

**PENTHOUSE TOWERS**  
ASSOCIATION, INC.

3101 SOUTH OCEAN BOULEVARD (A1A)  
HIGHLAND BEACH • FLORIDA 33487

(561) 278-8092  
Fax (561) 278-3333

September 13, 2023

Dear Fellow Owners,

**Re: Updates and Our Building Reviews -- Structural and Electrical Recertification Reports for Highland Beach and State Mandated (SIRS) – Structural Integrity and Reserve Study**

O & S Associates, the engineering firm that we hired to do our mandatory electrical and structural inspections, has completed our reports (please see attached). We also had O & S complete our SIRS Study (Structural Integrity Reserve Study) which will require funding effective January 1, 2025. This SIRS report is based on “estimated numbers”, and it is complicated. The spreadsheet is proprietary to O & S (see explanation attached). O & S has also included a “summary sheet” to simplify projected funding.

An Open Meeting has been set with the engineer who will be here in person for owner's questions on Wednesday, September 27<sup>th</sup> starting at 2:00 pm. This meeting will be on Zoom for owners who are not able to attend in person (Zoom invite will be sent by a separate email).

You will see in the reports that our building is in good shape. Penthouse Towers has been diligent in maintaining our building (concrete restoration approximately every 5 years) and it shows.

O & S Associates has estimated that 2024's State Required Reserve Funding requirement is \$845,000. A 2-bedroom unit would be required to pay \$6,213 in reserves for this year's funding. This is not the number that it will be for 2025 (prices may increase and we may have completed some of this projected work needing to be done). Owners are not required to pay the Structural Reserve funding until January 1, 2025, and O & S's reserve estimates will be used in this year's annual meeting Reserve voting.

We have prepared a Q & A on the reports to help explain what they mean and what we are doing to satisfy and prepare for upcoming work. We have also addressed the deteriorating concrete on the upper deck carport structure.

**Why did you have the Reserve Study done this year (2023)?**

O & S Associates were reviewing our building for the State Recertifications, and we wanted to start the process of what the State of Florida is requiring complying with the Structural Reserve Funding due on January 1, 2025. We also felt that some of the

issues they require to be funded and repaired could be done prior to the mandated Reserve Funding. O & S Associates also offered us a very good price to complete all required reports and the mandated Structural Reserve Funding. We will have them update their Reserve Study report next August 2024. We will treat the Structural Reserve Study the same as our property insurance "appraisal" which we are required to update every 3 years.

### **Is this Reserve Study correct in Estimated Numbers?**

Yes and no – this Structural Reserve Study has been prepared effective this year, 2023. We will need to update it in 2024 for the mandated funding due on January 1, 2025, and prices seem to be going "up". Please keep in mind that it is also a "structural reserve study" to satisfy the State of Florida. This report does not account for other large equipment expenditures i.e., elevators, pool, pavers, parking lot paving, cooling towers or other items that are not considered structural costing over \$10,000. When the Reserve Schedule is prepared for 2024 and 2025, it will show the mandated funding portion (which you will be billed for starting January 1, 2025). There will also be a section that will be for the "other reserve items" that will still require an owner's vote (i.e., elevators, pool, parking lot, cooling towers and other items over \$10,000) which is not mandated at this time, but we will need to show the owners and allow them to vote whether to fund or not fund.

### **Why does the building's main Electrical System Need to be Replaced?**

You will see in the Reserve Study that as of January 1, 2025, we will be required to fully fund the replacement of our electrical system in the building. The estimated number that O & S Associates is using of \$622,080 is an "estimate only" and it does not include engineering fees, inspections or other issues that we may need to address to "come up to building codes."

Our building is 54 years old, and our electrical equipment is antiquated with Zinsco components (obsolete). We have had one major failure on the 3<sup>rd</sup> floor south electrical meter room (Dec 2020). Presently we have a \$25,000 deductible on any claim that is "electric related", and they may not cover anything with the boiler and machinery insurance. Two (2) years ago we had a claim for a generator of \$100,000+ for 7 weeks for 14 units when the meter bank panels failed on the 3<sup>rd</sup> floor south. We were fortunate that Travelers Insurance paid us for this, but they dropped our property the following year.

