



December 16, 2013

Joe Schutzius, Property Manager  
Property Specialists, Inc.  
1005 International Parkway, Suite 204  
Woodridge, Illinois 60517

**Re: Construction Monitoring Inspection Report  
Asbury Woods Condominium Association, Justice, Illinois  
Building 8108  
WEC Project No: 13C-511**

Dear Mr. Schutzius:

I am writing to summarize the observations and conclusions regarding the construction inspections at the above-referenced address. The inspection was visual in nature and limited to the exposed and accessible areas of the exterior walls, trim, building flashing, and decks at building 8108. The inspections were completed between September 24, 2013 and November 25, 2013. The purpose of the inspections was to observe deficiencies in the original construction pertaining to flashing and deck construction and to oversee the repairs made to the building by The Inside Out Company.

This report is based solely on a visual inspection of the accessible areas of the property and is not intended to be technically exhaustive. Any opinions offered as to the prospects for future deterioration are based on the engineer's judgment. This report should not be construed as a warranty or guarantee as to future conditions. WEC reserves the right to modify any and all opinions should additional areas of the building framing, flashing, etc. be made available for inspection. Photographs of the inspected areas are on file at our office for future needs. Several images have been used in this report to depict conditions at the time of our inspection.

The information contained herein constitutes the entire inspection report and supersedes any oral discussions, comments, or opinions made in connection therewith. This report is intended for your sole use. No third party should make any decisions on the basis of this report. If you have any questions about any aspect of this report, please feel free to contact me by phone at: 630-922-3000.

Sincerely,  
**Waldman Engineering Consultants, Inc.**

A handwritten signature in black ink that reads "Greg Lason". The signature is written in a cursive style and is located below the typed name.

Greg L. Lason, PE, CDT  
VP of Commercial Services

## **Background**

The Inside Out Company performed a property inspection in December 2012 as well as April 2013 and determined that a significant amount of repairs to the building were needed due to material rot and suspect original construction details. Issues that were discussed in the report prepared by The Inside Out Company dated May 6, 2013 include the following:

- Rusting fasteners at trim.
- Rotting masonite trim.
- Improper caulking at trim which trapped water inside.
- Missing drip cap and flashing at select pieces of trim.
- Several homeowners reported water leaking at or around windows which caused Inside Out to believe that windows were not flashed properly.
- Deck piers were observed to not be 42" below grade.
- Joist hangers were found to be improperly installed.
- Deck columns were found to be out of plumb.
- Deck columns were found to be hanging off the side of the concrete piers.

The Asbury Woods Condominium Association engaged The Inside Out Company to perform repairs the trim, flashing, and decks at building 8108 to use a test case and determine the extent of the building issues at the property. WEC was engaged by the association to oversee the repair work and document building issues as they were discovered. The following section documents the observations made by WEC during the course of the construction inspections.

## **Findings**

### **Decks**

- Two deck sizes were constructed at the building. Both deck sizes were constructed in the same manner except the smaller decks near the entrance doors landed on a concrete patio slab while the larger decks at the outside corners of the building landed on concrete piers.
- The deck construction consisted of 4x4 columns that were connected to the concrete piers and patio slab using a stand off base; however, the top of the columns were simply toe-nailed into the bottom of the deck framing. The deck framing consisted of a double 2x8 rim with 2x8 joists spaced at 16" on center. The joists were connected to the outer rim joist and ledger using joist hangers; however, many of the joist hangers did not have nails installed to the joist itself. The columns were clad with masonite trim that was blocked out to make the columns appear to be approximately 6x6.
- The decks lacked lateral stability due to the columns being a 4x4 as well as not being properly attached at the top to the deck framing. The connection used during the original construction created a hinge affect at the top of the column which ultimately is not a safe way to construct the decks.
- The concrete piers at the larger decks were excavated and Inside Out determined that the depth of the piers did not meet the minimum of 42 inches. Many of the piers were noted to only be 20"-30" deep or less in some cases.
- Many of the 2x6 deck boards were warped and pulling off the floor joists and the railing system was observed to be less than 42". Arguments can be made as to which railing height was required at the time of the construction. A 42" high railing is required in the most current codes.

### Trim and Flashing

- Masonite trim is installed at windows, doors, band boards, frieze, and fascia. All trim on the building was removed and replaced with painted LP Smart Trim. In addition, Masonite panels were installed in lieu of siding between select windows. Upon removal of trim, the building wrap could be inspected. The building wrap was observed to be installed using staples, which is allowed by the manufacturers, but in the experience of WEC can result in moisture penetrating behind the building wrap.
- Metal z-flashing was observed to be installed at the horizontal band trim; however, the flashing was installed on top of the building wrap. Z-flashing is to be installed behind the building wrap and sealed to the wall substrate using a self-adhering flashing tape rather than Tyvek seam tape. Tyvek seam tape is manufactured to bond seams in Tyvek building wrap together and is not be used as flashing tape. The improper installation of z-flashing was noted to be a partial cause of water infiltration into the buildings.
- Upon removal of the window trim, WEC observed that the windows did not have proper flashing installed around the perimeter of the windows. The building wrap appeared to wrap inside the wall openings and the window nailing flange was set on the outside of the building wrap. Tyvek tape was then installed between the nailing flange and the building wrap. Head flashing was not installed above the windows as required by most all window manufacturers. Z-flashing was installed above the horizontal trim that was installed above the windows; however, the flashing was not installed properly and can allow water to infiltrate behind the flashing and reach the head of the window.
- Flashing was installed between the vinyl siding and brick; however, the flashing was not installed behind the building wrap and can allow water to infiltrate behind the flashing and down into the brick wall cavity.

