

CHAPTER 7 – DEVELOPMENT PERMIT AREAS

The *Local Government Act* permits local governments to create development permit (DP) areas and associated guidelines to regulate land development in order to realize the goals, objectives, and policies contained within the Official Community Plan. This chapter begins by outlining the “Cariboo Theme” and general development permit guidelines for DP areas 1, 2 and 3. The chapter then continues to distinguish between the DP areas 1, 2 and 3 as well as outline the Fire Interface DP area. The City of Williams Lake has established the following four Development Permit Areas:

Table 7.1: Development Permit Areas

No.	Development Permit Area (DPA) Name	<i>Local Government Act</i> Section <u>919.1(1)</u> and Purpose of Development Permit Area
1	Downtown	(a) Protection of the natural environment, its ecosystems and biological diversity. (d) Revitalization of an area in which a commercial use is permitted.
2	Highway Corridor	(e) Establishment of objectives for the form and character of intensive residential development. (f) Establishment of objectives for the form and character of commercial, industrial, or multiple family residential developments.
3	Neighbourhood Nodes	(h) Establishment of objectives to promote energy conservation. (i) Establishment of objectives to promote water conservation. (j) Establishment of objectives to promote the reduction of greenhouse gas emissions.
4	Wildfire Interface	(a) Protection of development from hazardous conditions

Where land is subject to more than one DPA designation, a single development permit is required. The development permit application will, however, be subject to the requirements of all applicable DPAs.

Development permit areas are presented on [Map 5](#) - Development Permit Areas Map and [Map 6](#) – Fire Interface Development Permit Area Map form part of this Plan as shown on the following pages:

7.1 CARIBOO THEME

Williams Lake's history is predominantly centered on the ranching industry which, over the past 150 years, has created numerous colourful stories. Forestry and mining have also had a huge impact in area development. This history began to emerge as character in the building form in Williams Lake as early as the 1930's with the construction of the western style Delainey's building still found on Oliver Street today. This type of façade treatment and Williams Lake character is recently taking a comeback. The past *Official Community Plan* encouraged the use of natural materials such as wood, river rock, and stones that help to build that Cariboo character in our downtown core and in the community in general.

By defining the "Cariboo Theme" and providing some examples it is the hope that this Cariboo character will continue to be developed through renovations, upgrades and new construction. The community has expressed interest in a unified design or façade program for the entire city, this section attempts to begin to define this through current examples. This theme could help to promote and attract high quality development, while demonstrating leadership for the city and the entire Cariboo region.

Below are images and examples of retrofits and developments that attempt to demonstrate this "Cariboo Theme" referenced in the Development Permit Areas to follow:



Image above: Dr Wassenaar Office on Barnard Street



Image above: Laser Clinic on Borland Street



*Image on the left:
Williams Lake Museum
on Third Ave North*



Image above: Walmart on Prosperity Drive



Image above: Eagle's Nest on Third Ave South



Image above: Cariboo Growers, BIA, and Community Policing on Oliver and Third Ave



Image above: Tourism Discovery Centre on Broadway Ave South and Hwy 97 S



Image above: Bull Rider at entrance to Downtown Hwy 20 & Hwy 97

7.2 GENERAL DEVELOPMENT PERMIT GUIDELINES FOR DP AREAS 1,2 AND 3

7.2 Purpose

These guidelines have been modified from the previous Official Community Plan in that they include guidelines that are somewhat general in nature and are intended to support the goals and objectives contained within Chapter 4 “General Policy Areas.” This plan continues to support the consideration of proceeding with a design process to develop a façade program and more detailed guidelines for the downtown. Although the guidelines are general, they are intended to encourage building façade and large signage design, good site design, lighting, parking design, landscaping, accessibility and sustainable building design. These general Development Permit guidelines for DP Areas 1, 2 and 3 aims to ensure a high quality public realm that respects the City’s unique heritage, cultural and community identity, while enhancing pedestrian activity, cycling and transit access, safety, comfort and sustainability.

Development permit guidelines apply to all commercial, industrial, mixed use buildings and any residential buildings with more than 3 dwelling units.

A development permit is NOT required for:

- a. Any residential building containing 3 or less dwelling units.
- b. The following minor alterations:
 - i. Interior renovations;
 - ii. Exterior maintenance requiring only the repair or replacement of existing surface materials and colors;
 - iii. Changes to plant material in established landscaped areas; and
 - iv. An alteration which is limited to the addition, replacement or alteration of doors, windows, building trim or roofs.
- c. Additions or alterations where building permit values total \$30,000 or less, or construction does not exceed 47m² building footprint area.

