

Wildland Fire Hazard Assessment Form

FireSmart Canada's Neighbourhood Recognition Program teaches people how to live with wildland fire and increase their home's chance of survival through proactive actions, while encouraging neighbours to work together to reduce losses and damage. The Neighbourhood Wildland Fire Hazard Assessment is an important step in the FireSmart neighbourhood recognition process. It's a tool to help neighbourhood residents understand their wildland fire hazard and how to reduce it. Research has shown embers (burning pieces of airborne wood and/or vegetation that can be carried up to two kilometres by the wind) and small surface fires to be the primary source of home ignitions during wildland fires.

Residents must prepare their home to withstand embers and minimize the likelihood of flames or surface fire touching the home or any attachments. This can be accomplished by choosing ignition-resistant building materials and construction techniques and limiting the amount of flammable vegetation in the three home ignition zones that surround each home. Periodic maintenance of vegetation is also important.



Wildland Fire Hazard Assessment Form**OVERVIEW**

It is not uncommon for home ignition zones to overlap onto adjacent properties. This makes the conditions of neighbouring homes and vegetation a part of the wildland fire threat. To maximize benefits, it's important that neighbours work together to reduce their shared wildland fire hazard and risk.

The Neighbourhood Wildland Fire Hazard Assessment speaks to the general conditions in the neighbourhood and does not provide details on individual properties.

The assessment process:

- Is completed by the Local FireSmart Representative during a walk-through or a drive-by of the neighbourhood and does not require each individual dwelling unit to have a home hazard assessment completed prior to the neighbourhood assessment.
- Needs a logical recognized neighbourhood boundary (defined by streets, adjacent public property, infrastructure rights-of-way, etc).

The assessment should focus on:

- Vulnerability of homes to embers, ignition of small surface fires, and crown fire.
- Condition of the structures themselves. Immediate hazards within the Home Ignition Zone on individual properties.
- Concerns presented by common/open space areas or adjacent public lands.

Also consider factors that impact hazard and influence fire behaviour or structure ignitability:

- Home construction characteristics (materials used for roofs, siding, decks, etc)
- General landscaping characteristics – vegetation types and condition
- Slope and aspect (direction a neighbourhood faces - north, south, east, or west)
- Housing density

The Neighbourhood Wildland Fire Hazard Assessment recommendations are to be prioritized in the FireSmart Neighbourhood Plan and used by the FireSmart Neighbourhood Committee to organize FireSmart events within the neighbourhood boundaries.

Wildland Fire Hazard Assessment Form

DEFINING THE FIRESMART NEIGHBOURHOOD

The size of the FireSmart Neighbourhood is largely determined by the FireSmart Neighbourhood Champion and Committee – their comfort level with the location and number of neighbourhood properties is all important. It may be most efficient to limit the size of the neighbourhood to ‘block party sized’ groups of between 20 and 50 homes. Larger neighbourhoods that feature existing homeowner or cottager associations may also be quite workable.

General Neighbourhood Description

Neighbourhood Name: Columbia Ridge Estates

Community (Town/City): Fairmont

Prov/Terr: BC

Latitude: 50.24420 N

Longitude: 115.87370 W

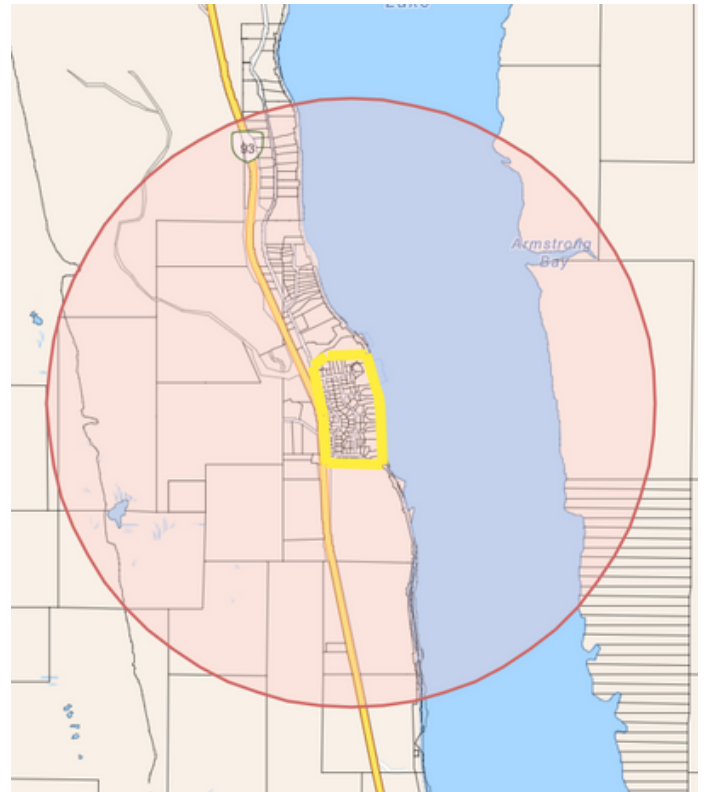
Boundary Description:

