

Fraser River Escarpment Construction Guidelines

These guidelines have been prepared to assist property owners and builders in understanding the policies relating to construction within the Fraser River Escarpment area.

The overall area impacted by the Fraser River Escarpment policies is bounded by 207 Street to the west, 124 Avenue to the north, 224 Street to the east, and the top or crest of the Fraser River Escarpment along the south. The Fraser River Escarpment can either be determined from the “Golder Report” map or as determined by a land surveyor.

For detailed information, it is recommended that you refer to City policies 6.23 and 6.24. The policies cover three specific areas of concern:

1. All groundwater or landscaping/surface/building drainage for any additions, new construction, and hard surface landscaping must be connected to the City storm drainage system (ditch or storm sewer). This applies to all properties contained within the Fraser River Escarpment boundaries as defined above.
2. For properties located within 300 m and up to 100 m from the crest of the escarpment, you must ensure that all forms of drainage comply with comments noted in Sentence 1. In addition, a geotechnical report must be submitted to the Building Services department and accepted by the Building Official. Subsequently, a Section 219 covenant must be prepared, with the geotechnical report attached as a schedule. This document must be executed and registered prior to the issuance of a building permit. The geotechnical engineer will be required to submit appropriate building code schedules relating to the building permit works and professional sign-off at the completion of construction.
3. For properties located within 100 m and up to 10 m from the crest of the escarpment, you must ensure that all forms of drainage comply with comments noted in Sentence 1. In addition, a geotechnical engineer must provide a detailed report and analysis considering the potential seismic slope failure (retrogression) in relationship to the proposed building (or addition), including landscaping and impact of same on any adjoining properties. The geotechnical engineer must also confirm that the anticipated development and construction is suitable for construction, in terms of Section 56 of the Community Charter. The comprehensive report must be attached to a Section 219 covenant and be registered on the property title prior to the issuance of

any building permit. Appropriate building code schedules are required as noted in Sentence 2.

4. An exemption to Sentence 3 may be applicable; however, conditions noted in Sentence 1 must be complied with. The exemption allows for the issuance of a one-time-only building permit, provided the Chief Building Official has accepted a geotechnical engineering report that addresses the impacts of static stability and retrogression and recommendations for such construction, in accordance with Section 56 of the Community Charter. The one-time-only building permit can only be for a single-storey, slab on-grade addition to an existing dwelling that does not exceed a footprint lot coverage of 460 square feet. Appropriate building code schedules are required as noted in Sentence 2.

POLICY STATEMENT

District of Maple Ridge

Title: Control of Surficial and Groundwater Discharge in the Area Bounded by 207 Street, 124 Avenue, 224 Street and the Crest of the Fraser River Escarpment	Policy No : 6.23 Supersedes: 6.04
Authority: <u>Council</u> Approval: <u>March 23, 2004</u>	Effective Date: <u>March 24, 2004</u>
Policy Statement: That the consideration of surficial or groundwater discharge within the area bounded by 207 Street, 124 Avenue, 224 Street and the crest of the Fraser River Escarpment be subject to the provisions and accompanying procedures that form part of this policy.	
Purpose: To set out conditions for the consideration of surficial or groundwater discharge in the area bounded by 207 Street, 124 Avenue, and 224 Street to the crest of the Fraser River Escarpment without compromising the stability of the entire Escarpment. This policy should be read in conjunction with Policy No. 6.24 – “ Subdivision of, or building on, Land within 300 Metres of the Crest of the Fraser River Escarpment.”	
Definitions: <p>Crest (Top of Bank): The general crest (top of bank) as identified in the attached map prepared by Golder Associates Ltd. entitled “Fraser River Escarpment: Attachment 1”, or as determined by a British Columbia Land Surveyor (BCLS).</p> <p>Fraser River Escarpment (Escarpment): The area bounded by Fraserview Street to the west and Carhill Road to the east, extending from the crest of the Escarpment to north of River Road.</p> <p>Geotechnical Engineer: A qualified geotechnical engineer or geoscientist in good standing in the Province of British Columbia.</p> <p>Setback: The distance in metres from the delineated crest of the escarpment.</p>	

PROCEDURE (OPERATING REGULATION)

