

**FRASER VALLEY REGIONAL DISTRICT**

**Bylaw No. 0994, 2010**

**A Bylaw to Amend Fraser Valley Regional District  
Official Community Plan for a Portion of Electoral Area "C",  
Hemlock Valley, Bylaw No. 0030. 2000**

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**WHEREAS** the Fraser Valley Regional District has adopted an Official Community Plan for Hemlock Valley, Part of Electoral Area "C", Fraser Valley Regional District Bylaw No. 0030. 2000;

**AND WHEREAS** the Board of Directors of the Fraser Valley Regional District has deemed it advisable to amend the "Fraser Valley Regional District Official Community Plan for a Portion of Electoral Area "C", Hemlock Valley, Bylaw No. 0030. 2000", as adopted on December 13<sup>th</sup> 2000;

**NOW THEREFORE** in open meeting assembled, the Board of Directors of the Fraser Valley Regional District enacts as follows:

**I. CITATION**

This bylaw may be officially cited for all purposes as the "Fraser Valley Regional District Official Community Plan Amendment Bylaw No. 0994, 2010".

**II. TEXT AMENDMENT:**

That Fraser Valley Regional District Official Community Plan for a Portion of Electoral Area "C", Bylaw No. 0030. 2000, be amended by:

(a) Deleting Part II, Schedule "A" Section 3.4.1 (B) and inserting:

"Zoning by introduced which will distinguish areas for single family, duplex, and multiplex residential development. The zoning regulations shall be guided by the building schemes, which have been registered on title since the initial development of the community."

(b) Inserting a new clause and re-numbering the subsequent sections in numerical order starting with Part II, Schedule "A" Section 3.4.3:

"To provide a range of accommodation uses in Hemlock Valley for overnight visitors, temporary tourist accommodation use is permitted in the COTTAGE RESIDENTIAL designation areas, except in areas of avalanche hazard. This land use is referred to in this Plan as AUXILIARY RESIDENTIAL ACCOMMODATION."

- (c) Deleting Part II, Schedule "A" Section 5.2, Development Permit Area No. 2-HV and inserting :

**5.2 Development Permit Area No. 2-HV**

Development Permit Area No. 2 which shall be known as 'Long Term Snow Avalanche Hazard Development Permit Area 2-HV' is designated pursuant to Section 919.1(1)(b) of the Local Government Act for the protection of development from hazardous conditions.

**Area of Application:**

Development Permit Area No. 2 as shown on Schedule "HV-3"

**Justification:**

Development Permit Area 2-HV has been established to provide guidelines for development in residential areas with potential and significant long term snow avalanche hazards.

In February 1999, Thurber Engineering Ltd (TEL) completed an overview geotechnical study for Hemlock Valley. The study results are summarized in the report "Hemlock Valley Official Community Plan, Stage 1 Study, Overview Geotechnical Hazards", Thurber Engineering Ltd., February, 1999, and an addendum, "Addendum to Hemlock Valley Official Community Plan Stage 1 Study: Overview of Geotechnical Hazards. Recommended Prohibition of Logging and Forest Road Permits on the South, East and North Slopes of Mount Keenan", Thurber Engineering Ltd., January 2000". The study has been accepted and the recommendations endorsed by the Regional Board.

The report was prepared in two parts. The first, prepared by TEL, identified hazards associated with geomorphic processes including creek floods, creek erosion and deposition, gulying, rock fall and landslides such as debris slides and debris flows. The second, prepared by Dr. David McClung, Ph. D, P. Geo, of D&E McClung Enterprises Limited, identified areas susceptible to snow avalanche hazards as well as human activity that could trigger and promote erosion and landslide hazards. As well, this part of the study identified where a site specific snow avalanche study, prepared by a professional geoscientist or engineer proficient in snow avalanche assessment will be required as part of the overall engineering required for the approval of a development site, safe for the use intended.

The delineation of the areas potentially affected by geological hazards, including the probability of such events, enhances and clarifies the understanding of these hazards. Moreover, this provided the basis for locating the boundaries of Development Permit Area 2-HV. Resultantly, new developments will be required

to meet specific requirements that are essential to ensure the safety of present and future inhabitants of Hemlock Valley.

