# EXHIBIT G

# Gallery Condominium Association

# v.

# K. Hovnanian at Gallery, LLC

BHA # 19-7096

## Defense Response Report

February 25, 2022


*Prepared By:*

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# Project Summary and Task Analysis

## I. Scope of Analysis:

Bert L. Howe & Associates, Inc. (BHA) has been retained by K. Hovnanian at Gallery, LLC ("KHov" or "Builder") to respond to allegations of construction defect brought by the Condo Owners Association ("Claimant") of an 18 three-story-unit (four building) residential development constructed by KHov known as The Gallery located in Scottsdale, Arizona ("Project"). BHA understands this project was built between 2016 and 2017.

The Claimant retained SBSA, LLC ("SBSA") as their general construction expert and Nautilus General Contractors, Inc. as their cost to repair expert. BHA is not aware of any other experts retained by Claimant. Each designated plaintiff expert recorded their evaluation and/or repair recommendations in the following reports/statements (Claimant Expert's Reports):

- SBSA "Construction and Design Compliance Report", dated June 23, 2021
- SBSA "Supplemental Construction and Design Compliance Report", dated October 14, 2021
- Nautilus "Preliminary Estimate of Costs", dated July 23, 2021
- Nautilus "Preliminary Estimate of Costs", dated July 23, 2021 **REVISED November 8, 2021**

The following report summarizes BHA's responses to the defect allegations and opinions of construction defects as set forth in the Claimant's reports. KHov also retained Peterson Geotechnical Group ("PGG") to offer opinions regarding SBSA's allegations of defective site improvements and opinions associated with soils related issues. PGG prepared a separate report expressing its observations, responses, and opinions.

BHA representatives investigated Claimant claims by evaluating the Claimant expert's reports, analyzing the plans and specifications, reviewing code requirements, conducting visual inspections of the project, and conferring with KHov representatives having knowledge of the project. BHA reserves the right to respond to Claimant expert's rebuttal reports, deposition testimony, and additional information when available. It is BHA's understanding Claimants have an ongoing investigation of roof issues. BHA reserves the right to evaluate any new claims Claimants may put forth and offer or revise its opinions accordingly as new information is disclosed.

## II. Documents Reviewed:

BHA has reviewed and utilized the following documents in the preparation of this report.

- Preliminary Estimate of Costs prepared by Nautilus General Contractors, Inc., July 23, 2021
- Preliminary Estimate of Costs prepared by Nautilus General Contractors, Inc., July 23, 2021 **Revised November 8, 2021**
- Construction and Design Compliance Report prepared by SBSA, dated June 23, 2021
- Supplemental Construction and Design Compliance Report prepared by SBSA, dated October 14, 2021
- Architectural Drawings by Otak, Inc, dated March 11, 2016 and revised June 8, 2016 and August 2, 2016
- SBSA's inspection and destructive testing photographs and field notes
- Job files of SBSA
- Arizona Registrar of Contractors ("AROC") Workmanship Standards, June 2009
- 2012 International Residential Code
- 2012 International Building Code
- MI Windows and Door Installation Recommendations

## III. Defense Inspection Dates

Defense inspections at the site took place on the following dates:

- October 14, 2019 – Non-Invasive Visual Inspection of unit interiors, building exteriors, and roofs
- October 15, 2019 – Non-Invasive Visual Inspection of unit interiors, building exteriors, and roofs
- October 16, 2019 – Non-Invasive Visual Inspection of unit interiors, building exteriors, and common areas
- March 9, 2021 – Claimant Destructive Testing of building exteriors
- March 10, 2021 – Claimant Destructive Testing of building exteriors
- March 11, 2021 – Claimant Destructive Testing of building exteriors
- July 27, 2021 – Observation of Claimant temporary roof repair
- August 13, 2021 – Observation of Claimant temporary roof repair
- August 23, 2021 – Observation of Claimant temporary roof repair
- August 31, 2021 – Observation of Claimant temporary roof repair
- November 12, 2021 – Observation of Claimant temporary roof repair and visual inspection of new allegations from SBSA supplemental report
- December 13, 2021 – Observation of Claimant temporary roof repair
- December 14, 2021 – Observation of Claimant temporary roof repair
- January 26, 2022 – Observation of Claimant temporary roof repair

## IV. Construction Defect Allegations Analysis

As a basis for analysis, BHA maintains that construction defect claims must be founded on an evaluation of the original constructed components. Any alterations of the original as-built conditions modify the project compromising both the analysis and the significance of alleged defects. Alterations could take the form of intentional modifications, damage by Claimant, failure to maintain, improper maintenance, etc.

In construction, there is seldom a single method to build something. Like other manufacturing industries, construction has guidelines and tolerances to govern the process. Construction documents, building codes, and manufacturer installation recommendations provide those guidelines, however, deviations from those guidelines, in and of themselves, do not constitute a defect. Local industry standards, established by the applicable building code as adopted, interpreted, and enforced by local Building Officials establishes the accepted standards for local construction. When a building component is originally constructed in accordance with local industry standards or approved by the building inspector it cannot be considered defective and repairs are not necessarily warranted. If a building component is performing its intended purpose, it cannot be considered defective, and repairs are not reflexively warranted.

BHA employs a two-part test to determine if a construction defect exists:

1) The material deficiency must impair the structural and/or function of the dwelling (or there is a reasonable likelihood impairment will occur if not repaired)

and

2) The impairment is caused by either substandard materials or substandard workmanship.

The Arizona Registrar of Contractors (“AROC”) establishes the workmanship standards for construction in Arizona in its publication titled “The Workmanship Standards for Licensed Contractors”. BHA considers both the industry standards and AROC standards when evaluating an alleged construction defect.

The AROC recognizes that a contractor should not be responsible for repairing building components indefinitely. The AROC establishes a reasonable period for which a contractor is responsible for repairs. The AROC provides a two-year jurisdiction period where an owner can report the issues regarding failed building components to the builder for remedy. There were no AROC complaints filed by the COA or the condo owners, which is indicative of no systemic problem with construction. It’s important to note that repair remedies only apply to construction items installed as part of original construction. Any component that has

been modified through owner or COA improvement, neglect or abuse is no longer the responsibility of the contractor to repair as outline by the AROC:

> "The contractor should stand behind the product, but the buyer should be responsible for owner-maintenance items. Contractor responsibility under these standards should not extend to items which have been subject to owner neglect, modification or abnormal use."

