

ORDINANCE NO. 2022 - 1717

AN ORDINANCE OF THE TOWN COMMISSION OF THE TOWN OF SURFSIDE, FLORIDA AMENDING THE TOWN OF SURFSIDE CODE OF ORDINANCES BY CREATING A NEW SECTION 14-3, "RECERTIFICATION OF EXISTING BUILDINGS", IN ARTICLE I. - "IN GENERAL", OF CHAPTER 14 - BUILDINGS AND BUILDING REGULATIONS", TO ADOPT AND INCORPORATE SECTION 8-11. - "EXISTING BUILDINGS" OF THE MIAMI-DADE COUNTY CODE OF ORDINANCES WITH MODIFICATIONS IN FURTHERANCE OF THE "DON'T WAIT, ACCELERATE" PLAN TO IMPROVE BUILDING SAFETY; PROVIDING FOR SEVERABILITY; PROVIDING FOR INCLUSION IN THE CODE; PROVIDING FOR CONFLICTS; AND PROVIDING FOR AN EFFECTIVE DATE.

1 **WHEREAS**, Article VIII, Section 2 of the Florida Constitution, and Chapter 166, Florida
2 Statutes, provide municipalities with the authority to exercise any power for municipal purposes,
3 except where prohibited by law, and to adopt ordinances in furtherance of such authority; and

4 **WHEREAS**, the Town Commission of the Town of Surfside ("Town Commission") finds it
5 periodically necessary to amend its Code of Ordinances ("Code") in order to update regulations and
6 procedures to maintain consistency with state law and to implement municipal goals and objectives
7 for the general health, safety and welfare of the Town residents and occupants; and

8 **WHEREAS**, following the tragic collapse of the Champlain Towers South Condominium
9 building, the Town Commission recognizes the importance of providing enhanced monitoring of
10 certain aging buildings within the Town that may put residents, guests, invitees, and others at
11 increased risk; and

12 **WHEREAS**, Section 8-11. - "Existing Buildings" of the Miami-Dade County Code of
13 Ordinances (the "County Code") currently requires recertification of buildings (except single-
14 family residences, duplexes and minor structures as defined in the County Code) and components
15 prior to 40 years from their date of Certificate of Occupancy, including the requirement for specific
16 inspection of existing buildings and structures for the purpose of determining the general
17 structural condition of the building or structure and of its electrical systems pursuant to the

18 Building Code, and furnishing the Building Official with a written report of such inspection as
19 prescribed therein; and

20 **WHEREAS**, in the aftermath of the Champlain Towers South collapse, a consortium of
21 building officials based in Miami-Dade County convened to discuss improvements and make
22 recommendations to the recertification requirements contained in Section 8-11 of the County Code
23 ~~and have recommended the following requirements, culminating in the attached Miami-Dade~~
24 ~~County Ordinance, Item 4C on the Board of County Commissioners (“BCC”) Agenda dated~~
25 ~~February 1, 2022, File Number 220166, “Existing Buildings and Unsafe Structures, as approved~~
26 ~~on first reading by the BCC on February 1, 2022 Recommendations of the consortium of building~~
27 ~~officials in Miami-Dade County (the “County Ordinance”) attached as (Exhibit “A”) which~~
28 ~~addresses the Town’s concerns except for requirements to share and disseminate engineering~~
29 ~~report to the Building Official and owner and residents of a building undergoing recertification;~~
30 ~~as provided in Exhibit “A”: (1) Building official to provide notice of recertification requirements~~
31 ~~to the owner at least two years prior to the due date for recertification; (2) The first building~~
32 ~~recertification to occur on or before 30 years from the issuance of the Certificate of Occupancy;~~
33 ~~(3) Recertification reports for structural matters to be performed by a licensed structural engineer;~~
34 ~~(4) A structural engineer’s letter certifying continued occupancy for any extensions of~~
35 ~~recertification deadlines or during repairs, and renewed certifications of safe occupancy every six~~
36 ~~months thereafter; (5) Engineer evaluating a building for recertification to submit any reports or~~
37 ~~comments to the building official with jurisdiction upon issuance to the owner; and (6) Posting of~~
38 ~~unsafe structure notices in a conspicuous location for buildings owned by multiple owners such as~~
39 ~~condominiums and co-operatives; and~~
40

41 **WHEREAS**, the Board of County Commissioners ~~has not yet~~ acted by adopting on first
42 reading the an the County Ordinance attached as Exhibit “A” amending Section 8-11 of the County
43 Code based on the recommendations made by the consortium of building officials; and

44 **WHEREAS**, on November 23, 2021, the Miami-Dade County Board of Rules and Appeals
45 issued enhanced guidelines for 40-year building recertification that are attached hereto as Exhibit
46 “B;” and

47 **WHEREAS**, the Town had previously promulgated guidance regarding geotechnical testing
48 as provided in Memo #1 from KCE Structural Engineers, P.C., on July 7, 2021, attached hereto as
49 Exhibit “C;” and

50 **WHEREAS**, the Town Commission finds that the County Ordinance based on the
51 recommendations of the consortium of building officials, and the recommendations or guidance of
52 the Miami-Dade County Board of Rules and Appeals provides an enhanced and acceptable
53 framework for monitoring the integrity of threshold buildings; and

1. Coding: ~~Strikethrough~~ words are deletions to the existing words. Underlined words are additions to the existing words. Changes between first and second reading are indicated with highlighted double strikethrough and double underline.

54 **WHEREAS**, the Town Commission wishes to amend the Town Code to adopt and incorporate
55 existing County Code requirements for recertification of buildings as set forth in Section 8-11 of
56 the County Code, as modified by the (i) County Ordinance attached hereto as Exhibit “A” based on
57 the recommendations of the consortium of building officials and (ii) the Miami-Dade County Board
58 of Rules and Appeals guidelines attached as Exhibit “B” and the recommendations for structural
59 studies and inspections consistent with KCE Structural Engineers, P.C. Memo #1 attached as
60 Exhibit “C”, and as directed by the Town Commission; and

61 **WHEREAS**, on December 14, 2021 at its regular monthly meeting, the Town Commission
62 directed staff to evaluate and prepare an ordinance implementing the County Code requirements
63 for building recertification, as modified by the recommendations of the consortium of building
64 officials and the Miami-Dade County Board of Rules and Appeals and to include and add
65 geotechnical studies and inspections; and

66 **WHEREAS**, this ordinance proposes to amend Chapter 14 – Buildings and Building
67 Regulations”, Article I. – “In General”, of the Code, to add Section 14-3. – “Recertification of
68 Existing Buildings” to adopt and incorporate Section 8-11 of the County Code as modified by the
69 County Ordinance based on the recommendations of the consortium of building officials attached
70 as (Exhibit “A”) and the Miami-Dade County Board of Rules and Appeals attached as (Exhibit
71 “B”) and to include and add recommendations for geotechnical studies and inspections consistent
72 with KCE Structural Engineers, P.C. Memo #1 (Exhibit “C”) as directed by the Town Commission;
73 and

74 **WHEREAS**, the Town Commission held its first public hearing on January 11, 2022 and
75 recommended approval of the proposed amendments to the Code having complied with the notice
76 requirements in the Florida Statutes; and

77 **WHEREAS**, the Town Commission has conducted a second duly noticed public hearing on
78 these regulations as required by law on February 8, 2022 and further finds the proposed changes to
79 the Code are necessary and in the best interest of the community.

