

CLD FREEHOLD

WILDFIRE HAZARD ASSESSMENT



Captain Dan Walker, Fire Prevention Officer
City of Vernon
CLD FREEHOLD



1) Introduction

The FireSmart Canada Community Recognition Program is designed to provide an effective management approach for preserving wildland living aesthetics while reducing community ignition potential. The program can be tailored for adoption by any community and/or neighborhood association that is committed to ensuring its citizens maximum protection from wildland fire. The following report is intended as a resource to be used by residents of Canadian Lakeview Developments for creating a FireSmart Community Plan. The plan developed from this information should be implemented in a collaborative manner, and updated and modified as needed.

This FireSmart Assessment report was prepared by Captain Dan Walker of Vernon Fire Rescue Services, with the assistance of FireSmart Community champion Travis Szepesi.

2) Definition of the Ignition Zone

CLD is located in a wildfire environment. Wildfires will happen - exclusion is not a choice. The variables in a wildfire scenario are when the fire will occur, and where. This assessment addresses the wildfire-related characteristics of CLD. It examines the area's exposure to wildfire as it relates to ignition potential. The assessment does not focus on specific homes, but examines the community as a whole.

A house burns because of its relationship with everything in its surrounding ignition zone - the house and its immediate surroundings. To avoid a home ignition, a homeowner must eliminate the wildfire's potential relationship with his/her house. This can be accomplished by interrupting the natural path a fire takes. Changing a fire's path by clearing the ignition zone is an easy-to-accomplish task that can prevent home loss. To accomplish this, flammable items such as excessive vegetation must be removed from the area immediately around the structure to prevent flames from contacting it. Also, reducing the volume of live vegetation will affect the intensity of the wildfire as it nears the home.

Included in this assessment are observations made while visiting CLD. The assessment addresses the ease with which home ignitions can occur under severe wildfire conditions and how these ignitions might be avoided within the ignition zones of affected residents. CLD residents can reduce the risk of structure loss during a wildfire by taking actions within their ignition zones. This zone principally determines the potential for home ignitions during a wildland fire; it includes a house and its immediate surroundings within 100 metres. Given the extent of this zone, the ignition zones of several homes sometimes overlap, and often spill over onto adjacent public or community land.

The results of the assessment show (under current conditions) that wildfire behavior and subsequent losses will be dominated by the residential characteristics of this area. The good news is that residents will be able to substantially reduce their exposure to loss by addressing community vulnerabilities. Relatively small investments of time and effort will reap great rewards in wildfire safety.

3) Description of the Severe Case Wildland Fire Characteristics that Could Threaten the Area

Fire intensity and spread rate depend on the fuel type and fuel conditions, the weather conditions prior and during ignition, and the topography. Generally the following relationships hold between the fire behavior and the fuel, weather and topography.

- Fine fuels ignite more easily and spread fire faster with higher intensities than coarser fuels. For a given fuel, the more there is and the more continuous it is, the faster the fire spreads and the higher the intensities. Fine fuels take a shorter time to burn out than coarser fuels.
- The weather conditions affect the moisture content of the dead and live vegetative fuels. Dead fine fuel moisture content is highly dependent on the relative humidity and the degree of sun exposure. The lower the relative humidity and the greater the sun exposure, the lower will be the fuel moisture content. Lower fuel moistures produce higher spread rates and fire intensities.
- Wind speed significantly influences the rate of fire spread and fire intensity. The higher the wind, the greater the spread rate, intensity, and ember transport distances.
- Topography influences fire behavior principally by the steepness of the slope. However, the configuration of the terrain such as narrow draws, saddles and so forth can influence fire spread and intensity. In general, the steeper the slope, the higher the uphill fire spread and intensity.

4) Site Description

CLD is a neighborhood of homes located the far end of Tronson Road. CLD consists of strata communities and freehold homes. CLD freehold is located on the steep west facing slope of Okanagan Lake which is surrounded by large stand of coniferous trees/shrubs with areas of heavy fuel and pine needle accumulations.