The AROC further establishes the start date for the period for which the contractor is responsible:

> "The effective date for the start of coverage of these standards should begin with the close of escrow, when the buyer occupies the structure, or the date of discovery, whichever occurs first or as otherwise noted."

Regardless of its two-year jurisdiction, the AROC Workmanship Standards are the industry standards for construction in Arizona.

## V. Defense Response to Claimant Allegations

SBSA's report alleges defective conditions exist in the building stucco, window installations, decks, and roofs. For many of SBSA's claims, SBSA cites deviations from the construction plans as the reason the condition is defective. The Gallery is a private development. Like any private development, the developer has the right to make design alterations and to make decisions that affect construction costs, schedules, and performance requirements. Also, like any private development, a developer works and coordinates with construction crews and the design team during construction to address site conditions, as-built conditions, and real estate market factors. On any project, it is typical for a value engineering process to take place. It is also typical for additive and deductive change orders to occur as a project is being constructed. A deviation from construction plans, in and of itself, is not a defect. To properly determine a defect exists, the performance of a building component must be considered. SBSA provides little physical evidence any of the alleged conditions have failed to perform their intended purpose.

BHA does acknowledge some of the building components on some of the buildings are not performing and appropriate repairs should be made. BHA does BHA includes its repair recommendations in its evaluation of SBSA's allegations below.

The list of allegations below are drawn from SBSA "Construction and Design Compliance Report", dated June 23, 2021 and its "Supplemental Construction and Design Compliance Report", dated October 14, 2021.

### *I. STRUCTURAL*

#### 1.0 Compliance with Geotechnical Report (Informational Only)

***Plaintiff Description:***

The original geotechnical report presents recommendations for over excavation, soil stabilization, and drainage on the site. Review the original geotechnical report for applicable design and construction recommendations for informational purposes.

***Plaintiff Location:***

N/A

***Plaintiff Quantity:***

N/A

***Plaintiff Repair Scope:***

N/A

***Plaintiff Cost:***

N/A

***Defense Analysis and Repair Recommendations:***

This allegation is being addressed by PGG. See PGG report.

#### 2.0 Lateral Force Resisting System (LFRS)

#### *2.0A Non-Compliant LFRS*

***Plaintiff Description:***

Intrusive examination revealed the framing at Unit 3111 of Building D of the Gallery site was constructed without the proper LFRS that was clearly detailed on structural braced/ shear wall plans.

***Plaintiff Location:***

Unit 3111

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- All LFRS repairs shall be performed per the braced/ shear wall and holddown schedule provided on Sheets S3.1 through S3.6 of the Felten structural plans as designed by the Structural EOR. Sections C.1 and C.2 of engineer's report. (Included in Building Envelope 1.0B) 2. Repair contractor to include 10-percent of the stucco repair costs for use as a contingency for the repairs for the noncompliant LFRS. (Included below 2.a.). a. Provide allowance for all structural repairs as described above. Includes removal and reinstallation of windows and door as required to accommodate variations in wall thickness after repairs are performed. (1 al) (Allowance pending further investigation)
- For Unit 3111 of Building D, perform the following repairs to the LFRS.
    - Remove existing stucco to coordinate with repairs recommended in Sections C.1 and C.2 of SBSA's report.
    - Repair contractor to verify and confirm the extent of repairs to the LFRS.
    - Where exterior sheathing is identified as missing, install new 3/8-inch minimum-rated sheathing using specified nails spaced to provide minimum shear resistance of 306-plf per the braced/ shear wall schedule.
    - Where existing strap is identified as installed incorrectly, remove and replace with new strap per the holddown schedule. Install according to the manufacturer's installation requirements.
    - Reinstall cladding per the repairs recommended in Sections C.1 and C.2 of SBSA's report.
- Repair contractor to include 10-percent of the stucco repair costs for use as a contingency for the repairs for the non-compliant LFRS. The as-built construction of the LFRS will be compared with LFRS design on the Felten structural plans as designed by the Structural EOR after the stucco system is removed.

***Plaintiff Cost:***

$200,000.00

***Defense Analysis and Repair Recommendations:***

SBSA asserts the shear panel was missing and a framing strap was not properly fastened at unit 3111 which likely "reduces the structural integrity of the building". SBSA bases this allegation on its observations during its destructive testing of the building envelope at one unit, unit 3111. With this observation at one unit, SBSA extrapolates that all the units at every building have the same condition and require repair. BHA disagrees with SBSA's extrapolation practice.

BHA was present for SBSA's destructive testing at a pot shelf beneath the "XOX" window unit at unit 3111. The pot shelf overlaps the juncture between the first and second floors. Inspecting inside the pot shelf, BHA documented one framing strap between the first and second floors was buckled slightly. BHA also observed the fasteners were covered by the horizontal framing of the pot shelf. It is unknown to BHA how SBSA determined "fasteners in the CS16 strap connecting the exterior sheathing below the triple panel window were missing" as the fasteners were not exposed. BHA did observed other straps at unit 3111 exposed by SBSA that were completely fastened and secure. In addition, framing inspections were conducted by the local building officials, as well as third-party engineers, and the framing was found to be compliant at every building.

SBSA also removed stucco from on top of the pot shelf and approximately 18" up the wall adjacent to the window unit. BHA documented open framing behind the stucco. BHA also observed a strip of exterior sheathing was installed inside the pot shelf between the first and second floors, as well as at the top of the second-floor wall across the juncture with the third-floor wall.

SBSA claims a defect exists without providing any evidence the omission of some strap fasteners and a single shear panel has compromised the structural integrity of the building. BHA is unaware of any

calculations or other analyses SBSA made to support this claim. SBSA simply did not observe what they expected to find and deemed the deficiency a defect. BHA disagrees with SBSA's assumption that a building's structural integrity is automatically compromised by the omission of some fasteners and a portion of a shear panel. Further, unit 3111 is the center unit of a five-plex. For SBSA to not consider the structural integrity of the entire building as a whole and to opine "the non-compliant condition more likely than not reduces the structural integrity of the LFRS, as intended by the Structural Engineer of Record (EOR)" is unreasonable. SBSA does not provide any evidence the structure is not performing. In fact, SBSA removed stucco from several locations and found framing straps in place and properly fastened. BHA disagrees that a technical deficiency, in and of itself, is a defect. While BHA does not agree SBSA has provided sufficient evidence to support its claim, BHA does agree if a condition is shown to adversely affects the structural integrity of the building, it warrants repair. Appropriate repairs can be done for less than $1,200 per location.

