



# Downtown One



## Neighbourhood Assessment Report



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# Downtown One



## NEIGHBOURHOOD ASSESSMENT REPORT

### 1. Introduction

The FireSmart Canada Neighbourhood Recognition Program is designed to provide an effective management approach for preserving wildland living aesthetics while reducing ignition potential. This program teaches people how to live with wildfire and increase their home's chance of survival through proactive actions, while encouraging neighbours to work together to reduce losses and damage. The Neighbourhood Wildfire Hazard Assessment is an important step in the FireSmart neighbourhood recognition process. It's a tool to help neighbourhood residents understand their wildfire hazard and how to reduce it. The following report is intended as a resource to be used by residents of Downtown One for creating a FireSmart Neighbourhood Plan. The plan developed from this information should be implemented in a collaborative manner, and updated and modified as needed.

Downtown One covers the first block of Front Street from Water Street to the houses on the North side of A Ave and Centre Street. Downtown One has been named to inspire future neighbourhoods in downtown Kaslo, potentially Downtown Two and so forth.

This assessment addresses the wildfire related characteristics of Downtown One. It examines the area's exposure to wildfire as it relates to ignition potential. The assessment does not focus on specific homes; it examines the community as a whole. Information was gathered for this report during a site visit in June 2023 by RDCK Local Wildfire Mitigation Specialist Jessie Lay and Bree Lillies.

#### 1.1 Definition of the Home Ignition Zone

Downtown One is located in a wildfire environment. Wildfire will happen – exclusion is not a choice. As residents within the Wildland Urban Interface, we need to learn to live with wildfire as part of the natural environment. This means preparing ourselves, families, homes, properties, and neighbourhoods to withstand wildfire on the landscape. The variables in a wildfire scenario are when the fire will occur, and where.

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 their house. This can be accomplished by reducing the homes vulnerability against wind driven embers, direct flame contact, and radiant heat within the home ignition zone. 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 wildfires. 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, construction techniques, and limiting the amount of flammable vegetation in the four home ignition zones that surround each home - periodic maintenance of vegetation is also important.

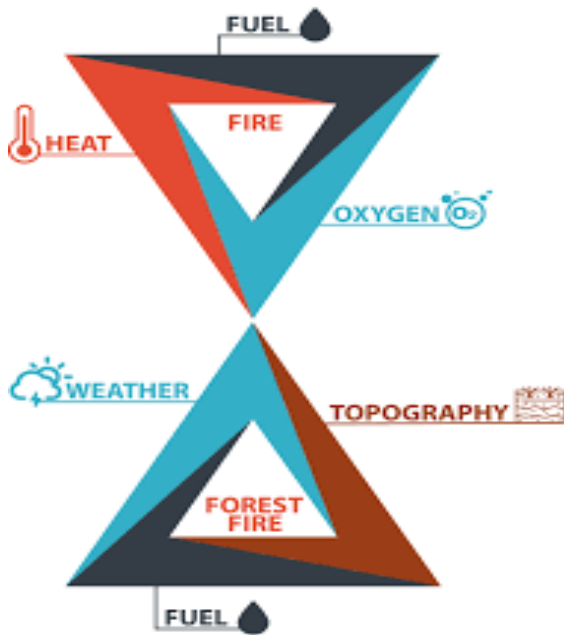


Downtown One residents can reduce the risk of structure loss during a wildfire by taking actions within their home ignition zones. This zone principally determines the potential for home ignitions during a wildland fire; it includes a house and its immediate surroundings within 100 meters. Given the extent of this zone, the ignition zones of several homes sometimes overlap and often spill over onto adjacent public or community land.

