



November 5, 2024 Project No: 24-1396

Southeaster Condominium Association 4841 Saxon Drive New Smyrna Beach, FL 32169

Attention:Condominium Board of DirectorsMs. Luann Fanelli, Community Association Manager

Subject: Phase 1 Milestone Inspection Report Southeaster Condominium 4841 Saxon Drive, New Smyrna Beach, FL 32169

Dear Ms. Fanelli and Ladies and Gentlemen of the Board of Directors,

United Engineering Consultants, Inc. (UEC) is pleased to submit this report following our structural condition inspection of the Southeaster Condominium located in New Smyrna Beach, Florida. This study was performed in accordance with the state mandated Phase 1 Milestone Inspection (FS 553.899 - Mandatory structural inspections for condominium and cooperative buildings). This report includes our findings and recommendations.

I. EXECUTIVE SUMMARY

The buildings are generally in fair structural condition. <u>There was significant structural deterioration</u> <u>identified at the steel slab connections at Building "C"</u>. Corrosion deterioration was identified on structural steel angles at the walkway slabs and some stair columns. It is our understanding that the column repairs at Building "E" stairwell are contracted to be replaced. The steel angles at Building "C" should have shoring installed and repairs made immediately.

A moderate amount of concrete spalling damage was identified at the exterior of the structures, but the damage is not considered substantial deterioration at this time. Damage was identified on all the buildings; however, the highest frequency of damage was at Building "B". Repairs are recommended to address the areas noted in this report.

The primary cause of the concrete damage appears to be the corrosion of embedded reinforcing steel. The key to prolonging the life of a concrete structure in a coastal environment is keeping the concrete dry to prevent moisture and salt ions from penetrating the embedded steel.

II. STRUCTURAL DESCRIPTION

The Southeaster Condominium includes six individual buildings (Categorized as Buildings A – F). The general layout of the complex is a horseshoe with Building "A" located at the Southeast end of the property and Building "F" at the Northeast end of the property. All buildings are located with oceanfront exposure and a retaining wall provides protection along the East shoreline. The buildings are believed to have been constructed around the 1970's time frame. There are 78 condominium units and several rooms for storage, office space, maintenance workshop, laundry facilities and community rooms.

All buildings have exterior open air walkways that provide access to the units. Open air stairwells are located at the walkways and provide access to the elevated units. The stairwells are constructed with

concrete slabs supported by steel columns. All exterior slabs are waterproofed with a liquid applied polyurethane deck coating. Aluminum guardrails are installed along the slab edges for fall protection. All buildings have a flat roof with a mansard constructed around the perimeter of the building.

Building "A" is a two-story structure with 5 condominium units. Each unit is two-stories and includes a ground floor patio and elevated balcony which are accessed through a sliding glass door. Building plans were not available but from visual observation it appears the structure is constructed of precast slabs supported by load carrying walls, beams and columns. Infill walls appear to be CMU construction with a stucco finish on the exterior of the structure.

Building "B" is a three-story structure with 24 condominium units. The first-floor units are single story and the second floor units are two-stories. Open air walkways and four stairwells provide access to the units. Each unit has a private balcony that is accessed through sliding glass doors. Limited building plans from original construction were reviewed and specify the exterior slabs as precast hollow core concrete slabs supported by reinforced concrete columns and beams. The interior slabs are specified with precast concrete slabs for the second floor and wood frame construction for the third floor and roof levels. The infill exterior walls are specified as CMU construction with a stucco finish.

Building "C" is a four-story structure with 10 condominium units and common area rooms. The first floor (basement) is partially below grade and includes laundry facilities and storage rooms. The second through fourth floors include condominium units. Building plans were not available but from visual inspection the construction appears to be similar to Building "B" with precast concrete slabs supported by concrete beams, columns and walls. Infill walls appear to be CMU construction with a stucco finish.

Building "D" is a four-story structure with 10 condominium units and common area rooms. The first floor (basement) is partially below grade is includes storage rooms, a maintenance shop and a recreational room. The second through fourth floors include condominium units. Limited building plans from original construction were available and specify the elevated slabs are conventionally reinforced concrete slabs supported by load carrying walls, beams and columns. Infill walls are constructed of CMU and finished with stucco.