5) Assessment Process

CLD was assessed during a site visit on August 8, 2019 by Local FireSmart representative Captain Dan Walker, he was accompanied and assisted by Community Champion Travis Szepesi and members of other strata. The neighborhood and adjacent vegetation within 100m radius was assessed and observations recorded and photographed.

6) Observations and Issues

CLD has many homes located directly in the heavily treed areas of large stands of pine trees. I observed in many different areas large amount of pine needle accumulations on the ground and roof tops and gutters. It was noted residents do their best to clean them but frequent wind storms brings down more needles. There are still many homes with cedar shake roofing. There is ample water supply from private hydrants and access to the beach for fire apparatus to pull water from. The most significant challenge will be in the event of a wildfire access for evacuation is by one way out which is Tronson Road. A beach area and a dock provides another means of evacuation. The most likely source of ignition for the units will be from fire embers from the dense and dry forest above CLD, therefore having the P-1 zone clear of anything combustible is essential. This would include patio furniture and any other combustibles be put in the garage or house should a wildfire occur. Annual pruning of vegetation and overstory trees need to continue. Establishing a zone of 10 meters around the homes specifically in the dense brush would be highly recommended.



Trim ladder fuels from overstory trees

Recommend replacement juniper bushes



Empty Lots require treatment



This area requires treatment
Would be a good FireSmart project



Pine Needle Accumulation on rooftops and eaves



Trim the overstory and needle accumulation

7) Recommendations

The FireSmart Canada Community Recognition Program seeks to create a sustainable balance that will allow communities to live safely while maintaining environmental harmony in a wildland urban interface (WUI) setting. Homeowners already balance their decisions about fire protection measures against their desire for certain flammable components on their properties. It is important for them to understand the implications of the choices they are making. These choices directly relate to the ignitability of their home ignition zones during a wildfire.

A homeowner/community must focus attention on the home and surrounding area and eliminate the fire's potential relationship with the house. This can be accomplished by disconnecting the house from high and/or low-intensity fire that could occur around it, and by being conscious of the devastating effects of wind-driven embers. The following photographs were taken in CLD and are examples of good FireSmart practices.

Homeowners are reminded that street signs, addresses, road widths and fire hydrants do not keep a house from igniting. Proper attention to their home ignition zones - does. They should identify the things that will ignite their homes and address those as priorities.

Weather is of great concern during wildfire season. When fire weather is severe, or the home is unoccupied, homeowners should remember not to leave flammable items outside. This includes rattan doormats, flammable patio furniture, and firewood stacked next to the house.

The following section of this report provides recommendations for consideration by the FireSmart Board concerning wildfire safety issues that were identified as priorities in the community of CLD during the assessment

1. Complete Zone 1 priority: Clean gutters cleared of pine needles. Clean pine needles 1.5 m from foundations and decks.
2. Surface fuels trimmed minimum 10m from units.
3. Trim any overstory vegetation beside units.
4. No open joist decks. Recommend sheathing them in.
5. Replace any juniper and cedars trees within PZ-1
6. Removal of any combustibles from around units

8) Successful FireSmart Mitigations

When adequately prepared, a house can likely withstand a wildfire without the intervention of the fire service. Further, a house and its surrounding community can be both FireSmart and compatible with the area's ecosystem. The FireSmart Communities Program is designed to enable communities to achieve a high level of protection against wildfire loss even as a sustainable ecosystem balance is maintained.



Excellent FireSmart principals
Grass, rocks, trees trimmed, shingle roof, stucco



Good example of FireSmart

Would recommend removal of small cedar bushes

9) Next Steps

After reviewing the contents of this assessment and its recommendations, the CLD FireSmart Board in consultation with its advisors will determine whether or not it wishes to continue seeking FireSmart Community recognition status. The Local FireSmart Representative will contact the FireSmart Board representative by October 20109 to receive its decision.

If the report and recommendations are accepted and recognition will be sought, the CLD FireSmart Board will create agreed-upon, area-specific solutions to the FireSmart Community Assessment Report recommendations and prepare a FireSmart Community Plan in cooperation with their Local FireSmart Representative and local fire agency personnel who may be acting as advisors.

