

CA 8539

Structural, Mechanical & Civil Engineering Consultants

PHASE 1 MILESTONE REPORT

THE SENATE CONDOMINIUM



2550 PRESIDENTIAL Way
West Palm Beach , FL 33401
December 18, 2033

- Vero Beach, Florida, 32966

THE SENATE CONDOMINIUM ASSOCIATION

2550 PRESIDENTIAL WAY
WEST PLAM BEACH, FL. 33401

MILESTONE INSPECTION REPORT

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THE SENATE CONDOMINUM ASSOCATION

2550 PRESIDENTAL WAY

WEST PLAM BEACH, FL 33401

MILESTONE REPORT

HISTORY AND SURVEY SUMMARY

The building was constructed in 1974 and consists of twenty-one units located within a three-story structure. The structure consisting of reinforced concrete columns, walls and slabs is supported on spread footings as shown on the original building drawings (ref. EXHIBIT NO. 1) of this report. Two stairs, one at each end of the building and an elevator provide access to walkways at each floor level (ref. EXHIBIT NO. 2). The only means of access to the roof is provided by a ladder from the top floor through a hatch leading to the roof. Each unit has a cantilever balcony, which was inspected as part of this report. Aside from a visual inspection, each balcony inspected was acoustically sounded to reveal any areas of potential structural concerns. The inspection balcony templets provided within this report indicate all areas of concern and needed repair.

Each balcony from the second floor has a screened enclosure and hand rails located on the outside of the screening. Due to the location of the railings, the railings could not be inspected. The ground floor units only have screen enclosures. All sliding and fixed windows leading to the balconies appear to be the original fixtures installed in 1974. All caulking should be inspected and replaced around the perimeter of all frames as needed to avoid water intrusion into the units. As the original windows are not high impact designed, several units have installed storm shutter for additional protection as shown on the balcony templates.

All exposed surfaces of the building are coated with a stucco finish and painted. Aside from some minor wall and column cracks, the stucco appears to be in good condition without any major deterioration noted. Of all the balconies inspected, most were tiled. And few were painted or covered with carpet. In most cases, many of the tiled balconies revealed areas of hollow tiles. It was also noted that most of the hollow sounded tiles were prevalent along the sliding glass doors of the unit. In most cases where the balconies were painted, little or no signs of major floor cracks were noticed, carpet areas could not be inspected.

In many cases the hollow sounded tiles are caused by the bottom screws securing the window tracks from not being sealed or are rusted, thus causing water intrusion under the tiles. This is one of the major causes of delamination of the tile adessive between the tiles and the concrete. Another cause of the hollow sounding is the result of concrete spilling under the tiles which also causes a void between the bottom of the tile and the concrete surface. In most cases where hollow tiles are noted in sporadic areas, we overlook them not recommend the removal of the tiles but do recommend periodically inspecting the areas of concern by a professional engineer.

Note 'A': In areas where all or most of the tiles are hollow sounded, we recommend that all the tiles be removed, the balcony be ground down to bare concrete, inspected, repaired as needed, and waterproofed.

ASSOCIATION ACTION TO BE TAKEN

At this time, the Association should be concerned with the balconies shown on the survey drawings that exhibit the following items of repair:

- 1. Cracks in the balcony slabs as noted.
- 2. Wall cracks as noted.
- 3. Edge repairs as noted.
- 4. Any balcony that has a carpet covering. The Association should require the removal of the carpeting and have the balcony inspected for cracks and spalls. Repairs should be made and the balcony waterproofed.
- 5. Spalls be repaired as noted.
- Any balcony showing major cracked tiles should have all tiles removed and the balcony inspected.
- As a preventive maintenance item, the Association should schedule a Professional engineer to reinspect the balconies every three or four years to ensure the integrity of the tiles and any future problems.

The following summary of the existing balcony conditions is provided to the Association to outline the needed repair items and future inspections where there are existing hollow tiles.

BUILDING 2550 / BALCONIES

21 Units, 3 Units could not be inspected.

Unit 101: remove carpet and inspect slab.

Unit 107: Crack at bottom of column.

Unit 201: Hairline cracks in spray deck finish. Remove existing spray deck finish and reinspect balcony. (Ref. Note 'A')

Unit 207: Wall cracks, edge repairs, & post pocket, repair as needed.

Unit 303: Hollow tiles throughout balcony. All tiles need to be removed. (Ref. Note 'A')

Unit 304: Concrete spalls and standing water. Grind balcony down to bare concrete and inspect for any additional spalling areas. Repair as needed. (Ref. Note 'A').

Unit 306: MAJOR CONCRETE SPALL. Grind balcony to bare concrete, inspect, repair and waterproof.

WALKWAYS:

The first-floor slab on grade appears to be structurally sound with only one floor crack noted. The other two floor walkways exhibit numerous hairline cracks which should be repaired before any water intrusion reaches the reinforced concrete walkway and causes major spalls within the structure. Reference the walkway survey drawings for each walkway

WINDOWS AND SLIDING GLASS DOORS:

All balcony windows and sliding glass doors were inspected in those units that were accessible. It appears that the windows and slides are the original units installed in 1974. All sliders, while working, do require some maintenance. The outside caulking around the fixed windows appears to be in good condition but should be replaces with the next building painting.

ROOF INSPECTION:

The existing roof system appears to be constructed using multiple plies of coal tar pitch applied to built-up membranes and a base sheet. The surfaces of these membranes were covered with an application of mineral aggregate, also adhered using coal tar pitch. The roof system was assumed to be installed over an unidentified insulation material. The perimeter of the roof system terminates against a combination of stucco covered concrete parapet walls and the modified bitumen flashed wood interior mansard walls. The roof system was designed with marginal slops, attempting to direct collected surface water towards a series of interior roof drains. There are also a series of emergency supper drains around the perimeter of the roof.

The current management could not indicate when the existing roof was installed. Going to Google Earth historical satellite imagery suggests that the current roof system was installed between 2006 and 2007, approximately seventeen years ago. Typically, a coal tar pitch built-up low slope roof system, in south Florida, will be effective for thirty-five years if preventive maintenance procedures are takes during this span.

Visually the roof system appears to be in a well-maintained condition. There is abundant evidence of an effective preventative program which has targeted the penetrations, base & curbs flashings, interior drain details, and surrounding concrete parapet walls. Based on our inspection, only the interior drains modified strike sheet should have a UV reflective coating applied during the next maintenance cycle.

During the last week of November 2023, a Moisture test was performed by ROOF SURVERY, INC. to obtain the overall moisture integrity, and as a leak source detection for this report. It is essential that the reinforced concrete roof be maintained dry and prevent any moisture from reaching the reinforced concrete deck and cause major spalls that could result in affecting the structural intensity of the roof system.

CONCLUSIONS:

Overall, the building appears to be in reasonably good condition. There are, however, several balconies that require some exploratory investigation and probable repair due to indications of possible edge damage or probably rebar corrosion under tile that is cracked, hollow or buckled. For those situations listed above, a Phase II report will need to be prepare once the investigations and/or repairs are complete.

Although more work is needed, we do not consider the current condition of the building indicative of an imminent structural failure. Therefore, for the scope of this inspection and the areas that were able to be assessed, within a reasonable degree of engineering certainty our

assessment did not reveal any structural damage that would compromise the safety of the building for the intended use or occupancy.

Respectfully,

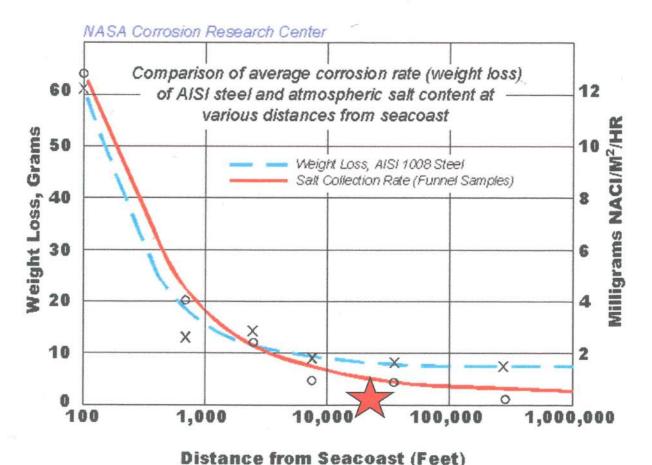
David T. Colston, P.E. SI

(Ltd) FL Reg 55501

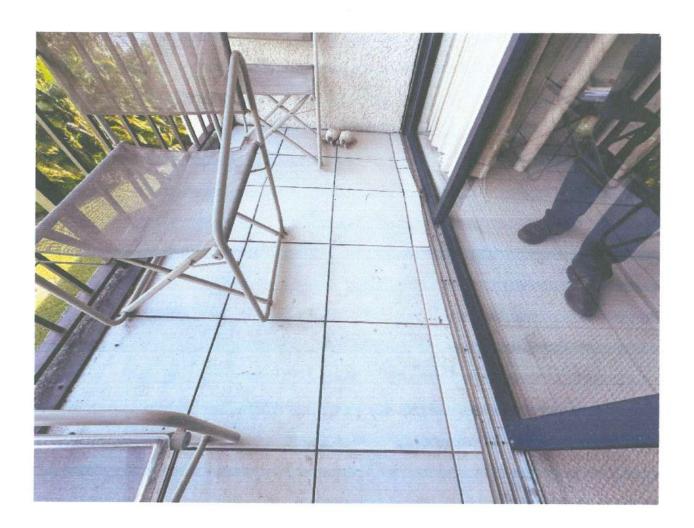
ADDITIONAL INSIGHTS

Over the last 24 years and 1700 clients, our firm has looked at thousands of balconies in Palm Beach, Broward, Dade, Matin, and St Lucie Counties. We've served as the Engineers of Record for over 400 restoration projects for similar buildings. Here are some general observations regarding damage found that probably apply to these buildings:

Chloride Damage vs Distance from Ocean: Below is a graph created by NASA several years ago based on data obtained from testing done at their research center here in Florida. The key take away here is that corrosion rates due the coastal salt environment drop exponentially as you move inward, but the effects can still be significant 10 miles inward. These buildings are about 17,500 feet inland (3.3 Miles), giving you a salt collection rate of about 1.2 milligrams square / Hr. This is substantially less than a building right on the ocean, but salts are still present. The lower rate just means the salts accumulate much slower on the flat decks, delaying the start of corrosion damage until the building are older. We've seen edge damage associated with screened edges as far West as Wellington on similar buildings.



