

CITY OF KEY WEST

FREDERICK DOUGLASS COMMUNITY CENTER Gymnasium Structural Assessment

**111 Olivia Street
Key West, Florida**



Prepared By

**Perez Engineering and Development, Inc.
1010 Kennedy Drive, Suite 202, Key West, Fl.**



And

**Reynolds Engineering Services, Inc.
24478 Overseas Hwy, Summerland Key, Fl. 33042**



August 8, 2025

Preliminary

08/11/2025 8:02:49 AM

James C. Reynolds, PE
Fl. Lic. No. 46685



Reynolds Engineering Services, Inc.

August 8, 2025

Mr. Eric Augst, Senior Construction Manager
City of Key West
1300 White Street
Key West, FL 33040

Re: Frederick Douglass Community Center
Gymnasium Building Structural Assessment

Dear Mr. Augst,

On July 9, 2025 we conducted a structural inspection of the gymnasium building to determine its overall structural condition and prepare an opinion of probable construction costs for repairs.

The gymnasium is constructed of a steel reinforced concrete frame with concrete masonry unit in-fill. The roof is supported with steel trusses spanning the width of the building. The building was built in 1967 according to Monroe County Property Appraiser records.

The building is generally in good condition with the exception of areas of concrete spalling, termite damaged stage floor support trusses, and leaking window seals and roof flashing.

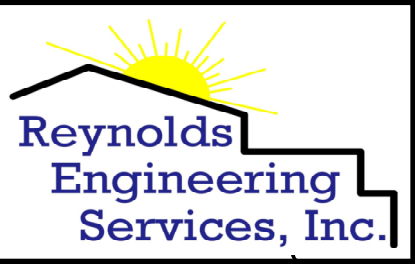
Concrete spalling is damage to concrete structural members that occurs when the steel reinforcement expands due to corrosion. When the steel reinforcement corrodes, the oxidized steel expands exerting enough force that it exceeds the tensile strength of the concrete causing the concrete to crack and break away from the reinforcement. Once the concrete is cracked the steel reinforcement is directly exposed to the environment causing the corrosion to accelerate. Concrete spalling is primarily occurring on the original building structure. The concrete spalling appears to be repairable with standard concrete repair methods and replacement of concrete structural members is not anticipated. Repairs should be made as soon as practical to prevent the concrete from deteriorating further.

Although the building is safe for continued use, areas where concrete is spalling should have access by staff and the general public restricted due to the possibility of loose concrete falling to the floor.

The stage floor framing is suffering active termite damage with evidence of termite droppings throughout the underside of the stage floor framing. Although the stage appears to be safe for continued use, a termite control specialist should be contacted as soon as practical to prevent further deterioration. We recommend the city consider reconstructing the stage floor framing with termite resistant materials.

FREDERICK DOUGLASS COMMUNITY CENTER GYMNASIUM
STRUCTURAL CONCRETE SPALLING REPAIRS

111 Olivia Street, Key West, Fl.



Reynolds Engineering Services, Inc.
Fl. C.A. No. 26597
24478 Overseas Highway
Summerland Key, Fl.
jim@ReynoldsEngineeringServices.com
305-394-5987

