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January 6, 2026

Mr. Piers Kirby
Administrator - Real Estate & Brownfield Redevelopment
Department of Metropolitan Development | City of Indianapolis
200 East Washington Street, Suite 2042
Indianapolis, Indiana

Indianapolis Fire Department Station 32 - FINAL
Property Assessment
WJE No. 2025.4953.0

Dear Mr. Piers Kirby:

At the request of the Department of Metropolitan Development (DMD) for the city of Indianapolis, Wiss, Janney, Elstner Associates, Inc. (WJE) conducted a condition assessment of Indianapolis Fire Department Station 32 (IFD 32) located at 6330 Guilford Ave in Indianapolis, Indiana. The purpose of the assessment was to identify indicators of potential major issues in the building components (i.e., facade, structure, roof) to ascertain major expenditure conditions that could impact the functionality and structural integrity of the property.

INTRODUCTION

Background

IFD 32 is located at the northwest corner of the intersection of Guilford Avenue and East Westfield Boulevard (Figure 1). The site is located adjacent to the Central Canal and near the White River. The one-and-a-half-story building with a basement was originally constructed in 1922 in the Tudor revival style, with an addition to the northwest constructed in 1994 (Figure 2). The wood-framed structure sits on a concrete slab-on-grade foundation and foundation walls around the basement. The building's exterior walls consist of clay brick and stucco around punched windows, while the gabled roof is covered in asphalt shingles. The main floor includes an apparatus bay with an overhead door, a kitchen, and a watchroom, while the upper story consists of a lounge and living quarters. The 1994 addition added an additional back room, currently being used as a fitness center, and a service room with additional living quarters on the upper floor. A wood-paneled shed, generator, and antenna tower are present in an enclosure adjacent to the north corner of the



Figure 1. Image dated 3/11/2024 provided through EagleView Connect subscription. Dashed box shows the location of the 1994 building addition. Annotations by WJE.

building, along with a one-story brick screen wall. IFD 32 was listed on the National Register of Historic Places in 2011. WJE understands the Indianapolis Fire Department will operate in the current IFD 32 building until February 2026.



Figure 2. Aerial view of IFD 32. The arrow indicates the 1994 building addition.

DOCUMENT REVIEW

WJE reviewed the following available documents as part of the condition assessment:

- Broad Ripple Fire Department Site Development Plan Sheet 1 of 1, developed by Melton-Packard Associates and dated November 5th, 1993.
- Addition to Broad Ripple Fire Station Architectural Sheets 1 and 2 of 2, developed by James Ruggles Associates and dated December 6th, 1993.
- Broad Ripple Firehouse, Indianapolis Fire Department Station 32: National Park Service National Register of Historic Places (NRHP) Registration Form, signed September 15th, 2011.

No structural drawings for the addition or architectural or structural drawings for the original construction portions of the building were available. Relevant information from the review of the available documents is summarized below:

- The 1994 addition is constructed on a concrete slab over granular fill, with exterior walls supported by continuous concrete footings and concrete masonry units (CMU) and comprised of 2x4 wall wood studs with batt insulation, 1/2-inch sheathing, and brick veneer. The first story ceiling consists of floor trusses spaced at 16 inches on center, with the roof covering specified as fiberglass shingles over roofing felt and 7/16" oriented strand board (OSB) decking.
- The 1994 addition drawings identify the generator and antenna tower in an inset courtyard enclosure between the existing kitchen and new service room with an approximately 16-foot-long brick screener wall. The current antenna tower and generator are present in a larger enclosure at the northeast portion of the site, surrounded by a screen wall comprised of brick masonry veneer on the exterior face and exposed CMU on the interior face with a cast stone coping along the top. The enclosure abuts a screened-in patio area to the northeast of the kitchen space.
- According to the NRHP application, all original window sashes were replaced with metal casements fitting into the original openings at some period prior to 2011.