## ***II. CIVIL***

### 1.0 Grading and Drainage

#### ***1.0 A Drainage Bounded by Concrete Flatwork***

***Plaintiff Description:***

There are unpaved areas next to the buildings at the front elevations where the grading is such that the ground surface is below the concrete flatwork (sidewalks and driveways). This condition creates bounded conditions because the concrete prevents positive drainage away from the foundations.

***Plaintiff Location:***

Perform repairs at all locations noted in the Civil Repair Drawings.

***Plaintiff Quantity:***

N/A

***Plaintiff Repair Scope:***

- Perform repairs at all locations noted in the Civil Repair Drawings.
- Coordinate sidewalks, curbs, and roadway to allow for proper site geometric integration in all new construction. A full topographical survey from the curb line to the face of the building will be required due to the limited site elevation difference to enable design to correct the deficient construction.
- Construct concrete aprons below roof drain terminations. Where sidewalks exist, remove sidewalk to nearest joint and provide sidewalk chase. Where no sidewalks are constructed, construct curb cut to allow flow out of bounded area and regrade unpaved area to drain.
- Place rocks (4- to 6-inch diameter) in concrete aprons.
- Adjust existing electrical and irrigation boxes as required.

***Plaintiff Cost:***

$25,532.88

***Defense Analysis and Repair Recommendations:***

This allegation is being addressed by PGG. See PGG report.

#### ***1.0B Non-Compliant Management of Concentrated Flows***

***Plaintiff Description:***

The discharge of roof drainage directly into the undrained areas creates a condition where large quantities of water are able to infiltrate into the bearing soils below the foundations, sidewalks, and driveways.

***Plaintiff Location:***

Perform repairs at all locations noted in the Civil Repair Drawings.

***Plaintiff Quantity:***

N/A

***Plaintiff Repair Scope:***

- Perform repairs at all locations noted in the Civil Repair Drawings.
- Construct concrete aprons below roof drain terminations. Where sidewalks exist, remove sidewalk to nearest joint and provide sidewalk chase. Where no sidewalks are constructed, construct curb cut to allow flow out of bounded area.
- Place rocks (4- to 6-inch diameter) in concrete aprons.
- Adjust existing electrical and irrigation boxes as required.

***Plaintiff Cost:***

N/A

***Defense Analysis and Repair Recommendations:***

This allegation is being addressed by PGG. See PGG report.

**2.0 Concrete Flatwork**

***2.0A Non-Compliant Cross-Slope of Sidewalks***

***Plaintiff Description:***

At some locations on the site, the cross-slopes of the sidewalks exceed 2-percent.

***Plaintiff Location:***

Perform repairs at all locations noted in the Civil Repair Drawings.

***Plaintiff Quantity:***

5 locations

***Plaintiff Repair Scope:***

- Remove and replace concrete as noted in Civil Repair Drawings. Coordinate between asphalt roadway, curb profile, and sidewalks to achieve geometric integration.
- Concrete removal shall be to the nearest construction/ control joint.
- Ensure that subgrade is prepared in compliance with the recommendations of a geotechnical engineer prior to the placement of concrete.
- Ensure grading and drainage direct runoff away from flatwork subbase.
- Ensure all new flatwork meets slope requirements set forth in the current applicable building code as amended by the City of Scottsdale, MAG Standard Details, and ADA/ ANSI standards.
- At all locations where new concrete flatwork is to be constructed directly adjacent to vertical building elements, provide full-depth, 1/2-inch expansion joints in compliance with applicable codes and/ or industry standards.

***Plaintiff Cost:***

$ 32,703.46

***Defense Analysis and Repair Recommendations:***

This allegation is being addressed by PGG. See PGG report.

***2.0B Non-Compliant Longitudinal Slope of Sidewalks***

***Plaintiff Description:***

The longitudinal slopes of the sidewalks at some locations exceed the maximum allowable. Per ANSI A117.1 guidelines, the maximum allowable slope for a ramp that is part of an accessible route is 8.33-

percent, and the slopes measured are excessive. The sidewalks as constructed exceed the allowable maximum slopes for ramps and are non-compliant both as ramps and as sidewalks.

***Plaintiff Location:***

Perform repairs at all locations noted in the Civil Repair Drawings.

***Plaintiff Quantity:***

N/A

***Plaintiff Repair Scope:***

- Remove and replace concrete as noted in Civil Repair Drawings.
- Concrete removal shall be to the nearest construction/ control joint.
- Ensure that subgrade is prepared in compliance with the recommendations of a geotechnical engineer prior to the placement of concrete.
- Ensure grading and drainage direct runoff away from flatwork subbase.
- Ensure all new flatwork meets slope requirements set forth in the current applicable building code as amended by the City of Scottsdale, MAG Standard Details, and ADA/ ANSI standards.
- Verify final geometry using topographic survey. If required, construct code compliant stairs at entrances to buildings or at bottoms of existing stairways.
- At all locations where new concrete flatwork is to be constructed directly adjacent to vertical building elements, provide full-depth, 1/2-inch expansion joints in compliance with applicable codes and/ or industry standards.

***Plaintiff Cost:***

N/A

***Defense Analysis and Repair Recommendations:***

This allegation is being addressed by PGG. See PGG report.

***2.0C Non-Compliant Landings***

***Plaintiff Description:***

The landings at the bottoms of the stairs were constructed with slopes exceeding the 2.0-percent maximum as shown on the Civil Observation Drawings. These landings do not provide the prescriptive surface required at stairs and ramps to allow for safe usage of the sidewalk.

***Plaintiff Location:***

Perform repairs at all locations noted in the Civil Repair Drawings.

***Plaintiff Quantity:***

N/A

***Plaintiff Repair Scope:***

- Remove and replace concrete as noted in Civil Repair Drawings.
- Concrete removal shall be to the nearest construction/ control joint.
- Ensure that subgrade is prepared in compliance with the recommendations of a geotechnical engineer prior to the placement of concrete.
- Ensure grading and drainage direct runoff away from flatwork subbase.
- Ensure all new flatwork meets slope requirements set forth in the current applicable building code as amended by the City of Scottsdale, MAG Standard Details, and ADA/ ANSI standards. Maximum slope of landings to be 2-percent.
- Verify final geometry using topographic survey. If required, construct code-compliant stairs at entrances to buildings or at bottoms of existing stairways.

- At all locations where new concrete flatwork is to be constructed directly adjacent to vertical building elements, provide full-depth, 1/2-inch expansion joints in compliance with applicable codes and/ or industry standards.

***Plaintiff Cost:***

N/A

***Defense Analysis and Repair Recommendations:***

This allegation is being addressed by PGG. See PGG report.

