

FIRE FIGHTERS GUIDANCE NOTE # 6-24

ISSUE: BUILDING COLLAPSE DURING FIRE SITUATIONS

Interior fire fighting and rescue situations are amongst the most dangerous operations that fire fighters will work in. All fire service personnel who may be involved in either offensive or defensive operations should have an understanding of building construction and a high level of awareness regarding the potential for building collapse.

Risk assessment criteria should include:

- Building use and contents; are occupants at risk and is search and rescue required?
- Is this a contents only fire or is the building structure involved?
- Building construction type and potential hazards of each type.
- Existence and working order of fire protection systems.
- Length of time of fire involvement and fire load (materials burning).
- Voids that may provide undetected paths for fire spread such as drop ceilings, balloon construction, duct and conveyor systems, horizontal open joists, and “cockloft” area.
- Impact of heat on unprotected steel columns, cables, joists, nail plates (gussets), etc.
- Impact of content load, weight of fire fighting water, snow loads, etc. on building integrity.
- Buildings under construction/alteration or in a dilapidated or abandoned condition pose extra hazards.
- Indications of building weakness or pending collapse.
- Probable collapse sequence should it occur.

Protective measures should include:

- Pre-fire plans where available may provide a critical risk assessment and decision making information for Incident Commanders.
- Identification and maintenance of escape paths during interior operations.
- Establishment of collapse/safety zones.
- Standardized evacuation signal.
- Travel distance into building vs. available air supply.

Reference to other Guidance Notes including:

- GN #2-1 (Incident Command);
- GN #2-2 (Buddy System);
- GN #2-4 (Incident Safety Officer);
- GN #4-4 (Personal Alert Safety Systems);
- GN #5-1 (Firefighter Accountability and Entry Control);
- GN #6-11 (Rapid Intervention Teams); and
- GN #6-18 (Lightweight Building Construction).