AKOURI CONSULTING ENGINEERS

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August 11, 2023

Las Vistas in Inverrary Condominium Association
3533 Inverrary Dr
Lauderhill FL 33319
954-731-8484; president@lasvistascondo.com

Contact: Mr. Chuck Palazzo
754-213-5365; chuck_pal@yahoo.com

RE Summary of repairs and recommendations obtained from the Milestone Phase 1 and 2 for the building located at:

Las Vistas in Inverrary Condominium Association Inc.
3591 Inverrary Dr Bldg B, Lauderhill, FL 33319

To whom it may concern:

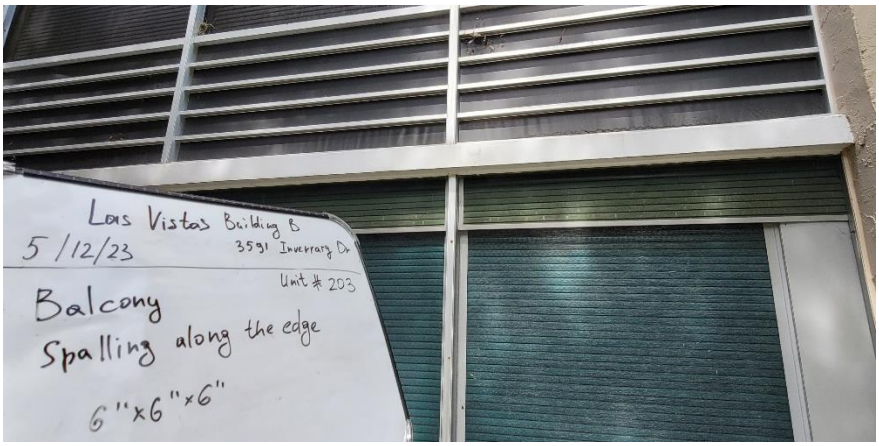
This letter summarizes the findings from the full milestone report. For more details, please refer to the report itself.

Repairs:

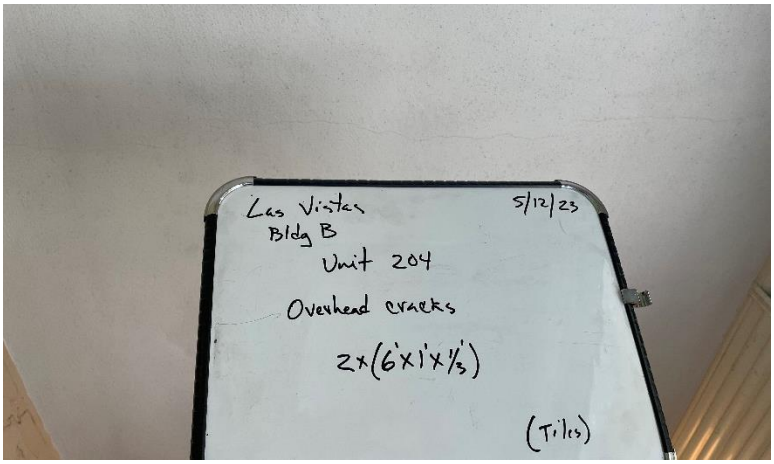
The listed deficiencies below must be corrected in accordance with a concrete restoration bid package prepared by a structural engineer and approved by the Local Building Department.

Please refer to the corresponding photos below.

