February 24, 2016

Via Electronic Service

ALL COUNSEL

Re:  Cilker Apartments, LLC v. Western National Construction, et al.
      Our Matter No. 18079

Dear Counsel:

Enclosed please find a courtesy copy of Malott & Peterson Roofing Co.'s Roof Observation
Report which is bates stamped PLT-CP00967 through PLT-CP00988 and is being deposited into
the document depository.

Thank you for your attention to the enclosed.

Very truly yours,

GREGORY B. COHEN

GBC:jkt
Encl.
1053439
Roof Observation Report
One Pearl Place Apartment Homes
5230 Terner Way
San Jose, CA

Cilker Apartments LLC
v.
Western National Construction

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October 16, 2014

For mediation purposes only. Protected by evidence code sections 1115 through 1128 and 1152.
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1. Introduction

Malott & Peterson Roofing Company was retained by the law offices of Robinson & Wood, Inc. on July 2, 2014, as an expert consultant on behalf of Cilker Apartments, LLC. Malott & Peterson was retained to assist the lead expert, Richard Avelar & Associates, regarding roofing and roof related sheet metal issues. Richard Avelar & Associates requested that Malott & Peterson inspect all of the roof areas in the Cilker Apartment complex and prepare an evaluation to determine if the roof installation was in accordance with the project plans and specifications, applicable building codes and generally accepted industry practices.

In preparation for the roof inspections, Malott & Peterson reviewed the project plans prepared by McLarand Vasquez & Partners, Inc. The reviewed plans have a date of 6/25/1999 with Delta 11 revisions up to 3/13/2002. No other construction related documents have been reviewed to date. Roof inspections were performed by Malott & Peterson on August 11, August 12 and August 13, 2014. Follow-up inspections were performed on August 25 and August 26, 2014. Roof inspections consisted of both destructive testing and visual observations.

The Cilker Apartments, LLC., project is named, One Pearl Place, located in San Jose, CA. The project consists of several residential buildings and a recreation/leasing building. Building A consists of two residential buildings and Building B consists of six residential buildings. The building roofs are at one story, two story, three story and four story elevations. The sloped roofs have concrete tile with a typical roof slope of 6:12. There are also some low slope (built-up) roof areas on Building A. These roofs are at the lower elevations of Building A and are covered with a mineral surfaced cap sheet. Both Buildings A & B have bay windows that have standing seam copper roofs. The Recreation / Leasing Building has both concrete tile and low slope built-up roofs.

2. Executive Summary

After five days of roof inspections and a review of roof photos, it is very apparent that there are many issues with the tile roof installation that need to be addressed. The many issues include failure to install the roof in accordance with the project drawings, the tile manufacturer’s installation instructions and the Building Code. The most critical issue is tile attachment. These are high steep roofs where a concrete tile weighing approximately 9lbs., if not properly attached or secured, creates a very serious life safety issue. During our roof inspections, we noted several, unsecured or unattached roof tiles that have slipped out of position and pose a very real hazard. There are slipped tiles close to the roof edge.
Several other issues will be addressed that will require roof repairs to correct original construction defects that affect roof performance. The tile roofs also exhibit a large number of broken tile and tile with corner chips. It is estimated that approximately 3,000 concrete roof tiles will be needed for the necessary roof repairs. Unfortunately, Westile Concrete Tiles are no longer manufactured. It will be necessary to reroof some tile roof areas in order to salvage roof tiles needed for the repairs. We expect that the proposed roof repairs will include the tile roofing, the built-up roofing, sheetmetal chase caps, sheetmetal valleys, gutters, penetration flashings and bay window metal roofs.

3. Improper Roof Installation

Following is a list of issues that are not in keeping with generally accepted industry standards, manufacturer’s installation instructions and building code requirements. In this report we have only included the core issues noted during our inspections and review of the project drawings. Along with the description of the issue are some exemplar photos. We have also included our recommended scope of repair for each issue.