OBSERVATIONS

On October 9, 2025, Messrs. Jim Brown and Andrew DeLuca, from WJE, conducted a visual survey to observe exposed areas of the facade, roof, and interiors. No access was available to the northeast enclosure surrounding the antenna tower and generator, but limited viewing of this area was available from the exterior and upper-floor windows. WJE also used an Unmanned Aircraft System (a.k.a., UAS, drone) to supplement the visual assessment by photographically surveying exterior areas not readily accessible from grade. No water leakage issues regarding the facade and roof were reported to WJE prior to our site assessment. On December 19, Mr. Francisco Peña, from WJE, revisited the property to review the conditions at the basement and attic space for the transition between the original and the 1994 building addition. The following sections summarize our observations:

Facade

- Deteriorated and decayed wood fascia board and trim exist in limited areas (Figures 3 and 4). The wood trim is missing at a few locations (Figure 5). The bottom of the fascia is deteriorated and decayed, and the soffit panel is bowed at one location on the southwest facade (Figure 6).
- Wood trim is missing at select locations (Figures 7 and 8).
- Open and unsealed joints exist between the brick masonry veneer and the wood trim at the jambs of the large overhead rolling door to the Apparatus Bay (Figure 9).
- Open and unsealed joints exist between the brick masonry veneer and windowsills (Figure 10).
- Adhesion failures (Figure 11) and voids in the sealant (Figure 12) typically exist between the wood trim and brick masonry veneer at window jambs.
- The typical window is a Hurd aluminum-clad, wood-framed casement window with insulated glass units and manufactured in 1994 (Figures 13 and 14). No issues were reported with the operability or performance of the windows; however, we did observe a note on one of the upstairs windows stating "BROKEN DO NOT OPEN" (Figure 15). No fogged insulated glass units were observed.

- Open and unsealed joints exist at pipe penetrations through the brick masonry veneer and cast stone at the base of the exterior walls (Figure 16).
- The top of the brick masonry wall is open and unsealed at the interface of the soffit (Figures 17 and 18). At some locations, the unsealed interface is large enough to possibly allow vermin and rodents to access the interstitial space above the interior finishes. At the New Addition building, the vents installed in the fascia board are typically covered with dirt and cobwebs. At a few locations, daylight was visible in the attic space near the ends of the roof at this interface (Figure 19).
- Gaps exist between the fascia boards at most gable ends and transitions of the soffit board. These gaps are large enough to possibly allow vermin and rodents to access the interstitial space above the interior finishes (Figure 20).
- The lightwells are filled with organic debris, which in most cases extends above the bottom of the windows in the lightwell (Figures 21 and 22).
- The paint on the steel lintels is flaking in a few locations. Most lintels exhibit surface irregularities consistent with residual old paint remaining on the steel surfaces (Figure 23).
- The bottom of the vertical wood battens is deteriorated and decayed at a few locations. Also, at a few locations, the bottom of the vertical wood battens is curled away from the building, creating a void between the vertical wood batten and adjacent stucco (Figure 24).
- The majority of the windows contain perimeter wood trim with newer paint; however, at a few locations, the wood trim contains localized areas of grain separation, and the miter joints are open at the corners (Figure 25).
- The wood threshold and bottom of the wood trim at the door jambs on the southernmost door on the southwest facade are deteriorated and decayed (Figure 26).
- The paint on the wood trim at the northernmost door on the southwest facade is weathered, cracked, and deteriorated (Figure 27).
- Cracking was observed through mortar head and bed joints at select locations. Isolated cracking through brick units was also observed (Figure 28).
- At a few select locations on the southwest facade, mortar is missing/eroded for nearly the full depth of the head and bed joints between brick units (Figures 29 and 30). WJE was able to easily displace a partial brick unit with missing mortar at surrounding joints (Figure 31). Also, most of the mortar along the vertical joint at the interior corner is missing at this location.
- Dark staining is present on the exposed CMU at the northeast screen wall around the antenna tower and generator enclosure. One section of cast stone coping is displaced out-of-plane from the adjacent cast stone coping (Figure 32).
- A hole is present that extends through the brick masonry veneer and CMU screen wall (Figure 33).
- Green staining, possibly organic growth, is visible on the outer face of the brick masonry veneer on the northeast exterior wall within the antenna tower enclosure (Figure 34). Green staining also exists below a downspout on the northeast facade (Figure 35).

- Cracking is present in the concrete slab-on-grade at the enclosed patio on the northeast side of the structure (Figure 36).

Roof

The roofs are covered with architectural, laminated asphalt shingles. The shingles are approximately 39 inches wide and are installed with a typical 5-1/2-inch exposure (Figure 37). In areas accessed via ladder, the shingles were well-adhered and contained most of the red and gray granules on the surface of the shingles. The slope of the roofs is typically between 9:12 and 10:12 (Figure 38).

