



Floodplain Bylaw No. 1590, 2018

CONSOLIDATED FOR CONVENIENCE ONLY

EFFECTIVE DATE: August 20, 2018

This is a consolidation of the bylaws listed below. The amendment bylaws have been combined with the original bylaw for convenience only.

This consolidation is not a legal document.

Certified copies of the original bylaws should be consulted for interpretation and application of the bylaws on this subject.

<u>AMENDMENT BYLAW</u>	<u>EFFECTIVE DATE</u>
No. 1590.01	March 9, 2020

THE CORPORATION OF THE DISTRICT OF KENT

BYLAW NO. 1590

“A bylaw to designate land as floodplain and make provisions in relation to flood control, flood hazard management, and development of land that is subject to flooding or erosion”

WHEREAS pursuant to Division 13 of Part 14 of the *Local Government Act*, Council may by bylaw designate land as floodplain, specify flood levels for the floodplain, specify flood setbacks, and make regulations in relation to flood control, flood hazard management and development of land that is subject to flooding;

AND WHEREAS pursuant to Division 13 of Part 14 of the *Local Government Act*, Council has considered the Flood Hazard Land Use Management Guidelines published by the Province of British Columbia in May 2004, under the authority of the *Environmental Management Act*;

NOW THEREFORE the Council of the Corporation of the District of Kent, in open meeting assembled, enacts as follows:

1. CITATION

This bylaw may be cited for all purposes as “Floodplain Bylaw No. 1590, 2018”

2. DEFINITIONS

In this bylaw:

“Assembly Use” means a use that provides for the assembly of persons for religious, charitable, philanthropic, cultural, or private educational purposes; and includes churches, auditoriums, youth centers, halls, private schools, kindergartens, play schools, and day care centres;

“Crawl Space” means an area between the top of the crawl space finished floor and the underside of habitable floor system having a maximum height from floor to underside of floor of 1.5 m;

“Design Flood” means a flood equal in magnitude to the 1894 flood of record with respect to the Fraser River;

“Design Flood Level” means the observed or calculated elevation for the Design Flood and is used in the calculation of the FCL;

“Dwelling Unit” means one or more habitable rooms used or intended to be used for residential accommodation;

“Flood Construction Level (FCL)” means the flood construction levels as provided in the District's current floodplain mapping;

“Floodplain” means the area shown on Schedule A entitled “Floodplain Map” which is attached to and forms part of this Bylaw;

“Floodplain Mapping” means the current floodplain mapping information obtained from the following documents:

- Fraser River Floodplain Mapping for the District of Kent and Village of Harrison Hot Springs, Final Report dated March 2007 with geographic information system digital based mapping as prepared by Water Management Consultants; and
- Interim Flood Proofing Requirements for the District of Kent, dated September 1993, as prepared by the Province of BC;

“Flood Proofing” 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. Flood proofing 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;

“Floor Area” means the space on any storey of a building measured between exterior walls and required firewalls including the space occupied by interior walls and partitions, all areas giving access thereto such as corridors, hallways, landings, foyer, staircases, stairwells, enclosed balconies, mezzanines, enclosed porches or verandas but not including exits, vertical service spaces, and their enclosing assemblies, attached garages or carports;

“Freeboard” means a vertical distance added to the actual calculated flood level to accommodate uncertainties (hydraulic and hydrologic variable), potential for waves, surges, and other natural phenomena.

“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, business, commercial sales, or storage of goods, possessions or equipment (including furnaces) which would be subject to damage if flooded;

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“Heavy Industrial” means uses such 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;

“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;

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“Light Industrial” means uses such as assembly, fabricating, 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 manufacturer, and designed as a dwelling unit, and includes mobile homes, and specifically excludes recreation vehicles;

“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 elevation taken at any point in the vicinity of the building that is to be measured from the natural ground to the underside of the wooden floor system or top of the pad;

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

“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;

“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 Provincial 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 District of Kent of any liability with respect to the flooding of the property or flood damage to land, structures and contents thereof;

“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 Province of British Columbia and maintained by an ongoing authority such as a local government body;

“Watercourse” means any natural or man-made depression with well-defined banks and bed 0.6 m 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.

3. FLOOD CONTROL PROVISIONS

.1 Setback Requirements

The following setback requirements are derived from **Provincial Guidelines** and Legislation. Additional setbacks from **watercourses** may be required by other Federal, Provincial and District Legislation.

