

WHAT TO DO AFTER A FIRE

Presented by Chris Guignon, P.Eng., CFEI
Chall. Eng. Corporation
February 23, 2021



Bio of Mr. Christopher Guignon, P.Eng., Chall.Eng. Corporation



Chris has been working in the Engineering and Engineering Consulting industry for approximately 20 years, and is currently the Vice President of Chall.Eng. Corporation, where he has worked for the last 11 years and focused mainly on forensic investigations (over 1,400) and small structural design projects. During his previous employments he has worked at construction management and architectural firms, structural detailing firms, and structural engineering firms. Chris is a Professional Engineer licensed in the Province of Ontario (P.Eng.), has a Bachelor of Science (B.Sc.) in Computer Technology, Bachelor of Applied Science (B.A.Sc.) in Civil Engineering, a Master of Engineering (M.Eng.) in Civil Engineering, and is a certified fire and explosion investigator (CFEI).



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graph TD; A[FIRE] --- B[GOVERNMENT/ MUNICIPALITY]; B --- C[FIRE DEPARTMENT/ OFM INSPECTION];
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FIRE

GOVERNMENT/
MUNICIPALITY

FIRE
DEPARTMENT/
OFM
INSPECTION

Fire Department/OFM

- Fire Department attends at the scene to put out the fire
- Fire Department carries out an origin and cause investigation
- Office of the Fire Marshall may get called to do an origin and cause investigation
 - Suspicious
 - Injury/Death
 - Damage above \$500,000
- Temporary shoring and/or board-up may be carried out
- Scene is released



Building Department Work Order



ORDER TO REPAIR

UNDER THE MAINTENANCE AND OCCUPANCY BY-LAW 147-2011
AS AMENDED BY BY-LAW 213-2011

To: _____ Description: _____
Property Address: _____
Roll Number: _____
Violation Number: 18 156481

Date of Inspection: September 20, 2018

WHEREAS Section 15.1(3) of the *Building Code Act, S.O. 1992, c.23*, as amended, authorizes municipalities to enact by-laws prescribing standards for the maintenance and occupancy of all property within the municipality and for prohibiting the occupancy or use of such property that does not conform to the standards; and for requiring any property that does not conform with the standards to be repaired and maintained to conform with the standards as described herein or the site to be cleared of all buildings, structures, debris or refuse and the lands left in a graded and levelled condition;

AND WHEREAS the Official Plan for The Corporation of the City of Windsor includes provisions relating to property conditions as required by section 15.1(3) of the *Building Code Act, S.O. 1992, c.23*, as amended;

AND WHEREAS The Corporation of the City of Windsor has passed By-law 147-2011 as amended by by-law 213-2011, being a By-law to establish Standards for the Maintenance and Occupancy of Property in the City of Windsor;

TAKE NOTICE that the property, owned by you, situated at: 3663 RIVERSIDE DRIVE
Does not conform to the standards set forth in By-law Number 147-2011 as amended by By-law 213-2011

DESCRIPTION OF PROPERTY:

RESIDENTIAL CONDOMINIUM BUILDING

Deficiency

Section 1.4

Every part of a property shall be maintained in a structurally sound condition so as to be capable of sustaining its own weight, the loads due to the use and occupancy, and the loads imposed by natural causes such as wind, rain and snow.

CORRECTION

OBTAIN A BUILDING PERMIT (AND)

REPAIR NOTED DEFICIENCIES INCLUDING: WATER LEAKING THROUGH THE SEAMS IN THE CONCRETE CEILING, CHIPPING AND DETERIORATION OF CONCRETE STRUCTURAL MEMBERS, AND STRUCTURAL STEEL COLUMNS INSTALLED FOR REPAIRS WITHOUT A PERMIT.

Deficiency

Section 1.5

Where the Officer has doubt as to the structural condition or adequacy of the property, the Officer may request that a report of a professional engineer and/or architect, licensed to practice in Ontario, or other competent person acceptable to the Chief Building Official or designate, be prepared at the owner's expense, and be submitted to the Officer.