80

1. Coding: ~~Strikethrough~~ words are deletions to the existing words. Underlined words are additions to the existing words. Changes between first and second reading are indicated with highlighted double-strikethrough and double underline.

81 NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COMMISSION OF THE
82 TOWN OF SURFSIDE, FLORIDA¹:

83
84 **Section 1. Recitals.** The above Recitals are true and correct and are incorporated herein
85 by this reference.

86
87 **Section 2. Town Code Amended.** Chapter 14 – “Buildings and Building Regulations”,
88 Article I – “In General”, of the Surfside Town Code of Ordinances, is hereby amended to create a
89 new Section 14-3 - “Recertification of Existing Buildings” which shall read as follows¹:

90 **Sec. 14-3. – Recertification of Existing Buildings.**

91
92 Section 8-11. - “Existing Buildings” of the Miami-Dade County Code of Ordinances, as
93 may be amended from time to time, is hereby adopted and incorporated by reference, with
94 the following modifications:

95
96 (1) *Provisions of the attached Miami-Dade County Ordinance, Item 4C on the Board*
97 *of County Commissioners (“BCC”) Agenda dated February 1, 2022, File Number*
98 *220166, “Existing Buildings and Unsafe Structures, as approved on first reading*
99 *by the BCC on February 1, 2022 Recommendations of the consortium of building*
100 *officials in Miami-Dade County (Exhibit “A”) and, in addition:*

- 101 a. *, the engineer(s) evaluating a building for recertification is required to submit*
102 *any reports or comments to the building official with jurisdiction and to all*
103 *owners and residents of the building upon issuance to the owner; and*
104 b. *Any owner of a multifamily building or the condominium association, as*
105 *applicable, shall disseminate any report received from the engineer to all*
106 *owners and residents of the building .:*

107 ~~a. The building official shall provide notice of recertification requirements to the~~
108 ~~owner of buildings at least two years prior to the due date for recertification; and~~

109 ~~b. The first building recertification shall be required on or before the lesser of 30~~
110 ~~years from the issuance of the Certificate of Occupancy or whatever time frame~~
111 ~~is required by the Miami Dade County Code of Ordinances; and~~

112 ~~e. Any recertification reports for structural matters shall be performed by a~~
113 ~~licensed structural engineer; and~~

114 ~~d. A structural engineer’s letter certifying continued occupancy shall be required~~
115 ~~for any extensions of recertification deadlines or during repairs, and renewed~~
116 ~~certifications of safe occupancy every six months thereafter; and~~

117 ~~e. The engineer(s) evaluating a building for recertification is required to submit~~
118 ~~any reports or comments to the building official with jurisdiction upon issuance~~
119 ~~to the owner; and~~

1. Coding: ~~Strikethrough words~~ are deletions to the existing words. Underlined words are additions to the existing words. Changes between first and second reading are indicated with highlighted ~~double strikethrough~~ and double underline.

120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151

152
153
154

155
156
157
158
159
160

~~f. The building official shall post any notice of unsafe structure notices in a conspicuous location for buildings owned by multiple owners such as condominiums and co-operatives.~~

- (2) *Recommendations of the Miami-Dade County Board of Rules and Appeals (Exhibit "B") and Town Engineering Consultant (Exhibit "C").* Reports for building recertification shall, at a minimum, meet the requirements of the November 23, 2021 memorandum regarding the "Board of Rules and Appeals 40-year Building Recertification General Considerations and Guidelines", as may be amended and updated from time to time, and the structural investigation recommendations contained in Memo #1 by KCE Structural Engineers, P.C., and any subsequent guidelines issued by the Town or Miami-Dade County retained on file in the building department.
- (3) *Town of Surfside Geotechnical Recommendations Requirements.* It is recommended that Recertification shall include analysis of geotechnical conditions by a registered practicing geotechnical engineer who ~~shall~~ may:
- a. Review original geotechnical report for the original building design and confirm that it is consistent with what was built; and
 - b. Complete and submit a multichannel analysis of surface waves (MASW) or electrical resistivity testing geophysical study.

Penalties. The failure to meet the deadlines for certification and compliance with the above requirements shall constitute a civil violation in addition to potential designation as an unsafe structure and other remedies as provided in the Miami-Dade County Code of Ordinances.

Implementation. Any building subject to recertification requirements that is more than 30 years old on the effective date of this Ordinance and which has not previously been recertified, shall be recertified by the owner within two (2) years from the effective date of this Ordinance.

Section 3. Severability. If any section, sentence, clause or phrase of this Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way affect the validity of the remaining portions of this Ordinance.

Section 4. Inclusion in the Code. It is the intention of the Town Commission, and it is hereby ordained that the provisions of this Ordinance shall become and made a part of the Town of Surfside Code of Ordinances, that the sections of this Ordinance may be renumbered or re-lettered to accomplish such intentions; and the word "Ordinance" may be changed to "Section" or other appropriate word.

1. Coding: ~~Strikethrough words~~ are deletions to the existing words. Underlined words are additions to the existing words. Changes between first and second reading are indicated with ~~highlighted double-strikethrough~~ and double underline.

161 **Section 5. Conflicts.** Any and all ordinances and resolutions or parts of ordinances or
162 resolutions in conflict herewith are hereby repealed.

163
164 **Section 6. Effective Date.** This ordinance shall become effective upon adoption.

165
166 **PASSED and ADOPTED** on first reading this 11th day of January, 2022.

167
168 **PASSED and ADOPTED** on second reading this 8th day of February, 2022.

