Beachside Engineering

SHADY DELL RIVERVIEW SOUTH CONDOMINIUM

3150 N. Harbor City Blvd, Melbourne, FL

MILESTONE INSPECTION

A general condition assessment focused on the structural elements that can be physically seen and accessed.

Melissa Lomax, PE

February 21, 2024

Prepared for: Shady Dell Riverview South Owners' Association, Inc.

Beachside Engineering

STATE MILESTONE INSPECTION

This report is intended to comply with the requirements of a Phase 1 Engineering Assessment “Milestone Inspection”: As defined by HB 1395 "Milestone inspection" means a structural inspection of a building, including an inspection of load-bearing elements and the primary structural members and primary structural systems…by an engineer licensed under chapter 471 and authorized to practice in this state for the purposes of attesting to the life safety and adequacy of the structural components of the building and, to the extent reasonably possible, determining the general structural condition of the building as it affects the safety of such building, including a determination of any necessary maintenance, repair, or replacement of any structural component of the building. The purpose of such inspection is not to determine if the condition of an existing building is in compliance with the Florida Building Code or the fire safety code.

Further requirements in SB1395 state “Upon completion of a phase one or phase two milestone inspection, the licensed architect or engineer who performed the inspection must submit a sealed copy of the inspection report with a separate summary of, at minimum, the material findings and recommendations in the inspection report to the condominium association or cooperative association, the owner of any portion of the building which is not subject to the condominium or cooperative form of ownership, and to the building official of the local government which has jurisdiction. The inspection report must, at a minimum, meet all of the following criteria: (a) Bear the seal and signature, or the electronic signature, of the licensed engineer or architect who performed the inspection. (b) Indicate the manner and type of inspection forming the basis for the inspection report. (c) Identify any substantial structural deterioration, within a reasonable professional probability based on the scope of the inspection, describe the extent of such deterioration, and identify any recommended repairs for such deterioration. (d) State whether unsafe or dangerous conditions, as those terms are defined in the Florida Building Code, were observed. (e) Recommend any remedial or preventive repair for any items that are damaged but are not substantial structural deterioration. (f) Identify and describe any items requiring further inspection. (9) Within 45 days after receiving the applicable inspection report, the condominium or cooperative association must distribute a copy of the inspector-prepared summary of the inspection report to each condominium unit owner or cooperative unit owner…”

CORROSION BACKGROUND

The most durable and commonly used construction material in the world is concrete - but that does not mean it is without flaws! Concrete is prone to deterioration and failure due to severe exposure conditions, like those found in the coastal environment of Beachside Brevard where chlorides (salt) are ever present. Concrete is very strong in compression and weak in tension and therefore it needs reinforcement in the form of conventional steel rebar, pre-tension, or post-tension cables. When concrete is originally poured, it has a very high PH which creates a passive layer that initially protects the reinforcement. Over time, the alkalinity decreases and thus the natural protection decreases. Then, coupled with the aggressive environmental conditions and chloride migration into the concrete, deterioration of the reinforcement can and will occur. Once chlorides migrate into the concrete, the corrosion process is initiated. The reinforcement will begin to corrode, and the byproduct creates tensile stresses on the concrete causing a concrete spall. Concrete spalls are sometimes visible, and sometimes not, depending on the age and severity. The only way to halt the corrosion process, once initiated, is to perform concrete repairs which requires chipping out the spalled concrete, cleaning the reinforcement and patching with modern repair materials which include additional corrosion protection per ICRI standards.