CORRECTION

OBTAIN AND PROVIDE A REPORT FROM A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN ONTARIO, OR OTHER COMPETENT PERSON ACCEPTABLE TO THE CHIEF BUILDING OFFICIAL OR DESIGNATE REGARDING THE STRUCTURAL CONDITION OF THE PARKING GARAGE, WHERE REMEDIAL WORK IS RECOMMENDED BY THE PROFESSIONAL ENGINEER. ALL SUCH REMEDIAL WORK WILL BE UNDERTAKEN BY THE OWNER, AT THE OWNER'S SOLE EXPENSE, IN CONSULTATION WITH THE PROFESSIONAL ENGINEER.

Page 2 of 2

YOU ARE HEREBY REQUIRED, by this Order, to do the work required to repair the defects set forth in this Order and make the said property conform to the standards set forth in the said By-law

ON OR BEFORE: October 25, 2018

Dated at Windsor, Ontario, on September 25, 2018

John Revell, MCIP, RPP
Chief Building Official

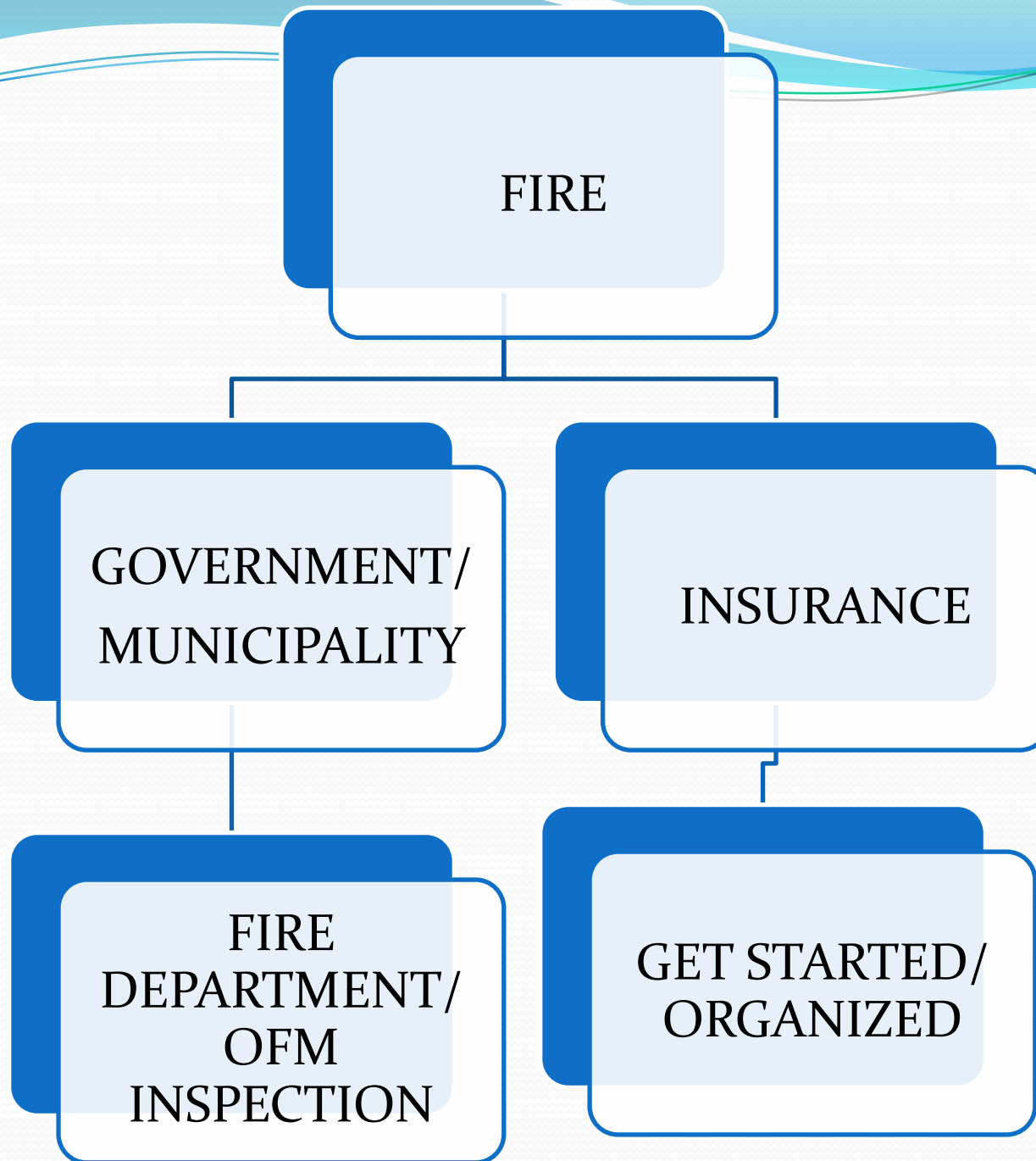
Per:

Chris Jedlinski
Inspector/Property Standards Officer
Building Department
Telephone: 519-566-9008
e-mail: cjedlinski@citywindsor.ca

NOTICE:

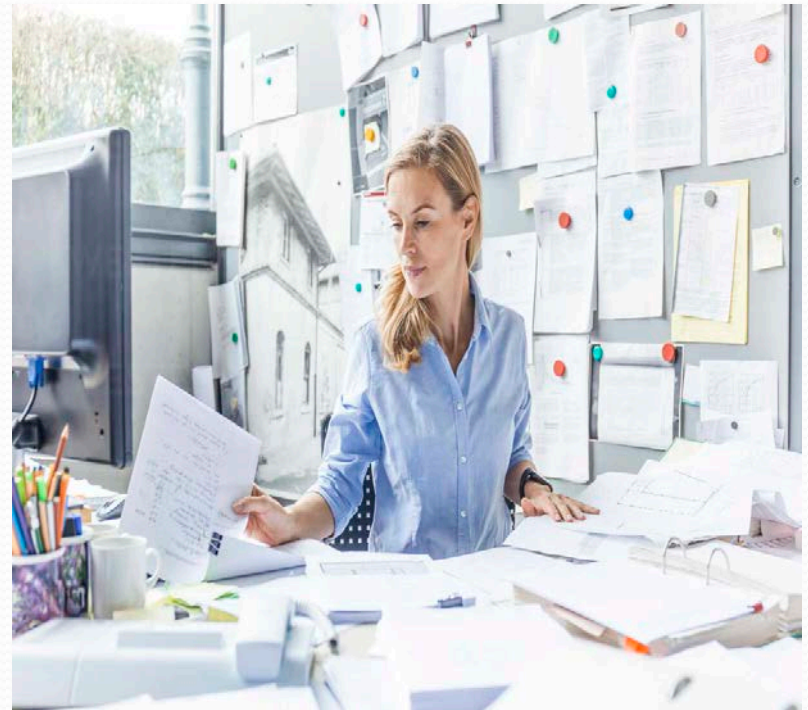
1. If the owner or person against whom an Order has been made or their agent wishes to appeal such Order, they must **within FOURTEEN (14) DAYS from the service of the Order upon him**, file a Notice of Appeal, duly completed, with the Secretary of the Property Standards Committee.
2. Attached hereto is a Notice of Appeal form.
3. In the event that you do not appeal this Order, the said Order shall be deemed confirmed.
4. A photocopy of this document may be offered in evidence to the Court, should a trial result from a charge, which may be filed in an enforcement procedure. Copies of these documents may be obtained or examined at Building Department, City Hall, on workdays between 8:30 a.m. and 4:30 p.m.
5. If such repair or clearance is not done within the time specified in this Order, the Corporation may carry out the repair or clearance at the expense of the owner.
6. This Order is pursuant to Section 15.2(2) of the BUILDING CODE ACT, S.O. 1992, c.23, as amended.

