

Fire Losses in Buildings Under Construction



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Fire Losses in Buildings Under Construction: Alberta

Year	Fires	Deaths	Injuries	\$ Losses
2000	26	0	2	1,183,534
2001	38	0	3	1,174,573
2002	33	0	2	15,546,040
2003	33	0	8	17,975,184
2004	30	0	0	2,095,582
2005	30	0	0	8,638,989
2006	34	0	2	5,420,362
2007	35	0	0	10,871,993
2008	32	0	9	4,493,336
2009	19	0	3	2,973,754
TOTAL	310	0	29	70,373,347

Fires in Buildings Under Construction

Key Findings

- **65% of fires were in buildings intended for residential use.** These fires accounted for 55% of fire injuries and 90% or \$63.4 M out of \$70.4M in direct property damage.
- **1% of all structural fires were in buildings under construction.** That is 310 fires in buildings under construction out of 31,432 structural fires and 2.2% of the \$3.1B in direct property damage.
- **66% of fires in buildings under construction occurred in Edmonton and Calgary:** Edmonton accounted for 40%, Calgary for 27%, all other areas for 34% of these fires.

Fires in Buildings Under Construction: Key Findings...

- ***Arson was the leading cause of these fires (35%) and property losses (46%):*** Other common acts or omissions were combustibles placed too close (11% of fires and 1.5% of property losses); mechanical malfunction, part failure, leak/break (7% and 2%); welding or cutting too close (7% and 20%); and vandalism (5% and 2%).

Fires in Buildings Under Construction: Key Findings...

- ***Most common materials ignited first were***

wood/wooden items, wood shavings and wood products, paper, plastics, cardboard, trash/rubbish (26% of fires and 21% of property loss); the exterior wall cover (11% and 21%). This was followed by building components (wall, floor, ceiling, roof) accounting for 12% and 5%; and flammable gases/liquids (10% and 12%).

- ***Of the known sources of ignition, portable space heaters ranked the highest at 15% of the fires and 2% of direct property damage.*** These were followed by exposure from detached structure fires (12% and 3%); welding equipment, cutting torch, and torch other than cutting/welding (7% and 29%).

Fires in Buildings Under Construction: Key Findings...

Most fires (60%) started between 8 p.m. to 8 a.m., and these fires accounted for the largest property losses 60%.

Time of day	Fires	%	\$ losses
8 p.m. - 12 midnight	50	16	5,902,683
12 midnight-4 a.m.	105	34	25,254,450
4 a.m. - 8 a.m.	31	10	10,849,158
8 a.m. - 12 noon	36	12	1,577,771
12 noon - 4 p.m.	29	9	14,859,405
4 p.m. - 8 p.m.	56	18	11,352,380
Other	3	1	577,500
Total	310	100	70,373,347

Erlton Fire, Calgary

May 30, 2002

- A condominium complex containing four buildings was heavily damaged by a fire, which started from a fire in one of the four buildings still under construction at the time. Fire spread to the three occupied buildings and other properties destroying the entire complex at an estimated cost of \$66 million in direct property damage.
- The fire was ignited by a worker using a propane torch on his second day on the job.
- This is the city's largest fire, that left 300 Calgarians temporarily homeless.

Erlton Fire, Calgary
May 30, 2002



Fire losses from the Erlton Fire Calgary: May 30, 2002

Property Class	Fires	Injuries	\$ Losses
Apartments	57	0	51,879,834
Automobiles	14	0	100,183
General Truck	12	0	59,650
Electric Distribution Sys.	4	0	72,500
Buildings Under Construction	1	2	12,305,000
Utility-Unclassified	1	0	1,025,000
Arena/Indoor Ice/Curling Rink	1	0	65,000
TOTAL	90	2	65,507,167

MacEwan Fire, Edmonton

July 21, 2007

- A large-scale fire at a 149-unit condo complex construction site (framing stage) spread to adjacent properties to destroy 18 occupied duplexes and damage 76 occupied duplexes by radiant heat.
- The blaze, which caused about \$20 million in damages, was the largest residential fire in Edmonton's history.
- The fire was attributed to arson.