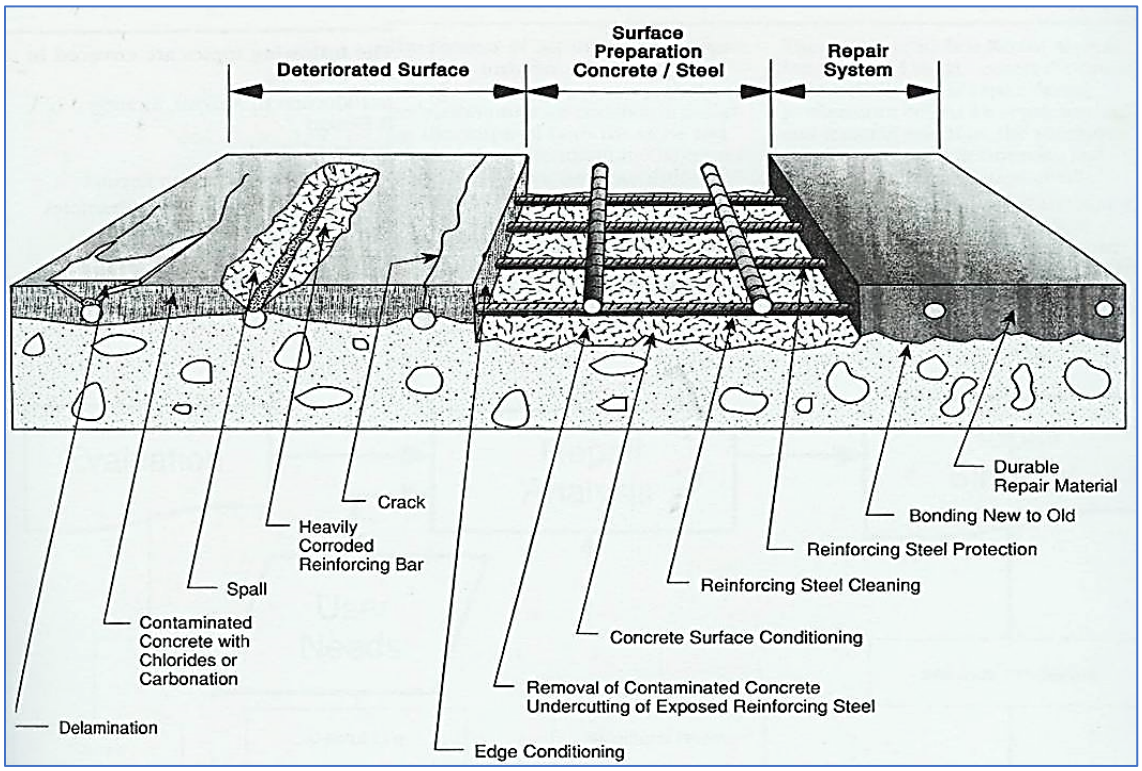
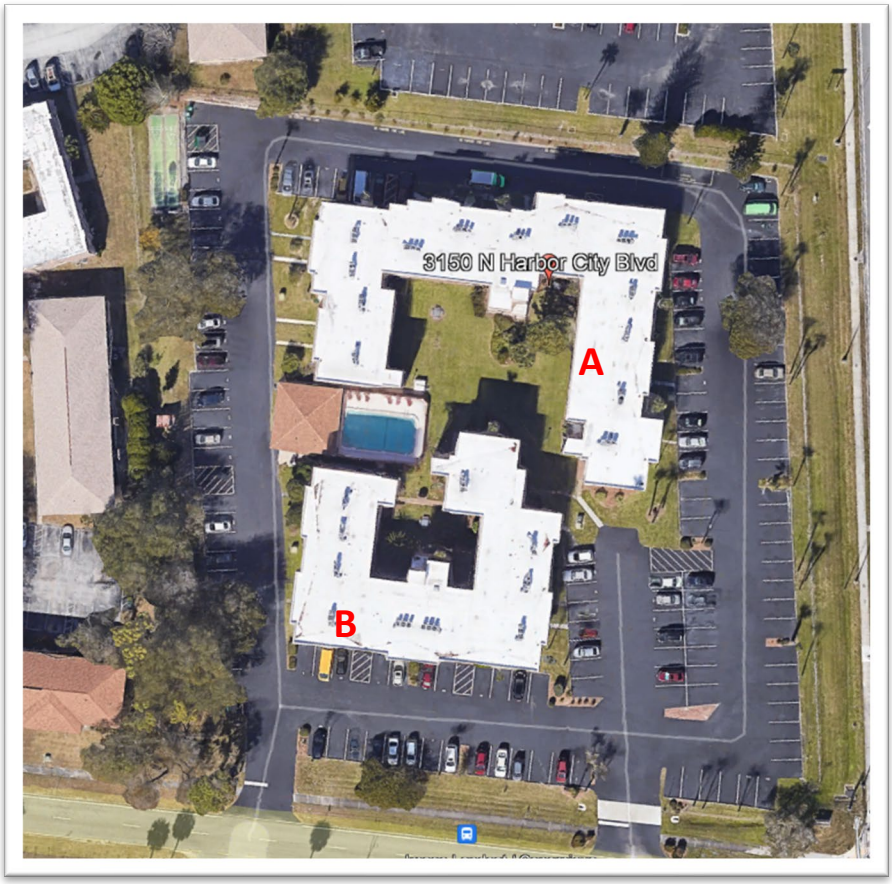