Site specific geotechnical studies may identify safe building sites within the Development Permit Area. The overview study does not represent a substitute for site specific studies which analyze the nature, magnitude and frequency of, and area affected by a hazard. The study provides a guide which will direct development away from areas of potential mass movement, surface erosion, flooding and snow avalanche, and identify where detailed geotechnical evaluation is required before development should occur.

The following areas were identified in the long term snow avalanche hazard assessment study as areas where there is potential for snow avalanche hazards to occur, and where site specific consideration should be addressed during the development process: the residential area of Edelweiss Drive; the residential development areas of Snowmist Place and Snowmist Drive; and the sewage lagoon area.

The Thurber Engineering Limited overview geotechnical study for Hemlock Valley found that the lands within the subject areas may potentially be susceptible to snow avalanche potential and associated hazards.

In the spring of 2010, the Regional District commissioned Dr. David McClung of D&E McClung Enterprises Ltd. to undertake an update report to revisit snow avalanche hazards affecting residential areas in Hemlock Valley. The original report in 2000 advised that snow avalanche hazards would diminish as forest cover returns. Ten years later, the returning forest cover in conjunction with new understanding about snow avalanches (i.e. forest cover penetration modeling) warranted a re-evaluation of the hazard.

The report, completed in September 2010, concluded that residential areas of Hemlock Valley are no longer located in a 'red' zone as defined by the Canadian Avalanche Association (CAA) and Regional Board policies. However, properties located in the 'blue' zone face development constraints; and will require site specific evaluations to determine if either geographic terrain features protect the property or on-site mitigation reduces the hazard to a level equivalent to the 'white' zone. According to CAA standards, the white zone is safe for residential construction or occupied structures.

**Risk Areas Assessment:**

A snow avalanche risk zone assessment was then done for residential sub-areas and these were then included in the establishment of Development Permit Area 2-HV; "Long Term Snow Avalanche Hazard Development Permit Area 2-HV" (shown on schedule HV-3) as follows:

**Red Areas:** Terrain in the potential runout zone of an established avalanche path or runout below steep terrain with a potential start zone unaffected by forest cover. The return period may be 30 years or less and have a destructive potential resulting in significant damage to buildings or structures and poses a risk to public safety.

**Blue Areas:** An area between the red and white snow avalanche areas with terrain subject to small avalanches either running through the forest cover to reach the unforested slopes above Edelweiss Drive or the area with the potential for small avalanches initiating above Edelweiss Drive. The avalanche return periods range from 30 years to 500 years and have a destructive potential that could result in damage to buildings and structures.

**White Areas:** Terrain which is shielded from avalanches either by terrain features or protective forest cover. The avalanche return periods are greater than 1:500 years. Alteration of the forest cover by human or avalanche effects could result in alterations of these areas. Avalanche effects unlikely but possible.

**Conditions:**

- (a) Potential for snow avalanches

**Objectives:**

- (a) to direct development away from geological hazards; and
- (b) to protect roads and other infrastructure from snow avalanche and other related geological hazards; and
- (c) to ensure adequate professional assessment and mitigation of geological hazards; and
- (d) to allow for land uses suitable under hazardous conditions, in accordance with geotechnical studies.

**Guidelines:**

5.2.1

A site specific geotechnical study will be required pursuant to Section 920 (11) of the Local Government Act, in order to determine the use, the condition or requirements of use and density as they relate to health and safety of persons or the protection of property within the blue avalanche hazard area.

5.2.2

A site specific geotechnical study will be required for all new development, as shown on Schedule HV-3, pursuant to section 920 (7.1)(a) of the Local Government Act, in order to determine the use, the conditions or requirements of use and density as they relate to the health and safety of persons or the protection of property. The following requirements shall apply:

- (a) Red: Development shall not be permitted until the completion of a comprehensive snow avalanche report and protective community works are constructed.
- (b) Blue: Development shall not be permitted without a detailed site specific geotechnical study identifying snow avalanche protective measures mitigating the site to a threshold equivalent to the 'white' zone. Protective works shall not deflect the hazard to adjacent lands. The report shall be prepared by a professional engineer or geoscientist, licensed in British Columbia and proficient in snow avalanche hazard assessment.
- (c) White: Development is permitted in this area provided the protective forest cover is not altered.

#### 5.2.3

Development permits for specific land uses and densities should accord with the recommendations of site specific geotechnical studies.