***III. BUILDING ENVELOPE***

**1.0 Facade (Exterior Cladding and Sealants) Type 1 – Stucco**

***1.0A Missing Weep Mechanism in Stucco***

***Plaintiff Description:***

The weep casing beads were missing at fenestration heads, stucco roof pop-outs, and soffit terminations, which violates the architectural drawings, the stucco manufacturer requirements, and the building code requirements.

***Plaintiff Location:***

Buildings A-D

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- Coordinate with replacement of the WRB and the stucco system as described in Sections C.1.b and C.1.c of SBSA's report.
- Install new weep mechanisms at the following horizontal terminations.
- At window heads, slider door heads, swing door heads, and garage door heads, terminate the weep casing bead 1/ 4-inch above sheet metal head flashing.
- At soffits, install weeps per the architectural Detail 4/ AS.03 and manufacturer's requirements.
- Shingle-lap WRB with new weep mechanisms.
- Coordinate repair with related stucco and underlying moisture-management repair recommendations as well as all adjacent civil repair recommendations.

***Plaintiff Cost:***

$33,862.76

***Defense Analysis and Repair Recommendations:***

SBSA asserts stucco weep mechanisms were omitted at fenestration heads, stucco pop-outs, and at stuccoed soffits. An analysis of SBSA's exemplar photos show SBSA is grouping two different conditions together, missing weep mechanisms at window heads and missing weep mechanisms at wall-to-soffit transitions. SBSA cites construction plan details to support its claim.

BHA was present for SBSA's destructive testing and observed several locations where SBSA removed stucco at window heads. The windows at this project were manufactured by MI Windows and Doors ("MI"). All the window heads exposed by SBSA were flashed according to MI installation guidelines. BHA examined the flashing and WRB tested by SBSA and did not observe any evidence of non-performance. SBSA has not provided any evidence to support this claim other than asserting the construction drawings specified it. BHA maintains that a deviation from the drawings is not, in and of itself, a defect. The project architect clearly states in the "Method of Construction" section of the General Structural Notes:

> "The contractor shall be solely responsible for construction means, methods, technique, sequences, and procedure."

The intent of the architect's design is to integrate the stucco system around the window to not allow water to collect on the window head and damage the WRB. SBSA's invasive testing of the window showed the as-constructed condition is meeting the architect's intent and has performed and can be expected to continue to perform. No repairs are needed at the window heads.

As part of SBSA's destructive testing protocol, stucco was removed at several wall-to-soffit transitions. BHA observed some locations with clear evidence the lack of a weep mechanism at the soffit has allowed moisture to accumulate behind the stucco system and deteriorate the WRB. While not every wall-to-soffit transition exhibited signs of water damage, the condition is problematic and should be repaired. At all wall-to-soffit locations, remove a 12-inch strip of stucco from the wall and soffit and install weeps integrated with WRB before restoring the stucco system. The repairs should be painted to match the adjacent finishes.

***1.0B Non-Compliant WRB for Stucco System***

***Plaintiff Description:***

The applied WRB does not meet the nominal weight, the number of required layers, the water resistance requirements of the applicable building code, and the ESR-3529 report for the Amerimix stucco system specified on the architectural drawings.

***Plaintiff Location:***

Buildings A-D

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- Full removal and replacement of the stucco and the exterior insulation is required to address the non-compliant installation of the WRB for the existing stucco system. Remove existing WRB to perform following repairs.
- Install missing exterior sheathing and straps, as necessary, per the LFRS repairs recommended in Section A.2 of SBSA's report.
- Install sheet metal flashings per Section C.2.a of SBSA's report.
- Ensure that the WRB above is shingle-lapped with the sheet metal flashing.
- Install new WRB per the requirements of ESR-3529 for the existing stucco system.
    - Repair contractor to estimate using between two layers of Grade D kraft building paper or one layer of Grade D kraft paper with minimum water resistance rating of 60-minutes or using Tyvek products such as Stucco Wrap or Drain Wrap as specified in Section 3.2.4 and Section 3.2.10 of ESR-3529.
- Ensure all WRB terminations shingle-lap with all surrounding rigid and flexible flashings, weeps, and accessories.
- Install EPS foam boards per repairs recommended in Section C.1.c of SBSA's report.
- Install new stucco system to comply with the current requirements of ESR-2359.
- Install lath per the stucco manufacturer and ASTM C1063.

- Install control joints at fenestration comers, floor lines, top plate/truss lines, and within the field of the wall to comply with ASTM C1063 and the stucco manufacturer.
- Install weep casing beads with 3-1/2-inch vertical legs at all stucco terminations Ensure that the WRB shingle-laps with the new weep casing beads.
- Coordinate with adjacent repairs, including underlying moisture-management and stucco repair recommendations.

***Plaintiff Cost:***

$ 1,255,881.62

***Defense Analysis and Repair Recommendations:***

As part of SBSA's destructive testing protocol, the stucco system was removed at several locations and the water restive barrier ("WRB") was observed. SBSA observed some locations where one layer of WRB covered the solid OSB shear panel. SBSA asserts two-layers of WRB are required over OSB sheathing or if one layer is used, it must meet the water resistance requirements of the applicable building code and ESR-3529 report. BHA observed SBSA's destructive testing of the stucco and documented the appropriate WRB was installed over open framing which makes up most of the wall construction. At serval locations multiple layers of WRB was installed. BHA also noted, at some locations, a single layer of WRB covered strips of OSB sheathing installed at floor-to-floor transitions. BHA observed, at those locations, the OSB did not run the full height of the wall. BHA examined the WRB and OSB at every location exposed and noted none of the OSB and WRB had any stains or other evidence of water damage. SBSA is alleging a technical deficiency at a few locations is a defect that requires the removal and replacement of the entire stucco system at every building. SBSA has not provided any evidence to support its claim that the:

> "deficiency in material properties and number of WRB layers impairs the functionality of the stucco system as required in the building codes and the stucco manufacturer's product specifications".

Except for the wall-to-soffit areas discussed above, the WRB installed at this project is performing. No defect exists and no repairs are needed.

BHA strongly disagrees with SBSA's repair protocol. SBSA's repair to remove all the stucco, lath, EPS foam, and WRB at every building and then install new WRB and new stucco system is excessive and unnecessary. However, if the trier of fact determines a widespread repair is needed, all windows and stucco penetrations can be sealed, and the entire existing stucco exterior can be painted with a quality elastomeric paint. This much more reasonable and appropriate repair is included in BHA's repair for allegation 1.0A Missing Weep Mechanism in Stucco.