Balcony slab Unit 203



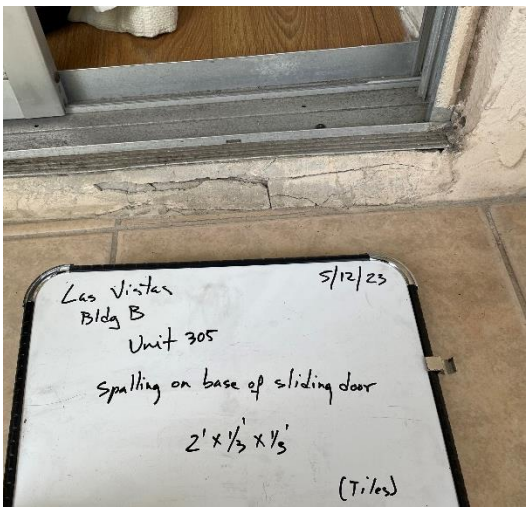
Unit 204



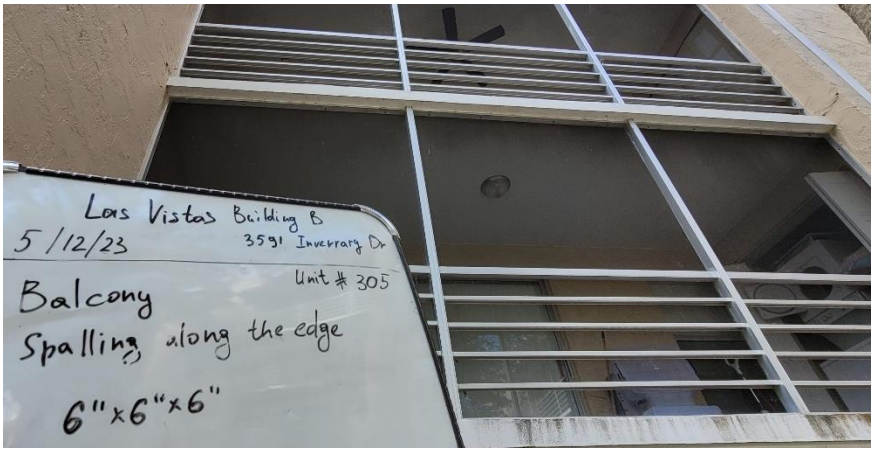
Balcony slab Unit 204

Balcony slab Unit 205

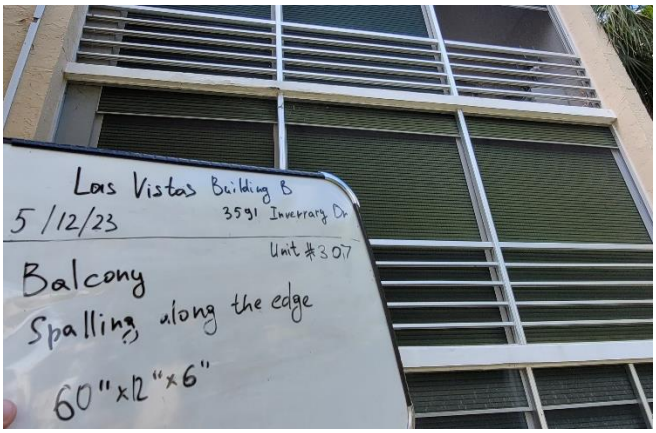
Unit 305



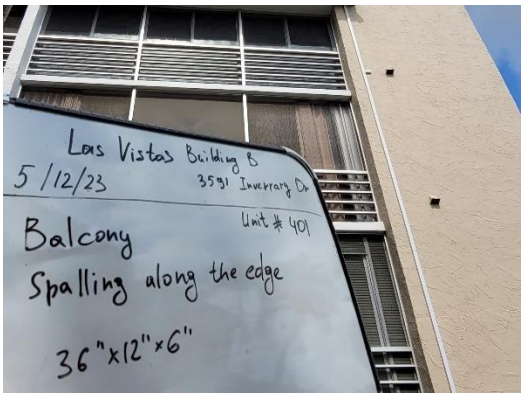
Balcony slab Unit 305



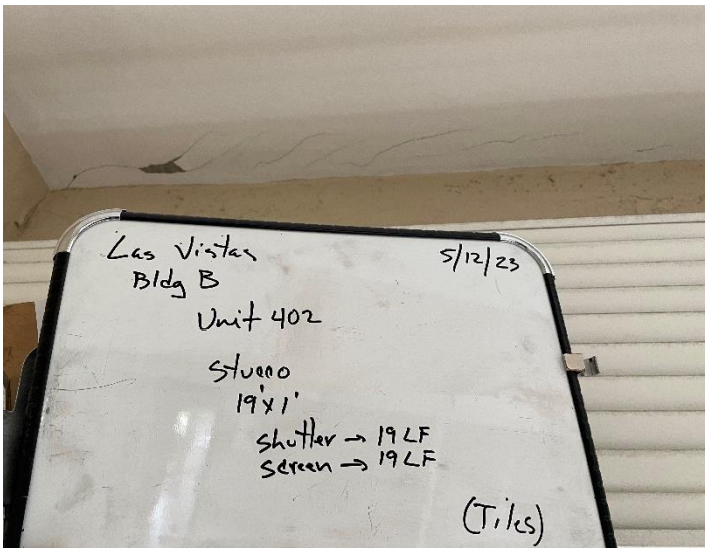
Balcony slab Unit 307



