

MOUNT PLEASANT, TEXAS

TITUS COUNTY ANNEX OBSERVATION REPORT

PREPARED BY PRIEFERT COMPLEX DESIGNS

JULY 10, 2019



Priefert[®]
Complex Designs

July 10, 2019

Commissioners of Titus County, TX
c/o Mr. Brian Lee
Titus County Judge
102 N Jefferson Ave
Mount Pleasant, TX 75456

RE: Building Assessment of the Annex Building, Mount Pleasant, TX

Dear Commissioners,

Described in the following report are the observations and recommendations regarding the structural condition of the referenced property. This report follows the recommendations of *ASTM E620-97, Standard Practice for Reporting Opinions of Technical Experts*.

The report represents observations made during a site visit and were compared to building code requirements. Detailed are the deficiencies in the existing building and their effect on the potential addition of a new courtroom inside the Annex Building.

This report will serve as an overview of findings. Additional issues may likely arise if design and renovation of the building are undertaken.

If you have any questions during the review of this report, please do not hesitate to contact us.

Respectfully submitted,



Jeffery Boone



Glen M. Calvert, P.E.

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Executive Summary

Priefert Complex Designs was retained by Titus County to determine the feasibility of renovating the County Courthouse Annex Building to include an additional courtroom. Based on the size of the existing courtrooms, there is adequate space in the building. However, renovation and the addition of this courtroom will require significant upgrades to much of the building.

Design of the renovations would require a more in-depth investigation of the structure and a building-wide study to include: egress and life-safety, overall building security, HVAC and controls, fire protection and alarms, roofing repair and modifications, building envelope repair and/or replacement, site paving and sidewalk repair.

During the design and renovation, certain existing building elements will likely constrain the layout of the new spaces. This often leads to less than optimum planning and efficiency. The long-term functionality of the new courtroom and renovated workplace needs to be considered as the County makes decisions regarding this vision.

As work progresses on projects of this nature, unknown issues are frequently discovered. This often leads to open-ended agreements and indeterminate schedules for design and construction. Since the County will need to plan for a temporary location for offices and courtroom activities for the duration of the potential renovation, the possibility of delays should be taken into consideration.

Background

Priefert Complex Designs, LLC was retained by the Commissioners of Titus County to investigate the condition of the Annex Courthouse building and provide input regarding the feasibility of adding an additional courtroom inside the building.

On May 21, 2019 a site investigation was performed at the County Annex Building. Representatives at the visit were Glen Calvert and Jeffery Boone with Priefert Complex Designs, as well as David Holmes with Titus County, who provided access to the building. During the visit many aspects of the building were observed including code-related life safety items, accessibility, mechanical and electrical systems, structural building systems, roofing and façade status, egress requirements and security.

The status of the current building was compared to the requirements of the 2015 International Building Code (IBC) and the 2015 Edition of the National Fire Protection Association Code (NFPA).

The Construction Specifications Institute (CSI) produces the Master Format. The Master Format separates building systems and the construction process into 48 Divisions. Not all Divisions apply, but for those that do, the observations made during the site visit were documented accordingly.

Report Limitations

Observations during the site visit were made with no demolition of walls or finishes. No foundation inspections or structural analysis were performed to verify the adequacy of the existing structure to support the currently applied loads, or future loads, if the building modifications are undertaken. Accomplishing the end goal of renovating the building to add an additional courtroom would likely demand an open-ended design and construction contract due to unknowns observed throughout the building.

Observations

Division 01 - General Requirements

The existing courtrooms have a seating capacity of approximately 40 spectators in the gallery, with an additional 20 participating in trial procedures. Square footage of Courtroom A and Courtroom B were calculated to be approximately 1,450 square feet and 1,050 square feet, respectively. The proposed location for the new courtroom included an area that was roughly 1,300 square feet, which was determined to be adequate.

If a new courtroom is added to the current Annex Building, it would be necessary that this room, as well as other supporting rooms, be designed and constructed under current building codes. This would involve everything from egress, ADA compliance, fire suppression, HVAC, and many of the other items listed in the construction divisions below. The IBC has specific requirements regarding ADA compliances.

The courtroom related IBC items are found in the following section:

Section 1108.4.1 Courtrooms - *“Each courtroom shall be accessible and comply with Sections 1108.4.1.1 through 1108.4.1.5.”*

Section 1108.4.4.1 Jury Box - *“A wheelchair space shall be provided within the jury box. Exception: Adjacent companion seating is not required.”*

Section 1108.4.1.2 Gallery seating - *“Wheelchair spaces shall be provided in accordance with Table 1108.2.2.1 Designated aisle seating shall be provided in accordance with Sections 1108.2.5.”*

Section 1108.4.1.3 Assistive listening systems - *“An assistive listening system must be provided. Receivers shall be provided for the assistive listening system in accordance with Section 1108.2.7.1.”*

Section 1108.4.1.4 Employee workstations – *“The judge’s bench, clerk’s station, bailiff’s station, deputy clerk’s station and court reporter’s station shall be located on an accessible route. The vertical access to elevated employee workstations within a courtroom is not required at the time of initial construction, provided a ramp, lift or elevator can be installed without requiring reconfiguration or extension of the courtroom or extension of the electrical system.”*

Section 1108.4.1.5 Other workstations – *“The litigant’s and counsel stations, including the lectern, shall be accessible.”*

The IBC requires the following requirements for alterations to existing buildings:

Section 705.2 Alterations affecting an area containing a primary function - *“Where an alteration affects the accessibility to, or contains an area of primary function, the route to the primary function area shall be accessible. The accessible route to the primary function area shall include toilet facilities and drinking fountains serving the area of primary function.”*

Specific Storage Designations

Special consideration should be given to allocating space designed specifically for storage. It does not appear that storage was the original intended use for the rooms now being used for that purpose. Rooms on the second floor of the building contain massive amounts of material including documents, office supplies, and miscellaneous stacked items. If these spaces are to continue to be used for storage, it’s important, due to the combustible nature of the items being stored, that a fire suppression system be installed. The National Fire Protection Association (NFPA) specifically addresses the use of storage and housekeeping in mechanical and electrical rooms.