<u>Screen / Shutter Fasteners</u>: Typically, the screen enclosure and / or shutters along the edge cause edge problems eventually. The fasteners are typically Tapcons made from hardened steel that may or may not have had a sacrificial coating. Even though the fasteners may have been sealed with caulk when the screen was new, that sealant usually breaks down after 5 to 8 years. As the water starts to seep down past the fastener, the fastener will typically start to rust. As the rust happens, the fastener will first expand because rust is seven times the volume of steel. It will then lose volume and the salt water due to rain will seep down into the hole and out into the edge concrete, eventually causing the horizontal rebar along the edge to corrode. We did not observe much edge damage at this point, but you can expect to find some as time goes on.



Exposed Glass Sliders:

Sliding glass doors will collect salt deposits over time even this far from the ocean. If the balcony is open and the door is exposed to blown rain, such as happens in South Florida on many summer afternoons, the salts that have collected on the doors are washed down into the door track. As with the sealants used on the screen systems, the sealant around the fasteners in the bottom track of the slider will also break down after a few years. And, just as above, the salt laden water will run down into the concrete directly under the door track. Usually, on a cantilevered balcony, you have rebar under the track perpendicular to the door, just ¾ to 1" down and spaced about 12" to 18" apart. That rebar will start to corrode after about 12 to 15 years, eventually becoming a problem under the track as the rebars expand, then start to reduce in size. They will eventually corrode completely in two. The corrosion starts under the track but moves outward as much as 2 feet from the door. (It also typically moves inward only about 6 to 8" under the air-conditioned space). This is why we hear hollow sounds and see cracked tile or buckled tile just in front of glass sliders. We also see doors where the track has risen upward due to the corroded steel and the door is now seized up or hard to open.



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STRUCTURAL SAFETY INSPECTION REPORT FORM

12/18/2023

Name of Inspector: David Co	olston, P.E.	
Telephone Number: 561/84	1-4060	
	Inspection Completed Date:	11/28/2023
☐ No Repairs Required	☑ Repairs Required outlined in atta	ached inspection sheets.
	☐ Immediate Repairs Needed, Rest	tricted Use
☑ Building Safe	□ Building Unsafe	
Licensed Professional		
⊠Engineer / □Architect Na	me: David Colston	Seal
License Number, Ft. No. 5550	91	
l am qualified <u>I affirm that I do not ha</u> v	to practice in the discipline in which I are an affiliation or other financial interes	n hereby signing. t in the subject building(s).
Signature:		Date: 12/18/2023
This report has been based upon	the minimum inspection guidelines for	building safety inspection for the
County of West Palm and ability, this report represent upon careful evaluation of obser	Beach Building Department Building B	To the best of my knowledge
a Name on Title: The Sen	STRUCTURE ate Condominium Association	
, * · · · ·	esidential Way, West Palm Beach,	FI 33401
c. Legal Description: Three	A cinra cirectura	·
	te Condominium Association	
e. Owner's Mailing Address).	
f Building Parcel ID: 74-43	est Palm Beach, Florida 33401	
g. Building Code Occupance		
R-3	CW35HearOsi.	
h. Present Use; Residential		



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- Gen. Description, Type of Construction: Building 2550 was constructed in 1974. It consists of 3 story Structure housing 21 residential units.
- j. Special Features:

The building is constructed using reinforced concrete columns and floors. On the outside perimeter of the buildings, a CMU infill system encloses the building. All outside walls have a coat of stucco and are painted. The foundation for the Structure is supported on shallow spread footings. Each unit has a cantilever balcony and screened enclosure with a handrailing located between the outside of the screen and the outside edge of the balcony.

k. Additional Comments:

The two elevators located at the center of the building provide access to all floors of the building. Access to the roof is provided by a ladder from the top floor to a hatch on the roof. Means of egress is provided through two stairs, one located at the north side and the other at the south side of the building. Walkways at each floor provides entrance to each unit on the floor.

1. Additions to Original Structure: **NONE.**

2. PRESENT CONDITION OF STRUCTURE

- a. General Alignment (Note: good, fair, poor, explain if significant):
 - 1. Bulging: Good
 - 2. Settlement: Good
 - 3. Deflections: Good
 - 4. Expansion: Good
 - 5. Contraction: Good
- b. Portion Showing Distress (Note: beams, columns, structural walls, floor, roofs, other): Aside from some minor balcony cracks and hollow tiles, several balconies have areas of concrete spalling, and needed column and wall repairs. While minor concrete spalls were noted in unit 304, a major concrete spall was noted in unit 306 at the sliding glass doors. Aside from these areas, the remaining building appears to be structurally sound.
- c. Surface Conditions (General conditions of finishes- noting cracking, spalling, peeling, signs of moisture penetration and stains):

Of the twenty-one units in the building, nineteen were able to be inspected. The summary report at the front of this document reflects the conditions found while inspecting the units.

d. Cracks (Note location in significant members. ID crack size as 'HAIRLINE' if barely discernable; 'FINE' if less than 1 mm in width; 'WIDE' if over 2 mm:

Based on a visual inspection, several balconies and the walkways exhibit signs of hairline cracking.



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e. General extent of deterioration (cracking or spalling of concrete masonry, oxidation of metals, rotor borer attack in wood, etc.):
Aside from some wall, column and balcony cracks, spalls were noted in units 304 and unit 306
that will require attention.
f. Previous Repairs or Patching:
Walkway patches were noted on several walkways. The original roof was replaced around 2006-2007 as seen on Google Earth Historical satellite imagery.
g. Nature of present loading indicate residential, commercial, other estimate magnitude: RESIDENTIAL
RESIDENTIAL
h. Protection from undermining:
None noted
3. INSPECTIONS
a. Date of Notice of Required Inspection: 8/9/2023
b. Date(s) of actual inspection: 11/1/2023
 Name and qualifications of individual submitting report: Mickey Westman, P.E., Florida License # 72085
d. Description of laboratory or other formal testing, if required, rather than manual or visual procedures:
None
e. Structural repair (Note either item 1. OR 2. below)

4. SUPPORTING DATA

1. None Required: ☑

2. Required (Describe and indicate acceptance):

Not Required



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a.

sheet written data:

ROOF MOISTURE SURVEY FOR THE STRUCTURE

- b. A photographs
- c. drawings or sketches

<u> </u>	5. MASONRY BEARING WALL (note good, fair, poor on appropriate lines)
a.	Concrete Masonry Units (CMU): GOOD
b.	Clay tile or Terracotta units: GOOD
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- c. Reinforced concrete tie columns: GOOD
- d. Reinforced concrete tie beams: GOOD
- e. Lintel: GOOD
- f. Other type bond beams: N/A
- g. Masonry finishes EXTERIOR
 - 1. Stucco: NO DELAMINATED STUCCO WAS NOTICED.
 - 2. Veneer: N/A
 - 3. Paint Only: The building was painted within the past few years and shows no signs of ware or deterioration at this time.
 - 4. Other (Describe): NONE
- h. Masonry finishes INTERIOR
 - 1. Vapor barrier: N/A
 - 2. Furring and plaster: N/A
 - 3. Paneling: N/A
 - 4. Paint Only: N/A
 - 5. Other (Describe): N/A
- i. Cracks
 - Location (Note beams, columns, other):
 None noted except for some minor cracks in a few balconies and walkways.
 - 2. Description:
- j. Spalling
 - Location (Note beams, columns, other):
 Column crack in Unit 107, edge repairs in unit 207 and spalling in units 304 and unit 306.
 - 2. Description:
- k. Rebar corrosion (Note appropriate line):