We just changed out a disconnect switch in the meter room north side with a "refurbished part" for \$2,940. We also just paid \$974 for a refurbished breaker for a laundry room (the first replacement breaker did not work and had to find another one).

If we have a failure in our electrical mains, it would be “catastrophic” for our owners. Our building would be down for a long time.

Our present insurance company (Arrowhead) had us change out the aluminum wiring to copper wiring from the meter rooms to individual owner units. There is also the risk that upon insurance renewal this December that a new insurance company will not accept our old equipment. In 2023 policy year, Arrowhead Insurance renewed us but this coming year we do not know what company will be writing our building or what they will or will not accept. Our electrical failure in 2020 shows as a “loss claim run” which all insurance companies view prior to writing policies on property.

**O & S is advising us to get a plan in place to change our electrical equipment.**

This electrical equipment replacement is going to show on the Reserve Study to be due on January 1, 2024, and it will be “mandated in” on January 1, 2025.

Jeff Remas, Building Official, 2 years ago was advising us to “get a plan in place to replace this equipment.”

**Please see O & S Associates’ answer to the Board’s direct question on attempting to test our main switch gears & disconnect switches (shut them on and off?)**

1. *Can you confirm whether there remains a concern about testing the electrical switch gears and disconnect switches in each electrical room?*
  - a. Our original recommendation, and current recommendation, is that the electrical equipment be replaced with new equipment. The association contacted us and enquired about alternatives to replacing the equipment. Eduardo (the electrical engineer for O & S Associates) stated that the existing equipment could be inspected via infrared thermography, and potentially serviced/maintained by a qualified electrician which would potentially extend the life of the existing equipment. However, there is a risk that when the service and maintenance is being performed that the equipment would fail to operate and would require immediate replacement. Eduardo noted that there is at least one main 800-amp switch that the operating handling has already broken. Additionally, the association has had to replace the equipment in one electrical room already since the inspection was completed, due to the failure of the electrical equipment. It is not possible to determine how long the life of the equipment may be extended by performing thermographic inspection and servicing. It is unlikely to extend life by more than a handful of years before the equipment needs to be replaced. We recommend that the association prepares to replace the electrical equipment at the earliest opportunity.

Please note that we did have an infrared scan done on our equipment over 1 year ago looking for “hot spots”, but the electrical engineer is not going to accept the scan that we did. It is not a detailed thermographic scan/inspection.

### **Why are we not able to “rebuild” our existing switch gears?**

There was an opinion that we can “retrofit – rebuild with our existing panels (change out the guts) which is still costly. We had a quotation a couple of years ago to “rebuild the one main switchgear on the south side electric room (we have 2 large switch gears (north and south) that are different. One spare switchgear rebuilt had an estimated cost of \$44,000 just for us to have available in case of failure.

On June 28, 2022, Elaine spoke with Jeff Remas, Building Official. Jeff advised the following “it is risky to attempt to rebuild an obsolete switch gear with other parts. You will need a permit, extensive plan review by me (he is an electrician), all parts will need to be engineered (UL rated, etc. by licensed individuals with engineered drawings). You will be facing an uphill battle with me.”

Trying to rebuild existing equipment will not allow us to upgrade and add what we need for electrical upgrades. We need to account for electrical vehicle charging stations. We could also have a failure with a rebuilt switch gear too.

***Remember, you will still be responsible (legally mandated by the State of Florida) to pay what the Reserve Study is allocating for electrical system replacement on January 1, 2025.***

### **Results on Board Members Voting to replace Electrical System**

In 2022, the Board took a vote to “replace our existing electrical equipment”. This means hiring a qualified electrical engineer to guide us in this process (6 yes votes and 1 no vote). The Board took another vote in July 2023 “to replace our existing electrical equipment” (6 yes votes and 1 no vote).

We have two (2) estimates from electrical engineers and are in the process of obtaining more estimates in order to select an engineer to assist us. The electrical engineer will be crucial in dealing with FPL and the building department. We had difficulty a few years ago trying to coordinate the disconnects and reconnects with FPL (this delayed the repair by approximately 3 ½ weeks which resulted in a lot more money for a temporary generator). The building official tried to help us with FPL to no avail.