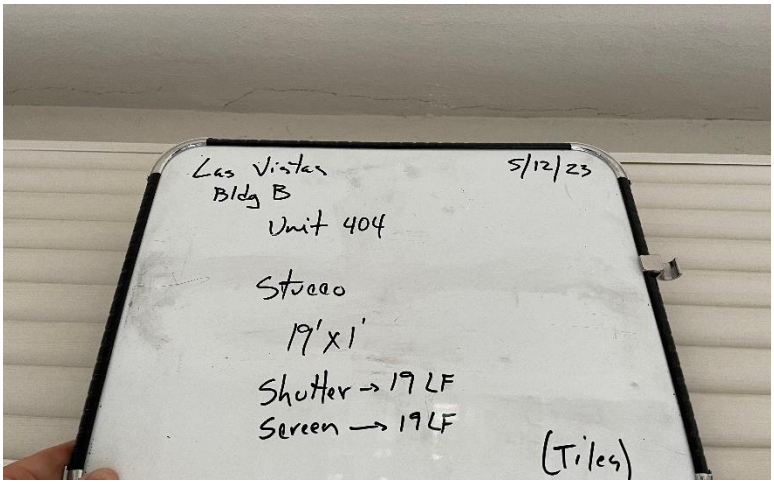
Balcony slab Unit 401



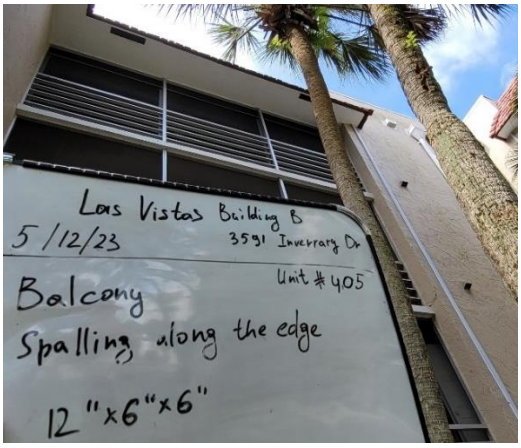
Unit 402



Unit 404



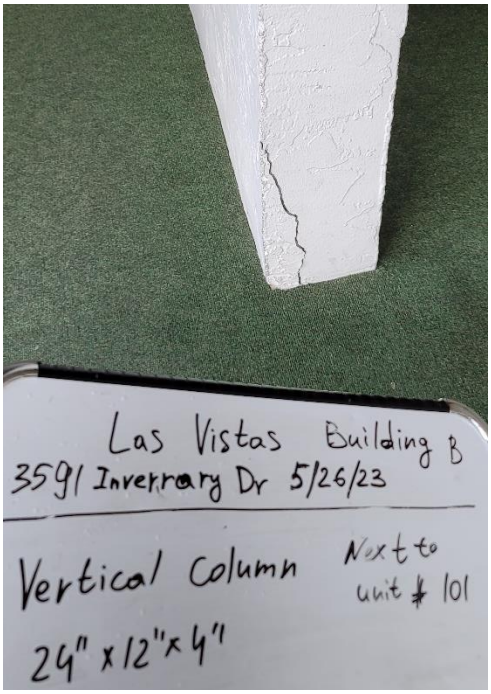
Balcony slab Unit 405



Balcony slab Unit 406

Balcony slab Unit 407

Next to Unit 101



Next to Unit 102

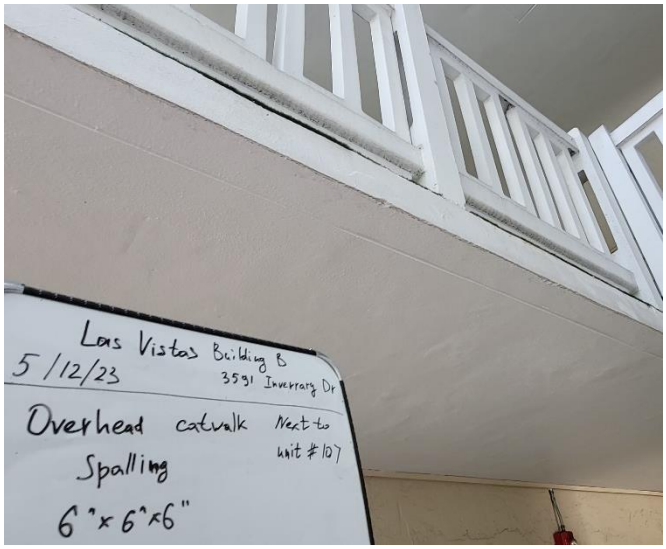
Next to Unit 103

Next to Unit 104

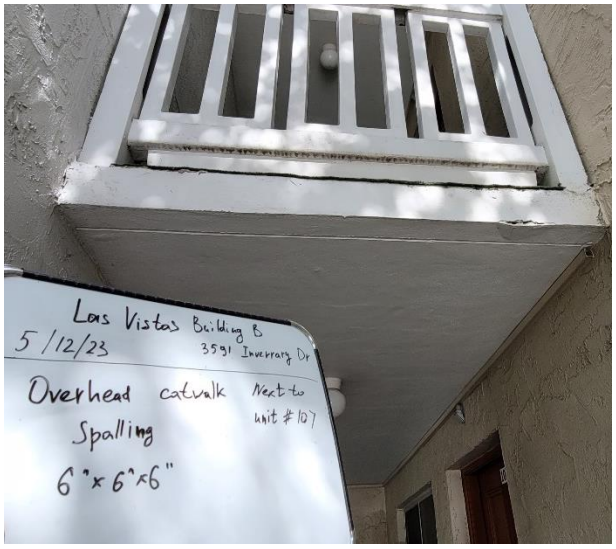