## Summary of Repairs

### Decks

- All 4x4 columns were replaced with 6x6 columns and the columns were run to the bottom of the deck boards. In addition, the outside joists were doubled up and thru bolts were installed to connect the joists to the columns. The columns were wrapped with painted trim to match the existing look of the decks.
- All concrete piers were replaced with 12" diameter concrete piers that were installed a minimum of 42" deep. All columns were mounted to the piers using stand-off bases.
- All existing joist hangers were reused and missing nails were installed.
- All decking and railings were replaced with new. The new railings were installed a height of 42" above the decking.

### Trim and Flashing

- All window, door, and band trim was replaced with new as well as the fascia and panels.
- New z-flashing was installed at all window heads and horizontal trim. The z-flashing was installed behind the existing building wrap and the top edge of the flashing was sealed to the wall substrate using self-adhering flashing tape.
- It is noted that the flashing between the siding and the brick was not repaired. Future projects should include the removal of the siding at these locations in order to install new flashing in the same manner as the new z-flashing was installed.
- New self-adhering flashing was installed around the perimeter of the windows and doors.

## **Summary and Conclusions:**

Based upon the findings reported above, it is my professional opinion that several construction deficiencies existed that required repairs. The most significant construction deficiencies existed at the decks and included poorly attached columns, improperly installed joist hangers, poor framing design, and undersized railings. In addition to the decks, the improperly installed z-flashing at horizontal trim and the lack of proper flashing around the windows and doors could result in water infiltration. WEC understands that water leakage has occurred at several units throughout the association. Based on the construction details used, WEC believes that the water infiltration is directly attributable to the improper installation of window flashings and z-flashings.

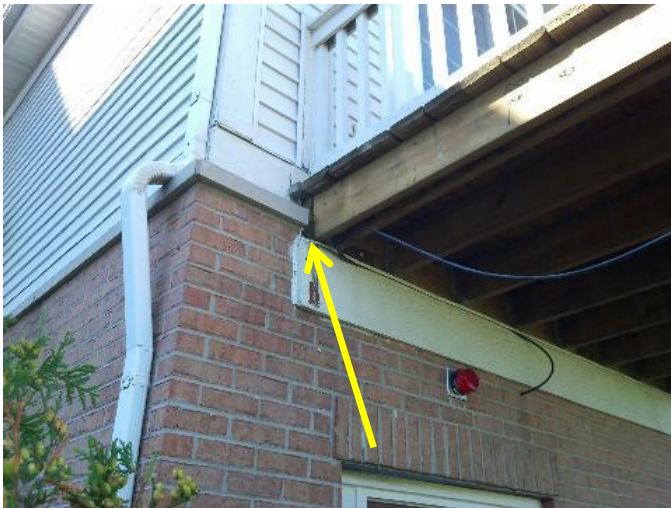
I hope this report will meet your needs. We note this report is not a warranty or guarantee of any inspected item. WEC reserves the right to modify any and all opinions should additional areas of the property be made available for inspection or new information such as drawings, plans and specifications become available for review. Photographs of the inspected areas are on file at our office for future needs. Several images have been used in this report to depict conditions at the time of our inspection.



View of the double rim joist and single outside joist. The existing 4x4 columns were noted to be toe-nailed into the bottom which is not the proper way to attach a column to the deck framing.



View of existing 4x4 column in place prior to removal. Note the column is only in contact with the inside member of the double 2x8 rim joist. This creates an unstable deck condition.



The outside joists were observed to be pulled away from the ledger board at several locations. All joists had to be re-secured to the ledger boards during the repair project to ensure the safety of the decks.



Several of the joist hangers did not have nails installed between the joist hanger and joist. The joists cannot be properly tied to the ledger board without fasteners installed in all joist hanger holes.



Typical flashing installed between the panels and brick. Note the flashing is installed on top of the building wrap. The flashing needs to be installed behind the building wrap and the top edge of the flashing needs to be sealed to the wall sheathing in order to be effective.



View of existing pier that was replaced during the repair project.



View of the locations at the building that panel siding is installed between the windows. Note the z-flashing installed at the top of trim boards but the flashing is installed on top of the building wrap in lieu of behind the building wrap.



Note the Tyvek tape installed around the perimeter of the windows which is not an acceptable method of window flashing.