SOUTH FLORIDA CONDO COLLAPSE: INSIGHTS AND LESSONS LEARNED

Tuesday, July 27, 2021
5:00 p.m. ET/4:00 p.m. CT
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Principal and Vice President
RAND Engineering & Architecture, DPC
Can major building failures happen here?

Yes, but it's unlikely. We sometimes see partial failures/collapses.

- Design flaws
- Construction defects (materials, workmanship)
- Lack of sufficient engineer/architect oversight during construction
- Illegal renovation work
- Deferred maintenance
- Adjacent construction
- Location (subsurface conditions, by the ocean)
- Exposure to elements/weather
- Aging building stock and infrastructure
Current Laws/Codes

28-301.1 of Article 301 of Chapter 3 Maintenance of Buildings of the 2014 NYC Construction Codes – Owner’s responsibilities: All buildings and all parts thereof and all other structures shall be maintained in a safe condition.

- Article 302 Maintenance of Exterior Walls: FISP [inspections every 5 years]
- Article 303 Periodic Boiler Inspections: Annual Boiler Inspections
- Article 304 Elevators and Conveying Systems: Category 1 (annual), Category 3 (every 3 years), and Category 5 (every 5 years) Inspections
- Article 305 Retaining Walls, Partition Fences and Other Site Structures: [inspections every 5 years]
- Article 308 Energy Audits and Retro-Commissioning of Base Building Systems: Local Law 87/09
- Article 309 Benchmarking Energy and Water Use and Disclosure of Energy Efficiency Scores and Grades: Local Laws 84/09 & 33/18
- Article 310 Required Upgrade of Lighting Systems: Local Law 88/09 [R-2/R-3 are exempt]
- Article 311 Installation of Electrical Sub-Meters in Tenant Spaces: Local Law 89/09
Current Laws/Codes

- Article 312 **Carbon Monoxide and Smoke Alarms**: Local Law 112/13 – Periodic Replacement of CO/Smoke Detectors
- Article 312 **Carbon Monoxide, Smoke and Natural Gas Alarms**: Local Law 157/16 - Periodic Replacement of CO Alarms
- Article 313 **Accessibility**: Local Law 47/12 - Retroactive requirement for accessible building entrances
- Article 314 Periodic **Wastewater Recycling System Inspection and Testing**: Local Law 141/13 [Monthly Testing]
- Article 316 **Insulation of Concealed Pipes Exposed During Alteration or Repair**: Local Law 12/14 - Required insulation of certain concealed piping exposed during alteration or repair.
- Article 317 **Cooling Towers**: Local Law 77/15 [Annual Certification]
- Article 318 Periodic Inspection of **Gas Piping Systems**: Local Law 152/16 [inspections every 5 years]
- Article 320a **Building Energy and Emissions Limits**: Local Law 97/19 Requirements
- Article 321 **Energy Conservation Measure Requirements** for Certain Buildings: Local Law 97/19 Requirements
Current Laws/Codes

Facade Inspection Safety Program (FISP)

- 1980 – **Local Law 10/80** enacted when Barnard College freshman Grace Gold was killed by falling terra cotta masonry on the UWS.

- 1998 – LL10 recodified as **Local Law 11/98** after the partial collapse of Madison Avenue building.

- 2013 – Renewed focus on balcony and railing inspections after resident Jennifer Rosoff fell from her 17th floor balcony. LL11 renamed **Facade Inspection Safety Program**.

- 2020 – Additional **FISP** requirements enacted when architect Erica Tishman killed by falling masonry in Times Square.
Current Laws/Codes

Facade Inspection Safety Program (FISP)

- Owners of buildings higher than six stories must have exterior walls and appurtenances inspected every five years by a Qualified Exterior Wall Inspector (QEWI)

- Buildings classified as unsafe (with problems/defects that threaten public safety) must immediately have protection (sidewalk shed, construction fence, etc) installed.

- Increased requirements (additional hands-on inspections and probe investigations for cavity wall buildings) and increased and new civil penalties for failure to comply.

