

# FIRESMART® CRITICAL INFRASTRUCTURE ASSESSMENT



Facility Name		Date	
Operator		Email	
Geographic Location		Lat/Long	
Assessor		Email	
Photos? (Y/N)		Photo #'s:	
Comments:			

A. CRITICAL BUILDING				SCORE
1	What type of roofing material and construction does the building have?	Class A UL/ASTM fire rated roof covering (e.g. Metal, rated hot lay, clay tile or asphalt shingles)	0	
		Unrated roof covering (including wood shakes and wood shingle roofs)	30	
2	Does the roof covering have any gaps or openings, exposing combustible building components, or enclosed spaces where embers could accumulate, lodge or penetrate?	No gaps, openings that expose combustible building components or enclosed spaces where embers could accumulate, lodge or penetrate	0	
		Gaps, openings that expose combustible building components or enclosed spaces where embers could accumulate, lodge or penetrate	30	
3	Are the gutters combustible or non- combustible?	Non- combustible gutters, and no exposed combustible fascia/roof covering above gutters (metal or aluminum) or no gutters	0	
		Combustible (plastic, vinyl, wood) and/or exposed combustible fascia/roof covering above gutter	6	
			6	
4	How clean is the roof and gutters?	No needles, leaves or other combustible material	0	
		Needles, leaves or other combustible material present	10	
5	Are eaves closed and are eaves/roofs free of any gaps, holes, or areas where embers could accumulate, lodge or penetrate? Are all vents and openings protected?	Closed or no eaves/no gaps or holes/no unprotected areas to attic /interior of building, vents with 3 mm (1/8") non-combustible screening, operational louvres and flaps/ASTM ember resistant rated vents.	0	
		Open eaves/roof gaps or unprotected openings to attic/interior of building, vents not 3 mm (1/8") non-combustible screened or ember resistant rated; louvres/ flaps not operational with accumulated combustible debris	30	

6	Are all HVAC/active ventilation systems capable of being shut down?	HVAC/active ventilation system with 24 hr onsite operator, or remote shut-down capability	0	
		HVAC with no caretaker or remote shut-down capability/cannot shut-down	30	
7	What type of exterior siding does the building have?	Ignition resistant (cement fibre board, log) or non-combustible (stucco, metals, concrete, brick/stone)	0	
		Combustible siding or non-ignition resistant siding (vinyl, wood, acrylic stucco); treatment to Non-combustible Zone and Priority Zone 1	6	
		Combustible siding or non-ignition resistant siding (vinyl, wood, acrylic stucco); no treatment to Non-combustible Zone and Priority Zone 1	30	
8	Is exterior siding free of gaps, holes, or other areas where embers could accumulate, lodge, or penetrate?	No gaps or cracks, missing siding or holes	0	
		Gaps, cracks or holes	10	
9	Are walls protected with a minimum 15 centimetres (6 inches) of non-combustible ground- to-siding clearance?	No less than 15 centimetre non-combustible vertical ground-to-siding surface	0	
		Less than 15 centimetres non-combustible vertical ground-to-siding surface	30	
10	How fire resistant are the windows or doors (including large doors/garage doors)?	Tempered glass in all doors and windows and treated Non-combustible Zone and Priority Zone 1; no gaps in ANY doors OR no windows	0	
		Multi pane glass small/medium and treated Non-combustible Zone and Priority Zone 1; no gaps in ANY doors	1	
		Multi pane glass large and treated Non-combustible Zone and Priority Zone 1; no gaps in ANY doors	2	
		Single pane glass- small/medium and treated Non-combustible Zone, Priority Zone 1 and Priority Zone 2; no gaps in ANY doors	4	
		Single panel glass large and treated Non-combustible Zone, Priority Zone 1 and Priority Zone 2	6	
		Tempered glass in all doors and windows and no treatment to Non-combustible Zone; combustible doors; no gaps in ANY doors	20	
		Multi pane glass - any size and no treatment to Non-combustible Zone and/or Priority Zone 1 OR Single pane glass - any size and no treatment to Non-combustible Zone and/or Priority Zone 1 and/or Priority Zone 2; gaps in ANY door	30	