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r		
	1.	Nonvisible:
<u></u>	2.	Minor, patching will suffice: □
	3.	Significant, but patching will suffice:
	4.	Significant, structural repairs required:
	5.	Description: Column crack at unit 107, balcony edge repairs at unit 207, balcony spalls at units 304 & 306.
1,	Sampl	es chipped out for examination in spall areas
	1.	None: ⊠
	2.	Yes (describe color, texture, aggregate, overall quality):
	6. R(OOF AND FLOOR SYSTEM AND WATERPROOFING
a.	Roof:	
		Description (flat, slope, type roofing/deck, condition): The existing roof was installed in either 2006 or 2007 according to Google Earth historical satellite imagery. The roof system appears to be constructed using multiple plies of coal tar pitch, applied built-up membranes and a base sheet. The surface of these membranes is covered with an application of mineral aggregate, also adhered using coal tar pitch. It also appears that the roof system was installed over an unidentified insulation material.
	2.	All AC units are supported on metal/pipe frames above the roof surface. Each support member is fully waterproofed to prevent moisture from entering the structural deck below.
	3.	Types of drains, scuppers, and conditions: Over the roof, a series of roof drains are located in the low areas of the roof. In addition, a series of emergency scuppers are located through the parapet walls. Along the perimeter of the roof a CMU parapet wall is constructed between the mansard enclosures. The base flashing membranes are covered with an anchored metal counter flashing detail. Typically, a coal tar pitch built-up roof in south Florida will be effective for thirty-five years if properly maintained. At this time, the roof system appears to be in good condition, well-maintained. As shown on the graphic interpretation sheet in the Moisture Testing Report, there was small-isolated areas of subsurface water detected within the roof system materials.
b.	Floor S	vstem(s)
		Description (type of system framing, materials, spans, condition): Each floor and the roof are constructed using reinforced concrete. Perimeter and interior beams support the reinforced concrete floors and roofs in the building.
C.	Inspect to open	ion (Note exposed areas available for inspection, and where it was found necessary ceilings, etc. for inspection of typical framing members: NONE



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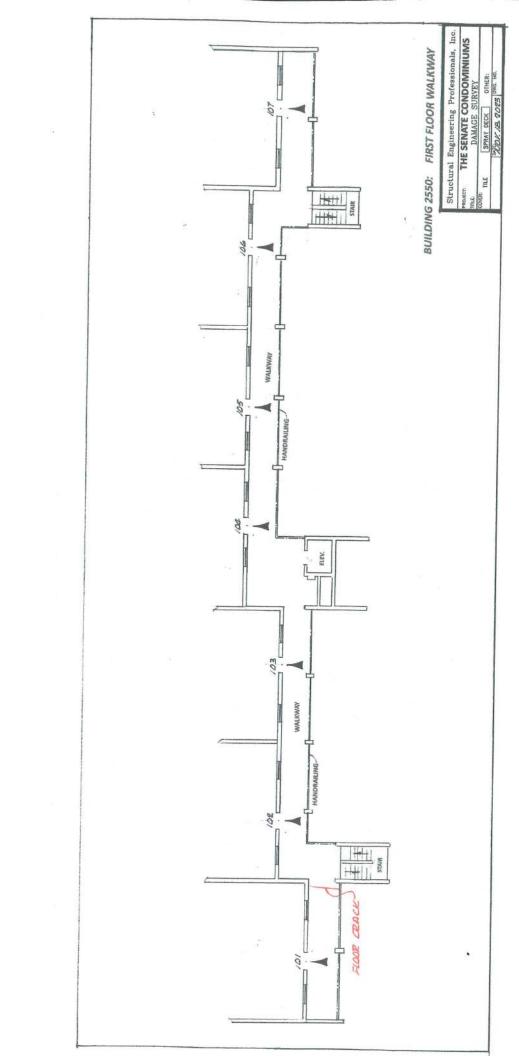
	Waterproofing:
	Have finishes been added after construction? □YES ☒ NO
 	7. There musics occur added after constituction: 1123 \(\textstyle \textstyl
	7. STEEL FRAMING SYSTEM
a.	Description: N/A
	•
b.	Exposed Steel (Describe condition of paint and degree of corrosion): N/A
	1 (
Ç.	Concrete or other fireproofing (Note any cracking or spalling and note where any covering
Ψ,	was removed for inspection): N/A
d.	Elevator sheave beams and connections, and machine floor beams (Note condition): N/A
	Elevator sheave beams and connections, and macrime noor beams (Note condition). N/A
	9 CONCIDETE EDAMINO OVOTORA
a.	8. CONCRETE FRAMING SYSTEM Full Description of Structural System:
a.	The building is constructed using reinforced concrete beams and columns. All
	columns and walls are supported on shallow spread footings. There were no visible
	signs of any floor, beam, or column deterioration in the structure.
	g and the second of the second
b.	General Condition:
	All areas viewed appear to be structurally sound.
	The state of the s
	P.P. S.
	Transfer of the state of the st
c.	Cracking (Check appropriate line and describe if present):
c.	Cracking (Check appropriate line and describe if present): 1. Nonvisible: ✓
c.	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: □
c.	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: □ 3. Significant, but patching will suffice: □
c.	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: □ 3. Significant, but patching will suffice: □ 4. Significant, structural repairs required: □
c.	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: □ 3. Significant, but patching will suffice: □
C.	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: □ 3. Significant, but patching will suffice: □ 4. Significant, structural repairs required: □
c.	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: □ 3. Significant, but patching will suffice: □ 4. Significant, structural repairs required: □
	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: □ 3. Significant, but patching will suffice: □ 4. Significant, structural repairs required: □ 5. Location and Description of members affected and type of cracking:
	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: □ 3. Significant, but patching will suffice: □ 4. Significant, structural repairs required: □ 5. Location and Description of members affected and type of cracking: Rebar Corrosion (Check appropriate line and describe if present):
	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: 3. Significant, but patching will suffice: 4. Significant, structural repairs required: 5. Location and Description of members affected and type of cracking: Rebar Corrosion (Check appropriate line and describe if present): 1. Nonvisible: ■
	Cracking (Check appropriate line and describe if present): 1. Nonvisible: 2. Minor, patching will suffice: □ 3. Significant, but patching will suffice: □ 4. Significant, structural repairs required: □ 5. Location and Description of members affected and type of cracking: Rebar Corrosion (Check appropriate line and describe if present):

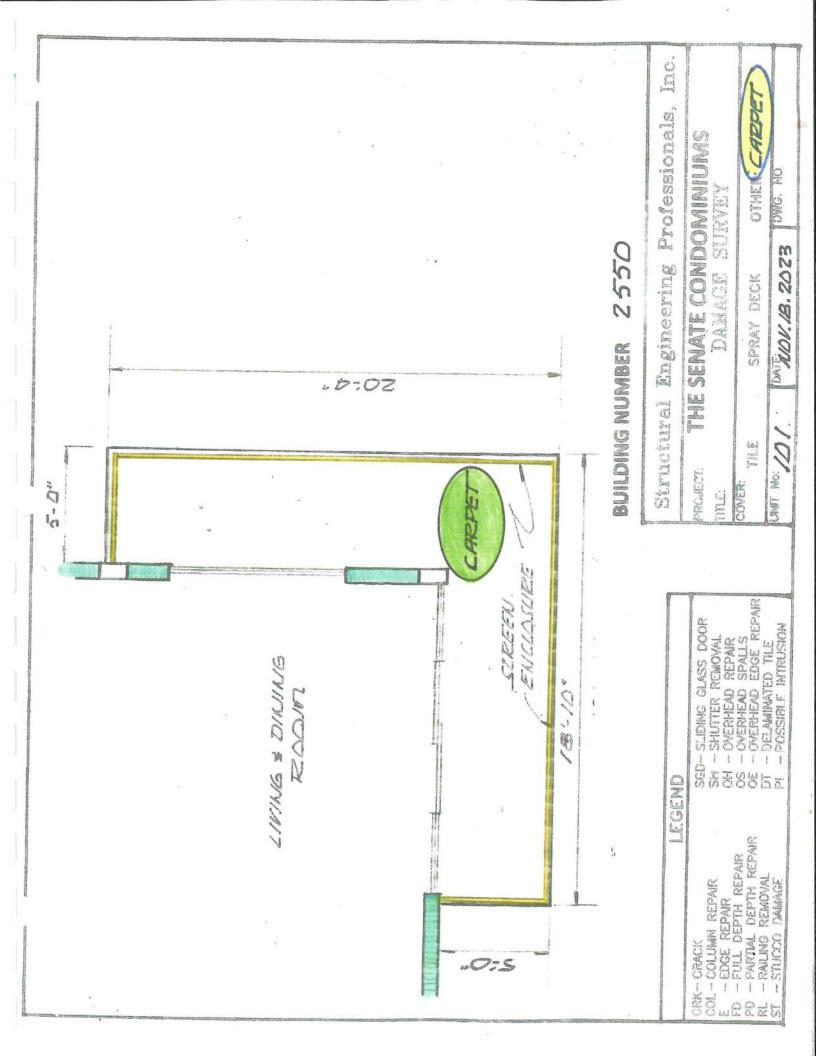


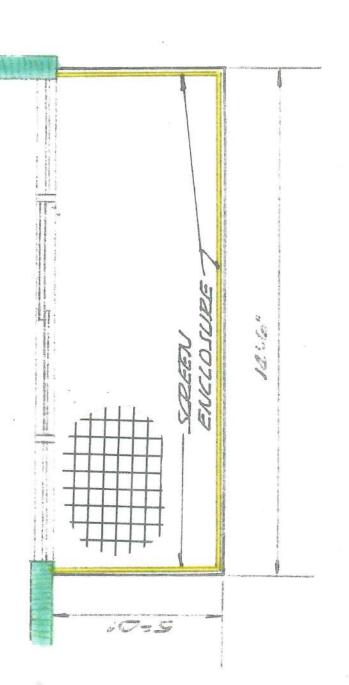
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	4. Significant, structural repairs required: □
	5. Location and Description of members affected and type of corrosion:
	NONE NOTED.
e.	Samples chipped out in spall areas:
	1. None: ⊠
	2. Yes (Describe color, texture, aggregate, overall quality):
	, and a second of the second o
	9. WINDOWS
a.	or the formal of the first of t
	fixed, other):
	All windows and sliding glass doors appear to be the original doors and windows
	installed when the building was erected in 1974. Some of the owners elected to install storm shutters either against the screen enclosures or at the sliding glass doors and
	windows.
b.	Anchorage (Type and condition of fasteners and latches): N/A
c.	
	Continuous caulking around all frames and masonry units and balcony floors. The
	existing caulking appears to be in good condition but should be inspected at the next
d.	building painting and replaced as needed. Interior seals (Type and condition at operable vents):
е.	
О.	General Condition. 147A
_	10. WOOD FRAMING
a. b.	Type (fully describe if mill/light construction, major spans, trusses): N/A
	Note metal fittings and condition (angles, plates, bolts, pintles, other): N/A
C.	Joists (note if well fitted and still closed): N/A
<u>d.</u>	Drainage (Note accumulations of moisture): N/A
e.	Ventilation (Note any concealed spaces not ventilated): N/A
f.	Note any concealed places opened for inspection: NONE
g.	Areas of Other Concerns: NONE.
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S - CVERHEAD SPALLS
E - OVERHEAD EDGE REPAIR
T - DELAMINATED TILE
- POSSIBIE INTRUSION