Building "E" is a three-story structure with 18 condominium units. The first-floor units are single story and the second-floor units are two-stories. Limited building plans from original construction were available and specify the elevated slabs are conventionally reinforced concrete slabs supported by load carrying walls, beams and columns. Infill walls are constructed of CMU and finished with stucco.

Building "F" is a three-story structure with 12 condominium units. The first-floor units are single story and the second-floor units are two-stories. Limited building plans from original construction were available and specify the elevated slabs are conventionally reinforced concrete slabs supported by load carrying walls, beams and columns. It was noted that the construction plans specify the first-floor slab as a reinforced structural slab and the building is supported on a foundation with auger cast piles. Infill walls are constructed of CMU and finished with stucco.

The windows and sliding glass doors varied in age, material and manufacturer. Most openings were replaced since original construction and both vinyl and aluminum products were observed.

We understand from reviewing past documents and speaking with the property manager that the building underwent significant structural repair work around the year 2008-2009. Since that project, the buildings have been painted and waterproofed around 2015.

We understand the Association is currently starting a painting, waterproofing and structural repair project. We also understand that the Association is permitting a project to replace the columns at a stairwell between Buildings "E" and "F".



Figure 1: Building Layout

III. INVESTIGATION METHODOLOGY

Representatives from United Engineering Consultants performed the field inspection on September 11 and 17, 2024. The survey was performed by State of Florida registered Professional Engineers Christopher Longman, P.E. and Timothy Snook, P.E. The Phase 1 Milestone Inspection process included comprehensive visual observations of all accessible habitable and non-habitable areas, including the major structural components. The inspection at the Southeaster Condominium included all balconies, walkways, unit interiors and common area rooms. Entry to units was accompanied by a representative from the Association to access the interior of the units and balconies. The inspection focused on determining the general condition of the structure and identifying significant structural deterioration, which is defined as the following per the state statue:

"Significant structural deterioration" means substantial structural distress or substantial structural weakness that negatively affects a building's general structural condition and integrity. The term does not include surface imperfections such as cracks, distortion, sagging, deflections, misalignment, signs of leakage, or peeling of finishes unless the licensed engineer or architect performing the phase one or phase two inspection determines that surface imperfections are a sign of substantial structural deterioration.

This study was not performed to evaluate the (original) structural design or code compliancy of the structure, but rather evaluate the condition of the existing elements. This study was focused on the building structure only and did not include a condition assessment of the windows and doors, roof system

or mechanical, plumbing or electrical systems.

IV. SUMMARY OF MATERIAL FINDINGS

The following sections provide a comprehensive description of our findings and recommendations. Our observations are further depicted in the photographs in Appendix "A".

Elevated Slabs: The elevated slabs were in great condition at the interior of the buildings and fair condition on the exterior of the buildings. Many locations of concrete spalling damage were identified. Most areas were small in size per location (1-2 square feet); however, some larger areas were detected. The only damage on the interior of the structures was located at the slab below a sliding glass door at Unit D205.

All six buildings had small amounts of concrete spalling damage on the exterior of the structure at the balcony and walkway slabs. In total, there was approximately 75 square feet of damage on the topside of the slabs. It was noted that of that total, 18 square feet was located at Unit D205 balcony and 21 square feet was located on the walkway slabs. Some of the topside damage (mostly the Buildings "D", "E" and "F") is located against sliding glass doors and may ingress below the door threshold.

There was approximately 50 square feet of overhead (ceiling) spalling damage on the exterior slabs. Most the damage was located at the walkway slabs and most common at Building "B". There was approximately 45 cubic feet of spalling damage on the exterior slab edges. Over 75% of the slab edge damage was located at the walkway slabs for Buildings "B" and "C".

There were (10) structural steel angles at the walkway slabs of Building "C" that are severely corroded (rusting). The angles at the first floor of Building "C" between Units C101-C102 and C103-C104 are significantly deteriorated and are considered substantial damage.

Load Bearing Wall, Columns and Beams: Cracking and concrete spalling damage was identified at the balcony and walkway walls and columns at all buildings. The damage generally was located at the bottom of wall sections and was 1 cubic foot or less in size. The damage was also commonly located at the outside nose of the divider wall between balconies. In total, there is estimated to be 35 cubic feet of wall and column repair.