169
170 **First Reading:**
171 Motion by: Commissioner Salzhauer
172 Second by: Commissioner Velasquez


173
174 **Second Reading:**
175 Motion by: Commissioner Salzhauer
176 Second by: Commissioner Kesl

177
178 **FINAL VOTE ON ADOPTION**
179 Commissioner Charles Kesl Yes
180 Commissioner Eliana R. Salzhauer Yes
181 Commissioner Nelly Velasquez Yes
182 Vice Mayor Tina Paul Yes
183 Mayor Charles W. Burkett Yes

184
185
186 _____
187 Charles W. Burkett
188 Mayor

189 **ATTEST:**
190
191 _____
192 Sandra N. McCready, MMC
193 Town Clerk

194
195 **APPROVED AS TO FORM AND LEGALITY FOR THE USE**
196 **AND BENEFIT OF THE TOWN OF SURFSIDE ONLY:**

197
198 
199 _____
200 Weiss Serota Helfman Cole & Bierman, P.L.
201 Town Attorney

1. Coding: ~~Strikethrough~~ words are deletions to the existing words. Underlined words are additions to the existing words. Changes between first and second reading are indicated with highlighted double strikethrough and double underline.

RESOLUTION NO. 2022- 2858

A RESOLUTION OF THE TOWN COMMISSION OF THE TOWN OF SURFSIDE, FLORIDA, URGING THE FLORIDA LEGISLATURE TO OPPOSE SENATE BILL 280, WHICH UNDERMINES LOCAL AUTHORITY'S ABILITY AND ELECTED DUTY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF SURFSIDE RESIDENTS, AND WOULD ALLOW INDIVIDUALS AND ENTITIES TO DELAY ENACTMENT OF LOCAL ORDINANCES BY FILING LAWSUITS THAT ALLEGE AN ORDINANCE IS ARBITRARY OR UNREASONABLE; AUTHORIZING THE TOWN CLERK TO TRANSMIT THIS RESOLUTION TO THE OFFICIALS NAMED HEREIN; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, in recent years, the Florida Legislature has increasingly contemplated and implemented legislation that restricts municipal and county home rule and designed to restrict cities and counties from legislating on issues ranging from vacation rentals to the distribution of plastic bags at stores in coastal communities; and

WHEREAS, the Florida Legislature is currently considering Senate Bill 280 ("SB 280"), which allows individuals and entities to delay enforcement of an ordinance by merely alleging that the ordinance is arbitrary or unreasonable; and

WHEREAS, the Town Commission of the Town of Surfside (the "Town") finds that SB 280 serves to limit home rule authority by empowering individuals and entities with the ability to put forth frivolous lawsuits in order to trigger automatic court stays of local ordinances; and

WHEREAS, the Town Commission urges the Florida Governor, Florida Legislature, and the Miami-Dade County Legislative Delegation to oppose SB 280; and

WHEREAS, The Town Commission finds that SB 280 undermines local elected official's duty of self-determination and protection of local interests and the health, safety and welfare of its residents; and

WHEREAS, the Town Commission finds that this Resolution is in the best interest and welfare of the citizens of the Town.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COMMISSION OF THE TOWN OF SURFSIDE, FLORIDA:

Section 1. **Recitals Adopted.** The recitals are true and correct and incorporated in the Resolution.

Section 2. **Urging Resolution.** The Town Commission urges the Florida Governor, Florida Legislature, and the Miami-Dade County Legislative Delegation to oppose SB 280.

Section 3. **Transmittal.** The Town Commission authorizes the Town Clerk to transmit a copy of the Resolution to Governor Ron DeSantis, Florida Senate President Wilton Simpson, the Florida Speaker of the House Chris Sprowls, the Miami-Dade County Legislative Delegation, the Florida League of Cities, the Miami-Dade County League of Cities, and all municipalities in Miami-Dade County, Florida.

Section 4. **Effective Date.** This Resolution shall take effect immediately upon adoption.

PASSED AND ADOPTED on this 8th day of February, 2022.

Motion By: Commissioner Salzhauer

Second By: Commissioner Velasquez

FINAL VOTE ON ADOPTION:

Commissioner Charles Kesl Yes

Commissioner Eliana R. Salzhauer Yes

Commissioner Nelly Velasquez Yes

Vice Mayor Tina Paul Yes

Mayor Charles W. Burkett No




Charles W. Burkett, Mayor

ATTEST:



Sandra McCready, MMC
Town Clerk

APPROVED AS TO FORM AND LEGAL SUFFICIENCY:



Weiss Serota Helfman Cole & Bierman, P.L.
Town Attorney

Improvements to 40 Year Process

- Early notification mandate (to be issued by jurisdictions two years prior to a recertification becoming due (i.e. year 38) so property owners have more time to prepare.
- Shorten the recertification mandate to year 30 (instead of 40; in this case, courtesy notice noted above would occur in year 28).
- Mandate the exclusive use of structural engineers for the structural component on threshold buildings (4 stories and above); statutes today allow engineers latitude to qualify more broadly to submit in multiple building code trade disciplines. Similar mandate to be included for electrical component.
- Require as a condition of any time extension an engineer's letter certifying that buildings may be kept in their legal occupancy while reports are being completed or while repairs are being undertaken; when repairs require extended time frames, continued statements for safe occupancy will be required in at least 6-month increments.
- Legislate an affirmative "duty to report" to the Building Official any adverse findings on a structure whether within or outside of the recertification process.
- In structures with multiple unit ownership scenarios where recertification requirements fall to an association or other entity, require that unsafe notices be posted in a conspicuous location and require that associations notify all unit owners and residents of the declaration.





Department of Regulatory and Economic Resources
Board Administration Section
11805 S.W. 26 Street (Coral Way) Rm. 230
Miami, Florida 33175
Tel (786) 315-2573 Fax (786) 315-2570
www.miamidade.gov/development

MEMO

TO: All Building Officials in Miami-Dade County

FROM: Secretary of the Board
Board of Rules and Appeals (BORA)

A handwritten signature in blue ink, appearing to read "Jaime Gascon", with a small "for" written below it.

DATE: November 23, 2021

SUBJECT: BORA 40-Year Building Recertification
General Considerations and Guidelines

At their meeting of November 18th, 2021, the Miami-Dade County Board of Rules and Appeals (BORA) approved revisions to its Forty-Year Building Recertification's General Considerations and Guidelines, inclusive of the Structural and Electrical Recertification Inspection Guidelines. This action was based on recommendations received from several BORA Building Sub-Committee meetings held after the collapse of the Champlain Tower South in the Town of Surfside.

A copy of the revised Forty-Year Building Recertification General Considerations and Guidelines is attached for your use.

