased;
- b) that portion of a building or other structure used or intended to be used only as a carport;
- c) parking areas, including enclosed underground parking areas, except that in the case of an enclosed underground parking area, an unobstructed means of pedestrian ingress and egress must be provided above the flood level, and a sign must be posted at all points of entry notifying users that the parking area is not protected from inundation by floodwaters;
- d) accessory buildings or other structures less than 30 m² in gross floor area;
- e) porches;
- f) open-sided livestock buildings on lands zoned for agriculture;
- g) closed sided livestock buildings on lands zoned for agriculture, protected by a standard dike;
- h) subject to sub-section 5.1 g) and h), farm buildings, other than a building used or intended to be used for human habitation;
- i) open-sided recreation shelters, stands, washhouses, washrooms, docks and other outdoor facilities on lands zoned for park or recreation uses;
- j) on-loading and off-loading facilities associated with water oriented industry and portable sawmills provided the main electrical switchgear is placed above the applicable flood level; and
- k) buildings or other structures containing heavy industrial uses behind standard dikes;
- l) that portion of a building or other structure used or intended to be used only as a mechanical room, including furnaces and hot water heaters, in a building or other structure protected by a standard dike; provided the electrical switchgear is above the flood level; and
- m) Industrial uses on lands identified as flood plain in Schedule “A” of this bylaw, other than main electrical switchgear, no lower than the flood level for the flood plain specified in Section 3 of this bylaw minus the applicable freeboard.

5.2 General Exemption to the Minimum Setback from a Watercourse, Body of Water or Dike

Despite Section 4.1 of this Bylaw, but subject to Provincial regulations and a plan or program the City has developed under those regulations, 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 may be less than the applicable setback specified in this Bylaw in the following cases:

- a) where a building or other structure is legally non-conforming to the setback provisions of this bylaw, and the use and density of the building or other structure conforms to the Zoning Bylaw, the building or other structure may be renovated or repaired only to the extent that the renovation or repair would, when complete, involve no further contravention to the setback regulations of this Bylaw than existing at the time the renovation or repair was started; and
- b) where protected by a standard dike, buildings shall have a minimum setback of 7.5 metres from any structure for flood protections or seepage control or any dike right-of-way used for protections works.

5.3 Site-Specific Exemptions to the Flood Level or Setback

5.3.1 An applicant who intends to seek a site-specific exemption from this Bylaw shall complete an application.

5.3.2 The applicant must provide the following information, at the applicant's expense, to the Approving Officer at the time of application submission, except to the extent that the Approving Officer determines that the provision of the information is not required to assist Council or the Approving Officer in their consideration of the application:

- a) name, address and signature of the owner;
- b) name, address signature of the applicant, if different from the owner;
- c) legal description of the parcel;
- d) civic address of the parcel;
- e) legal title search for the parcel dated no more than 5 business days from the date of application submission;
- f) copy of all relevant charges registered on the legal title of the parcel;
- g) a scaled plan prepared by a British Columbia Land Surveyor showing the:
 - i. designated flood plain, flood level and setback as prescribed by this Bylaw;
 - ii. legal boundaries of the parcel;
 - iii. existing and proposed buildings or other structures on the parcel, including the requested flood construction level;
 - iv. location of existing and proposed landfill or structural support required to elevate a floor system or pad above the flood level;
 - v. natural boundary of adjacent watercourse, body of water or dike;
 - vi. location of drainage control works;
 - vii. location of easements and rights of way;
 - viii. the existing vertical contours of the parcel, and any relevant adjacent lands, at a scale of 1:1000 or larger, with a contour interval of 1 metre or less.
- h) documents and plans which describe and justify the proposal;
- i) a report, certified by a Professional Engineer or geoscientist with experience in geotechnical engineering, or a person in a class prescribed by the minister under s. 910 (7) of the *Local Government Act*, that the land may be used safely for the use intended; and
- j) any additional information the Approving Officer reasonably determines is required to assist Council or the Approving Officer in their consideration of the Application.

Section 6 – Delegation

- 6.1** Council delegates to the Approving Officer the power of Council to exempt a person from the application of s. 910 (4) of the *Local Government Act* and this Bylaw, in relation to a specific parcel of land or a use, building or other structure on the parcel of land, in accordance with s. 910 (5) of the *Local Government Act*, and subject to any terms or conditions the Approving Officer considers necessary or advisable in accordance with s. 910 (6) of the *local Government Act*, except where an application is made for a variance to Section 4.2 of this Bylaw.
- 6.2** Within 30 days of the Approving Officer's decision to grant or refuse an exemption, the applicant may request to receive reconsideration of the decision through the "dispute resolution" process subject to the following:
- (a) the request shall be in writing, and include reason(s) in support of the reconsideration;
 - (b) upon receipt of a complete written request for Council's reconsideration, the Approving Officer shall prepare and forward a report to Council attaching the Application and setting out the reasons for the decision;
 - (c) at a date and time set by Council the Applicant shall have the opportunity to appear before Council and be heard regarding the decision of the Approving Officer; and
 - (d) following this, Council shall reconsider the decision of the Approving Officer and either uphold the decision or substitute the Council's decision for the Approving Officer's.

