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Preliminary Building Inspection
Perry-Rainey Center
16 College St.
Auburn, Georgia
April 17, 2023

On March 30, 2023, this firm made a general inspection of the referenced building to assess its overall structural competence to serve public assembly gatherings. Over the past several months, the building has been subjected to flooding from a broken water pipe (mitigation is still underway) which has brought to light several alarming deficiencies which have created a concern on the part of the public officials as to the overall structural integrity of the building as it is used today.

This building was constructed in at least two separate phases. The oldest portion of the building (northern 2/3) which was built in 1888 is approximately 130' long x 40' deep and is a two-story wood and masonry building constructed on a full daylight basement with concrete footing and masonry foundation walls. It has a true hip roof with asphaltic shingles. The exterior walls are constructed as a multi-wythe brick wall (3 course wide) which extends from the basement all the way to the eave. There are rough sawn 6" x 8" beams oriented lengthwise along the center of this building in the basement. These beams are spaced 6'-6" apart in the center and then 7'-6" apart for the two spans to the front and rear. On the main floor the two central beams are also spaced at 6'-6" centers but the additional column and beam lines to the front and rear are non-existent. On the second floor the two central column/beam lines are spaced 6'-6" in the original building. These beams are supported with a combination of 6" x 6" rough sawn and 4" diameter round steel columns set on varying centers its entire length. The floor joists are rough sawn 2" x 8" members set on 16" centers on both the main and second floors.

This original building was used as a women's dormitory for the Perry-Rainey College which transitioned to the Southeastern Christian College until about 1924. The building was eventually purchased by R&R manufacturing and converted into a sewing plant. The City of Auburn eventually purchased the building and has refurbished it as an event venue since 2019. As an Event Center this facility would be classified by the IBC as an A2 – Assembly occupancy with a Type IIIB construction system that is sprinklered. The floor system for this designation per the 2018 IBC must accommodate a Live Load of 100 PSF. It should be noted that this can be reduced to 80 PSF per the 2018 IBC in certain situations.

At some point, likely in the early to mid-1950's, an extension of this building to the south was added which is 50' long x 40' wide with two structural beams-oriented left to right and spaced approximately 11'-0" apart in the center portion of this building. This portion of the building utilized 8" CMU with a brick façade to yield a 12" wall thickness. This wall system extends all the way from the basement to the eave. The first and second floor joists in the newer portion of the building are 2" x 10" finished pine supported on the CMU foundation wall. This portion of the building has a flat roof framed with 4" x 8" timbers set on 32" centers with wood decking and a membrane roof.

We undertook an inspection of the entire building beginning at the main entry and proceeding to the north and then to the second floor. Following our inspection of the second floor and attic area, we went down to the

basement via the elevator. We were accompanied by a number of City Officials who were very helpful in pointing out many of the problems and recounting their history. There were active repairs underway at the main entry and first floor where the damage from the most recent water intrusion event was being remediated. However, this repair has been halted due to the discovery that the bearing ends of the floor joists along the front of the hallway were severely compromised. The City is awaiting the results of our inspection to determine the most appropriate path forward to complete the necessary repairs. During our inspection the following concerns and observations were noted:

A. Basement Level:

1. The bearing ends of the rough sawn 2" x 8" floor joists are inset into the multi-wythe brick wall. Most show signs of rot and decay with numerous ends having entirely lost their bearing capacity. The severity of this condition does vary widely and presents a definite concern for the structural stability of at least the first span of floor joists along both the front and rear of this building which must be addressed as soon as possible.
2. The basic construction of the main floor system which consists of rough sawn 2" x 8" pine on 16" centers spanning 6'-6" to 7'-6" between beams is suitable to carry an assembly occupancy loading of 100psf as is currently being done, if all the deficient bearing conditions along the walls were repaired.
3. The basement level walls and framing have been coated in a black 'paint' product which may be serving to reduce termite infestation and dry rot. More information and/or research will be needed to gain a clear understanding of this products effectiveness.
4. It was pointed out to our team that some termite infestations have been observed in the past. However, no specific structural damage was observed as might have been the result of such an infestation.
5. The basement was loaded with equipment and supplies for making plaster-of-Paris art objects. Any repair work requiring access to a given area will require staging and moving currently stored materials around.
6. The floor joists beneath the restroom area were found to have had several holes and/or notches cut into the bottom of these joists at some point in the past. Although the floor areas in the two restrooms were noted to be sagging (likely caused by water intrusion) no significant degradation to their load carrying capacity was found.
7. Overall, the basement was in good condition with the exception of the presence of the rotted joist end bearing conditions (see Item #1 above).
8. No ongoing evidence of water intrusion through the foundation system was identified.