Figure 1: Anatomy of a Concrete Repair {Peter Emmons, Concrete Repair & Maintenance Illustrated}

SHADY DELL RIVERVIEW SOUTH ASSESSMENT

Shady Dell Riverview South Condominium contains two buildings, both with similar construction methods and finishes. The buildings are constructed of pre-cast hollow-core concrete floors/decks, traditionally reinforced concrete beams and exterior CMU block walls with a stucco finish. The guard on the balconies is integrated into a screen enclosure which has ~10" spacing and does NOT meet current building code. Guardrails on the walkways are aluminum and also do not comply with the current building code. The 2 Buildings are designated A and B. This report will focus on the general structural condition of the buildings.



Photograph 1: Building Map

The buildings decks are constructed from pre-cast hollow-core planks, as seen the example photograph below. Hollow-core buildings have pre-stressed strands which are typically located near the bottom of the plank. Plank buildings typically have less corrosion spalls, over time, and generally see longer time spans between restoration cycles. Unfortunately plank buildings also have higher instances of water intrusion, especially during high-wind events. Aged or improperly installed windows and doors can also contribute to water intrusion.

Photograph 2: Hollow-Core Plank {Example Photo}

During this phase 1 assessment the buildings were evaluated to determine their general condition and if any substantial structural deterioration is present.

Per FL HB 1395 "Substantial 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 such surface imperfections are a sign of substantial structural deterioration.

A Licensed Professional Engineer visually and acoustically assessed the structure for structural and concrete damage. This included a representative sample of accessible decks, overheads, walls, columns, beams, and guardrails as applicable. The building was assessed using Non-Destructive Evaluation methods per industry standards including, but not limited to, the following:

ASCE Guideline for Structural Condition Assessment of Existing Structures

American Concrete Institute (ACI) & International Concrete Repair Institute Manual (ICRI) of Concrete

ICRI 210.4 Guide for Nondestructive Evaluation Methods for Condition Assessment, Repair & Performance Monitoring of Concrete Structures

ACI 201.1R-08: Guide for Conducting a Visual Inspection of Concrete in Service

ACI 364.1-19: Guide for Assessment of Concrete Structures Before Rehabilitation

ACI 546: Guide to Concrete Repair

ACI 562-19: Code Requirements for Assessment, Repair and Rehabilitation of Existing Concrete Structures

Concrete Repair and Maintenance Illustrated, Peter H. Emmons

At Shady Dell Riverview Condominium – NO substantial structural deterioration was noted.

At Shady Dell Riverview Condominium – Six unsafe conditions were noted. Board escort and affected homeowners were notified on-site.

At Shady Dell Riverview Condominium – Repair and maintenance items were noted and specific recommendations are provided later in the report but generally include concrete spall repairs, concrete crack repairs, concrete overlay replacement, new deck coatings and new guards.

BUILDINGS – The following buildings were included in the evaluation and the findings are as follows:

A Building (3 stories, 39 units) – No substantial structural deterioration and ONE unsafe condition were found at the A Building. The guard/screen enclosure in Unit A333 is considered unsafe. The board escort and unit occupant were notified of the unsafe condition. 21 balconies were evaluated visually and acoustically along with all the walkways and the building exterior. A few deck, edge and overhead spalls were noted. The unsafe condition should be remedied immediately, and the other items should be repaired during the next repair cycle. The building is generally in good condition. The East stairwell appears to be separating from the building and should be monitored.

