

DELAWARE DEPARTMENT OF TRANSPORTATION

PRE-MONITORING INSPECTION REPORT

THE MILL BUILDING AT HEARNS POND DAM, SUSSEX COUNTY , DE





**PRE-MONITORING INSPECTION REPORT
MILL BUILDING AT HEARNS POND DAM
CITY OF SEAFORD
SUSSEX COUNTY, DE**

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**STRUCTURAL INSPECTION SUMMARY REPORT
MILL BUILDING AT HEARNS POND DAM
SUSSEX COUNTY, DE**

1.0 INTRODUCTION

Delaware Department of Natural Resources and Environmental Control (DNREC) currently owns the Mill Building complex shown in *Figure 1A*. It is the intent of the Delaware Department of Transportation (DelDOT) to assess the current structural condition of the main building (building #1, shown in outline in *Figure 1A*) to see whether it can withstand construction vibrations without any modification to the structure components. This inspection report will represent the general structural condition of the Mill Building which will aid the Contractor in developing means and methods to support the building as needed during the construction.

A field visits were made by McCormick Taylor, Inc. (MT) on January 15th, 2015 and February 11, 2015 to perform a visual inspection of the Mill Building. The purpose of site visit was to perform a visual inspection of the current structural condition of the Mill Building and to provide professional opinion on whether the building is capable of withstanding vibration generated by the pile driving operation. It is anticipated that the closest pile driving could be as close as 40' (+/-) from the building.

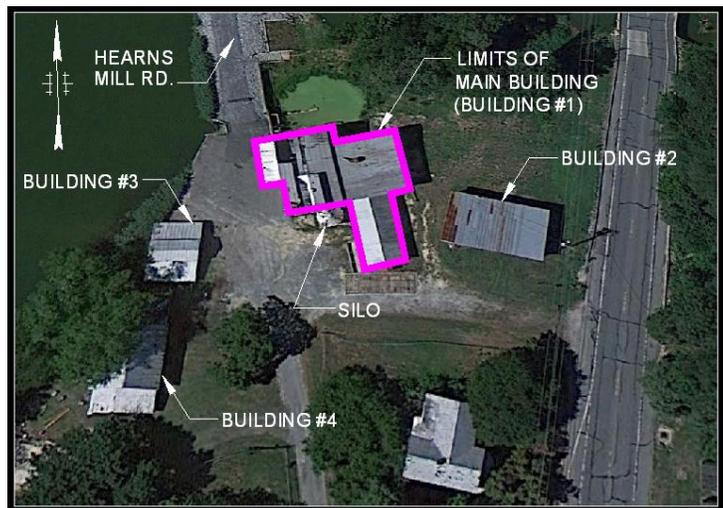


Figure 1A – Aerial view of the Mill Building

2.0 SCOPE OF WORK AND LIMITING CONDITIONS

There are four (4) building structures identified as part of the Mill Building complex, but only the main building (Building #1, see *Figure 1A*) was inspected under this scope. The limits of the inspection are outlined in *Figure 1A*, which excludes the existing silo that is adjacent to the main building. Any reference to the Mill Building stated henceforth will be understood as the building #1 as highlighted in outline in *Figure 1A*.

The inspection was limited to visual observation from the ground, and upper floor levels to identify any structural defects in the main building. No special access equipment (i.e. ladder, lift bucket, etc) was used during the inspection. It is important to note that no detailed structural analysis or member capacity ratings performed for this report. In

addition, this building and its components were not evaluated for conformance with current building standards/code.

Findings and recommendations were based on observed conditions at the time of our field visit. No building components were moved or disassembled to perform a visual inspection. For further details in limitation, See “Section 6.0 LIMITATION OF INSPECTION LIABILITY.”

3.0 EXISTING BUILDING STRUCTURE

The Mill Building is located in the City of Seaford, Sussex County, Delaware (see Location Map in *Appendix A*). Delaware Department of Natural Resources and Environmental Control (DNREC) is the owner and facilities manager of the property. The building access is provided by the south abutment of the earthen dam.

Based on our preliminary investigation, the original Mill Building was constructed around 1820. In 1879, the structure was burned to the ground and reconstructed on a later date which is unknown. At the time of this report, As-Built drawings for the building were not available and do not appear to exist. Based on a historical preservation survey conducted in the past, this Mill Building was placed on the National Register of Historic Places on May, 22, 1978.



Based on the field observations and type of the material used for construction of various sections of the structure, we believe that the Mill Building structure was expanded or modified from its original building at some point of its existence. This Mill Building is a 2-story timber structure with a partially open basement level (ground level). Approximate building floor area, excluding ground level, is 7,400 sq. ft.

The Mill Building is founded on the following foundations types:

- Concrete wall and concrete pier foundation
- Brick masonry wall and brick masonry pier foundation
- Cement Masonry Unit (CMU) walls and CMU pier foundation

For foundation plan view and the above mentioned foundation type location, see *Figure 1* in *Appendix B* and Photos B1 through B25 in *Appendix C*. It appears that the original

building structure was founded on brick masonry walls and brick piers. Other foundation types appear to have been constructed at a later time as part of the building expansion.

The building structure above the foundation consists of timber frame construction covered by corrugated metal sheet forming the exterior. For an estimated first floor plan view and details, see *Figure 2* in *Appendix B* and Photos F1 through F6 in *Appendix C*. For an estimated second floor plan view and details, see *Figure 3* in *Appendix B* and Photos S1 through S13 in *Appendix C*.

It should be noted that the Mill Building is boarded up with no occupancy allowed onsite. This build complex did not have power or water service at the time of the inspection.

4.0 SUMMARY OF INSPECTION FINDINGS

4.1 Foundation/Ground Level

Field observation revealed that different sections of the foundation were constructed or modified at various times of the structure's lifespan. Due to a lack of As-Built drawings building expansion or modification dates are difficult to establish. As mentioned in the previous section, the existing structure is supported on cement concrete, brick masonry and CMU foundation walls and piers.

It appears that the general structural condition of the CMU wall and concrete wall foundation are in fair condition with minor spalls, cracks and water infiltrations. However, the CMU piers and brick masonry foundation walls are in poor condition with various wide crack, wall separation, settlement, section loss and pier movement.

The following is a list of typical structural defects found at pier foundation and wall foundation with photos (work with *Figure 4 = Ground Level Photo & Deficiency Location Plan* in *Appendix B* and Photos in *Appendix C*):

Pier Foundation:

- Several CMU column footings are exposed and bottom of footing appears to be located above the required 36" frost line depth (see Photos B1 & B2).
- Several CMU columns are shifted out of vertical plane (see Photo B13).
- Several CMU columns are constructed without footings (see Photos B3 & B4). Columns exhibiting undermining and few columns are shifted off their base (see Photos B4 & B5).
- Approximately 50% of cross sectional area was removed near the top of CMU column to accommodate the utility pipe (see Photo B12).
- Two timber columns appear to be installed out of plumb. Both columns are unsecured at their base (see Photos B14 & B19).

- One steel floor screw jack supports floor beams at the south end of the building. Floor jack is unsecured at top and bottom (see Photo B6). It should be noted that the screw jacks are designed to be a temporary support column rather than a permanent feature.
- Brick column exhibits a full height vertical crack in the column adjacent to the exterior brick foundation wall (see Photo B24).