B. Main Floor:

1. Based on the construction - the main floor system, as described previously, is suitable for its current usage once the joist end bearing decay issue has been repaired.
2. The area at the main floor entry and hallway towards the elevator has been severely damaged due to a broken waterline in the attic several months ago. Repairs are currently underway, but it has now been revealed that the floor joist which bear into the brick wall are badly rotted and are disintegrating. The full extent of this damage is still being revealed as wall and floor covering are being removed.
3. The two large restrooms on the main floor have a sagging floor but we found that the floor structure itself appears to be structurally competent. The floor sagging is most likely due to previous and ongoing water intrusion which has resulted in the floor joists periodically becoming more limber and allowing them to sag. It does not appear that the floor joists and support beams in these two areas will need to be

replaced though some additional support may be needed once the full extent of the water damage is revealed.

4. The balance of the existing main floor space was found to be in acceptable condition and suitable for continued use subject to the concern presented in Item #6 below.
5. It was noted that the additional two lines of beams and columns found in the basement have not been duplicated above the main floor. This significantly impacts the capacity of the second floor.
6. Based on its current configuration, the second floor has a calculated live load capacity of 48psf which is significantly below the 2018 IBC requirement of 100psf. Considering its current usage and occupancy classification, significant concern must be expressed for the safety of its patrons.

C. Second Floor:

1. The second floor has been found to be very deficient in its load carrying capacity and will need to be significantly strengthened if its use as a meeting venue is to be continued.
2. The floor joists, like the main floor, are pocketed into the masonry wall and likely have weakened bearing ends due to rot and decay associated with wood bearing on masonry.
3. Cracks between the exterior wall and floor are present around the entire perimeter of the newer section. These cracks vary from 1/8" to 3/16" in width. There is also cracking visible on the inside and outside faces of the exterior walls. This indicates that the foundation walls are currently or at least have been moving outward.
4. Steel channels have been recently attached to the exterior of the new section of the building at the first and second floors and at the roof band in an apparent attempt to keep the walls from moving any further. They are bolted through the masonry wall. In the ceiling of the second floor - this exterior band beam appears to have been tied back to the wall between the newer and older sections with a 1/2" solid rod. However, all three of these tie-backs are currently not tight and/or discontinuous.
5. The roof/ceiling appears to be framed with heavy timber 4" x 8" rafters set on 32" centers.
6. The exterior soffit/facia around the roof of the newer portion is rotting and likely will need to be replaced. This closure system may be allowing rain water to intrude into the roof/wall system which could be causing the movement noted in Item #3 above.
7. The two large restrooms, in the older portion of the building, both have severely sagging floors due to water intrusion and decay. It is most likely that the floor joists, sub-floor, and flooring in these two areas will require total replacement.

D. Roof:

1. The roof on the older portion of the building is a stick framed true hip roof. It utilizes 2" x 6" rough sawn pine rafters set on 24" centers. The roof does not have a ridge board as the rafters are lapped and nailed at the ridge. It is decked with 1" x 6" rough sawn boards. The rafters are braced at mid-span down to the central row of columns and beams below. Covered with asphalt shingles, the roof appears to be in good condition. As we could only look at this portion of the roof at one location, we do recommend that a more exhaustive inspection be done to detect any deficient members that may need repair.
2. The roof on the newer portion of the building is a flat roof with a built-up membrane. We were unable to access this roof but did observe rotting and decay to the band on the rear of the building. The soffit/facia is in bad condition and needs to be replaced.

