GERVASIO & ASSOC., INC.
CONSULTING ENGINEERS
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December 7, 2022

Ms. Renee Gauthier, President
ELAN, LLC
7150 East Camelback Road, Suite 444
Scottsdale, AZ 88251

via E-mail: elancommunitymgmt@gmail.com

RE: GEORGIA AVE., 10 W.
Peachtree Lane Improvements, Phoenix, Arizona
FOUNDATION DAMAGES INVESTIGATION
G&A Job No. 2171 F

Dear Ms Gauthier:

In accordance with your request, we have completed our investigation of the foundation damages at the above referenced location. The following letter presents our findings, conclusions, and conceptual recommendations and includes:

Appendix A: Keynote Plan & Field Notes

During our investigation on November 15, 2022 by Ward Hollon, R.A. of Gervasio & Assoc., Inc. (G&A), we took one hundred twenty-seven (127) color photos (Set A). Reduced electronic copies of the photos are also being provided via e-mail.

Our assignment was limited to determining the probable cause of the reported foundation damages.

FINDINGS, CONCLUSIONS & RECOMMENDATIONS

Description:

The Peachtree Lane residential community complex is located at 10 West Georgia Avenue in Phoenix, Arizona. The complex consists of thirty-one (31) two-story residences and attached garages, constructed circa 1984.

Relevant construction consists of residential units with concrete slab-on-ground floor/foundation with a turndown stem at the building perimeters supporting a wood frame structure with a plywood sheeting (sheathing) exterior and stucco finish. There is a swimming pool and spa surrounded by a wrought iron fence, planters and patio screen walls of adjacent residential units. There are planters and a fountain outside the south end of the pool area. The landscaping consists of decomposed granite and rock ground cover with desert and low water usage plantings and trees. There is a drip irrigation system for the plantings. There are four large palm trees along the street frontage with Georgia Avenue. Except for Units 21 through 25, storm water drainage at the back patios is off the eave of a shed roof over the patio (Photos A9-A17 & A32-A35).

G&A Observations:

We observed concrete foundation stem wall damages at twelve (12) locations, and at one (1) location concrete planter wall damage. There are six (6) locations that have peeling paint on the foundation stem walls but no visible damage to the underlying concrete. We looked for, but did not observe, damages at eight (8) locations, and no one was home at fifteen (15) units so these patios were not accessible.

1. Horizontal Concrete Spalling with Corroded Rebar

   These are the damages that are the most severe. There are two (2) locations of a horizontal crack in the foundation stem wall with spalling concrete and corroded steel reinforcing bars (rebar):

   - At the planter at the southeast corner of Unit 1, along the north wall of the building (Keynote #8 & Photos A47-A56); and
   - At the back patio of Unit 17, along the west wall of the building, left of the patio door (Keynote #20 & Photos A75-A77).

2. Cracks in Concrete Without Corrosion

   There are eight (8) locations of concrete with cracks in the concrete with no indication of rebar corrosion:

   - At the back patio of Unit 12, there is a vertical to horizontal crack at the corner of the foundation wall (Keynote #1 & Photos A4-A6). There is also a crack along a patch in the foundation wall on the right side of the patio door (Keynote #2 & Photos A7-A8)
   - At the back patio of Unit 3, there is a horizontal crack along the north foundation wall west of the patio door (Keynote #3 & Photos A19-A24). There is another horizontal crack at the east end of the patio, under the bay window (Keynote #3 & Photos A25-A26).
   - Within the pool equipment enclosure, there is a horizontal crack along north foundation wall of Unit 2 (Keynote #7 & Photos A40-A44).
   - At the back patio of Unit 1, there is a horizontal crack in the east foundation wall under the window (Keynote #9 & Photos A57-A61).
   - At the back patio of Unit 13, there is a horizontal and vertical crack at the right side of the patio door (Keynote #25 & Photo A84).
   - There is a vertical crack in the concrete planter wall and cap at the planter to the east of the fountain at the south end of the pool area (Keynote #35 & Photo A104).

- At the southwest corner of Unit 31, along the south wall, there are horizontal and vertical in the foundation wall (Keynote #36 & Photos A105-A108).

- At the back of Unit 29, there are vertical cracks and concrete spalling in the east foundation wall at each end of the patio door (Keynote #39 & Photos A121-A122).

3. Spalling of Concrete Surface of Foundation Walls

   There are two (2) locations of concrete surface spalling of the foundation stem wall. There is no indication of deterioration beyond the surface of the corrosion of the rebar:

   - There are cracks in the corner of the foundation wall at the southwest corner of Unit 3 (Keynote #4 & Photos A27-A28); and

   - At the back patio of Unit 17, there is surface spalling of the concrete foundation wall under the right end of the patio (Keynote #19 & Photos A73-A74).