The steel columns at the stairwells are clad with EIFS (Exterior Insulating Finish System). Cracking and rust bleed was visible at several framing connections from the column to the walkway slab at Buildings "B", "C" and "D". Severe corrosion was observed on the stairwell columns between Buildings "E" and "F"; however, shoring is installed and the Owner has contracted to replace the columns.

Spalling damage was common on the balcony beams at Building "B". Many of the beams running parallel with the balcony slab edge had cracking on the bottom of the beam.

Foundation: The foundation was not accessible for the inspection. No structurally significant cracking was observed at the ground floor walls and columns.

Waterproofing: The general waterproofing program is in fair condition. The waterproof deck coatings on the elevated slabs are in fair condition. The sealants around windows and doors were in varying condition. Failing sealants at sliding glass doors were observed at some units due to the oxidation of the door frame. Rusted corner bead around sliding glass door openings was common at many balconies. The vertical exterior wall surfaces generally had minimal cracking and paint blistering.

Guardrails: The aluminum guardrails are generally in good condition. Oxidation behind the aluminum

finish as manifested at many locations but the railing structure was in serviceable condition. Missing fasteners and deteriorated fasteners were common. The drive pins for the wall connections were oxidized. A few missing fasteners at Building "B" stairs and at Building "F" walkway were identified.

V. CONCLUSIONS

We identified evidence of substantial structural deterioration at the steel slab connections near Units C101-C102 and C103-C104. Shoring should be installed until repairs are made.

Based on our findings, we are in the professional engineering opinion that the building is safe to occupy once the recommended shoring is installed. A Phase II of the milestone inspection is recommended to evaluate the condition of the steel framing at the walkway stair columns that are currently exhibiting rust bleed from the EIFS finish.

We recommend the areas of concrete damage be repaired in the next 12 months and before the damage becomes more structurally significant. The repairs should be performed by a Licensed General Contractors who specializes in structural concrete repair. The repairs should also be inspected by an Engineer.

The sealant around windows and sliding glass doors should be replaced where they are deteriorated, missing or failing. The polyurethane deck coating on the walkway and balcony slabs should continue to be maintained. The paint manufacturer should be consulted for recommendations for painting the building. Missing and deteriorated fasteners at the guardrails should be corrected.

VI. REPORT LIMITATIONS

The proposed study is limited to accessible areas. Hidden defects may exist that were not in accessible areas or were covered by stucco or other finishes. The Association understands and agrees that UEC is specifically not liable for the discovery of hidden defects. UEC also reserves the right to change our opinion should new information be brought to our attention.

VII. CLOSURE

Attached as enclosures are photographs of typical conditions observed (Appendix A) and a tabulation of the concrete damage (Appendix B).

This report is property of United Engineering Consultants and was prepared for the exclusive use of the Condominium Board of Directors as an instrument reflecting the services provided as detailed in our proposal. No other warranty is expressed or implied. The unauthorized use of this report for any purpose or by any third party is at the user's own risk.

Thank you for providing us the opportunity to work with you on this project.

Sincerely, UNITED ENGINEERING CONSULTANTS, INC.

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Christopher B. Longman, P.E., SI Ltd. Project Engineer Florida State License No. 82452



This item has been electronically signed and sealed by Christopher B. Longman using a digital signature and date. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies.

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APPENDIX A

PHOTOGRAPHS



Photograph #1 – East elevation aerial of complex



Photograph #2 – South elevation aerial of complex



Photograph #3 – West elevation aerial of complex



Photograph #4 – North elevation aerial of complex



Photograph #5 – Typical balcony elevation Building "A"



Photograph #6 – Typical balcony elevation Buildings "B", "C" and "D"



Photograph #7 – Typical balcony elevation Buildings "D" and "E"



Photograph #8 – Typical balcony elevation Building "F"



Photograph #9 – Typical walkway elevation Buildings "B" and "A"



Photograph #10 – Typical walkway elevation Building "C"



Photograph #11 – Typical walkway elevation Building "D"



Photograph #12 – Typical walkway elevation Building "E"