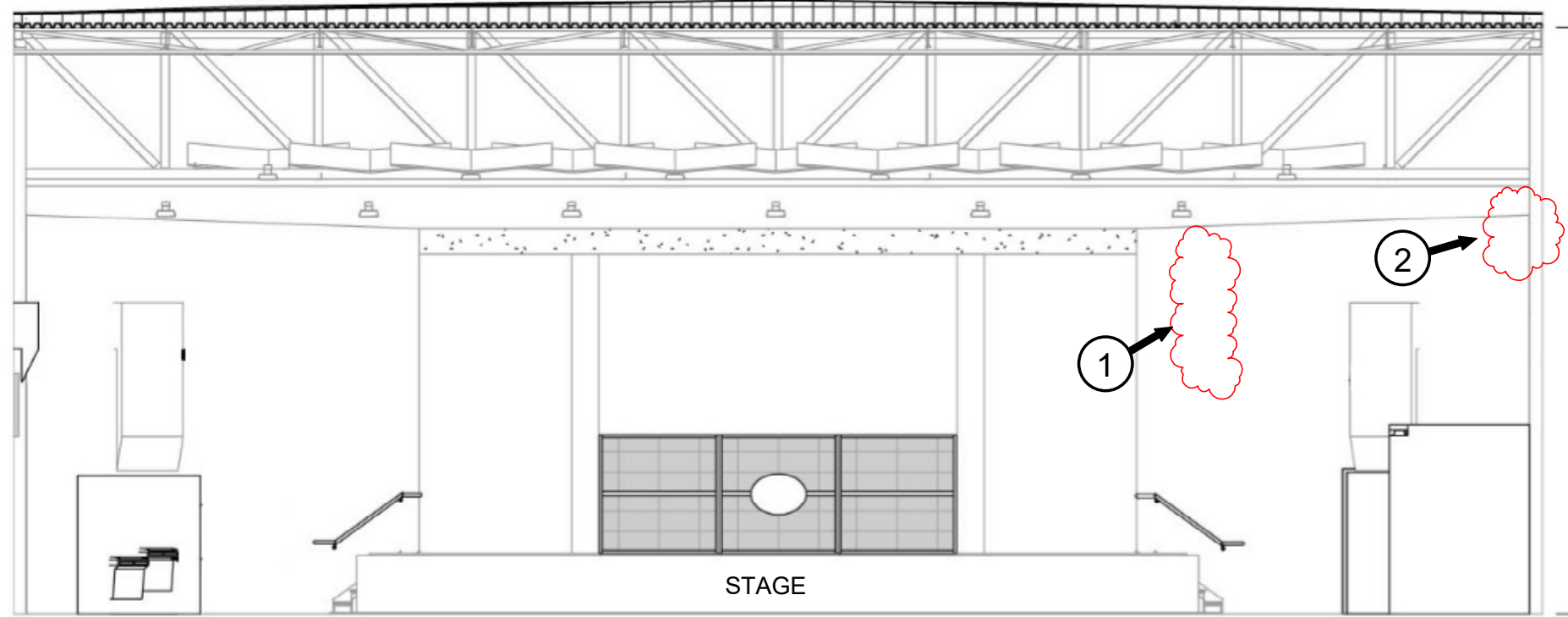
CONCRETE SPALLING REPAIRS
for
Frederick Douglass Community Center Gymnasium
111 Olivia Street, Key West, Fl.

Title:

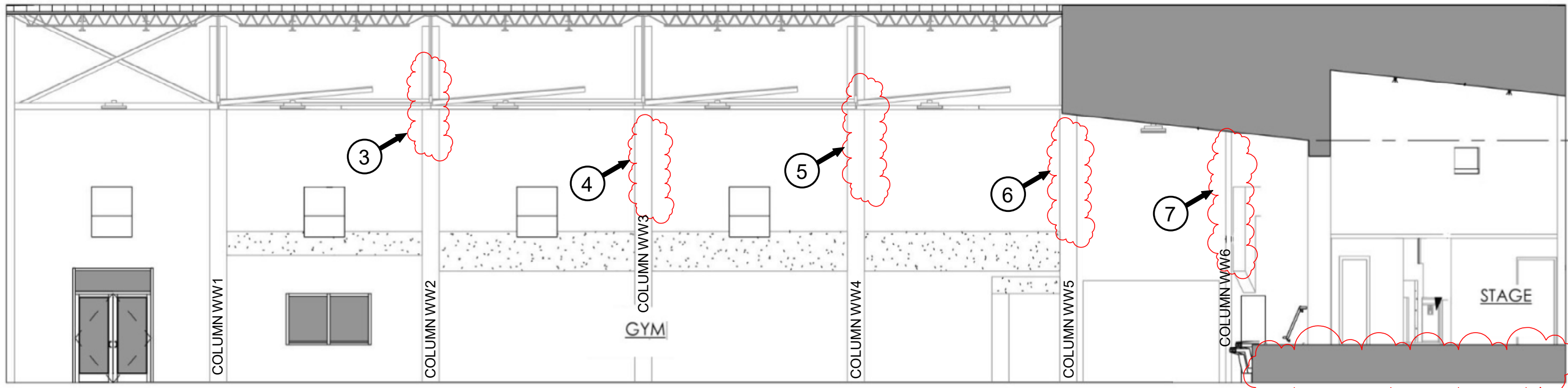
James C. Reynolds, PE
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Date:
8/8/2025