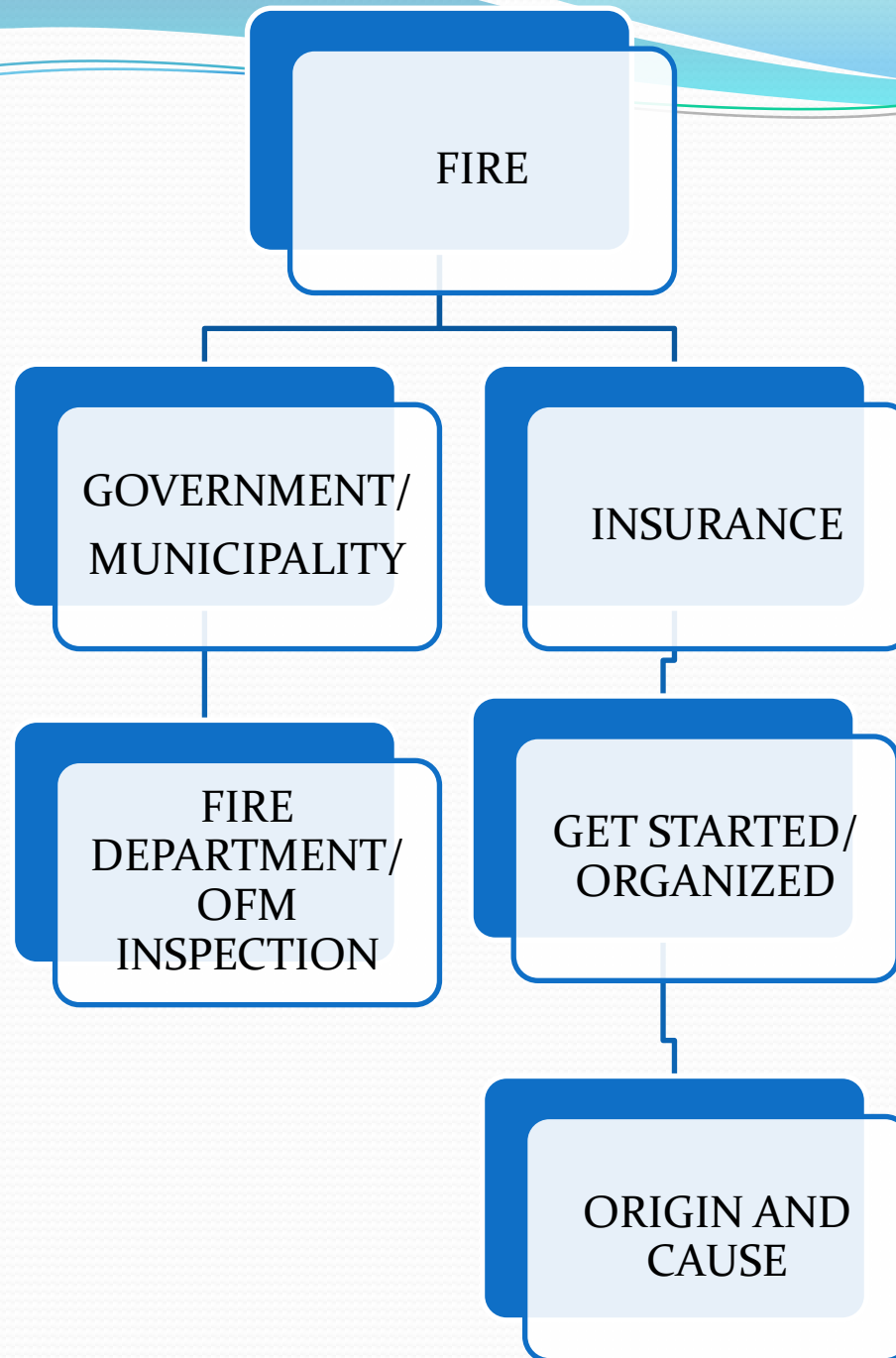
7. **OBTAIN A BUILDING PERMIT**
8. **OBTAIN A REPORT FROM A PROFESSIONAL ENGINEER**