On August 8<sup>th</sup>, we met with the Architectural Firm “PGAL in Boca Raton” that has been hired for the Highland Beach Fire Station Project. The principal architect, Joby Balint, came to the building with OCI Engineering. PGAL was recommended by Jeff Remas Building Official, and he said “Elaine, I cannot recommend or endorse anyone, but I will tell you this, PGAL is responsible for all engineering for the new fire station, and I could find no issue with any of their submittals.” Unfortunately, OCI Engineering owners

declined to work with us as we are a condominium building. PGAL has reached out to some other electrical engineering firms, and we are waiting for their site inspection and proposals.

FYI - OCI Engineering advised that the large switch gear components have a manufacturing wait time of 62 weeks. There are a lot of buildings our age in Florida needing to replace their equipment and we need to get in line. They also advised that replacement would start in the lower electrical room, the main equipment not in the unit meter rooms as we were previously considering.

Replacing our electrical equipment is going to be a long process.

### **How much money is needed to Replace the Building's Electrical System?**

We need an owner's vote to approve this special assessment. We had a quotation from an electrician in 2022 and estimates from some electrical engineers to take on this project. We also have some preliminary numbers from O & S Associates for equipment that needs to be replaced. We feel that we are looking at a Budget of approximately \$750,000 (\$5,515 /2-bedroom unit) for this project that would be payable in "draws". This will include a contingency for the unexpected (we may need to move some equipment in the electrical rooms). This is an estimated number, and we will work the same way as we do with concrete restoration, we will bill as the project commences. We may need to adjust this estimate once an electrical engineer has been hired to complete a full review and layout of the specifications for replacement.

### **Have we hired an Electrical Engineer?**

Not yet. Penthouse Towers is in the process of hiring an electrical engineer to set up the specifications for the project, bid package and selection of an electrical contractor. It is vital that we hire an engineer that can determine what is needed (specifications), vet potential electrical companies, and supervise onsite installations. Two of the engineering proposals we have are only for specifications of what is needed to complete the project (specs). On-site inspections are extra, and one advised that he is not going to work/coordinate with FPL or Building Officials. The electrical engineer needs to work with FPL's engineering department and the Building Official to commence the project and keep the communication in place for the required disconnects, reconnects and inspections. There are only a few electricians that can complete a project of this size in an orderly and controlled manner, and we need to get the right one.

### **When will the Owner's Vote be sent out for this project?**

Once we have hired the electrical engineer and have the preliminary specifications, we will have a better idea of the cost. We will prepare the documents for an owner's vote (Agenda with 14 days' notice and an Estimate for the Electrical Replacement Project). Please note that we will be working with an "Estimated Amount" the same as we always

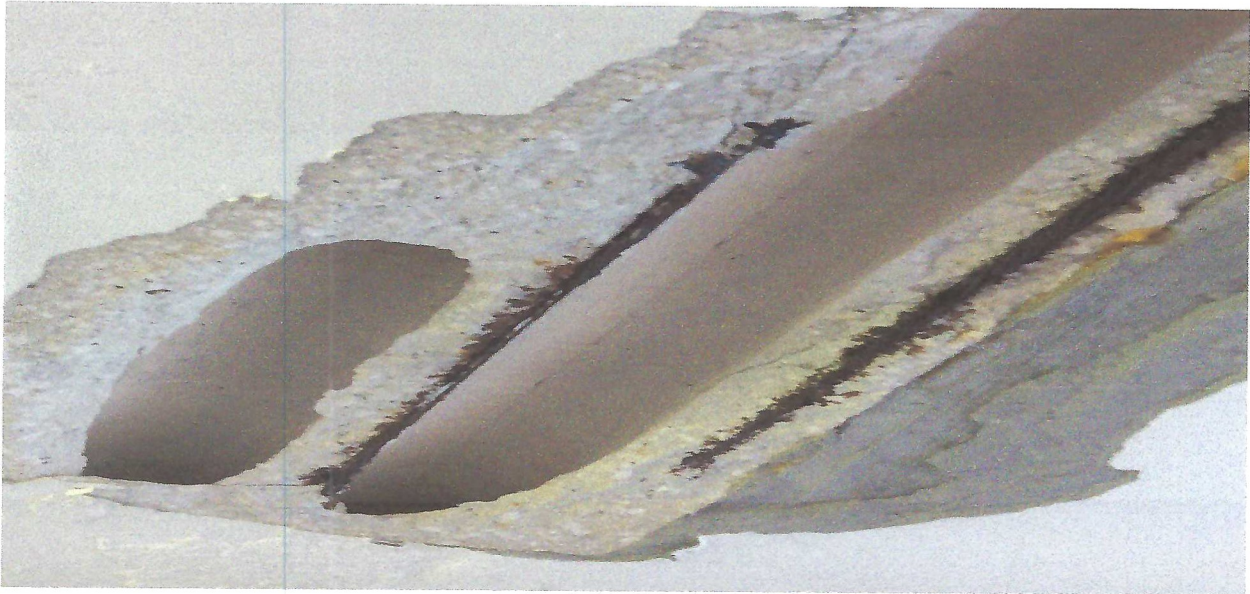
do with restoration work. Once approved, owner invoicing will be done in draws/increments” as money is needed for the project (same as our concrete restoration projects).