Photograph #13 – Typical wall spall damage at Building "B" balcony



Photograph #14 – Typical wall spall at Building "B" balcony



Photograph #15 – Typical topside slab spall at Building "D" balcony



Photograph #16 – Typical slab edge spall at Building "E" balcony



Photograph #17 – Typical wall spall at building exterior corner



Photograph #18 – Typical beam spall near Building "F" walkway



Photograph #19 – Typical overhead slab spall at walkway stair slab



Photograph #20 – Corroded stair column at Building "E" currently contracted to be replaced



Photograph #21 – Typical walkway stair framing with cracked/bulged EIFS



Photograph #22 – Typical walkway stair framing with cracked/bulged EIFS



Photograph #23 – Severely corroded steel slab connection at Building "C"



Photograph #24 – Severely corroded steel slab connection at Building "C"



Photograph #25 – Severely corroded steel slab connection at Building "C"



Photograph #26 – Typical exterior slab waterproof deck coatings



Photograph #27 – Typical walkway and balcony guardrail system



Photograph #28 – Typical oxidation occurring at guardrail base plate



Photograph #29 – Typical corroded guardrail wall connection



Photograph #30 – Typical rusted corner bead above balcony sliding glass door



Photograph #31 – Missing screw at walkway stair guardrail

APPENDIX B

SUPPORTING DATA

	Spall Matrix: Southeaster Condominium												
Unit, Floor	Slab Topside Spalling, Square Foot	Slab Topside Spalling, Minimum	Slab Ceiling Spalling Square Foot	Slab Ceiling Spalling Minimum	Slab Edge Spalling, Cubic Foot	Slab Edge Spalling Minimum	Column, Wall Spall, Cubic Foot	Column, Wall Spall Minimum	Beam Spalling, Cubic Foot	Beam Spalling, Minimum	Rust Spot, Each	Stucco, Square Foot	Window Sill, Each
Building A Balconies													
A101													
A102							1	1		2			
A103							1			1			
A104													
A105			4				1						
Subtotal	0	0	4	0	0	0	3	1	0	3	0	0	0
					В	uilding A Wal	kways						
1st Floor				1	1		1			2			
2nd Floor						1							1
Subtotal	0	0	0	1	1	1	1	0	0	2	0	0	1
Total	0	0	4	1	1	1	4	1	0	5	0	0	1

Unit, Floor	Slab Topside Spalling, Square Foot	Slab Topside Spalling, Minimum	Slab Ceiling Spalling Square Foot	Slab Ceiling Spalling Minimum	Slab Edge Spalling, Cubic Foot	Slab Edge Spalling Minimum	Column, Wall Spall, Cubic Foot	Column, Wall Spall Minimum	Beam Spalling, Cubic Foot	Beam Spalling, Minimum	Rust Spot, Each	Stucco, Square Foot	Window Sill, Each
					Βι	uilding B Bal	conies						
B101											1		
B102											1		
B103													
B104													
B105								1			ĺ		
B106					1			3			2	3	
B107													
B108						1							
B201		1									I		
B202							1		1				
B203													
B204											I		
B205						1			1.5				
B206											I		
B207							1		1	1			
B208											I		
B209						1			1	1			
B210							1	1	1		I		
B211						1		1	1	1			
B212						1				1	I		
B213											I		
B214A								1		1			1
B214B		1					1				I		
B215		1		1			1	1			L		
B216		1						1			L		
Subtotal	0	4	0	1	1	5	5	9	6.5	5	3	3	1
					B	uilding B Wal	kways						
1st Floor			18	2		1			1	3		4	
2nd Floor	4		7	1	9	4	2		4	3	1		
3rd Floor	4				6	3		1			I		
Subtotal	8	0	25	3	15	8	2	1	5	6	0	4	0
Total	8	4	25	4	16	13	7	10	11.5	11	3	7	1