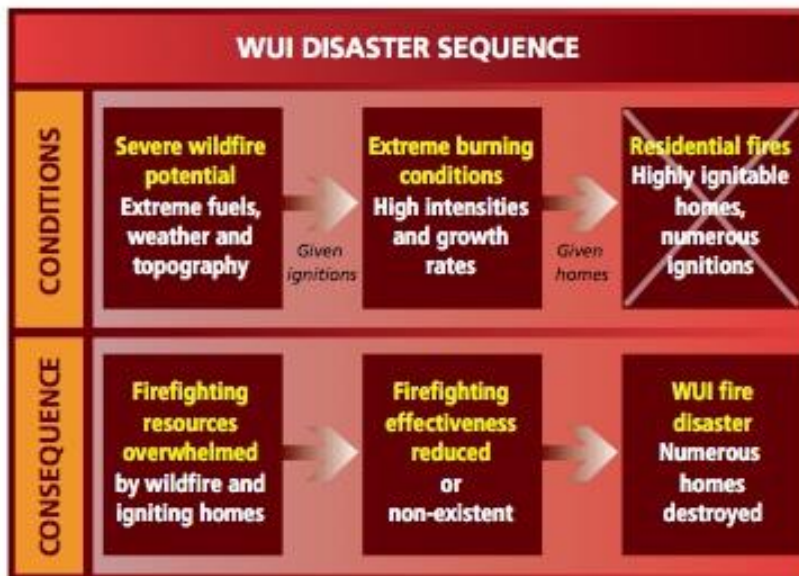
Residents will be able to substantially reduce their exposure to loss by addressing community vulnerabilities. Relatively small investments of time and effort will reap great rewards in wildfire safety.

## 1.2 Factors That Impact Hazard

Fire intensity and spread rate depend on the relationships between fuel, weather, and topography. In the wildfire urban interface we also need to remember that our homes, belongings, and landscaping can become the fuel a wildfire needs to spread. Home construction characteristics, general landscaping – vegetation types and condition, as well as housing density all play an important role.



Here we see both the fire and forest fire triangles. The only thing we can control on both are fuels. If we cut out the fuel from either triangle, fire can not sustain itself. Fuels can be in the form of forest vegetation, landscaping, or our homes.



Research has shown that Wildland Urban Interface Fires often follow the same process, resulting in disaster. We see that the only way to stop the disaster sequence is to create homes and neighbourhoods that are not susceptible to ignitions. This can be accomplished while maintaining wildland living aesthetics by focusing on eliminating the effects of embers, flame contact, and radiant heat.

## 2. Site Description

Downtown One is a neighbourhood consisting of about 41 buildings and is within the fire protection boundary for the Kaslo Fire Department and the South East Fire Center. It is located in the heart of Kaslo, which is accessed primarily by three routes: Highway 31 connects Kaslo to Trout Lake to the north, and to Balfour to the south. Highway 31A connects Kaslo to New Denver to the west. The majority of privately owned land in Downtown One consists of lots between 2, 500 square feet to 125, 000 Square Feet. All of the buildings are on the municipal water system.



*This satellite photo shows dense forest fuels and complex topography surrounding the Kaslo Fire Protection area.*

Downtown One is situated on the West shore of Kootenay Lake, below the steep forested terrain of Mount Buchanan. The most abundant fuel type surrounding Kaslo is C-5, well-stocked mature forest. Developed areas, such as this neighbourhood, are identified as non-fuel areas, as they do not fit into the classification system that is only appropriate to classify forested lands. The assignation of non-fuel should not be interpreted as areas representing low, or no hazard, as planted landscaping and other vegetation, planted and naturally regenerating on private lands may present extreme hazard.

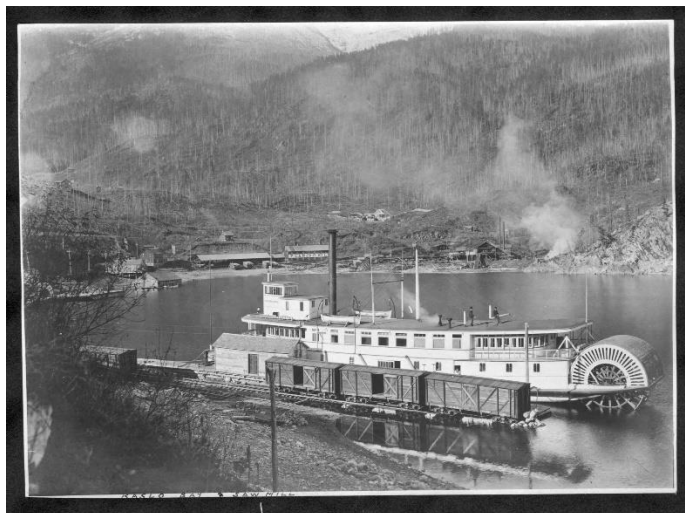




*Aftermath of the "Great Fire" on Front Street. Jan. '49*

*Aftermath of the "Great Fire" on Front Street. January 1949 exemplifies structure to structure ignition. Photo courtesy of the Porter Family.*