#### 5.2.4

A development permit may not be required for construction of, addition to, or alteration of a single family residential building, accessory residential building or structure where:

- (a) The potential risk of any geotechnical hazard which may affect the site is within the levels deemed acceptable in the "Hazard Acceptability Thresholds for Development Approvals by Local Governments" and
- (b) Residential development is in the 'white' zone, provided the forest cover has not been altered so as to potentially increase snow avalanche hazards to the development.
- (c) Where mitigative measures, including but not limited to siting requirements, are not required either by the "Hazard Acceptability Thresholds for Development Approvals by Local Governments" or by a geotechnical engineer in a certified site specific geotechnical report; and
- (d) The type of construction, addition, or alteration does not affect or relate to matters of health, safety, or the protection of property from damage; and the development proposals complies in all respects with the policies of the Plan, the zoning regulations, and all other bylaws of the Regional District; and
- (e) The proposed development complies with all the requirements of the policies laid out in 5.2.1 to 5.2.3.

#### 5.2.5

Notwithstanding, policies 5.2.1 to 5.2.4, the building inspector may require that the owner of land provide a site specific report, certified by a professional

engineer or professional geoscientist with experience in geotechnical and/or snow avalanche hazards, which states "that the land may be used safely for the use intended", pursuant to section 56 of the Community Charter, prior to the issuance of a building permit.

- (d) inserting a new clause and re-numbering the subsequent section in numerical order starting with Part II, Schedule "A" Section 6.1 D.:

"Where existing development is located in Development Permit Area 2-HV, as shown on Schedule HV-3 and is affected by a potential snow avalanche hazard, a comprehensive snow avalanche hazard management plan should be undertaken. The Regional District should work in partnership with senior governments and community groups towards a coordinated approach to manage and reduce the hazard affecting all residential lands.

**Implementation:** Liaison with provincial regulatory agencies, feasibility and engineering studies."

- (e) Inserting a new clause and re-numbering the subsequent sections in numerical order starting with Part II, Schedule "A" Section 6.1 E.:

"Overnight accommodation uses should be directed away from snow avalanche areas, located in Development Permit Area 2-HV as shown on Schedule HV-3, to avoid hazard exposure to third-party users unaware of the risk. However, a property owner may undertake a site specific geotechnical study by a qualified professional engineer or geoscientist to determine on an individual basis if a property is suitable for overnight accommodation use and if the land is safe for the intended use.

**Implementation:** zoning, feasibility and engineering studies."

### III. MAP AMENDMENT

- (a) That Schedule HV-3 showing Development Permit Area No.2, Long Term Snow Avalanche Hazard Development Permit Area 2-HV for "Fraser Valley Regional District Official Community Plan for a Portion of Electoral Area "C", Hemlock Valley, Bylaw No. 0030, 2000" be amended by deleting Schedule HV-3 and replacing it with Schedule HV-3, as appended hereto.
- (b) That the map appended hereto designated as Official Community Plan Amendment Map Schedule 0994-A, as showing such amendment is an integral part of this Bylaw.

### IV. READINGS AND ADOPTION

READ A FIRST TIME THIS

23<sup>rd</sup> DAY OF

February 2010

READ A SECOND TIME THIS	23 <sup>rd</sup>	DAY OF	March 2010
RECINDED AND READ A SECOND TIME THIS	23 <sup>rd</sup>	DAY OF	November 2010
A PUBLIC HEARING WAS HELD ON THE	20 <sup>th</sup>	DAY OF	January 2011
READ A THIRD TIME THIS	25 <sup>th</sup>	DAY OF	May, 2011
ADOPTED THIS	25 <sup>th</sup>	DAY OF	May, 2011