- WJE carefully lifted a few of the shingles at one rake edge and eave location and observed a granular surface modified bitumen underlayment. The underlayment extended underneath both the rake edge metal and the eave metal that extended over and into the adjacent gutter.
- On the north slope of the gabled roof above the Apparatus Bay, a horizontal pipe penetration exists within a horizontal flashing boot that is integrated with the asphalt shingles. An open and unsealed void or gap exists between the perimeter of the pipe and the flashing boot (Figure 39).
- Laminated tabs have been torn away and are partially missing at a few locations (Figures 40 and 41).
- The gutters are typically filled with organic debris (Figure 42). Organic debris has also accumulated in the valleys of the roof.
- Voids typically exist at the upper portion of the dormer walls and soffits at their interface with the roof (Figure 43). Also, at this location, the top end of the wood base trim is damaged. It appears a metal or plywood flashing was installed on the southeast facade.
- Step flashing was observed within the shingles at the interface of the dormer side walls (Figure 44).
- Portions of the shingles are lifted at a few locations (Figure 45).
- Most of the mortar joints in the brick masonry chimney are deteriorated and missing/eroded, and movement is evident at the top of the chimney walls (Figure 46). Also, the metal chimney cap does not extend down the face of the brick (Figure 47).
- Bulges or ridges are visible in the field of the shingled roof on two slopes, approximately at the location of the transition from the original building to the new addition (Figures 48 and 49). The ridge is visible on both sides of the roof along the transition line. WJE reviewed this location within the attic space and identifed a clear distinction between the roof members, with the original and the 1994 building addition roof decks meeting at the location of the ridge observed from the exterior (Figure 50). The building addition roof members were installed adjacent to the exterior wall finishes for the original building, having a one-to-two inch horizontal gap between the original building and new addition roof rafters (Figure 51).
- Algae growth on the surface of the asphalt shingles exists on much of the lower portion of the north slope of the building addition (Figure 52).

Interior

- Cracks are present along the southwest wall of the apparatus bay, approximately 28 feet from the bay door opening. Transverse cracks extend from the ceiling to 2 feet from the base of the wall and measure up to approximately 3/16" at the widest segments, which are in the top 3 to 4 feet of the wall (Figures 53 and 54). These cracks are located near the intersections of the garage portion of the building (widest section in the southwest-northeast direction) and the building connecting the garage to the building addition (narrow section). Additional thinner diagonal cracks extend from a floor beam bump out corner towards the intersection of a utility component with the wall (Figure 55). The location of the transverse cracks roughly lines up with a control joint in the apparatus bay concrete floor slab (Figure 56). A floor drain is located at the north of the control joint in Figure 56. Building personnel reported to WJE that in recent years, the transverse cracks have reportedly widened. Thinner cracking is also visible in the ceiling across the apparatus bay to the opposite wall.
- The locations of these cracks align with the location of the basement hallway that crosses the apparatus bay side to side (Figure 57 and 58). The building's basement extends in a U-shape with a main hallway (measuring approximately 23 feet by 8.5 feet that runs southwest to northeast), connecting two rooms extending to the southeast. Each room measures approximately 11 feet southwest to northeast by 20 feet southeast to northwest. At the ends of the main basement room, roughly in line with the exterior ground floor walls on either side of the apparatus bay, concrete beams span northwest to southeast between the foundation walls, and a concrete slab spans the foundation walls underneath the apparatus bay. The walls of the main basement hallway approximately line up with the control joints visible in the slab in the apparatus bay, located roughly 20 feet and 28 feet from the apparatus bay door opening.
- Hairline cracking is visible in the drywall wall and ceiling at the stairs to the basement (Figure 59). This cracking is approximately a few feet southeast of the in line with the control joint and transverse cracking located in the apparatus bay.
- Horizontal and vertical cracking is present in the drywall on the southwest face of the basement stairwell (Figures 60 and 61).
- Several portions of the main basement hallway concrete slab ceiling exhibit spalling and corroded exposed reinforcing steel (rebar), at the interface of the southeast foundation wall and the ceiling (Figure 62). In areas with spalls, honeycombing of the concrete was also observed. Additional areas on the ceiling were not spalled but were identified as delaminated when sounded with a hammer.
- Staining is typically present along the southwest foundation wall (Figure 63) and in isolated areas of the southeast wall. Building personnel reported they have stopped washing down the floor of the apparatus bay after observing water emanating from the southwest foundation wall-to-ceiling interface.
- At the main basement hallway southwest beam, concrete spalls at the southeast end have exposed corroded bottom reinforcing steel (Figures 64 and 65). Rebar appeared to be 0.5-inch diameter, and one bar was partially debonded from the concrete beam. (Figure 66). Additional cracked and delaminated concrete is present adjacent to the exposed rebar.