Most of the pier foundations on the Mill Building appear to be in poor condition due to undermining and exposed footings, pier movement, section loss, various cracks and out of plumb columns/piers.

Foundation Walls:

- Severe soil erosion near outside face of the northeast foundation walls and approximately 3” wide vertical crack in the wall (see Photo B7).
- Concrete footing supporting CMU wall exhibits undermining at various locations (see Photos B8, B9 and B10).
- Bottom of footing appears to be located above the required 36” frost line depth (see Photos B9 and B10).
- Front (west side) concrete wall exhibits water infiltration at the joint with an adjacent wall (see Photo B15). Timber sill above concrete wall shows severe damage due to the termite infestation (see Photos B15 & B16).
- Concrete foundation exhibits wide vertical crack near adjoining CMU wall and at approximately its mid-span (see Photos B17 & B18).
- Brick foundation wall exhibits vertical and diagonal cracks through mortar joint at the foundation’s east corner (see Photos B21 & 22).
- Portion of the brick foundation at the west corner exhibits complete separation and rotation due to settlement (see Photo B25).
- Timber rim beam over mid-section of a brick foundation exhibits diagonal checks and rotting due to sustained water damage (see Photo B23).

With exception of CMU and concrete wall foundation type, most of the brick masonry wall type foundation on the Mill Building appears to be in poor condition due to undermining and exposed footings, severe erosion, severe timber rot, various cracks, wall separation and settlement.

4.2 First Level

The overall condition of the timber structure appears to be in a fair condition. The following is a list of structural defects found on the first level of the building with photos (work with *Figure 5 = First Level Photo & Deficiency Location Plan* in *Appendix B* and Photos in *Appendix C*):

- Did not observe anchoring connection between the timber structure and the foundation below.
- Visible deflection in timber beams supporting floor joist (see Photo F1).
- Various size checks are typical for most timber beams, floor joists and posts (see Photo F2).
- Few of floor joists have cutouts that appear to accommodate other cross members in the past (see Photo F3).
- Temporary screw jacks are improperly installed below second level floor joists with deep cutouts and where floor joist is not secured to adjoining beam (see Photo F3).
- One of the beam-post connection exhibits separation (see Photo F4).
- Section of the floor is damaged due to water leaking from the second floor (see Photo F5).
- One timber column exhibit bowing (see Photo F6).

Based on the field observation, the overall condition of the timber structure appears to be in a fair condition due to various checks throughout the first level, joist cutouts and water damage.

4.3 Second Level, Attic and Awning

The overall condition of the timber structure appears to be in a fair condition. The following is a list of structural defects found on the second and attic levels of the building with photos (work with *Figure 6 - Second Level & Attic Photo & Deficiency Location Plan* in *Appendix B* and Photos in *Appendix C*):

- Sections of the floor and roof exhibit severe damage with 100% section loss due to water leakage and termite infestation (see Photos S1 through S6).
- Section of the load bearing wall supporting roof structure has been removed (see Photo S9).
- Approximately 50% of structural timber members exhibit various length and depth checks (see Photo S7).
- Several studs in non-load bearing wall and post lateral braces exhibit excessive cutouts (see Photos S8 and S10).
- Timber beams supporting attic load bearing walls exhibits severe deflection (see Photo S12). Excessive beam deflection causing beam end to rotate and separate from the supporting post (see Photo S11).
- Wood framing supporting the outside awning shows evidence of deterioration caused by water (see Photo S13).

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the visual observation of the Mill Building, it is our opinion that the overall condition of the Mill Building is poor due to the foundation. The overall condition of the timber structures in first and second levels is fair. Most of the defects that are found in the Mill Building may be attributed to one of, or combination of the following:

- Poor initial building design
- Poor construction
- Inadequate site grading
- Poor building maintenance
- Modifications without consultation with design professionals
- Age related deterioration of construction material
- Past flooding events

Based on the reported findings and the age of the building, we believe the current condition of the existing foundation poses a safety concern where a nearby pile driving operation could further deteriorate or damage the existing foundation thereby compromising the overall structural integrity. Another area of concern is the exterior awning at the front of the building. Although this awning is not a major structure component for the Mill Building, its poor condition poses possible falling hazards to the workers during pile driving operation. Therefore, we strongly recommend either repairing or strengthening the deteriorated sections of the existing foundation and awning prior to the start of pile driving operation. The following is an outline of area of concerns:

- Foundation/Ground Level (see *Figure 4* for locations):
 - Brick masonry walls and piers.
 - Concrete wall foundation along building north.
 - All CMU and timber piers.
- Second Level (see *Figure 6* for locations):
 - Exterior awning at the front of the building.

The Contractor should pay attention to the above generalized area of concerns and perform a repair or provide additional load bearing support to maintain the overall structural integrity of the building during the pile driving operation. The means and methods of the repair or additional support should be determined by the Contractor and submitted to the Department for their review and acceptance.

As mentioned, the overall condition of the timber structure (first and second level) appears to be in fair condition despite the age of the building. Based on the field observations, the existing timber structure exhibits no major structural defects where the pile driving operation could pose safety concerns or compromises the existing structural integrity.

It should be noted that the Contractors will be responsible to maintain the overall structural integrity and safety of the workers. Therefore, all bidders should visit the site to verify and assess the latest condition of the Mill Building and all factors that may influence its stability and safety prior to bidding and start of pile driving operation.