### **Carport Concrete Pre-Stressed Panel Damage**

#### **Has an Engineer Been Hired?**

Yes. We had 3 opinions from structural engineers. We just hired B.P. Taurinski \$4,200 (specifications, bid review and permit submission). Inspection fees will be determined as needed (small job). B.P. Taurinski has been our engineer for over 20 years and is familiar with the carport structure, which has had a lot of repairs over the years. We will also address the other concrete spalls on the property (retaining walls, catwalks and several balconies).

#### **History/Background on Carport Structure**



You can see the destruction/deterioration of the cables.



We have 65 panels in total and we replaced 5 of these prestressed panels in 2020 at a cost of approximately \$150,000. We now have more panels “failing”. Does it make sense to continue replacing these panels and related concrete work? There is also 4” of concrete on top of the panels plus sloping material and waterproofing. We have another 4 panels failing now that we can see. Once we start “chipping” other panels and concrete topping may be affected near these areas.

Do we remove the carport structure in its entirety and replace it with an aluminum structure?

**B.P. Taurinski** – they gave us 3 options -- replace the damaged sections (4 that we can see at this time) or remove the carport structure in its entirety and replace with an aluminum structure or remove the remaining old panels and replace with concrete (same as what we have now). The aluminum structure would also accommodate

electrical wires/wiring that we will need in the future for some car charging stations. We have an estimate coming from POMA in Palm City. Please note that we would not be placing a structure like the building across the street from us at Penthouse Highlands.

*B.P. Taurinski's report clearly stated: "The problem with repair versus replacement is when the prestressed cables within the concrete member have deteriorated to the point that there is section loss of the steel's diameter. The strength is diminished, and the prestressed cables can no longer supply the necessary tensile strength to support the panel's weight and the weight of the 4" concrete wear slab poured above it. To repair it by conventional means the affected area would have to be redesigned to provide sufficient rebar to supplement the lost prestressed cable; thus, the repaired area would need to be larger and heavier. Consideration of the latter method of repair is not recommended in Penthouse Towers situation."*

### **We also hired Howard Miller Engineering for their Opinion.**

Steve Young of Howard Miller Engineering came out and did an inspection on July 14th. He verbally told Al Kowalak, Steve Andriot and Elaine that "he is not comfortable with trying to "bond rebar supports into these hollow core panels". He recommended that we may wish to do some "destructive testing" to determine just how far the damage goes in these panels. This would definitively prove that they cannot be safely repaired, they should be removed and replaced with new. He advised either to replace the damaged panel sections or remove the carport structure and install an aluminum carport. His report is attached.

### **DISCUSSION:**

The carport roofs appear to have been constructed (plans were not provided) with pre-cast, pre-stressed, hollow core slabs supported by a system of poured-in-place reinforced concrete beams and columns. Two locations within the ceiling of the roof slab were found with missing concrete and exposed rusted pre-stressed cables. You have reported that another Engineer has stated that the current deteriorated condition of the pre-cast slabs can be repaired by methods including the placement of steel rebars within sections of corroded pre-stressed cables similar to typical conventional reinforced concrete repairs.