- A crack is present in the basement northeast wing room in the southwest foundation wall CMU. The crack measures approximately 3/16" at its widest at the top of the wall, and extends into the clay brick at the underside of the ceiling (Figures 67 and 68).
- In the basement northeast wing room ceiling, newer sistered and standalone joists and wood decking sheathing covering were observed at the north end of the wing (Figure 69).
- Interior finishes have been removed around the perimeter of the basement southwest wing room, near the floor. Building personnel reported that sewage regularly backs up in the basement, requiring supplementary drainage.

DISCUSSION

Facade

Deterioration of exterior wall finishes is consistent with aging and lack of maintenance of the facade components. Missing trim, wood decay, flaking paint, holes in building enclosure components, missing and eroded mortar joints, organic growth on facade components, and lightwells filled with leaves and debris are conditions that could be attributed to a lack of restoration campaigns and maintenance for the property.

Similarly, holes, gaps, and voids in the building enclosure components, caused by missing components, perimeter sealant, or improper construction, can create pathways for water infiltration or access points for squirrels, rodents, and other vermin into the attic space and wall cavities.

The surface preparation before the most recent paint application over the steel lintels may not have been adequate, as surface irregularities consistent with residual old paint remain on the steel surfaces.

Roof

The roof is in a similar condition to the rest of the building's enclosure components. The majority of the roof areas are in serviceable condition, but deterioration, aging, and lack of maintenance are evident in certain areas within the roof, especially at the roof edges and transitions. Voids, holes, and gaps at roof edges and transitions can facilitate the intrusion of water, rodents, and vermin. Leaves in the gutters could result in clogged gutters and downspouts, and then water accumulation, extra weight for anchors, and water discharge immediately against unprotected building components.

Lifted shingles are most likely caused by nail pops, which indicate an underlying nail fastener backing out of the roof deck substrate. This condition could be the result of either moisture related to the expansion and contraction of the wood deck, and/or an underdriven nail during the construction.

Algal growth on asphalt shingles is common and typically occurs on northern slopes, where reduced sunlight and moisture promote its growth. The organic growth at the bottom edges of the shingles on the lower portion of the north slope of the building addition is also the result of insufficient sunlight or moisture on the roof slope. Organic growth can hold water and promote deterioration of the shingle.

Finally, bulges and ridges on the roof slope could result from a flexible roof deck that deflects into a region of high stiffness. This could be the result of a short transition of the original and newer (from the building addition) roof wood deck into a short width of the roof truss, deterioration of the roof deck along this edge,

two adjacent roof trusses from original and addition construction, improper blocking between the roof framing, or differential settlement.

Interior

The majority of the structural damage observed at the interior of the structure is concentrated within and adjacent to areas of the apparatus bay, especially along the basement hallway. Cracking observed in the apparatus bay wall and ceiling approximately aligns with a control joint in the apparatus bay floor and with the southeast basement hallway wall below, and the transition between wide apparatus bay area and narrow building section immediately north of the apparatus bay. Cracking in the foundation wall at the northwest basement wing also approximately aligns with the southeast basement hallway wall and the transition between the basement structure and the subgrade underneath the apparatus bay floor. The southeast wall in the basement hallway shows signs of water deterioration, including staining, coating failure, concrete spalls, and reinforcing steel corrosion. Considering the lack of maintenance and aging deterioration within the rest of the property, it is most likely that the control joints, between the concrete slab-on-grade and the concrete slab over the basement hallway, have not been sealed to mitigate the water infiltration. Additionally, the floor drains observed in the apparatus bay area, located north and south of the basement hallway, indicate that water standing within the concrete slab must cross the elevated slab to reach the drains. Additionally, the concrete slab for the basement hallway is almost centrally located within the apparatus bay and it is very likely the wheel loads from the fire trucks tires are dispersed on this slab when parked inside the garage area. Although the fire truck's weight is unknown, online information indicates that the custom-fabricated unit, designed to accommodate the required height clearance, can hold up to 500 gallons of water (approximately 4,200 pounds of water alone).