Photograph 3: A Building

Photograph 4: ~10" Spacing

Photograph 5: Carpet on Balcony

Photograph 6: Pitted Aluminum Guard

B Building (3 stories, 30 units) – No substantial structural deterioration and FIVE unsafe conditions were found at the B Building. The guard/screen enclosures in Unit B344, B345, B246, B346 are considered unsafe. The board escort and unit occupant were notified of the unsafe condition. There was also an unsafe rail on the 3rd floor walkway on the NW corner. 12 balconies were evaluated visually and acoustically along with all the walkways and the building exterior. A few deck, edge and overhead spalls were noted. The unsafe condition should be remedied immediately, and the other items should be repaired during the next repair cycle. The building is generally in good condition.

Photograph 7: B Building

Photograph 8: B345 UNSAFE ~20" opening

Photograph 9: Edge crack

Photograph 10: Header Damage

SHADY DELL RIVERVIEW SOUTH RECOMMENDATIONS

STRUCTUAL: Any concrete damage should be repaired.

CONCRETE PROTECTION: The deck coatings on all the balconies are of varying type and age. It is typically recommended that all units have the same protective coating. In this case, a couple balconies are fully enclosed and therefore almost considered "interior space" so are excluded. Tile, carpet, rugs and any other covering is not recommended on any exterior elevated concrete surface. All will hold moisture, and subsequently chlorides, against the deck accelerating the corrosion process. A waterproof coating is always recommended and is the best line of defense against moisture and chloride intrusion into the structure. New deck coatings are recommended on both the balconies and walkways. The walkways likely have a 2" cementitious overlay which is cracked and delaminated throughout. It is recommended that this overlay be removed and replaced.

GUARDRAILS: The guardrails on both the balcony side of the buildings as well as the walkways dimensionally do NOT meet current building code as the spacing is larger than 4". The spacing on the balcony screen enclosures is ~10" which is very concerning. Structurally "Handrails and guards shall be designed to resist a concentrated load of 200 pounds in accordance with Section 4.5.1 of ASCE 7." And "Handrails and guards shall be designed to resist a linear load of 50 pounds per linear foot in accordance with Section 4.5.1 of ASCE 7."[1] The guardrails on the balconies appear to mostly be in poor condition and it is unlikely that they could withstand the required loading and replacement is recommended. The guardrails on walkways appear to be mostly in fair condition and replacement should also be considered. It should be noted that not all the balcony guards were inspected and there could be more instances of unsafe conditions.

BUILDING ENVELOPE: For best overall protection, the building envelope should be addressed every 7 years, including paint and stucco repairs. This will include new exterior paint and sealing around all openings as well as any hairline cracks. This item goes hand in hand with concrete protection, detailed above.

[1] Florida Building Code, Chapter 16.07 Structural Design

ENGINEERING ESTIMATE

The recommended work is detailed in the attached worksheet. The upper portion details the damage quantities found, the general location and the damage classification. The damages are further classified below by the method of repair. The lower portion of the cost spreadsheet summarizes the recommended action items with an engineering cost estimate. The estimate is simply that, an estimate. This will allow the Association to make decisions based on budgetary constraints. **Actual project costs will vary per contractor and final contract scope, especially in the current market.** DO NOT DISTRUBITE THE ENGINERING ESTIMATE TO CONTRACTORS!

1. Contractor mobilization: This cost usually includes any permit fees, equipment and material costs in order to get the project started.
2. Concrete Repairs – Structural Items: These items are concrete damage which are structural in nature. These are the highest priority repair items.
    a. *DECK {Deck repair}* – Damage found on the vertical surface, quantified by the cubic foot (CF). Repair is typically 3" deep or half of the deck thickness if there are 2 mats of reinforcing steel. In cases of a single mat of reinforcing steel (typically when the slab thickness is 4" or less, then all deck damage would be repaired as full depth repair.
    b. *EDGE {Edge repair}* - Damage found within the outermost 12" of the deck, quantified by the cubic foot (CF). The repair will be the full depth and requires forms on 2 surfaces.
    c. *OVHD {Overhead repair}* - Damage found on the overhead vertical surface, quantified by the cubic foot (CF). Repair is typically 3" deep or half of the deck thickness.
    d. *FULL {Full depth repair}* - Damage found on both the vertical and underside surface, quantified by the cubic foot (CF). Repair is the full deck thickness. If deck or overhead damage equates to the entire surface, then it is more economical to specify a full depth repair.
    e. *EXP JT {Expansion Joint repair}* – Expansion joints are a movement joint which allows for expansion/contraction of the building due to temperature variations. The joint material can break down over time and are quantified by the linear footage (LF).
    f. *BEAM/COL {Beam/Column/Wall/Header repair}* - This is damage found on either a beam, column, wall, header or area which requires a 3-dimensional repair. Quantified by the cubic foot (CF).