Top: Unsafe condition - displaced section of brickwork
Bottom: Unsafe condition - deflected relieving angle steel and displaced surrounding brickwork
16-story, 99-unit residential building on the Upper West Side

Classified as Unsafe during a FISP 7th Cycle inspection. During the repair program, water damage to the structure behind the brick facade was found to be much more severe than expected.

Emergency temporary shoring was installed within apartments. New scope of work items included the replacement of spandrel beams and reinforcement of supportive columns.
Local Law 152/16 – Gas Piping Inspections

- 2014 – Gas explosion in East Harlem due to two improperly welded ConEd gas pipes leveled two buildings, killed 8, injured 70

- 2015 – Illegal tap into a gas main in the East Village destroyed three buildings, killed two, injured 19

- Several other gas safety laws were also enacted in New York City and New York State.

Gas piping systems in most buildings must be inspected by a Licensed Master Plumber (LMP), or a qualified individual working under the direct and continuing supervision of a LMP, at least once every five years.

An East Village gas explosion destroyed three buildings, causing two deaths on March 26, 2015. The blast was caused by an illegal tap into a gas main. (Marcus Santos / New York Daily / New York Daily News)
2005 – 75-foot retaining wall above the Henry Hudson Parkway collapsed, burying the northbound lanes and six parked cars.

The City wants conclusive findings - detailed probe investigations and physical inspections, which can be very costly.

Owners of properties with a retaining wall that faces a public right-of-way and has any portion of the wall extending ten feet or higher must have their retaining wall inspected every five years by a Qualified Retaining Wall Inspector (QRWI) and a condition assessment report of the inspection submitted by the QRWI within 60 days of completing the inspection.

Local Law 37/08 – Retaining Wall Inspections

In 2005, a 75-foot-high, 150-foot-long section of a retaining wall at Castle Village co-op collapsed onto the Henry Hudson Parkway.
What are we missing?

- STRUCTURAL EVALUATIONS
- COMPREHENSIVE PHYSICAL CONDITION SURVEYS
- GARAGE INSPECTIONS
- SIDEWALK VAULT INSPECTIONS
- FACADE INSPECTIONS FOR BUILDINGS UNDER 6 STORIES
- ADJACENT CONTRUCTION SURVEYS
- POOL INSPECTIONS
- FOUNDATION INSPECTIONS

204 Bedford Avenue, Brooklyn building facade collapse, 2020
Structural Evaluations

Two Google Street View images of the wall’s side showing a slight bulge, from 2009 (top) and 2019 (bottom)

Body Elite Gym at 348 Court Street in Brooklyn, NY collapsed on July 1, 2020. (Todd Maisel / AMNY)
BUILDING DEPARTMENT
MINIMUM INSPECTION PROCEDURAL GUIDELINES FOR BUILDING'S STRUCTURAL RECERTIFICATION

PERMIT NUMBER: 
INSPECTION MADE BY: 

INSPECTION COMMENCED: 
DATE: 
SIGNATURE: 
PRINT NAME: 

INSPECTION COMPLETED: 
DATE: 
TITLE: 
ADDRESS: 

DESCRIPTION OF STRUCTURE (One Report per Building)

a. Name of Title: ____________________________
b. Street Address: ____________________________
c. Building No.: ____________________________
d. Legal Description: ____________________________

a. Owner's Name: ____________________________
b. Owner's Mailing Address: ____________________________
c. Floor Number of Building: ____________________________
d. Building Code Occupancy Classification: ____________________________
e. Present Use: ____________________________
f. General Description, Type of Construction, Size, Number of Stories, and Special Features: Additional Comment: ____________________________

Report format and text based on the guidelines produced by Miami-Dade County. **Professional preparing report may use their own form as long as it contains the same required information found in this package.