Provide a description of the neighbourhoods recognized boundaries such as streets, crown, or municipal land parcels, utility, or other infrastructure rights-of-way, etc.

Columbia Ridge Country Estates lies on the western shore of Columbia Lake. The community is bounded on the North by Hardie Creek, on the East by the CPKC Railway line and Columbia Lake, on the South by Crown Land Parcel DL7558 and on the West by Highway 93 and Columbia Lake Road. Map 1 shows the boundaries of the FireSmart defined Community. Map 2 shows the Community with a 2.5Km Radius of ember ignition vulnerability.



MAP 1



Wildland Fire Hazard Assessment Form**General Neighbourhood Information**

Number of properties – homes within the neighbourhood's identified boundary.

Note: Multiple neighbourhoods can be located within a single large community.

For definition purposes, a dwelling unit is:

- A household/residence built for occupancy by one person, a family, or roommates, including mobile homes and cabins; and for multi-family residential occupancies (i.e. duplexes)
- Townhomes
- An apartment building with 10 units is considered ten dwelling units

Description of Properties within the Boundary

Number of dwelling units: 105

Number of residents: 200

Residential types in the neighbourhood (*check all that apply*):

- | | | |
|---|--|-----------------------------------|
| <input checked="" type="checkbox"/> Single Family | <input type="checkbox"/> Duplex | <input type="checkbox"/> Townhome |
| <input type="checkbox"/> Apartment | <input type="checkbox"/> Mobile/Manufactured | <input type="checkbox"/> Other |

Types of ownership (*check all that apply*):

- | | | |
|---|---------------------------------|--|
| <input checked="" type="checkbox"/> Private | <input type="checkbox"/> Rental | <input type="checkbox"/> Public (<i>Crown/Municipal</i>) |
| <input type="checkbox"/> Reservation | | |

Lot sizes (*check all that apply*):

- | |
|---|
| <input type="checkbox"/> Less than 0.05 hectares or 500 square metres - (30' x 100' lot = 0.03 hectares) |
| <input type="checkbox"/> 0.05 to 0.1 hectares or 500 to 1,000 square metres - (60' x 100' lot = 0.06 hectares) |
| <input checked="" type="checkbox"/> 0.1 to 0.25 hectares or 1,000 to 2,500 square metres - (100' x 100' lot = 0.1 hectares) |
| <input checked="" type="checkbox"/> Greater than 0.5 hectares or 5,000 square metres |

Other Neighbourhood Information (*eg . Full time residents vs vacation/absentee residents, commercial/business operations, existing Homeowners Association or other groups*):

Columbia Ridge Country Estates is made up of roughly 20% permanent full time residents and 80% part-time residents.

Wildland Fire Hazard Assessment Form

Description of Local Wildland Fire Characteristics

Fire intensity and rate of spread depend on the vegetation type (coniferous/deciduous) and condition (live/dead), topography, and typical weather patterns.

Describe the common vegetation types in the neighbourhood *(ie. grasses, shrubs, and trees)*:

The vegetation in Columbia Ridge is largely a mix of mature and juvenile conifers, dominated by Douglas Fir, with smaller numbers of Rocky Mountain Juniper and some small amounts of Blue Spruce and Cedar. A limited number of properties have deciduous trees. The understory is largely made up of native grasses, and mosses on the northerly exposed slopes within the gullies on the eastern flank, although there are some invasive species to be found as well. The community has undertaken significant mitigation work in many of the common areas and due to these efforts the majority of the vegetation is healthy, although there are still areas that need more work done.