Get Started/Organized

- Call Insurance. They will assign an Adjuster
- Authorization Forms
 - Adjuster/Contractor
- Advise Unit Owners to contact their Insurance
- What does Condo own?
 - Declaration
 - Standard Unit Bylaw

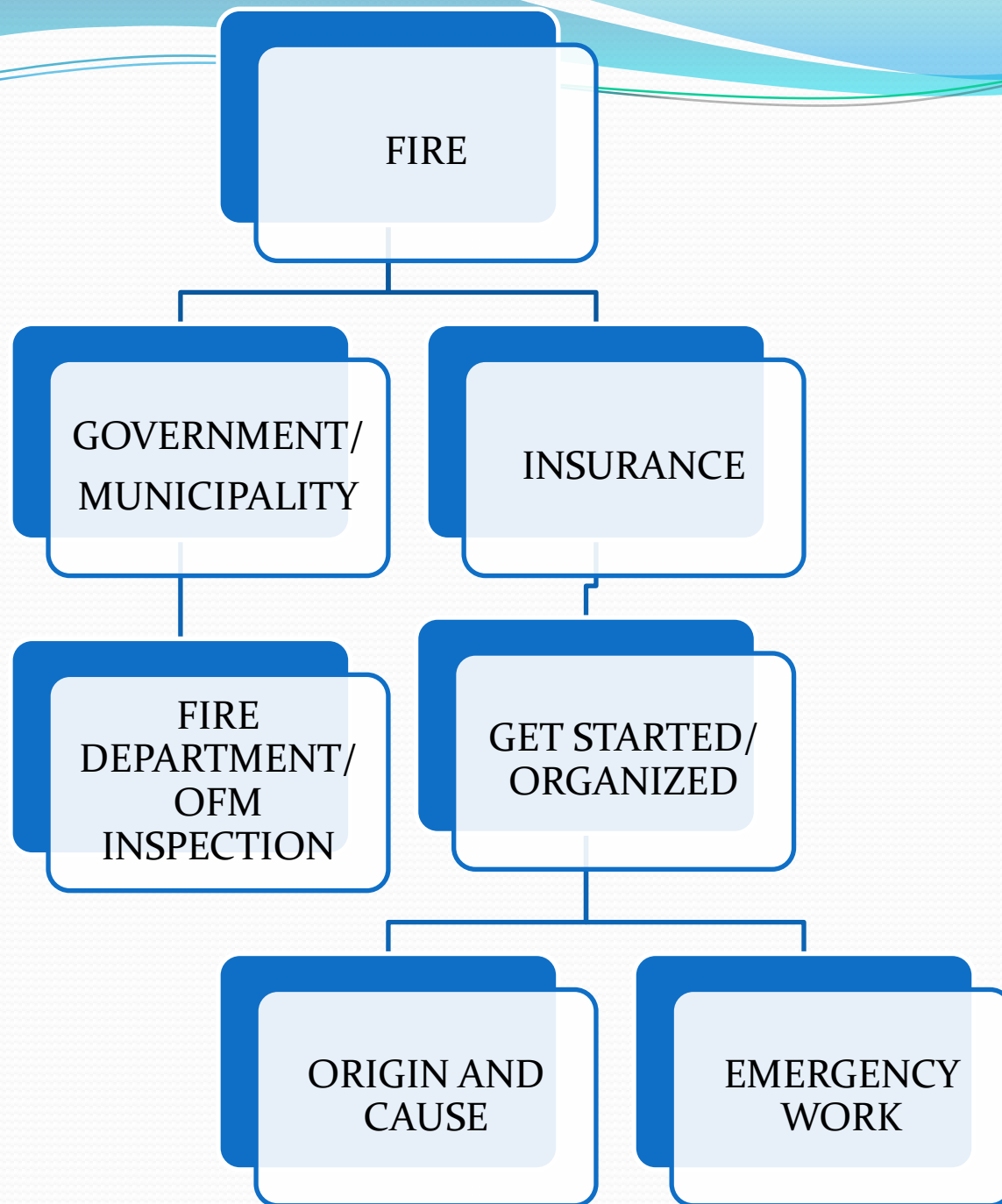




Origin and Cause Investigation

- Insurance is looking to determine cause of the fire
 - Subrogate
- Done by qualified experts
- May have multiple experts
 - Building
 - Owner/Tenant
 - Liable Parties
- Could take hours to months