There are several areas on these roofs where the concrete tiles are not attached or are not held in place by a wood batten strip. A very large number of these tiles have slipped out of position. In addition to the life safety issue, these slipped tiles have compromised the water shedding ability of this roof system by allowing water under the tile that accelerates the deterioration of the felt underlayment. This condition is noted in several parts of this report.
A. Loose/Slipped Tile

These images are examples of unattached loose tile that are sliding out of position. These tiles are all close to a roof edge that create the life safety issue. Most of these slipped tiles occur at confined rakes and hips.

Scope of Repair
Inspect 100% of all open rakes, confined rakes, hips, eaves, penetration flashings, ridges and headwall flashings for code required roof tile attachment. Due to the roof slope (6:12) all field tile must be fastened every other row. Attention must be paid to the cut tiles at confined rakes, gable rakes and hips. This comprehensive inspection must identify these unattached tile so that they may be properly attached using nails, wire, batten extenders or approved roof tile adhesive.
B. Missing Perimeter Tile Attachment

These images are examples of roof areas where code required perimeter fastening was not performed. Perimeter fastening areas include three tile courses but not less than 36 inches from either side of hips, ridges and edges of eaves and gable rakes.

**Scope of Repair**
Inspect 100% of tile courses adjacent to hips, ridges, eaves and gable rakes for code required roof tile attachment. Unattached tile, including cut tile, must be secured as outlined in Section 3A.
C. Missing Field Tile Attachment

The typical roof slope on this project is 6:12. The code requires that on roof slopes above 5:12, that there be one fastener per tile every other row or every other tile in each course. There are several areas on these roofs where this was not done.

Scope of Repair
It will be necessary to inspect all field roof areas for code required attachment, of every tile, every other row. Where field tile are not properly attached, slide the course above up to allow for proper nail attachment. If the course above is nailed, use RT600 Roof Tile Adhesive to secure the loose tile to an attached tile.
D. Open Apex – Rake / Ridge, Hip / Ridge

Where trim tile meet at hip / ridge / rake junctures, the trim tile must be mechanically attached and have some mechanism to keep water from going under the tile. Typically, the miter cuts are closed using mortar, mastic or sheet lead. At most apex locations, mechanical attachment was omitted, and very small amounts of mortar was used in an attempt to provide closure. The mortar has failed, trim tile junctures are open and the underlayment below the trim tile is now exposed to UV degradation.

Scope of Repair
Inspect 100% of all apex locations, including rake/ridge and hip / ridge for proper securement and weather protection. Remove loose disbonded mortar and trim tile at the apex. Replace any deteriorated underlayment. Set trim tile in place and mechanically attach to wood nailer. Seal nail heads. Use mortar to adequately provide closure at all apex locations.
E. Over – Exposed Tile

At some locations, field tile were installed so that the tile does not have the standard 3 inch headlap.

Scope of Repair
In conjunction with repairs to be performed in Section C, missing Field Tile attachment, over exposed tile courses will need to be marked and adjusted. Adjacent tile courses may also need to be adjusted so that no nail holes are visible. Tile adjustment must be done to achieve the 3 inch minimum headlap.
Broken Tile

F. Broken Tile

There appears to be a significant amount of broken tile on this project. Some is from foot traffic, some is from improper installation and some is from the concrete tile extrusion process. Initial estimate of replacement tile was 1,000 and with the necessary roof repairs, the revised estimate is that approximately 3,000 tile will be required for the roof repair project.

Scope of Repair

Unfortunately, Westile concrete roof tiles are no longer being manufactured. In order to acquire necessary replacement tile, it will be necessary to reroof a roof section with an area of approximately 3,500 square feet to have sufficient tile for repairs. The roof area(s) that are cannibalized will require new felt, new battens and new concrete roof tiles. Boral (Monier) make a tile that is very similar in size and color but not close enough for replacement tile.
G. Slipped Tile at Vent Penetration Flashings

At plumbing vents, heater vents, fan vents and attic vents, the cut tile were not secured and are sliding out from under the flashing flange in numerous locations.