Assuming CLD seeks to achieve national recognition as a FireSmart Community, it will integrate the following standards into its FireSmart Community Plan:

- Sponsor a local FireSmart Board that maintains the FireSmart Community program and recognition status.
- Continue to work with the Local FireSmart Representative or enlist the assistance of a WUI specialist to complete a FireSmart Community Plan which identifies agreed-upon, achievable local solutions.
- Invest a minimum of \$2.00 annually per capita in its local FireSmart Events and activities (work done by municipal employees or volunteers, using municipal or other equipment, can be included, as can provincial/territorial grants dedicated to that purpose).

- Hold a FireSmart Event (e.g. FireSmart Day) each year that is dedicated to a local FireSmart project.
- Submit an application form or annual renewal application form with supporting information to FireSmart Canada. This application or renewal process documents continuing participation in the FireSmart Communities Program with respect to the above criteria.

10) Signature of Local FireSmart Representative

A handwritten signature in black ink, appearing to read "Dan Walker".

Captain Dan Walker
Vernon Fire Rescue Services
250-542-5361
September 10, 2019

FCCRP COMMUNITY WILDFIRE HAZARD ASSESSMENT FORM

11) Appendix 1



This Community Wildfire Hazard Assessment form provides a written evaluation of the overall community wildfire hazard – the prevailing condition of structures, adjacent vegetation and other factors affecting the FireSmart status of a small community or neighbourhood. This hazard is based on the **hazard factors** and **FireSmart recommended guidelines** found in **FireSmart: Protecting Your Community from Wildfire** (Partners in Protection, 2003) and will assist the Local FireSmart Representative in preparing the FireSmart Community Assessment Report. **NOTE: Mitigation comments refer to the degree to which the overall community complies or fails to comply with FireSmart recommended guidelines with respect to each hazard factor**

Community Name: Phoenix Estates		Date: (08/19/2019)
Assessor Name: Captain Dan Walker		Accompanying Community Member(s): Bill Crum
Hazard Factor	Ref	Mitigation Comments
1. Roof Assemblies		
a. Type of roofs ULC rated (metal, tile, asphalt, rated wood shakes) unrated (unrated wood shakes)	2-5 3-21	75 % Asphalt Shingle- ULC Rated 20 % metal roof or tile 5 % cedar shake(not Rated)
b. Roof cleanliness and condition <i>* Debris accumulation on roofs/in gutters; curled damaged or missing roofing material; or any gaps that will allow ember entry or fire impingement beneath the roof covering</i>	2-6	20 % roofs had some Pine needles
2. Building Exteriors		
2.1 Materials		
a. Siding, deck and eaves	2-7 2-8 2-9	Stucco Siding, wood siding, hardy board A wooden deck without sheathing Eaves had some pine needles
b. Window and door glazings (single pane, sealed double pane)	2-10	All windows are double paned
c. Ember Accumulator Features (scarce to abundant) <i>* Structural features such as open eaves, gutters, unscreened soffits and vents, roof valleys and unsheathed crawlspaces and under-deck areas</i>		Abundant ember accumulator features include gutters, roof valleys, unscreened vents
d. Nearby Combustibles – firewood,	2-11	Wood piles, sheds, trampolines, recreational vehicles, Outdoor furniture

Hazard Factor	Ref	Mitigation Comments
3. Vegetation		
3.1 PZ-1: Vegetation - 0 - 10m from structure Page Reference 3-5		
a. Overstory forest vegetation (treated vs. untreated)	2-14	About 50 % of coniferous trees have been untreated in PZ-1
b. Ladder fuels (treated vs untreated)	2-17	About 30 % contain Ladder Fuels
c. Surface fuels - includes landscaping mulches and flammable plants (treated vs untreated)	2-16	Some areas are clear of surface fuels where others require treatment. Recommend replacement of cedar and juniper bushes with FireSmart recommend vegetation
3.2 PZ-2: Vegetation - 10 - 30m from structures Page Reference 3-9		
a. Forest vegetation (overstory) treated vs untreated	2-14	50 % of overstory is untreated
b. Ladder fuels treated vs untreated	2-17	About 30 % of ladder fuels remain untreated
c. Surface fuels treated vs untreated	2-16	About 25 % of surface fuels are untreated.
3.3 PZ-3: Vegetation - 30 - 100m from structures Page Reference 3-13 Provide mitigation comments on the prevailing PZ3 fuel type		
a. Light fuel - deciduous – grass, shrubs	2-16	Light surface fuels such as grasses and shrubs.

