



December 17, 2024

Costa del Sol Condominium Association, Inc.
5901 North Banana River Blvd, #958
Cape Canaveral, FL 32920

Re: Structural Milestone Report

EXECUTIVE SUMMARY

Keystone Engineering and Consulting, Inc. (Keystone) was contracted to provide a structural milestone engineering inspection of the three-story and higher buildings of the Costa del Sol Condominium. The inspection took place on multiple dates in June and July 2024. The inspection was performed by three professional engineers and trained assistants.

Complex Description: Costa del Sol consists of 12, multi-family buildings, as well as related garages, parking structures and a clubhouse. Meeting the milestone requirements, this report only focuses on buildings three-stories or higher. This includes:

- Building 1, a three-story, Epicore metal decking with reinforced concrete building, constructed in 1979
- Building 2, a three-story, Epicore metal decking with reinforced concrete building, constructed in 1980
- Building 9, a five-story, post-tension (PT) building, constructed in 1986.
- Building 10, a five-story, PT building, constructed in 1989
- Building 11, a five-story, PT building, constructed in 1989
- Building 12, a five-story, PT building, constructed in 1990

All the above buildings have had previous comprehensive restoration projects except for Building 9. Buildings 1 and 2 underwent a comprehensive restoration in 19XX and 19XX and the Epicore metal panels and reinforced concrete slabs were fully replaced with conventionally reinforced concrete. Walkways underwent as needed repairs only. A separate report for Building 9 was written in November 2024, to outline a restoration project slated to begin in 2025. Buildings 10, 11 and 12 underwent comprehensive restoration in years XXXX, XXXX, and XXXX. This included full balcony restoration, PT, floor coatings and new screen enclosures. Some balconies added tile over the coating. Walkways underwent as needed repairs only.

In total, these six buildings have 188 living units. The unit balconies have aluminum screen enclosures with built-in railings. Walkway railings are either the original cored in place models or have been replaced with surface-mounted models. Some units have hurricane shutters.

Summary of Findings: Costa del Sol has typical structural issues we would expect to see on 34- to 45-year-old coastal concrete buildings. We do see areas with needed structural repairs. This



is primarily in the form of concrete spalling on the slab edges and surface, as well as columns, beams and windowsills, all due to reinforcing steel corrosion. **At this time, we do not see any safety issues or structural capacity concerns.** We also see conditions that could be improved to minimize and reduce future structural damage, including improvements to the railings, the floor coatings, the screen enclosures, and the sliding glass doors.

Major Project Issues:

1. Balconies

The balconies inspection revealed minor concrete spalling due to reinforcing steel corrosion. A significant amount of this spalling was located on the balcony slab edges, which will require the need to temporarily lock off and splice affected PT cables in Buildings 9, 10, 11 and 12. There is also likely a significant amount of concrete spalling that is currently hidden from detection due to past ongoing patching, tile flooring, and shutter installations.

Previous projects on Buildings 1, 2, 10, 11, and 12 included concrete restoration, new floor coatings and shimmed screen enclosures. Any issues should be only cyclic concrete damage.

Keystone has recommended and provided a budget for a cyclic structural restoration project for each building, except for Building 9. For these five buildings, the floor coating system and railings/screen enclosures would be maintained, while performing the needed structural repairs.

Since Building 9 has not had a comprehensive restoration project, we recommend that course of action. This recommended approach will complete all the needed structural concrete and PT cable repairs and implement appropriate protective measures to minimize future structural damage, and establish maintenance friendly, aesthetically improved protective floor finishes. It would also replace the aged railings/screen enclosures.

2. Walkways

For the walkways, Keystone has recommended and provided a budget for a cyclic structural restoration project. The floor coating system and railings would be maintained, while performing the needed structural repairs.

3. Floor Finishes

The floor finish is the first line of defense against the corrosive elements of the water and salt air. The balconies have a good coating system. It is recommended to repair and maintain the balcony floor coatings. The walkway floor finishes could be maintained or stripped and replaced



with new, warranted coatings. The budgets consider repairing coatings at concrete repairs or stripping all existing coatings and applying an improved coating system.