6.0 LIMITATION OF INSPECTION LIABILITY

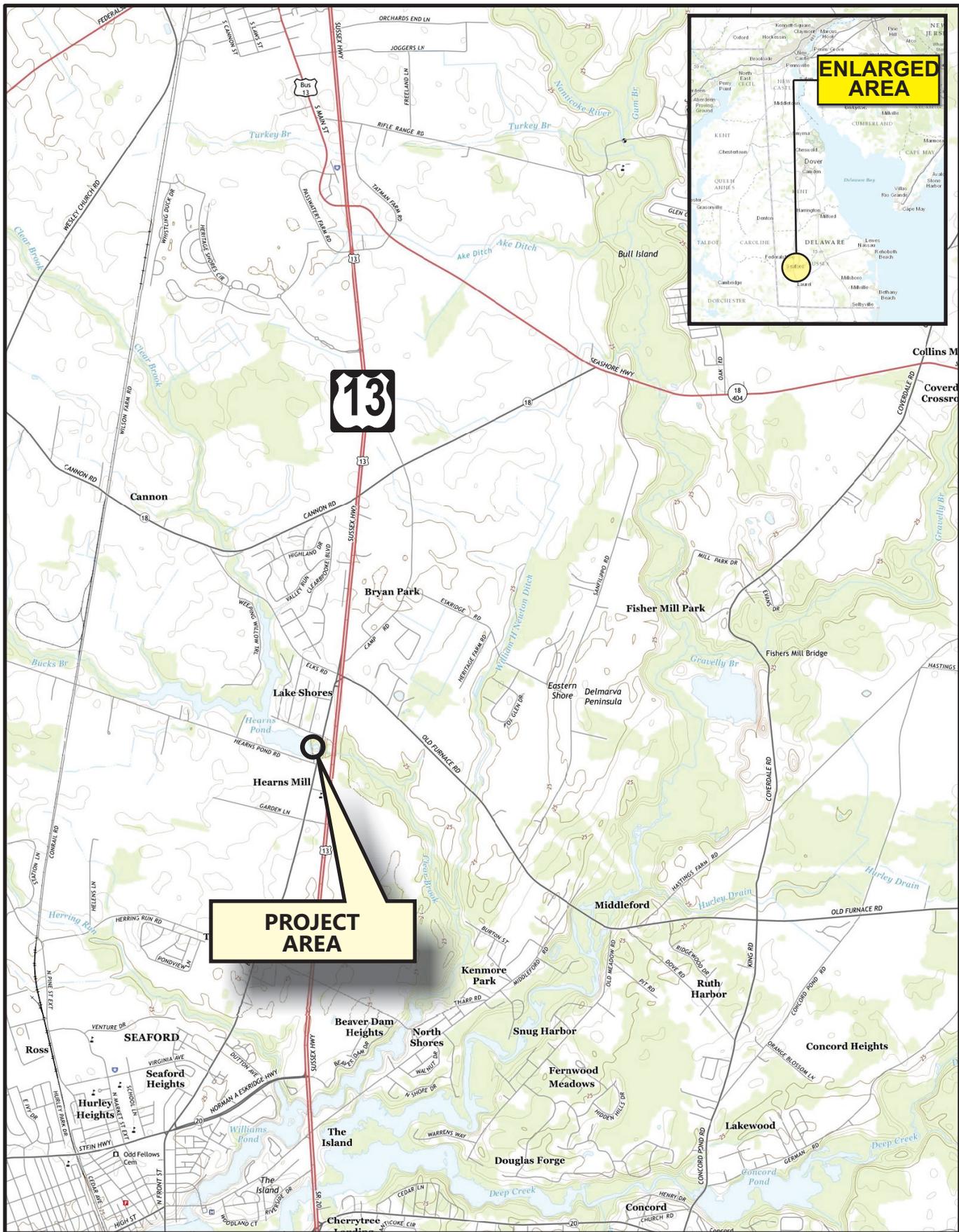
This report is provided for the use of the organization to which this report is addressed, and is in no way intended to be used by a third party, who may have different requirements. It is our purpose to provide information of the observed items on the day of the inspection, and not to provide discussions or recommendations concerning the future maintenance of any part of the structure, or to verify the adequacy and/or design of any component of the structure. Findings and conclusions are based upon observed conditions at the time of our visit. Only items readily visible and accessible at the time of the inspection were viewed, and any items causing visual obstruction were not moved.

Disassembly or removal of any portion of the structure is beyond the scope of this inspection. This report does not include a detailed analytical study of the structural elements, nor does this report address the structural conditions of structural members which are not exposed to view. There is the possibility that conditions may exist which is hidden from view and could affect some of the conclusions herewith. Therefore, McCormick Taylor assumes no responsibility for any deficiencies which are not visible by external observation.

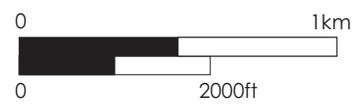
McCormick Taylor makes no representation regarding the condition of this structure other than as contained in this written report. Any verbal discussions concerning this property that were made at the time of the inspection, and not contained in this written report, are not to be relied upon. This report and its attachments shall not be considered a detailed document to be used in securing bids or proposals to execute necessary repairs. Observations/discoveries identified in this report are representative of items noted during our investigation and should not be a comprehensive listing. There is no warranty or guarantee, either expressed or implied regarding the habitability, future performance, life, insurability, merchantability, workmanship of any item inspected.

Appendix A

Location Maps



Base Mapping Source:
 U.S.G.S. Topographic Quadrangle;
 Seaford East, DE, 2014.



Project Location Map

Appendix B

Figure 1 Ground Level - Foundation Plan

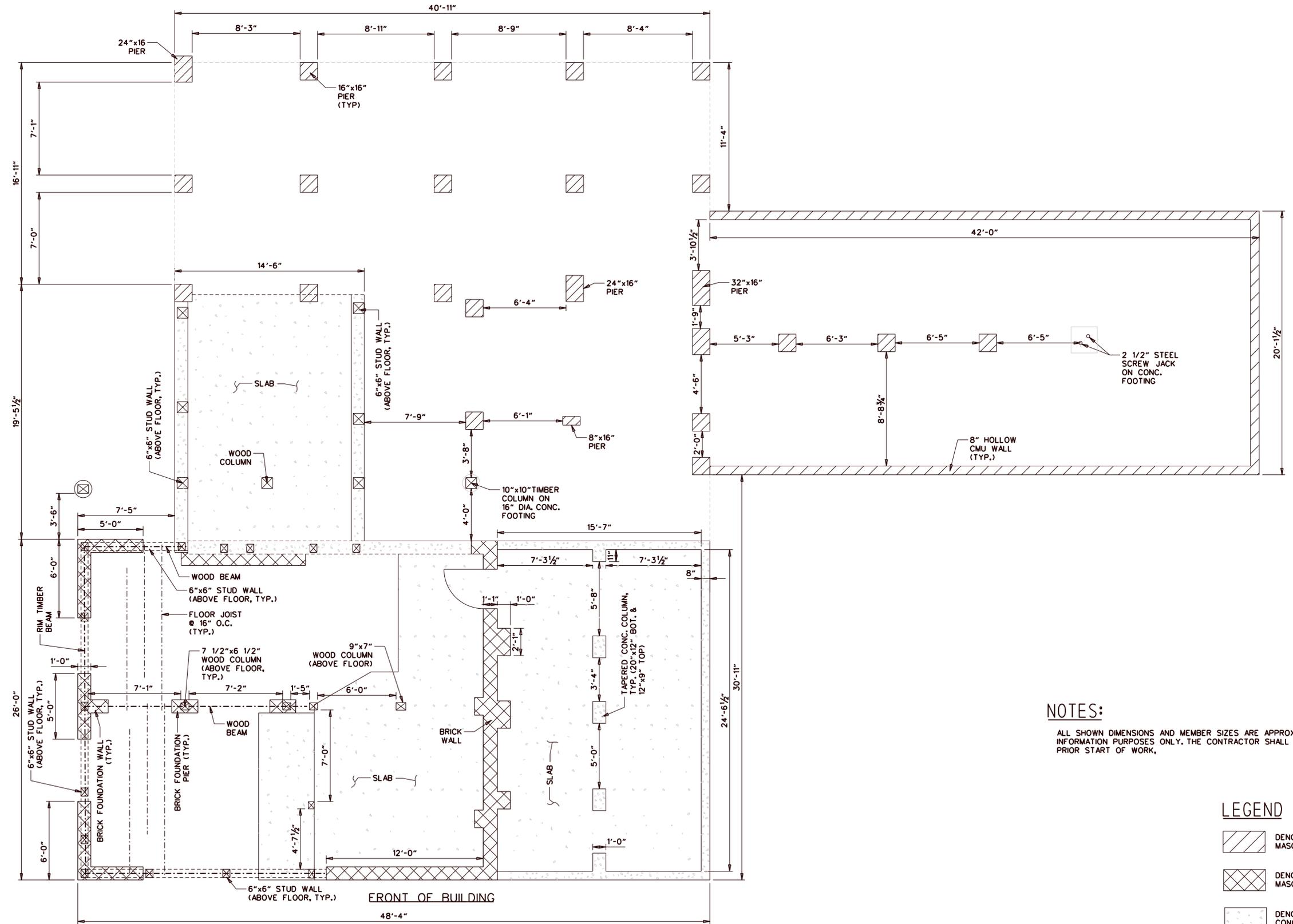
Figure 2 First Level - Floor and Framing Plan