E — EDGE REPAIR FD — FULL DEPTH REPAIR PD — PARTIAL DEPTH REPAIR RL — RAILING REMOVAL ST — STUCCO DAMAGE

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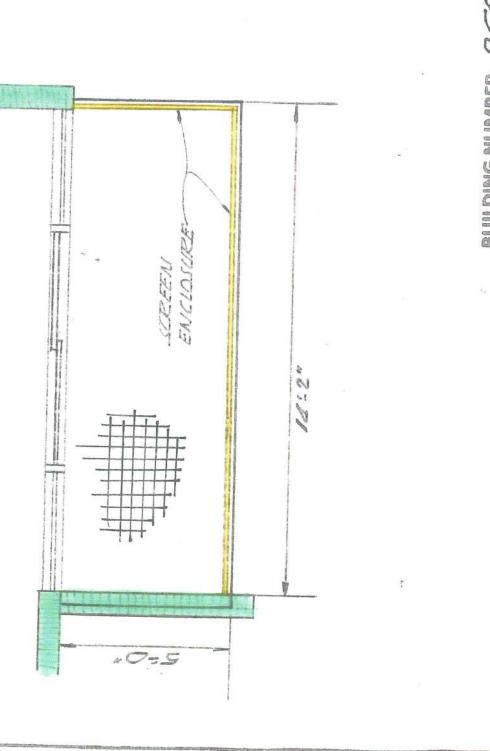
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OE - OVERHEAD EDGE REPAIR
DT - DELAMINATED TILE
PN - POSSIRIE INTRUSION

CRK-CRACK
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E - EDGE REPAIR
FO - FULL DEPTH REPAIR
PD - PARTIAL DEPTH REPAIR
RL - RAILING REMOVAL
ST - STURCD DAMAGE

CRICIL

SPRAY DECK

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SOVER:

SGP-SLDING GLASS DOOR
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FD - PARTIAL DEPTH REPAIR
RL - RAILING REMOVAL
ST - STUCCO DAMAGE

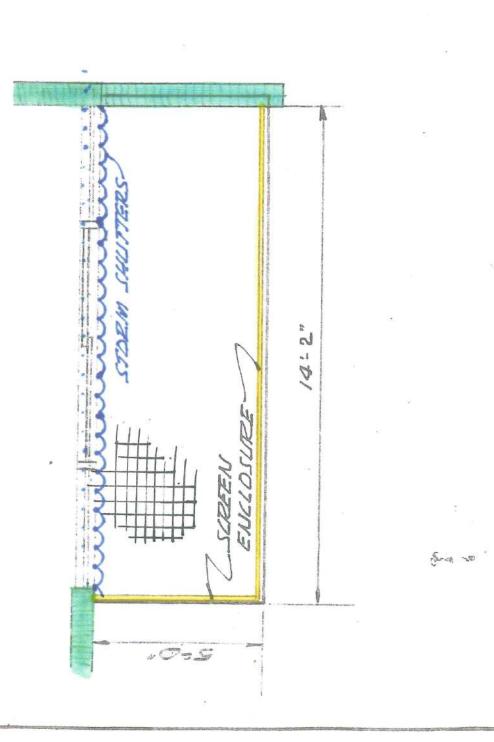
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SSES- SLIDING GLASS DOOR SH - SHUTTER REMOVAL OH - OVERHEAD REPAIR OS - OVERHEAD SPALLS OE - OVERHEAD EDGE REPAIR DT - DELAMINATED TILE PI - POSSIBLE INTRUSION

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PS - PARTIAL DEPTH REPAIR
RL - RAILING REMOVAL
ST - STUCCO DAMAGE

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T - DELAMINATED TILE
- POSSIRI F. INTRIJSION

- PARTIAL DEPTH REPAIR - RAILING. REMOVAL - STUCCO DAMAGE

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- EDGE REPAIR - FULL DEPTH REPAIR