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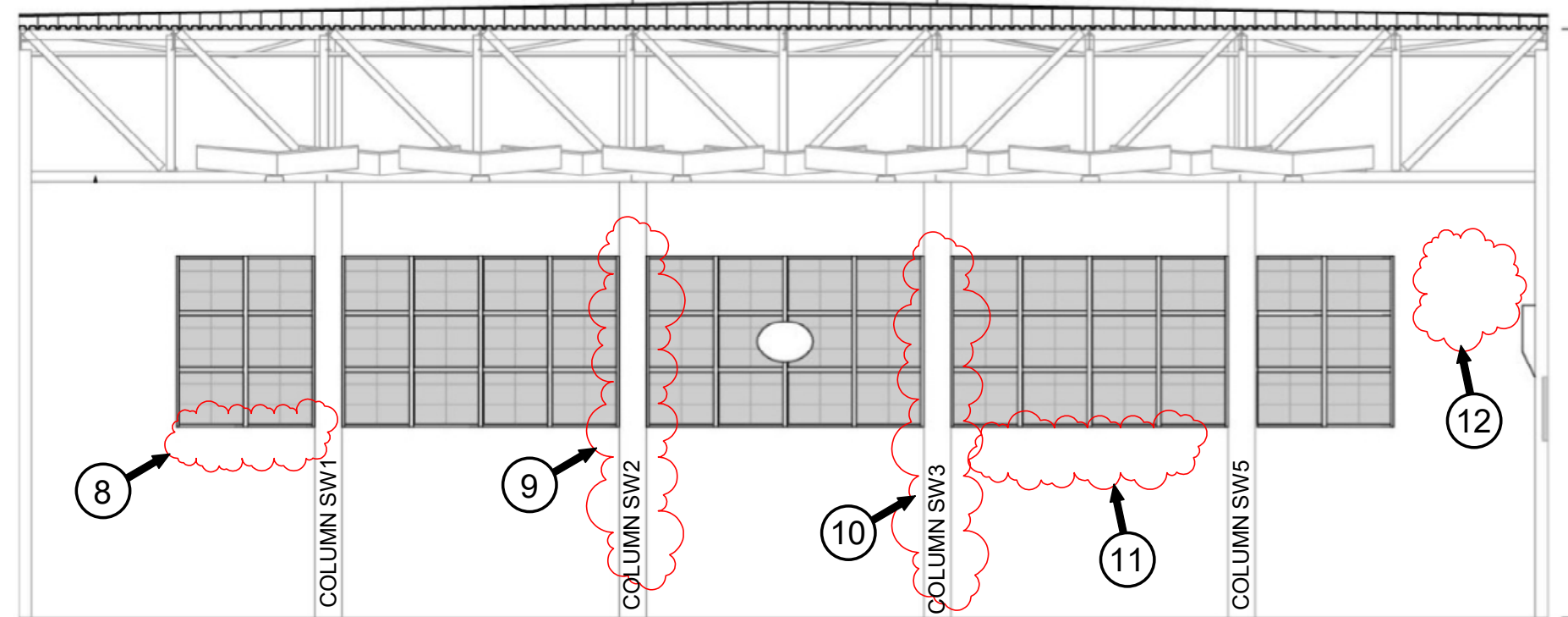


NORTH WALL INTERIOR
SCALE: 1/8"=1'

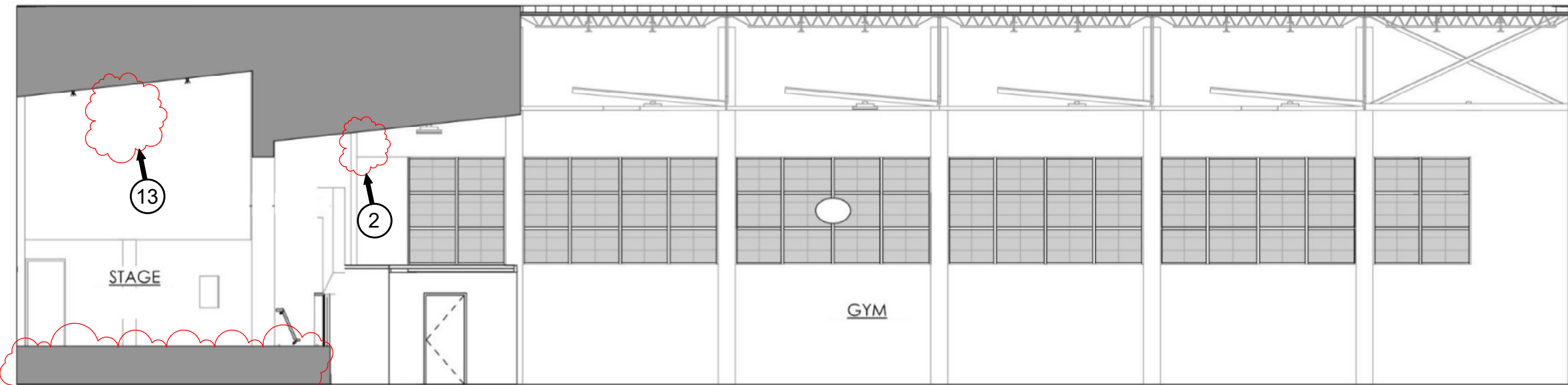


WEST WALL INTERIOR
SCALE: 1/8"=1'