Additionally, the site, located adjacent to the Central Canal near the White River, likely includes a mix of soil types with inconsistent and fluctuating moisture contents. The Central Canal construction started in 1836 and extended towards downtown for a segment of approximately 8 miles[1]. It is unknown if the soil for IFD 32's lot was pre-canal construction or if excavation material from the canal was used to fill canal-adjacent lots. Loose soil fill requires additional compaction and removal of organic material for construction. These soils can consolidate at varying rates across a building's footprint under load, leading to non-uniform movement of the building foundation. Differential settlement across a structure can increase stresses on building components, in particular at points of transition in the foundation or in load due to heavily loaded parked vehicles, such as the fire truck in the apparatus bay, which can result in cracking at walls and foundations or misalignment of building components.

It is reasonable that since the original 1922 construction, soil under the basement footprint has compressed at a varying rate from the slab on ground to the southeast of the basement wall. In addition, the heavy load from the fire truck on the edges of the fill for the concrete slab-on-grade, the foundation walls, and elevated concrete slab could generate cracking in the concrete components and the movement and large deterioration of sealant within the control joints. All of the above could increase the risk for water migration

[1] Online website accessed on December 8, 2025: https://en.wikipedia.org/wiki/Indiana_Central_Canal

through the slab control joint towards the foundation walls, creating the water-related deterioration observed on the concrete wall and beam.

Rebar and concrete work compositely in concrete beams to resist stresses from applied loads. Sustained contact with moisture and oxygen will initiate corrosion of rebar. Corrosion of rebar reduces the cross-sectional area of reinforcing steel, reducing its capacity to resist stresses, as well as producing expansive rust that can spall concrete cover, accelerating further corrosion. At the southwest basement hallway concrete beam, the corroded rebar appeared partially debonded from the concrete, which limits the ability of the rebar and concrete to work compositely.

RECOMMENDATIONS

Facade

- Replace decayed, deteriorated, and missing wood facade elements (fascia board, trim, battens, thresholds, etc.). This would include sealing the open voids within the fascia boards, between the wood elements (fascias, doors, trim, etc.) and brick masonry, and pipe penetrations through the exterior wall.
- Repair cracked and damaged brick masonry veneer, cracked mortar joints, and tuckpoint/repoint areas with missing mortar.
- Consider installing a breathable, exterior, elastomeric coating on the exposed CMU screen wall.
- Clean the light wells from organic debris and trash and replace sealants around the perimeter of the windows in the light well.
- Paint the wood elements on the doors on the southwest facade.

Roof

- Tuckpoint the chimney brick masonry and install a new metal cap. It is possible the top portion of the chimney could require complete removal and restoration due to observed movement. Consider reducing the height of the chimney to reduce the risk of collapse and damage.
- Install new flashing at the upper portion of the dormer walls and soffits.
- Seal pipe penetration on the north slope of the gabled roof above the Apparatus Bay.
- Isolated replacement of partially torn shingles and repair of nail pops.
- Clean the algae from the surface of the asphalt shingles on the lower portion of the north slope of the New Addition building.

Interior

- Provide temporary shoring to the underside of the southeast end of the southwest basement hallway concrete beam. Consider parking the fire truck in the driveway, especially when fully loaded, and avoid using the apparatus bay until temporary shoring is installed.
- Remove overhead loose or unsound concrete at the southwest concrete beam and at the basement ceiling to mitigate the falling hazard risk of the incipient spalls.

- Perform concrete repairs at the southwest beam and the basement hallway ceiling to restore the original profile of the beam and slab. Provide at least the original minimum cover distance to rebar. As part of the repair process, clean and coat exposed corroded rebar with a corrosion-inhibiting product.
- Maintain the practice of not washing down the apparatus bay interior floor. This will reduce water infiltration into the basement through floor slab joints.
- Install a flexible sealant along the control joints for the apparatus bay's concrete slab, and install a traffic coating membrane within the apparatus bay floor.
- Repair cracks in walls for the apparatus bay.
- Monitor the walls of the apparatus bay and walls/ceilings at the basement level for further cracking after the relocation of IFD32. Likely, the cracking and concrete deficiencies at the apparatus bay and the basement are related to the parking and storage of the fully loaded fire truck. If signs of deterioration reappear, engage structural and geotechnical engineers to evaluate the structural components and determine soil properties to allow an engineering evaluation regarding possible differential settlement of the structure, respectively.