Unless specified elsewhere in this bylaw, no landfill or structure required to support a floor system or **pad** of a building or structure for which full **flood proofing** or partial **flood proofing** is required, shall be constructed, reconstructed, moved, extended or located:

- a) Within 300 m of the **natural boundary** of the Fraser River unless protected by a **standard dike**;
- b) Within 30 m of the **natural boundary** of the Harrison River;
- c) Within 15 m of the **natural boundary** of Harrison Lake;
- d) Within 7.5 m of the **natural boundary** of all other lakes;
- e) Within 30 m of the **natural boundary** of the following **watercourses**:

Cheam Slough, Maria Slough and McCallum Ditch;

- f) Within 15 m of the **natural boundary** of the following nearby **watercourses**:
- Agassiz Ditch, Agassiz Slough, Duncan Slough, Hogg Slough, Calender Ditch, Clark Ditch, MS-1 (x branch) and Westlin Ditch;
- g) Within 15 m of the **natural boundary** of all other nearby **watercourses**;
- h) Within 7.5 m of the **natural boundary** of all other nearby, ponds, marsh areas, swamps, and sloughs;
- i) Within 7.5 m of the **natural boundary** of streams not meeting the definition of **watercourse** provided that the District receives a report from a **professional engineer** or geoscientist with experience in geotechnical engineering, geo-hazard assessment, and river hydrology confirming that the stream:
- i. Does not meet the definition of a **watercourse**;
 - ii. Has no history of flooding and/or bank erosion; and
 - iii. Is not located in an alluvial or colluvial fan.
- j) Within 7.5 m of any structure for flood protection or seepage control and any dike right-of-way or boundary used for protection works.

In addition, fill for **flood proofing** shall not be placed within 7.5 m of the inboard toe of any structure for flood protection or seepage control or the inboard side of any dike right-of-way or boundary used for protection of works, unless approved by the Inspector of Dikes as part of a dike upgrading plan;

- k) On any island within the **natural boundaries** of the Fraser River.

.2 Elevation Requirements

The following elevation requirements are derived from **Provincial Guidelines** and Legislation.

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 habitation, **institutional use, assembly use, industrial use, tourist accommodation use, business, or storage of goods** damageable by flood waters, or in the case of a **manufactured home** or unit the **pad** on which it is located, lower than the following in each area specified below:

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- a) Areas within the **floodplain** and near Harrison Lake where **floodplain mapping** is available and connecting to a District Community Storm Drainage System, the higher of the two elevations shall be used:
- i. Designated **flood construction level**, where it has been determined by **floodplain mapping**;
 - ii. 0.3 m above any major drainage system hydraulic grade line or centerline of an abutting roadway used for conveyance of the major storm system flow on the surface.

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- b) Areas within the **floodplain** and near Harrison Lake where **floodplain mapping** is available and not connecting to a District Community Storm Drainage System:

- i. Designated **flood construction level** where it has been determined by **floodplain mapping**;

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- c) Areas within the **floodplain** and near Harrison Lake where **floodplain mapping** is unavailable. If more than one of the following elevation requirements applies, the higher elevation shall be used:

- i. 3.0 m above the **natural boundary** of the Fraser River or Harrison River;
- ii. 1.5 m above the **natural boundary** of a lake (except Harrison Lake), pond, marsh area, swamp, slough, and any nearby **watercourse** in the flood hazard area;
- iii. 3.0 m above the natural boundary of Harrison Lake for the Harrison Lake area;

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- iv. With the exemption of Harrison Lake floodplain area, 1.0 m above the **natural ground elevation**.

.3 **General Requirements**

- a) Where landfill is used to raise the **natural ground elevation**, the fill should be adequately compacted and the toe of the landfill slope should be no closer than the prescribed setback as set within Section 3.1. In addition, the face of the landfill slope should be adequately protected against erosion from flood flows wave action, ice or other debris.
- b) The maximum **crawl space** height for all building and structures within the District of Kent **floodplain** shall be 1.5 m.

.4 **General Exemptions**

The following general exemptions are derived from **Provincial Guidelines** and Legislation.

With the exception of the main electrical switchgear, the elevation requirements above shall not apply to:

- a) Farm **dwelling units** on lot sizes 8.09 Ha, or greater, located within the Agricultural Land Reserve and protected by **standard dikes**; shall be no lower than 1.0 m above the **natural ground elevation**.
- b) Livestock housing protected by **standard dikes** shall be no lower than 1.0 m above the **natural ground elevation**.
- c) Renovations or additions to livestock housing increasing the size of the building or structure at the original legal **non-conforming** flood elevation of the **floor area** existing at the time of enactment of **flood proofing** requirements provided that:
 - i. Setback requirements are met;
 - ii. It is demonstrated that the renovation or additional **floor area** is required in order to safely accommodate livestock; and
 - iii. The property owner enters into a **restrictive covenant** under Section 219 of the *Land Title Act* absolving the District of Kent of any liability with respect to the flooding of the property of flood damage to land, structures and contents thereof;
- d) Other farm buildings with no livestock, **flood proofing** by elevation is left to the discretion of the owner;
- e) Minor utility washroom located within livestock housing, other farm buildings, and garages provided that:
 - i. The maximum **floor area** of the utility washroom does not exceed 10 m²;
 - ii. Flooring, walls, and finishing materials below the **flood construction level** are flood resistant materials such as those listed below and those approved by the District Building Official:

Asphalt, brick, ceramic fixtures, clay tile, concrete, epoxy, glass, exterior grade plywood, mastic flooring, metal polyurethane, pressure treated wood (for external

applications only), rubber, silicone, stone, and Styrofoam insulation.

- f) **Recreation use** shelters, stands, campsite washrooms and other facilities protected by **standard dikes**;

- g) **Heavy industrial** buildings or structures protected by **standard dikes**;

Light industrial buildings or structures protected by **standard dikes**, with the underside of a wooden floor system or the top of the pad (or in the case of a manufactured home the top of pad or the ground surface on which it is located) no lower than the FCL minus **freeboard** provided that:

- i. Fixed equipment shall be no lower than the FCL unless a qualified professional determines that appropriate measures can be and are taken to provide protection against damage by flooding and erosion; and
 - ii. The owner enters into a **restrictive covenant** under Section 219 of the *Land Title Act* absolving the District of Kent of any liability with respect to the flooding of the property or flood damage to land, structures, and contents thereof;
- h) Renovations of existing buildings or structures that do not involve an addition with the exception of a change in use that would warrant an increase in flood setback or elevation requirements;
- i) Portion of a building, or structure to be used as a carport, garage, porch or entryway;
- j) That portion of a building used as **crawl space** (not exceeding 1.5 m in height)
- k) Minor (less than 10 m²) accessory buildings or structures such as storage buildings and domestic greenhouses;
- l) A renovation or addition to a building or structure that would increase the size of the building or structure, at the original non-conforming floor elevation, by less than 25 percent of the **floor area** existing at the date of adoption of the District of Kent Zoning Bylaw No. 780 (May 25, 1981) provided that:
- i. The degree of non-conformity regarding setback is not increased; and

- ii. The owner enters into a **restrictive covenant** under Section 219 of the *Land Title Act* absolving the District of Kent or any liability with respect to the flooding of the property or flood damage to land, structures, and contents thereof;
- m) **Pads of a manufactured home** where it is anchored to a concrete foundation provided the top of the foundation is at the **flood construction level**;
- n) Furnaces and hot water tank within a building protected by **standard dikes** provided that:
 - i. The owner enters into a **restrictive covenant** under Section 29 of the *Land Title Act* absolving the District of Kent of any liability with respect to the flooding of the property or flood damage to the land, structures and contents thereof; and
 - ii. An adequate **crawl space** sump is constructed to accommodate dewatering systems with pump out equipment.

.5 Site Specific Exemptions

- a) Notwithstanding the above, Council may grant a site specific exemption with respect to the Setback Requirements or Elevation Requirements listed elsewhere in this Bylaw where:
 - i. The exemption is consistent with the **Provincial Guidelines**;
 - or
 - A **Professional Engineer** or Geoscientist with experience in geotechnical engineering, geo-hazard assessment and river hydrology submits a report certifying that the property can be safely used for the intended use and that protection from a 1 in 200 year **design flood** can be achieved through an engineered design without reliance on **standard dikes**;
 - and
 - ii. The owner enters into a **restrictive covenant** under Section 219 of the *Land Title Act* absolving the District of Kent of any liability with respect to the flooding of the property or flood damage to land, structures and contents thereof:

4. SEVERABILITY

If any section, subsection, sentence, clause or phrase of this bylaw is, for any reason, held to be invalid by the decision of any court of competent jurisdiction, the invalid portion shall be severed and the decision that it is invalid shall not affect the validity of the remainder of this bylaw.

READ A FIRST TIME this 16th day of July, 2018.

READ A SECOND this 16th day of July, 2018.

READ A THIRD TIME this 16th day of July, 2018.

FINALLY PASSED AND ADOPTED the 20th day of August, 2018.

CERTIFIED CORRECT:

John Van Laerhoven, Mayor

Wallace Mah, Chief Administrative Officer

CERTIFIED A TRUE & CORRECT COPY
of "Floodplain Bylaw No. 1590, 2018" adopted
on the 20th day of August, 2018.

Clair Lee, Director of Corporate Services