Site Observation Memo – Roof System Assessment

Project: Fire Station Converted to Sports Bar

Location: 103 W Mill St, Jonesboro, GA 30236, United States

Date: May 9, 2025

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Purpose of Memo:

To document field observations made during a limited roof cut assessment on the commercial flat roof, and to provide expanded evaluations and risk projections for surrounding areas with visible and consistent ponding issues.

Observed Conditions at Test Cut Location:

- A single 12" x 12" test cut was performed at a low-slope area near rooftop mechanical units.
- The top roofing membrane and foam insulation were removed to access the underlying substrate.
- Beneath the insulation, the substrate was found to be heavily saturated, structurally unstable, and visibly deteriorated.
- The substrate material appears to be a lightweight insulating concrete or fibrous underlayment, commonly used as a filler or slope-building layer over structural decks. In this case, it is severely compromised.
- The material was soft and friable, easily penetrated with a utility knife, and visibly stained with moisture and microbial activity.
- Important Note: We did not cut entirely through the substrate layer to reach the structural deck, as doing so could immediately compromise the water barrier and accelerate active leakage into the interior space until permanent repair is completed.
- The inspection area revealed no evidence of any roof slope whatsoever. The field is completely flat, offering no directional drainage, further contributing to chronic ponding conditions and ongoing material decay.

Photographic Documentation Includes:

- Sequential exposure of all roof layers (membrane, foam, saturated substrate)
- Knife penetration test to demonstrate softness and instability
- Substrate fractures and delamination
- Context shots of nearby units and ponding areas for spatial reference

Inferred Conditions – Untested Ponding Zones:

While the inspection was limited to one opening, the roof presents a pattern of widespread water ponding across multiple bays, especially around large rooftop mechanical units and the central roof field. These areas share identical construction and environmental exposure, leading to the following assumptions:

- The same roofing assembly (membrane + insulation + substrate) spans all affected zones.
- No effective drainage system is present to alleviate ponding.
- Long-standing water retention is visually evident across numerous areas, with severe staining and membrane bubbling.

Given these factors, it is highly probable that the majority of the roof—especially in visibly sunken and ponded areas—is suffering from equivalent or worse substrate saturation, insulation breakdown, and potential structural degradation. These conditions may not be isolated but systemic across the roofing system.

Failure to address this could result in:

- Accelerated decay of all substrate materials
- Widespread mold growth
- Progressive weakening of fastener zones and mechanical curb supports
- Long-term structural damage to deck and interior framing

Recommendations:

- Perform additional exploratory test cuts across other visibly ponded zones to validate and map extent of failure
- Conduct a full interior inspection beneath those zones for:
  - Water infiltration signs
  - Rust, corrosion, or compromised framing
  - Ceiling damage or health concerns related to mold
- Plan for a comprehensive tear-off and replacement of affected sections down to the structural deck
- Introduce positive drainage solutions including tapered insulation systems and new roof drains/scuppers

Conclusion:

The roofing system is in a critical state of failure in at least one zone and highly likely in multiple others. The saturated substrate, lack of slope, and absence of drainage

infrastructure pose serious structural and environmental risks. Proactive, phased remediation is no longer optional — it is essential to prevent compounding structural, health, and liability issues.

Client Approval (Signature): _____

Date: _____

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