11	Is the underside of the balcony, deck, porch, other building extensions or open foundation completely sheathed- in or open and free of combustible materials?	N/A, sheathed in with fire resistant/non-combustible materials, or non-combustible siding, no gaps or cracks, OR open heavy timber, non-combustible or fire-rated construction OR AND non-combustible surface and no combustible debris under deck/extension AND treated Non-combustible Zone, Priority Zone 1 and Priority Zone 2 and slope set-back (if applicable)	0	
		Not sheathed in with fire resistant/non-combustible material or siding, and/or unprotected gaps or cracks present, and/or non-fire-rated construction with combustible surface and/or combustible debris under deck; OR any extension construction of any combustible material and no treatment no treatment to Non-combustible Zone and/or Priority Zone 1 and/or Priority Zone 2.	30	
12	Is the building set back from the edge of a slope?	Building is located on flat ground that extends to the full distance of Priority Zone 2	0	
		Building is located on the bottom; AND treated Non-combustible Zone, Priority Zone 1, Priority Zone 2	3	
		Building is located on the mid to upper portion or crest of a hill and set back AND treated Non-combustible Zone, Priority Zone 1, Priority Zone 2 and Priority Zone 3	10	
		Building is located on the mid to upper portion or crest of a hill with no set back	30	
<b>CRITICAL BUILDING SCORE</b>				
LOW < 21				
MODERATE 21-29				
HIGH >30				

B. CRITICAL STRUCTURES - Utility Poles, Communications Towers, Bridges, Pipeline Valve Stations				SCORE
1	Valve station/substation/ Propane Tanks	N/A or a non-combustible surface is continuous under all combustible infrastructure	0	
		There is combustible surface under ANY combustible infrastructure	30	
2	Utility line poles or critical component (weather stations, antennae masts, cellular towers) support structure/mast construction material?	N/A or Poles/ support structures are constructed of non-combustible material (metal or concrete)	0	
		Poles/ support structures are constructed of wood	6	
3	Utility line poles or critical component (weather stations, antennae masts, cellular towers) support structure condition?	N/A, Non-combustible or combustible poles or support structures are free of petroleum/ accelerant-based coatings, cracks and gaps where embers may accumulate, lodge or penetrate and non-combustible surface is continuous under all combustible infrastructure	0	
		Combustible poles or support structures have cracks and gaps where embers may accumulate, lodge or penetrate AND/OR there is combustible surface under ANY combustible infrastructure	30	
4	Critical component susceptibility to radiant heat	N/A or Critical components are not constructed of materials that are susceptible to damage from significant radiant or convective heat fluxes OR Critical components are constructed of materials that are susceptible to damage from significant radiant or convective heat fluxes and Non-combustible Zone and/or Priority Zone 1 and/or Priority Zone 2 are treated.	0	
		Critical components are constructed of materials that are susceptible to damage from significant radiant or convective heat fluxes and no treatment to Non-combustible Zone and/or Priority Zone 1 and/or Priority Zone 2.	30	

5	Critical components susceptibility to embers - free of any gaps, holes, or areas where embers could accumulate, lodge, or penetrate?	N/A or Critical components are not constructed of materials that are susceptible to damage from embers or OR Critical components are constructed of materials that are susceptible to damage from embers but are free any gaps, holes or areas where embers could accumulate, lodge, or penetrate.	0	
		Critical components are constructed of materials that are susceptible to damage from embers and have gaps, or areas where embers could accumulate, lodge or penetrate and damage components	30	
6	Bridge construction material	N/A or Structure is constructed of non-combustible material (metal or concrete)	0	
		Structure is constructed of heavy timber wood or logs and Non-combustible Zone and/or Priority Zone 1 are treated	6	
		Structure is constructed of wood or logs and no treatment of Non-Combustible Zone and/or Priority Zone 1	30	
7	Bridge condition	N/A or Combustible structure is free of cracks and gaps where embers may lodge	0	
		Combustible structure has cracks and gaps where embers may lodge	30	
<b>CRITICAL STRUCTURE SCORE</b>				
		<b>LOW &lt; 21</b>		
		<b>MODERATE 21-29</b>		
		<b>HIGH &gt;30</b>		