Next to Unit 105

Next to Unit 106

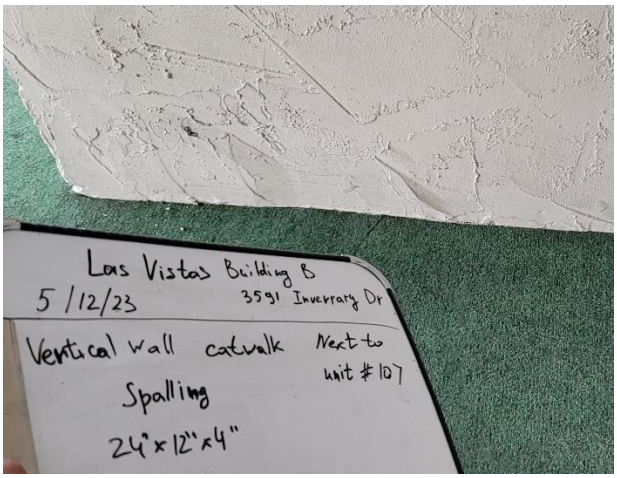
Next to Unit 107



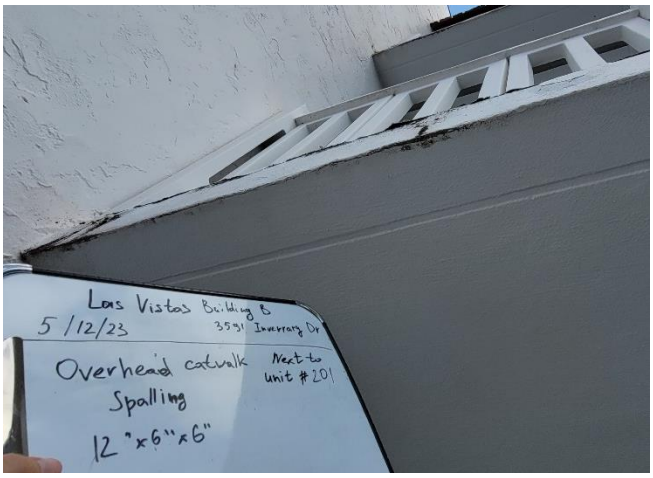
Next to Unit 107



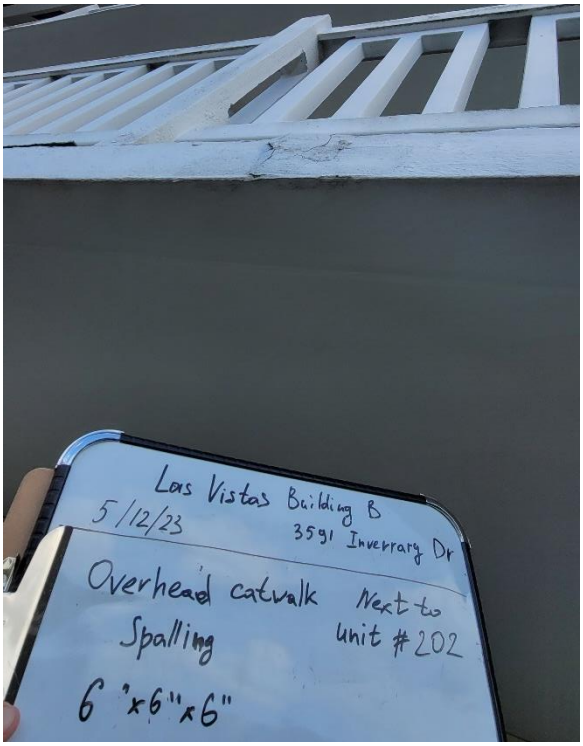
Next to Unit 107



Next to Unit 201



Next to Unit 202



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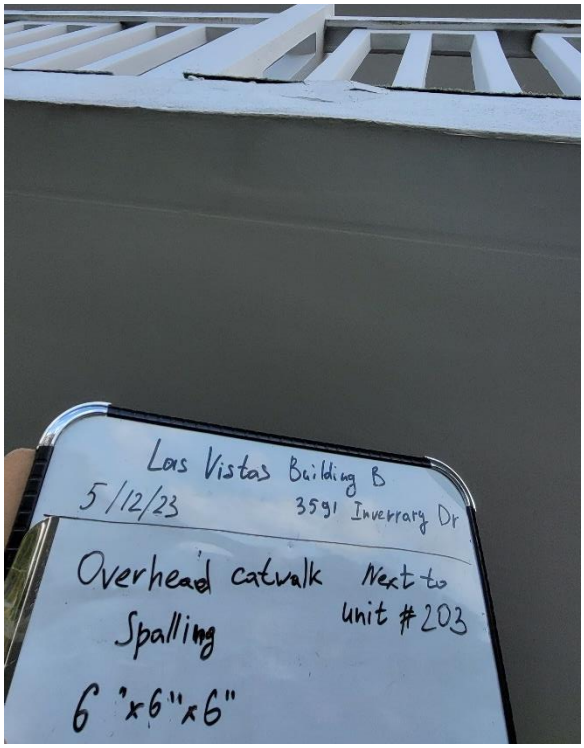