Figure 3 Second Level - Floor and Attic Framing Plan

Figure 4 Ground Level - Photo & Deficiency Location Plan

Figure 5 First Level - Photo & Deficiency Location Plan

Figure 6 Second Level - Photo & Deficiency Location Plan



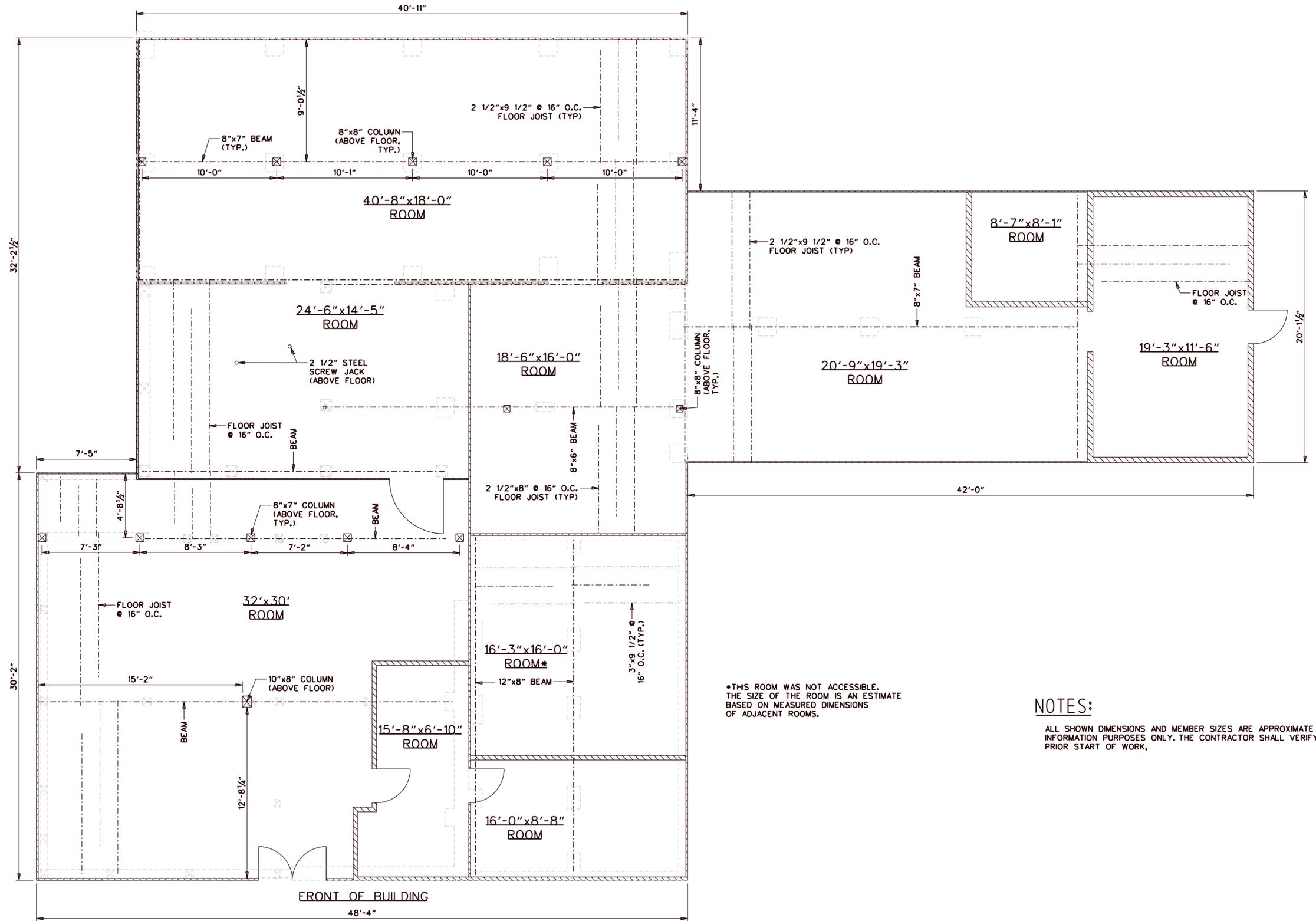
NOTES:
 ALL SHOWN DIMENSIONS AND MEMBER SIZES ARE APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY SHOWN INFORMATION PRIOR START OF WORK.

- LEGEND**
-  DENOTES UNREINFORCED CEMENT MASONRY UNITS (CMU)
 -  DENOTES BRICK MASONRY
 -  DENOTES CEMENT CONCRETE
- BOT. = BOTTOM
 CONC. = CONCRET
 DIA. = DIAMETER
 TYP. = TYPICAL

GROUND LEVEL - FOUNDATION PLAN

1/4" = 1'-0"