COL - COLUMN REPAR

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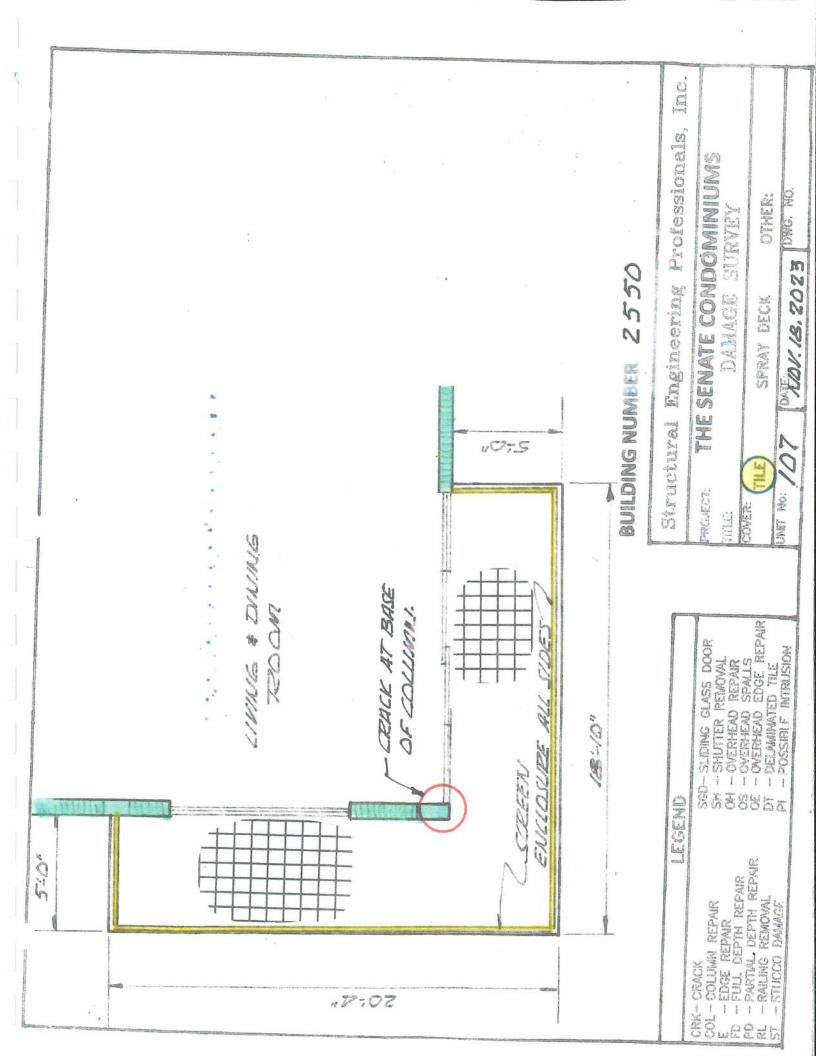
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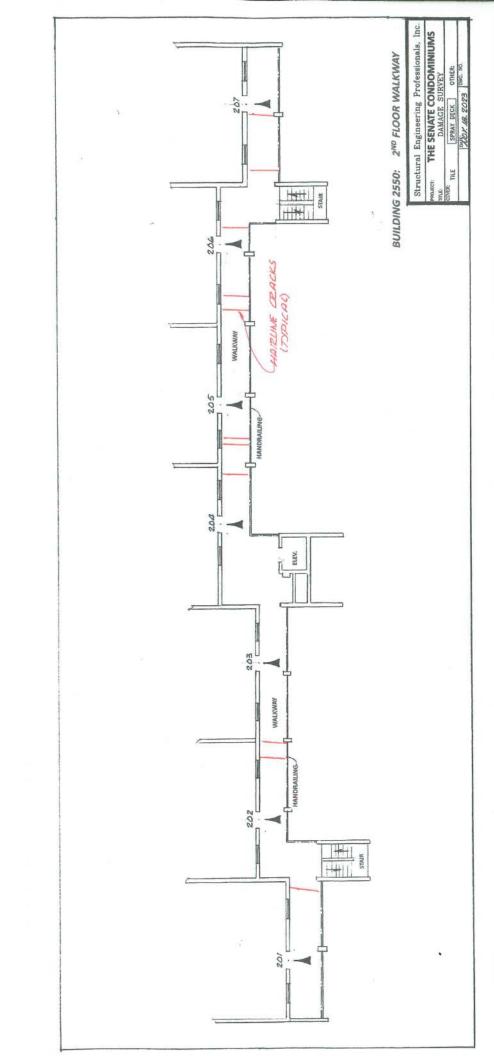
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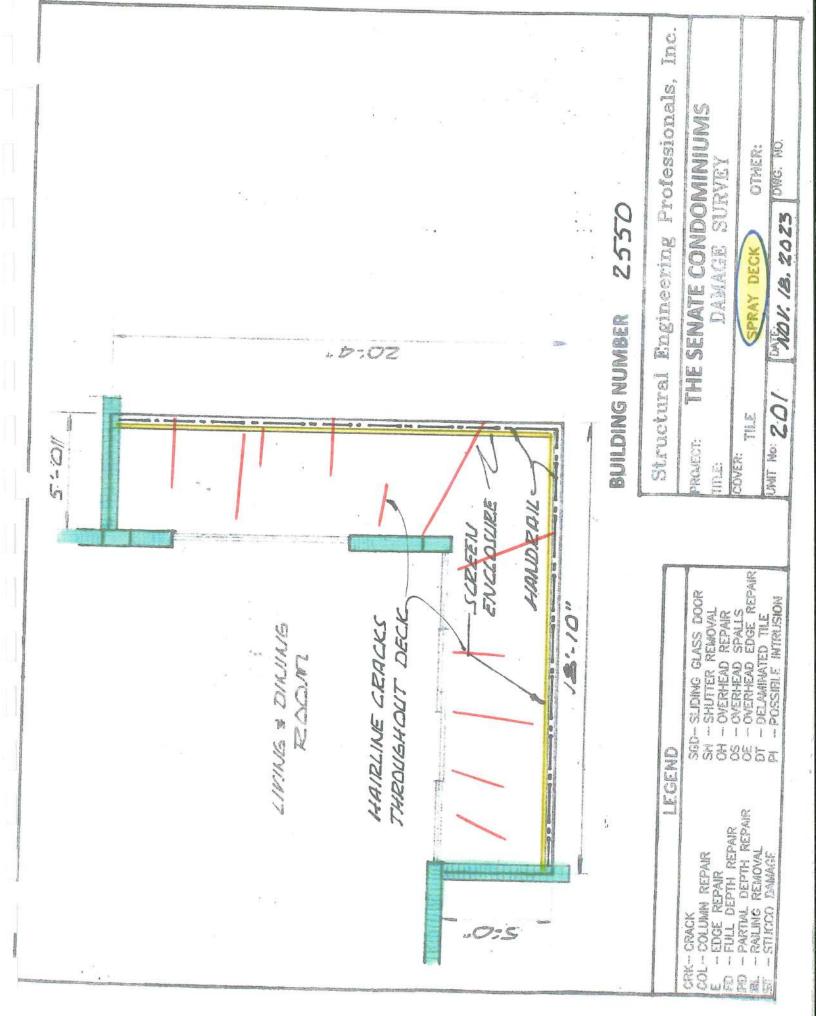
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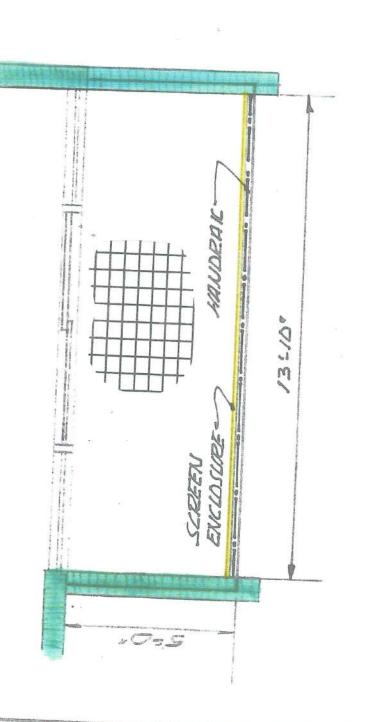
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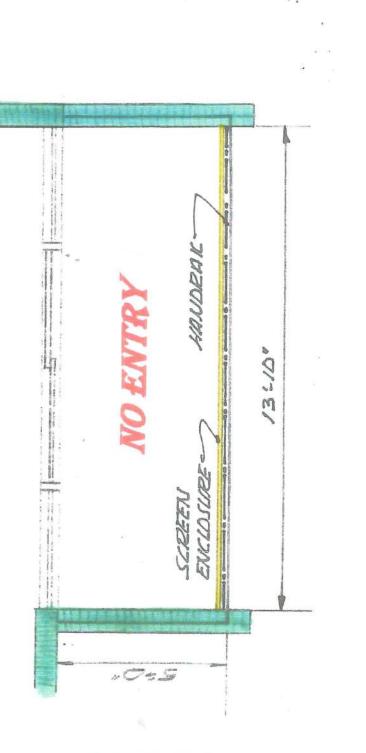
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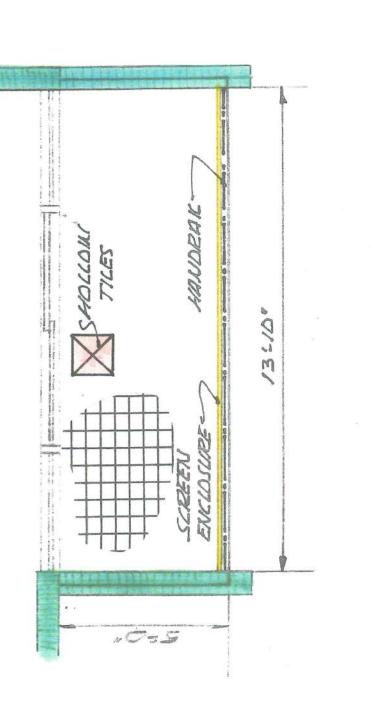
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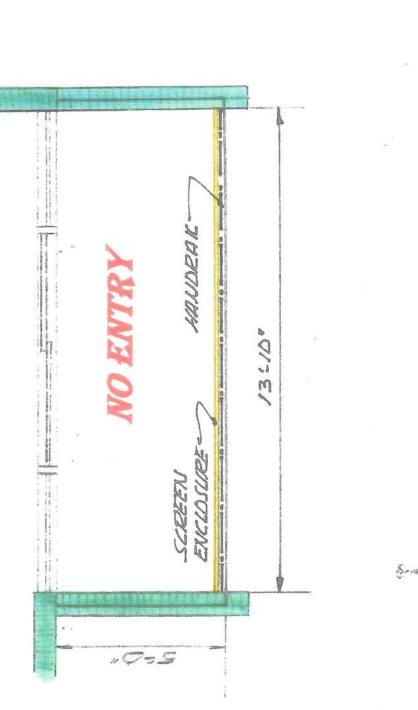
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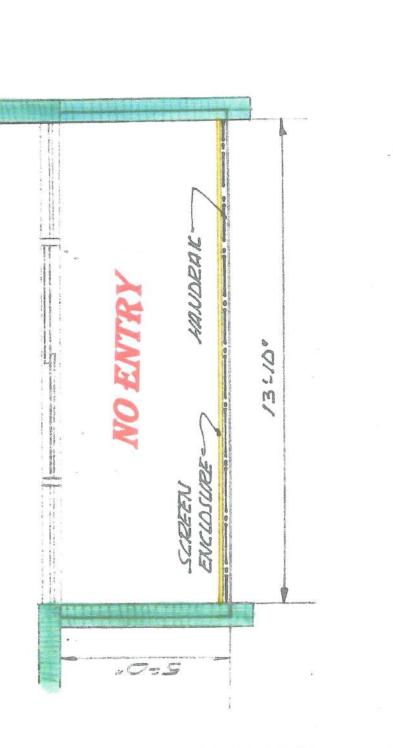
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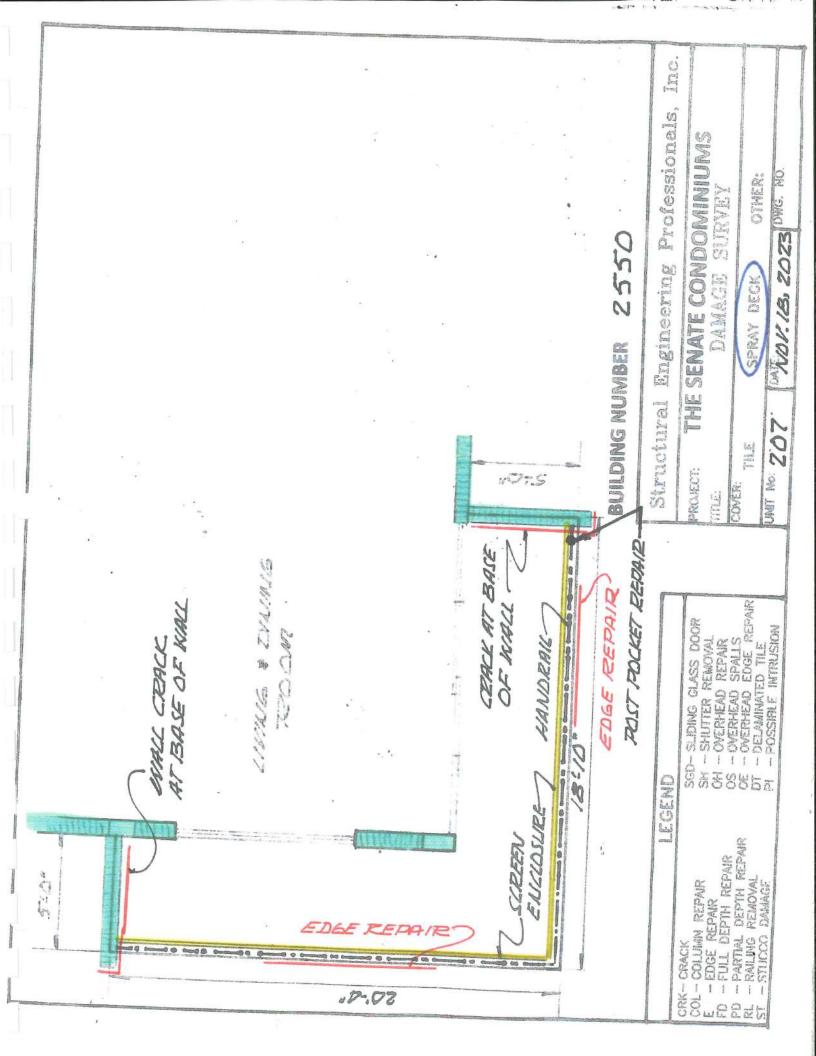