4. Peeling Paint on Foundation Walls

   There are six (6) locations of paint peeling off of the foundation stem wall with no deterioration of the underlying concrete. The following is a list of the locations:

   - Unit 3 - west foundation wall at planter (Keynote #5 & Photos A29-A31);

   - Unit 13 - left of patio door (Keynote #24 & Photos A8-A83);

   - Unit 10 - west foundation wall at patio (Keynote #33 & Photos A92-A100);

   - Fountain Planters - east and west planters (Keynote #34 & Photos A102-A104);

   - Unit 11 - west foundation wall at patio (Keynote #37 & Photos A109-A118); and

   - Unit 27 - east foundation wall at patio (Keynote #41 & Photos A125-A126).

5. Pool Equipment Enclosure Slab Damages

   At the pool equipment enclosure at the northeast corner of Unit 2, the concrete slab for the equipment is cracked. The slab also has a hollow sound when tapped with a hammer (Keynote #6 & Photos A37-A39 & A45).

See Appendix A for locations of the above described observations.

Conclusions:

The observed cracks in the concrete foundation stem walls are not structurally significant. The locations where corroded rebar was observed need repair to the rebar to stop the corrosion.

The horizontal cracks in the foundation stem walls at Units 1 and 17, Item 1 above, are most likely caused by the expansion of corroding steel rebar in the concrete. When steel corrodes, it expands up to ten sizes its original size. This builds up internal pressure in the concrete causing it to eventually crack or spall. The corrosion is likely due to cycles of wetting and drying. The most likely source of water is storm water and irrigation water spray. At the planter at the southeast corner of Unit 1, there is no drainage opening (weep hole) through the planter wall to let excess water drain out of the planter. Due to this lack of drainage and the flat slope of the earth in the planter, it is probable that water could be held in the planter and retained against the stem wall.

There are eight (8) locations, delineated in Item 2 above, that have horizontal and/or vertical cracks in the foundation stem wall. It is probable that these cracks are a reflection of the horizontal rebar in the stem wall. However, there is no indication that expansion of corroded rebar has caused the cracks. There are no reddish stains in the cracks that would indicate corrosion.

There are two (2) locations, delineated in Item 3 above, that have some spalling of the surface of concrete foundation stem wall. There are no cracks in the concrete, just surface spalling. The most likely cause is occasional wetting of the concrete surface by storm or irrigation water. This spalling is not structurally significant.

There are six (6) locations, delineated in Item 4 above, where paint is peeling from the concrete foundation stem wall. The probable cause is poor surface preparation of the concrete and a lack of a primer before the paint was applied, together with occasional water spray hitting the wall and penetrating through the paint to the concrete surface. There is no sign that the water caused any deterioration of the concrete. It only caused spalling paint.

At the pool equipment enclosure, the concrete slab that supports the equipment is cracked. When the slab is tapped with a hammer near the cracks, there is a "hollow" sound. This could be caused by a settlement of the subgrade earth under the slab or by slab curl. Slab curl can turns the slab slightly up on both sides of the crack creating a hollow area under the curled up slab. The curl is caused by unequal shrinkage (volume loss) in the cement paste and/or temperature differences between the top and the bottom of the concrete slab. Also, the concrete slab is cast tight to the circulation piping to the pool and spa. This "locks" the position of the slab and prevents it from any opportunity for movement if the earth under the slab settles or expands. These conditions are not a structural concern for the support of the pool equipment.

Recommendations:

We recommend the following conceptual repairs:

For the horizontal cracks at Units 1 and 17, the concrete should be chipped out to expose the entire length of corroded rebar. Continue removing concrete until unrusted rebar is exposed. The rust on the bar should be removed to white metal. An anti-corrosion zinc coating or epoxy paint should be applied; or a severely corroded rebar should be

removed and an additional rebar should be added it its place (welded to the ends of the existing bar). The concrete should be patched back with epoxy mortar or other approved patch material. Prime and paint patch.

At the planter at the southeast corner of Unit 1, a weep hole should be provided through the face of the planter and the earth in the planter sloped away from the building.

At the cracks in the foundation stem wall (Item 2 above), the concrete should be removed to expose any rebar to check for corrosion. Any corroded rebar should be evaluated and repaired as outlined above. Patch back the concrete with epoxy mortar or other approved patch material. Prime and paint patch.

At the spalled concrete of the foundation stem wall (Item 3 above), remove any deteriorated concrete and patch back with epoxy mortar or other approved patch material. Prime and paint patch.