Based on our findings, we have developed a prioritized list of recommendations to address each of the issues as identified. As we do not have a clear understanding of the City's financial capacity, we are making a number of suggestions which may assist in controlling the budget required to undertake the recommended repairs. Further, we have broken the repairs into smaller staged repairs which may allow for the application of localized grant funds from the various municipal resources.

Phase I – Repair Hallway & Water Intrusion Damage

1. In order to restore the joist bearing along the foundation walls, it is recommended that a pressure treated 2" x 4" stud wall be added next to and along the foundation walls where the joist bearing is found to be critically deficient. Once this new wall is in-place, the existing floor joists should be cut back a minimum of ¼" away from the masonry and that portion remaining in the wall cavity removed. To assure that this new wall is stable, Simpson H2.5A Hurricane Ties should be attached on a minimum of 32" centers from the joist to the wall's top plate.
2. If any of the existing floor joists are determined to be deficient and in need of replacement, we recommend that they be replaced with new 2" x 8" rough sawn timber.
3. The balance of the repair project should then be continued using the current protocol.
4. Rough Sawn Timbers are still available (both pressure treated and non-pressure treated) and are significantly less expensive. We have used a saw mill in Cartersville (W. D. Cline) with excellent results and they will deliver to Auburn.
5. We will be available to inspect other questionable conditions and assist in resolving these issues as they arise during the continuation of repairs.

Phase II – Detailed Information Gathering

1. Due to our limited time on this project, we would recommend a more exhaustive inspection of some of the questionable conditions we noted. The items of concern that remain are as follows:
 - a. Identifying specific members that are deficient (end bearings, termite or other structural damage to joists, beams, columns or other framing members throughout the building. We would, of course, specifically identify and list each deficiency and prioritize their importance and recommend the most cost-effective approach for repair/remediation of all deficiencies identified.
 - b. The flat roof over the newer section should be physically inspected to determine its condition and estimate its useful life expectancy. This would also afford a closer examination of the eave/fascia condition. Note: We have a 32' Articulated Man-lift that can be utilized for this inspection.
 - c. Crack monitors should be installed in the newer portion of the building to monitor future movement. These are relatively inexpensive and once installed can be monitored on a regular basis by City personnel.
 - d. Additional inspection of the main roof system should be done as we had limited access during our initial inspection. Given its age, it is likely that some members will need to be sistered or replaced to maintain the roof's integrity.
 - e. As a normal maintenance routine, the HVAC and Electrical systems should be professionally checked to assure proper and efficient operation.

Phase III – Joist Bearing Reinforcement of Main Floor (Balance of Building)

1. We recommend that the deficient joist bearing conditions that led to our initial inspection be fully addressed around the balance of the building in the foreseeable future.

Phase IV – Structural Reinforcement of Second Floor

1. We recommend a meeting with City Officials be held to discuss these findings in greater detail in order to fully understand its gravity and what conditions of use should be considered if the second floor is to be continued to be leased (rented) as an event venue.
2. Consideration should be given for performing a preliminary design that could economically be undertaken to remediate all deficient conditions.

Conclusions

Our inspection and structural analysis of this building although relatively thorough was not in sufficient detail to enable a complete listing of the many deficiencies which exist or may exist. However, we have determined the major issues that should be addressed in the near and foreseeable future. Some of which do create definite concerns for the continued use of this building as an event venue. The building and its current functional uses serves a very definite need in the greater Auburn community, making this facility a worthwhile public investment. As with all publicly owned buildings, ongoing maintenance and repairs must be routinely expected and provided for in the budgeting process. This is particularly true of historic structures such as the Perry-Rainey Building.

Our firm stands ready to assist the City of Auburn in any way possible to continue providing meaningful services to greater Auburn community.

Should you have any questions regarding this inspection or report, or if I can be of further assistance, please contact me at your convenience.

Very truly yours,



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