***1.0C Non-Compliant EPS Foam Board for Stucco System***

***Plaintiff Description:***

Intrusive examination revealed that the foam board used at the Gallery site was generally 3/8- to 7 /8-inch thick, did not have the required vertical grooves, and was installed tight to the improperly selected WRB.

***Plaintiff Location:***

Buildings A-D

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- Full removal and replacement of the stucco is required to address the non-compliant installation of the EPS foam board for the existing stucco system.
- Where installed over solid substrates, remove existing EPS foam board to perform the following repairs. Also refer to other stucco repairs in this report.
- Ensure all EPS foam boards have 3/8-inch projecting tongues with compatible grooves at horizontal joints.
- At solid substrates, install new minimum 1/2-inch-thick EPS foam board with vertical grooves spaced at a maximum 12-inches on-center on the back face of the boards. The vertical grooves should be a minimum 1/ 4-inch wide by 1/8-inch deep as required by ESR-3529.
- As an alternative to EPS foam boards with vertical grooves, flat-faced EPS foam boards may be installed over the solid substrates provided the WRB recommended in Section 3.2.4 of ESR-3529 is used.
- Coordinate with adjacent repairs, including underlying moisture-management and stucco repair recommendations.
- Where EPS foam board repairs are necessary at open stud framing, use minimum 1-inch-thick EPS boards installed in compliance with ESR-3529.).

***Plaintiff Cost:***

Included in costs for 1.0B

***Defense Analysis and Repair Recommendations:***

SBSA asserts the stucco manufacturer, Amerimix, required EPS foam with vertical grooves be used where the stucco was applied over solid OSB sheathing. SBSA further alleges:

> "This non-compliant condition, along with the combination of other construction defects of the stucco system, will more likely than not reduce the integrity of the structural components and the general appearance of the cladding in the foreseeable future."

BHA documented the condition of the EPS foam and WRB at every location SBSA tested and did not observe any damage that would suggest the lack of grooves in EPS foam over short sections of OSB was not performing as well as the EPS foam on the rest of the wall. A technical deficiency, in and of itself, is not a defect. The EPS installed at this project is performing as intended. No defect exists. No repairs needed.

***1.0D Non-Compliant Slope of Horizontal Stucco Surfaces***

***Plaintiff Description:***

Stucco roof parapet caps, roof pop-out boxes, and pop-out boxes at front and rear elevations with inadequate slope are present at locations across all buildings.

***Plaintiff Location:***

Buildings A-D

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- Repair to be performed at all stucco parapet walls and pop-out boxes sloped less than 2:1.
- Remove existing stucco, lath, and building paper as required to perform the repair as described below.
- Install continuous shims to provide a 2:1 minimum slope on stucco wall caps.

- Install new self-sealing SAM that reduces the potential for water intrusion due to fastener holes. Install new SAM over the top of the continuous shim, ensuring SAM shingle-laps over the adjacent WRB on all sides and forms a continuous saddle at the intersections with the adjacent wall.
- Reinstall stucco as described in Repair Section C.1.c.
- Repair to be performed at all stucco parapet walls and pop-out boxes sloped less than 2:1.
- Remove existing stucco, lath, and building paper as required to perform the repair as described below.
- Install continuous shims to provide a 2:1 minimum slope on stucco wall caps.
- Install new self-sealing SAM that reduces the potential for water intrusion due to fastener holes. Install new SAM over the top of the continuous shim, ensuring SAM shingle-laps over the adjacent WRB on all sides and forms a continuous saddle at the intersections with the adjacent wall.
- Reinstall stucco as described in Repair Section C.1.c.

***Plaintiff Cost:***

$ 26,200.00

***Defense Analysis and Repair Recommendations:***

SBSA asserts the stucco parapet caps and pop-out boxes, commonly referred to in Arizona as "pot shelves", are not properly sloped. SBSA further opines:

> "Where stucco slope does not meet industry standards, and combined with the cracks in the stucco, water is allowed to penetrate under the stucco system."

BHA inspected every location where SBSA performed destructive testing at pot shelves and parapet caps and documented the condition of the framing exposed during the testing. None of the framing was stained or showed any evidence of water damage resulting from inadequate slope.

BHA also inspected all the roof parapet caps and observed all had positive slope. BHA did not observe any signs of standing water on top of any of the parapet caps. BHA argues the intent of the designer was prevent water from standing on the parapet caps. It doesn't matter if the slope at one spot of the parapet cap is 1 percent and another spot 6 feet away is 5 percent. What matters is the as-constructed condition is performing as intended. A technical deficiency, in and of itself is not a defect. SBSA has not provided any evidence of non-performance. No defect exists. No repairs are needed.

***1.0E Deficient Self-Adhered Membrane under Horizontal Stucco System***

***Plaintiff Description:***

The Xtraflash SAM installed by the contractor failed to self-seal around fastener holes, which allowed water intrusion resulting in damage to the moisture-sensitive building components.

***Plaintiff Location:***

N/A

***Plaintiff Quantity:***

N/A

***Plaintiff Repair Scope:***

- Refer to Repair Section C.1.d of SBSA's report.

***Plaintiff Cost:***

Included in costs for 1.0B.

***Defense Analysis and Repair Recommendations:***

SBSA asserts the Self Adhesive Membrane ("SAM") installed on the horizontal surfaces of the parapet caps and pot shelves has failed. SBSA further opines:

> "The Xtraflash SAM installed by the contractor failed to self-seal around fastener holes, which allowed water intrusion resulting in damage to the moisture-sensitive building components. As constructed, the stucco surface cracks and the puncture holes in the deficient SAM have and will allow moisture intrusion and do not comply with the weather-resistance requirements of the applicable building code."

BHA inspected every location where SBSA exposed SAM during its destructive testing. SBSA did not perform any water testing at any of the locations. BHA documented the SAM was properly installed. One of the characteristics of the XtraFlash SAM is its ability to "self-heal" which seals any fastener penetration. SBSA has not provided any evidence fastener penetrations have caused the SAM to fail. The SAM, as installed, is performing as intended. No defect exists. No repairs are needed.

***1.0F Missing Control/Movement Joints***

***Plaintiff Description:***

No horizontal control joints were installed at any of the building elevations and no vertical control joints were installed on the front and rear elevations at any of the buildings.

***Plaintiff Location:***

N/A

***Plaintiff Quantity:***

N/A

***Plaintiff Repair Scope:***

- Refer to Repair Section C.1.b of SBSA's report

***Plaintiff Cost:***

Included in costs for 1.0B.