Section 7 - Severability

If any section, subsection, clause, sub-clause or phrase of this Bylaw is for any reason held to be invalid by the decision of any Court of competent jurisdiction, that section, subsection, clause, sub-clause or phrase shall be struck from the Bylaw and any decision shall not affect the validity of the remaining portions of this Bylaw.

Section 8 – Offence and Penalty

8.1 Offence

8.1.1 No person shall contravene, cause, or permit a contravention of this bylaw.

8.1.2 No person shall interfere with or obstruct the entry of the Approving Officer or a Bylaw Enforcement Officer or any other authorized City representative onto any land or into any building or structure to which entry is made or attempted.

8.2 Penalty

Any person contravening or committing any breach of or committing any offence against any provision of this Bylaw or who suffers or permits any act or thing to be done in contravention of in violation of any of the provisions of this Bylaw or refuses, omits, or neglects to fulfill, observe, carry out or perform any duty, obligation, matter or thing whatsoever by the Bylaw prescribed or imposed or required to be done is liable, on summary conviction, to a fine not less than \$____ and not exceeding \$____, or a term of imprisonment not exceeding _____, or both, and the cost of prosecution; and each day during which any violation, contravention or breach shall continue shall be deemed a separate offence.

Schedule "B"

Definitions for key words and phrases not contained in legislation or other bylaws are listed below. In this bylaw:

"Application" means a written request by an applicant for an exemption to the flood level or setback provisions of this Bylaw in a form and content prescribed by the Approving Officer and this bylaw;

"Applicant" means the owner or a representative of the owner duly authorized to act on the owner's behalf in relation to the application;

"Approving Officer" means the person appointed by the City as the Approving Officer under the *Land Title Act*, and includes his or her lawful deputy.

"Crawl Space" means an area between foundation level and underside of habitable floor having a maximum height from floor to underside of floor of 1.5m;

"Design Flood" means a flood of such magnitude as to equal a flood having a 200-year recurrence interval, based on frequency analysis of unregulated historic flood records with respect to the Mill Creek and as occurs in combination with downstream controlling water levels on Okanagan Lake.

"Design Flood Level" means the observed or calculated elevation for the *Design Flood* and is used in the calculation of the FCL; (AB #3371)

"Flood Construction Level (FCL)" means the Flood Construction Levels as shown on Schedule "A" entitled "Mill Creek Flood Plain Map" which is attached to and forms part of this Bylaw;

"Flood Plain" means the area shown on Schedule "A" entitled "Mill Creek Flood Plain Map" which is attached to and forms part of this Bylaw;

"Floodproofing" means the alteration of land or structures either physically or in use to reduce flood damage and includes the use of building Setbacks from water bodies to maintain a Floodway and to allow for potential erosion. Floodproofing may be achieved by all or a combination of the following:

- building on fill, provided such fill does not interfere with flood flows of the Watercourse, and is adequately protected against floodwater erosion
- building raised by structural means such as foundation walls, columns, etc.
- a combination of fill and structural means;

"Flood Resistant Materials" means any building material capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage. Flood Resistant Materials are listed in Schedule "C" which is attached to and forms part of this Bylaw;

"Freeboard" means a vertical distance added to the *Design Flood Level* used to establish the FCL (generally 0.6m);

"Habitable Area" means any room or space within a building or structure that is or can be used for human occupancy, assembly or institutional use, commercial sales, or storage of goods, possessions or equipment (including furnaces) which would be subject to damage if flooded;

"Heavy Industry" means and includes such uses as manufacturing or processing of wood and paper products, metal, heavy electrical, non-metallic mineral products, petroleum and coal products, industrial chemicals and by-products, and allied products;

"Inspector of Dikes" means an official of the Ministry of Environment

as defined under the *Dike Maintenance Act*;

“Institutional Use” means a use providing for public functions and includes federal, provincial, regional and municipal offices, schools, churches, colleges, hospitals, community centres, libraries, museums, jails, courts of law and similar facilities; and specifically excludes public storage and works yards, and public utility uses;

“Light or Service Industry” means and includes such uses as assembly, fabrication and light manufacturing, warehousing, wholesaling and food processing;

“Manufactured Home” means a structure manufactured as a unit, intended to be occupied in a place other than at its manufacture, and designed as a dwelling unit, and includes mobile homes, and specifically excludes Recreation Vehicles;

“Minimum Ponding Elevation” means a minimum construction level assigned to reduce possible flood damage due to ponding of local drainage during a severe local storm determined on a site specific basis based on topography and road elevations;