Remove areas of loose and peeling paint on the foundation stem walls (Item 4 above). Clean and prep concrete surface for primer and repaint.

The cracks in the concrete floor slab at the pool equipment enclosure should be routed out and sealed with backer rod and silicone sealant. No other repairs are recommended.

We appreciate the opportunity to provide this service and welcome any questions.

Sincerely,

GERVASIO & ASSOC., INC.

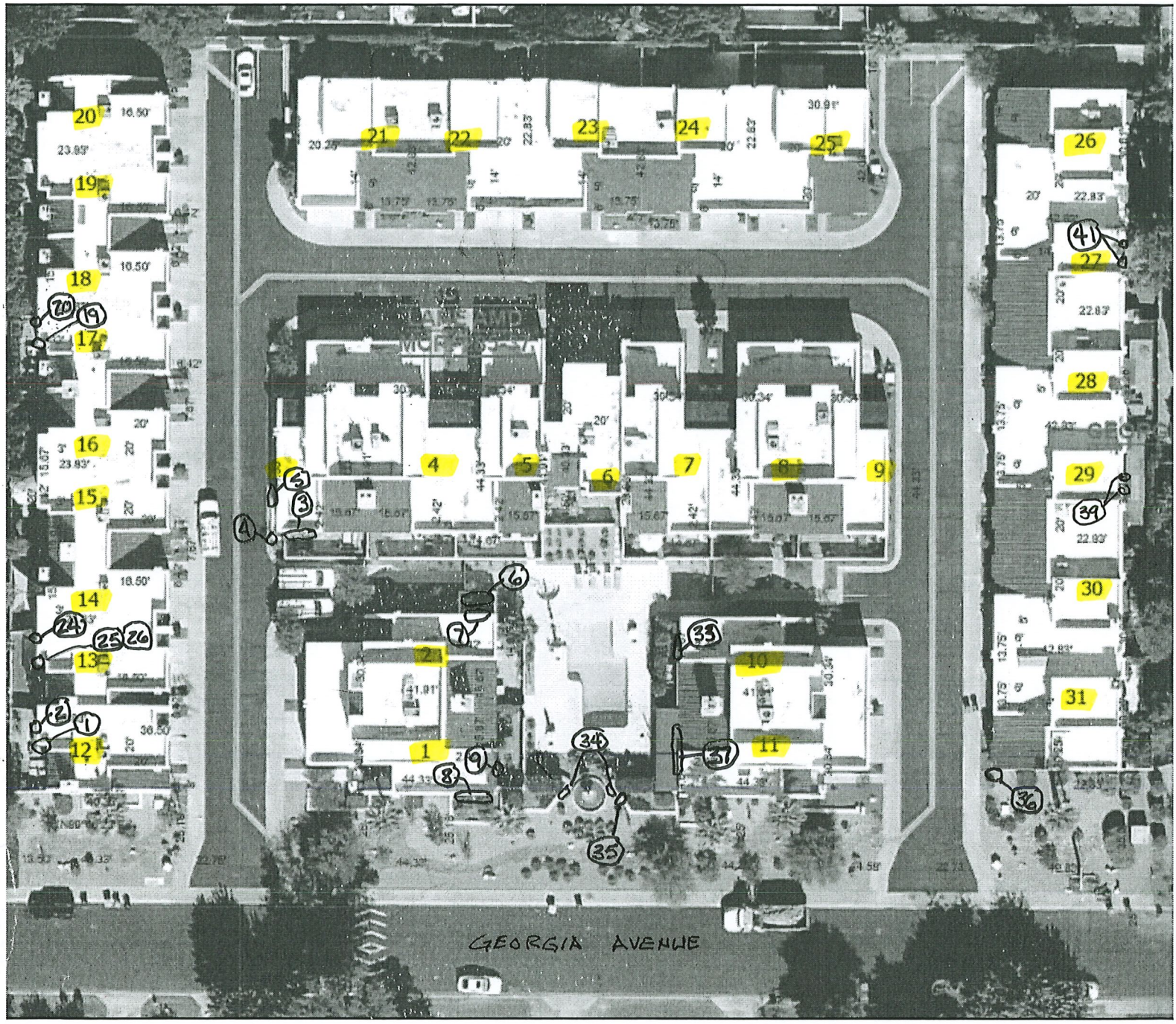
Ward Hollon, R.A.
Forensic Architect

WOH:blm

Enclosures

APPENDIX A

KEYNOTE PLAN & FIELD NOTES



GEORGIA AVE, 10 W
G&A JOB NO. 2171
11/15/2022
KEYNOTE PLAN/DAMAGE

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Date 11/15/2022 Job No. 2171