7.2 General Guidelines

Development Permits issued in the City of Williams Lake should be in accordance with the following guidelines described below:

1. *Building Form and Character;*
2. *Site Planning;*
3. *Lighting;*
4. *Signage;*
5. *Screening and Landscaping;*
6. *Accessibility and Adaptability; and*
7. *Sustainable Building and Infrastructure Design.*

These guidelines are described in the following sections.

DP - Building Form and Character

DP.1 Building design elements, details, and materials should create a well-proportioned, human-scaled, and unified building form, and exhibit an overall architectural concept that responds to the established “Cariboo Theme” and according to the following guidelines:

- a. Appropriate roofing materials, including but not limited to, wood simulated products, natural colour asphalt shingles and metals.
- b. Buildings should incorporate a range of architectural features and design details into their facades.
- c. Examples of architectural details include:
 - i. Treatment of masonry, such as ceramic tile inlay, river stones, paving stones, etc.;
 - ii. Treatment of siding, for example the use of different materials or patterning to distinguish between different floors;
 - iii. Articulation of log columns and a variety of wood accents;
 - iv. Ornaments, sculpture, and art work;
 - v. Architectural lighting;
 - vi. Detailed grills and railings;
 - vii. Substantial natural trim details and mouldings that help define doors and windows in a building; and
 - viii. A wooden trellis or arbour.

- d. In general, new buildings should incorporate natural building materials into their façade. Preferred cladding materials include wood siding or shingles, and stone. Flat concrete wall finishes, concrete block, stucco, vinyl, or plastic cladding materials are strongly discouraged;
- e. The use of a variety of wood and earth-tone colours is encouraged. Bright colours are acceptable as accents such as trim and special features such as doorways;
- f. Individual ground floor entries for both residential and commercial buildings should be weather protected to provide comfort for pedestrians and strengthen building identity. The weather proofing must be a minimum of 9 feet 6 inches above the sidewalk grade to allow City maintenance equipment to pass by;
- g. Building sidewalls should be designed to be attractive and interesting when viewed from adjacent buildings, street, and sidewalks through the use of materials, textures, articulation, murals and windows in combination with growing and or mature plant material. Long expanses of blank walls facing the roadway should be avoided;
- h. In general, the roof line or top of the building structure should be clearly distinguished from its façade walls;

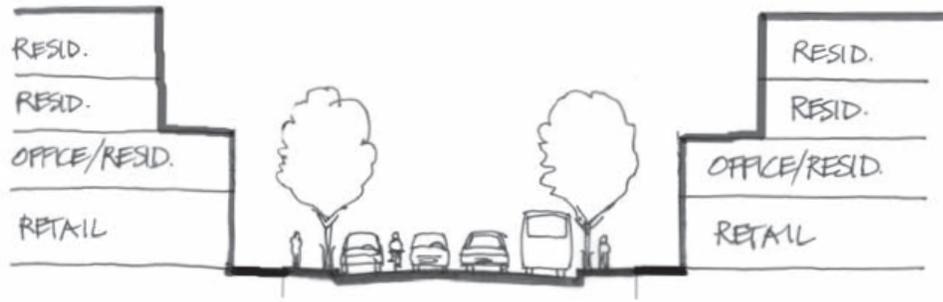
DP - Site Planning

DP.2 New development should respond sensitively to existing or planned adjacent development and be well-integrated within the neighbourhood according to the following guidelines:

- a. Maintain and enhance buildings, landmarks, public art, and landscapes that contribute to the cultural and heritage character of the area.
- b. All new development should be encouraged to continue the streetscape and common building plane along commercial streets, with access at grade and required parking in the rear of the parcel.

DP.3 The scale and visual mass of buildings should be broken up to reduce the visual impact of buildings and to create variation and visual interest according to the following guidelines:

- a. Permit a maximum two-storey street interface with one or two upper storey setbacks, as shown below, in order to provide a strong street presence, but not overwhelm the user;



Source: City of Surrey

b. Buildings shall preserve or enhance the views of the surrounding landscape.

DP.4 Site servicing, utilities, car parking and access, should be located and designed to maximize pedestrian safety and minimize impacts on the attractiveness of the pedestrian environment and adjacent properties according to the following guidelines:

- a. “Back of house” activities should not be located at the front of buildings. “Back of house” activities include but are not limited to the following:
 - i. Off-street surface parking and access.
 - ii. Access to areas for garbage and recycling storage and collection.
 - iii. Loading areas, vents, meters and transformers.
- b. Storage facilities for garbage, waste, and recyclables shall be constructed so that they are secured and out of sight.