g. *SPOT {Spot repair}* - Rust spot damage is usually a piece of metal which is too close to the surface of the concrete. Sometimes it's a rebar chair or a fastener which was left behind. Quantified by each individual occurrence (EA) and repair involves chipping out the exposed metal and a small patch.

h. *CRACK {Crack repair – Epoxy}* – Cracks found on the deck surface should be repaired with a gravity feed epoxy and are quantified by the linear footage (LF).

i. *Secondary Items*: These are items that are necessary in order to make concrete repairs. For example, damage underneath a sliding glass door will require removal and reinstallation of that door in order to access and properly repair all damage.

3. Concrete Protection: These items are recommended in order to protect the structure and help mitigate and slow down future corrosion processes. These items are the 1st line of defense and are also of high priority. These items cannot be completed without first completing the concrete repairs. New deck coatings, in most cases, will require complete removal of the current coating in order to start from a bare concrete substrate. The proper way to install new coatings would include removing and reinstalling the guardrails but in some cases the rails can be left in place.
4. Building Envelope Protection: These items are also recommended to protect the building envelope. A paint and waterproofing project will include new exterior paint and sealing around all openings as well as any hairline cracks. *STUCCO* – Stucco damage is either delaminated, cracked or bulged stucco and is quantified by the square foot (SF).
5. Safety: These items are required by the Florida Building Code as safety features such as Guards and Handrails.
6. Contingencies: A MINIMUM of 25% contingency is recommended on all construction projects. Unforeseen conditions, material cost increases, etc. can all cause the estimated project cost to increase. Damage quantity overages will be higher for each year that the project is delayed. A small increase in field quantity data was included to account for the normal time it takes until construction commences.
7. Phase 2 Engineering: Design/Bid Phase Fees – See next section.
8. Phase 3 Engineering: CE&I Fees – See next section.

RESTORATION PROCESS

Stage 2 Project Engineering Design & Bid Phase: The overall project will be designed - including recommended repairs, upgrades, corrosion protection and replacements. The project scope will ultimately be decided collaboratively by the engineer and board of directors. This will be a balance of budget constraints, immediate required action items, long term required action items and future preservation. An engineering package will be compiled including project specifications and repair design drawings. The project will be bid out to only pre-qualified restoration contractors and then the bids analyzed and provided to the owner. The contractors will bid to a "unit price contract" which means they will price each line item separately and NOT as a fixed overall fee. A proposal for these engineering services will be provided but an estimated cost is shown.

Stage 3 Construction Engineering & Inspection: Once a contractor is selected and the project scope finalized, then construction can begin. BEL will finalize the project design package by signing/sealing the package so that a permit may be applied for and issued. The engineering team will work directly for the building owner (Association or Board of Directors) and will be your on-site representative. We will be your eyes and ears on-site to ensure the project is completed per the engineered design package and per current building codes. BEL will perform periodic inspections to process contract draws monthly. There are no upfront costs paid to the contractor and no contract draws are approved until the project commences. The engineering fees for this phase will depend on project scope and cannot be priced until the phase 1 is completed and the scope of the restoration project defined, but an estimated cost is shown.