Emergency Work

- Done prior to Scope being finalized
- Very important to minimize damages
- Mostly involves removal of moisture/water
- If moisture remains leads to mould





Owner/Tenant's Insurance

- Origin and Cause Investigation
- Damage Assessment Investigation (if liable)
- Inventory Contents
- Remove Contents
 - ▣ Not done by building's contractor
- KEEP UP TO DATE

Removing Owner's Contents

- Fabrics absorb odour more than hard surfaces
- Cannot clean units and remove odour until the sources are removed
- Odour will be transmitted throughout building



Co-ordinating Removals





Heat and Fire Damages



Heat and Fire Damages - Structure



Water Damages

- Water and foam are most common types of fire suppression systems
- Water tries to find its lowest level, so will seep down through cracks and holes to lowest point
- Floors below sprayed area susceptible to water damage



Water Damages



Water Damages

- Water will get absorbed by building materials:
 - Notably drywall, plaster, and insulation
- If not properly dried creates a situation that is ideal for mould growth
 - Food, Oxygen, Temperature, Water



Smoke Damages

- Smoke is a gas and will expand outwards to fill up the space
- Travels towards oxygen, and/or typically in an upwards direction
- Entire floor and floors above susceptible to smoke damage



Smoke Damages

- Smoke can be removed
- Three step process
 - Clean charring and soot from surface
 - Seal surfaces
 - Deodorize
 - Thermal fog, ozone, etc.



Water/Smoke/Emergency Repairs

- Use qualified contractor
- IICRC
 - Smoke Remediation
 - Water Remediation
 - Fire Damage Assessment & Repairs



Scope of Repairs

- Full Scope of Repairs is Prepared
- Specialized Scopes (if required)
 - Structural Engineer
 - Mechanical Engineer
 - Electrical Engineer
 - Architect
 - Etc.

Scope of Repairs



Dining Room

Height: 8'

421.51 SF Walls	304.09 SF Ceiling
725.61 SF Walls & Ceiling	304.09 SF Floor
33.79 SY Flooring	59.81 LF Floor Perimeter
74.33 LF Ceil. Perimeter	

Missing Wall	3' 2 13/16" X 8'	Opens into STAIRS
Missing Wall	4' 6" X 8'	Opens into FOYER_ENTRY
Missing Wall	4 1/16" X 8'	Opens into KITCHEN
Missing Wall	3' 10" X 8'	Opens into KITCHEN
Missing Wall	6' 3 1/8" X 8'	Opens into KITCHEN
Missing Wall	10' 15/16" X 8'	Opens into KITCHEN
Missing Wall - Goes to Floor	6' 8" X 6' 8"	Opens into FFAMILY_ROOM
Missing Wall	3' 3 7/16" X 8'	Opens into FOYER_ENTRY
Missing Wall	5' 2 5/16" X 8'	Opens into STAIRS

CAT	SEL	CALC	ACT DESCRIPTION		REMOVE	REPLACE	SUBTOTAL	TAX	O&P	TOTAL
			QTY							
79. INS	BT6			+ Batt insulation - 6" - R19 - unfaced batt						
		196	196.00 SF							
80. INS	VISTC			+ Polyethylene vapor barrier, seam taping & joint caulking						
		196	196.00 SF							
81. LIT	CHAN++			+ Chandelier - Premium grade						
		1	1.00 EA							
82. LIT	RC++			+ Recessed light fixture - Premium grade						
		4	4.00 EA							
83. ELE	OSCOV			+ Outlet or switch cover						
		2	2.00 EA							
84. DRY	1/2			+ 1/2" drywall - hung, taped, floated, ready for paint						
	C+(12*8)		400.09 SF							
85. DRY	1/4C			+ 1/4" drywall - 2 layer curved - floated, ready for paint						
	13.33*5		66.65 SF							
86. ELE	SMOKE			+ Smoke detector						
		1	1.00 EA							
87. PNT	SP2			+ Seal/prime then paint the walls and ceiling twice (3 coats)						
	WC		725.61 SF							
88. FNC	BSS+			+ Baseboard - 5 1/4" w/shoe - stain grade						
	PF		59.81 LF							
89. PNT	BCSS			+ Stain & finish baseboard w/cap &/or shoe						
	PF		59.81 LF							