According to provincial maps showing wildland urban risk class, Kaslo is rated as a combination of low to moderate and high. These maps can be found and downloaded [here](#). Due to the proximity of buildings in this neighbourhood, mitigating structure to structure ignition will be key in building resilience to wildfire. Your local Community Wildfire Protection Plan (CWPP) details historic records, hazards, recommendations, and potential treatments, it can be found on the RDCK website [here](#).

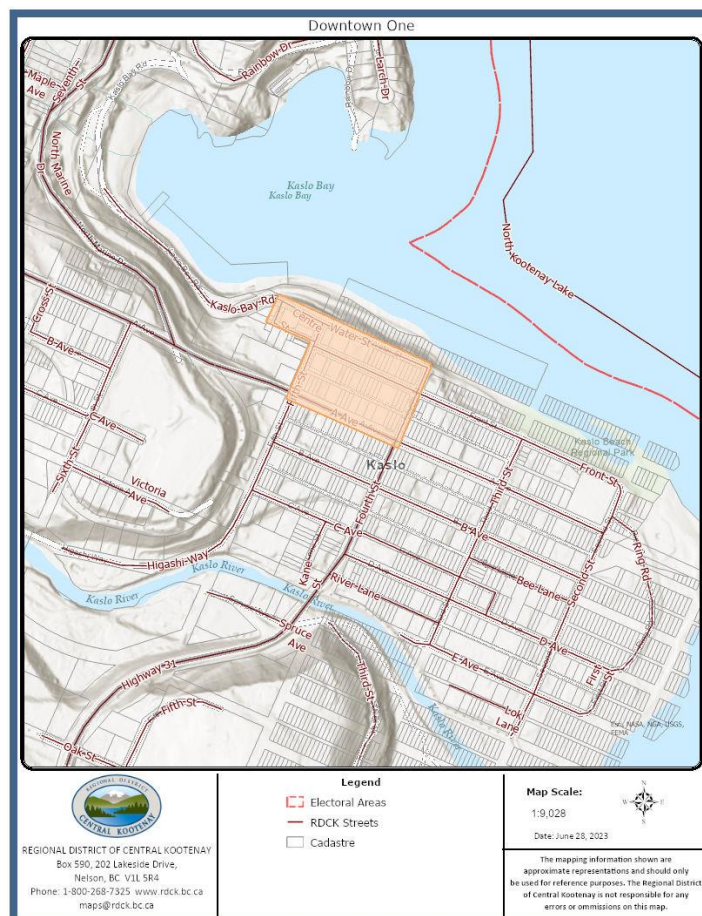


*Historic photo of wildfire event in Kaslo's past taken from Front street looking towards the Kaslo Bay.*

### 3. Assessment Process

The site assessment was conducted on June 12, 2023. Downtown One was assessed using the Neighbourhood Wildfire Hazard Assessment Form. Access and egress into the community, utilities, and fire suppression capabilities from both a homeowner and fire department perspective were also assessed. All the data was then compiled to create this FireSmart Neighbourhood Assessment Report.

Residents are reminded that the recommendations found in this report are meant to be achievable for homeowners. This assessment focuses on the Home Ignition Zone (within 100m around homes) on Downtown One. Larger landscape level and emergency preparedness recommendations are addressed via the Area D/Kaslo CWPP. The FireSmart Committee is encouraged to read the local CWPP and work with government and other organizations in regards to these solutions.