Should you have any questions, please contact Jaime Gascon, Board and Code Administration Division Director at (786) 315-2508.

Thank you for your attention.

Delivering Excellence Every Day

GENERAL CONSIDERATIONS & GUIDELINES

SCOPE OF STRUCTURAL INSPECTION

The fundamental purpose of the required inspection and report is to confirm in reasonable fashion that the building or structure under consideration is safe for continued use under present occupancy. As implied by the title of this document, this is a recommended procedure, and under no circumstances are these minimum recommendations intended to supplant proper professional judgment.

Such inspection shall be for the purpose of determining the general structural condition of the building or structure to the extent reasonably possible of any part, material or assembly of a building or structure which affects the safety of such building or structure and/or which supports any dead or live load, or wind load, and the general condition of its electrical systems pursuant to the applicable Codes.

In general, unless there is obvious overloading, or significant deterioration of important structural elements, there is little need to verify the original design. It is obvious that this has been time tested if still offering satisfactory performance. Rather, it is of importance that the effects of time with respect to degradation of the original construction materials be evaluated. It will rarely be possible to visually examine all concealed construction, nor should such be generally necessary. However, a sufficient number of typical structural members should be examined to permit reasonable conclusions to be drawn.

Visual Examination will, in most cases, be considered adequate when executed systematically. The visual examination must be conducted throughout all habitable and non-habitable areas of the building, as deemed necessary, by the inspecting professional to establish compliance. Surface imperfections such as cracks, distortion, sagging, excessive deflections, significant misalignment, signs of leakage, and peeling of finishes should be viewed critically as indications of possible difficulty.

Testing Procedures and quantitative analysis will not generally be required for structural members or systems except for such cases where visual examination has revealed such need, or where apparent loading conditions may be critical.

Manual Procedures such as chipping small areas of concrete and surface finishes for closer examinations are encouraged in preference to sampling and/or testing where visual examination alone is deemed insufficient. Generally, unfinished areas of buildings such as utility spaces, maintenance areas, stairwells and elevator shafts should be utilized for such purposes. In some cases, to be held to a minimum, ceilings or other construction finishes may have to be opened for selective examination of critical structural elements. In that event, such locations should be carefully located to be least disruptive, most easily repaired and held to a minimum. In any event, a sufficient number of structural members must be examined to afford reasonable assurances that such are representative of the total structure.

Evaluating an existing structure for the effects of time, must take into account two basic considerations; movement of structural components with respect to each other, and deterioration of materials.

With respect to the former, volume change considerations, principally from ambient temperature changes, and possibly long-time deflections, are likely to be most significant. Foundation movements will frequently be of

importance, usually settlement, although upward movement due to expansive soils may occur, although infrequently in this area. Older buildings on spread footings may exhibit continual, even recent settlements if founded on deep unconsolidated fine grained or cohesive soils, or from subterranean losses or movements from several possible causes.

With very little qualifications, such as rather rare chemically reactive conditions deterioration of building materials can only occur in the presence of moisture, largely related to metals and their natural tendency to return to the oxide state in the corrosive process.

In this marine climate, highly aggressive conditions exist year-round. For most of the year, outside relative humidity may frequently be about 90 or 95%, while within air-conditioned building, relative humidity will normally be about 55 to 60%. Under these conditions moisture vapor pressures ranging from about 1/3 to 1/2 pounds per square inch will exist much of the time. Moisture vapor will migrate to lower pressure areas. Common building materials such as stucco, masonry and even concrete, are permeable even to these slight pressures. Since most of our local construction does not use vapor barriers, condensation will take place within the enclosed walls of the building. As a result, deterioration is most likely adjacent to exterior walls, or wherever else moisture or direct leakage has been permitted to penetrate the building shell.

Structural deterioration will always require repair. The type of repair, however, will depend upon the importance of the member in the structural system, and degree of deterioration. Cosmetic type repairs may suffice in certain non-sensitive members such as tie beams and columns, provided that the remaining sound material is sufficient for the required function. For members carrying assigned gravity or other loads, cosmetic type repairs will only be permitted if it can be demonstrated by rational analysis that the remaining material, if protected from further deterioration can still perform its assigned function at acceptable stress levels. Failing that, adequate repairs or reinforcement will be considered mandatory.

Written reports shall be required attesting to each required inspection. Each such report shall note the location of the structure, description of the type of construction, and general magnitude of the structure, the existence of drawings and location thereof, history of the structure to the extent reasonably known, and a description of the type and manner of the inspection, noting problem areas and recommended repairs, if required to maintain structural integrity.

Evaluation: Each report shall include a statement to the effect that the building or structure is structurally safe, unsafe, safe with qualifications, or has been made safe. It is suggested that each report also include the following information indicating the actual scope of the report and limits of liability. This paragraph may be used:

"As a routine matter, in order to avoid possible misunderstanding, nothing in this report should guarantee for any portion of the structure. To the best of my knowledge and ability, this report represents an accurate appraisal of the present condition of the building based upon careful evaluation of observed conditions, to the extent reasonably possible.

Foundations:

If all of the supporting subterranean materials were completely uniform beneath a structure, with no significant variations in grain size, density, moisture content or other mechanical properties; and if dead load pressures were completely uniform, settlements would probably be uniform and of little practical consequence. In the real world, however, neither is likely. Significant deviations from either of these two idealisms are likely to result in unequal vertical movements.

Monolithic masonry, structures are generally incapable of accepting such movements, and large openings. Since, in most cases, differential shears are involved, cracks will typically be diagonal.

Small movements, in themselves, are most likely to be structurally important only if long term leakage through fine cracks may have resulted in deterioration. In the event of large movements, contiguous structural elements such as floor and roof systems must be evaluated for possible fracture or loss of bearing.

Pile foundations are, in general, less likely to exhibit such difficulties. Where such does occur, special investigation will be required.

Roofs

Sloping roofs, usually having clay or cement tiles, are of concern in the event that the covered membrane may have deflections, if merely resulting from deteriorated rafters or joists will be of greater import. Valley flashing and base flashing at roof penetration will also be matters of concern.

Flat roofs with built up membrane roofs will be similarly critical with respect to deflection considerations. Additionally, since they will generally be approaching expected life limits at the age when building recertification is required careful examination is important. Blisters, wrinkling, alligatoring, and loss of gravel are usual signs of difficulty. Punctures or loss of adhesion of base flashings, coupled with loose counter-flashing will also signify possibility of other debris, may result in ponding, which if permitted, may become critical.