DP.5 Apply the following guidelines respecting parking and outdoor storage:

- a. Parking and outdoor storage should be at the side or rear of a building and screened from well used streets and public spaces where possible.
- b. Shared parking and shared storage facilities are encouraged.
- c. Parking areas shall not be surfaced with gravel or dirt, and such areas shall be resistant to wear from vehicles and pedestrians.

DP.6 The principles of Crime Prevention Through Environmental Design (C.P.T.E.D.) should be considered in all new developments and amenity design that promotes personal safety, visibility, accessibility, and access to emergency service, in conjunction with other agencies.

DP - Signage

DP.7 All signs should be architecturally coordinated with the overall “Cariboo Theme” while complementing the design of buildings and landscaping. Multi-unit buildings should have unit signs of compatible size, arrangement and character.

- DP.8** Signage should adhere to the following guidelines:
- All entrance ways should provide visible signage identifying building address.
 - Commercial buildings should provide signage that identifies uses and shops clearly.
 - Awning signs, and signs-as-awnings, are discouraged.
 - Flush mounted fascia signs are encouraged. Hanging signs perpendicular to the building façade are also encouraged.
 - Rooftop signs and flashing signs are discouraged.

DP - Outdoor Lighting

DP.9 Pedestrian-scaled lighting should be provided and follow these guidelines:

- Paths, parking areas and entry areas should be sufficiently lighted to ensure pedestrian comfort and security.
- All exterior lights shall follow ‘dark sky principles’, being directed and/or shielded to illuminate the ground only, and not contributing to light pollution or shining into neighbouring buildings.
- Efforts should be taken to avoid light encroachment on neighbouring properties.
- Energy-efficient lighting should be strongly encouraged in all developments.



Directional Public Lighting

DP - Screening and Landscaping

DP.10 New developments should incorporate a combination of landscaping materials to enhance and integrate new projects into the surrounding landscape and to improve the experience and overall livability of residents and users of new developments. Depending on the size of the development the City may require a landscape plan certified by a member of the British Columbia Society of Landscape Architects. However, new development should seek to incorporate landscaping and screening according to the following guidelines:

- The site should be provided with a landscaped strip composed of shrubs,

trees, grass, earth berms, other vegetation, or a combination of these along the property edge next to roadways and between parking areas and buildings.

- b. New development should minimize the removal of existing significant trees and other vegetation. Where tree or vegetation removal is necessary, they should be replaced with new trees and vegetation that is native or distinctive and is representative of the existing spacing of street trees.
- c. Landscaping should incorporate and emphasize native landscape materials and the use of drought resistant plants to reduce irrigation needs. The principles of "Xeriscaping" are helpful for encouraging such landscaping. Schedule A of this OCP shows a list of municipally approved Water Wise plants for the region.
- d. Support service structures and facilities such as loading bays, refuse containers and storage areas, should be located to minimize visibility from public areas and screened with walls, fencing, hedging, planting, other screening materials or a combination of these materials.
- e. Parking areas in excess of 10 spaces should be broken into smaller groups, divided by landscaping strips.
- f. The planting of one tree for every 6 parking spaces should be used as a benchmark for commercial developments that require more than 20 parking spaces.
- g. Effective transitions between Industrial/Service Commercial areas and adjacent residential properties should be provided by a combination of the following methods:
 - i. Fencing, where appropriate (C.P.T.E.D.) combined with dense naturalized shrubbery or hedges;
 - ii. Landscaped earth berms;
 - iii. Where appropriate (C.P.T.E.D.) dense shrubbery or hedges capable of screening adjacent properties; and
 - iv. Trees that can grow to sufficient height to screen the commercial use from a three-storey multiple family dwelling.
- h. Space for gardening and the use of edible plants is strongly encouraged.
- i. Parking lots should be heavily landscaped for comfort and visual interest and to minimize heat gain caused by large contiguous paved surfaces. Rain gardens, bioswales, and permeable materials are strongly encouraged to absorb storm water runoff and reduce irrigation needs.