The photos (2 attached) exhibit 2 random locations

where rusted pre-stressed cables have caused the surrounding concrete to crack and spall (delamination of concrete due to rusting steel). It is my opinion that concrete removed from around the circumference of pre-stressed steel cables negatively affects the overall designed and constructed strength of each individual pre-cast slab. While it may be possible to install steel rebars in place of sections of pre-stressed cables, in order to provide continuity of each pre-stressed cable that has been exposed, the surrounding concrete would require dowels providing proper lap splices into sound concrete reinforced with sound sections of non-exposed pre-stressed cables. This is typically difficult to perform due to the cross-section area of each "web" and expected continuing rusted condition along with cable. It may also be possible to install rebars with proper lap splices into the adjacent hollow cores prior to filling the hollow cores with concrete, but this method adds weight and thereby changes the original design of the pre-cast slabs and depending upon the amount of additional weight may negatively affect the overall support structure.

#### CONCLUSION:

If the 2 relatively small random locations of pre-cast slab deterioration were isolated conditions and not occurring throughout the remainder of the two particular pre-cast slabs and/or entire carport, conventional concrete repairs may be possible. However, we strongly recommend inspection and testing the remaining ceiling surfaces of the entire carport structure prior to performing repair work as reportedly recommended (other than temporary repairs) in order to determine the extent of necessary repairs and/or pre-cast slab replacement. In the event of the need for extensive repairs and/or pre-cast slab replacement, it may be more cost-effective to replace the entire roof with other materials.

Please keep in mind that if we start "destructively testing these slabs, they may fall apart, collapse and damage the surrounding concrete." Does it make sense knowing

what we have already paid for repairs for five (5 panels) to keep trying to fix this old concrete structure?

**Architect, Joby Balint**, also looked at the carport structure on August 8<sup>th</sup> and he said “you are not going to be successful and trying to repair these failing pre-stressed panels and if you are.... You are adding additional weight to this structure and deck.” He would recommend removal and replacement with an aluminum structure.

**O & S Associates** (they are the group completing our current reports). They have in the past worked with precast concrete hollow core planks by trying to place pre-tension tendons with mild steel (rebars) reinforcing. O & S did not take into consideration, nor did they discuss the “potential added weight to the upper deck if this type of repair could be done or if this work will cause further damage to adjacent areas.”

We are still gathering all this information and trying to get quotations for owners to vote upon. Please keep in mind that almost every other building on A1A is under concrete restoration and getting responses are slow.

**Has the Board voted on what to do with the carport structure – try to repair, replace the damaged panels that we see, remove it in its entirety and what to put back?**

Yes – 5 members voted yes to remove it only so far at this time and 1 member voted no and another did not vote. It made no sense to put any more money into this 54-year-old concrete structure that we have continuously repaired the concrete in over the years with a large repair 2 years ago. We need to move forward with removal. Carport support beams that were repaired in 2020 have spalled again.

We are still looking at how to replace it, either an aluminum structure or an aluminum structure support with solar panels on top (roof area). This work will require an Owner's Vote/Special Assessment. We will forward the documentation upon receipt and set up the meetings for an Owner's vote.

**Possible Solution to have a Carport roof made of Solar Panels**

Elaine is trying to get FPL to come to the property to discuss installing Solar Panels on the carport roof. They have a program called “Solar Vantage” that works with commercial properties for solar panels to create a carport covering. Please see the photo below. We would not want to have this type of “support system” shown in the photo for our building but have an aluminum system designed with the solar panels for the actual “roof” part. We can also take it upon ourselves to do this project with the solar panels directly and it would allow us to become a “green building” and reduce our

electrical bills and possibly sell some of the electricity back to FPL (we have 6,000 sf to work with). Over time, we could recoup the cost of the structure. See photo below. This would be an investment in our building's future. Our electric bills keep going up every year, averaging now \$4,400/month.



### **What's next for the carport structure?**

We need to get our specifications for removal completed. These specifications will also address other concrete restoration work that we need to do on the property (we have spalls on 2 retaining walls, some balconies, a couple of spalls on catwalks, storage room wall. We will be sending out "bid packages" to several concrete restoration companies.

We will be getting bids from contractors to put back an aluminum structure or aluminum structure with a roof of solar panels.

We understand that there is a lot coming up in the next year or so for us to deal with as a community. Because of the long wait times involved in getting qualified companies to work on the project(s) and the rising cost and time delays for materials, we need to start moving forward on these projects.

We appreciate your patience.

Sincerely,

*Phil Garretson*  
Phil Garretson

President