*The orange shaded area shows area of focus. 41 buildings were assessed from the roadside to gather data in order to show trends in strengths/weaknesses of the structures in Downtown One.*



## 4. Observations and Issues

For a full overview of the hazards that affect wildfire risk in your community, please see the Assessment Summary in Appendix B. During the Downtown One Wildfire Hazard Assessment the following issues were identified:

### 4.1 Walls

44% of homes have combustible siding. This is acceptable, however extra steps need to be taken to properly protect this siding from flame and embers.



### 4.2 Nearby Combustibles

59% of the homes have significant vulnerable features nearby like an unmitigated deck, outbuilding, or combustible items such as firewood, bark mulch, and patio furniture. These features can easily ignite from embers, then pose a serious risk for home ignition through direct flame contact or radiant heat.



### 4.3 Ember Accumulators

66% of the residences have significant combustible areas that are likely to collect embers during a nearby wildfire event. These can include anywhere a combustible vertical surface forms a corner with a horizontal one, like a wooden fence, nearby combustibles, or gaps and cracks in siding.



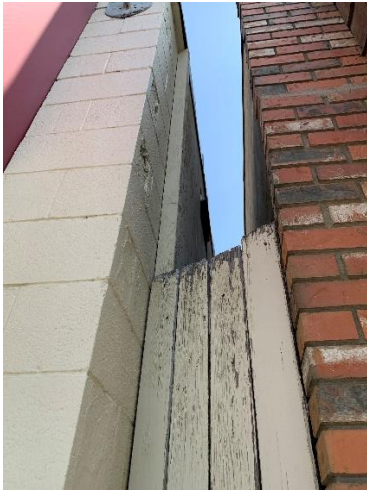
### 4.4 Zone 1

Few buildings have combustible vegetation within 10m of the primary structure, however due to the close proximity of the neighbourhood these are a priority due to the risk of structure to structure ignition. These include cedar hedges, junipers, conifer trees, tall grass, and certain types of deciduous plants with waxy leaves.



#### 4.5 Zone 2/3

Most of the properties are close together and consequently Zone 2/3 is largely comprised of neighbouring structures and built fuels.



#### 4.6 Surrounding Forest & Topography

Many areas are dominated by tight growing stands of immature conifers and a large quantity of standing dead stems and dead downed woody fuel. This fuel type has the potential to create a very intense and fast moving wildfire.



#### 4.7 Access/Egress

The Downtown One neighbourhood has three escape routes: Highway 31 South towards Nelson, A Avenue to Highway 31N towards Meadow Creek, and Highway 31A towards New Denver.

#### 4.8 Address Markers

There are some homes on Downtown One that have hard to read or no displayed address markers. This could make evacuation and emergency response more difficult for Kaslo Fire Department, the RCMP, BCAS, and Search and Rescue.

## **5. Recommendations**

The FireSmart Canada Neighbourhood Recognition Program seeks to create a substantial 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.

This section of the report provides recommendations for consideration by the FireSmart Board concerning wildfire safety issues that were identified as priorities on Downtown One during the assessment. These recommendations can be implemented through FireSmart Neighbourhood Events. They could be held in the form of education days, or community work events that focus on one recommendation, for example, the removal of surface fuels within 10m of the home. Events could further be supported by local government, fire officials, private contractors, and through grants from organizations such as the Columbia Basin Trust. There are lots of great examples of what other neighbourhoods have accomplished in our RDCK FireSmart Neighbourhood Success Stories.

### **5.1 Community education and FireSmart practices around the home**

Proper attention to the home ignition zone is what prevents structure loss in a wildfire. You can reduce loss 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. Community education and discussion should first focus on these principles close to homes. The more homeowners who implement proper FireSmart practices, the safer the community will be as a whole. Community leaders should encourage as many home owners as possible to get personalized recommendations from local Wildfire Mitigation Specialists.

The Downtown One neighbourhood is unique given the proximity of buildings which makes education and collaboration even more important. In addition, this neighbourhood is visited by everyone that lives in and that visits Kaslo so the positive impacts of FireSmart work and education can reach far beyond the immediate neighbourhood.