DP - Accessibility and Adaptability

- DP.11** Public streets, sidewalks, and open spaces should be accessible, safe, comfortable and attractive to pedestrian activity alongside a development according to the following guidelines:
- a. Pedestrian areas shall be level, smooth, and non-slip surfaced.
 - b. Public streetscape amenities including benches, public art, planters, waste receptacles, and bike racks with a high quality of design should be provided.
- DP.12** A portion of residential units in each development shall be designed using Universal Design Principles to accommodate owners, tenants, or visitors with accessibility challenges such as mobility, sensory, or cognitive disabilities.
- DP.13** Commercial units shall have barrier-free entrances and good interior circulation.
- DP.14** Building design that allows for future adaptation or “age in place” unit configuration and use is highly encouraged.

DP - Sustainable Building and Infrastructure Design

- DP.15** Encourage the use of green-building guidelines and rating systems such as BuiltGreen¹ and LEED² or equivalent for new construction to encourage more energy efficient buildings, water efficient fixtures and appliances, grey-water capture and storage infrastructure, sustainable building materials, and products that do not contain potentially harmful emissions.
- DP.16** Encourage the use of water capture and storage facilities throughout the city.
- DP.17** Explore tools for incorporating energy efficiency and renewable, low-impact energy sources through new development, major renovations and expansions of existing buildings.
- DP.18** Promote multi-unit buildings with shared walls and high efficiency heating and cooling systems that reduce energy losses and energy consumption.
- DP.19** Encourage buildings that are hydronically (hot water) heated in areas that have potential for future district energy systems, such as new major development sites, near major institutions, and the City Centre.

¹ <http://www.builtgreencanada.ca/>

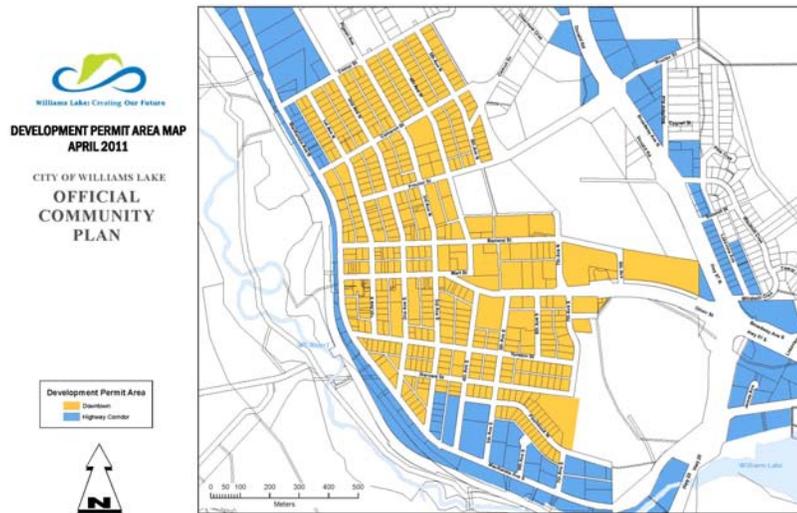
² The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.

7.3 DEVELOPMENT PERMIT AREA NO. 1: DOWNTOWN

7.3 Purpose

The overall purpose of the Downtown Development Permit Area is to create a vibrant, distinct and welcoming downtown for community gatherings, social interactions, and a place where businesses flourish and residents and visitors can meet their daily needs. The downtown is also intended as a place of dwelling for many city residents and is the place that serves as the community's hub.

Through the Imagine Our Future process the community expressed a strong desire for a lively downtown that is safe, convenient, connected, vibrant, sustainable, and celebrates its cultural and historical character. A revised Development Permit Area for the downtown will help realize this desire by providing guidelines for commercial and residential development.



7.3 – DPDT - Specific Guidelines for the Downtown

In addition to the General Guidelines development permits issued in the downtown should be in accordance with the following guidelines described below:

- DPDT.1** Corner lots should be developed in a way that opens the building and sidewalk up to the public view. Corner properties should focus the development so that there are three sides to the development, not just two.



Corner of 2nd Ave and Oliver Street

- DPDT.2** New developments should incorporate the planting of street trees at intervals consistent with the neighbourhood character or one every 20 metres.
- DPDT.3** Commercial buildings should provide signage that identifies uses and shops clearly and are scaled to the pedestrian rather than vehicle.
- DPDT.4** Large-format retail units shall minimize their street frontage by setting most of the floor area at the rear of the building and behind other smaller retail units;

7.4 DEVELOPMENT PERMIT AREA NO. 2: HIGHWAY CORRIDOR AREA

7.4 Purpose

The purpose of this Development Permit Area is to encourage a high standard of site design, building form and landscaping to improve the appearance of development within the highway corridor and lands along Mackenzie Ave.