District of Maple Ridge

Title: Control of Surficial and Groundwater Discharge in the Area Bounded by 207 Street, 124 Avenue, 224 Street and the Crest of the Fraser River Escarpment.	Policy No : 6.23 Supersedes: 6.04
Authority: <u>Council</u> Approval: <u>March 23, 2004</u>	Effective Date: <u>March 24, 2004</u>
1.0 POLICY STATEMENT (adopted) That the consideration of surficial or groundwater discharge within the area bounded by 207 Street, 124 Avenue, 224 Street and the crest of the Fraser River Escarpment be subject to the provisions and accompanying procedures that form part of this policy.	
2.0 KEY AREAS OF RESPONSIBILITY Action to Take <ol style="list-style-type: none">1. Storm drainage ditches or buried storm services shall be provided where existing roads, residential and commercial run-off causes ponding of water.2. Buried storm services shall be provided for all new roads or upgraded facilities.3. All storm drainage facilities shall be designed in accordance with the current storm water management criteria.4. No ground water discharge of new construction residential, commercial, road or parking areas shall be allowed. All such drainage shall be carried to storm water ditches or sewers.5. Septic fields shall be avoided and sanitary sewers provided where possible. Where existing residences are on septic systems they should be converted where possible. All new residences shall require sanitary sewers.6. All storm ditches shall be constructed to avoid ponding of water. All ditches shall drain to the north and west by gravity. No discharge shall be allowed into river bank ravines.	

<p>7. No storm water discharge shall be permitted over the river bank slopes or ravines unless transferred to river level in continuous storm sewers or pipes. If approval cannot be obtained to discharge storm water by pipe into the Fraser River then the discharge must be directed to a storm drainage system - ditch or storm sewer - on the road right-of-way. Where there is no storm water collection system within the road right-of-way fronting the property then consideration must be given to the extension of the existing storm drainage system.</p> <p>8. Landscape ponding is not permitted.</p> <p>9. Swimming pools are not permitted to drain into rock pits.</p>	
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POLICY STATEMENT

District of Maple Ridge

Title: Subdivision of, or building on, Land within 300 Metres of the Crest of the Fraser River Escarpment	Policy No: 6.24 Supersedes: 6.05
Authority: <u>Council</u> Approval: <u>March 23, 2004</u>	Effective Date: <u>March 24, 2004</u>
Policy Statement: That the consideration of any potential subdivision of, or building on, land within 300 metres of the crest of the Fraser River Escarpment be subject to the provisions and accompanying procedures that form part of this policy.	
Purpose: To set out conditions under which subdivision of, or building on, land can be considered in the area within 300 metres of the crest of the Fraser River Escarpment without compromising the stability of the entire Escarpment. This policy should be read in conjunction with Policy No. 6.23 – “Control of Surficial and Groundwater Discharge in the Area Bounded by 207 Street, 124 Avenue, 224 Street and the crest of the Fraser River Escarpment.”	
Definitions: Crest (Top of Bank): The general crest (top of bank) as identified in the attached map prepared by Golder Associates Ltd., entitled “Fraser River Escarpment: Attachment 1”, or as determined by a British Columbia Land Surveyor (BCLS). Developer: A person or company, including homeowners, that develops property. Dwelling Unit: As defined in the District of Maple Ridge Zoning Bylaw No. 3510-1985. Fraser River Escarpment (Escarpment): The area bounded by Fraserview Street to the west and Carhill Road to the east, extending from the crest of the Escarpment to north of River Road. Geotechnical Engineer: A qualified geotechnical engineer or geoscientist in good standing in the Province of British Columbia. Global Stability: The overall stability of the area within the Fraser River Escarpment and ravine slopes that impacts a given property. Consideration shall be given to all potential failure modes under static and seismic conditions, including potential shallow and deep failure surfaces which may extend into the Fraser River, both on and off the property in question, and to the potential for retrogressive failures.	

Definitions (Cont'd):

Setback: The distance in metres from the delineated crest of the escarpment.

Subdivision: The development of land into two or more parcels, including strata subdivision, whether by metes and bounds description or otherwise.

PROCEDURE (OPERATING REGULATION)

District of Maple Ridge

Title: Subdivision, or building on, of Land within 300 Metres of the Crest of the Fraser River Escarpment	Policy No: 6.24 Supersedes: 6.05
Authority: <u>Council</u> Approval: <u>March 23, 2004</u>	Effective Date: <u>March 24, 2004</u>
1.0 POLICY STATEMENT (adopted) That the consideration of any potential subdivision, or building on, of land within 300 metres of the crest of the Fraser River Escarpment be subject to the provisions and accompanying procedures that form part of this policy.	
2.0 KEY AREAS OF RESPONSIBILITY <p style="text-align: center;">Action to Take</p> <ol style="list-style-type: none"> 1. These procedures address two land areas: <ol style="list-style-type: none"> I. Within 100 metres of the crest, and II. The area between 100 metres and 300 metres of the crest. 2. The 100 metre and 300 metre setbacks are as shown on the attached map prepared by Golder Associates Ltd. entitled "Fraser River Escarpment: Attachment 1". Where the setback lines are shown to cut through parcels the determination of whether the property is within the 100 metre or 300 metre zone will be determined by the location of the existing dwelling which must be sited north of the appropriate setback line in its entirety. 3. Within 100 metres of the crest, <ol style="list-style-type: none"> a) No subdivision can proceed until there is a commitment by the Provincial and/or Federal Governments to install required river scour protection in the South Haney Area. b) Approval of a building permit to construct a residential single family dwelling will not be issued by the District without the applicant receiving a written report, signed and sealed from a qualified Geotechnical Engineer who must consider the issue of potential retrogression. c) A <u>one-time</u> only Building Permit to construct a single storey, slab on-grade non-dwelling structure (such as 	