SEE STAGE FLOOR PLAN THIS SHEET
FOR MORE INFORMATION

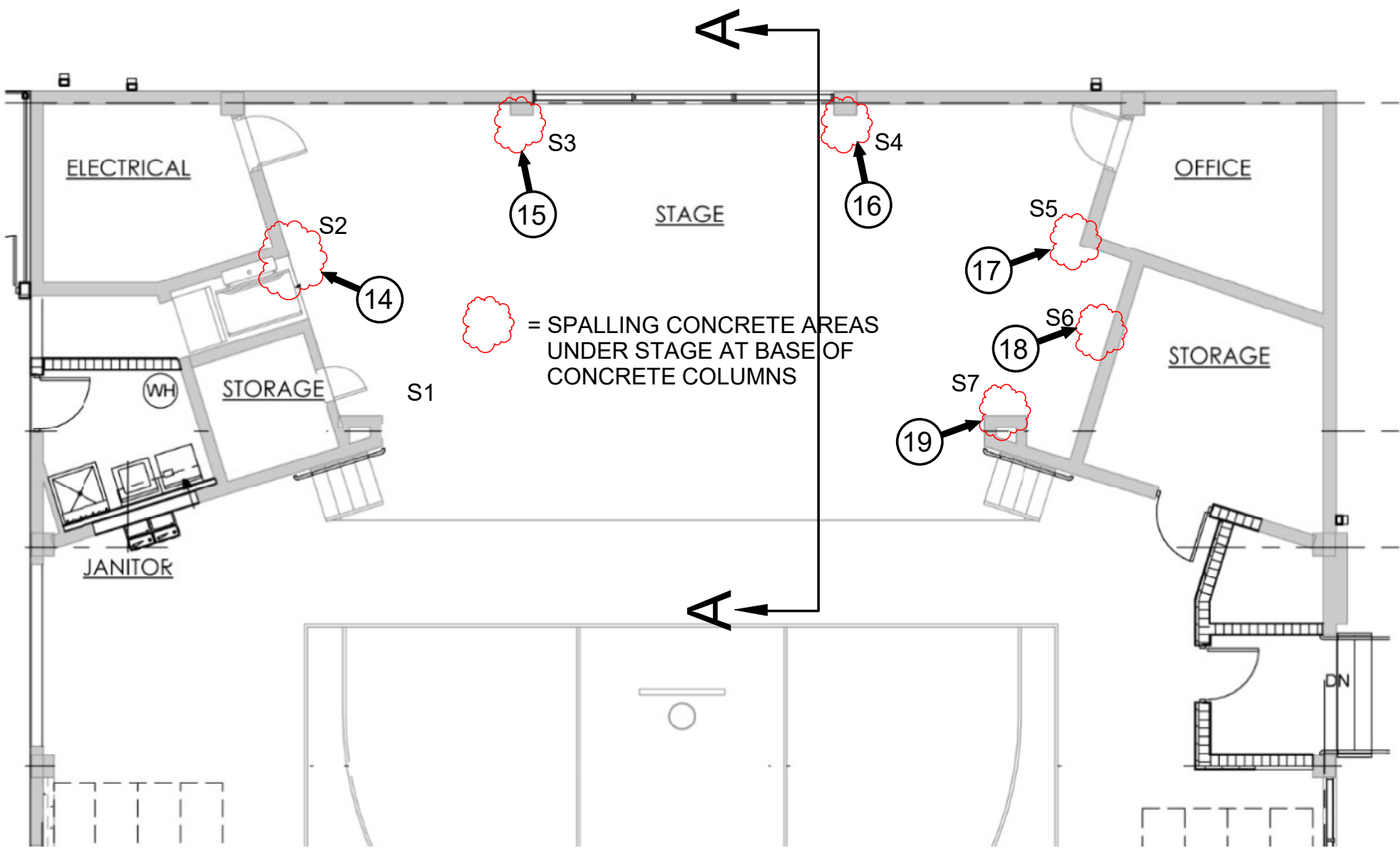


SOUTH WALL INTERIOR
SCALE: 1/8"=1'