The highway corridors and Mackenzie Ave serve as the principal transportation corridors through the community and are major contributors to the image of the area. Residents are concerned about aesthetics and safety along the highways, particularly in areas developed for commercial and industrial purposes. The City would like to improve the image of the Highway Commercial corridor as an attractive route through the community, while also improving the aesthetics of industrial and service commercial lands in order to enhance the community and attract new businesses and visitors.

7.4 – DPHC - Specific Guidelines for the Highway Corridor

In addition to the General Guidelines permits issued along the Highway Corridor should be in accordance with the following guidelines described below:

- DPHC.1** Apply the following guidelines respecting access and egress from a new development:
- a. Access and egress to the highway and other public roadways should be provided from local roads in locations which are safe and approved by the Ministry responsible for highways. Direct access from the highway shall be avoided wherever possible.
 - b. Pedestrian routes should be clearly defined by means of separate walkways, sidewalks or paths in order to encourage and accommodate safe pedestrian access on and off-site. Where public sidewalks, pedestrian routes and crosswalks exist, the on-site walkways should tie in with these.
- DPHC.2** For major highway commercial developments with large land area requirements, a

landscape plan certified by a member of the British Columbia Society of Landscape Architects will be required.

DPHC.3 Ensure that highway commercial development with large parking areas makes appropriate use of landscaping materials to soften the look of parking along the highway corridor.

7.5 DEVELOPMENT PERMIT AREA NO. 3: NEIGHBOURHOOD NODES

7.5 Purpose

The purpose of this Development Permit Area is to encourage a high standard of site design, building form and landscaping to encourage mixed use developments and improve the appearance of development within the identified Neighbourhood Centres as follows:

- Glendale strip mall and area;
- Corner of Midnight and Western Ave;
- McKinnon Street between 9th Ave and 11th Ave; and
- Westridge subdivision.

Neighbourhood Centres are intended to provide for a designated area to have increased development that could be recognized as the heart of a distinct neighbourhood within Williams Lake. This type of centre could support multifamily housing and a range of basic commercial services with places for people to meet and find some basic services such as hair studios, movie rentals, etc. Residents are concerned about aesthetics of these types of areas. The City would like to improve the image and attractiveness of these neighbourhood centres and create attractive neighbourhood gathering places throughout the community.

7.6 DEVELOPMENT PERMIT AREA NO. 4: WILDFIRE INTERFACE AREA

7.6 Purpose

The objective of the Fire Hazard Development Permit Area is to ensure that development takes place in a manner which respects the risks inherent within forested communities and that minimizes risk of damage to person and/or property.

The Design Guidelines listed below will be used in reviewing Development Permit applications. It is important that construction within the development permit wildfire interface area designated in the *Official Community Plan* show consideration of these guidelines. While these guidelines directly apply only to a fire hazard zone derived from fire classes Extreme, Very High and High as per the Williams Lake and Area Fire Interface Plan 2005, the recommendations for the reduction of wildfire hazard should be considerations for all home and business owners in the Williams Lake Area. Flying embers can ignite structures up to 1.5 kilometres from the fire source.

A development permit is NOT required for construction plans within the development permit wildfire interface area where:

- a. The plan is submitted for a building permit; and
- b. The plan shows compliance with the DP area No. 4 guidelines; and
- c. An undertaking is provided by the property owner understanding the affect of the DP area No. 4; and
- d. A restrictive covenant registered to the title of the property outlining this property is affected by this DP area No. 4.

Development Permits are also NOT required if any of the following apply:

- a. Where the construction, or alterations in accessory buildings or structures, is not in excess of 43 square metres, a development permit will not be required;
- b. Accessory buildings made of materials that are fire resistant to a certain standard and are of low human occupancy;
- c. After completion of an assessment pursuant to the Alternative for any Fire Interface Design Guidelines, a registered professional determines a low potential of fire hazard for the development;
- d. Any proposed structure is at least 100 metres from the forest;
- e. Land that falls in the Low and Moderate Fire Hazard rating;
- f. The property owner acknowledges wildfire risks as part of building permit application process and a Wildfire Development Permit has been previously issued, conditions

continue to be met and new construction meets the guidelines.