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Hazard Factor	Ref	Mitigation Comments
b. Moderate fuel - mixed wood – light to moderate surface and ladder fuels, shrubs	2-17	PZ-3 contains light to heavy surface fuels and ladder fuels which extend to the wildland
c. Heavy fuel - coniferous - moderate to heavy surface and ladder fuels, shrubs	2-14	Many coniferous trees in PZ-3 contain ladder fuels
d. Logging slash, dead/down fuel accumulations	2-16	Some dead trees with larger concentrations of pine needles
e. Diseased forest – without foliage vs with foliage		Some diseased specifically pine trees
f. Fuel islands <u>within</u> community - treated vs untreated		
4. Topography		
4.1 Slope (within 100m of structures)		
a. Slope - Flat or < 10 %, 10 – 30% or >30%	2-19	>30%
4.2 Buildings setback on slopes >30 %, position on slope Provide mitigation comments on items a – c as applicable		
a. Setback from top of slope > 10m, or bottom of slope – valley bottom. b. Buildings located mid-slope c. Setback from top of slope <10m, or upper slope	2-12	All units are mid-slope upward from the lake.

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Hazard Factor	Ref	Mitigation Comments
5. Infrastructure – Access / Egress, Roads, Driveways and Signage		
5.1 Access Routes – Road Layout To FireSmart Recommended Guideline?		
a. Single Road or Looped Road	3-28	Single Road
5.2 Roads- width, grade, curves, bridges and turnarounds		
a. To FireSmart Recommended Guideline?	3-30	Yes
5.4 Fire Service Access / Driveways - Grade, Width/Length, Turnarounds		
a. To FireSmart Recommended Guideline?	3-30	Yes
5.5 Street Signs / House Numbers		
a. To FireSmart Recommended Guideline?	3-30	Yes
6. Fire Suppression - Water Supply, Fire Service, Homeowner Capability		
6.1 Water Supply		
a. Fire Service water supply – hydrants, static source, tender or no water supply	3-32	Several fire hydrants all easily accessible
6.2 Fire Service		
a. Fire Service < 10 minutes or > 10 minutes, no fire service	2-25	>10 from nearest fire station
6.3 Homeowners Suppression Equipment		
a. Shovel, grubbing tool, water supply, sprinklers, roof-top access ladder	3-28	Many homeowners have hand tools, shovels, garden hoses and ladders

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Hazard Factor	Ref	Mitigation Comments
7. Fire Ignition and Prevention – Utilities, Chimneys, Burn Barrel / Fire Pit, Ignition Potential		
7.1 Utilities		
a. To FireSmart Recommended Guideline?	2-24	Utilities are underground
7.2 Chimneys, Burn Barrel / Fire Pit		
a. To FireSmart Recommended Guideline?	2-22	Some units had gas fireplace, unclear if all were screened
7.3 Ignition Potential Provide mitigation comments on items a – d as applicable		
a. Topographic features adversely affect fire behaviour b. Elevated probability of human or natural ignitions c. Periodic exposure to extreme fire weather or winds d. Other	2-21	West facing, increases the risk of drying out and extreme afternoon fire behavior due to wind from the Lake uphill Risk of human ignition from recreation use and lighting History of extreme fire condition from low humidity and extreme heat and drying of the wildland and strong afternoon winds
General Comments		
<p>Recommend:</p> <ol style="list-style-type: none"> 1) Complete PZ-1 with trimming of coniferous trees (ladder fuels and proximity of branches) trimming or removal of junipers and cedars. 2) Sheath in any decks, no open joist 3) Removal of combustibles from around the homes like firewood and pine needles. 		