“Natural Boundary” means the visible high watermark of any lake, river, stream, or other body of water where the presence and action of the water are so common and usual and so long continued in all ordinary years as to mark upon the soil of the bed of the lake, river, stream or other body of water a character distinct from that of the banks thereof, in respect to vegetation, as well as in respect to the nature of the soil itself;

“Natural Ground Elevation” means the average of the undisturbed ground elevations at the 4 corners of the proposed building site;

“Non-Conforming” means any existing building located on flood prone land that does not meet flood-proofing requirements set out in any pertinent bylaw, regulation or covenant;

“Owner” means a person listed in the land title office as the owner of a parcel;

“Pad” means a *compacted gravel*, paved or concrete surface on which blocks, posts, runners or strip footings are placed for the purpose of supporting a Manufactured Home or unit;

“Parcel” means any lot, block or other area of land that is the subject of an application;

“Ponding Elevation” means the water surface elevation as controlled by the lowest ground or road elevation of the area, which would act as the outlet to that area, if a storm runoff exceeds the capacity of culverts or other in-ground drainage works, as certified by a professional engineer;

“Professional Engineer” means a person who is registered or licensed under the provisions of the *Engineers and Geoscientists Act*;

“Provincial Guidelines” means the policies, strategies, objectives, standards, guidelines and environmental management plans, in relation to flood control, flood hazard management and development of land that is subject to flooding, as contained within the Province of British Columbia, Ministry of Environment, Flood Hazard Area Land Use Management Guidelines dated May 2004.

“Recreation Use” means a use providing for indoor or outdoor recreation and includes parks, playgrounds, and sports facilities;

“Recreation Vehicle” means any structure, trailer or vehicle used or designed to be used for living or sleeping purposes and which is designed or intended to be mobile on land, whether or not self-propelled;

“Restrictive Covenant”, in the context of this Bylaw, means a restrictive covenant under Section 219 of the *Land Title Act*, absolving the City of Kelowna of any liability with respect to the flooding of the property or flood damage to land, structures and contents thereof;

“Riparian Area”, means the area adjacent to a stream that may be subject to temporary, frequent or seasonal inundation, and supports plant species that are typical of an area of inundated or saturated soil conditions, and that are distinct from species on freely drained adjacent upland sites because of the presence of water.

“Standard Dikes” means those dikes built to a minimum crest elevation equal to the FCL and meeting standards of design and construction approved by the Ministry of Environment and maintained by an ongoing authority such as a local government body;

“Top of the Ravine Bank” means the first significant break in a ravine slope where the break occurs such that the grade beyond the break is flatter than 3:1 for a minimum distance of 15 meters measured perpendicularly from the break, and the break does not include a bench within the ravine that could be developed.

“Watercourse” means any natural or man-made depression with well defined banks and a bed 0.6 metres or more below the surrounding land serving to give direction to a current of water at least 6 months of the year or having a drainage area of 2 square kilometres or more upstream of the point of consideration.

SCHEDULE “B”

FLOOD RESISTANT MATERIALS

- (1) Asphalt
- (2) Brick
- (3) Clay Tile
- (4) Concrete
- (5) Epoxy
- (6) Glass
- (7) Exterior Grade Plywood
- (8) Mastic Flooring
- (9) Metal
- (10) Polyurethane
- (11) Pressure Treated Wood (for external applications only)
- (12) Rubber
- (13) Silicone
- (14) Stone
- (15) Styrofoam Insulation
- (16) High Density Poly-Ethylene (HDPE)
- (17) Poly Vinyl Chloride (PVC)
- (18) UV stabilized Fiber Reinforced Plastic (FRP)

Schedule “D”

Technical guidance for the application of this bylaw is provided here. This information should not be interpreted as overriding the specifics of the bylaw, and the City’s Approving Officer shall have the final determination of the technical interpretation of this Bylaw. This information is provided for information only.

Interpolation of the FCLs

Where a subject structure falls between the FCL contours indicated in Schedule “A”, the applicable FCL for the purposes of Section 3 of this Bylaw shall be determined by the most upstream extent of the affected location, resulting in the highest FCL for that location. The applicable FCL for application to that location will be determined by linear interpolation between the contour bounding upstream limit of the (the closest upstream and downstream contours).

FCLs for large footprint structures

Where a specific structure is sufficiently large that the FCL varies significantly from the upstream to the downstream extent, the minimum elevation of the underside of a wood floor system, or concrete slab elevation of the structure or building may vary in accordance with the variation in FCL over the extent of the structure. However, the minimum elevation at all points in the structure must comply with the interpolated FCL for that point.

An example situation is a large commercial structure, that is subject to the provisions of this Bylaw, for which the FCL varies significantly over the extent of the structure. Under this situation, the underside of the a wood floor system or concrete floor slab may incrementally step down, such that the minimum elevation of each step is consistent with the FCL at the upstream extent of the step.