***Defense Analysis and Repair Recommendations:***

SBSA asserts stucco control joints are required accessories and are missing. SBSA further opines:

> "Failure to install compliant control/ movement joints violates the manufacturer's installation instructions and industry standards, contributing to the cracking throughout the stucco system."

For many of SBSA's stucco allegations, SBSA cites standards that apply to traditional three-coat stucco systems. The stucco system used at this project is a one-coat system. The stucco thickness is half that of three-coat stucco. In addition, the one-coat stucco material has fiberglass or acrylic fibers added to the mix to assist in minimizing cracking. Control joints are installed in concrete or other cementitious materials to try to "control" where expected cracking occurs. While one-coat stucco is a cementitious product and does crack it does not crack the same way three-coat stucco does. Most of typically minor cracking observed in one-coat stucco occurs during the curing process. One-coat stucco does not have an on-going need to control cracking like three-coat stucco does. As such, the use of control joints in a one-coat stucco system is typical used by an architect as a design element. Such is the case at this project. SBSA argues the architect's design intent was to use control joints at every elevation, however, the architect only specified control joints on the side elevation drawings. If the architect wanted to use the same design element on the front elevation it is not unreasonable to assume the front elevation would reflect it. BHA maintains there is

no practical need for control joints in a one-coat stucco system. SBSA's has not provided any evidence the lack of control joints has adversely affected the stucco in any way.

All the stucco cracks observed at this project are hairline with none being larger than 1/32 inches wide. The cracking is well within AROC guidelines. The stucco system is performing as intended. No defect exists. No repairs are needed.

**2.0 Moisture-Management System (Barriers, Flashings, Drainage, Etc.)**

***2.0A Missing Sheet Metal Flashing at Window Head***

***Plaintiff Description:***

The sheet metal flashings were generally missing at the fenestration heads.

***Plaintiff Location:***

Buildings A-D

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- Coordinate with replacement of the WRB and the stucco system as described in the stucco repair sections of SBSA's report.
- Where sheet metal flashing is missing at fenestration heads, perform the repair described below.
- Install new pre-finished sheet metal flashings with 4-inch vertical legs and horizontal legs sloped 10- to 15-degrees as detailed on the architectural plans with hemmed drip edges.
- Apply sealant at ends of sheet metal flashing to provide end dams.
- Ensure all flashing joints and comers are sealed.
- Ensure that the WRB above is shingle-lapped with the sheet metal flashing.
- Reinstall cladding per manufacturer instructions with a minimum 1/ 4-inch clearance between the bottom of cladding and the back of the sloped sheet metal flashing. Gap between the cladding and flashing to remain unsealed.
- Coordinate repair with related cladding and underlying moisture-management repair recommendations.

***Plaintiff Cost:***

$ 19,732.57

***Defense Analysis and Repair Recommendations:***

SBSA asserts the window heads of every window are missing sheet metal flashing as specified in the construction drawings. SBSA further opines:

> "The ineffectiveness of the flashing at fenestration heads is further compounded when cladding is installed tight to fenestration heads without a weep mechanism as discussed in Section C.1.a. This allows water to drain directly onto the fenestration frame and accumulate."

As part of SBSA's destructive testing protocol, stucco was removed from the corner of several window heads. SBSA did not perform any water testing at any window units prior to the stucco removal. BHA was present for the testing and documented the condition of the head flashing at each window tested. At every window the head flashing did not show any sign of failure. To support its claim, SBSA cites IRC section R703.8 Flashing:

> "**R703.8: Flashing**. Approved corrosion-resistant flashing shall be applied shingle-fashion in a manner to prevent entry of water into

> the wall cavity or penetration of water to the building structural framing components. Self-adhered membranes used as flashing shall comply with AAMA 711. The flashing shall extend to the surface of the exterior wall finish. Approved corrosion-resistant flashings shall be installed at all of the following locations:
>
> *1. Exterior window and door openings. Flashing at exterior window and door openings shall extend to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage..."*

SBSA omitted the rest of the section that specifies how the flashing should be installed:

> "Flashing at exterior window and door openings shall be installed in accordance with one or more of the following:
>
> *1.1. The fenestration manufacturer's installation and flashing instructions…"*

The windows were flashed following the window manufacturers recommendations, which does not require any metal head flashing.

SBSA argues the lack of metal flashing does not comply to the construction drawings. A deviation from a non-structural detail is not a defect. BHA is unaware of any leaks at any of the windows at this project. The performance of the window installation has not been compromised. BHA maintains that intent of the code requirements has been met. No defect exists. No repairs are needed.

***2.0B Non-Compliant Flashing to Stucco Interface***

***Plaintiff Description:***

The metal flashing at the perimeter of the decks and cantilevered awnings is inset above the stucco and water drains into the stucco system below.

***Plaintiff Location:***

Buildings A-D

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- At elevated decks and awnings, remove existing edge flashing and membrane/ coating to allow for stucco repairs described below.
- Remove and replace stucco as required by the architectural details 12/ A8.03 and 5/ A8.04. Coordinate with replacement of the WRB and the stucco system as described in the stucco repair sections of SBSA's report.
- Install new edge flashing at decks per Section C.4.a of SBSA's report. New deck coating and new awning TPO perimeter edge membrane will be required to facilitate the repairs. Ensure the flashing is integrated with the new deck coating and awning TPO membrane.

***Plaintiff Cost:***

$ 48,307.74

***Defense Analysis and Repair Recommendations:***

SBSA asserts some of the balcony decks have edge metal that is buried by the stucco it is designed to cover. BHA agrees the condition is problematic and should be repaired. BHA disagrees with SBSA's excessive repair to remove the stucco and deck coating to access the existing edge metal and to reflash the decks before restoring the finishes. Where deck and awning edge metal is buried in the stucco and in

conjunction with stucco soffit repairs, remove existing deck coating over edge metal flashing and remove flashing. Adjust stucco and reinstall edge metal flashing to extend over stucco. Apply new deck coating per manufacturer recommendations to integrate flashing with existing deck coating. Paint repairs to match existing.

***2.0C Non-Compliant Isolation Joints at Dissimilar Materials***

***Plaintiff Description:***

Interfaces of dissimilar cladding materials with each other, fenestrations, and penetrations were generally installed without a sealant joint and a backer rod. Where installed, the sealant joint width was inadequate.

