

6.7 Coastal Flood Hazard Development Permit Area

Information Note: the designation of this development permit area and description of the special conditions or objectives that justify the designation are located in the applicable Official Community Plans.

(a) **Applicability**

A development permit is required for any development occurring on land within the Coastal Flood Hazard Development Permit Area that may be classified as one of the following activities, as per section 489 of the *Local Government Act*:

- (i) subdivision of land;
- (ii) construction of, addition to, or alteration of a building or structure; and
- (iii) land alteration directly related to the construction of a building or structure, including without limitation, disturbance of soils including grubbing, scraping, removal of top soils and the creation of non-structural impervious or semi-pervious surfaces.

(b) **Exemptions**

A Coastal Flood Hazard Development Permit is not required for the following activities:

- (i) Those activities identified as exempt in the “Regional District of Nanaimo Flood Hazard and Mitigation Bylaw No.1872, 2023”.
- (ii) Subdivision involving only lot line adjustment or lot consolidation. To be exempt there must not be any net increase in permitted density and no new building construction or related land alterations proposed within the development permit area.
- (iii) Subdivision where the following criteria is met:
 - (A) the required minimum lot sizes are achieved exclusive of the development permit area, as confirmed in writing by a Qualified Professional and by a BC Land Surveyor on the survey plan;
 - (B) no development activities including grading, clearing, trenching, or installation of pipes, relating to the creation of any lots will occur within the area encompassing the development permit area; and
 - (C) where a Section 219 covenant is registered to prevent development on those portions of lands deemed subject to flood hazards in a manner consistent with the development permit area guidelines.

(c) **Guidelines**

General Guidelines

- (i) Timing of development and construction methods should consider and aim to avoid

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times of the year more prone to flood events.

- (ii) Impervious surfaces should be limited, which may involve reducing the overall building footprint, roof size, and area of paved surfaces.
- (iii) When retaining walls or structures are necessary due to site constraints, heights and widths should be minimized wherever possible and must be designed by a Qualified Professional.

Flood Hazard/Risk Assessment Guidelines

New construction of a building or structure within the Coastal Flood Hazard Development Permit Area must address the risk of flooding and erosion from the sea. Where risk of river and coastal flooding co-exist, the combined effect shall be accounted for. Requirements include the following:

- (iv) All applicants must submit a geotechnical evaluation (flood report) prepared by a Qualified Professional that:
 - (A) includes a site plan identifying flood hazard, including areas susceptible to flooding, location of the sea, existing and proposed development including roads, trails, buildings, grading, on site topography and any areas that are to remain free from development;
 - (B) clearly states any conditions or recommendations to reduce flood hazards including without limitation recommendations for safe use of a habitable area, and to ensure the proposed development does not increase flood hazards to existing development on or near the subject property, and the rationale for conditions or recommendations provided;
 - (C) if applicable, outlines areas on the site that are more at risk of flood hazards and areas with a reduced risk to guide the location of future development on the site;
 - (D) calculates the flood construction level using the Canadian Geodetic Vertical Datum of 2013 as the baseline, where the flood construction level is determined as the sum of:
 - (1) 1:200 (0.5%) Annual Exceedance Probability total water level of tides and storm surge;
 - (2) allowances for future sea level rise to 1.0 metre by the year 2100 or sooner;
 - (3) allowances for regional uplift, or subsidence;
 - (4) estimated wave effects associated with a designated storm with a 0.5% Annual Exceedance Probability; and
 - (5) a minimum freeboard of 0.6 metres;
 - (E) cites the following when calculating the flood construction level:

- (1) the Regional District of Nanaimo Electoral Area Regulatory Coastal Floodplain Maps dated April 25, 2022; and
 - (2) background information on the flood hazards, including without limitation, storm surges, erosion, wave effects, high tides, sewers, groundwater, reservoirs, road runoff and other natural and artificial water sources;
- (F) sets out any conditions to enable safe use of the land for the intended purpose. Any assumptions regarding future watershed and/or coastal conditions as they relate to the hazard assessments are to be clearly stated;
- (G) certifies the “subject land may be used safely for the use intended”; and,
- (H) provides a flood assurance statement that confirms that an appropriate assessment has been conducted and that the Qualified Professional has taken responsibility for the work in the form prescribed in the Engineer and Geoscientists of British Columbia’s Flood Assessment Guidelines.
- (v) Recommendations within the flood report will form part of the development permit terms and conditions and the applicant may be required to register a Section 219 covenant incorporating the flood hazard assessment at the applicant’s expense and to the satisfaction of the Regional District of Nanaimo.
- (vi) A Plan that demonstrates no habitable area below the flood construction level.

Setback Guidelines

- (vii) All development should be located in the least hazardous location on the property, as specified by the Qualified Professional.
- (viii) Any proposed structural support or landfill used to achieve flood construction level must be:
 - (A) setback a minimum of 15.0 metres from the natural boundary of the sea estimated for 1.0 metre of sea level rise; or
 - (B) where the development site is at the top of a bluff that is 30 degrees or more from horizontal and where the toe of the bluff is subject to erosion and is less than 15.0 metres from a natural boundary of the sea, the minimum setback from the top of bluff must be equal to 3 times the height of the bluff as measured from the toe of the bluff to the elevation of the building foundation at its lowest point.

Crawlspace Guidelines

- (ix) A crawlspace proposed to be constructed below the Flood Construction Level must meet the following requirements:
 - (A) the building must be designed and anchored to resist flotation, collapse, and lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy; and

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- (B) the height of the crawlspace, measured from the interior grade of the crawlspace to the underside of the floor system above must not exceed 1.2 metres at any point.

Landfill Guidelines

- (x) Where landfill is used to raise the natural ground elevation, a drainage plan prepared by a Qualified Professional is required to establish run-off from the site, including from impervious and filled areas, will not be directed to adjacent properties. The drainage plan must indicate:
 - (A) existing and proposed grades of the subject property;
 - (B) existing grades of adjoining properties measured 3.0 metres from the common property line; and
 - (C) proposed drainage treatments including any use of detention systems or permeable materials to limit or control runoff to adjacent properties.
- (xi) The placement of landfill must be supervised by a Qualified Professional to ensure it will not increase flood hazards for adjacent properties or weaken the overall hydraulic conditions of the floodplain.

Subdivision Guidelines

- (xii) The permitted building envelope for every proposed lot in a subdivision must:
 - (A) have a viable building site on natural grade that is above the Flood Construction Level for future sea level rise as set out in the applicable official community plan and zoning bylaw; and
 - (B) complies with the setbacks from the sea as established in the “Regional District of Nanaimo Flood Hazard Mitigation Bylaw No. 1872, 2023”.

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