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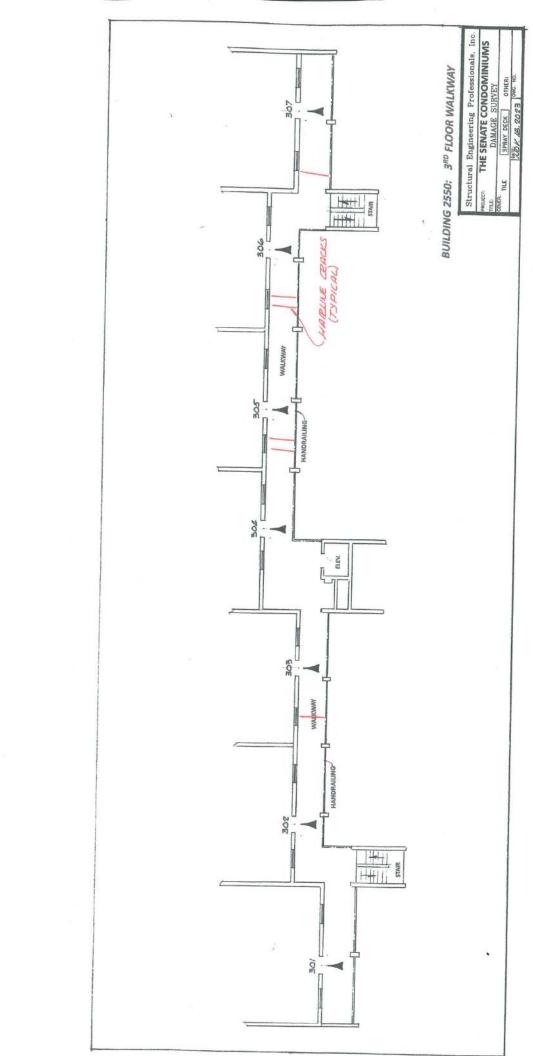
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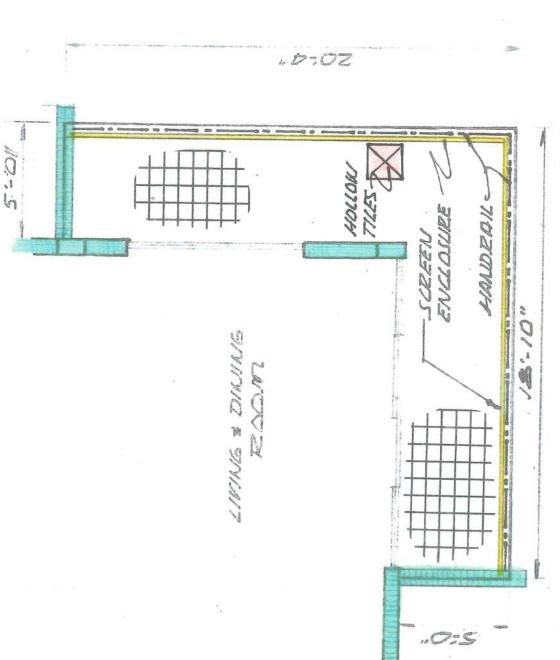
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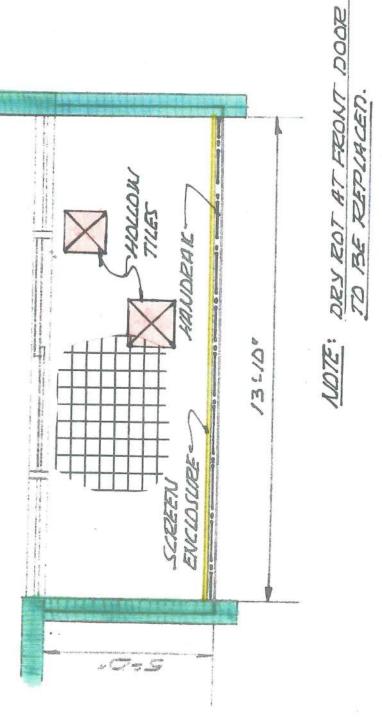
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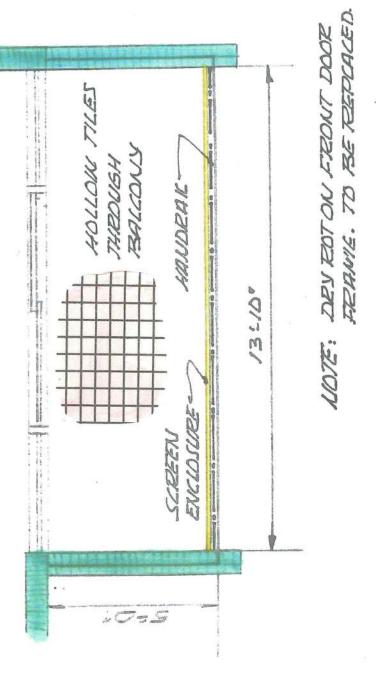
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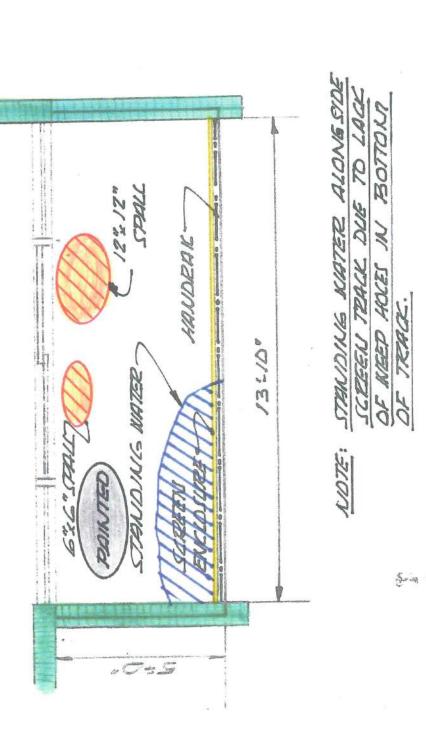
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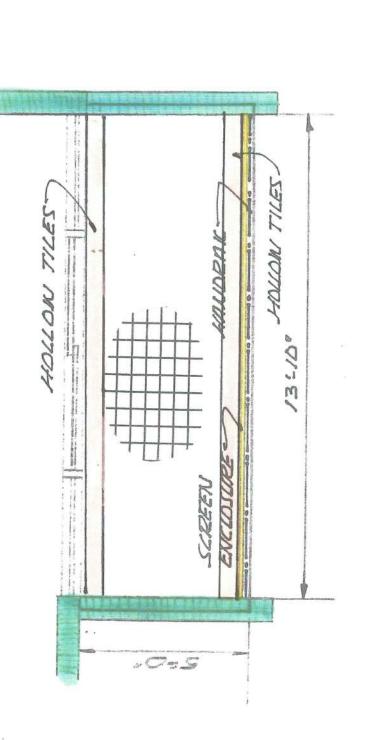
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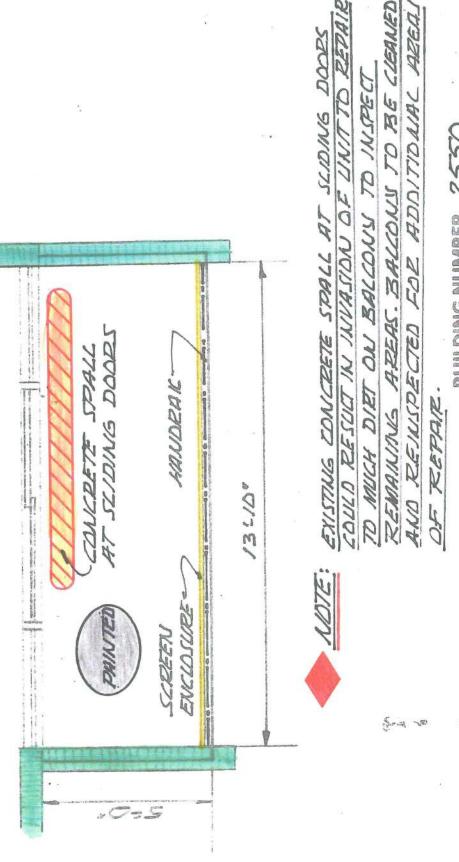
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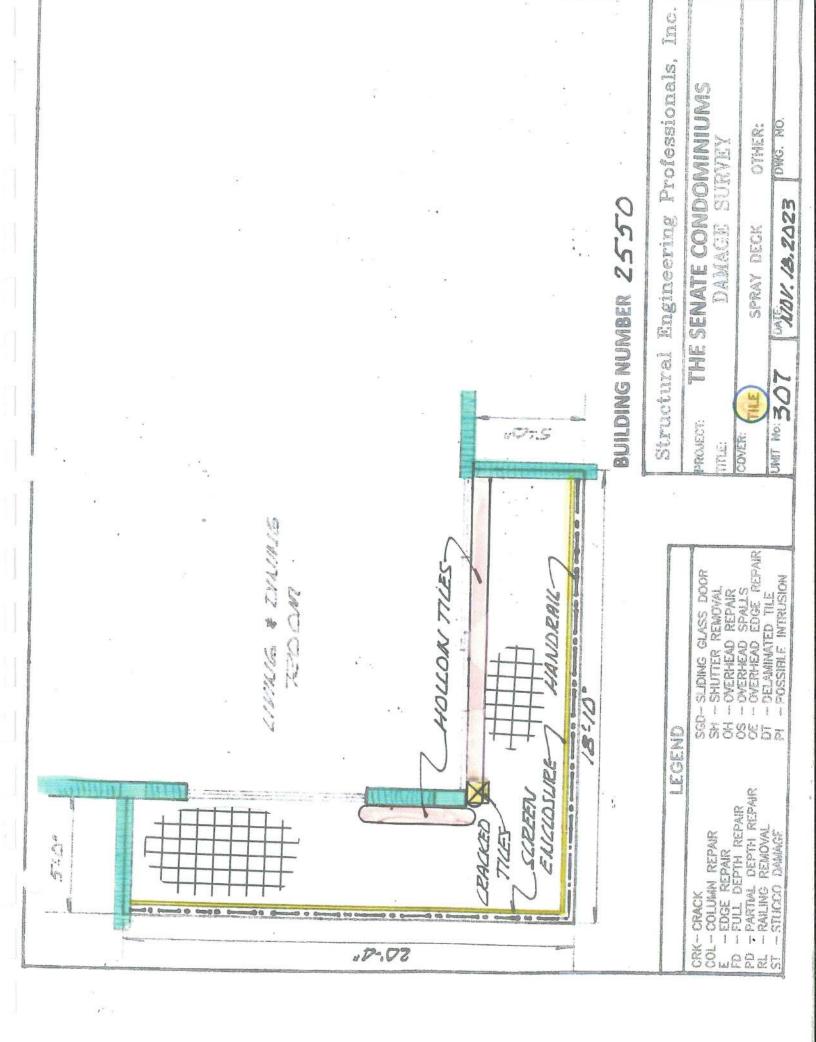
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Roof Surveys, Inc. P.O. Box 5610 Lighthouse Point, Florida 33074

