

Balcony and Walkway Concrete Restoration Project Update – April 26, 2013

As most of you know since last summer the Board has been working on plans to address issues with corrosion-induced concrete damage on the building's balconies and walkways.

Several owners had contacted the Board about observed issues with balcony floors or ceilings and several areas of deterioration were also observed on the walkways. We engaged Keystone Engineering (who we worked with on the garage restoration project) to conduct an assessment of the building to identify existing damage and make recommendations for repairs.

This survey was conducted in August and Keystone presented its findings to the owners at the Board meeting held on September 8, 2012.

As noted in the minutes of that meeting the findings are –

- Using an acoustic sounding technique, concrete deterioration (spalling) is detected on almost all balconies. On some balconies, the spalling is quite extensive and on some the spalling has migrated under the sliding glass doors. At this time, the catwalks exhibit less extensive deterioration than the balconies.
- The damage is caused by the corrosion of the reinforcing steel embedded in the concrete slabs resulting from an electrochemical reaction involving chloride ions from the salt-laden oceanfront environment that penetrate the concrete. This is a common problem in this region but the penetration of the chlorides is enhanced and the corrosion is accelerated under some of the existing conditions found at LaMer including poor-quality prior repairs, improper drainage resulting in prolonged pooling of water on the surfaces, failure of protective surface coatings and sealants, and failure to properly seal or maintain sealing of penetrations such as railing posts, scuppers and electrical outlets.

The recommended procedures to repair the problems are –

- Strip the surface to bare concrete.
- Engineer to mark and contractor to excavate and remove spalled concrete. Any expansion of the area designated for excavation must be approved by the engineer in advance.
- When necessary to make repairs to spalls extending under the door, remove sliding glass door and erect a temporary barricade wall to protect the unit interior.
- Make repairs to the concrete and reinforcing steel in accordance with specified industry standards.
- Remove or properly seal all penetrations.
- Establish proper drainage of the surface.
- Apply properly-specified surface sealant coatings in accordance with the manufacturer's specifications.

The available methods to slow or halt additional (future) corrosion are –

- Passive cathodic protection places sacrificial zinc anodes at the margins of the newly-repaired concrete to prevent the accelerated chloride migration and corrosion that would otherwise occur at the interface between the old chloride-saturated concrete and the new concrete. The protection lasts for only 5–7 years and is limited to the area immediately adjacent to the new repair with the protection installed. Corrosion will continue unabated in the existing contaminated concrete.
- Active cathodic protection (also referred to as Induced Current Cathodic Protection or ICCP) involves installing a rectifier and an electrically conductive grid that connects to the building's electrical supply and creates a very low amperage DC current in the embedded steel reinforcement that repels the chloride ions from the steel and effectively halts any further corrosion throughout the covered area for the life of the system which is 15-25 years.

At that September meeting, the Board directed Keystone Engineering to develop project documentation and bidding documents to implement the recommendations including options for both passive and active cathodic protection systems and to obtain bids from qualified contractors for the project. Keystone was also asked to provide recommendations for phasing the project over 2 or 3 years.

Keystone developed the bid documents and then requested to further discuss phasing. Jim Emory and Chuck Hays of Keystone participated in a project workshop with LaMer owners on February 9, 2013.

There was extensive discussion of the drawbacks to phasing which include –

- Multiple mobilizations and equipment setups cost extra money.
- Contractors will not be able or willing to hold bid prices over a multi-year period.
- Due to the economy contractors are currently “hungry”. An improving economy is expected to increase the project demand for the contractors in the next couple of years. This together with general inflation in labor and materials would tend to increase prices in future phases.
- Phasing would mean that some parts of the building would have time to develop more extensive damage resulting in additional cost of those repairs when they are finally done.
- Impacts to owners and residents will be extended.

The primary reason for phasing was to allow owners the opportunity to spread out the financial impact of the project. Jim Emory of Keystone indicated that in the current market conditions several banks have become active in providing loans at low interest rates to either associations or to individual owners in this type of situation.

The general consensus of those present at the workshop was to proceed to bid the project as a single phase and explore the options available to accommodate owners who wish or need to spread out the payment of the project assessment.

Keystone was directed to proceed with bidding as a single project and we have now received bids from 5 contractors who have been prequalified by Keystone based on their experience with this type of project.

The bids were structured to allow for comparison of the cost differences of 3 levels of mitigation –

- Passive Mitigation
- Active Mitigation on balconies and walkways
- Active Mitigation on balconies, walkways and the underside of the roof over the balconies and walkways

Estimated total project costs based on the lowest bid received are shown below –

	Passive Mitigation Option	Active Mitigation Option	Extended Active Mitigation Option
Estimated Total Project Budget	\$ 782,942	\$ 962,366	\$ 1,041,247

The passive mitigation option provides limited protection such that we would likely be facing another repair cycle of similar magnitude (both in terms of expense and disruption) within 5-7 years. The active mitigation system has a design life of 25 years, is warranted for 15 years and such systems have been shown to effectively halt any further corrosion when they are properly installed, monitored and maintained.