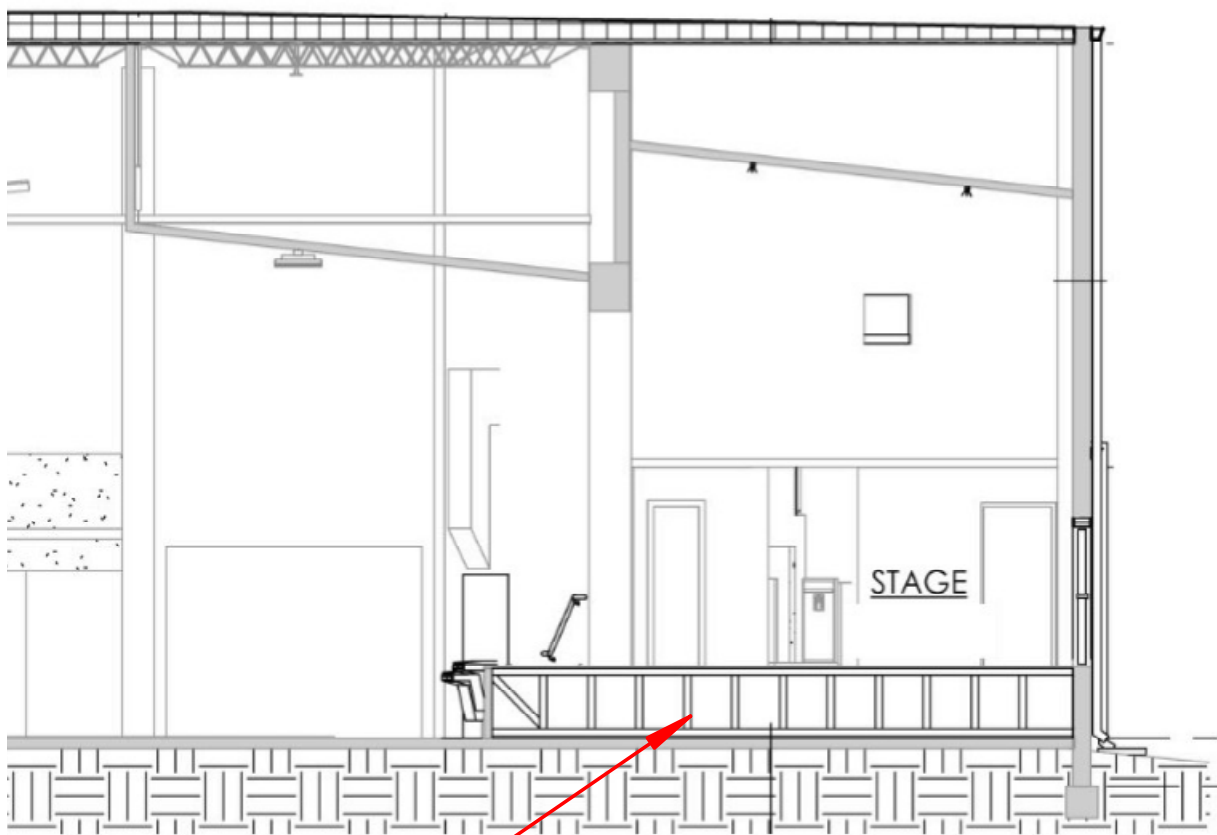


EAST WALL INTERIOR
SCALE: 1/8"=1'