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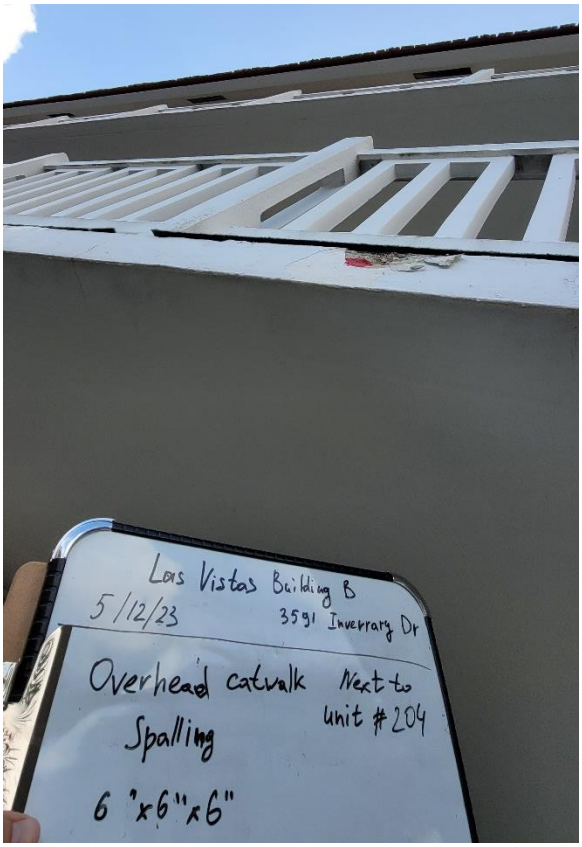
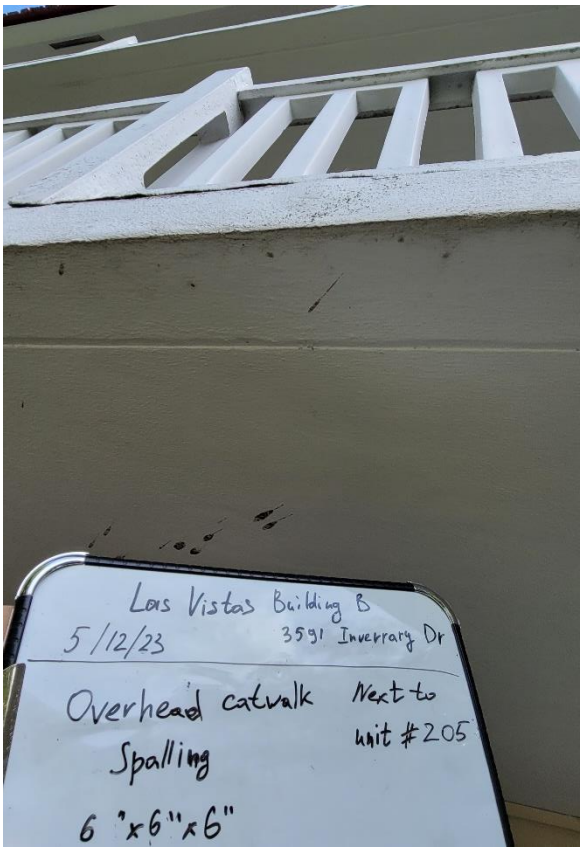
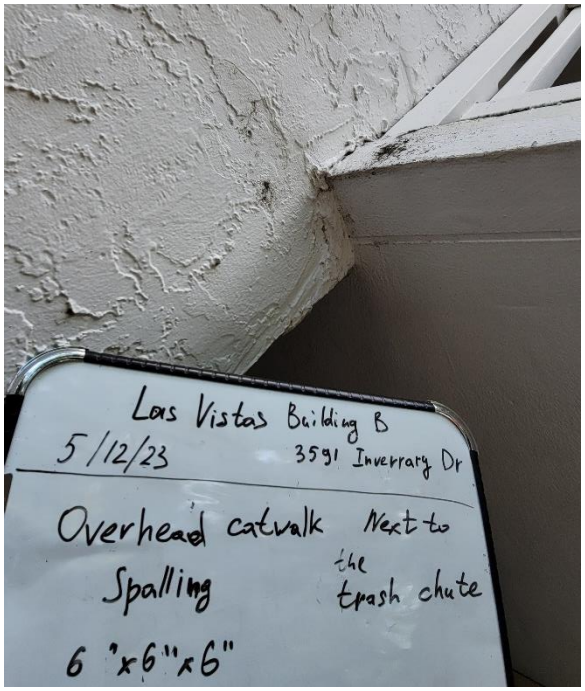