Totals: Dining Room

Scope

Recap by Category

O&P Items	Total	%
APPLIANCES		
CABINETRY		
CLEANING		
CONTENT MANIPULATION		
GENERAL DEMOLITION		
DOORS		
DRYWALL		
ELECTRICAL		
ELECTRICAL - SPECIAL SYSTEMS		
PERMITS AND FEES		
FINISH CARPENTRY / TRIMWORK		
FINISH HARDWARE		
FIREPLACES		
HEAT, VENT & AIR CONDITIONING		
INSULATION		
LABOR ONLY		
LIGHT FIXTURES		
MIRRORS & SHOWER DOORS		
PLUMBING		
PAINTING		
ROOFING		
SIDING		
STAIRS		
TEMPORARY REPAIRS		
WINDOWS - ALUMINUM		
O&P Items Subtotal		
Overhead		
Profit		
HST		
Total		

Scope of Repairs

- Insurance Company (Adjuster/Appraiser) reviews the scope
- Recommend asking for a copy
- Pricing from Preferred Contractors
- Options:
 - Proceed w/ Preferred Contractor (Insurance provides warranty)
 - Have own Contractor bid
 - Take Buyout

Insurance Contractor vs. Buyout

- Insurance Contractor

- Contractor will be qualified for smoke and water remediation
- Warranty through insurance
- Insurance will be involved if any issues or unknown costs arise

- Buyout

- May get cheaper quote, have extra money for other upgrades
- Can use a Contractor you are familiar with
- You are responsible to organize and run repairs

Repairs

- Contractor carries out repairs
- Can make changes to scope
 - Entitled to the money to reconstruct existing
 - Discuss changes with the Contractor
- Building Department and/or Engineers inspect work
- Insured (you) signs off on cheques to Contractor

