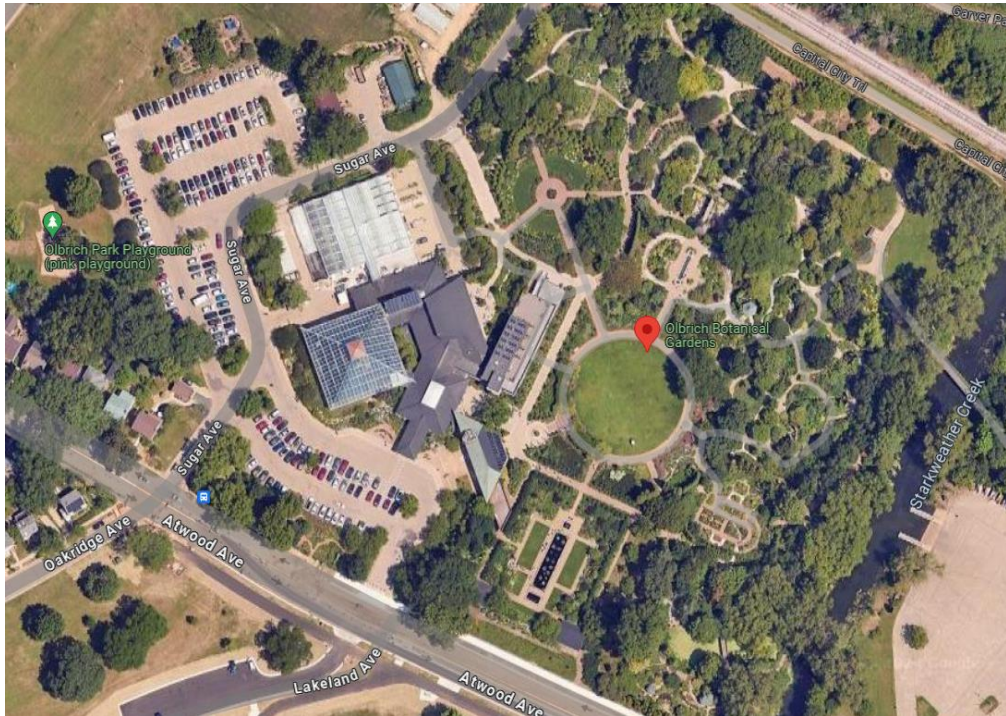


# LEGISTAR 82987

## Exhibit A

### Olbrich Botanical Gardens Conservatory Assessment Phase 2



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- General Conservatory Information
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# Assessment Background

- 2019, MSR Design does an exit door assessment of the entire campus during the Learning Center project.
    - Requested by Engineering-Facility Management due to significant code changes since the campus was first constructed.
  - 2023, IMEG Corp. does a general structural and mechanical assessment of the main campus buildings.
    - RFB by Engineering-Facility Management.
    - Identified several areas that need further investigation or repairs through smaller, manageable projects
  - 2023 to Present, Engineering-Facility Management Staff conducting a general buildings and grounds assessment of the entire campus and gardens.
  - 2024, An enhanced assessment of specific structural elements located at the top of the Bolz Conservatory.
    - Subject of this resolution (Legistar 82987)
    - This was one of the smaller projects identified by IMEG in 2023.
- Work to be completed:
- Remove existing moldy insulation
  - Remove blistered paint and surface rust to bare metal
  - Assess metal framing and siding, replace as needed
  - Assess main structural elements, repair as applicable or plan for future repairs
  - Re-prime and paint steel members for protection
  - Re-insulate
  - Inspect all glass panels and sealants. Reseal as needed, provide a schedule of panels needing replacement
  - Provide general maintenance to motors, fans and louvers in the conservatory.

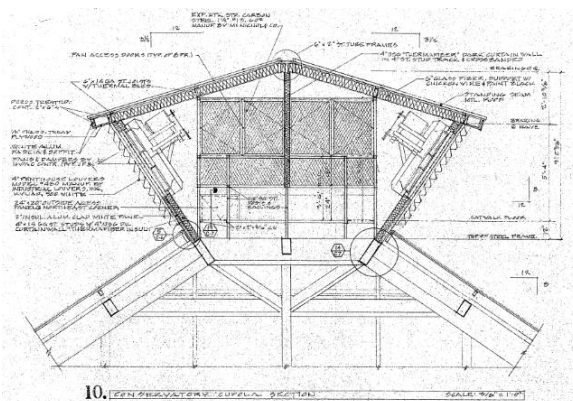


**Bolz Conservatory, Olbrich Botanical Gardens, 3330 Atwood Ave.**

**Opened to the public in 1991 the Bolz Conservatory is Madison's interior tropical garden. Average daytime temperature is 72-82 degrees (F), with an average of 90% relative humidity.**

**The Conservatory frame is constructed of structural tube steel with extruded aluminum frames for the glass panels.**

**The glass panels are 1-5/16" thick insulated glass panels.**



**The cupola is constructed of steel studs, fiberglass batt insulation, and 4 exhaust fans each with an operable exhaust louver for removing excess hot (and humid) air.**

**The maintenance catwalk in the cupola is approximately 55 feet above the main path of the conservatory and difficult to access for regular maintenance.**



The warm/moist air in the Conservatory rises up to the cupola.