MacEwan Fire, Edmonton

July 21, 2007

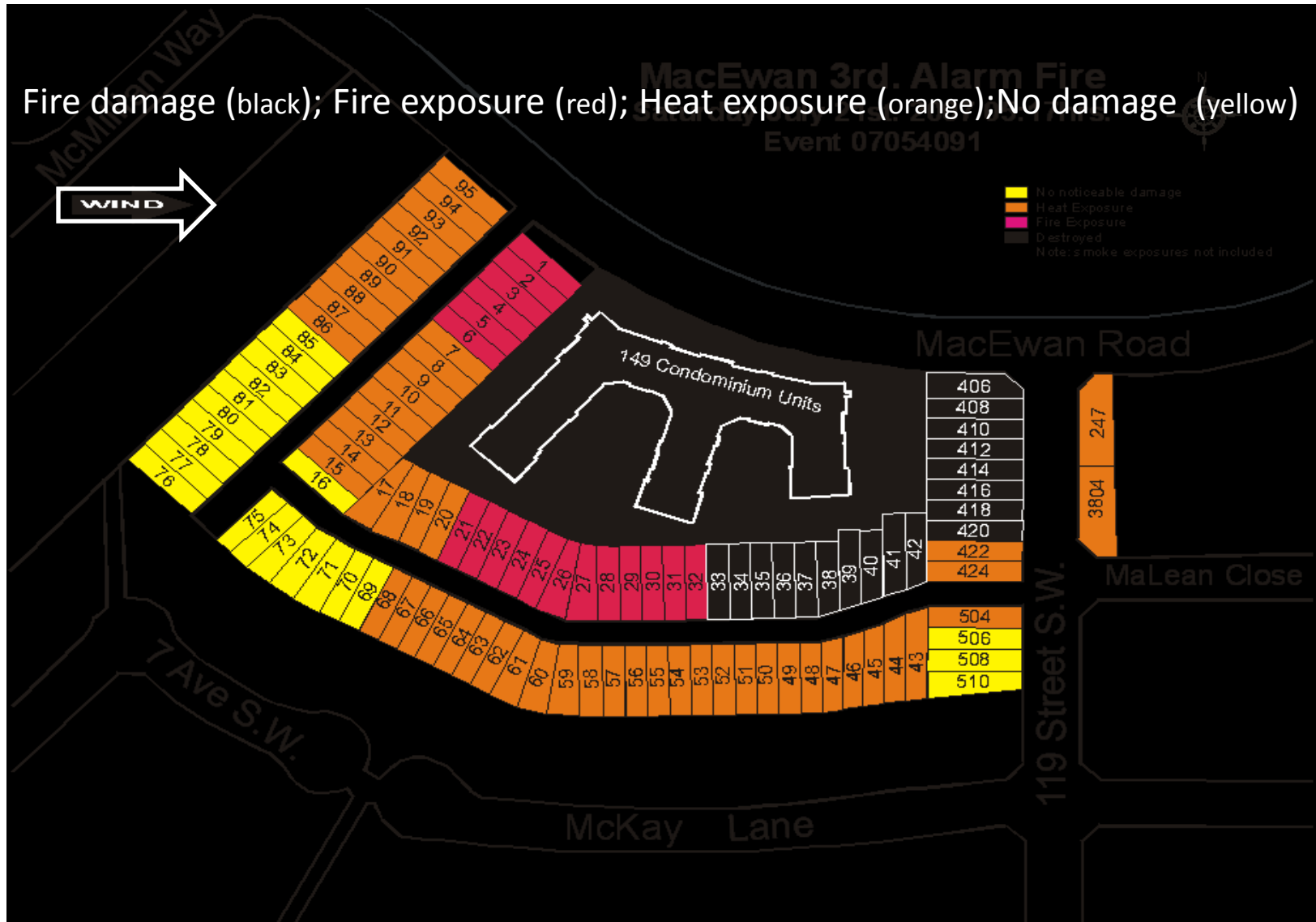


Fire Losses from the MacEwan Fire, Edmonton: July 21, 2007

Property Class	Fires	Injuries	\$ Losses
One and Two Family Dwellings	106	0	11,040,966
Apartments	3	1	40,102
Office-Unclassified	1	0	5,000
Fence, Poles, Railroad Ties	1	0	100
Trash/Rubbish/Recyclable	2	0	20,000
Outdoor Property-Unclassified	2	0	201,000
Buildings Under Construction	2	0	8,003,000
Cars	4	0	6,500
Vehicle & Non-Motorized Hauling Vehicle	5	0	256,100
Industrial Truck, Forklift, etc.	1	0	80,000
Electric Power Distribution Sys.	1	0	70,000
TOTAL	128	1	19,722,768

MacEwan Fire, Edmonton

July 21, 2007



MacEwan Fire, Edmonton

July 21, 2007