By WOH Sheet No. 1

FIELD NOTES

KEY NOTE	UNIT	DESCRIPTION	PHOTO (SETA)
1	12	- PATIO - CRACK AT CORNER OF FOUNDATION WALL, NO SIGN OF CORRODED REBAR	1-2, 4-6
		- ORIGINAL UNCONSOLIDATED CONCRETE - NO DAMAGE	3
2	12	- CRACK IN FOUNDATION WALL AT PATIO DOOR. NO CORROSION	7&8
3	3	- PATIO - CRACKS IN FOUNDATION WALL - NO CORROSION	18-26
4	3	- SPALLING CONCRETE AS SW CORNER OF FOUNDATION WALL - NO CORROSSION	27-28
5	3	- SPALLING PAINT ON FOUNDATION - NO DAMAGE	29-31
6	POOL EQUIP ENCLOSURE	- CRACKED CONCRETE SLAB	37-39
		- SUBGRADE SETTLED OR SLAB CURL (HOLLOW SOUND)	45
7	2	- CRACK IN NORTH FOUNDATION WALL WITHIN POOL EQUIPMENT ENCLOSURE - NO CORROSION	40-44
8	1	- PLANTER AT SE CORNER OF UNIT - SPALLED CONCRETE & CORRODED REBAR, INADEQUATE DRAINAGE & SLOPE OF SOIL AWAY FROM BUILDING.	46-56
9	1	- CRACKS IN EAST PATIO FOUNDATION WALL. NO CORROSION.	57-61
10	2	- NO ONE HOME - NO CRACKS IN NORTH FOUNDATION SIDE YARD WALL BEYOND POOL EQUIPMENT ENCLOSURE	62-63
11	25	- NO ONE HOME - NO CRACKS IN EAST FOUNDATION SIDE YARD WALL	64

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By WOH Sheet No. 2

FIELD NOTES

12	24	- No One Home - Patio not Accessible	65
13	23	- No Damage	66
14	22	- No One Home - Patio not Accessible	67
15	21	- No One Home - Patio not Accessible	68
16	20	- No Damage	69
17	19	- No One Home - Patio not Accessible	70
18	18	- No Damage	71
19	17	- Spalled Concrete at Patio Door - No Corrosion	72-74
20	17	- Spall Concrete & corroded Rebar at left of Patio Door	75-77
21	16	- No One Home - Patio not accessible	78
22	15	- No One Home - Patio not Accessible	79
23	14	- No One Home - Patio not Accessible	80
24	13	- Spalled Paint left of Patio Door - No Damage	81-83
25	13	- Crack in Concrete Foundation Wall at Right Side of Patio Door - No Corrosion	84
26	13	- Original Unconsolidated Concrete - No Damage	85-86
27	4	- No One Home - Patio not Accessible	87

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By WOH Sheet No. 3

FIELD NOTES

28	5	- No Damage	88
29	6	- No Damage	89
30	7	- No one Home - Patio not accessible	90
31	8	- No Damage	91
32	9	- No one Home - No crack in East foundation wall	92
33	10	- Spalling Paint on Patio Foundation Wall. No Damage	93-100
34	Fountain	- Spalling Paint on Side Planter Walls - No Damage, Water splashing from fountain	102-104
35	Fountain	- Crack in East Planter Wall & Cap, No Corrosion	104
36	31	- Crack at SW corner of Foundation Wall. No Corrosion - No one Home - Patio not accessible	105-108
37	11	- Spalling Paint on Patio Foundation Wall - No Damage	101, 109-118
38	30	- No one Home - Patio Not Accessible	119
39	29	- Spalled Concrete at each end of Patio Door - No corrosion	120-122
40	28	- No Damage	123
41	27	- Spalling Paint on Patio Foundation Wall - No Damage	124-126
42	26	- No one Home - Patio Not Accessible	127

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By WOH Sheet No.

FIELD NOTES

22. No one Home

19 - ✓ ✓ ✓

16 - ✓ ✓ ✓

15 - ✓ ✓ ✓

14 - ✓ ✓ ✓

7 - ✓ ✓ ✓

9 - ✓ ✓ ✓ (No Cracks)

~~11~~ ✓ ✓ ✓

31 - ✓ ✓ ✓ (Cracks)

30 - ✓ ✓ ✓

26 - ✓ ✓ ✓

25 - ✓ ✓ ✓ (No cracks)

2 ✓ ✓ ✓ ✓

24 ✓ ✓ ✓

~~23~~ ✓ ✓ ✓

1 - Rusted rebar at Punch

17 - ✓ ✓ at N Patio