WHAT THIS PRESENTATION IS ABOUT

At around 1:25 AM on June 24, 2021, a large section of the Champlain Towers, in Surfside, Florida (about 300 miles southeast of St. Petersburg, Florida), suffered a partial pancake collapse. Engineering Reports have surfaced outlining warning signs that were issued in years past. The ninety-eight people lost their life in the tragedy.

In New York City, 14 people died in a tragic fire in a Bronx residential building in 2017, and two years earlier in the East Village, a gas explosion completely destroyed three buildings. In the aftermath of both incidents, legislation was enacted to address problems and hopefully prevent future tragedies. This course will review what is known about the Champlain Towers incident and review other building disasters and how to prevent them.
TOPICS

Potential Causes of Failure
• Initial Construction Concerns
• Deferred Maintenance and Repair
• Exposure to Elements
• Wear
• Age

INITIAL CONSTRUCTION CONCERNS

Was it built the way it was designed?
• Sign-offs
• Warranties
• Contact List
• Materials
• Drawings
• Test Reports

DEFERRED MAINTENANCE AND REPAIR

• Maintenance: involves functional checks, servicing of equipment and systems.
• Repair: involves implementing recommended and approved remedies to prolong service life.
• Deferred: delayed or unimplemented maintenance and repairs.
EXPOSURE TO ELEMENTS

• Rain/Water
• Snow/Ice (Cold)
• Heat (Extreme)
• Salt (Oceanic)
• Wind (Tornado/Hurricane)

WEAR

Use: Ordinary wear and tear that is simple damage caused by normal use. This can include carpet wearing down, door handles and doorknobs wearing away or breaking.

Abuse: Purposeful damage, vandalism. This can include smoke damage (from smoking, not fire), pet damage, scratches on surfaces, purposefully made holes (i.e. from attachments).

AGE

Useful Life Expectancy

<table>
<thead>
<tr>
<th>Material</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caulking</td>
<td>5-10 Years</td>
</tr>
<tr>
<td>Paint (Interior)</td>
<td>7-10 Years</td>
</tr>
<tr>
<td>Steel</td>
<td>100+</td>
</tr>
<tr>
<td>Concrete (General)</td>
<td>100+</td>
</tr>
<tr>
<td>Wood</td>
<td>5-40 Years</td>
</tr>
<tr>
<td>Masonry</td>
<td>100+</td>
</tr>
<tr>
<td>Glass</td>
<td>50+</td>
</tr>
<tr>
<td>Aluminum Siding</td>
<td>25-40 Years</td>
</tr>
<tr>
<td>Asphalt</td>
<td>15-20 Years</td>
</tr>
<tr>
<td>Stone</td>
<td>100+</td>
</tr>
<tr>
<td>Window (All)</td>
<td>8-40 Years</td>
</tr>
</tbody>
</table>

(Courtesy of NARPM (www.narpm.org))
SURFSIDE CONDOMINIUM

- Progressive Collapse from the ground-level parking garage under the housing units where a reinforced concrete structural support failed which then pulled the central and northeast sections of the building down.
THE GREAT FIRE

- Comprehensive fire legislation had been enacted in NYC in the 1860's in the wake of the "Great Fire of 1835," in which 300 buildings were destroyed, and many lives lost. The Great New York Fire destroyed the New York Stock Exchange and most of the buildings on the southeast tip of Manhattan around Wall Street on December 16-17, 1835.

- The fire began in the evening in a five-story warehouse at 25 Merchant Street (now called Beaver Street) at the intersection with Pearl Street between Hanover Square and Wall Street in the snow-covered city and was fed by gale-force winds blowing from the northwest towards the East River. With temperatures around 17 below zero (F) and the East River frozen solid, firefighters had to cut holes in the ice to get water. Water then froze in the hoses and pumps. Attempts to blow up buildings in its path were thwarted by a lack of gunpowder in Manhattan. Firefighters coming to help from Philadelphia, Pa. said they could see signs of the fire.

- About 2 a.m., Marines returned with gunpowder from the Brooklyn Navy Yard and blew up buildings in the fire's path. By then the fire covered 50 acres, 17 blocks of the city, destroying between 530 and 700 buildings. The losses were estimated at 20 million dollars, which, in today's value would be hundreds of millions. Only two people were killed.

THE BRONX FIRE OF 2017

- On December 28, 2017, New York City had the deadliest fire since the 1990s where there were 13 fatalities, three of them children. While this happened in a rental building, the construction is like many cooperative buildings in the city, and this incident reminds us all, regardless of building size or location of the importance of fire safety.

- The 2017 tragic incident in the Bronx started when a 3-year-old boy was playing with knobs on a gas burner on a ground floor apartment. The extent of the fire was exacerbated when the family left the door to the apartment open after fleeing, allowing the fire to spread faster and more extensively throughout the building.
THE BRONX FIRE OF 2017

- Local Law 117 of 2018: A Local Law to amend the Administrative Code of the City of New York, in relation to stove knob covers

WHAT CAN YOU DO?

- Assess Property
- Research and Compile Records
- Review and Implement Maintenance
- Ask Questions
- Report Problems
- Seek Guidance and Advice
- Fund Reserves
- Make Decisions

QUESTIONS?

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