<p>garage, shed or workshop) and or a <u>one-time</u> only single storey slab on-grade addition to an existing dwelling, the footprint lot coverage of each not exceeding 460 square feet, may be issued provided the Chief Building Official has accepted a geotechnical engineering report that addresses the impacts of static stability and retrogression and recommendations for such construction, in accordance with Section 56 of the Community Charter.</p> <p>d) No structures, slabs, pavements, or impoundments will be located within 10 metres of the slope crest.</p> <p>4. Between 100 metres and 300 metres of the crest, and within a distance of at least 100 metres from the crest of ravine slopes and the backscarps of existing slide areas, any new subdivision will be subject to:</p> <ul style="list-style-type: none"> • the requirements of Policy No. 6.23 and • approval by the District based upon receiving a written report, signed and sealed from a qualified Geotechnical Engineer who must consider both on-site and off-site investigations of sufficient scope to address the global stability concerns and the potential retrogression impacts. <p>Such an investigation may entail a series of relatively deep testholes along one or more cross-sections extending 100 metres or more back from the steep bluffs, combined with detailed laboratory testing and analyses under static and seismic conditions.</p> <p>THE FOLLOWING CONDITIONS APPLY WITHIN 300 METRES OF THE CREST:</p> <p>5. Design and construction of buildings, structures and services will be such that all storm runoff and discharge from roof areas, driveways, parking, hard-surfaced landscaping or roads is removed from the site in adequate facilities and is not allowed to discharge into the ground water system.</p> <p>6. Design and construction of all perimeter drains or other drainage facilities for buildings or structures shall be required to drain into adequate sumps and shall be discharged from the site in adequate facilities.</p> <p>7. Design and construction of buildings, structures and services will be such that no ground water seepage, surface runoff, or other water shall be allowed to discharge towards or onto the adjacent slopes or ravines.</p> <p>8. Design and construction will ensure that no measures such as placement of fill material or cutting and/or removal of existing material, or ground vegetation removal, shall</p>	
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<p>exceed that currently allowed in the current municipal bylaw without input from a Geotechnical Engineer.</p> <p>9. The owner(s) or their agent shall provide a report prepared by the Geotechnical Engineer at the effective completion of the project stating that they have provided sufficient inspection to ensure that the works undertaken meet with their recommendations and that they are in agreement with the results. A restrictive covenant shall be placed on the property that confirms the geotechnical report has been undertaken and includes the geotechnical report as an attachment.</p>	
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PROJECT	DISTRICT OF MAPLE RIDGE SEISMIC VULNERABILITY STUDY FRASER RIVER ESCARPMENT, MAPLE RIDGE, B.C.			
TITLE	FRASER RIVER ESCARPMENT CREST AND SETBACK LINES			
	PROJECT No. 03-1411-018		FILE No. P03-1411-018-03	
	DESIGN	CNW	12MAR04	SCALE AS SHOWN REV. -
	CADD	JK	12MAR04	
	CHECK	CNW	12MAR04	ATTACHMENT 1
	REVIEW			

Section 219 Covenants Guidelines

The following is intended to provide information to assist in registering any covenants against title that may be required as part of the building permit process:

1. Choose a registered professional engineer with experience in geotechnical engineering. This engineer must evaluate your proposal with respect to Section 56 of the Community Charter (see excerpt of Section 56) and prepare a report verifying that the land may be used “safely for the use intended.”
2. With that report in hand, contact a notary public or a solicitor and have them draft a Section 219 covenant, incorporating the professional engineer’s report as an annexed schedule. For clarity, we have attached a summary of Section 219 for you or your legal representatives to reference.
3. Provide the City of Maple Ridge Building Services department with a draft of that covenant for our review and acceptance.
4. Once the Building Services department has accepted the covenant’s wording, the applicant or owner’s representative can have the covenant duly executed (in duplicate) and returned for municipal execution. The covenant will then be made available to the applicant or owner’s representative for registration at the New Westminster Land Title Office.
5. The building permit will not be issued until the Building Services department has been provided with a copy of the registered covenant. A copy of the State of Title Certificate, confirming proof of order of registration, is to be provided when available.