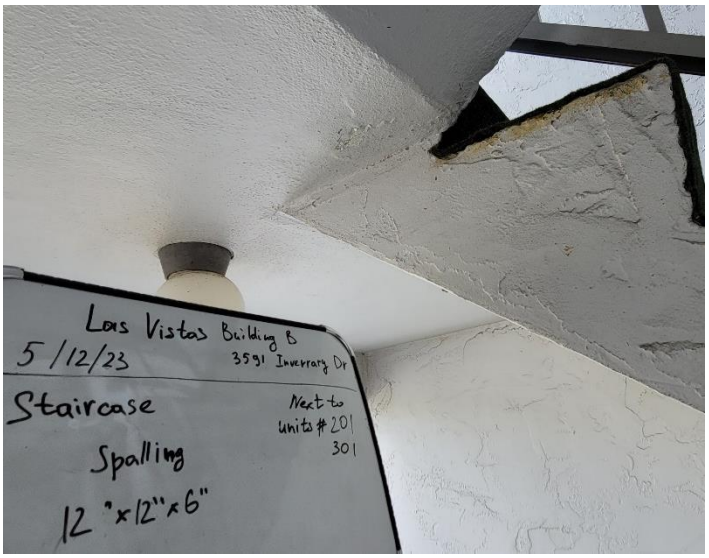
Next to Unit 205



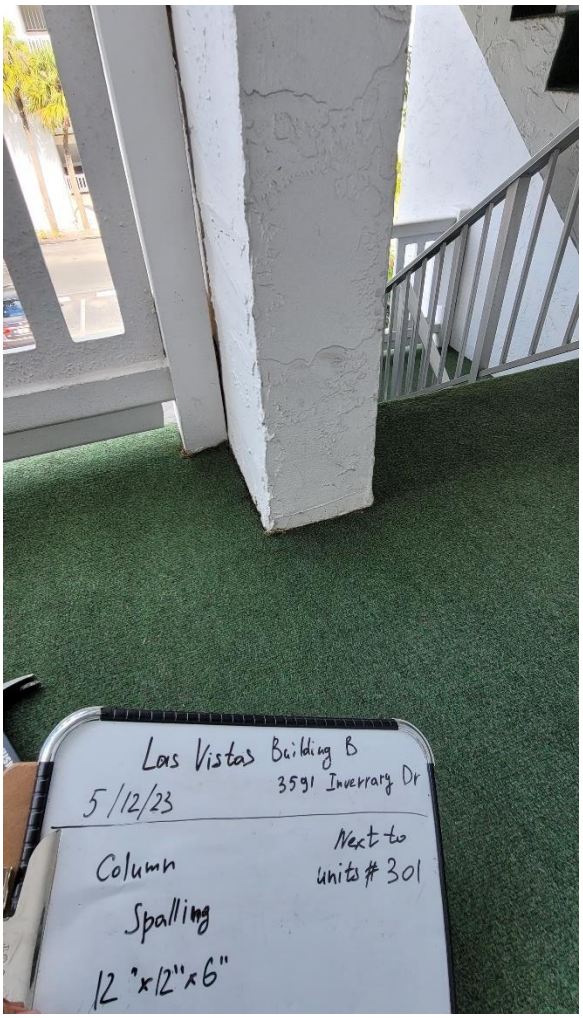
Next to trash chute (2nd floor)