Masonry Bearing Walls

Random cracking, or if discernible, definitive patterns of cracking, will of course, be of interest. Bulging, sagging, or other signs of misalignment may also indicate related problems in other structural elements. Masonry walls where commonly constructed of either concrete masonry units, or scored clay tile, may have been constructed with either reinforced concrete columns and tie beams, or lintels.

Of most probable importance will be the vertical and horizontal cracks where masonry units abut tie columns, or other frame elements such as floor slabs. Of interest here is the observation that although the raw materials of which these masonry materials are made may have much the same mechanical properties as the reinforced concrete framing, their actual behavior in the structure, however, is likely to differ with respect to volume change resulting from moisture content, and variations in ambient thermal conditions.

Moisture vapor penetration, sometimes abetted by salt laden aggregate and corroding rebars, will usually be the most common cause of deterioration. Tie columns are rarely structurally sensitive, and a fair amount of deterioration may be tolerated before structural; impairment becomes important. Cosmetic type repair involving

cleaning, and parching to effectively seal the member, may often suffice. A similar approach may not be unreasonable for tie beams, provided they are not also serving as lintels. In that event, a rudimentary analysis of load capability using the remaining actual rebar area, may be required.

Floor and Roof Systems

Cast in place reinforced concrete slabs and/or beams and joists may often show problems due to corroding rebars resulting from cracks or merely inadequate protecting cover of concrete. Patching procedures will usually suffice where such damage has not been extensive. Where corrosion and spalling has been extensive in structurally critical areas, competent analysis with respect to remaining structural capacity, relative to actual supported loads, will be necessary. Type and extent of repair will be dependent upon the results of such investigation.

Pre-cast members may present similar deterioration conditions. End support conditions may also be important. Adequacy of bearing, indications of end shear problems, and restraint conditions are important, and should be evaluated in at least a few typical locations.

Steel bar joists are, of course, sensitive to corrosion. Most critical locations will be web member welds, especially near supports, where shear stresses are high and possible failure may be sudden, and without warning.

Cold formed steel joists, usually of relatively light gage steel, are likely to be critically sensitive to corrosion, and are highly dependent upon at least nominal lateral support to carry designed loads. Bridging and the floor or roof system itself, if in good condition, will serve the purpose.

Wood joists and rafters are most often in difficulty from "dry rot", or the presence of termites. The former (a misnomer) is most often prevalent in the presence of sustained moisture or lack of adequate ventilation. A member may usually be deemed in acceptable condition if a sharp pointed tool will penetrate no more than about one eighth of an inch under moderate hand pressure. Sagging floors will most often indicate problem areas.

Gypsum roof decks will usually perform satisfactorily except in the presence of moisture. Disintegration of the material and the form-board may result from sustained leakage. Anchorage of the supporting bulb tees against uplift may also be of importance.

Floor and roof systems of cast in place concrete with self-centering reinforcing, such as paper backed mesh and rib-lath, may be critical with respect to corrosion of the unprotected reinforcing. Loss of uplift anchorage on roof decks will also be important if significant deterioration has taken place, in the event that dead loads are otherwise inadequate for that purpose. Expansion joints exposed to the weather must also be checked.

Steel Framing System

Corrosion, obviously enough, will be the determining factor in the deterioration of structural steel. Most likely suspect areas will be fasteners, welds, and the interface area where bearings are embedded in masonry. Column bases may often be suspect in areas where flooding has been experienced, especially if salt water has been involved. Concrete fireproofing will, if it exists, be the best clue indicating the condition of the steel.

Concrete Framing Systems

Concrete deterioration will, in most cases, similarly be related to rebar corrosion possibly abetted by the presence of salt water aggregate or excessively permeable concrete. In this respect, honeycomb areas may contribute adversely to the rate of deterioration. Columns are frequently most suspect. Extensive honeycomb is most prevalent at the base of columns, where fresh concrete was permitted to segregate, dropping into form boxes. This type of problem has been known to be compounded in areas where flooding has occurred, especially involving salt water.

Thin cracks usually indicate only minor corrosion, requiring minor patching only. Extensive spalling may indicate a much more serious condition requiring further investigation.

In spall areas, chipping away a few small loose samples of concrete may be very revealing. Especially, since loose material will have to be removed even for cosmetic type repairs, anyway. Fairly reliable quantitative conclusions may be drawn with respect to the quality of the concrete. Even though our cement and local aggregate are essentially derived from the same sources, cement will have a characteristically dark grayish brown color in contrast to the almost white aggregate. A typically white, almost alabaster like coloration will usually indicate reasonably good overall strength.

Windows and Doors

Window and door condition is of considerable importance with respect to two considerations. Continued leakage may have resulted in other adjacent damage and deteriorating anchorage may result in loss of the entire unit in the event of severe windstorms even short of hurricane velocity. Perimeter sealants, glazing, seals, and latches should be examined with a view toward deterioration of materials and anchorage of units for inward as well as outward (suction) pressure, most importantly in high buildings.

Structural Glazing

When installed on threshold buildings, structural glazing curtain wall systems, shall be inspected by the owner at 6-month intervals for the first year after completion of the installation. The purpose of the inspection shall be to determine the structural condition and adhesive capacity of the silicone sealant. Subsequent inspections shall be performed at least once every 5 years at regular intervals for structurally glazed curtain wall systems installed on threshold buildings.

Wood Framing

Older wood framed structures, especially of the industrial type, are of concern in that long term deflections may have opened important joints, even in the absence of deterioration. Corrosion of ferrous fasteners will in most cases be obvious enough. Dry rot must be considered suspect in all sealed areas where ventilation has been inhibited, and at bearings and at fasteners. Here too, penetration with a pointed tool greater than about one eighth inch with moderate hand pressure will indicate the possibility of further difficulty.

Building Facade

Appurtenances on an exterior wall of a threshold building are elements including, but not limited to, any cladding material, precast appliques, exterior fixtures, ladders to rooftops, flagpoles, signs, railings, copings, guardrails, curtain walls, balcony and terrace enclosures, including greenhouses or solariums, window guards, window air conditioners, flower boxes, satellite dishes, antennae, cell phone towers, and any equipment attached to or protruding from the façade that is mechanically and/or adhesive attached.

Loading

It is of importance to note that even in the absence of any observable deterioration, loading conditions must be viewed with caution. Recognizing that there will generally be no need to verify the original design, since it will have already been "time tested", this premise has validity only if loading patterns and conditions remain **unchanged**. Any material change in type and/or magnitude or loading in older buildings should be viewed as sufficient justification to examine load carrying capability of the effected structural system.