LIMITATIONS

This report summarizes the conditions observed during our visual assessment. Our observations were limited to exposed and accessible exterior walls and roof visible areas from grade and selected interior locations. No close-up inspection or inspection openings were performed to review the specific conditions of each structural member or hidden conditions. Our review activity was based upon the assumption that the structure had been designed and constructed in conformance with common construction practices at the time of its construction. Evaluation of potentially hazardous substances, such as soil contamination, asbestos, lead paint, mold, etc., was not performed by WJE and was not included in the scope of our services. The preparation of repair documents necessary to address conditions observed during the survey is outside the scope of this assessment and is not discussed in this report. Since this evaluation is limited by nature, WJE cannot assume responsibility for latent defects. This assessment was not intended to be an exhaustive evaluation of the entire structure. Further investigation will be required to document as-built conditions and create drawings and specifications sufficient for repair. A licensed design professional should prepare repair designs, and the design professional should be engaged during the repair project to review conditions uncovered during repairs and ensure the contractors are completing repairs in general accordance with contract documents and recommended industry practice.

Sincerely,

WISS, JANNEY, ELSTNER ASSOCIATES, INC.

James M. Brown, AIA, RRC
Associate Principal

Andrew DeLuca, EIT
Associate II

Francisco J. Peña, PhD, PE
Senior Associate & Project Manager

FIGURES



Figure 3. Decayed wood fascia at southeast facade.



Figure 4. Decayed wood fascia at southwest facade.



Figure 5. Missing wood trim at northeast facade.



Figure 6. Deteriorated fascia and bowed soffit panel at southwest facade.



Figure 7. Missing wood trim at northwest facade.



Figure 8. Missing wood trim on the northeast facade.

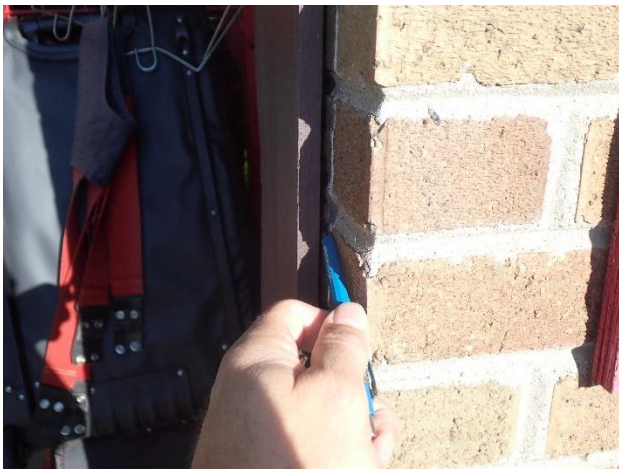


Figure 9. Open and unsealed joint between brick veneer and wood trim.



Figure 10. Open and unsealed joint between brick veneer and windowsill.



Figure 11. Adhesion failure in sealant between window jamb and brick veneer.



Figure 12. Voids in sealant between window jamb and brick veneer.

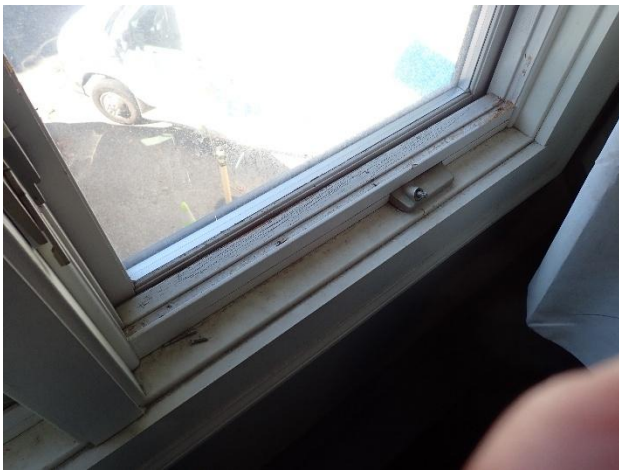


Figure 13. View of aluminum-clad wood-framed window.



Figure 14. Window with company name “HURD IGG ® CBA” engraved on window frame (jamb).



Figure 15. Window with "BROKEN DO NOT OPEN" sign.


Figure 16. Unsealed pipe penetration joint at cast stone.


Figure 17. Unsealed joint at the wall-to-soffit interface.


Figure 18. Unsealed joint at the wall-to-soffit interface.


Figure 19. Daylight visible through attic space at wall-to-soffit interface.


Figure 20. Gap between fascia boards.



Figure 21. Organic debris at lightwell.



Figure 22. Close-up view of organic debris at lightwell extending above the bottom of the windows.



Figure 23. Flaking paint at window steel lintel.



Figure 24. Void between vertical wood batten and stucco.



Figure 25. Wood grain separation and open miter joints at window.



Figure 26. Wood threshold and jamb trim deteriorated and decayed.