SEE STAGE FLOOR PLAN THIS SHEET
FOR MORE INFORMATION

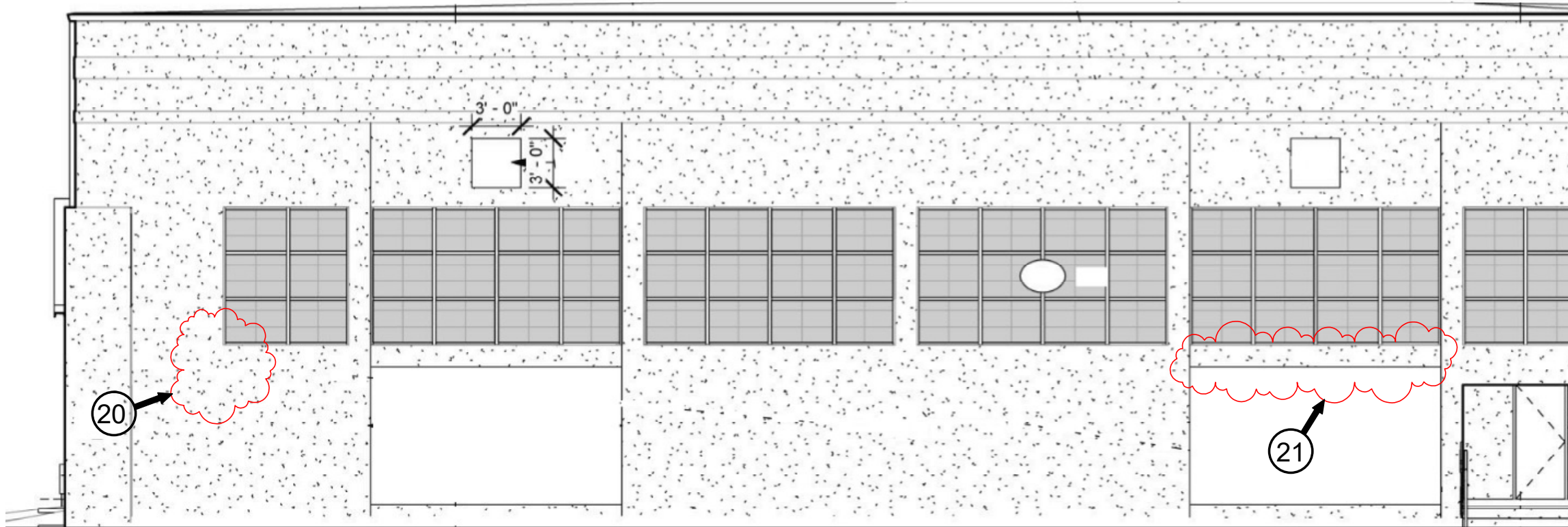


STAGE FLOOR PLAN
SCALE: 1/8"=1'



STAGE CONSISTS OF 34" HIGH 2"x4" WOOD TRUSSES
@ 24" ON CENTER WITH (2) LAYERS OF 3/4" PLYWOOD

SECTION A-A
SCALE: 1/8"=1'



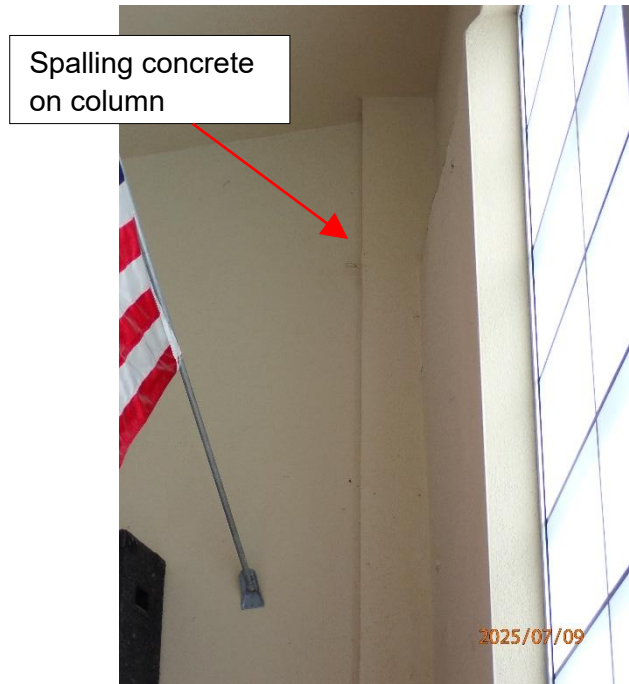
EAST EXTERIOR WALL
SCALE: 1/8"=1'