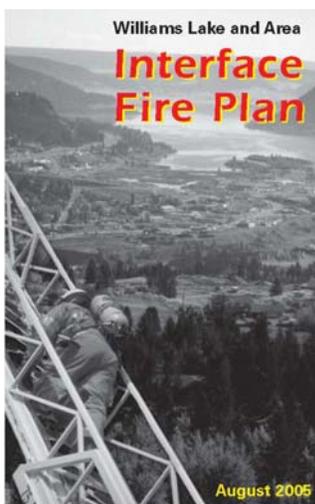
7.6 Background

An important part of reducing wildfire hazard involves modifying how structures homes are constructed near areas of forested public and private land. The accumulation of small choices such as siding material, building material, screening of soffits, screening the tops of chimneys, using non-combustible landscape mulch, and the choice of landscape plants, can add up to either saving or losing a home to wildfire.

The basis for the Guidelines is the document “FireSmart, Protecting Your Community from Wildfire” supported by the Alberta Department of Sustainable Resource Development, the British Columbia Forest Service, Natural Resources Canada, most Canadian provinces and endorsed by the report of the Province of BC “2003 Firestorm Provincial Review.”

The design guidelines do not cover all measures for wildfire hazard reduction possible, but are minimum standards that focus mainly on new home construction, large additions, and their immediate vicinity. A good source for additional information is www.for.gov.bc.ca/protect/safety/ or the “Home Owners FireSmart Manual” that can be obtained from the Ministry of Forests Wildfire Management Branch at <http://bcwildfire.ca/Prevention/firesmart.htm>

The Williams Lake and Area Interface Fire Plan was developed in 2005 with input from government, industry, utility companies and local fire officials, with a view toward determining risk areas. The mapping information was updated by the Integrated Land Management Bureau in the fall of 2009. The plan and maps identified areas in the region with risk ratings and recommended Development Permits as a method of dealing with the risk. The risk ratings were developed as a relative risk at a scale appropriate for the area of the plan, based on map data of forest type, age, topography, slope and other factors. The risk ratings were not ground-truthed, and are not intended to be interpreted at the scale of an individual property. The intent was to provide a general sense of the risk rating in the whole plan area.



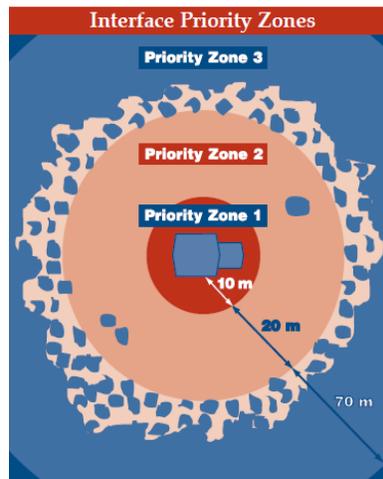
The spread of wildfire can have catastrophic consequences to human settlement. The Interface Fire Plan did provide for scales of hazard, and the policies below pertain to mitigations for the Very High and Extreme fire hazard rating, with **Schedule XX – Interface Fire Development Permit Areas** indicating these and other fire hazard class ratings. Mitigation measures that reduce the fire hazard to acceptable standards can result in lands being suitable for development. If property spans two or more fire hazard ratings, the highest rating shall prevail.

Note that the hazard assessments were derived from the 2005 Wildfire Plan and do capture that point in time. Tree harvesting,

climate change, fuel reduction, invasive pests and other factors may alter the fire hazard as circumstances change.

DPFI - Zones of Fuel Management

The design guidelines are based upon the typical Priority 1 zone of 10 metres from the building established for flat land. While these guidelines represent some minimum requirements, it is advisable to consider a larger Priority 1 zone for properties on a slope, especially on the downhill side. There are three priority areas as outlined in “Fire Smart, Protecting Your Community from Wildfire” and “Home Owners FireSmart Manual”:



Priority 1 zone is within 10 metres (30 feet) of a building and is the most critical zone. The Development Permit deals only with this area. While these design guidelines deal with the typical situation, a property owner may wish to consider widening the priority area if located on a slope, especially on the downhill side.

Priority 2 zone begins 10 metres (30 feet) from a building and extends to 30 metres (100 feet) depending upon topography. The more the land slopes, the more the zone should be extended. Radiant heat and burning embers originating from an area this close to a structure may cause it to burn. Vegetation and potential fuels in this area should be managed to reduce fire intensity and rate of spread by methods such as removing dead needles, dead wood and combustible debris from the ground, removing any tree limbs within 2 metres of the ground, and spacing trees so that no tree limb is closer than 3 metres to the next.

Priority 3 zone begins 30 metres from a building and extend to 200 metres or more. High intensity crown fires that occur in this zone may be a potential high source of burning embers. The guidelines reduce the level of the threat to structures from wildfire but do not eliminate it.