Construction Notes: Mobilization fees are an individual line item and are approved for payment once the contractor has staged the building and obtained materials. The building is typically staged by one of the following means: high lift, swing stages and/or scaffolding, as determined by the contractor. A storage trailer and materials will also be delivered and stored on-site. During a pre-construction meeting the contractor and owners will discuss staging areas. A "unit price construction contract" ensures that the Association only pays for actual work completed. Example: the construction contract has a price of $410 per cubic foot for deck repairs. The engineering estimated damage quantity is 78.75 cubic feet. During actual construction, the deck repair quantities are physically measured by the engineering team and total to 70.5 cubic feet. The monthly approved construction draw would include 70.5CF of deck repair x $410 per CF = $28,905. This is an example, and it is important to note that damage quantities will increase as

time progresses. The damage quantities found during the condition survey were increased by 25% but this is to account for the additional demo that is typically required to get to non-corroded reinforcement. A separate 25% contingency is recommended to account for any increase in damage due to construction delays. ONLY QUALIFED RESTORATION CONTRACTORS SHOULD PERFORM STRUCTURAL REPAIRS AND ENGINEERING OVERSIGHT IS REQUIRED. Cosmetic "cover and patch" repairs are detrimental, not cost effective and will hide actual structural damage. All repairs should be made in accordance with ICRI, ACI and other current industry standards. Engineering oversight will assure this. Restoration contractors will offer 5-year warranties for repairs but the building must be inspected, and the contractor notified prior to the warranty expiration.

CURRENT MARKET

Due to the current construction market the Association should expect the project design and bid phase to take approximately 8-12 weeks. The Association should also be aware that construction will likely not commence for 12+ months. Once an engineering contract and construction contract have been executed the contractor will reserve the condominium a spot on the schedule. No upfront fees are paid to the contractor until mobilization occurs. It is important to remember that ultimately performing all the recommendations in one project will be the most cost efficient over time. Each time the project is broken into small chunks, the Association will pay more in engineering fees, contractor mobilization as well as increases in material costs and damage quantity increases. There is also "economy of scale" and the smaller the project, the higher the unit prices.

RESTORATION CYCLES

Most buildings will require inspections and repairs every 5 to 10 years once the corrosion process has been initiated. The initiation of corrosion will vary greatly depending on original building design and construction. Some buildings will begin seeing signs of corrosion around the 10-year mark whereas others, if designed with corrosion control in mind, may not see any evidence of corrosion until 20+ years.

Milestone Inspection Summary

Shady Dell Riverview South contains two buildings, both with similar construction methods and finishes. The buildings are constructed of pre-cast hollow-core concrete floors/decks, traditionally reinforced concrete beams and exterior CMU block walls with a stucco finish. The guard on the balconies is integrated into a screen enclosure which has ~10" spacing and does NOT meet current building code. Guardrails on the walkways are aluminum and do not comply with the current building code. The buildings were evaluated to determine their general condition and if any substantial structural deterioration is present. A Licensed Professional Engineer visually and acoustically assessed the structure for structural and concrete damage. This included a representative sample of accessible decks, overheads, walls, columns, beams, and guardrails as applicable. The buildings were assessed using Non-Destructive Evaluation methods per industry standards.

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At Shady Dell Riverview Condominium – Six unsafe conditions were noted. Board escort and affected homeowners were notified on-site.

At Shady Dell Riverview Condominium – Repair and maintenance items were noted and specific recommendations are provided but generally include concrete spall repairs, concrete crack repairs, concrete overlay replacement, new deck coatings and new guards.

BEL recommends repairing any concrete, stucco and coating damage. These remedial or preventive repairs are recommended as the items noted are damaged but are not substantial structural deterioration. Generally, the buildings are in good condition. It is recommended that the buildings be inspected by a Professional Engineer every five years.

All observations noted are as of the date of inspection and are based on what could be seen and heard and are strictly the opinion of the author.

RESPECTFULLY SUBMITTED on behalf of Beachside Engineering LLC.