4. Railings – Walkways and Stairs

Some railings are the original cored-in place system while some are newer, surface-mounted aluminum picket system. The method preferred is the surface mounted rail post style. **Properly installed surface-mounted railings and an improved protective floor coating system will greatly reduce future damage. It is recommended to replace any remaining cored railings with the surface mount models. The current surface mount railings will be maintained.**

5. Shutters

Shutter installations at select units may have to be removed for repair to the concrete as well as the shutter itself.

One aspect of the shutter to consider is its existing condition and the changes to the building codes since it was originally installed. It should first be determined by the shutter vendor whether a shutter can be simply removed and reinstalled, needs refurbishment to be reinstalled or must be replaced due to deterioration or building code changes. All reinstalled/replaced shutters need to include proper drainage shims, and stainless-steel fasteners set in predrilled holes filled with sealant.

6. Sliding Glass Doors

The sliding glass doors appear to be various ages and styles. A few have corroded fasteners, which can allow saltwater intrusion. An aged door, and/or a door in poor condition may be a candidate for replacement with a new code compliant model. All fenestrations are owned by the Association.

For sliding glass door replacements, it is advisable to have the doors and installation provided by the restoration contractor, and not a 3rd party subcontractor. This is due to the fact that the most appropriate time to install a new slider is during the project (not before or after) especially if there are concrete repairs needed under the doors. It is best to install the doors before final floor coatings and sealants are installed. Doors installed after the project; many times, damage the new floor finishes. Also, doors installed during the project will be inspected by the engineering team to ensure the installation meets the manufacturer's requirements.

7. Exterior Painting and Waterproofing

A restoration bid process could also consider the full exterior painting and waterproofing of the building either as part of the restoration project, or as a separate project immediately after the



restoration is complete. Ideally, as restoration becomes cyclical, the painting and restoration cycles are coordinated for convenience. Several actions would be cost efficient to include in the full building painting phase including spalled window sill repairs, stucco repairs and replacement of perimeter window and shutter sealants, and other items. We recommend painting the exterior walls on a 7 to 10-year cycle. This cycle is different for each building:

- Building 1; Scheduled for 2025
- Building 2, Completed in 2021 (2028-2031)
- Building 9, Completed in 2016 (2023-2026)
- Building 10, Completed in 2016 (2023-2026)
- Building 11, Completed in 2020 (2027-2030)
- Building 12, Completed in 2018 (2025-2028)

Buildings 1 and 2 had substantial cracks in the walls between the balconies. They need to be repaired prior to painting and may need supplemental footers.

Summary

We strongly recommend that all concrete structural repairs are completed on the exterior of the buildings as described. This would also include considerations for the railings/screen enclosures and floor coatings.

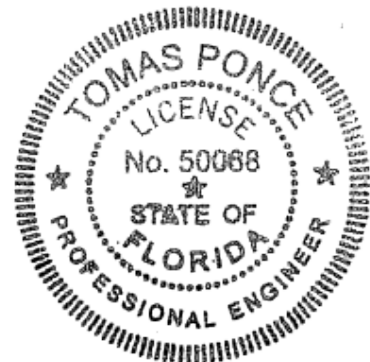
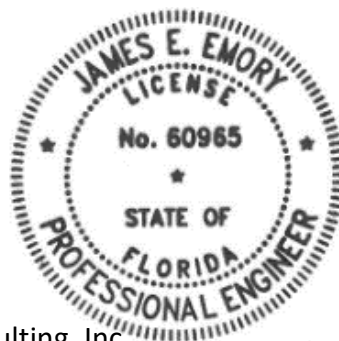
For this report, Keystone generated conceptual budgets for considering restoration and rehabilitation projects for each of the six buildings. The budgets consider current needed estimated repairs and preventative actions to minimize the magnitude of future repair cycles, as well as aesthetic actions.

The following report provides additional details, as well as the described budgets, estimated quantities, and example photos.

Sincerely,

James E. Emory, P.E., S.I.
FL # 60965

Keystone Engineering & Consulting, Inc.
President and Principal Engineer



This item has been digitally signed and sealed by [Tomas Ponce PE, FL # 0050068], on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.