***Plaintiff Location:***
Buildings A-D

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- At locations where stucco interfaces with dissimilar materials, perform the following repairs. Typical locations for repair include joints at fenestrations, penetrations at all cladding types, vertical joints between cladding types, and joints between all cladding types and wood trim, including fascia trim at re-entrant corners.
- Reinstall cladding as required to address other repair recommendations, providing 3/8- to 1/2-inch-wide gap between dissimilar materials. The depth to width ratio for the joint should be equal to 2:1. At stucco, provide casing bead at edge of joint.
- Install type B backer rod and low-modulus elastomeric sealant to provide compliant butt isolation joint at dissimilar material interfaces with joint widths that are 3/8-inch or greater.
- Install polyethylene bond breaker tape and low-modulus elastomeric sealant to provide compliant fillet isolation joint at dissimilar material interfaces where the existing space is less than 3/8-inch wide or the dissimilar materials are out of plane.
- Following installation of sealant isolation joints at penetrations through the cladding, set surface-mounted objects in continuous sealant against the face of the cladding. Where applicable, profile the sealant at the top of the surface-mounted objects to promote drainage over the top flanges.

***Plaintiff Cost:***

$ 14,946.68

***Defense Analysis and Repair Recommendations:***

SBSA asserts isolation joints at junctures between dissimilar materials is missing or is improper. From SBSA exemplar photographs in its report it appears SBSA is alleging this condition exists at windows, sliding glass doors, and stucco penetrations. SBSA does not provide any evidence of damage or non-performance.

BHA inspected the windows and stucco penetrations and did not observe any damage resulting from missing isolation joints. BHA did observe finish cracks along the tops of the adjacent CMU stairways at some buildings. At these stairways, repairs are warranted. At junctures between adjacent entry stairways, remove stucco and existing sealant, add foam backer rod and seal gap with high grade flexible sealant. Touch up paint to match adjacent finishes.

### 3.0 Roofing System Type 1 - Spray Polyurethane Foam (SPF)

***3.0A Non-Compliant Slope to Roof Drains***

***Plaintiff Description:***

The as-built slope measurements along the roof crickets and adjacent to the drains at the units of the buildings have slopes less than required by the project-specific drawings. In some cases, the roof is sloped away from the means of drainage.

***Plaintiff Location:***

Repairs to be performed at all roof decks with non-compliant drainage.

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- Repairs to be performed at all roof decks with non-compliant drainage.
- Remove and replace membrane and underlying substrates as necessary to perform repairs described below.
- Remove and replace damaged underlying coverboard and structure, if present.
- Install tapered insulation to provide positive drainage (1/ 4-inch minimum) towards roof drains.
- Slope cricket a minimum of 1/ 4-inch-per-foot along the valley.

***Plaintiff Cost:***

$ 168,616.70

***Defense Analysis and Repair Recommendations:***

SBSA asserts the foam roofs are not properly sloped which will allow water to collect on the roof and deteriorate the roof coating. SBSA did not evaluate the roof performance beyond a visual inspection. During its visual inspection SBSA observed:

> "The as-built slope measurements along the roof crickets and adjacent to the drains at the units of the buildings have slopes less than required by the project-specific drawings."

While SBSA inspected all the roofs, SBSA does not make any specific roof allegations other than improper slope. SBSA did document some very small areas of ponding. The AROC recognizes ponding on flat roofs is to be expected. The AROC Workmanship Standards states:

> "Minor ponding (up to 1/2" deep in small areas equivalent to no more than 1/3 of span) is acceptable providing roof is dry within 48 hours after rainfall."

BHA inspected all the roofs and did not observe any evidence the roofs' slope is adversely affecting their performance. BHA is unaware if SBSA has performed any water testing on any of the roofs to determine if ponding water exceeds AROC allowable tolerances. SBSA has not provided any evidence the roofs are not draining properly nor has SBSA provided sufficient evidence to support its assertion that all the SPF roofs need to be removed and replaced. No slope defect exists. No slope repairs are needed.

***3.0B Roof Leaks***

***Plaintiff Description:***

The homeowners have reported roof leaks near the roof drains at Units 3104 and 3106 of Building B. These leaks are in addition to the roof leaks previously reported by homeowners at Units 3110 and 3112 of Building Bas referenced in SBSA's CDC Report.

***Plaintiff Location:***

Repairs to be performed at all roof decks with non-compliant drainage.

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- Prepare the existing waterproofing system for installation of reinforcing fabric at transition from the SPF and the perimeter of the roof drain sump at all units of Building B.
- Apply waterproofing coating per manufacturer's instructions.
- At the Unit 3106 AC unit pad, provide a permanent roof repair and coordinate with repairs for C.3.a in SBSA' s CDC Report.
- At Unit 3104, reinstall front light to electrical box and apply a compliant sealant joint. Coordinate with repairs recommended in SBSA' s CDC Report.

***Plaintiff Cost:***

Included in 3.0A.

***Defense Analysis and Repair Recommendations:***

SBSA asserts roof leaks have occurred at four units, 3104, 3106, 3110, and 3112, but SBSA does not opine as to the cause of each leak BHA did observe evidence of roof leaks during subsequent visits to the site to observe plaintiff “emergency repairs”. BHA noted no testing was performed to determine the source of the all the leaks but “suspicious” spots in the foam coating were targeted for repair. It is important to note that a foam roof needs to be maintained regularly for it to perform properly. BHA did not observe any evidence the roofs have received any maintenance other than minor repairs KHOV made during the PDA period of this litigation. That being said, out of an abundance of caution, BHA recommends SPF roof tune-ups be performed at every roof and interior finishes repairs be made as needed at units, 3104, 3106, 3110, and 3112.

**4.0 Elevated Decks, Balconies, or Walkways**

***4.0A Non-Compliant Slope of Deck***

***Plaintiff Description:***

Where access to elevated decks was provided, the slope of the deck at the deck edge was inadequate to promote positive drainage and allows ponding of water.

***Plaintiff Location:***

Repairs to be performed at all decks with non-compliant slope and drainage at edge flashing.

***Plaintiff Quantity:***

Building A: Units 3118, 3122, 3124

Building B: Units 3106, 3110, 3112, 3116

Building C: Units 3113, 3123, 3125, 3127

Building D: Units 3105, 3125

***Plaintiff Repair Scope:***

- Repairs to be performed at all decks with non-compliant slope and drainage at edge flashing.
- Remove existing deck edge flashing, membrane, and underlying substrates as necessary to perform repairs described below. Remove and replace damaged underlying structure if present.
- Provide a notch equivalent to the thickness of the metal flashing and deck coating for a length equal to the horizontal leg of the flashing. Ensure the notch slopes positively towards the deck edge.
- Install new flashing and deck coating flush to the existing deck surface and sloped a minimum of 2-percent to the deck edge.
- Coordinate with repairs recommended in this report.