Melissa Lomax, PE
FL PE#76033
RY34911

MELISSA LOMAX LICENSE No 76033 STATE OF FLORIDA PROFESSIONAL ENGINEER

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Date: 2024.02.21 13:17:41 -05'00'

Beachside Engineering

DAMAGE AREAS & QUANTITIES

TYPE / AREA	CF DECK	CF EDGE	CF OVHD	CF FULL	LF EXP JT	CF BEAM/COL	EA SPOT	SF STUCCO	LF CRACK	LF ENCL	SF OVLY	SF PREP	SF COATING	Notes
A124	-	-	-	-	-	-	-	-	-	-	-	-	-	Dirty/water
A224	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A334	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A125	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A225	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	bathroom window leak
A325	-	-	-	-	-	-	-	-	-	18.00	-	-	-	full enclosure
A126	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A226	-	-	-	-	-	-	-	-	-	18.00	65.00	65.00	65.00	-
A326	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A127	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A227	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A327	-	-	-	-	-	-	-	-	-	18.00	-	-	-	full enclosure
A128	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A228	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A328	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A129	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A229	-	2.00	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A329	-	-	-	6.83	-	-	-	-	-	18.00	-	65.00	65.00	-
A130	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A230	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	water intr. below, SGD poor
A330	-	-	-	-	-	-	-	-	-	-	-	65.00	65.00	new screen encl.
A131	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A231	-	-	-	-	-	-	-	-	-	23.00	-	65.00	65.00	-
A331	-	-	-	-	-	-	-	-	-	23.00	-	65.00	65.00	-
A132	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A232	-	4.00	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A332	-	2.00	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A133	-	-	-	-	-	3.33	-	-	-	-	-	-	-	header
A233	-	4.00	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A333	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	Unsafe enclosure
A134	-	-	-	-	-	3.33	-	-	-	-	-	-	-	header, remove shutter
A234	-	2.00	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A334	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A135	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A235	-	4.00	-	-	-	-	-	-	-	18.00	-	65.00	65.00	water intr. Int ovhd
A335	-	2.00	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
A136	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A236	-	28.00	-	-	-	-	-	-	-	31.00	-	105.00	105.00	-
A336	-	4.00	-	-	-	-	-	-	-	31.00	-	105.00	105.00	-
B137	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B237	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B337	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B138	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B238	-	2.00	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B338	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B139	-	-	-	-	-	2.22	-	-	-	-	-	-	-	-
B239	-	6.00	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B339	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-

Beachside Engineering

B140	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B240	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B340	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B141	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B241	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B341	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B142	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B242	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B342	-	5.00	-	5.25	-	-	-	-	-	18.00	-	65.00	65.00	-
B143	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B243	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B343	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B144	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B244	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	-
B344	-	-	-	-	-	-	-	-	-	18.00	-	65.00	65.00	Unsafe enclosure
B145	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B245	-	-	12.00	-	-	-	-	-	-	23.00	-	65.00	65.00	-
B345	-	-	-	-	-	-	-	-	-	23.00	-	65.00	65.00	Unsafe enclosure
B146	-	-	-	-	-	-	-	-	-	-	-	-	-	leaks in ovhd seams
B246	-	2.00	-	-	-	-	-	-	-	26.00	-	105.00	105.00	Unsafe enclosure
B346	-	-	-	-	-	-	-	-	-	26.00	-	105.00	105.00	Unsafe enclosure
Building Ext.	-	-	35.00	-	-	-	-	-	-	-	-	-	-	-
ALLOWANCE	-	-	-	-	-	-	-	250.00	100.00	-	500.00	-	-	-
Balcony subTOTAL	-	67.00	47.00	12.08	0.00	8.89	0.00	250.00	100.00	872.00	565.00	3020.00	3020.00	

A WALK 1	-	-	6.88	-	-	-	-	63.00	-	-	-	-	-	
A WALK 2	-	10.00	3.13	-	62.50	-	-	-	-	308.00	1,775.00	1,775.00	1,775.00	6 loose rail posts
A WALK 3	-	-	-	-	62.50	-	-	-	-	308.00	1,775.00	1,775.00	1,775.00	2 loose rail posts
A East Stairs	-	-	-	-	-	-	-	-	-	30.00	-	360.00	360.00	
A West Stairs	-	-	-	-	-	-	-	-	-	30.00	-	360.00	360.00	
B WALK 1	-	-	1.88	-	-	2.22	-	-	-	-	-	-	-	
B WALK 2	-	10.00	-	-	62.50	-	-	-	-	226.00	1,340.00	1,340.00	1,340.00	loose rail brackets x4
B WALK 3	-	20.00	1.88	2.10	62.50	-	-	-	-	226.00	1,340.00	1,340.00	1,340.00	Unsafe rail NW, loose SE
B East Stairs	-	-	-	-	-	-	-	-	-	30.00	-	360.00	360.00	
B West Stairs	-	-	-	-	-	-	-	-	-	30.00	-	360.00	360.00	
ALLOWANCE	-	-	-	-	-	-	-	313.00	125.00	-	-	-	-	
Walkway subTOTAL	-	40.00	13.75	2.10	250.00	2.22	-	376.00	125.00	1,188.00	6,230.00	7,670.00	7,670.00	