**Around each home, homeowners should pay special attention to the following:**

**5.1.1 – Ember Accumulators**

Embers, or Fire Brands are the #1 ignition source for structures. Mitigate ember accumulator features by enclosing open foundations and solid surface deck areas. Ensure regular cleaning under planked decks with cracks through which embers can fall and ignite flammable material below. Enclose soffits and open eaves. Screen vents with a minimum 3mm metal screen. Remove stored flammable items from under decks or stairs and against the structure.

**5.1.2 - Nearby Combustibles**

Keep firewood, combustible building materials, and flammable items more than 10m from the home. Research indicates that neighbouring structures are a significant potential ignition source due to radiant heat exposure, longer burning times, and the additional effect of firebrand production from burning structures. All outbuildings/detached accessory structures that are within the 10m zone must be mitigated to the same standard as the primary structure to ensure resilience against wildfire.

**5.1.3 - Priority Zone 1 (0 -10m)**

Remove or modify fuels within the 10m zone. Trees left within Zone 1 should be well spaced and limbed to above the roofline of the building. Any accumulation of combustible surface debris will help spread fire to the structure and should be removed. Wild grasses, unmaintained grass, and trees should be limited and all highly flammable plants like cedar hedges should be removed completely.

**5.1.4 - Priority Zone 2 (10-30m)**

Within Downtown One, collaborate on removing fuels between structures. As permission allows in surrounding areas thin coniferous trees to 3m spacing (per tree or small stand of trees), remove ladder fuels by pruning all branches to 2-3m from the ground and remove or modify combustible surface fuels.

**5.1.5 - Weather**

Weather is of great concern during wildfire season. The Kootenays receive lightning strike ignitions regularly during fire season. When fire weather is severe and the risk is high, or the home is unoccupied, homeowners should remember not to leave flammable items outside. This includes doormats and flammable patio furniture.



## 5.2 Forest Fuels Management

Forest fuel management has been proven to slow or stop wildfire before it reaches a home or community. It prevents continuous crown fires, reduces fire spread rate, and can promote a healthy forest for years to come.

Explore different avenues for small fuel treatments and funding within your neighbourhood. Other neighbourhoods have seen an improvement by hosting FireSmart neighbourhood event work parties. Some of the current avenues for funding include the RDCK, Columbia Basin Trust, and FireSmart Canada. Remember that forest fuel management close to homes is what will make the biggest impact in preventing structure loss.



*If permission can be obtained, these areas to the North West of Downtown One would be a valuable place to start forest fuel treatment. Areas like this would see an improvement in both wildfire resiliency and overall forest health. Limbing trees 2-3m high (or a maximum of a 1/3 of the tree), cleaning debris from the forest floor, and thinning out a few of the small immature trees will go a long ways towards reducing a wildfires speed and intensity.*

Forest fuel management can take on many different sizes and types. Large scale forest treatments are also being conducted across the province. This level of treatment can be important in slowing the spread of wildfire around a community. Most treatment sites will be managed by hand tools, machinery, or prescribed burns; often a combination of the three. A lot of factors go into which type of treatment will work best for specific areas. Risk within the wildland urban interface, topography, access, forest type, cost, and environmental impact all factor into the decision making process. The FireSmart board is

encouraged to explore options for all types of forest fuel management around Downtown One.

### **5.3 Emergency Preparedness**

The safety of residents in Downtown One should be the priority. Wildfires move fast and can pose a significant risk to human life. The assessment team recommends that the Downtown One FireSmart board works closely with the Kaslo Fire Department and local Wildfire Mitigation Specialists for preparedness and to ultimately mitigate the wildfire risk. We encourage our FireSmart Neighbourhood teams to adopt the Neighbourhood Emergency Preparedness Program to have a plan for when any emergency happens.

#### **5.3.1 - Evacuation Planning**

Residents should work together and be informed of escape routes, safety zones, and meeting locations. Identifying an emergency Safety zone close to home would be of high importance for residents with limited egress options. Each home should create an evacuation plan including a last minute checklist, items to bring, who to contact, where to meet, and all the necessary planning for their pets. Livestock owners are encouraged to attend a BC Farm and Ranch Wildfire Preparedness Workshop. Residents can sign up for the [RDCK Emergency Notification System](#)

#### **5.3.2 - Address Markers**

Address markers allow emergency personnel to quickly locate victims and threatened structures. Any delay for emergency services can have life threatening implications. The FireSmart board should promote the installation of clearly visible, non-combustible address markers. This can be achieved through public education.