Issues During Repairs: Access

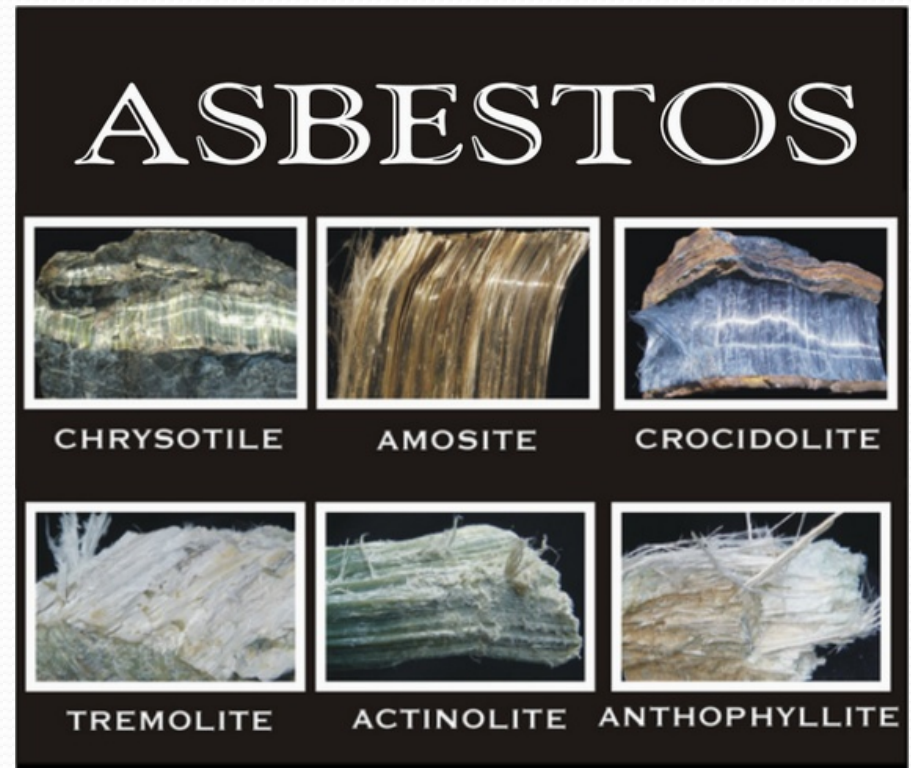


Issues During Repairs: Access



Issues During Repairs: Asbestos

- Asbestos was commonly used in construction, up to end of 1980's (ish)
 - Plaster
 - Drywall
 - Drywall tape
 - Floor tiles
 - Insulation
 - Pipe Wrap



Issues During Repairs: Asbestos

- Different types of asbestos require different types of removal techniques
- Determined through testing by qualified Technologist
- Removed by qualified contractor



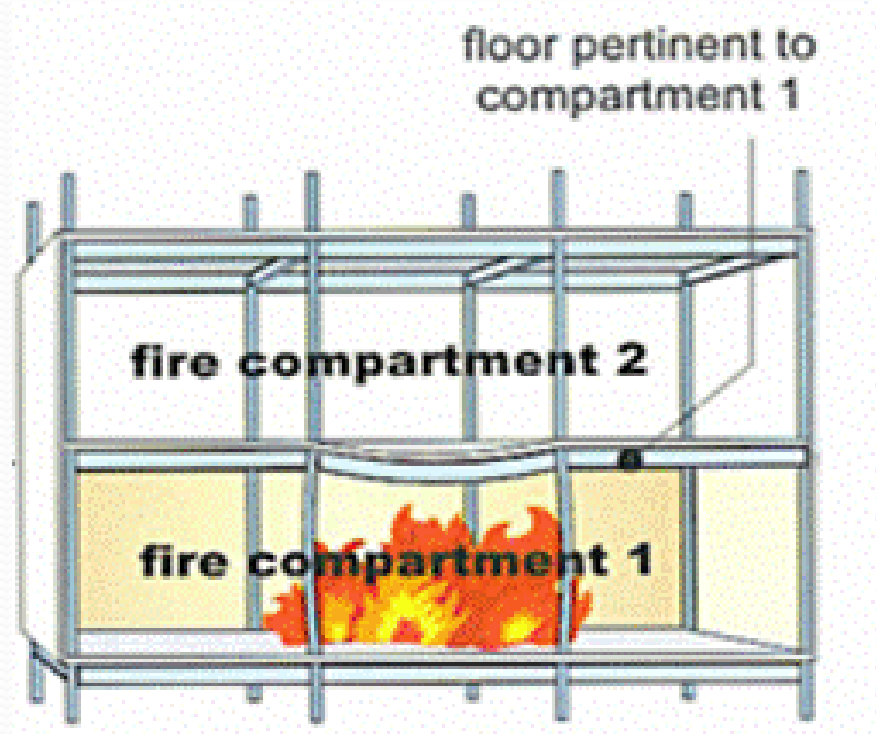
Issues During Repairs: Colour and Finish Matching

- Insurance only required to repair damaged area
- Not required to find perfect match
- Adjusters will often work to find a reasonable solution



Minimize Damage: Fire Separations

- Installed between units, and between units/common areas
- Provides protection to the structure to safely evacuate building
- Helps reduce fire and smoke travelling through the building



Minimize Damage: Fire Separations

- Walls
 - Concrete
 - Block Masonry
 - Fire Rated Gypsum
- Doors



Minimize Damage: Fire Separations

- Fire Stops / Smoke Seal
 - Concrete
 - Specialized Products
 - Caulking/Sealants



Fire Separation Example



Fire Separation Example



Fire Separation Example



Fire Separation Example



Important Things to Remember

- Quick co-ordination with insurance and owner/tenant's insurance
- Quick removal of smoke, water, and contents
- Process will take months to complete



Thank you!