FIGURE 1



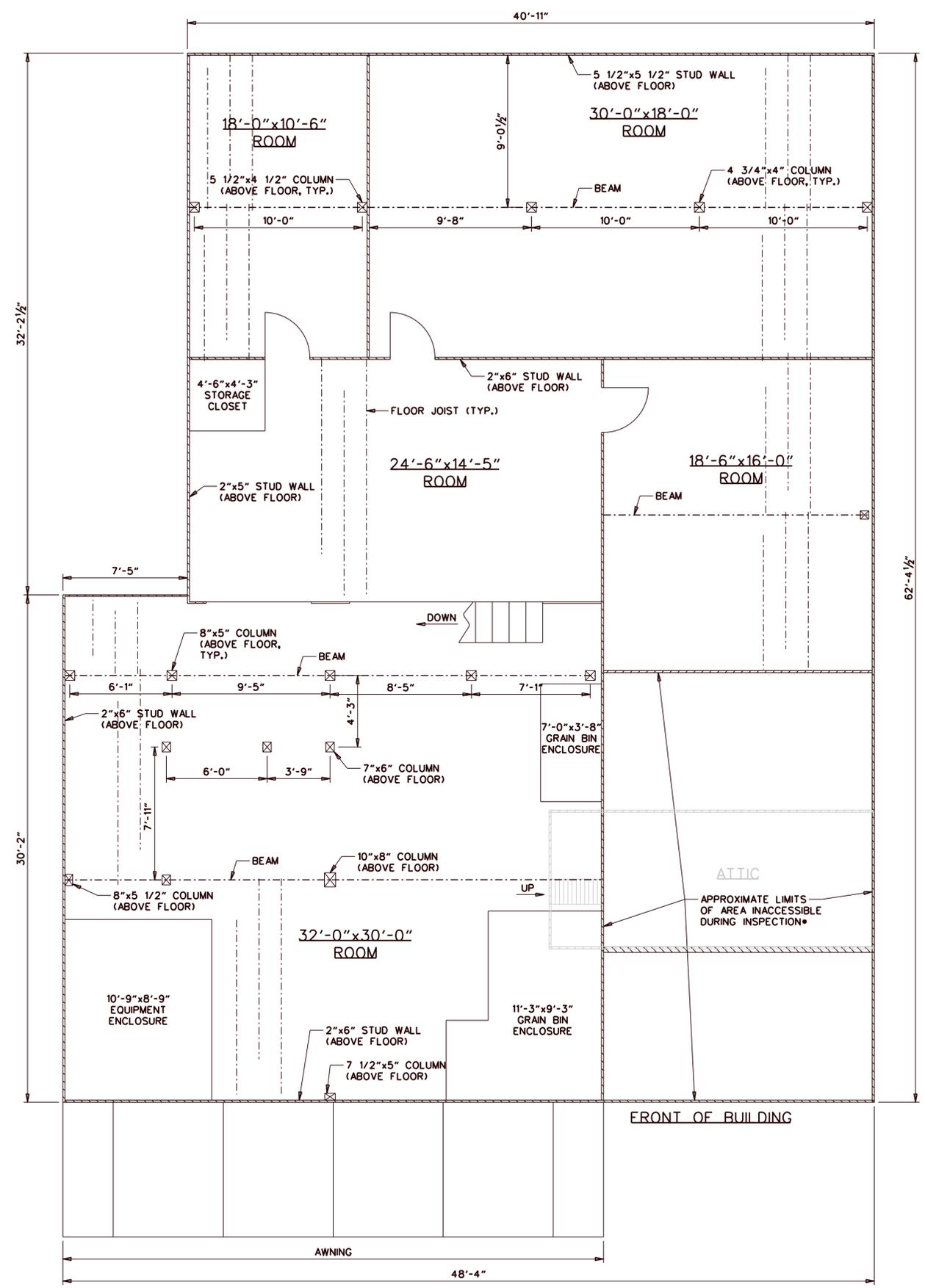
NOTES:
 ALL SHOWN DIMENSIONS AND MEMBER SIZES ARE APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY SHOWN INFORMATION PRIOR START OF WORK.

FIRST LEVEL - FLOOR AND FRAMING PLAN
 1/4" = 1'-0"

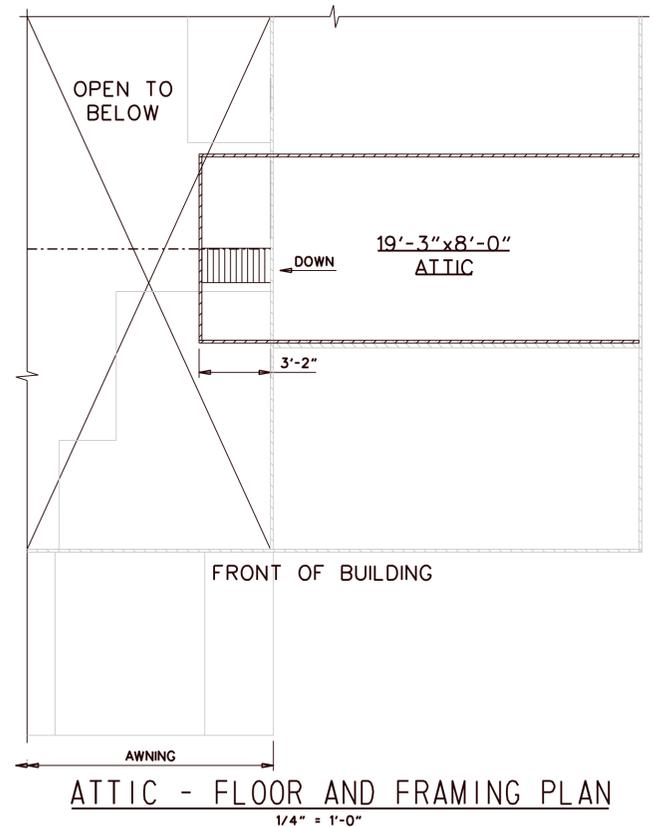
FIGURE 2

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<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS		SCALE: AS NOTED	HEARNS POND DAM IMPROVEMENTS	CONTRACT	BRIDGE NO.	N/A	FIRST LEVEL FLOOR & FRAMING PLAN	SHEET NO.
					T201207603	DESIGNED BY: AT	TOTAL SHTS.		
					COUNTY	CHECKED BY: CHC			39
					SUSSEX				



SECOND LEVEL - FLOOR AND FRAMING PLAN
1/4" = 1'-0"



ATTIC - FLOOR AND FRAMING PLAN
1/4" = 1'-0"

*THIS AREA WAS NOT ACCESSIBLE. THE SIZE OF THE AREA IS AN ESTIMATE BASED ON MEASURED DIMENSIONS OF ADJACENT ROOMS.

