UNIVERSAL ENGINEERING SCIENCES Consultants in: Geotechnical Engineering • Environmental Engineering Construction Materials Testing • Threshold Inspection • Private Provider Inspection

April 29, 2020

- Attention: Brian Siegel VP of Risk Management Westgate Resorts 7450 Sandlake Commons Boulevard Orlando, Florida 32819
- Project: Welcome Center and Boot Store 131 Southwest Webbs Glen Lake City, Florida 32024

Reference: Roof Observations

Dear Mr. Siegel:

As requested by you, Universal Engineering Sciences, Inc. (UES) has provided roofing observations on April 28, 2020 for the Welcome Center and Boot Store project located in Lake City, Florida. It should be noted the observations provided were visual in nature and no destructive testing was provided at the time of inspection. Location of the observations were limited to accessible areas.

During the site visit, the roof was observed to be a composite structure consisting of thermoplastic polyolefin (TPO) and metal decking. The middle portions of the building consisted of a high pitch metal decking that was not accessible at the time of inspection. Several interior areas of the building were observed to have water damage and active water intrusion.

The following observations were made but should not be considered limited to:

- 1. Multiple penetrations through the metal decking with no caulking.
- 2. Incorrect overlapping or gaps at the overlapped areas in the metal decking.
- 3. Limited or no flashing at roof to parapet and roof to gable face connections.
- 4. Loose or no foam behind the ridge caps at the high pitch metal decking.
- 5. Multiple penetrations through the hardi plank with no caulking.
- 6. Loose TPO edges and fisheyes indicating a potential lack of ironing.
- 7. Limited or no Tyvek behind hardi plank edges and around windows and doors.
- 8. Gaps near the edges of roofs.
- 9. Loose hardi plank and open edges with no caulking.

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Based on the above observations, immediate remediation of the roof and exterior wall system is required to alleviate the potential for additional water intrusion. Additional remediation measures should be performed under the observation of a certified building inspector.

CLOSURE

Please contact our office with any questions.

Yours Very Truly,

Florida

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Robert C. Mixson, M.E., P.E. Project Engille

Josh Richmond Building Inspection BN 6476





Picture 1: Penetration with no caulking



Picture 2: Limited or no flashing



Picture 3: Fish eye in TPO



Picture 4: AC Unit on loose TPO section

REFERENCE: PHOTOGRAPHS UNIVERSAL ENGINEERING SCIENCES, INC.



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<u>PHOTOGRAPHS</u> Welcome Center and Boot Store



Picture 5: Limited Tyvek behind Hardi plank



Picture 6: Overlapping of metal decking



Picture 7: Loose roof screw



Picture 8: Loose foam beneath roof cap

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<u>PHOTOGRAPHS</u> Welcome Center and Boot Store



Picture 9: Typical penetration in Hardi plank



Picture 10: Loose Hardi plank siding



Picture 11: Limited or no Tyvex and caulking at gaps



Picture 12: Gap at roof and gable edges

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