Scope of Repair
In conjunction with other field tile repairs, mechanically attach or use roof tile adhesive to secure the cut tile at a penetration flashing. Insure that the cut tile is adhered to a field tile that is resting on a batten or that is mechanically attached.
Valley Defects

H. Valley Defects
Several defects exist at the sheet metal valley areas. The project drawings, Sheet A6 – 3.3, detail 3, clearly show a 24 gauge valley flashing with a flat crimped edge. It calls for the felt underlayment to lap over the valley flashing. Our inspections revealed that the valley flashing does have the flat crimped edge as per the plans, but the felt underlayment goes under the valley flashing, not over as per the plans. This valley metal is a single rib valley. Without a raised crimp at the outer edge, the valley metal cannot contain and control the expected water flow. In many areas, the tile lug was not removed and we noted evidence that rain water is running off the valley metal onto the felt underlayment. This will accelerate the felt deterioration.

At the valley discharge location at the eave, the metal eave riser that elevates the first course of tile, extends into the valley blocking drainage. The metal eave riser needs to be notched where it rests on the valley metal. At approximately 50% of the valley areas inspected, the eave riser was not notched.

In the valley, there are a number of cut tile that rest on the valley flashing. These tile are not held in place by the wood batten strip. These loose cut tile are to be secured to an adjacent tile with roof tile adhesive, wire ties or batten extenders. Every valley inspected had loose cut tile that impede roof drainage.

Scope of Repair
Remove all valley tile as necessary to expose the entire “w” valley flashing. Clear the felt and metal surface of all dirt and debris. Apply a light primer coat of asphalt primer three inches onto the valley metal and three inches onto the felt underlayment. Next, apply a six inch wide self adhered asphalt based membrane, centered on the edge of the valley flashing. Notch out the metal eave riser as necessary. Reinstall the tile in the valley. Use roof tile adhesive to secure the cut tile. Remove necessary tile lugs that block drainage.
I. Penetration Flashings

Many vent flashings on the project were never properly sealed or secured. Storm collars are open, pipe flashings were not sealed. The flashing flanges at some of the plumbing vents were raised due to light gauge metal.

Scope of Repair
Inspect all “B” vents and seal storm collars as necessary. In conjunction with other work in the field, secure any raised flanges on the vent flashings using roofing mastic. Seal plumbing vent flashings that were never sealed.
Pan Flashings – Flat Hems

J. Pan Flashings – Flat Hems

The pan flashings, located along confined rakes and adjacent to chases are to have a minimum ¾ inch raised crimp at the outer edge as shown on Sheet A6 – 3.3, detail 8 of the project drawings. At every location opened, the raised crimp was flattened. The raised crimp is necessary to contain and control the expected water flow.

Scope of Repair
At all pan flashings at confined rakes and chases, remove tile to expose the flat crimp. Raise the crimp to control the water flow. Work to be done in conjunction with loose tile repairs in Section A. When reinstalling the roof tile, break off the tile lug that rests on the crimp.
K. Trim Tile

At the trim tile or hip and ridge tile, many of the trim tile were not nailed nor was roof mastic used at the trim tile overlap as required by manufacturer’s application instructions and the code. At the trim tile or hip and ridge tile, many of the trim tile were not nailed nor was roof mastic used at the trim tile overlap as required by manufacturer’s application instructions and the code.

**Scope of Repair**
At all hip and ridge locations, inspect trim tile for proper nail attachment and required roof mastic at the trim tile overlap. Where missing, nail trim tile into wood nailer. Apply mastic over the nail head in sufficient quantity to create a bond between the trim tile overlap.
L. Chase  Cricket, Blocked Drainage

At the mechanical chases, the sheet metal cricket on the uphill side cannot properly drain because the concrete field tile were installed too far onto the tile pan flashing. This blocks proper drainage causing mud and rain to go over the sheet metal crimp, damaging the felt underlayment.