= AREA OF SPALLING CONCRETE

Photographic Documentation



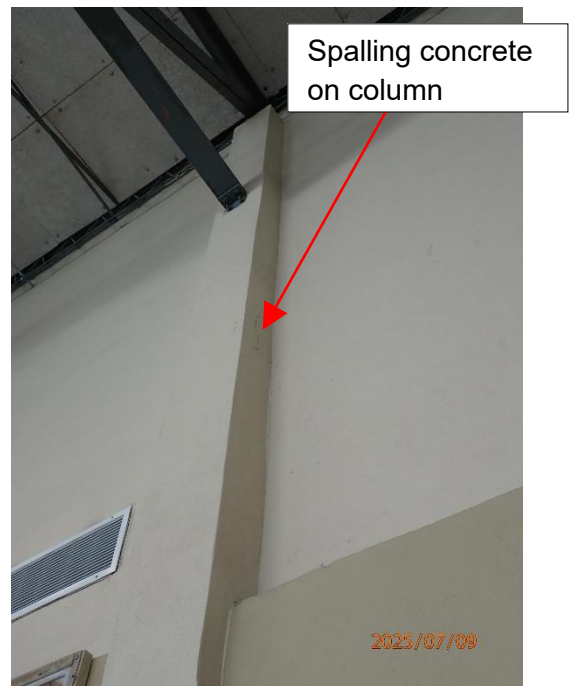
Picture #1



Picture #2



Picture #3



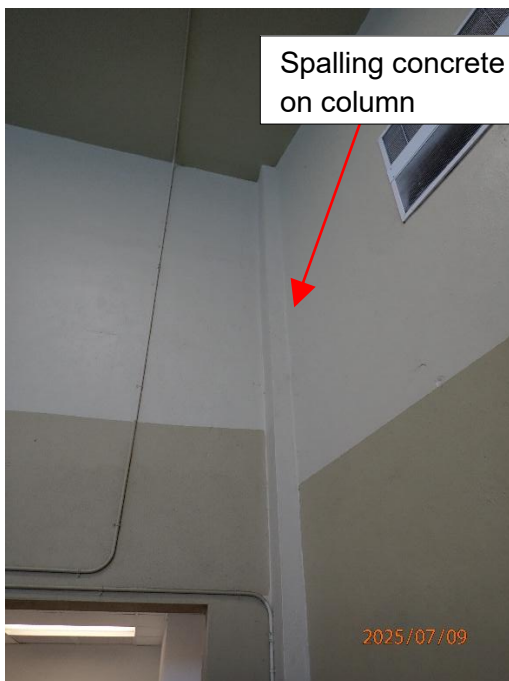
Picture #4



Picture #5



Picture #6



Picture #7



Picture #8



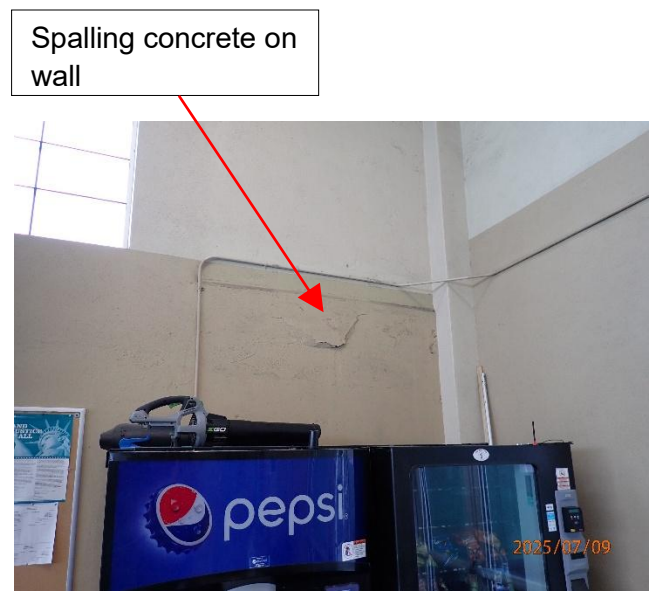
Picture #9



Picture #10



Picture #11



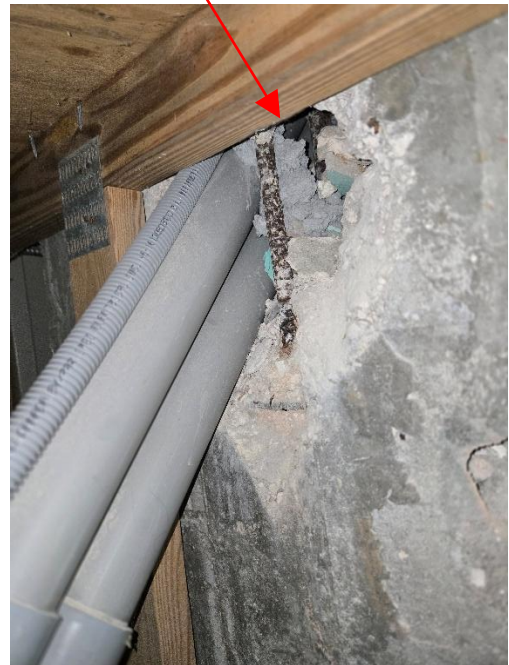
Picture #12

Spalling concrete on wall



Picture #13

Exposed rebar from
conduit installation



Picture #14

Spalling concrete
on base of column
Under stage