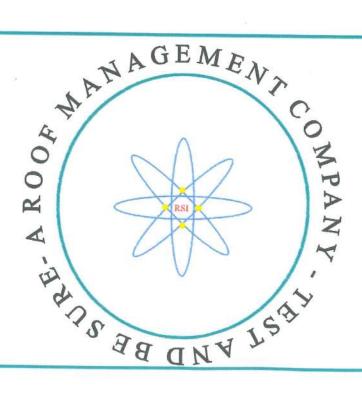
Roof Moisture Scan & Condition Analysis Report December 6, 2023

Structural Engineering Professionals, Inc.

Lands of the President

2550 Presidential Way West Palm Beach, Florida

(Four Buildings—all accessible low slope roof areas)

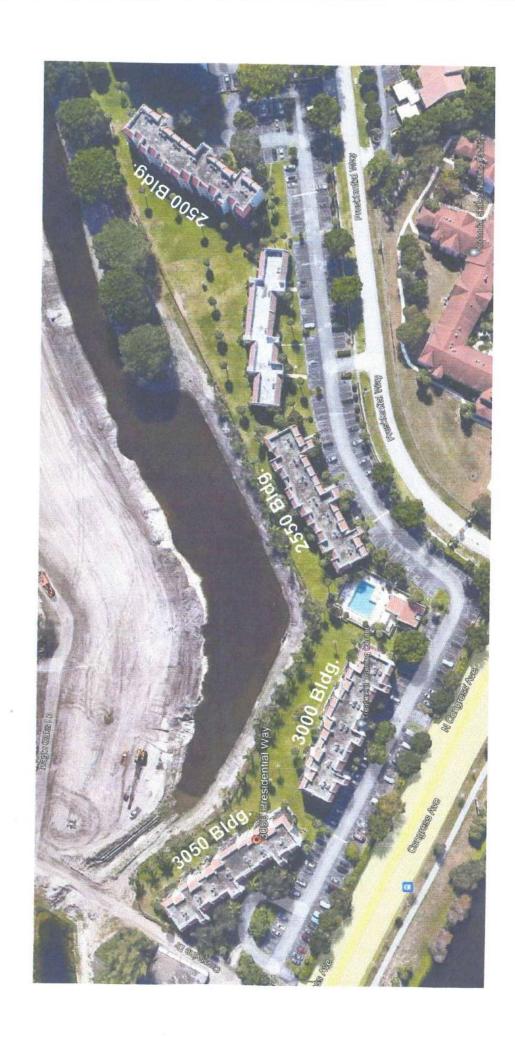


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SURVEYS INC.
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P.O. 80x 5610
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Lands of the President Condo - 2550 Presidential Way, West Palm Beach, Fl.



Lands of the President Condo — 2550 Presidential Way, West Palm Beach, FI.





P.O. Box 5610 - Lighthouse Point, Florida 33074 Off. (954) 545-9320 - Roofsurveys@bellsouth.net

DATE - December 7, 2023

REPORT TO - Mickey Westman

Structural Engineering Professionals, Inc.

751 Northlake Boulevard

North Palm Beach, Florida 33408

REPORT OF - Nondestructive radioisotopic moisture survey and condition analysis report. Core sample description is also enclosed.

LOCATION - Lands of the President Condominium - 2550 Presidential Way, West Palm Beach, Florida (All accessible low slope roof areas)

As requested by Structural Engineering Professionals, Inc., Roof Surveys Inc. visited the above property location during the day of November 28th, 2023. The purpose of this site investigation was to perform a roof condition analysis and moisture survey. Roof Surveys, Inc. achieves this through the use of a nondestructive radioisotopic moisture survey. This moisture survey can then be used as a tool to interpret the roof's overall moisture integrity, and as a leak source detection.

TEST PROCEDURE -

The investigation procedure employs a staggered 5' X 10' grid monitoring system to record relative moisture concentration using a nondestructive radioisotopic moisture gauge. These moisture readings are recorded and displayed on the Graphic Interpretation Sheet(s) enclosed. The roof systems are physically marked with bright orange paint on a five-foot increment, both horizontally and vertically. These moisture readings represent the amount of subsurface hydrogen (moisture) present at the exact location of the reading. Additional readings were obtained in areas where subsurface moisture was detected.

The test procedure involves the utilization of a radioisotopic (*Troxler Moisture Gauge*) which emits high-energy ("fast") neutrons aimed at the target area. From their collisions with the atoms in the insulating material, some neutrons are reflected to the vicinity of the gauge. Neutrons that hit hydrogen atoms are slowed and counted by the instrument. The number of returning ("slow") neutrons indicates the amount of hydrogen atoms in the tested material. The number of hydrogen atoms, which constitute two-thirds of the atoms in water, becomes the index of the areas of moisture in the tested roofing system.

The results of the moisture test are confirmed utilizing alternative technologies. These include the use of a nondestructive Tramex gauge, which works on the principle of induction of an electrical current. Our destructive testing process includes the use of a Delmhorst capacitance meter. This device also works on the principles of induction. Combined with the core sample, we are capable of having a visual verification of the moisture conditions.

This detected subsurface moisture is shown as the blue shaded or crosshatched areas on the Graphic Interpretation Sheet contained within this report. All deficiencies identified during the inspection process are either photographed, or physically circled with bright orange paint, or both.

GRAPHIC INTERPRETATION SHEET(S) -

The Graphic Interpretation Sheet(s) identifies the exact dimension of the roof system, and also documents the approximate location of any roof penetrations (soil vents, interior drains, ventilator curbs, A/C sleepers). For this particular project the building's roof system is depicted on one "Graphic Sheet". This individual graphic sheet contains all of the roof system detail, along with the location of any entrapped moisture. The separate roof areas and levels are identified and labeled on the sheets. The site plan combines the sections with their location within the complex (if applicable).

The legend on the right-hand side indicates the hydrogen value as related to subsurface moisture at that exact location within the roof system. The legend indicates that all hydrogen levels exceeding twenty-five (25) represent light subsurface moisture within the roof system. All hydrogen levels exceeding thirty-four (34) represent increased subsurface moisture within the roof system. As the hydrogen value continues to increase so does the percentage amount of moisture that it represents.

PHOTOGRAPHIC ANALYSIS -

A total of fourteen photographs were taken during the investigation of the roof systems. The location of the photographs is denoted by the purple-colored numerals on the graphic sheets. These numerals correspond to the enclosed photographs and their respective descriptions. These photographs provide overviews of all roof areas, storm related damages, preventative maintenance details, and areas of concern. Please thoroughly review these along with their locations.

ROOF SYSTEM DETAIL -

The roof system appears to be constructed using multiple plies of coal tar pitch applied built-up membranes and base sheet. The surfaces of these membranes were covered with an application of mineral aggregate, also adhered using coal tar pitch. The roof system was installed over an unidentified insulation material. The entire roof system and all of the mechanical equipment are supported by a concrete deck.

The perimeters of the roof system terminate against a combination of stucco covered concrete parapet walls and modified bitumen flashed wood interior mansard walls. The base flashing membranes are covered with an anchored metal counter flashing detail. The roof system was designed with marginal slope, attempting to direct collected surface water towards a series of interior drains. The buildings design also includes a series of through wall emergency scupper drains (see core photos & sheets).