MINIMUM INSPECTION PROCEDURAL GUIDELINES FOR BUILDING'S STRUCTURAL RECERTIFICATION

2. PRESENT CONDITION OF STRUCTURE
   a. General alignment (not good, fair, poor, explain if significant)
   1. Bending
   2. Settlement
   3. Deflections
   4. Expansion
   5. Contraction
   b. Portions showing distress (Not beams, columns, structural walls, floors, roofs, other)
   c. Surface conditions – describe general conditions of finishes, noting cracking, spalling, peeling, signs of moisture, penetration & stains
   d. Cracks – note location in significant numbers: Identify crack size as HARLINE if barely discernible; FINE if less than 1 mm in width; MEDIUM if between 1 and 2 mm in width; WIDE if over 3 mm
   e. General aspect of deterioration – cracking or spalling of concrete or masonry; oxidation of metals, rot or dirt stains in wood
   f. Previous patching or repairs
   g. Nature of present loading (indicate residential, commercial, or other; estimate magnitude)

3. INSPECTIONS
   a. Date of notice of required inspection
   b. Date(s) of actual inspection
   c. Name and qualification of individual submitting inspection report
   d. Description of any laboratory or other formal testing, if required, rather than manual or visual procedures
   e. Structural repair note appropriate line:
      1. None required
      2. Required (describe and indicate acceptance):
4. SUPPORTING DATA  
   a. Sheet written data  
   b. Photographs  
   c. Drawings or sketches  

5. MASONRY BEARING WALL  Indicate good, fair, poor on appropriate lines:  
   a. Concrete masonry units  
   b. Clay tile or terra cotta units  
   c. Reinforced concrete tile columns  
   d. Reinforced concrete tile beams  
   e. Local  
   f. Other type bond beams  
   g. Masonry finishes—exterior:  
      1. Stucco  
      2. Veneer  
      3. Paint only  
      4. Other (describe)  
   h. Masonry finishes—interior:  
      1. Veneer  
      2. Paneling  
      3. Paint  
      4. Paint only  
      5. Other (describe)  

   i. Cracks  
      1. Location—note beams, columns, other  
      2. Description  
   j. Spalling  
      1. Location—note beams, columns, other  
      2. Description  
   k. Repair corrosion—check appropriate line:  
      1. None visible  
      2. Minor, patching will suffice  
      3. Significant, patching will suffice  
      4. Significant, structural repairs required  
      5. Samples chipped out for examination in spalled areas  
      6. No  
   l. Yes—describe color, texture, aggregate, general quality  

6. FLOOR AND ROOF SYSTEM  
   a. Roof  
      1. Describe (flat, slope, type roofing, type roof deck, and condition):  
      2. Noise water tanks, cooling towers, air conditioning equipment, signs, other heavy equipment and condition of support  
      3. Noise types of drains and scuppers and condition of cooling tower, air conditioner  
   b. Roof systems:  
      1. Describe (type of system framing, material, spans, condition):  
   c. Inspection—note exposed areas available for inspection, and where it was found necessary to open ceilings, etc. for inspection of typical framing members:  

7. STEEL FRAMING SYSTEM  
   a. Description  
   b. Exposed steel—describe condition of paint & degree of corrosion  
   c. Concrete or other reinforcing—note any cracking or spalling, and note where any covering was removed for inspection  
   d. Elevation shears, beams & connections, and machine floor beams—note condition:  

8. CONCRETE FRAMING SYSTEM  
   a. Full description of structural system  
   b. Cracking  
      1. Not significant  
      2. Location and description of members affected and type cracking  
   c. General condition  
   d. Repair corrosion—check appropriate line:  
      1. None visible  
      2. Location and description of members affected and type cracking  
      3. Significant, structural repairs required  
      4. Significant, other (describe)  
   e. Samples chipped out in spalled areas:  
      1. No  
      2. Yes—describe color, texture, aggregate, general quality:  

9. WINDOWS  
   a. Type: (Wood, steel, aluminum, plexiglass, single hung, double hung, casement, awning, divided, fixed, other)  
   b. Anchorage—type and condition of fasteners and anchors  
   c. Insulation—type of condition of glass, sealant, and washers  
   d. Interior seats—type and condition at operable units  
   e. General condition  

10. WOOD FRAMING  
    a. Type—fully describe if mill construction, field construction, major spans, joists  
    b. Note: metal framing i.e., angles, plates, bolts, splices, pins, joints, other, and note condition  
    c. Joists—note if well fitted and soil closed  
    d. Drainage—note accumulations of moisture  
    e. Ventilation—note any concealed spaces open for inspection  

ADDITIONAL COMMENTS (If necessary, attach a separate sheet)
2015 – A two-level parking garage collapsed in Johnson City, near Binghamton, New York.