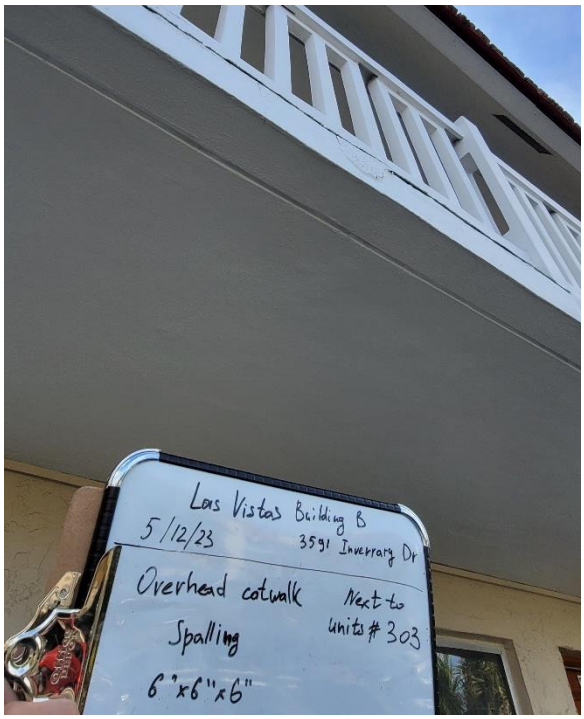
Staircase between Units 201 and 301



Next to Unit 301

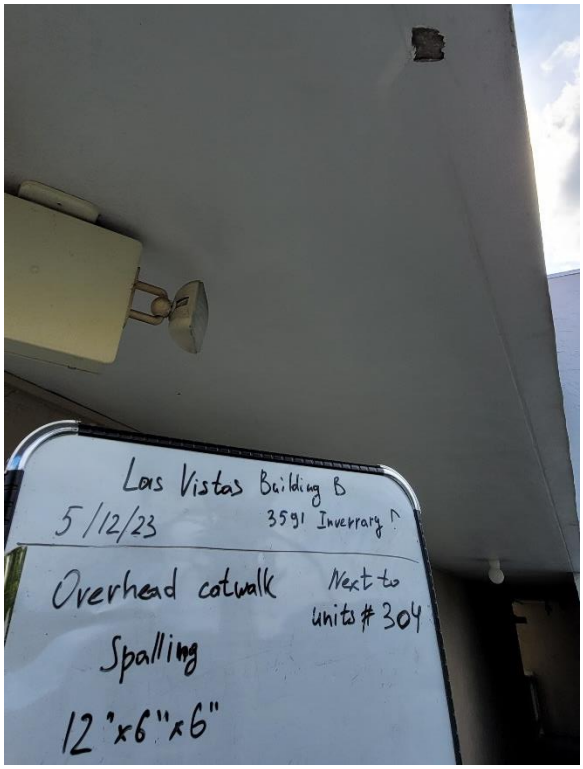


Next to Unit 303

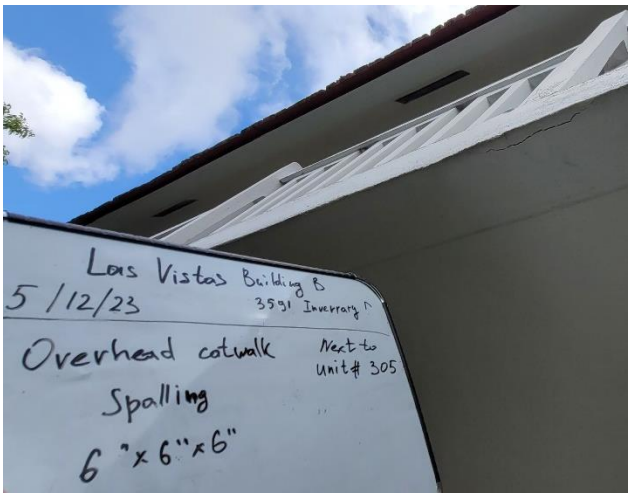


Next to Unit 304

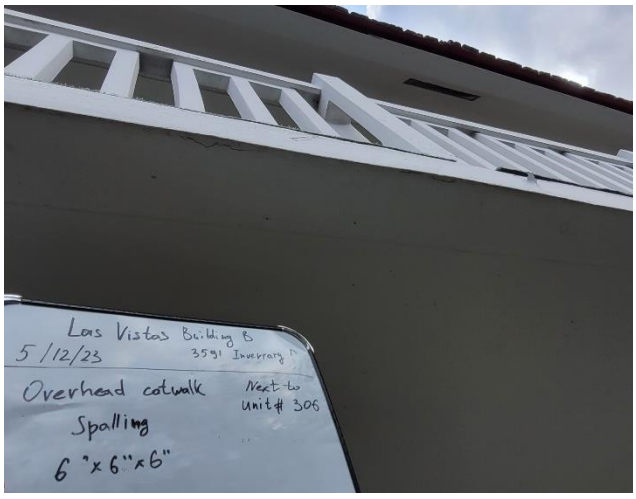
Next to Unit 304



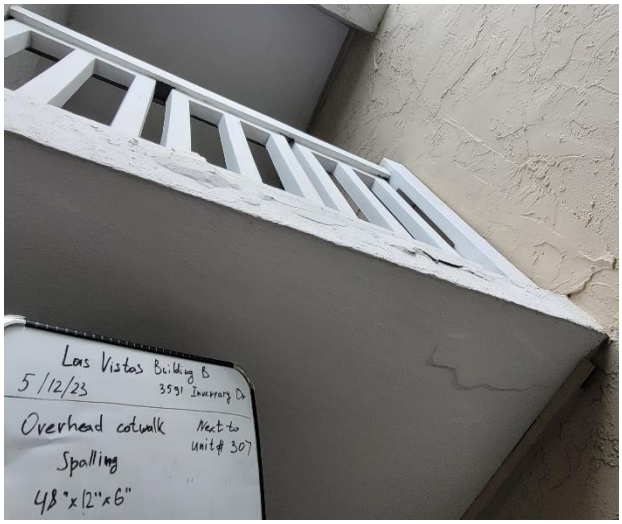
Next to Unit 305



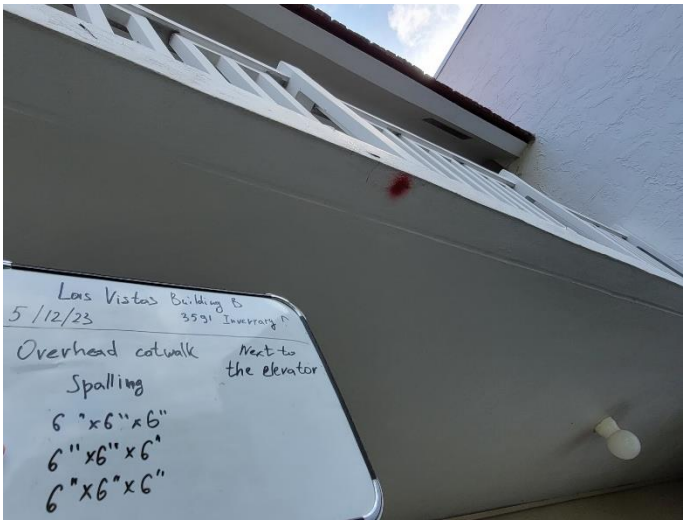
Next to Unit 306



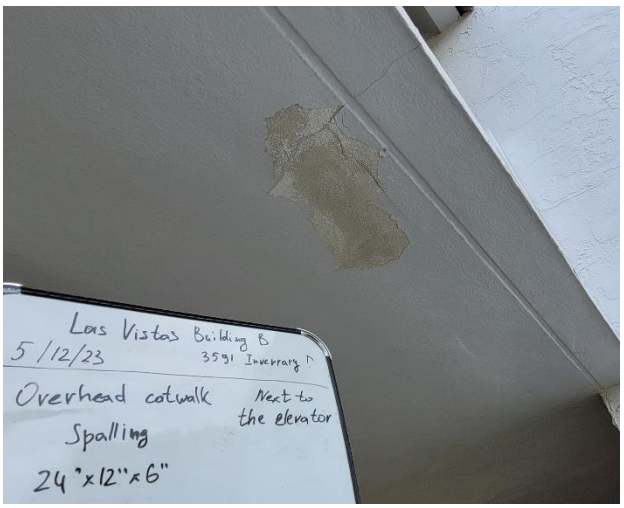
Next to Unit 307



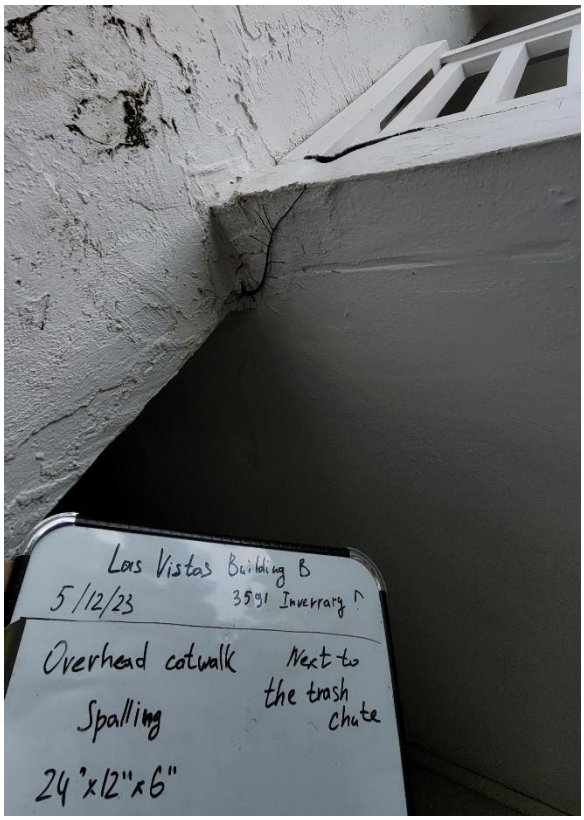
Next to elevator (3rd floor)



Next to elevator (3rd floor)



Next to trash chute (3rd floor)



Roof (the re-roofing did not address the repair of the parapet wall to include stucco and paint).

Parapet wall (stucco and paint)

Parapet wall (poor quality flashing)

Parapet wall (poor quality flashing)

Recommendations:

Waterproofing:

The structural durability of balconies and catwalks should be aforethought because they are more vulnerable to structural deterioration than any other building element. Structural deterioration in concrete consists of rebar corrosion causing spalling. There are three elements that cause spalling. These elements are as follows:

1. Oxygen.
2. Water.
3. Steel.

The elimination of one element will prevent spalling. Therefore, for this reason, water-retaining-carpets and/or tiles are strongly discouraged, and waterproofing is recommended for new and existing concrete decks.

Waterproofing is required to prevent spalling. However, when constructed, the vast majority of balconies/catwalks are left without any waterproofing protection. Simply put, when balconies/catwalks are not waterproofed, water can seep into the porous concrete and rust the structural steel reinforcement within it. Rusted, steel expands which then causes the concrete to crumble and spall.

Deterioration rates vary due to the specific circumstances of the building. One of the most damaging factors leading to the rusting of reinforcing steel is outdoor carpeting and tiles. Like a sponge, carpets absorb moisture and remain damp for long periods of time. Carpets keep the balconies/catwalks in a state of perpetual wetness, speeding up the deterioration process. Tiles sandwich the water and facilitate the intrusion into the structural steel.

Whichever waterproofing finish you choose, it will be a vast improvement over any moisture trapping carpet/tiles sold as an outdoor product. Each layer of protection will help prevent further moisture absorption, enhancing the longevity of the concrete.