In view of this, the additional \$180,000 to install the active system on the balconies and walkways is a prudent decision. We realize that there may be some individual owners who would prefer that we not base this decision on such a long term evaluation, but in our view, the Board has a fiduciary responsibility to the entire community of LaMer owners considered as a whole.

At this time, we do not believe that extending the active mitigation system to the underside of the roof deck is warranted as the existing roofing membrane should be providing a higher level of protection to chloride penetration than is present on the balconies and walkways.

The estimated project cost above yields the estimated per unit assessment amounts tabulated below –

	Passive Mitigation Option	Active Mitigation Option	Extended Active Mitigation Option
Estimated per Unit Assessments			
x01's	\$ 23,231	\$ 28,555	\$ 30,895
x02's,x03's,x04's	\$ 13,450	\$ 16,532	\$ 17,888
x05's	\$ 16,520	\$ 20,306	\$ 21,970
x06's	\$ 15,435	\$ 18,972	\$ 20,527
x07's	\$ 20,155	\$ 24,774	\$ 26,805

It should be noted that these estimated costs and unit assessments based on actual bids received are generally in line with the planning estimates discussed at the September Board meeting.

Tentatively, we anticipate that the construction phase of the project will start in mid-June and the 1st installment of the Special Assessment will be due on July 1. The number of installments is still to be determined and will be based on the cash flow requirements for monthly progress payments to the contractor.

Our management staff is collecting interest rate quotes and other information on loan terms from several banks to provide to owners who may wish to explore obtaining a loan in order to meet the Special Assessment.

To address the question of how long the project will last, one of the 3 bidders being interviewed has indicated that they could complete the project in 155 days, which if construction begins in mid-June, would mean completion in late November

The Board will be meeting on Saturday, May 4th to interview the 3 lowest bidders, to award the project to the successful bidding contractor and to determine the parameters for the project contract negotiations.

Another Board meeting, tentatively scheduled for Saturday, May 18th, will be held to finalize the details of the Special Assessment for the project.

Rich Watkins, President

April 9, 2014

To the Owners of LaMer –

As the project is beginning to wind down (the jack hammering is done) our engineering representative is now able to provide us with a realistic estimate of the number, type and quantity of repairs required to complete the project.

While the project has certainly taken longer than originally expected, this is largely due to the amount of work that needed to be done. Contrary to what some have expressed, under our contract, the contractor gains nothing financially by prolonging the project as he is only delaying payment to himself for work done including the 10% retainage that will be held until after final completion.

All payment for work done is based either on a fixed job price or on the competitively bid unit price (\$ per square foot, \$ per cubic foot, \$ each, etc) for variable quantity work as approved, measured and certified by our independent onsite engineering representative who was hired by us to oversee the work. No concrete excavation area was expanded without his approval and, conversely, no areas of identified unsound concrete were left unrepaired.

When estimating a project involving an existing, occupied building the engineer is limited to identifying anticipated work based on surface observations and non-destructive testing techniques. There is always the potential for damage or other conditions that cannot be observed until the surfaces are actually stripped to bare concrete and/or adjacent areas are actually excavated.

In the case of our project here at LaMer, 2 significant issues emerged.

The largest single issue is a significant amount of unanticipated concrete-related work. This includes numerous documented instances where, during the prior work in the 2007 time frame, the current sliders were installed over spalled concrete and corroded rebar. This left the corroded rebar in place and allowed the corrosion to continue to spread into and create additional damage in the interior of the units. There are also numerous instances of prior repairs performed using non-structural materials that had to be removed and then repaired properly to ensure the structural integrity of the decks. This resulted in \$82,000+ of unanticipated repairs.

The other large issue was the discovery, after the removal of layers of built-up walkway coatings, that in many places the concrete walkway decks are sharply sloped toward the building walls and that reasonable drainage could not be feasibly achieved without the installation of a system of drains. The cost for the installation of the walkway drain system was \$35,000+.

We included some "contingency" funding in the original project budget and the resulting Special Assessment, but the cost of dealing with these hidden issues has far exceeded that. The overall projected overage is now projected to be \$60,000.

We believe we have identified \$20,000 from the operating fund that can be applied to the project. Using this money will limit the funding available for some discretionary projects that have been discussed or suggested.

However, we will still need to adopt a supplemental special assessment of \$40,000 (\$690 to \$1190 per unit) to pay for the balance of the project. The official notice of the meeting to consider adoption of the supplemental special assessment is enclosed.

Rich Watkins, President