** This roof system information is for internal report purposes and should not be used for any repair specifications or guidelines. Due to potential warranty constraints physical core sample procedures were not conducted. The descriptions and corresponding legends are based upon visual identification and professional interpretation.

OBSERVATIONS -

According to Palm Beach County Property Appraisers web site the buildings construction was completed in 1975. Building management did not indicate when the current roof systems were installed. Google Earth historical satellite imagery suggests that the current roof systems were installed between 2006 and 2007, approximately seventeen years ago. Typically, a coal tar pitch built-up low slope roof system, in South Florida, will be effective for thirty to thirty-five years. This estimate varies based upon quality of materials, workmanship, slope for drainage, and preventative maintenance procedures during this span.

As shown on our graphic interpretation sheet there were no areas of subsurface water detected within the roof system materials. Subsurface water will typically affect the membranes (inner ply) or underlying insulation materials. Entrapped subsurface water can travel following a path of least resistance and may eventually enter into the interiors of the buildings. Our moisture survey process detected only normal hydrogen values consistent with dry roof materials.

Visually the roof systems appear to be in a well-maintained condition. There is abundant evidence of an effective preventative maintenance program which has targeted the penetrations, base & curbs flashing, interior drain details, and surrounding concrete parapet walls. It appears that all of the exposed flashing details have also been recently covered with a silver reflective ultra-violet coating. Our visual inspection found two interior drains that appear hampered by excessive algae/debris which should be cleared away (see photos No. 9 & 13).

CONCLUSIONS -

As previously stated, Coal Tar Pitch roof systems are considered the industry standard. Properly maintained the roof system can remain effective for thirty to thirty-five years of age. It is important to conduct timely maintenance and repairs on all of the associated penetration, drain, curb, and flashing details. It is our estimation that the current roof system will remain effective for at least an additional ten to twelve years.

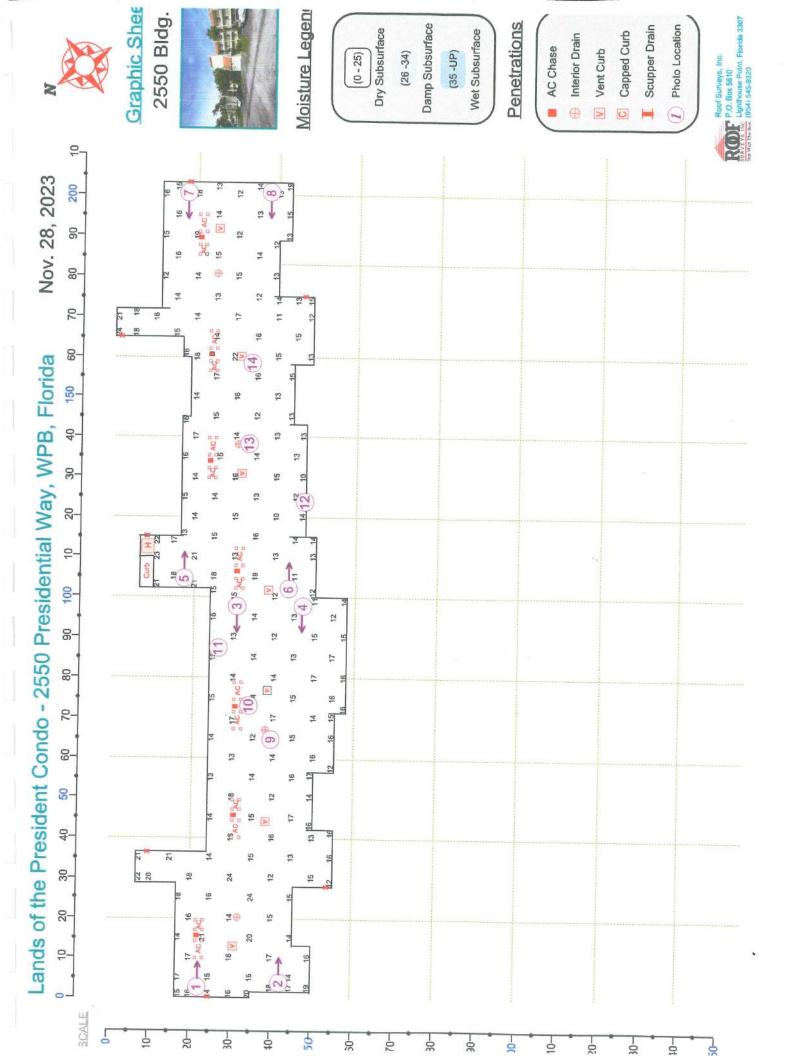
It should be understood that the data and sample collected, along with this written report prepared by Roof Surveys, Inc. is representative of the present roof condition. Roof Surveys, Inc. wishes to thank building management for the opportunity to assist with their roofing needs. If Roof Surveys, Inc. can be of any further assistance please kindly advise.

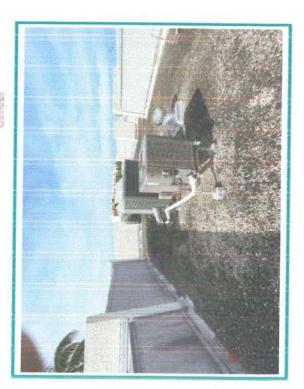
Respectfully submitted,

Roof Surveys, Inc.

David A. Smith

David A. Smith Director





(1.) Overview of roof (2550 Bldg) looking SE. from NW. corner



(2.) Overview of roof (2550 Bldg) looking SE. from SW. corner



(3.) Overview of roof (2550 Bldg) looking W. from N. center



4.) Overview of roof (2550 Bldg) looking W. from S. center



(5.) Overview of roof (2550 Bldg) looking E. from N. center



(6,) Overview of roof (2550 Bldg) looking E. from S. center



(7.) Overview of roof (2550 Bldg) looking NW. from NE. corner



(8.) Overview of roof (2550 Bldg) looking NW. from SE. corner



(9.) Interior drain clogged with vegetation/algae, clear out



(10) View of typical AC stand/chase detail, well maintained



11) View of typical termination base detail, well maintained



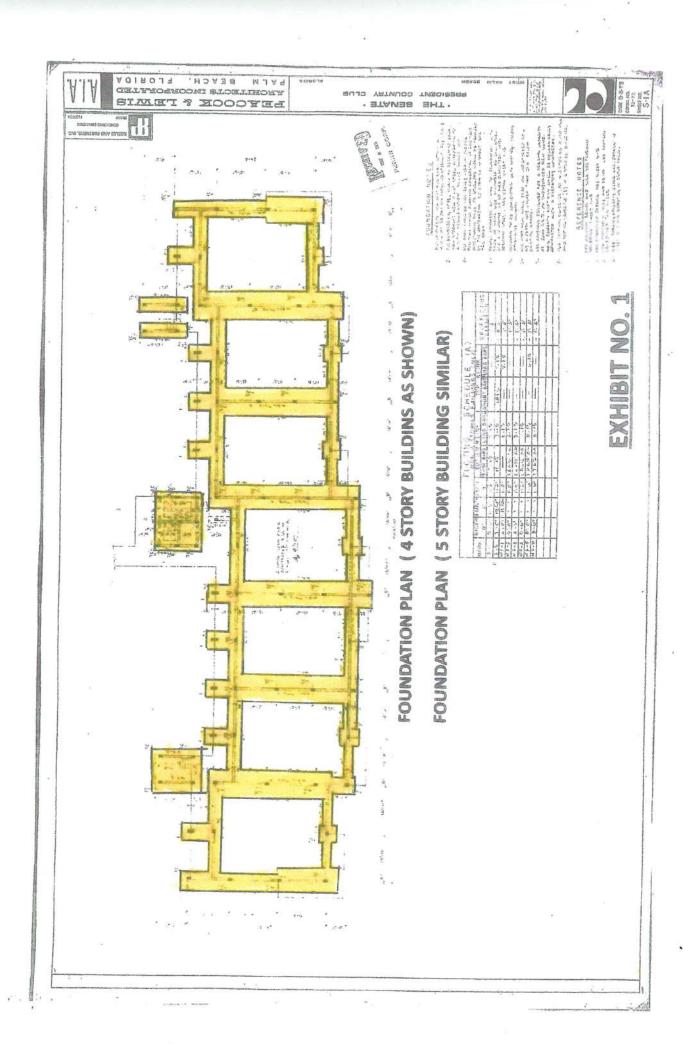
(12) View of typical flashed parapet detail, well maintained



(13) Interior drain hampered with algae/debris, clear out



(14) View of typical ventilator curb detail, well maintained



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STACK #4 & 5 EAST ELEVATION



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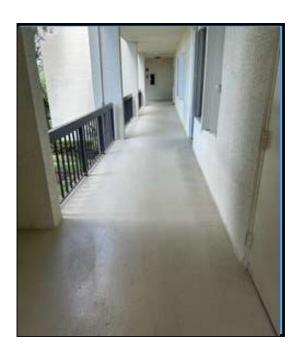
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WALKWAYS – FLOORS 2 TO 5



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Structural, Mechanical & Civil Engineering Consultants



TYPICAL STAIR ELEVATION



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NORTH ROOF VIEW A/C UNITS, MANSARD ROOF ENCLOSURES AND **TYPICAL PARAPET WALLS**



TYPICAL PARAPET WALLS BEWEEN **MANSARD ENCLOSURES**



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STRUCTURAL ENGINEERING PROFESSIONALS, INC.

Structural, Mechanical & Civil Engineering Consultants

BUILDING 2550



TYPICAL PLATFORM ELEVATED AIR CONDITIONING **UNITS AND ROOF VENT**



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