***Plaintiff Cost:***

Included in costs for 2.0B.

***Defense Analysis and Repair Recommendations:***

SBSA asserts the private balcony decks are not properly sloped which allows water to pond. SBSA further opines:

> "As built, the ponding water that collects on top of the membrane system provides an unsafe condition for residents and will lead to premature deterioration and eventual failure of the waterproofing."

SBSA did not perform any destructive or water testing at any of the balcony decks. SBSA's opinion is limited to its visual inspection of several decks. SBSA does not provide any support to its claim the decks are unsafe or are deteriorating prematurely. BHA inspected every deck made available and did not observe any evidence the decks are not performing. BHA did note some small spots where water had ponded at a few decks, but noted the area was very shallow. The AROC Workmanship Standards regarding flat roofs applies to balcony decks. The guideline states:

> "Minor ponding (up to 1/2" deep in small areas equivalent to no more than 1/3 of span) is acceptable providing roof is dry within 48 hours after rainfall."

SBSA has not provided any evidence the private decks are not draining properly. No defect exists. No repairs are needed.

## ***IV. MISCELLANEOUS***

### 1.0 POOL CABANA

#### ***1.0A Ceiling Damage***

***Plaintiff Description:***

There are areas of the pool cabana ceiling that are cracked and have peeling paint. The standing seam metal roof panels of the cabana are riveted at the overlap with the metal drip edge. At the standing seam metal roof panels and drip edge interface, there are openings and at one location there are no rivets. The openings allow water to enter between the drip edge and roof panels.

***Plaintiff Location:***

Pool Cabana

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- Remove existing rivets at the downhill side of the roof
- Install sheet metal flashing under the existing standing seam metal roof. Extend the leg of the sheet metal flashing under the standing seam metal panels and under the roof underlayment a minimum of 4-inches. Extend the edge of the sheet metal flashing 1 / 4-inch past the edge of the fascia. Color to match existing roof and sheet metal drip edge.
- Drill a pilot hole through the new sheet metal flashing at the existing rivet holes and apply heat-resistant silicone sealant in the existing rivet holes.
- Attach standing seam metal roof with screws and neoprene washers at the location of the existing rivets.
- Crimp the ends of the standing seam metal roofs.
- Fix damaged drywall ceiling and paint to match

***Plaintiff Cost:***

$3,450.29

***Defense Analysis and Repair Recommendations:***

SBSA asserts the metal roof on the pool cabana is leaking causing damage to the drywall ceiling below it. BHA inspected the metal roof and did not observe any obvious deficiencies that have cause the observed drywall damage. BHA is unaware of any testing SBSA may have performed to determine the source of the alleged leaks. BHA did however, observe some minor issues at the edge of the metal roof that should be repaired.

**2.0 ROOF DECK PENTHOUSE DOOR**

***2.0A Interior Door Trim Damage***

***Plaintiff Description:***

The homeowners at Unit 3106 reported that the penthouse door trim is damaged and there is water intrusion. The interior door trim extends below the tile floor finish and is swollen, and paint is peeled.

At Unit 3123, the penthouse door trim is damaged and there is water intrusion. The interior door trim extends below the floor finish and is swollen, and paint is peeled.

***Plaintiff Location:***

Pool Cabana

***Plaintiff Quantity:***

Qty. 100%

***Plaintiff Repair Scope:***

- Apply sealant at the interface of the door jambs to the door threshold at Units 3106 and 3123.

***Plaintiff Cost:***

$590.00

***Defense Analysis and Repair Recommendations:***

SBSA asserts the penthouse exterior doors at Unit 3106 and Unit 3123 are not properly sealed and are allowing water into the unit. BHA inspected both doors and observed the junctures between the door jambs and thresholds are not sealed. BHA agrees with SBSA's repair recommendations. At the two doors, apply sealant to the threshold to jamb joints.

**Fire Feature at Pool**

***Plaintiff Description:***

Not provided by SBSA

***Plaintiff Location:***

Not provided by SBSA

***Plaintiff Quantity:***

Not provided by SBSA

***Plaintiff Repair Scope:***

SBSA does not delineate these repairs, but Nautilus includes them in its cost estimate.

- In conjunction with repairs above, remove and replace existing wall finishes as required.
- Furnish and install new hardwired switch control box.
- Furnish and install new remote system control box. Make up the wire connections from the switch control box to the remote receiver.
- Furnish and install new igniter control box.

***Plaintiff Cost:***

$ 4,887.19

***Defense Analysis and Repair Recommendations:***

SBSA does not include this allegation in its report, yet Nautilus includes a $4,887 cost for this condition in its repair estimate. It is unclear to BHA as to what the alleged defect is and, as such, BHA cannot properly evaluate it. BHA did inspect the operation of the cabana fireplace and found it to be working properly. BHA reserves the right to offer its opinion once support information has been provided. Until then, no repairs are needed.

## VI. Analysis of Nautilus' Cost of Repairs Estimate

BHA will be preparing a repair cost estimate that delineates the recommended repair protocols and quantities as outlined in the defense experts' respective reports. BHA's repair cost estimate, which includes appropriate overhead, profit, and contingency, will be Attachment #1 to this report. Based on BHA's experience and knowledge of construction practices, it is BHA's opinion that the costs presented for the work described in the BHA repair cost estimate are consistent with the current construction market conditions. It is BHA's opinion that if bids were solicited to perform the defense scope of repairs, they would be comparable to BHA's estimate amount.

In addition to the defense cost to repair estimate, BHA also evaluated Nautilus's estimate and found costs and fees that are believed to be excessive and/or unnecessary. These costs and fees serve no other purpose than to inflate the estimate total. An example of this is Nautilus' inclusion of "Professional Fees" calculated as 12% of the construction costs equating to $330,988.81. Nautilus applies the 12% Professional Fees to every single cost item in their estimate, even though not a single cost item in their estimate would require any design services. SBSA's repair recommendations are based on its assertion the original construction plans, manufacturer requirements, and code requirements were not followed. SBSA recommends all the issues be repaired and made compliant with the original plans and requirements. SBSA has not taken issue with the original architectural and engineering plans and does not offer any new repair design requirements. It is not unreasonable to conclude from SBSA's repair recommendations that all the design work has already provided by the original designers, and therefore, no additional design work is needed.