ACE inspected buildings A and C after the removal of the outdoor carpet that was installed along the catwalks and discovered spalling throughout. Therefore, ACE is recommending the removal of the carpet and tiles along the catwalks and balconies and the installation of waterproofing after the repair of the structural deterioration.

Drainage:

Please be advised that poor drainage around the foundation may cause differential settlement causing the exterior walls and the slab to settle and/or crack. Therefore, to prevent differential settlement and cracks in the exterior walls and the slab on grade the building requires drainage improvement to keep excessive water away from the exterior walls, such as roof gutter and downspout, improving surface drainage, redirecting rainwater runoff and splash-back away from the building. All trees, shrubs, planters along the exterior walls should be removed. All equipment should be installed over properly graded ground.
ACE recommending that the drainage improvement be performed in accordance with plans prepared by an engineer and approved by the Local Building Department.

The Florida Building Code section 1804.4 sates the following:

1804.4 Site grading.
The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one unit vertical in 20 units horizontal (5-percent slope) for a minimum distance of 10 feet (3048 mm) measured perpendicular to the face of the wall. If physical obstructions or lot lines prohibit 10 feet (3048 mm) of horizontal distance, a 5-percent slope shall be provided to an approved alternative method of diverting water away from the foundation. Swales used for this purpose shall be sloped a minimum of 2 percent where located within 10 feet (3048 mm) of the building foundation. Impervious surfaces within 10 feet (3048 mm) of the building foundation shall be sloped a minimum of 2 percent away from the building.

Exception: Where climatic or soil conditions warrant, the slope of the ground away from the building foundation shall be permitted to be reduced to not less than one unit vertical in 48 units horizontal (2-percent slope). The procedure used to establish the final ground level adjacent to the foundation shall account for additional settlement of the backfill.

If you have any questions or require additional information, please do not hesitate to contact this office at (954) 292-7314.

Sincerely,
Akouri Consulting Engineers
George Akouri, MSCE, P.E.

Professional Engineer	PE# 0049526
Certified General Contractor	CGC058841
Certified Roofing Contractor	CCC1329062