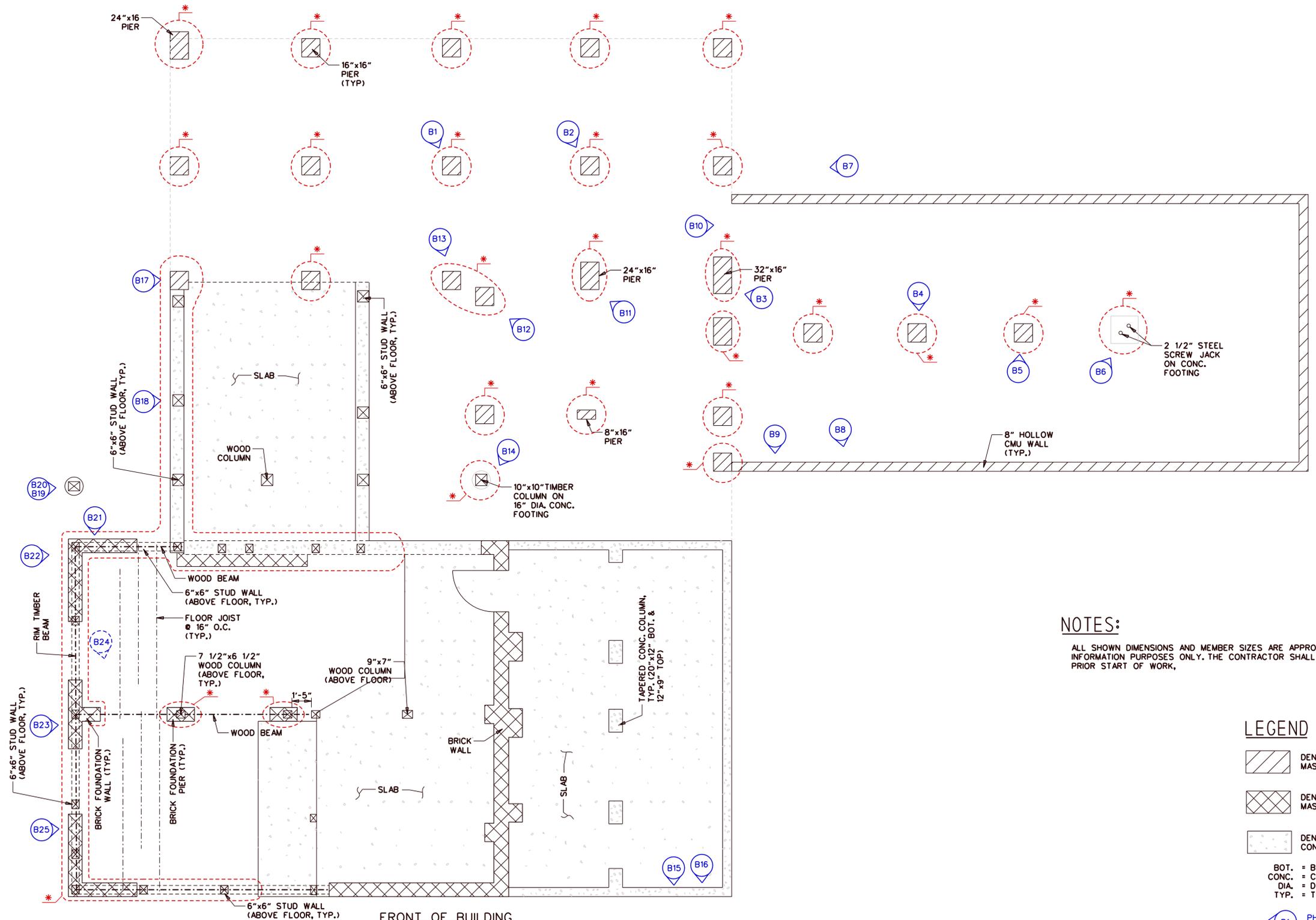
ATTIC
APPROXIMATE LIMITS OF AREA INACCESSIBLE DURING INSPECTION*

NOTES:
ALL SHOWN DIMENSIONS AND MEMBER SIZES ARE APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY SHOWN INFORMATION PRIOR START OF WORK.

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<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS		SCALE: AS NOTED	HEARNS POND DAM IMPROVEMENTS	CONTRACT	BRIDGE NO.	N/A	SECOND LEVEL FLOOR & ATTIC FRAMING PLANS	SHEET NO.
					T201207603	DESIGNED BY: AT	TOTAL SHTS. 39		
					COUNTY	CHECKED BY: CHC			
					SUSSEX				

FIGURE 3



NOTES:
 ALL SHOWN DIMENSIONS AND MEMBER SIZES ARE APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY SHOWN INFORMATION PRIOR START OF WORK.

- LEGEND**
- DENOTES UNREINFORCED CEMENT MASONRY UNITS (CMU)
 - DENOTES BRICK MASONRY
 - DENOTES CEMENT CONCRETE
 - BOT. = BOTTOM
 - CONC. = CONCRETE
 - DIA. = DIAMETER
 - TYP. = TYPICAL
 - B1 PHOTO IS TAKEN ABOVE THE FLOOR
 - B1 PHOTO IS TAKEN BELOW THE FLOOR

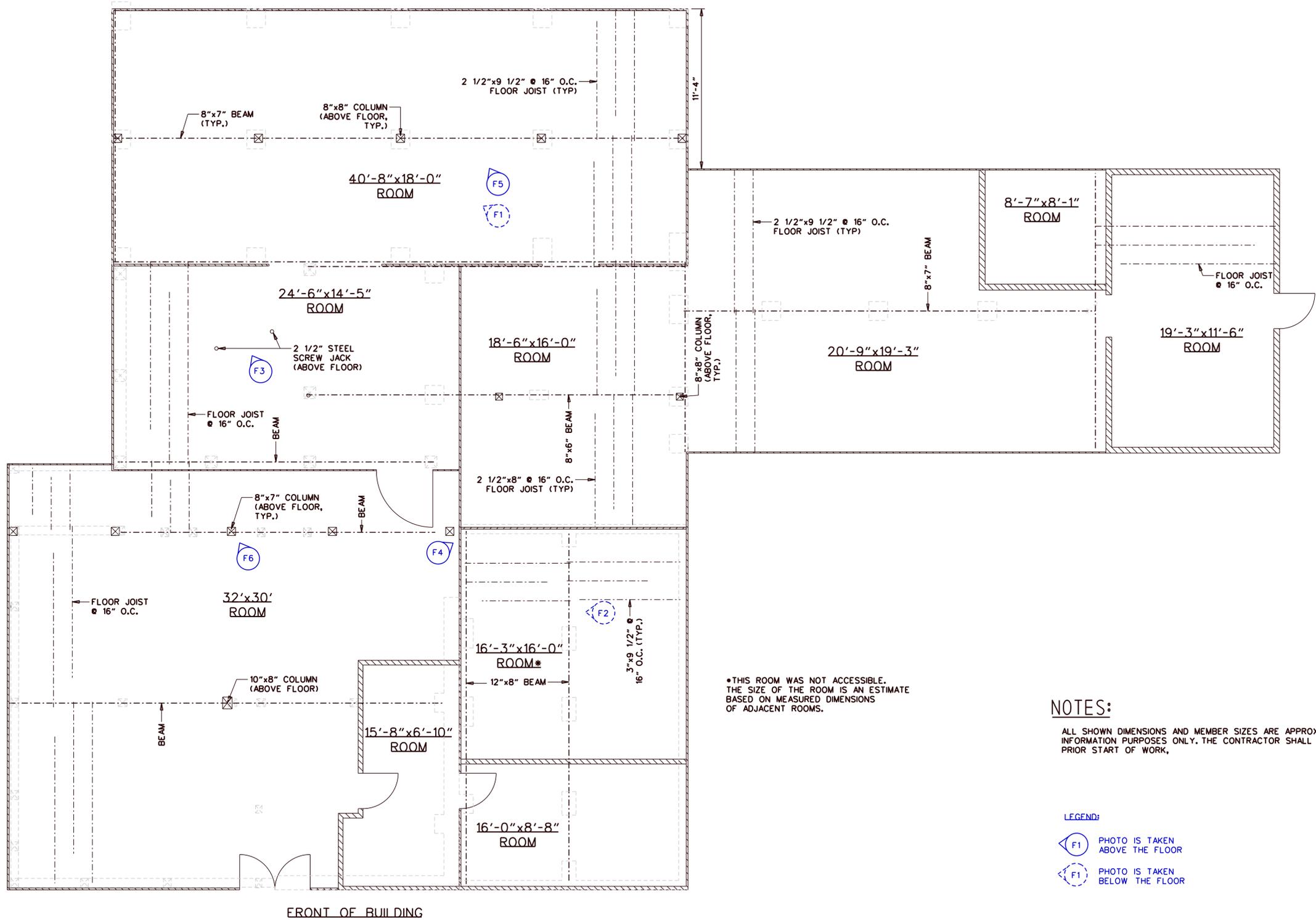
* APPROXIMATE LIMITS OF FOUNDATION THAT IS TO BE REPAIRED OR ADDITIONAL SUPPORT PROVIDED PRIOR TO PILE DRIVING OPERATION FOR SPILLWAY AND ALL OF ITS COMPONENTS IN NEARBY VICINITY.