C. NON-COMBUSTIBLE ZONE (0-1.5 METRES)			SCORE
1	1.5 metres from furthest extent of building or critical structure (includes overhangs, extensions and decks)	Non-combustible surface, no combustible debris, materials, fences or plants present	0
		Combustible surface, combustible debris, fences or plants present	30
<b>NON-COMBUSTIBLE ZONE SCORE</b>			
		<b>LOW &lt; 21</b>	
		<b>MODERATE 21-29</b>	
		<b>HIGH &gt;30</b>	

<b>D. ZONE 1 (1.5-10 METRES OR 5-30 FEET)</b>				<b>SCORE</b>
1	Where are flammable substances, or other combustible materials stored? (Vehicles, flammable liquids/gases construction materials, debris etc.)	N/A or More than 10 metres from the structure, or in an approved and ember resistant storage container	0	
		Less than 10 metres from the structure and not in an approved and ember resistant storage	30	
2	Where are the unmitigated non-critical outbuildings located? (buildings that are not-mitigated to the same standards as the primary building or critical structure)	N/A or More than 15 metres (50 feet) from primary structure	0	
		Less than 15 metres from primary structure	30	
3	What type of forest grows within 10 metres of the building, outbuilding or critical structures?	No trees or Healthy deciduous (i.e. poplar, aspen, birch)	0	
		Mixedwood (both conifer and deciduous)	30	
		Conifer (i.e. spruce, pine, fir, cedar)	30	
4	What kind of surface vegetation and combustible materials are within 10 metres of the building, outbuildings or critical structures?	No vegetation; Well maintained lawn (15 centimetres; 6 inches or shorter); low flammability; low growing discontinuous plants with treated Non-combustible Zone (0-1.5 metres)	0	
		Unmaintained grass (greater than 15 centimetres in length); flammable plants; continuous plants or tall growing plants; untreated Non-combustible Zone	30	
		Twigs, branches, logs and accumulations of tree needles or leaves and other combustible materials	30	
<b>ZONE 1 SCORE</b>				
		<b>LOW &lt; 21</b>		
		<b>MODERATE 21-29</b>		
		<b>HIGH &gt;30</b>		

E. ZONE 2 (10- 30 METRES OR 30-100 FEET)				SCORE
1	What type of forest grows within 10-30 metres of the building, outbuilding or critical structures?	No trees or Healthy deciduous (i.e. poplar, aspen, birch)	0	
		Mixedwood (both conifer and deciduous)	10	
		Conifer (i.e. spruce, pine, fir, cedar)		
		Separated	10	
		Continuous	30	
2	What kind of surface vegetation and combustible materials are within 10-30 metres of the building, outbuildings or critical structures?	None within 10 - 30 metres)	0	
		Scattered within 10 - 30 metres	5	
		Unmaintained grass (greater than 15 cm)	5	
		Abundant within 10 - 30 metres	10	
3	Are there low tree branches within 2 metres of the ground?	None within 10 - 30 metres	0	
		Present within 10 - 30 metres	10	
<b>ZONE 2 SCORE</b>				
		<b>LOW &lt; 21</b>		
		<b>MODERATE 21-29</b>		
		<b>HIGH &gt;30</b>		

CRITICAL INFRASTRUCTURE HAZARD SCORE	SCORE
<b>Building</b>	
<b>Critical Structures</b>	
<b>Non-Combustible Zone</b>	
<b>Zone 1</b>	
<b>Zone 2</b>	
<b>TOTAL</b>	

<b>LOW &lt;21</b>	<b>MODERATE 21-29</b>	<b>HIGH &gt; 30</b>
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The goal is to drop the hazard rating as low as possible by changing each factor to a condition that results in a low score.