In the past the forest type within the Columbia Valley from present day Canal Flats to Golden would have typically had a low intensity fire every 5 to 10 years. In the last 150 years however fire suppression efforts have interfered with this fire regime which has resulted in a large fuel build up and higher intensity fires when they do occur. As such it is becoming increasingly important for communities to manage vegetation in a way that will lower the intensity of fires around structures in the Wildland Urban Interface (WUI) and prevent the ignition of structures and other values.



The Columbia Valley Circa 1922.
 Credit: Mountain Legacy Project
 Location: Wilmer Bird Sanctuary



The Columbia Valley Circa 2025.
 Credit: Mountain Legacy Project
 Location: Wilmer Bird Sanctuary

Describe the topography within the neighbourhood *(ie. geographical features such as steep slopes and what direction the slope faces, the presence of ravines and gullies or is the area primarily flat)*:

The community of Columbia Ridge is situated on a mostly flat bench, approximately 50m above Columbia Lake. On the eastern edge of the community there is a steep slope running north/south of 60 to 70 degrees with several gullies running east/west cutting through it. On the north edge of the community there is the steeply sided Hardie Creek drainage. The houses on the eastern and northern flanks of the community are exposed to increased wildfire risk from this slope.

Wind exposure

No regular exposure to winds Regularly exposed to winds

Frequent severe winds

History of wildland fire:

Area with recent history of fire occurrence Area with history of fire occurrence

Area with no history of fire occurrence Unknown

Wildland Fire Hazard Assessment Form**NEIGHBOURHOOD OBSERVATIONS**

Use this section to record observations from within the neighbourhood and recommendations for action that can be included in the Neighbourhood Plan. Photos that illustrate successful hazard reduction efforts and areas that need improvement are useful and may be filed with Neighbourhood Recognition Program documents.

Remember, this is a neighbourhood-wide view and should report on the overall conditions of the entire neighbourhood. Individual home ignition zone assessments are not required for the Neighbourhood Wildland Fire Hazard Assessment.

Observations

The observation section is broken down by the characteristics of homes and the vegetation management within the home ignition zones and common areas. Mark the appropriate box for each category that best represents the conditions within the neighbourhood.

Immediate Zone

This zone includes the exterior of the structure and a non-combustible area that extends 0 m-1.5 m around the structure.

Homes

General building construction: Are homes made from ignition resistant building materials?

Roofing Materials

Fire-rated: Good condition roof materials (metal, clay, asphalt shingles).

Non-fire rated: Unrated roof materials (wooden shake) or fire rated shingles in poor condition.

- Greater than 75% of homes have fire-rated roof materials (metal, clay, asphalt shingles) 50% to 75% of homes have fire-rated roof materials (metal, clay, asphalt shingles) 25% to 50% of homes have fire-rated roof materials (metal, clay, asphalt shingles) Less than 25% of homes have fire-rated roof materials (metal, clay, asphalt shingles)
- to 75% of homes have fire-rated roof materials (metal, clay, asphalt shingles) 25% to 50% of homes have fire-rated roof materials (metal, clay, asphalt shingles) Less than 25% of homes have fire-rated roof materials (metal, clay, asphalt shingles)
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- have fire-rated roof materials (metal, clay, asphalt shingles)

Wildland Fire Hazard Assessment Form**Gutter Type and Roof Cleanliness**

Gutter Type and leaf litter, pine needles, or debris on roof or in gutters.

- Greater than 75% of homes have non-combustible gutters, with cleaned roof and gutters
- 50% to 75% of homes have non-combustible gutters, with cleaned roof and gutters
- 25% to 50% of homes have non-combustible gutters, with cleaned roof and gutters
- Less than 25% of homes have non-combustible gutters, with cleaned roof and gutters

Vents and Openings

Vents allow air to flow in or out of buildings and can be a potential ignition source.