New York State amended the state code to require parking garage inspections every three years.

New York City is currently exempt until the new Building Code is released within the next year.
Garage Inspections

14-story cooperative with 6-story garage in Guttenberg, New Jersey.

Severe deterioration and corrosion were observed in the parking garage of a building where RAND was administering an exterior repair program. A structural evaluation of the garage found emergency level conditions due to deferred maintenance, including:

- Heavily corroded column and girder connections at risk of collapse.
- Support structure failure (supporting girder, column, and connecting beams) at the garage entrance due to advanced corrosion and cyclical automobile loading, exacerbated by inadequate maintenance and flawed repairs at critical areas exposed to weather.
- Localized collapse at the garage roof caused by automobile wheel loading an area severely weakened by repeated water infiltration.

Severe deterioration observed, which required emergency temporary shoring while RAND developed a structural repair program for the co-op.
Sidewalk Vaults

- 2020 – Leonard Shoulders fell 12-15 feet through the sidewalk into a sidewalk vault in the Bronx

- 2017 – A woman fell through sidewalk in Washington Heights

- 2007 – Two construction workers fell through sidewalk they were jack-hammering in Midtown Manhattan

A sidewalk collapsed beneath a woman in Washington Heights in 2017, leaving her seriously injured after a terrifying 6-foot plunge. (Theodore Parisienne for New York Daily News)
Sidewalk Vaults

17-story commercial building in Greenwich Village
Concrete arch vault structure with deteriorated steel beams and arch straps. Waterproofing membrane between sidewalk slab and structure deteriorated over time, allowing water to infiltrate and corrode the vault structure.

12-story, 102-unit cooperative in Manhattan Valley
Severely deteriorated steel beam supporting a sidewalk over a gas meter room within the vault. Existing concrete slab consisted of a single-slab system and no waterproofing membrane was installed to protect the structure.
Sidewalk Vaults

16-story, 74-unit cooperative in Chelsea
Severely deteriorated concrete slab surrounding sidewalk penetration for access hatch. Penetrations in the structure create a weak point for waterproofing, and must be properly detailed and maintained.

12-story commercial building in Greenwich Village
Steel beam deterioration after years of water infiltration. Waterproofing membrane at sidewalk either deteriorated or was not installed.
FISP for Buildings Under 6 Stories

In 2020 alone, six partial or full building collapses occurred in New York City. While the causes of these incidents are still under investigation, all buildings involved were not required to undergo periodic facade inspections because they were under six stories. (In 2021 in response to the Surfside collapse, Jersey City, as the first of likely many municipalities, has proposed legislation to require masonry inspections down to four floors.)

The brick facade of a building on East 38th Street in Manhattan partially collapsed, crushing several cars below, but no injuries were reported in July 2020. (The Real Deal / Todd Maisel)
Adjacent Construction Surveys

74 Grand Street “Leaning Tower of Soho”
In 2004, the 74 Grand Street building shifted several feet out of plumb as its foundation became undermined after heavy rains, which washed out enough of the soil from the adjacent empty lot at 72 Grand Street.

Crack monitors at a 7-story, 7-unit cooperative in Soho where RAND conducted a pre-construction survey. For all construction projects, a detailed program should be developed and stringently followed during construction to accommodate older adjacent structures. This should include, at minimum, monitoring of vertical movement (settlement) and lateral movement, as well as vibration and crack monitoring.
Adjacent construction damage to a 4-story co-op on the Lower East Side.