In the summer it is exhausted out via the fans and fresh air is pulled in through lower operable windows and intake vents.

In the winter the exhaust fans rarely run so when the moist air hits cold steel it immediately condenses. Over the last 32 years the condensation has created problems as shown and explained in the next several pictures.



**"Tear staining" of surface rust on the structural tubular steel.**



1. General dirt streaking.
2. Rust forming below paint and pitting the tubular steel.



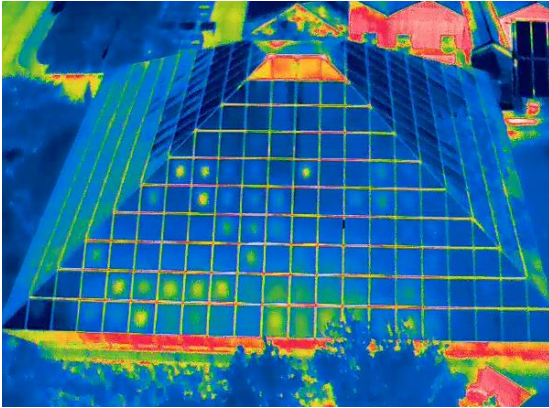
**Moldy, deteriorating insulation in the cupola roof.**



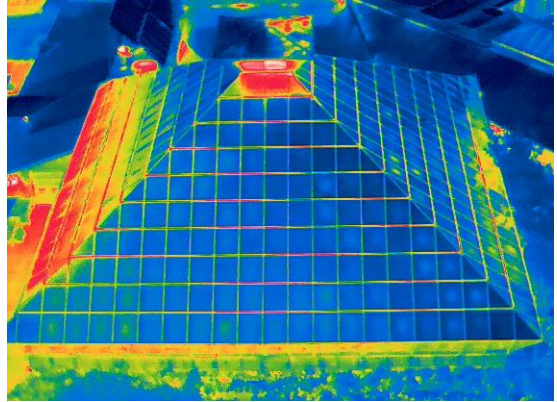
**Mushrooms growing in the cupola insulation.**

There have been a few glass panel replacements over the last 32 years due to breakage.

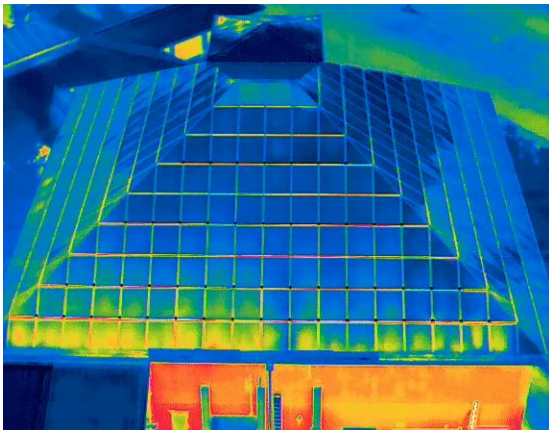
Below are some thermal images taken during the 2023 general conditions assessment. Blue indicates COLD (good thermal retention) red/orange indicates HOT (poor thermal retention).



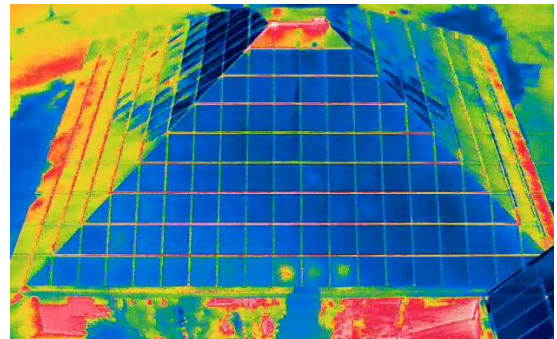
Southeast face, (main entrance side)



Southwest face, (Sugar Ave. side)



Northwest face, (greenhouse side)



Northeast face, (garden side)



Cracked glass near cupola



Failed sealant, raining inside

## Why Repair Now

- 2024 Budget provides \$340,000 in MUNIS 15051 to address issues from the 2023 assessment by priority of life safety or business interruption first.
- Annual Conservatory maintenance, including trimming of Conservatory trees is done in mid-March. Trees were trimmed heavily this year in anticipation of this work .
- Board of Parks Commissioners approved (Legistar #79579, September 6, 2023) the extended closure of the Conservatory until June 15, 2024 in anticipation of this work.
- Scheduled events at Olbrich an within the Bolz Conservatory provides revenue back to the City of Madison
  - 2 wedding scheduled for late June 2024
  - Blooming Butterflies (annual event) from mid-July to mid-August.
- If work cant be completed this year it will need to be postponed and rebid for spring 2025.
- Will not get a safety assessment of the newly cracked glass panel.

## Next Steps

- Engineering-Facility Management to complete the overall Building and Grounds Assessment.
  - Provide one master report for all assessments.
  - Provide end of life cycle items and estimated replacement costs.
- Continue to budget for and execute pre-planned annual maintenance projects as identified in assessment reports.
- Continue to maintain the facility through regular maintenance and life cycle replacement.