- Greater than 75% of homes have non-combustible, fire-rated vents with 3mm screening
- 50% to 75% of homes have non-combustible, fire-rated vents with 3mm screening
- 25% to 50% of homes have non-combustible, fire-rated vents with 3mm screening
- Less than 25% of homes have non-combustible, fire-rated vents with 3mm screening

Building Exterior or Siding

Non-combustible or ignition-resistant siding: Fibre cement, stucco, log, metal, brick/stone.
Combustible siding: Vinyl or wood.

- Greater than 75% of homes have non-combustible or ignition-resistant siding
- 50 to 75% of homes have non-combustible or ignition-resistant siding
- 25 to 50% of homes have non-combustible or ignition-resistant siding
- Less than 25% of homes have non-combustible or ignition-resistant siding

Ground-to-Siding Clearance

15 centimetre non-combustible vertical ground-to-siding clearance.

- Greater than 75% of homes have 15 cm non-combustible vertical ground-to-siding clearance
- 50% to 75% of homes have 15 cm non-combustible vertical ground-to-siding clearance
- 25% to 50% of homes have 15 cm non-combustible vertical ground-to-siding clearance
- Less than 25% of homes have 15 cm non-combustible vertical ground-to-siding clearance

Wildland Fire Hazard Assessment Form**Balcony, Deck, Porch**

Non-combustible decks feature no gaps or cracks, heavy timber, non-combustible or fire-rated construction with non-combustible surface and no combustible debris under the deck.

- Greater than 75% of homes have non-combustible deck with no combustibles under deck
- 50% to 75% of homes have non-combustible deck with no combustibles under deck
- 25% to 50% of homes have non-combustible deck with no combustibles under deck
- Less than 25% of homes have non-combustible deck with no combustibles under deck

Window Glass

Tempered or multi-pane vs single pane windows.

- Greater than 75% of homes have tempered or multi-pane windows
- 50% to 75% of homes have tempered or multi-pane windows
- 25% to 50% of homes have tempered or multi-pane windows
- Less than 25% of homes have tempered or multi-pane windows

0 m - 1.5 m from the Structure

The area up to 1.5 metres from the ground-level exterior footprint of the structure, including any attachments or extensions, must feature a non-combustible surface with no combustible debris, materials, fences, or plants present.

- Greater than 75% of homes are free of combustible debris, materials, fences, or vegetation
- 50% to 75% of homes are free of combustible debris, materials, fences, or vegetation
- 25% to 50% of homes are free of combustible debris, materials, fences, or vegetation
- Less than 25% of homes are free of combustible debris, materials, fences, or vegetation

Wildland Fire Hazard Assessment Form**Intermediate Zone**

The area 1.5 metres to 10 metres from the home must feature:

- No coniferous (evergreen) forest vegetation.
- Surface vegetation of grass less than 10 centimetres long or non-combustible surface and low flammability (deciduous) plants.
- No woodpiles and other combustible materials, stored vehicles or outbuildings not meeting FireSmart guidelines.

Greater than 75% of homes have treated Intermediate Zone

50% to 75% of homes have treated Intermediate Zone

25% to 50% of homes have treated Intermediate Zone

Less than 25% of homes have treated Intermediate Zone

Extended Zone

The area 10 metres to 30 metres from the home must feature:

- Separated coniferous (evergreen) forest vegetation (3 metres between adjacent treetops).
- Reduced surface vegetation (dead branches, long grass, needles).
- Flammable shrubs (coniferous) should be spaced out and away from coniferous trees.
- No low-lying coniferous tree branches (less than 2 metres from ground).

Greater than 75% of homes have treated Extended Zone

50% to 75% of homes have treated Extended Zone

25% to 50% of homes have treated Extended Zone

Less than 25% of homes have treated Extended Zone

Additional considerations:

The area 30 metres to 100 metres from the home is often a common/open space area or an adjacent public/private land area.

This area is often not owned by neighbourhood residents but may feature accumulated wildland fuels that can support wildfires spreading towards or through the neighbourhood.