Adjoining construction team did not provide sufficient protection/underpinning for the adjacent building.
Supplementary requirements for avoidance of adjacent construction damage to historic structures

It is also intended that these procedures shall be used to safeguard any existing structure in accordance with Section 27-127 (C26-105.1) if deemed necessary by the Commissioner.

DEFINITION: ADJACENT HISTORIC STRUCTURE. A structure which is designated New York City landmark or located within an historic district, or listed on the National Register of Historic Places and is contiguous to or within a standard distance of ninety feet from a lot under development or alteration.

SUPPLEMENTARY PROCEDURES: The architect or engineer designated for Construction Inspection of Construction Required for or Affecting the Support of Adjacent Property or Buildings required by Section 27-724 (C26-1111.6) shall institute a monitoring program for adjacent historic structures and for any existing structure designated by the Commissioner. The following supplementary procedures shall be considered and adhered to:

1.0. Subsurface conditions and effects that might influence performance of structures.

<table>
<thead>
<tr>
<th>Subsurface conditions</th>
<th>Effect that Might Influence Performance of Structures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1. Large obstructions in the fill</td>
<td>Vibrations during excavating and pile driving operations</td>
</tr>
<tr>
<td>1.2. Shallow water table</td>
<td>Drawdown of water table and loss of ground during excavation operations</td>
</tr>
<tr>
<td>1.3. Previous layers within and under the hardpan stratum</td>
<td>Loss of ground during excavation operations</td>
</tr>
<tr>
<td>1.4. Dense nature of hardpan</td>
<td>Vibrations during excavating and pile driving operations</td>
</tr>
<tr>
<td>1.5. Boulders</td>
<td>Vibrations during pile driving and/or blasting operations</td>
</tr>
<tr>
<td>1.6. Bedrock</td>
<td>Vibrations during pile driving and/or blasting operations</td>
</tr>
</tbody>
</table>

BACKGROUND: Approval of the Landmarks Preservation Commission is required before any changes may be made to protected features of any individually designated landmark or property within historic districts. A listing of these was furnished to each Borough. Building Code Section 27-156 (C26-112.4) serves to protect historic structures by requiring that all lots, buildings, and service facilities adjacent to foundation and earthwork areas shall be protected and supported in accordance with the requirements of Building Construction Subchapter 7 [Article] and Building Code Subchapters 11 and 19 (Article). The intent of these procedures is to supplement the latter and require a monitoring program to reduce the likelihood of construction damage to adjacent historic structures and to detect at an early stage the beginnings of damage so that construction procedures can be changed.
2.0. Construction vehicular traffic and construction equipment movement which might increase existent vibration levels.

3.0. Establishment of a peak particle velocity design criterion during the driving of sheeting or blasting operations.

3.1. The maximum permissible peak particle velocity shall be 0.5 in./sec. (13mm/sec.) with no distance criterion.

3.2. The maximum permissible peak velocity shall be reduced if movements or cracking is detected.

3.3. Maintaining accurate records, including the location of the blast, total explosive weight in the blast, maximum explosive weight per delay (or the explosive weight in each blast hole and the designation of the delay cap used in each hole).

4.0. Establishment of criteria for any temporary retaining wall structure.

4.1. The maximum permissible horizontal and vertical movement of the temporary retaining wall system shall be designed in accordance with generally accepted engineering practice.

5.0. Establishment of movement criteria for the historic building.

5.1. The maximum permissible vertical and horizontal movement shall be 1/8 in. (6mm.).

6.0. Establishment of criteria for ground water.

6.1. The lowest water level shall be determined by periodic ground water monitoring at observation wells, seasonally adjusted and designated as the "low datum" prior to the start of excavation operations.

6.2. Limitation on water drawdown shall be considered in the criteria for the retaining system.

7.0. Establishment of a monitoring program.

8.1. A licensed surveyor shall be retained to monitor movements and tilting of the historic buildings and the temporary retaining system.