Scope of Electrical Inspection

The purpose of the required inspection and report is to confirm with reasonable fashion that the building or structure and all habitable and non-habitable areas, as deemed necessary by the inspecting professional, to establish compliance are safe for continued use under present occupancy. As mentioned before, this is a recommendation procedure, and under no circumstances are these minimum recommendations intended to supplant proper professional judgment.

Electric Service

A description of the type of service supplying the building or structure must be provided, stating the size of amperage, if three (3) phase or single (1) phase, and if the system is protected by fuses or breakers. Proper grounding of the service should also be in good standing. The meter and electric rooms should have sufficient clearance for equipment and for the serviceman to perform both work and inspections. Gutters and electrical panels should all be in good condition throughout the entire building or structure.

Branch Circuits

Branch circuits in the building must all be identified, and an evaluation of the conductors must be performed. There should also exist proper grounding for equipment used in the building, such as an emergency generator, or elevator motor.

Conduit Raceways

All types of wiring methods present in the building must be detailed and individually inspected. The evaluation of each type of conduit and cable, if applicable, must be done individually. The conduits in the building should be free from erosion and checked for considerable dents in the conduits that may be prone to cause a short. The conductors and cables in these conduits should be chafe free and their currents not over the rated amount.

Emergency Lighting

Exit sign lights and emergency lighting, along with a functional fire alarm system, if applicable, must all be in good working condition.

Infrared Thermography Inspection

For electrical systems operating at 400 amperes or greater, an infrared thermography inspection with a written report of the following electrical equipment must be provided as applicable or as otherwise indicated below: busways, switchgear, panelboards (except in dwelling unit load centers), disconnects, VFDS, starters, control panels, timers, meter centers, gutters, junction boxes, automatic/manual transfer switches, exhaust fans and transformers. The infrared inspection of electrical equipment shall be performed by a Level-II or higher certified infrared thermographer who is qualified and trained to recognize and document thermal anomalies in electrical systems and possesses over 7 years of experience inspecting electrical systems associated with commercial buildings.

Historical Documents and Permitting

An attempt should be made to investigate the existence of documents with the local jurisdiction to assist with the overall inspection of the building.

Understanding the structural system, building components, and intended design may guide the design professional to investigate certain critical areas of the structure.

Violations through the local jurisdiction's code compliance division should be investigated. Cases on file may lead to issues pre-existing with the building, especially any unsafe structure determinations. Depending on the nature of the violation, recertification inspections may be affected.

Unpermitted activities may also affect the outcome of a recertification inspection, especially with unpermitted additions to the building. The recertification of a building is conducted on the entire structure including the original construction and any subsequent permitted addition. Unpermitted additions found by the recertification process present an unsafe situation and must be identified in the report, even if found to be properly built. Like a repair process identified by the report, legalizing an unpermitted addition would be a prerequisite to the completion of a successful recertification report. Examples of unpermitted work that may affect recertification include but are not limited to additions, alterations, balcony enclosures, etc.

Repairs identified in the recertification report will most likely require permits. Once the initial report is completed it should be immediately submitted to the local jurisdiction for processing. Do not proceed to conduct repairs without permits. Some repairs, like changing a bulb in an exit sign, may not require a permit but most other work will require permits. Proceeding without obtaining repair permits may lead to a violation of the code. Additionally, repairs being conducted under a permit will afford additional time to comply with a complete recertification report.

Completing the reports concisely is vital to the overall understanding of the conditions of the building and successful completion of the recertification process. The approved report forms provided must be used, proprietary forms will not be accepted. Where required, photos must be in color and with sufficient resolution to detail

the conditions being shown. Recertification reports may be audited, and the subject building may be inspected at the discretion of the Building Official. The Building Official reserves the right to rescind or revoke an approved recertification report.

The **Code in Effect** at the time of the original construction is the baseline for the recertification inspections. Subsequent improvements to the original building should be inspected based on the code at the time of permitting. It is not the intent of recertification that buildings must be brought in compliance with current codes.

**MINIMUM INSPECTION PROCEDURAL GUIDELINES FOR BUILDING
STRUCTURAL RECERTIFICATION**

1. Description of Structure:

- A. Name of title _____
- B. Street address _____
- C. Legal description _____

- D. Owner's name _____
- E. Owner's mailing address _____
- F. Building Official Folio Number _____
- G. Building Code Occupancy Classification _____
- H. Present use _____
- I. General description, type of construction, size, number of stories, and special features.

- J. Additions to original structure _____
- K. Number of Stories _____ Threshold Building per 553.71(12) F.S. Y/N ____
- L. Total Building Area of all floors: _____

2. Present Condition of Structure:

- A. General alignment (note good, fair, poor, explain if significant)
 - 1. Bulging _____
 - 2. Settlement _____
 - 3. Defections _____
 - 4. Expansion _____
 - 5. Contraction _____

B. Portions showing distress (note, 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 members. Identify crack size as HAIRLINE if barely discernible; FINE if less than 1 mm in width; MEDIUM if between 1 and 2 mm in width; WIDE if over 2 mm.

E. General extent of deterioration - cracking or spalling of concrete or masonry; oxidation of metals; rot or borer attack in wood.

F. Previous patching or repairs _____

G. Nature of present loading - indicate residential, commercial, 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:

1. Discipline of Practice:

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) _____

F. Has property record been researched for violations or unsafe cases (YES/NO): _____

1. Explanation/Comments:

4. **Supporting data:**

- A. _____ sheets written data
B. _____ photographs
C. _____ drawings or sketches
D. _____ test reports

5. **Foundation:**

A. Describe building foundation: _____

B. Is wood in contact or near soil? (Yes/No): _____

C. Signs of differential settlement? (Yes/No) _____

D. Describe any cracks or separation in the walls, columns, or beams that signal differential settlement: _____

E. Is water drained away from foundation? (Yes/No): _____

F. Is there additional sub-soil investigation required? (Yes/No): _____

1. Describe: _____

6. **Masonry Bearing Walls - indicate good, fair, poor on appropriate lines:**

A. Concrete masonry units _____

B. Clay tile or terra cotta units _____

C. Reinforced concrete tie columns _____

D. Reinforced concrete tie beams _____

E. Lintels _____

F. Other type bond beams _____

G. Masonry finishes - exterior:

1. Stucco _____
2. Veneer _____
3. Paint only _____
4. Other (describe) _____

H. Masonry finishes - interior:

1. Vapor barrier _____
2. Furring and plaster _____
3. Paneling _____
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. Rebar corrosion - check appropriate line:

1. None visible: _____
2. Minor - patching will suffice : _____
3. Significant - but patching will suffice: _____
4. Significant - structural repairs required (describe): _____

L. Samples chipped out for examination in spall areas

1. No _____
2. Yes - describe color texture, aggregate, general quality _____

7. Floor and Roof Systems:

A. Roof:

1. Describe (flat, slope, type roofing, type roof deck, condition)

2. Note water tanks, cooling towers, air conditioning equipment, signs, other heavy equipment and condition of supports:

3. Note types of drains and scuppers and condition: _____

4. Describe parapet construction and current conditions: _____

5. Describe mansard construction and current conditions: _____

6. Describe roofing membrane/covering and current conditions: _____

7. Describe any roof framing member with obvious overloading, overstress, deterioration, or excessive deflection: _____

8. Note any expansion joints and condition: _____

B. Floor system(s):

1. Describe (type of system framing, material, spans, condition)

2. Balconies: Indicate location, framing system, material and condition: _____

3. Stairs and escalators: Indicate location, framing system, material, and condition:

4. Ramps: Indicate location, framing system, material, and location: _____

5. Guardrails: describe type, material, and 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.

8. Steel Framing Systems:

A. Description _____

B. Exposed Steel - describe condition of paint & degree of corrosion:

C. Steel connections: describe type and condition: _____

D. Concrete or other fireproofing - note any cracking or spalling, and note where any covering was removed for inspection _____

E. Identify any steel framing member with obvious overloading, overstress, deterioration, or excessive deflection (provide location): _____

F. Elevator sheaves beams & connections, and machine floor beams - note condition:

9. **Concrete Framing Systems:**

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. Rebar corrosion - check appropriate line:

1. None visible _____

2. Location and description of members affected and type cracking _____

3. Significant but patching will suffice _____

4. Significant - structural repairs required (describe) _____

E. Samples chipped out in spall areas:

1. No. _____

2. Yes, describe color, texture, aggregate, general quality:

F. Identify any concrete framing member with obvious overloading, overstress, deterioration, or excessive deflection:

10. Windows, Storefronts, Curtainwalls, and Exterior Doors:

A. Windows, Storefronts, Curtainwalls:

1. Type (Wood, steel, aluminum, jalousie, single hung, double hung, casement, awning, pivoted, fixed, other): _____

2. Anchorage - type & condition of fasteners and latches: _____

3. Sealants - type & condition of perimeter sealants & at mullions:

4. Interior seals - type & condition at operable vents: _____

5. General condition: _____
 - a. Describe any repairs needed; _____

B. Structural Glazing on the exterior envelope of Threshold Buildings (YES/NO): _____

1. Previous inspection Date: _____
2. Description of Curtainwall Structural Glazing and adhesive sealant:

3. Describe condition of system: _____

C. Exterior Doors

1. Type (Wood, Steel, Aluminum, Sliding Glass Door, other):

2. Anchorage type and condition of fasteners and latches:

3. Sealant type and condition of sealant: _____

4. General Condition: _____
5. Describe any repairs needed: _____

11. Wood Framing:

- A. Type - fully describe if mill construction, light construction, major spans, trusses:

- B. Indicate condition of the following:
1. Walls: _____
2. Floors: _____
3. Roof Member, roof trusses: _____
- C. Note metal fittings i.e., angles, plates, bolts, split pintles, pintles, other, and note condition: _____

- D. Joints - note if well fitted and still closed: _____

- E. Drainage - note accumulations of moisture: _____

- F. Ventilation - note any concealed spaces not ventilated: _____

- G. Note any concealed spaces opened for inspection: _____

- H. Identify any wood framing member with obvious overloading, overstress, deterioration, or excessive deflection: _____

12. Building Façade Inspection (Threshold Buildings)

- A. Identify and describe the exterior walls and appurtenances on all sides of the building. (Cladding type, corbels, precast appliques, etc.) _____

- B. Identify attachment type of each appurtenance type (Mechanically attached or adhered);

- C. Indicate the condition of each appurtenance (distress, settlement, splitting, bulging, cracking, loosening of metal anchors and supports, water entry, movement of lintel or shelf angles, or other defects: _____

13. Special or Unusual Features in the Building:

A. Identify and describe any special or unusual features (i.e., cable suspended structures, tensile fabric roof, large sculptures, chimneys, porte cochere, retaining walls, seawalls, etc.):

B. Indicate condition of special feature, its supports, and connections: _____

**MINIMUM INSPECTION PROCEDURAL GUIDELINES FOR BUILDING
ELECTRICAL RECERTIFICATION**

INSPECTION COMMENCED

Date: _____

INSPECTION COMPLETED

Date _____

INSPECTION MADE BY:

SIGNATURE _____

PRINT NAME: _____

TITLE: _____

ADDRESS: _____

1. DESCRIPTION OF STRUCTURE:

A. NAME OF TITLE _____

B. STREET ADDRESS _____

C. LEGAL DESCRIPTION _____

D. OWNERS NAME _____

E. OWNER'S MAILING ADDRESS _____

F. FOLIO NUMBER OF BUILDING: _____

G. BUILDING CODE OCCUPANCY CLASSIFICATION: _____

H. PRESENT USE: _____

I. GENERAL DESCRIPTION, TYPE OF CONSTRUCTION, SIZE, NUMBER OF STORIES, AND SPECIAL FEATURES. (OVERALL DESCRIPTION, STRUCTURAL SYSTEMS, SPECIAL FEATURES)

J. NUMBER OF STORIES: _____

K. IS THIS A THRESHOLD BUILDING AS PER 553.71(12) F.S. (YES/NO): _____

L. PROVIDE AN AERIAL OF THE PROPERTY IDENTIFYING THE BUILDING BEING CERTIFIED ON A SEPARATE SHEET. ATTACHED:

M. ADDITIONAL COMMENT:

2. INSPECTIONS:

- A. DATE OF NOTICE OF REQUIRED INSPECTION: _____
- B. DATE(S) OF ACTUAL INSPECTION: _____
- C. NAME AND QUALIFICATIONS OF LICENSEE SUBMITTING REPORT:

- D. ARE ANY ELECTRICAL REPAIRS REQUIRED? (YES/NO): _____
IF REQUIRED, DESCRIBE NATURE OF REPAIRS: _____

- E. PROVIDE PHOTOGRAPHS AS NECESSARY TO REFLECT RELEVANT
CONDITIONS AND INDEX APPROPRIATELY.