Figure 27. Deteriorated paint on wood trim.

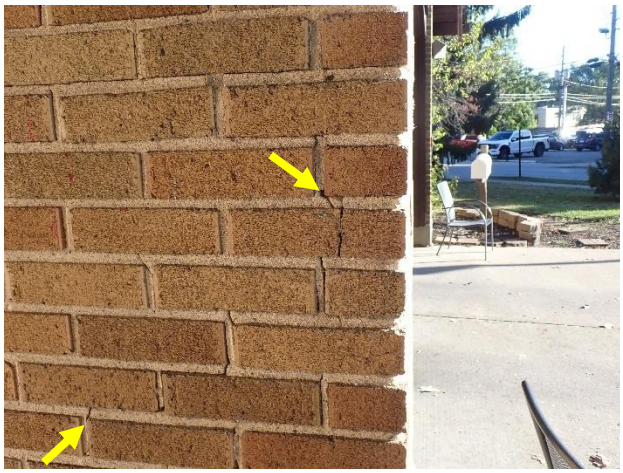


Figure 28. Joint and thru cracking at brick veneer.

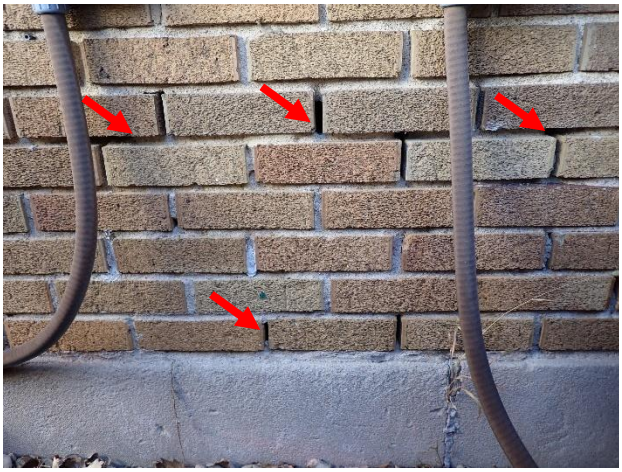


Figure 29. Missing/eroded mortar at brick veneer wall.



Figure 30. Missing/eroded mortar at brick veneer wall. Note the loose small segments of brick at the interior corner (arrows).



Figure 31. Loose brick at wall with eroded mortar at brick veneer.



Figure 32. Dark staining (arrow) and displaced cast stone coping (dashed box) for antenna tower screen wall.



Figure 33. Hole in brick masonry veneer and CMU screen wall.



Figure 34. Green staining at bottom of brick veneer.

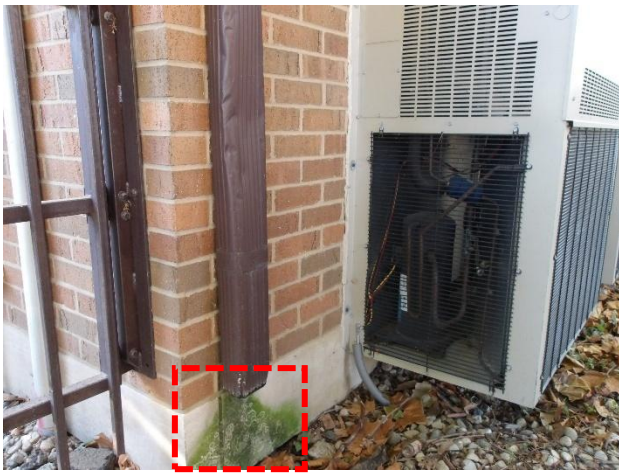


Figure 35. Green staining at cast stone below downspout.



Figure 36. Cracking in slab-on-grade.



Figure 37. Typical 5-1/2 inch exposure of laminated asphalt shingles roof.



Figure 38. Roof slope measured to be 9:12.



Figure 39. Horizontal pipe penetrating north slope with gap between pipe and flashing boot (arrow).



Figure 40. Torn laminated tab at asphalt shingle.



Figure 41. Torn laminated tab at asphalt shingle.



Figure 42. Debris on gutter.



Figure 43. Void at wall-to-soffit interface on roof dormer.



Figure 44. Step flashing observed within shingles near roof-to-wall interface.



Figure 45. Lifted shingle at roof slope.



Figure 46. Brick chimney with deteriorated mortar.



Figure 47. Brick chimney with deteriorated mortar. Note that the metal cap only covers the top of the chimney and does not extend to its sides.