  
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Chair/Vice-Chair

  
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Corporate Officer/Deputy

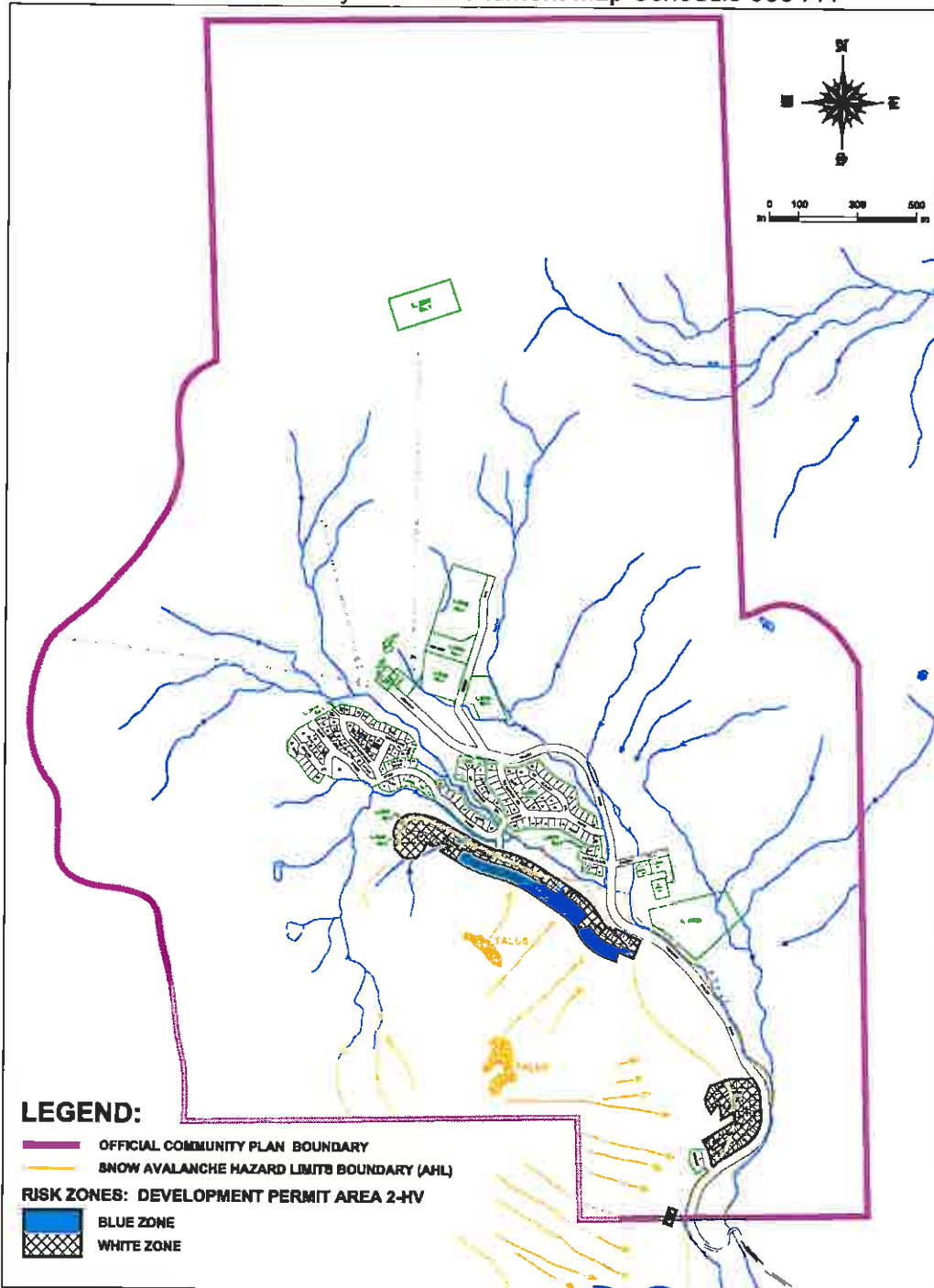
**V. CERTIFICATIONS**

I hereby certify that this is a true and correct copy of Bylaw No. 0994, 2010 as adopted by the Board of the Fraser Valley Regional District on the 25<sup>th</sup> day of May, 2011.

Dated at Chilliwack, B.C. this 26<sup>th</sup> day of May, 2011

  
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Corporate Officer/Deputy

**FRASER VALLEY REGIONAL DISTRICT**  
**Official Community Plan Amendment Map Schedule 0994-A**




Map Reference: 92H031.3.2, 3.4  
 Land Title Office: New Westminster

Date: October 19, 2010

THIS IS MAP 1 OF 1 CONSTITUTING OFFICIAL COMMUNITY PLAN AMENDMENT MAP SCHEDULE 0994-A ATTACHED TO AND FORMING AN INTEGRAL PART OF FRASER VALLEY REGIONAL DISTRICT OFFICIAL COMMUNITY PLAN AMENDMENT BYLAW NO. 0994, 2010.

  
 Chair/Vice-Chair  
 206839-1

  
 Corporate Officer/Deputy