3. ELECTRIC SERVICE:

- A. SIZE: VOLTAGE: () AMPERAGE: () FUSES: () BREAKER:()
- B. PHASE: 3 ϕ () 1 ϕ ()
- C. CONDITION: GOOD () FAIR () NEEDS REPAIR ()
- D. COMMENTS: _____

4. METERING EQUIPMENT :

- A. CLEARANCES: GOOD () FAIR () REQUIRES CORRECTION ()
- B. COMMENTS: _____

5. ELECTRIC ROOMS :

- A. CLEARANCES: GOOD () FAIR () REQUIRES CORRECTION ()
- B. COMMENTS: _____

6. GUTTERS:

- A. LOCATION: GOOD () REQUIRES REPAIR ()

- B. _____ GOOD () REQUIRES REPAIR ()

- C. COMMENTS: _____

7. ELECTRICAL PANELS:

	LOCATION	GOOD ()	: NEEDS REPAIR ()
A. PANEL # ():	_____		
		GOOD ()	: NEEDS REPAIR ()
B. PANEL # ():	_____		
		GOOD ()	: NEEDS REPAIR ()
C. PANEL # ():	_____		
		GOOD ()	: NEEDS REPAIR ()
D. PANEL # ():	_____		
		GOOD ()	: NEEDS REPAIR ()
E. PANEL # ():	_____		
		GOOD ()	: NEEDS REPAIR ()
F. COMMENTS:	_____		

8. BRANCH CIRCUITS:

A. IDENTIFIED: YES () : MUST BE IDENTIFIED ()

B. CONDUCTORS: GOOD () : DETERIORATED () : MUST BE REPLACED ()

C. COMMENTS: _____

9. GROUNDING OF SERVICE : GOOD () : REPAIRS REQUIRED ()

COMMENTS: _____

10. GROUNDING OF EQUIPMENT: GOOD () : REPAIRS REQUIRED ()

COMMENTS: _____

11. SERVICE CONDUIT/RACEWAYS: CONDITION: GOOD () : REPAIRS REQUIRED ()

COMMENTS: _____

12. GENERAL CONDUIT/RACEWAYS: CONDITION: GOOD () : REPAIRS REQUIRED ()

COMMENTS: _____

13. WIRE AND CABLES: CONDITION: GOOD () : REPAIRS REQUIRED ()

COMMENTS: _____

KCE STRUCTURAL ENGINEERS, P.C.

CONSULTING ENGINEERS • 1818 JEFFERSON PLACE, N.W. • WASHINGTON, D.C. 20036

PHONE: 202-833-8622

WWW.KCESTRUCTURAL.COM

FAX: 202-833-3877

Memo #1

Date: July 7, 2021

To: Town of Surfside Building Official

RE: Recommended Structural Engineering Evaluations
For Multifamily or Commercial Multi-story Structures

KCE Job No. 2021-11-05

The following recommendations are good engineering practice for assessing the structural conditions of multi-story multifamily and commercial multi-story structures, including buildings east of Collins Avenue.

1. Retain a State of Florida registered practicing geotechnical engineer to provide the following investigation:
 - Foundation
 - Review original geotechnical report for the original building design and confirm that it is consistent with what was built.
 - Have a multichannel analysis of surface waves (MASW) or electrical resistivity testing geophysical study completed.

2. Retain a State of Florida registered practicing design structural engineer to provide the following investigation, in no particular order:
 - Review structural drawings used for construction.
 - Basement Floor (lowest level below-grade)
 - Perform GPR (ground penetrating radar) to determine slab thickness and to locate reinforcing steel, if reinforced (conventional slab on ground or reinforced slab on ground).
 - Take one set of three concrete cores (after GPR to avoid reinforcing steel) for compressive strength testing per ACI standards and one core for petrographic examination per ICRI standards. Repair cored holes in accordance with ICRI industry standards.
 - GPR column for vertical reinforcing steel and lateral ties (measuring spacing) for the full height of that lift. Verify vertical column reinforcing splices.
 - Take one 1½" diameter maximum 3"-depth core in column (after GPR to avoid reinforcing steel) for compressive strength testing per ACI standards and petrographic examination per ICRI standards. Immediately repair cored holes in accordance with ICRI industry standards.



Professional Registrations: AZ,DE,DC,FL,GA,IN,LA,MD,MA,NJ,NY,NC,PA,TN,TX,VT,VA,WV,NCEES



- **First Floor**
 - Remove finishes in one interior floor location and one exterior slab location.
 - GPR for slab thickness in the middle of the bay and at the column.
 - GPR for reinforcing steel in columns (vertical and ties) and slabs, as above.
 - Take one set of three concrete cores (after GPR to avoid reinforcing steel, not where other penetrations occur or within the column dimension from the column face) for compressive strength testing per ACI standards and one core for petrographic examination per ICRI standards. Repair cored holes in accordance with ICRI industry standards.
 - GPR for slab thickness in the middle of the bay and at the column (not where other penetrations occur).
- **Typical Floor (Floor 3 and one floor below roof)**
 - If post-tension slabs, then confirm waterproofing protection of pull/dead ends at exterior and anchors
 - Remove finishes in one interior floor location and one exterior slab location.
 - GPR for slab thickness in the middle of the bay and at the column.
 - GPR for reinforcing steel in columns (vertical and ties) and slabs, as above.
 - Take one set of three concrete cores (after GPR to avoid reinforcing steel, not where other penetrations occur or within the column dimension from the column face) for compressive strength testing per ACI standards and one core for petrographic examination per ICRI standards. Repair cored holes in accordance with ICRI industry standards.
 - GPR for slab thickness in the middle of the bay and at the column (not where other penetrations occur).
 - Take one 1½" diameter maximum 3"-depth core in column (after GPR to avoid reinforcing steel) for compressive strength testing per ACI standards and petrographic examination per ICRI standards. Immediately repair cored holes in accordance with ICRI industry standards.
- **Roof**
 - Peel back roofing in three areas to expose structural slab.
 - If post-tension slabs, then confirm waterproofing protection of pull/dead ends at exterior and anchors
 - GPR slab for reinforcing steel at each exposed area. Repair roofing.
 - Take one set of three concrete cores (after GPR to avoid reinforcing steel, not where other penetrations occur or within the column dimension from the column face) for compressive strength testing per ACI standards and one core for petrographic examination per ICRI standards. Repair cored holes in accordance with ICRI industry standards.
 - GPR for slab thickness in the middle of the bay and at the column.
 - Review rooftop mechanical equipment weights and support systems including antennas, dishes, mechanical units, and cooling towers.
- **Elevators**
 - Check elevator sheave beam (machine beam) supports.