#### **5.3.3 - Neighbourhood Emergency Preparedness Program (NEPP)**

The Neighbourhood Emergency Preparedness Program (NEPP) is a program that is intended to support neighbours to reach out and build resiliency within their neighbourhood. During a disaster your neighbours will be your most reliable and immediate source of help, until assistance from first responders arrives. NEPP is built for self-sufficiency. It is a program that provides the tools you need to expand from being personally prepared to develop an emergency plan that works for you and your neighbours to support each other. For more information on NEPP, go to the [RDCK website](#) to download the NEPP Handbook.

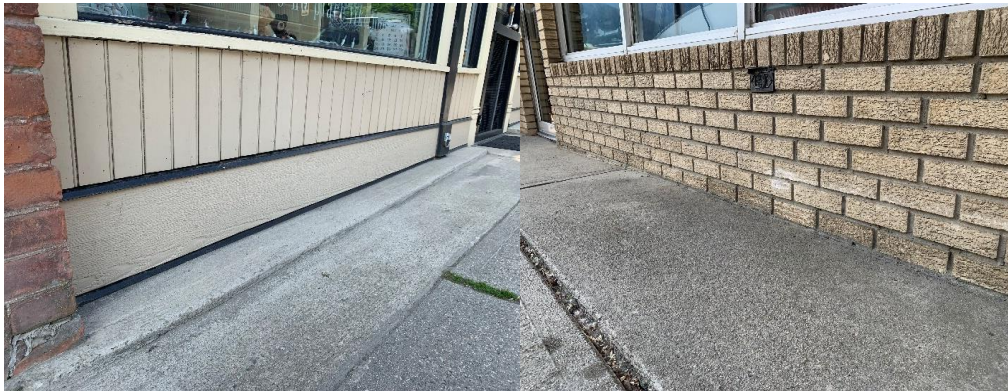
## 6. Successful FireSmart Mitigations

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. Please see our RDCK FireSmart Neighbourhood Success Stories, it will provide some ideas and inspiration from other FireSmart neighbourhoods around the RDCK.

**The following photographs are examples of good FireSmart practices:**



*Example of noncombustible zone between two close structures*



*These are excellent examples of 15cm of non-combustible material at the base of walls and of creating a non-combustible space around the building.*



Some more examples of successful FireSmart mitigations:



*A home surrounded by coniferous trees, but with good FireSmart practices, can survive.*



*This photo shows the long term value of forest fuel management. The left which never got treated vs. the right side of the driveway that received fuels management years ago. The contrast in health, beauty, and resiliency of the forest is easy to see.*

## 6.1 A Case Study: Ermine Crescent, Fort McMurray

In 2008-2009 FireSmart fuel mitigation work was performed in the wooded area surrounding Ermine Crescent in Fort McMurray. The forest was cleared for 5m from the houses and then thinned, limbed, and understory reduced for the next 30m. Several of the residents showed up at a public meeting to object to the FireSmart work.



When Fort McMurray was ravaged by wildfire in 2016, after the smoke cleared, and amongst the devastation of 2400 structures lost to the fire; Ermine Crescent remained standing. As seen in the satellite photo above, the fire approached the community, but was slowed, and eventually stopped by the FireSmart treatment in the forest surrounding the neighbourhood. Eventually, the residents of the community were able to return to their homes, which were untouched by the fire, thanks mostly to the FireSmart treatments in the surrounding forest.