8.1.1. Settlements of the street and of selected points on the ground area to be monitored.

8.1.2. Survey measurements shall be made a minimum of two times per week.

8.1.3. Optical survey readings shall be taken to an accuracy of ±0.01 ft. (±0.3mm.).

8.2. "Telltales" shall be installed across existing cracks and in other sensitive areas to permit changes in crack width to be measured.

8.2.1. A microtremor sensitive to 0.001 in. (0.003mm.) shall be used to monitor crack widths at least once a day.

8.3. Water levels in observation wells are to be monitored at least twice a day for the period that active de-watering is in progress.

8.4. Requirements for seismographic test data.

8.4.1. Obtain seismographic test data showing the vibration transmission characteristics of the area around the blasting site.

8.4.2. Vibrations from the driving of sheet piles, from excavating and blasting, shall be monitored with a portable seismograph placed adjacent to or within the historic structure closest to the vibration source.

8.5. Requirements for photographs.

8.5.1. Photographs of the affected historic buildings of sufficient clarity to view the "telltales" shall be taken weekly during construction.

8.5.2. The photographs shall be identified on the back with the building address, direction, date, time and photographer.


9.1. Records of the monitoring program shall be retained.

9.2. Controlled inspection reports as to the monitoring program shall be submitted to the department per amendment on Form 10E within thirty days of completion of the excavation.
Page from Champlain Towers South structural report finding evidence of distress at the pool deck concrete slabs, and a recommendation to remove and replace in their entirety.

October 8, 2018
Re: Champlain Towers South Condominium
Structural Field Survey Report
MC Job# 18217
Page 9

slabs. MC recommends that the Entrance/Pool deck concrete slabs that are showing distress be removed and replaced in their entirety. Unfortunately, all of these failed slab areas are under brick pavers, decorative stamped concrete and planters which require completed waterproofing replacement. All repaired concrete slabs located in the parking garage are to be repaired in accordance with the recommendations of ICRI.

Figure K1. Previously installed failed injection repairs with leaching forming

Figure K2. More previously installed failed injection repairs with leaching forming

Champlain Towers South pool before the collapse. (Pool Magazine)
What can we do?

HOLISTIC APPROACH/PROACTIVE MENTALITY

- Periodic Physical Condition Surveys
- Periodic Structural Surveys
- Pre-Construction Surveys
- Proper and Timely Maintenance
- Strengthen codes and laws
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Florida Collapse

We may not know the cause of the collapse for a long time

What has been reported:

a. Board had information
b. Multiple factors to cause such a horrific event
c. Apparently, no one said evacuate
d. Action was not taken timely
e. Building inspection certifications are performed 40 years after construction
Property Managers Role

- Knowledge base for boards - educators
- Project administrators
- Planners
- Communicators
What are some of the things we should do?

• Make timely informed decisions
• Type of construction familiarity
• Add limited structural inspections to LL11 – perhaps every other cycle
• Continue to instruct staff to view and be aware during routine inspections
• See something, say something – cracks, crumbling, bulges, spalls, sinking floors and ceilings, ground water
• Pay special attention to garages, basements, pools, vaults, mechanical rooms, etc.
• Reserve fund studies
• Address buildings 6 stories or less as well
What should we do - continued

- Review financing options
- Ensure you have adequate insurance
- Board liability protection
- Regularly inspect and scrutinize apartment alterations
- Review what is happening next door
- Engage professionals with a proven track record
- Look up, down and around – what do you see (a/c, parapets, balconies, foundations, vaults etc.)
- Be aware of moist, wet conditions and sources of water. Maintain an active list
- Immediate projection when a condition is discovered – shoring, sidewalk sheds, evacuation if recommended
Important decisions to be made

• Budget
  a. Cost of inspections will increase due to the new requirements for additional drops and/or other method of hands on inspections, i.e. boom trucks or rope inspections. Also, for those buildings mandated to perform probes, additional cost will be incurred
  b. Operating Budgets – include surplus?
  c. Capital Budget
  d. Other sources of revenue

• Vendor Selection - Scaffolding companies and licensed façade contractors will be in greater demand

• Reserve Fund Study – use as a planning tool
What do we do in NYC

Safety Inspections and Protocols:

- Facade Inspection and Safety Program (FISP)
- Elevator door-lock monitoring
- Gas line inspections
- Smoke/Carbon monoxide detectors
- Self closing doors inspections
- Garage Inspections – protocols to be determined
- Retaining wall inspections
- Signage – Owners are now required to post a building’s façade condition certificate in an easily viewable area
Why are parking constructions a concern?