Neighbourhood is adjacent to wildlands with accumulated fuels

Neighbourhood is not adjacent to wildlands with accumulated fuels

Wildland Fire Hazard Assessment Form**Management Plan**

Is there a management plan for the wildland fuels in the area 30 metres - 100 metres from homes and structures? If so, please describe:

The Regional District of East Kootenay (RDEK) 2011 Community Wildfire Protection Plan (CWPP) is the most applicable overarching management plan for the Columbia Ridge Area. However many of the homes in Columbia Ridge overlap with other private properties within the 30m-100m zone, in those areas homeowners rely on their neighbours for management of fuels in this zone. The homes on the North flank of the community are adjacent to a privately owned parcel along Hardie Creek, for which there is currently no management plan. Along the South flank the properties are bordered by Crown Land Parcel DL7558 which is under consideration for a Wildfire Risk Reduction (WRR) project. The area to the east between the railway and the private residences at the top of the bluffs has had some mitigation work done by the community and the plan is to continue with that work.

Additional comments or observations regarding neighbourhood conditions:

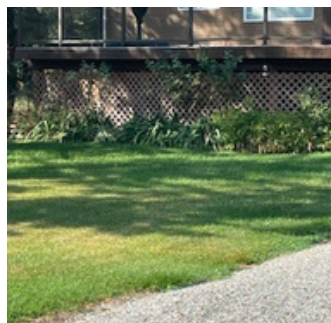
It is a widely known fact that the large majority of home ignitions during a wildfire event are caused by embers moving ahead of the fire front. This type of ignition is known as spotting, in which new "spot" fires will ignite ahead of the fire. Extensive spotting will take place about 700-800m ahead of the fire but can happen as far as 2.5km ahead of the fire. This was seen in the West Kelowna Fire of 2023 when the McDougall Creek Wildfire jumped over Okanagan Lake.

As it is impractical to create a 2.5km fuel break (or even a 7-800m one) around a community such as Columbia Ridge the homes are susceptible to this type of ignition. Given these two facts the best way for residents to protect their homes is to focus on the homes themselves and the Immediate (0-1.5m) and Intermediate (1.5-10m) zones. While the community has made significant efforts to clear vegetation in these zones there is still work to be done. As the houses themselves age it is also important to keep homeowners educated on FireSmart principles so they can make informed decisions on building materials as they undertake repairs and renovations.

Approximately 25-50% of the homes in Columbia Ridge Country Estates feature siding which is flammable or non-ignition-resistant in nature, this includes wood and vinyl siding. In addition approximately 90% of homes have decks that are either constructed of flammable materials or have flammable materials stored under or around them. Many decks feature wood lattice that extends to the ground and would allow easy ignition from ground fires or ember accumulation. Homeowners are encouraged to look critically at areas of their homes where embers may accumulate and mitigate those areas first.



An otherwise reasonably well mitigated property, the weak points are the grass within 1.5m of the home, especially where it meets the highly flammable wood lattice and the wood deck. Embers may also accumulate in the window well, or on the deck itself.



Another example of wood lattice embedded in vegetation, creating a ladder fuel for fire to impinge on the structure.

Wildland Fire Hazard Assessment Form
SUMMARY AND RECOMMENDATIONS

Use this section to summarize observations made in the Neighbourhood Wildland Fire Hazard Assessment.

Home Ignition Zone Hazard Factor Summary – Part 1

Provide a percentage number in the blank provided to summarize approximate neighbourhood FireSmart compliance for each hazard factor.

Roofing Materials (page 6):	100 %	of homes have fire-rated roof materials (metal, clay, asphalt shingles)
Gutter Type and Roof Cleanliness (page 6):	80 %	of homes have cleaned and maintain their roof and gutters
Vents and Openings (page 7)	15 %	of homes have non-combustible, fire-rated vents with 3 mm screening.
Building exterior or siding (page 7)	50 %	of homes have non-combustible or ignition resistant siding
Ground-to-siding clearance (page 7)	25 %	of homes have a 15cm non-combustible vertical ground-to-siding clearance
Balcony, deck, porch (page 8)	10 %	of homes have non-combustible deck with no combustibles under deck of homes
Multi-pane vs single pane windows (page 8)	100 %	have multi-pane windows
Immediate Zone (page 8)	10 %	of homes are free of combustible debris, materials, fences, or vegetation
Intermediate Zone (page 9)	10 %	of homes have treated Intermediate Zone
Extended Zone (page 9)	10 %	of homes have treated Extended Zone

Home Ignition Zone Hazard Factor Summary – Part 2

List issues identified and ranked as priorities for hazard mitigation as well as areas where there is high compliance with FireSmart guidelines within the neighbourhood. Emphasis should be on the FireSmart status of the homes and the Immediate and Intermediate Zones.