## 7. Next Steps

After reviewing the contents of this assessment and its recommendations, the Downtown One FireSmart Committee, will determine whether it wishes to continue seeking FireSmart Neighbourhood Recognition Status. The FireSmart Committee should inform RDCK Wildfire Mitigation staff when their decision has been made. Assuming Downtown One seeks to pursue national recognition as a FireSmart Neighbourhood, it will continue to work with their local Wildfire Mitigation Specialist to complete the following steps:

- 1) **Establish and maintain a local FireSmart Committee** – This committee facilitates the FireSmart neighbourhood program and applies for recognition status.
- 2) **Create a written [FireSmart Plan](#)** - This is meant to be achievable and based on neighbourhood needs following the recommendations in this report.
- 3) **Implement solutions** – From the FireSmart Plan, often in the form of a neighbourhood event. Work parties, info sessions, BBQ's, and contracted labour are common.
- 4) **Apply for recognition** – After tracking [volunteer hours](#) and [resources](#) throughout the year, there is a one page [application](#) to complete and send to FireSmart Canada.



**Jessie Lay** - RDCK Wildfire Mitigation Specialist - June 22, 2023

**Bree Lillies** - RDCK Wildfire Mitigation Specialist - June 22, 2023

1-(250) 352-1539 Email: [firesmart@rdck.bc.ca](mailto:firesmart@rdck.bc.ca)

# Helpful Links

- [FireSmart BC's](#) website has more information on becoming a recognized neighbourhood
- Use the [Volunteer Hour Tracking Form](#) as well as the [Resource Tracking Form](#) to record any time/money spent each year
- Use this [Application Form](#) in the fall to apply to become a recognized neighbourhood
- Our RDCK FireSmart Neighbourhood Success Stories will provide some ideas and inspiration from other FireSmart neighbourhoods around the RDCK
- The RDCK [Neighbourhood Emergency Preparedness Program](#) (NEPP) is designed to help neighbourhoods create a plan for any emergency, not just wildfire
- Residents can sign up for the [RDCK Emergency Notification System](#)
- You're local Community Wildfire Protection Plan (CWPP) details historic records, hazards, recommendations, and potential treatments, it can be found on the RDCK website [here](#)

## **Home Partners Program (individual FireSmart home assessments)**

- FireSmart Home Assessment [Application Page](#)
- Rebate Program [Application and Work Hours Estimate Form](#)

## **Potential Funding**

- [RDCK FireSmart Champion Grant](#) and [Grant Guidelines](#)
- [FireSmart Canada – Wildfire Community Preparedness Day](#)
- [Columbia Basin Trust – Wildfire Resiliency Initiative](#)

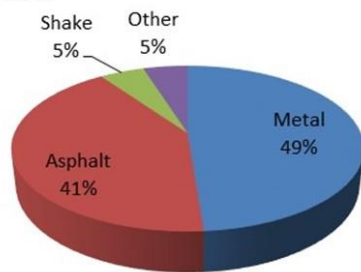
## Appendix B – Assessment Overview

FireSmart Canada Neighbourhood Recognition Program Assessment Overview

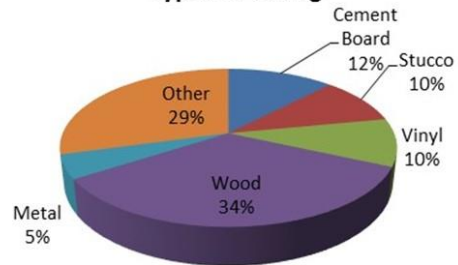
Neighbourhood: **Downtown One** Number of Homes Assessed: **41**

### Building Exteriors

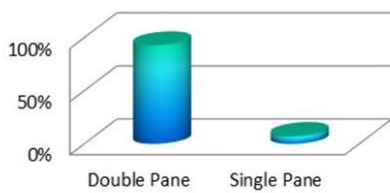
**Roof Materials**



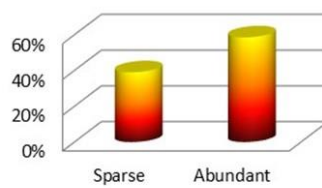
**Types of Siding**



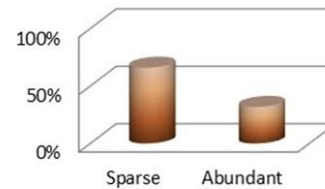
**Window Glazing**



**Ember Accumulators**



**Nearby Combustibles**



### Zone 1 Vegetation (0-10 m from home)