- Unique wear and tear: exposure to de-icing solutions, motor oil, traffic, often open to the elements
- Defects can be hidden as it is not well lit
- Exposed structure: concrete, steel, wood
- Located on the basement level which means columns can support many floors above
What does this mean for the building?

**Maintenance**
- Drainage Systems
- Patching Spalls on floor and ceilings
- Sealing joints and cracks
- Maintaining protective coating

**Repair**
- Structural repairs
- Waterproofing membrane
- Expansion Joint Replacement
- Load bearing conditions and connections
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### Example of Underinsurance

<table>
<thead>
<tr>
<th>Property Value</th>
<th>$250,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coinurance %</td>
<td>80%</td>
</tr>
<tr>
<td>Limit of Insurance</td>
<td>$100,000</td>
</tr>
<tr>
<td>Deductible</td>
<td>$ 500</td>
</tr>
<tr>
<td>Amount of Loss</td>
<td>$ 40,000</td>
</tr>
</tbody>
</table>

**Step 1:** How much insurance should you have carried to meet coinurance requirements

\[ \$250,000 \times 80\% = \$200,000 \]

**Step 2:** The limit of insurance divided by the amount of insurance you should have carried as calculated in Step 1. This is your coinsurance penalty.

\[ \$100,000 \div \$200,000 = 0.50 \]

**Step 3:** Multiply the amount of the loss by the coinsurance penalty as calculated in Step 2.

\[ \$40,000 \times 0.50 = \$20,000 \]

**Step 4:** Now apply the deductible to the amount of the loss payable. This is the amount the insurance company will pay you. The remaining $20,500 is not covered.

\[ \$20,000 - \$500 = \$19,500 \]
### Example of Adequate Insurance

<table>
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<tr>
<th>Description</th>
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<td>Property Value</td>
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<tr>
<td>Deductible</td>
<td>$500</td>
</tr>
<tr>
<td>Amount of Loss</td>
<td>$40,000</td>
</tr>
</tbody>
</table>

The minimum amount of insurance to meet your coinsurance requirement is $200,000 ($250,000 x 80%). Therefore the limit of insurance is adequate and there will be no coinsurance penalty. The most the insurance company will pay in this example is $39,500; the amount of the loss $40,000 less the deductible of $500.
Casey Fannon, CFA

National Cooperative Bank
President
cfannon@ncb.com
703.302.1917
COOPERATIVE AND CONDOMINIUM FINANCING

Financing is available to both Coops and Condos in a variety of forms to suit the situation

Cooperatives

- Coops own a valuable asset that can be leveraged
- A mortgage allows for a liberal amortization
- Many coops utilize second and third mortgages
- Coop Board of Directors have strong control over the borrowing process
- Borrowing is customary and expected

Condominiums

- Condominiums lack an asset to leverage
- Bank collateral is generally a UCC filing against maintenance receivables
- Amortization is shorter, typically 10 – 15 years
- Can utilize a super-unit for traditional 30-year financing
- Condo Board of Directors have more limitations to control the borrowing process (may need a majority member vote)
COMMON UNDERWRITING CRITERIA

- History of prudently managing the association’s cash flow (balanced budget)
- Replacement reserve levels have been adequately maintained – minimum of 10% of annual maintenance collections
- Strong maintenance collection polices with limited arrears (measured by unit count & dollars)
- Accounts payable management
- Owner-occupied status
  - High level of sponsor, investor, and sublet units will be analyzed
- Commercial unit analysis
- Capital improvement oversight commensurate with the scope of the project
- Borrower specific – ground lease, flip-tax, litigation, etc.
Question & Answer