Unit, Floor	Slab Topside Spalling, Square Foot	Slab Topside Spalling, Minimum	Slab Ceiling Spalling Square Foot	Slab Ceiling Spalling Minimum	Slab Edge Spalling, Cubic Foot	Slab Edge Spalling Minimum	Column, Wall Spall, Cubic Foot	Column, Wall Spall Minimum	Beam Spalling, Cubic Foot	Beam Spalling, Minimum	Rust Spot, Each	Stucco, Square Foot	Window Sill, Each
	Building C Balconies												
C101								1					
C102													
C103				1									
C104													
C201													
C202		2							1				
C203									1				
C204													
C205						1		1					
C206					1				1.5				
Subtotal	0	2	0	1	1	1	0	2	3.5	0	0	0	0
					В	uilding C Wal	kways						
1st Floor		2	3	1		2		1					1
2nd Floor					8	2		2					
3rd Floor		2			1	4		2					
Subtotal	0	4	3	1	9	8	0	5	0	0	0	0	1
Total	0	6	3	2	10	9	0	7	3.5	0	0	0	1

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Unit	Slab Topside Spalling, Square Foot	Slab Topside Spalling, Minimum	Slab Ceiling Spalling Square Foot	Slab Ceiling Spalling Minimum	Slab Edge Spalling, Cubic Foot	Slab Edge Spalling Minimum	Column, Wall Spall, Cubic Foot	Column, Wall Spall Minimum	Beam Spalling, Cubic Foot	Beam Spalling, Minimum	Rust Spot, Each	Stucco, Square Foot	Window Sill, Each
					В	uilding D Bal	conies						
D101													
D102				1			1						
D103													
D104													
D201		2				1							
D202		1											
D203													
D204		1				1							1
D205	18												
D206							1						
Subtotal	18	4	0	1	0	2	2	0	0	0	0	0	1
					В	uilding D Wal	kways						
1st Floor	4												
2nd Floor								1					
3rd Floor											3		
Basement			8						20				
Subtotal	4	0	8	0	0	0	0	1	20	0	3	0	0
Tota	22	4	8	1	0	2	2	1	20	0	3	0	1

Unit	Slab Topside Spalling, Square Foot	Slab Topside Spalling, Minimum	Slab Ceiling Spalling Square Foot	Slab Ceiling Spalling Minimum	Slab Edge Spalling, Cubic Foot	Slab Edge Spalling Minimum	Column, Wall Spall, Cubic Foot	Column, Wall Spall Minimum	Beam Spalling, Cubic Foot	Beam Spalling, Minimum	Rust Spot, Each	Stucco, Square Foot	Window Sill, Each
					В	uilding E Bal	conies						
E101													
E102													
E103													
E104								1					
E105													
E106													
E201													
E202													
E203													
E204		1											
E205													
E206		1											
E207					1	1							1
E208		1											
E209		1											
E210											8		
E211		1			3								
E212											1		
Subtotal	0	5	0	0	4	1	0	1	0	0	9	0	1
					B	uilding E Wal	kways						
1st Floor								5	2	3		6	
2nd Floor		1			1			2			1	3	
3rd Floor													
Subtotal	0	1	0	0	1	0	0	7	2	3	1	9	0
Tota	0	6	0	0	5	1	0	8	2	3	10	9	1

Unit	Slab Topside Spalling, Square Foot	Slab Topside Spalling, Minimum	Slab Ceiling Spalling Square Foot	Slab Ceiling Spalling Minimum	Slab Edge Spalling, Cubic Foot	Slab Edge Spalling Minimum	Column, Wall Spall, Cubic Foot	Column, Wall Spall Minimum	Beam Spalling, Cubic Foot	Beam Spalling, Minimum	Rust Spot, Each	Stucco, Square Foot	Window Sill, Each
					В	uilding F Balo	conies						
F101							5	1					
F102								3					
F103													
F104													
F201								1					
F202				1				1					
F203	3	1											
F204													
F205													
F206		2	4					1					
F207													
F208										1			
Subtotal	3	3	4	1	0	0	5	7	0	1	0	0	0
					В	uilding F Wal	kways						
1st Floor													
2nd Floor		2											
3rd Floor		1											
Subtotal	0	3	0	0	0	0	0	0	0	0	0	0	0
Total	3	6	4	1	0	0	5	7	0	1	0	0	0
							•	•	•				T
TOTAL	33	26	44	9	32	26	18	34	37	20	16	16	5

Note: "Minimum" is a repair less than 0.50 cubic feet in volume

END OF REPORT