Figure 48. Roof bulge in southwest roof slope near intersection of original building and building addition.



Figure 49. Roof bulge in northeast roof slope near intersection of original building and building addition.



Figure 50. Transition of roof members between original construction and building addition (right of dashed line).



Figure 51. Remaining wall finishes at attic space transition between original and building addition.



Figure 52. Algae growth on asphalt shingles at the bottom of north slope at building addition.



Figure 53. Crack in wall (and ceiling) at southwest wall of the apparatus bay.



Figure 54. Close-up view of crack in wall from Figure 53.



Figure 55. Diagonal cracks in wall at apparatus bay.



Figure 56. Approximate location of wall cracks (red arrow) and slab control joint (yellow arrow). Note the drain located a few feet away from the control joint (orange arrow).

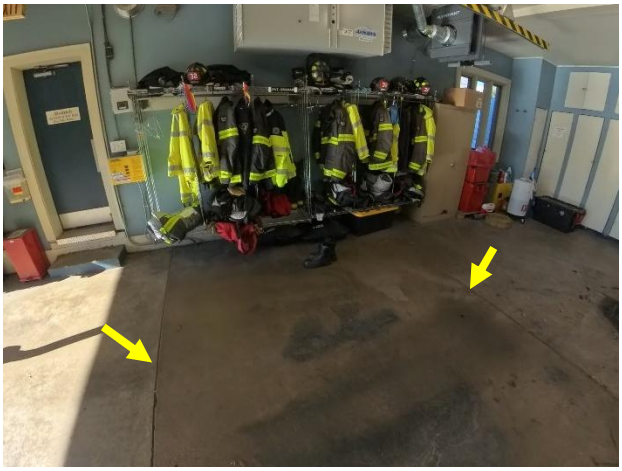


Figure 57. View of apparatus bay and joints on concrete slab for basement hallway (arrows).



Figure 58. Basement hallway with approximate location of ceiling concrete slab (arrows).

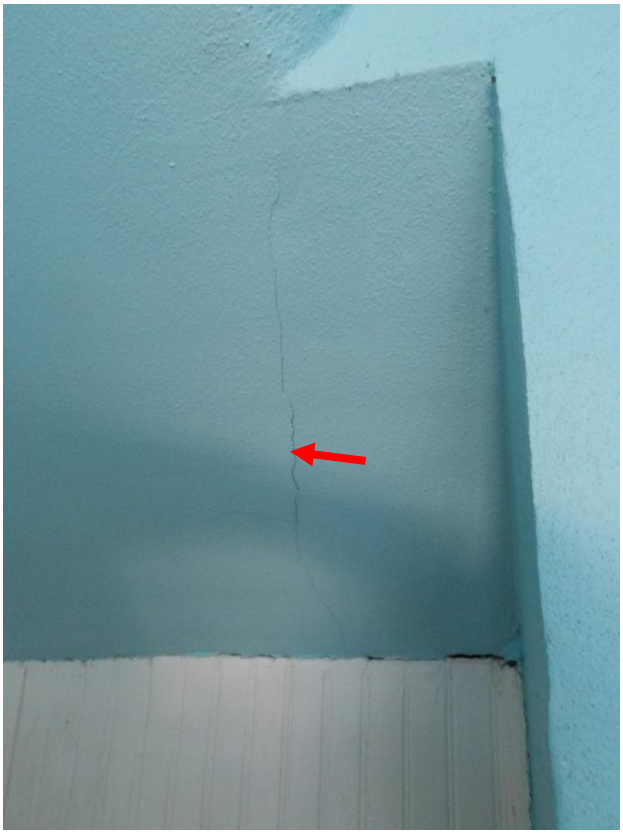


Figure 59. Ceiling cracking near basement entrance.



Figure 60. Wall cracking in drywall near basement entrance.



Figure 61. Wall/ceiling cracking in drywall near basement entrance.



Figure 62. Corroded reinforcing steel at the underside of the concrete slab at basement.



Figure 63. Staining at basement wall near concrete spall at basement.



Figure 64. Concrete spall at basement beam.



Figure 65. Concrete spall and corroded reinforcing bar at southwest beam.



Figure 66. Partially debonded and corroded reinforcing bar at basement beam.



Figure 67. Crack in wall at southwest CMU wall at basement.



Figure 68. Close-up view of crack in wall from Figure 67



Figure 69. Wood sheathing covering underside of floor deck (looked from the basement.