GROUND LEVEL - PHOTO & DEFICIENCY LOCATION PLAN
 1/4" = 1'-0"

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<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS	<p>SCALE: AS NOTED</p>	<p>HEARNS POND DAM IMPROVEMENTS</p>	CONTRACT	BRIDGE NO.	N/A	<p>GROUND LEVEL PHOTO & DEFICIENCY LOCATION PLAN</p>	SHEET NO.
				T201207603		DESIGNED BY: AT		TOTAL SHTS.
				COUNTY		CHECKED BY: CHC		39
				SUSSEX				

FIGURE 4



NOTES:
 ALL SHOWN DIMENSIONS AND MEMBER SIZES ARE APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY SHOWN INFORMATION PRIOR START OF WORK.

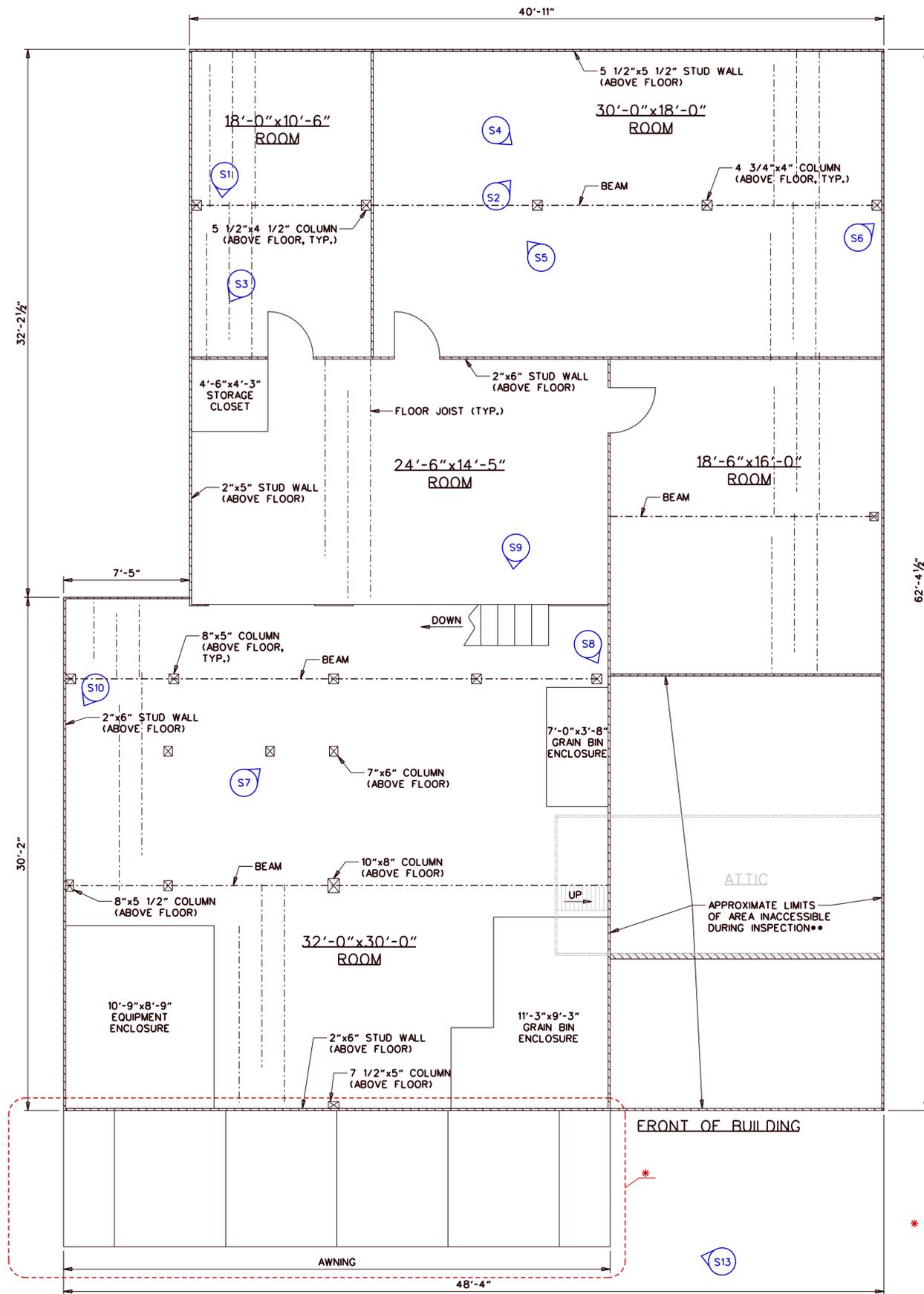
LEGEND:
 (F1) PHOTO IS TAKEN ABOVE THE FLOOR
 (F2) PHOTO IS TAKEN BELOW THE FLOOR

FIRST LEVEL - PHOTO & DEFICIENCY LOCATION PLAN
 1/4" = 1'-0"

FIGURE 5

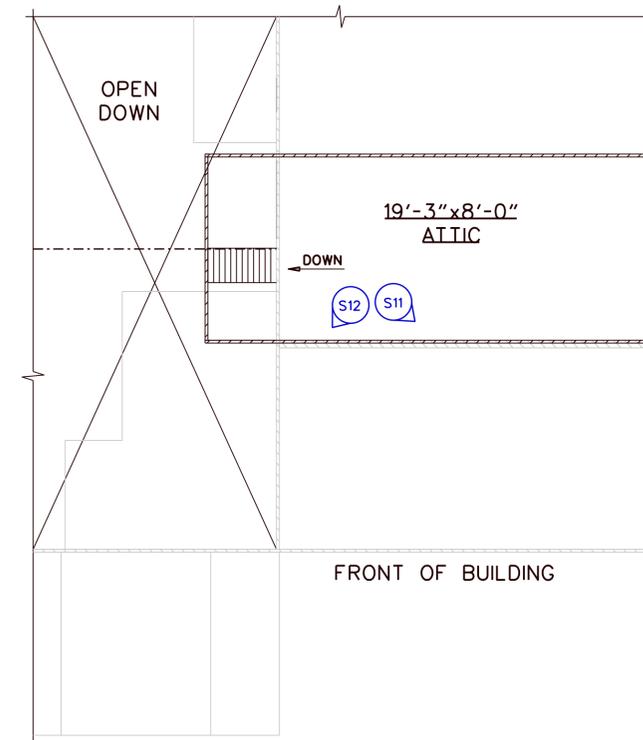
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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE: AS NOTED	HEARNS POND DAM IMPROVEMENTS	CONTRACT	BRIDGE NO.	N/A	FIRST LEVEL PHOTO & DEFICIENCY LOCATION PLAN	SHEET NO.
					T201207603	DESIGNED BY: AT	TOTAL SHTS. 39		
					COUNTY	CHECKED BY: CHC			
					SUSSEX				



SECOND LEVEL - PHOTO & DEFICIENCY LOCATION PLAN

1/4" = 1'-0"



ATTIC - PHOTO & DEFICIENCY LOCATION PLAN

1/4" = 1'-0"

••THIS AREA WAS NOT ACCESSIBLE. THE SIZE OF THE AREA IS AN ESTIMATE BASED ON MEASURED DIMENSIONS OF ADJACENT ROOMS.

* APPROXIMATE LIMITS OF STRUCTURE THAT IS TO BE REPAIRED OR ADDITIONAL SUPPORT PROVIDED PRIOR TO PILE DRIVING OPERATION FOR SPILLWAY AND ALL OF ITS COMPONENTS IN NEARBY VICINITY.