The covenant must be registered with priority over any/all mortgages (and any assignment of rents, thereof) that are shown on title

Excerpt of Community Charter Section 56

- (2) If;
 - (a) a bylaw regulating the construction of buildings or other structures is in effect, and
 - (b) a building inspector considers that construction would be on land that is subject to or is likely to be subject to flooding, mud flows, debris flows, debris torrents, erosion, land slip, rockfalls, subsidence or avalanche, the building inspector may require the owner of land to provide the building inspector with a report certified by a qualified professional that the land may be used safely for the use intended.
- (3) If a qualified professional determines that the land may not be used safely for the use intended, a building inspector must not issue a building permit.
- (4) A building inspector may issue a building permit in accordance with subsection (5) if a qualified professional certifies that the land may be used safely for the use intended if the land is used in accordance with the conditions specified in the professional's report.
- (5) A building permit under subsection (4) may only be issued on the following conditions:
 - (a) the owner of the land covenants with the municipality to use the land only in the manner certified by the qualified professional as enabling the safe use of the land for the use intended;
 - (b) the covenant contains conditions respecting reimbursement by the owner for any expenses that may be incurred by the municipality as a result of a breach of a covenant under paragraph (a);
- (6) If a building inspector is authorized to issue a building permit under subsection (4) but refuses to do so, the council may, on application of the owner, direct the building inspector to issue the building permit subject to the requirements of subsection (5).

Summary of the required conditions to be contained in the Section 219 covenant

1. The Covenanter acknowledges:
 - a. That there is a potential danger in respect of the Lands in that the Lands are subject to, or likely to be subject to, flooding, mud flows, debris flows, debris torrents, erosion, land slip, subsidence or avalanche (the “Hazards”);
 - b. That the City has made no representations as to the imminence, extent or degree of the Hazards to which the Lands are or may be subject; and
 - c. That the City has made no representations, nor given any assurances that persons, property, buildings and improvements will not be damaged or injured by the Hazards, regardless of compliance by the Covenanter with this Covenant.
2. The Covenanter has independently retained a qualified professional engineer (the “Engineer”) to investigate the Hazards relating to the Lands and the covenanter has read and received that Engineer’s report and recommendations, a copy of which is annexed to this Covenant as Schedule “A” (the “Engineer’s Report”).
3. The Covenanter covenants and agrees to use the Lands only in the manner determined and certified to be safe by the Engineer in the Engineer’s Report and, in particular, the Covenanter agrees in building, siting or constructing any new building or structure on the Lands, in adding to, or structurally altering any existing building or structure on the Lands, and in altering the grade or configuration of the Lands, to do so only in accordance with and consistent with the Engineer’s Report.
4. The Covenanter agrees to indemnify and to save harmless the City from all loss, damages, costs, actions, suits, debts, accounts, claims and demands which the City may suffer or incur or be put to arising out of or in connection with any breach of any of the covenants or agreement herein on the part of the Covenanter contained in this Agreement regardless of whether this Covenant is breached, arising out of or in connection with any personal injury, death, or of loss or damage to the Lands, or to any building, modular home, mobile home, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Lands caused by the Hazards, or some such similar cause.
5. The Covenanter does remise, release and forever discharge the City from all manner of actions, cause of actions, suits, debts, accounts, covenants, contracts, claims and demands which the Covenanter for and by reason of any personal injury, death or of

loss or damage to the Lands, or to any building, modular home, mobile home or unit, improvement, chattel or other structure, including the contents of any of them, built, constructed or placed on the Lands caused by the Hazards.

6. Subject to the provisions of Section 219 of the Land Title Act, the Covenanter's covenants contained in the Agreement shall burden and run with the land and shall enure to the benefit of the City and be binding upon the Covenanter and successors in title.
7. Nothing in the Agreement shall prejudice or affect the rights, powers and remedies of the City in relation to the Covenanter, or the Lands under any law, bylaw, order or regulation or in equity all of which rights, power and remedies may be full and effectively exercised by the City as if this Agreement had not been made.
8. The Covenanter will do or cause to be done at their expense all acts reasonably necessary for the City to gain priority for this Agreement over all liens, charges and encumbrances which are or may be registered against the Lands save and except those in favor of the City and those specifically approved in writing by the City.
9. The Covenanter shall do or cause to be done all things and execute or cause to be executed all documents and give such further and other assurance which may be reasonably necessary to give proper effect to the intent of his Agreement.
10. Wherever the singular or masculine or neuter is used herein, the same shall be construed as meaning the plural, feminine, body corporate or politic unless the context requires otherwise.
11. If any section or any part of this Agreement is found to be illegal or unenforceable, then such section or parts shall be considered to be separate and severed from this Agreement and the remaining sections or parts of this Agreement, as the case may be, shall be unaffected thereby and shall remain and be enforceable to the fullest extent permitted by law as though the illegal or unenforceable parts or sections had never been included in this Agreement.
12. Every reference to the City herein includes the City's Officers and Employees.