TOTAL	**-**	**107.00**	**60.75**	**14.18**	**250.00**	**11.11**	**0.00**	**626.00**	**225.00**	**2060.00**	**6795.00**	**10690.00**	**10690.00**	

Beachside Engineering

ENGINEERING RECOMMENDATIONS AND ESTIMATED COSTS

1.	Contractor Mobilization/Permit/Materials		1.00	LOT	10%	$ 69,340.00	Notes:
2.	Concrete Repairs - Structural Items						
	a.	Deck repair	-	CF	500.00	-	
	c.	Edge repair including stucco	107.00	CF	600.00	64,200.00	
	d.	Overhead repair including stucco	60.75	CF	650.00	39,487.50	
	e.	Full depth repair	14.18	CF	350.00	4,961.25	
	f.	Expansion joint repair	250.00	LF	40.00	10,000.00	
	g.	Beam/Column/Wall/Header repair	11.11	CF	650.00	7,222.22	
	h.	Spot repair	-	EA	80.00	-	
	i.	Crack repair - Epoxy	225.00	LF	35.00	7,875.00	
	j.	Necessary Secondary Items					
		i) Sliding glass door removal & reinstallation		EA	1,200.00	-	
		ii) Remove and reinstall guardrails		LF	50.00	-	
		iii) Remove and reinstall shutters - Roll		EA	750.00	-	This may require separate contractor
		iv) Remove and reinstall shutters - Accordion		LF	50.00	-	This may require separate contractor
3.	Concrete Protection & Preservation						
	a.	Surface preparation for new coatings - Balconies	3,020.00	SF	3.00	9,060.00	
	b.	Surface preparation for new coatings - Stairwells	7,670.00	SF	3.00	23,010.00	
	c.	Remove and replace overlay - walkway	6,230.00	SF	10.00	62,300.00	
	d.	Overlay repair - balconies	565.00	SF	15.00	8,475.00	
	e.	New deck coating - Textured Acrylic, Balconies	3,020.00	SF	10.00	30,200.00	
	f.	New deck coating - Textured Acrylic, Stairwells/walkways	7,670.00	SF	10.00	76,700.00	
4.	Building Envelope Repairs & Protection						
	a.	Stucco repair	626.00	LOT	40.00	25,040.00	
	b.	Paint & waterproofing {broad estimate}	1.00	LOT	50,000.00	50,000.00	
5.	Guards						
	a.	New aluminum screen enclosures - Balconies	872.00	LF	150.00	130,800.00	*This cost may fall to the individual owners*
	b.	New aluminum walkway/stairwell guardrails	1,068.00	LF	115.00	122,820.00	
	c.	New aluminum angled guardrails, stairwells	120.00	LF	130.00	15,600.00	
	d.	Fill embedded post pockets, walkways	112.00	EA	50.00	5,600.00	
	TOTAL ESTIMATED REPAIR COSTS					**$ 762,690.97**	
6.	Contingency on non-fixed items		1.00	LOT	25%	33,440.00	
7.	Phase 2 Engineering: Design/Bid Phase				estimate	32,500.00	Based upon the above recommended scope
8.	Phase 3 Engineering: CE&I				estimate	85,900.00	
	TOTAL ESTIMATED PROJECT COSTS					**$ 914,530.97**	

Cost Exclusions

Shutter removals or replacements

Door or window replacements

**Engineer recommends consulting with an attorney knowledgeable in condominium law, it is uncommon for individual owners to be responsible for structural or life safety elements*