Buildings - All of the homes within Columbia Ridge are generally well constructed with 100 percent of the homes having Class A roofing materials and double pane windows. All homes were also observed to have been constructed with non-combustible gutters. With the presence of an abundance of Douglas Fir species adjacent to homes, attention should be paid to needle accumulation in the gutters and on roofs prior to wildfire season each year. Attention should also be paid to the existence of combustible wood siding materials where they meet a horizontal surface and are susceptible to ember accumulation. The vast majority of homes have decks constructed of combustible materials, which also have combustible furniture on them during wildfire season, education should be provided to homeowners on more resilient surfaces as their decks age and are due for replacement.

Immediate Zone - (0-1.5m) - This zone should be clear of all combustible materials including vegetation and non-vegetative materials. This includes 2nd level vegetation such as tree branches. A number of homes mostly on the southwestern corner of the community have achieved this goal, the majority of homes have undertaken some mitigation work in this zone but more remains to be done.

Intermediate Zone - (1.5-10m) - The intermediate zone should be a fire resistant area, free from materials that could easily ignite during a wildfire. Many homes have taken some measures in this area, such as pruning trees to 2m, however in many areas there are still large numbers of closely spaced stems. Property ownership starts to overlap in this zone highlighting the need for neighbours to work together to lower the wildfire risk to the entire community.



Juniper shrubs within the Immediate Zone should be removed.



High density, high flammability vegetation within the Intermediate Zone. Should be removed, or replaced with deciduous.



High density, high flammability vegetation in close proximity to propane tank. Vegetation should be removed.



High density, high flammability hedges within overlapping Intermediate Zone. Neighbours should work together to remove or mitigate.



An example of FireSmart landscaping and home choice.

Recommendations

Provide recommendations for neighbourhood activities to reduce wildland fire hazard.

The following recommendations are based on the FireSmart concept that the key to risk reduction is to break the Wildland Urban Interface (WUI) Disaster Sequence by reducing the ignitability of homes that are located in the WUI.

1. The Columbia Ridge FireSmart Committee undertake, along with the RDEK LFR, to update the FireSmart Community Plan to reflect a renewed focus on homes, the immediate and intermediate zones.
2. To continue with the work the community has already done to mitigate the wildfire risk in the common community areas, with a focus on using community clean up events to educate homeowners on steps they can take on their own properties to increase resilience.
3. Promote community awareness of and registration in the RDEK's Emergency Notification system (Voyent Alert) to facilitate early and organized evacuations during wildfires.
4. To work with the Community Association to ease restrictions on tree removal.
5. The community has installed fire hose boxes at various locations throughout the community for citizen fire suppression, as the community falls within the Fairmont Fire Department fire protection zone, it is recommended that the Community Association review this policy in terms of liability, legality and proper training with their utility provider.
6. To continue to work with the RDEK LFR to advocate for Wildland Risk Reduction projects on nearby crown land parcels.

Wildland Fire Hazard Assessment Form

NEXT STEPS

The information collected during the Neighbourhood Wildland Fire Hazard Assessment process will help develop recommendations that can be applied to the neighbourhood’s FireSmart Neighbourhood Plan, which is a prioritized list of hazard reduction projects and the related investments needed to achieve them for the neighbourhood. The FireSmart Neighbourhood Plan also highlights suggested homeowner actions and education activities – called FireSmart Events - that participants will strive to complete – generally one event per year, over a period of multiple years. FireSmart Neighbourhood Plans should be updated at least every three years. Neighbourhood Wildland Fire Hazard Assessment recommendations may address other neighbourhood/ fire safety issues such as:

- Ingress/egress routes
- Street signs and address numbers
- Location of fire service and capabilities
- Water supply for fire service response - hydrant locations , and reliable and accessible water sources for drafting, etc.

The local fire department can help in determining what other safety issues should be addressed.

Assessment Participants

List the principal participants who assisted in the development of this document. This will be the Local FireSmart Representative, the Neighbourhood Champion or Committee members, local Fire Chief etc.

Name	Role/Organization	Phone	Email	Date
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