

TO: Qualified Professionals, Land Owners and Developers

FROM: Development Services

DATE: September 21, 2026

RE: Terms of Reference for Natural Hazards and/or Risk Assessments

The District of Squamish (District) Official Community Plan (OCP) designates certain parts of Squamish as Flood, Debris Flow or Steep Slope Hazard Areas. The OCP states that a report prepared by a Qualified Professional (QP) will be required for all development proposals (building permit, subdivision, development permit, rezoning) for land located within an identified natural hazard area. The report shall establish the suitability of the land for development and any required mitigation measures. The OCP requires registration of a “save harmless” restrictive covenant on the land title, under Section 219 of the Land Title Act, prior to any subdivision, rezoning or building permit approval in the designated hazard area.

Further, under the provisions of Section 86 of the *Land Title Act*, the Approving Officer – when approving a subdivision which may be subject to flooding, erosion, landslip or avalanche – may require an engineering report certifying that the land may be used safely for the intended purpose and/or require the subdivider to enter into a covenant to establish mitigation requirements. Similar provisions are available under the Strata Property Act and the Bare Land Strata Regulations.

Each lot is unique and carries unique requirements, which require the judgment of the QP completing the assessment. The following is intended to provide general terms of reference for typical requirements when completing hazard assessment reports in the District of Squamish. Note that specific terms of reference are available for QP’s completing Cheekeye Fan Hazard/Risk Assessments.

TERMS OF REFERENCE

General:

- i. Natural hazard and risk assessments must be conducted in accordance with the procedures and guidelines set out in the Engineers and Geoscientists of BC (EGBC) *Professional Practice Guidelines – Legislated Flood Assessments in a Changing Climate in BC* and/or *Professional Practice Guidelines – Landslide Assessments in British Columbia*. Accordingly, the relevant Assurance Statement, as required by EGBC, is to be filled out and submitted with each flood hazard assessment.
- ii. If assessing flood hazard, the report must consider the Flood Hazard Area Land Use Management Guidelines and other Provincial guidelines for flood hazard assessment and mitigation, clearly documenting any areas of the report that diverge from the guidelines.

- iii. The report must clearly identify the hazards assessed, as well as any hazards that are not applicable to the subject area and/or which may or may not affect the subject area but were intentionally excluded from the scope of the assessment.
- iv. If the QP deems it so, he/she must specifically conclude that the proposed land use is 'safe for the intended use'.
- v. The report should include limitations and qualifications of the assessment.
- vi. The hazard and risk assessment must undergo a documented checking and review process before being finalized and delivered to the District of Squamish. The review process typically involves an internal review by another QP within the same firm. Where an appropriate internal reviewer is not available, an external reviewer may be engaged.
- vii. The District will retain hazard and risk assessment reports for reference upon conclusion of the land use application.
- viii. Depending on the complexity of the site, nature of hazard, scope of development under consideration, elements at risk, availability/quality/reliability of background information and field data, the degree of judgment on which the assessment is based, QP's training/experience and the capability of the Approving Authority to review and respond, an independent peer review may be required by the District. Costs of the peer review are to be borne by the developer.

Land Use Application:

- i. The report must include a full description of the proposed land use(s) including the number, type and zoning of lots and/or units. The report must be accompanied by a site plan showing the full scope of the proposed land use.
- ii. The report must contain a legal description of the subject parcel(s).

Mitigation Measures:

- i. The report must specify all mitigation measures required to allow the QP to certify the development as 'safe for the intended use'.
- ii. The QP must consider access/egress for lands where roads may be impacted by a hazard. Development proposals shall incorporate safe refuge areas and secondary road accesses where the District determines that evacuation is not a realistic option.
- iii. The QP must certify that the development and any mitigation does not result in a transfer of risk to other lands or negative impacts on floodway conveyance, if applicable.
- iv. Typical hazard mitigation measures include (but are not limited to) specification of Flood Construction Level(s), setbacks, erosion/scour protection requirements for floodproofing fill and building foundations, construction/upgrade of Protective Works, establishing flood ways/site coverage requirements, and establishing Statutory Right of Ways for Protective Works.
- v. When a QP specifies a Flood Construction Level, the QP must also specify the value's units (e.g., metres), source (e.g., District bylaw), vertical datum (e.g., CGVD28), and

survey origin (e.g., GNSS-PPP or a specific survey monument). In addition, the QP must describe any adjustment required to translate the FCL from its original source to the units, vertical datum, and survey origin of elevations used in the proponent's design drawings. For reference, Flood Construction Levels provided in the District's Floodplain Management Bylaw 3184 and via the District's online WebMap are derived from the published elevations of local survey benchmarks. The published elevations of these monuments typically do not match elevations derived using GNSS approaches, even though both purport to be to CGVD28. Past survey measurements indicate that published monument elevations are about 0.1 m above GNSS-derived CGVD28 observations. If the QP deems that an adjustment of FCLs is required, the adjustment should originate at one of the following local monuments:

Tablet Marking	Published Elevation	Approximate Location
77HA891	3.171	Near the SE corner of 3 rd Ave and Westminster Street
83HAW001	9.114	top of headwall structure at the Harris Slough floodbox outlet
994	10.383	top of headwall structure at the Dryden Creek floodbox outlet
83HAW002	12.612	top of headwall structure at the Judd Slough floodbox outlet

- vi. Upon acceptance from the District, hazard and/or risk assessments will be registered as a Section 219 covenant on title establishing appropriate mitigation measures and indemnifying the District.

The Qualified Professional (QP):

- i. The QP must be registered as either a Professional Engineer or Professional Geoscientist with EGBC in a relevant discipline such as geological, geotechnical or civil engineering.
- ii. The QP as pertaining to Floods must meet the requirements outlined in the Engineers and Geoscientists of BC (EGBC) document entitled "Professional Practice Guidelines – Legislated Flood Assessments in a Changing Climate in BC".
- iii. The QP as pertaining to *Landslides*, *Debris Floods* and/or *Debris Flows* must also meet any applicable requirements outlined in the EGBC document entitled "Professional Practice Guidelines – Landslide Assessments in British Columbia".

- iv. The QP must have developed demonstrable experience and expertise in the applicable matter including hydrotechnical, hydrology, coastal engineering, slope assessment, debris flow, river engineering and other fields as applicable to the nature of the hazard.
- v. It is the responsibility of the professional engineer or professional geoscientist to determine whether he/she is qualified by training or experience to undertake and accept responsibility for hazard and/or risk assessments for proposed developments (EGBC Code of Ethics Principle 2).
- vi. The QP must hold and provide evidence of valid professional liability insurance coverage of at least \$1 million per claim.

Supporting Documents:

The Qualified Professional should contact the District to confirm the most recent studies and hazard information prior to initiating work.