7.6 – DPFI - Guidelines

The following Design Guidelines will be used in reviewing Development Permit applications as set out in this Official Community Plan. It is important that any plan submitted for a Development Permit demonstrate consideration of the Objectives and Design Guidelines.



DPFI - Roofing

Roofs catching fire are the number one cause of building losses during a wildfire event. The roof presents a large, flat area that fire embers can land on and start a new fire. Roofing material has several classifications with Class A being the most fire resistant. Some materials that either fall within the rating system or, can be obtained informs that meet Class A, B or C requirements, include composite (asphalt and fibreglass) shingles, concrete or clay tile, metal roofing, and factory treated wood shake roofing.

DPFI.1 The roof covering shall conform to Class A, B or C fire resistance as defined in the BC Building Code.

DPFI - Exterior Wall Finishes

Second only to the roof material, siding material is the part of the building most prone to ignite in a wildfire event. The intense heat of the fire itself, fire embers, and burning vegetation at the base of the wall, can individually or all together cause the side of a building to catch fire.



DPFI.2 Any material used for exterior wall finishes should be fire resistant such as stucco, metal siding, brick, cement shingles, concrete block, poured concrete, rock and logs or heavy timbers as defined in the BC Building Code.



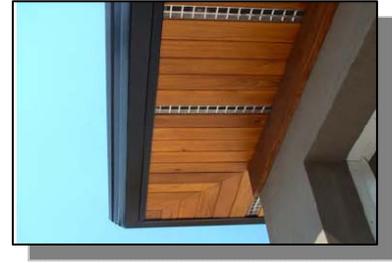
DPFI - Chimneys

Chimneys can present a serious hazard as a source of sparks that can start fires, and as a way for burning embers to enter a building.

DPFI.3 Chimneys should have spark arrestors made of 12 gauge (or better) welded or woven wire mesh with mesh openings of less than 12 millimetres.

DPFI - Eaves, Vents and Openings

Vents are important for the healthy air exchange and moisture escape required in a building. They also are ready-made accesses into a building. Unprotected eaves can allow burning embers to enter and also allow flames that are spreading up a wall to penetrate into the roof structure.



- DPFI.4** All eaves, attic and under floor openings should be screened with corrosion-resistant, minimum 3-millimetre non-combustible wire mesh.

DPFI - Windows and Glazing



Glass can be shattered by the heat of a fire and create openings for fire and burning debris to enter the building. It is highly unlikely that an interior will ignite from thermal radiation through intact glass. A single pane thickness of glass is most susceptible to collapse. The larger the pane of glass, the more likely it is to shatter.

- DPFI.5** All windows must be double paned or tempered.

DPFI - Balconies, Decks, and Porches

As with roofs, decks present a large horizontal surface for burning embers to land on and take hold. In addition, decks have an under surface that also can be a source of fuel for fires. It is important to consider the vulnerability of decks to fire from both above and below. Do not store combustible material under decks (e.g., firewood, lumber).

- DPFI.6** Decks should be constructed of heavy timber as defined in the BC Building Code, or, with 1-hour fire resistant rated assemblies or non-combustible construction as defined by the BC Building Code.
- DPFI.7** Manufactured homes should be skirted with a fire resistant material as outlined in the previous guideline for exterior wall finishes.

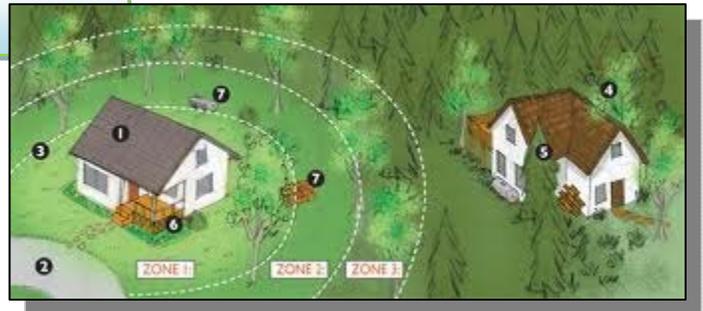
DPFI - Alternatives

- DPFI.8** To make the use and interpretation of the Guideline 7.6.3.6 easier, the following alternative is considered to be equivalent to Guideline 7.6.3.6:

- a. Balconies, decks and porches can be built with construction utilizing the following materials as a minimum equivalent to the requirements of the Wildfire Development Permit Area guidelines.
 - i. Wood columns – 6”x6” minimum nominal dimension, either solid sawn or built-up.
 - ii. Wood beams – 6”x8” minimum nominal dimension, either solid sawn or built-up.
 - iii. Exposed joists – 3”x6” minimum nominal dimension, either solid sawn or built-up.
 - iv. Joists – may be dimension lumber provided that the underside of the joists are clad with 1” lumber, ½ panel type sheathing or non-combustible finishes.
- b. As an alternative to the materials listed in 7.4.3.8 (a)(i) – Balconies, decks and porches can be enclosed from the deck floor to the grade with wood frame wall or skirting construction clad with the exterior finishes listed in Guidelines 7.4.3.2 under Exterior Wall Finishes.

DPFI - Landscaping

There are three priority zones for the modification of vegetation to reduce wildfire hazard. Priority Zone 1, the most important, is within 10 metres (30 feet) of the building. Without fuel modification in this critical area, the fire intensity and the rate of spread can make firefighting difficult or impossible. Coniferous evergreen shrubs are resinous and have a large surface area. They are an excellent fuel for fire and can be a source of flames and sparks that can enter a building. Coniferous evergreen shrubs can also be a source of heat that can burn or melt materials and shatter windows. It is important to choose plants that are less combustible and burn with less intensity. Deciduous shrubs (shrubs that lose their leaves in the winter), broad-leaved evergreen shrubs (such as bearberry, Oregon grape, cotoneaster, rhododendrons, etc.), perennials, annuals and trimmed grass are preferred.



DPFI.9 Landscaping on the property within 10 metres (Priority 1 zone) of a building shall not include coniferous evergreen shrubs such as junipers, mugo pines, or coniferous evergreen hedges.

DPFI - Coniferous Evergreen Trees

DPFI.10 No additional or new coniferous evergreen trees are to be planted within 10 metres of the building.

DPFI - Retention of Existing Coniferous Evergreen Trees

Evergreen trees contain resin, have needles that provide a lot of surface area, and are excellent fuel for fires. Close to a building, they act as a ladder that allows the fire to climb onto the building, under eaves and leap onto roofs. They can also be a source of heat that shatters windows. Deciduous trees are a safer alternative in the Priority 1 area. However, the measures outlined here somewhat limit the hazard should the choice be made to retain pre-existing evergreen trees in the Priority 1 area. White pine, ponderosa pine and western larch have a medium flammability while most other coniferous evergreens are highly flammability.

DPFI.11 It is not advisable to retain previously existing mature coniferous evergreen trees within 10 metres (Priority 1 zone) of the building. Any coniferous evergreen trees that are to be retained on the property that lie within 10 metres (Priority 1 zone) of the building must:

- a. Have limbs pruned such that they are at least 2 metres above the ground.
- b. Be spaced so that they have 3 metres between crowns. (In other words, the tips of the branches of a tree are no closer than 3 metres to the tips of the branches of another).
- c. No limbs should be within 3 metres of the building or attachments such as balconies.

DPFI - Landscaping Mulches

Areas covered with landscape mulches are a large horizontal surface for embers to land on, much like roofs and decks. Some commonly used mulch, such as bark chips, are also highly flammable. The combination of flammability and a large surface area creates a perfect environment for fire. Combustible fuel sources should not be located next to a building.



Various sizes and colours of landscape rock are a common alternative. Another ground covering choice is low-lying plants that are either deciduous (lose their leaves in the fall), or broadleaved evergreen, trimmed grass, annuals or perennials. The use of landscape fabric can reduce the need for a very thick layer of mulch.

DPFI.12 Landscaping on the property within 10 metres of a building (Priority 1 zone) shall use only non-combustible landscape mulches.

7.6 – DPFI Alt - Alternative Guidelines

Where a development permit is required, and a development or construction is proposed that varies from the Wildfire Interface Design Guidelines, a report by a qualified professional with experience in fire safety, such as a registered professional forester or a professional engineer, will be required indicating that the susceptibility to wildfire has not increased. This report should employ practices suggested in the Ministry of Forests *FireSmart Manual* (Second Edition or later) including:

- DPFI Alt.1** An assessment of the structure proposed to be constructed or added to, including roofing materials, exterior building materials and proposed decks or garages;
- DPFI Alt.2** An assessment of the site proposed for development including existing and proposed landscaping, proposed fuel breaks and proposed setbacks to fuel sources;
- DPFI Alt.3** Identification of water sources for firefighting; and
- DPFI Alt.4** Adequacy of current fire suppression systems.