**Scope of Repair**
At all chases, inspect concrete tile for an open drain channel into the metal pan flashing. Drain channel needs to be a minimum of one inch wide. Remove concrete tile where necessary, cut tile as necessary.
M. Chase Caps

The chase caps are top fastened. Many of the metal caps pond and some are so poorly fabricated that they should be replaced. The tops of many of the caps were never painted. The problem appears to be that the chases were never properly measured. The chase caps were fabricated and did not fit properly. Modifications in the field to make them fit were poorly done.

Scope of Repair
Remove chase caps where ponding is evident. Add taper strip to eliminate ponding. Solder close holes in chase cap where it was top fastened. Secure chase cap on vertical face of cap using self-tapping sheet metal screw with required washers sufficient length to penetrate ¾ inch into wood framing. Prime and paint chase caps that were never painted. Plan to replace 6 chase caps that were poorly fabricated, poorly fitted, and poorly repaired.
Bay Window Metal Roofs

There are approximately 54 bay window metal roofs. At outer edge, there is no diverter or kicker to keep water from going behind stucco. At some locations, the orientated strand board is visible with no weather protection.

**Scope of Repair**
At this time, additional surveys will be required to quantify the extent and severity of the defect. Coordination with stucco repair will be required. Issue may be further addressed by Richard Avelar & Associates.
O. Built-up Roofs (Main Buildings)

Built-up roofs (BUR) occur at the Recreation/Leasing Building and at the lower levels of the A Building. The roof surface is a mineral cap sheet. On the A Building roofs, there is a crazing of the cap sheet surface and the metal base flashing in the corners is lifting.

**Scope of Repair**

On the A Building lower roofs, inspect each roof for the raised metal base flashing. Cut out the roofing in this area and re-nail the metal base flashing. Patch the roof membrane at the cut out area. Thoroughly clean and power wash the roof. Over the crazing of the mineral cap sheet roof, apply two coats of acrylic roof coating for a total of 3 gallons per 100 square feet.
Built-up Roofs (Recreation/Leasing Building)

On the Recreation/Leasing building, at the main roof area, a long cricket was constructed using ½ inch OSB. There is no taper edge strip at the transition of the cricket to the mains roof deck. This has created a buckle in the mineral cap sheet roof. A test cut revealed that the membrane is delaminating in this area.

Scope of Repair
At the Recreation / Leasing Building, cut out the buckle at the cricket transition wide enough to install a 6 inch by ½ inch taper edge strip. Prime both sides of the cut out area, and install the built-up roofing. Use three ply sheets and a mineral cap sheet, feathering each sheet out 6 inches beyond the preceding sheet.
Q. Gutters

Leaks at gutter joints were noted at several locations. Gutters are installed at the eaves of all tile roofs. The project plans show the gutter detail on sheet A6-3.3, detail 5. Gutters are to be attached using spikes and ferrules even close to 3 feet on center per the plan detail. Inspections revealed that in many areas, the spike and ferrules were at 5 feet and 6 feet on center. At no locations were the spike and ferrules even close to 3 feet on center.

Scope of Repair
Access the eaves of all tile roofs and install a new spike and ferrule in between the existing spikes and ferrules. Head of spike to match gutter color.
4. Conclusions

This report contains our initial review of the roofing issues at One Pearl Place Apartment Homes in San Jose, CA. Our findings to date, are based upon a review of the project plans, and both visual and destructive testing of the various roofing systems. Several conditions have been noted that require repairs to bring the roofs into compliance with the approved plans, building code requirements and industry standards. The roof repairs are necessary for the roofs to perform for their expected useful life. The most important issue noted during the roof inspections was the large number of loose slipped concrete tiles that pose a life safety hazard.

This report is limited to documents reviewed and observations performed to date. As more information is provided, this report may be amended or expanded as necessary. Roof repair cost factors will be addressed by others.