NOTES:

ALL SHOWN DIMENSIONS AND MEMBER SIZES ARE APPROXIMATE AND SHOWN FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY SHOWN INFORMATION PRIOR START OF WORK,

LEGEND:

- PHOTO IS TAKEN ABOVE THE FLOOR
- PHOTO IS TAKEN BELOW THE FLOOR

FIGURE 6

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Appendix C

Photos

FOUNDATION
(For Photo Locations see FIGURE 4)



Photo B1: View of CMU pier foundation on the east side of the building. Note exposed pier footings and soil erosion due to improper drainage in building vicinity.



Photo B2: Typical view of the exposed footing supporting CMU pier. Note soil erosion pier vicinity.



Photo B3: View of the CMU pier under south section of the building. Note void underneath pier. Only one half of pier is supported by footing.



Photo B4: View of the CMU pier under south section of the building. Note that there is no pier footing and pier is shifted approximately 2'' of its base.



Photo B5: View of the CMU pier under south section of the building. Note that there is no pier footing and pier is shifted approximately 5" of its base. Note approximately 3" void under corner of pier.



Photo B6: View of 2 1/2" steel screw jacks on concrete footing at the building south end. Note that jacks are unsecured at top and bottom.



Photo B7: View of northeast corner of CMU foundation (looking from outside). Note severe soil erosion near foundation walls and approximately 3" vertical separation in concrete wall.



Photo B8: View of the CMU southwest foundation wall. Note undermining of foundation due to water infiltration. Note broken slab and soil erosion in vicinity of the wall.



Photo B9: View of the CMU southwest foundation wall. Note undermining of foundation due to water infiltration. Note broken slab and soil erosion in vicinity of the wall.



Photo B10: View of the CMU southeast foundation wall. Note undermining of foundation due to leaky storm pipe and soil erosion in vicinity of the wall.



Photo B11: View of the CMU pier near center of the pier foundations. Note that CMU piers are separated vertically along mortar joint.



Photo B12: View of the CMU pier near center of the pier foundations. Note missing large section of the pier at the utility pipe location.



Photo B13: View of the CMU pier located near the center of the building. Pier is out of plumb by 2 1/4" over 4'.



Photo B14: View of 10"x10" timber column on 16" diameter concrete footing. Note that column is out of vertical plumb and its base is only partially supported by footing.



Photo B15: View of front concrete foundation wall (looking from inside). Note water infiltration through the vertical joint near adjoining wall. Also, timber sill above the wall exhibits severe damage due to the termite infestation.



Photo B16: Timber sill above front concrete wall. Note damage in timber due to due to the termite infestation.



Photo B17: North concrete foundation wall adjacent to CMU piers. Note horizontal crack along mortar joint in CMU pier near its base. Note separation (in vertical plane) between CMU and concrete foundation.



Photo B18: North concrete foundation wall (between piers and brick foundation). Note approximately $\frac{1}{2}$ " wide by 2' long vertical crack. Crack is located approximately at wall mid-span.



Photo B19: View of 8"x10" timber column located on the north end of the building. Column is out of plumb by approximately 2" over 4'.



Photo B20: View of 8"x10" timber column on 16" diameter concrete footing. Note missing column to footing attachment.



Photo B21: View of northeast corner of brick masonry foundation. Note vertical and diagonal cracking. Vertical crack measures to be approximately 1/4" wide and 3' long.



Photo B22: View of northeast corner of brick masonry foundation. Note 1/8" wide by 1' long diagonal crack in foundation. Note that crack reappeared through previously repaired mortar joint.



Photo B23: View of masonry brick foundation and rim timber beam. Note significant rotting due to water damage and crack near edge of foundation.



Photo B24: View of brick masonry columns. Note full height vertical crack in the column adjacent to the exterior brick foundation wall.



Photo B25: View of northwest corner of brick masonry foundation wall. Note approximately 2" separation in foundation due to differential settlement.

FIRST LEVEL
(For Photo Locations see FIGURE 6)



Photo F1: View of timber floor supporting members (looking north). Note floor beams exhibiting deflection between supporting columns.



Photo F2: View of timber floor beam. Note wide and long check in the beam. This picture is a typical representation of most timber beams, joists and columns supporting first level.

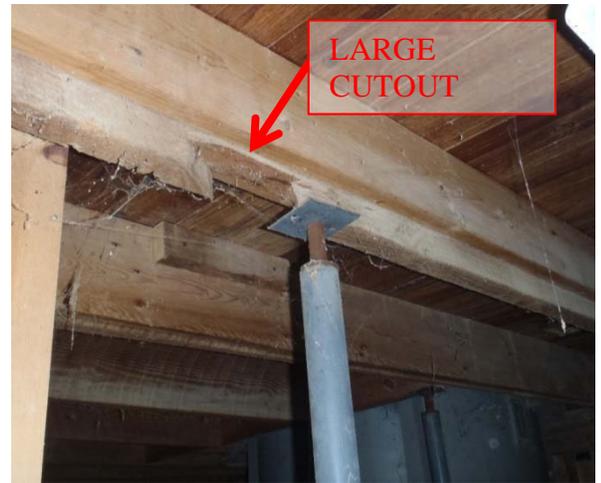


Photo F3: View of 2 1/2" diameter steel screw jacks supporting floor joists. Jacks are unsecured at top and bottom and load distribution plate is not used at the bottom. Note cutout section and sister joist in the supported floor joist.



Photo F4: View of timber post to beam connection (looking up). Note approximately 1/2" separation at the joint location.



Photo F5: General view of the room. Note water stains and rotted floor due to water damage infiltrating through 2nd level floor.



Photo F6: View of 8"x7" timber column. Note approximate 1/2" sideways column deflection.

SECOND LEVEL & ATTIC
(For Photo Locations see FIGURE 6)



Photo S1: View of 4 ½”x4 ½” timber beam supporting ceiling joists. Note significant damage to beam due to the termite infestation.



Photo S2: View of ceiling joists. Note significant water damage to the roof rafters due to leaking roof.



Photo S3: View of 2nd level floor. Note 100% loss of floor section due to the termite infestation.



Photo S4: View of the 2nd level floor. Note containers collecting water from roof leak. Containers were overflowing at time of inspection and the floor was sagging significantly.



Photo S4: View of joists supporting 2nd level. Note severe damage to floor joist and development of efflorescence due to leaking roof above.



Photo S6: View of the 2nd level floor. Note 100% loss of floor section due to water damage.



Photo S7: View of timber post. Note long vertical check that represents typical appearance of the 2nd floor timber support members.



Photo S8: Partial view of post lateral bracing member (looking up). Note deep cutout in lateral bracing member.



Photo S9: View of cutout through load bearing wall supporting roof structure.



Photo S10: View of exterior non-load bearing stud wall. Note deep cutouts in studs.



Photo S11: View of timber beam in attic at front side of building. Note significant beam deflection.



Photo S12: View of timber beam with $\frac{1}{2}$ " gap between bottom of beam and supporting column. Gap is due to significant beam deflection causing beam ends to rotate.



Photo S13: View of awning at front of building. Note deterioration of support framing.



700 East Gate Drive, Suite 201
Mount Laurel, NJ 08054

mccormicktaylor.com