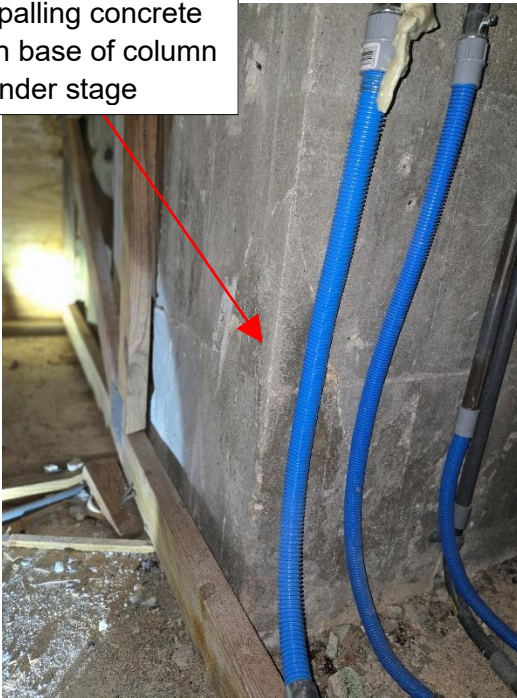
Picture #15

Spalling concrete
on base of column
Under stage



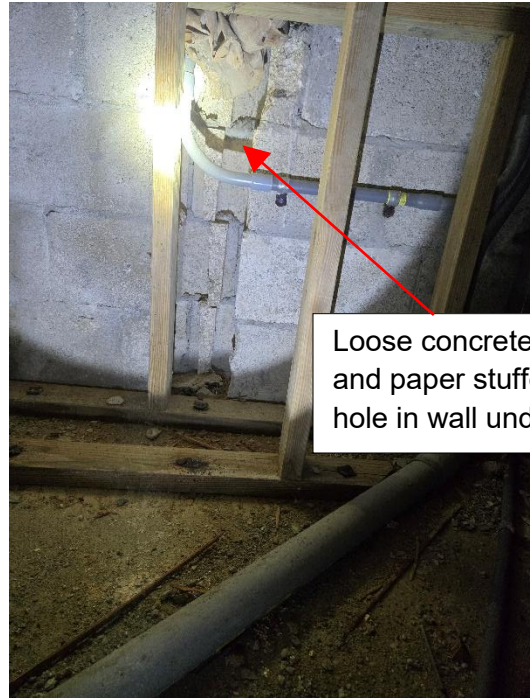
Picture #16

Spalling concrete
on base of column
Under stage



Picture #17

Loose concrete block
and paper stuffed in
hole in wall under stage



Picture #18

Spalling concrete
on base of column
Under stage



Picture #19

Spalling concrete
under window



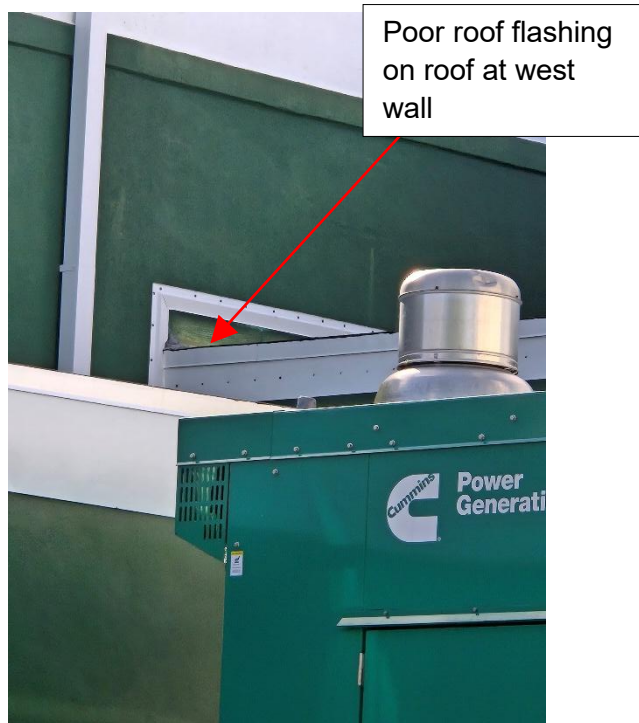
Picture #20



Picture #21



Picture #22



Picture #23



Picture #24

END OF SECTION