Structural systems also require special loading considerations to provide adequate support for storage areas. The adequacy of the structure is suspect in these storage areas, but no structural analysis was performed.

Particular sections of the IBC related to storage areas are as follows:



Section 10.18.5.1 – *“Combustible material shall not be stored in boiler rooms, mechanical rooms, or electrical equipment rooms.”*

Section 10.18.5.2 – *“Materials and supplies for the operation and maintenance of the equipment in the room shall be permitted. The use of equipment rooms to store items, such as those needed for the equipment is permitted in accordance with 10.18.5.2. Equipment should be stored in cabinets or other protected areas to limit the hazard. Spaces such as boiler rooms, mechanical rooms, or electric rooms are designed for a particular purpose and should not be seen as an opportunity for free storage within a building. Storing combustible materials within one of those spaces increases the risk and also the fuel load within the space should a fire occur. Controlling the combustible storage in these spaces can help to lessen the risk of a fire developing and/or interfering with the boiler equipment, mechanical equipment or electrical equipment. Materials that are not associated with the equipment are not permitted to be stored within equipment rooms.”*

Division 02 – Existing Conditions

Asbestos Testing

Asbestos, commonly found in ceilings, insulation, concrete and ductwork, can be a hazard when disturbed. Prior to demolition, it is important that testing be performed if older building products are present. During the inspection, we noticed a few areas where the possible existence of asbestos was a concern. To address this, testing was performed on June 13, 2019 by Brady Environmental Services.



Brady took a total of 20 samples at various locations. Two “hot” areas were found that will have to be removed if the project proceeds. Typically, this is not a significant concern or cost, but must be remediated and disposed of by a qualified company.



Division 03 – Concrete

During the initial inspection there was no alarming evidence of foundation issues. However, when it comes to remodeling an older structure, unforeseen foundation issues are a common problem. Therefore, an investigation to determine the adequacy of the foundation and other structural systems will be required if the design of new spaces within the building is undertaken.

Building modifications will apply new loading to the structure so the structural capacities of existing building systems will have to be determined. If it is determined that the existing building systems cannot support the new loads, new structure will have to be added, or existing structural components will have to be reinforced.

Division 08 – Thermal and Moisture Protection**Rooftop Drainage**

On the day of the site visit, the roof of the building was thoroughly inspected. It was observed that drainage, due to rainfall, was unable to escape the rooftop and properly drain in a timely manner. There are both roof structure and code requirement concerns. The NRCA, National Roofing Contractors Association, recommends that, “all roofs be designed and built to have positive drainage. NRCA defines positive drainage as the condition in which consideration has been made, during the design, for all loading deflections of a deck, and also that additional roof slope has been provided to ensure drainage of a roof area within 48 hours following rainfall under conditions conducive to drying.”

Water was unable to escape roof drains due to debris clogging drains on the flat roof. The absence of overflow scuppers further limits the drainage and could lead to potentially dangerous ponding problems. Ponding on the roof could be damaging to the building if the roof structure is not designed to carry the additional water loading.



It should also be pointed out that freezing temperatures in the winter months can cause additional issues. Water standing on the flat roof will have the potential to freeze and, in the event of a snow storm, this frozen layer can accumulate snow drifts exceeding the building's structural capacity.

Regular maintenance inspections of the roof should be scheduled (based upon the comments above) to ensure that drains are free and clear of debris, and that water is not collecting on the roof over an extensive amount of time. Overflow scuppers should be installed through the building parapets to alleviate ponding in the event the roof drains get clogged.

Division 21 - Fire Suppression

The IBC defines buildings of Type III construction as buildings with exterior walls that are noncombustible and interior walls constructed of any material. The roof structure and much of the interior framing of the Annex Building is of wood construction, a combustible material, while much of the interior load-bearing structure was constructed of non-combustible load-bearing masonry*. IBC's Table 506.2 limits the square footage of this construction type to 9,500 square feet, if a sprinkler system is not provided. The total area of the Annex Building, including the area for the new courtroom totals approximately 10,000 square feet.



Annex walls constructed many years ago, originally provided proper protection of one space from another. But over the years building modifications have resulted in large openings being made, thus compromising the firewalls. In many cases, these large openings in the masonry are supported by structural steel beams. Beams used in this manner would require fireproofing to delay collapse during a fire. No fireproofing was present.

Because the building areas are no longer protected by fire-rated walls, a sprinkler system is required for the building by IBC and NFPA. There was no fire suppression system observed in any of the building. Additionally, a sprinkler system should be installed to serve spaces above and below the ceiling due to the presence of combustible material in the spaces.

**It should be noted that parts of the building do not comply with the requirements of Type III construction. Wood was observed at areas on the north façade where finishes had deteriorated. This combustible material further emphasizes the deficiencies in the fire protection system and places importance on the need to address this issue.*

Division 22 – Plumbing

During initial inspection the quantity of restrooms serving the major court room and front office staff appeared sufficient. IBC has specific requirements for Water Closet and lavatory quantities. For this building use, the quantity of water closets must meet the following: 1 per 125 for males and 1 per 65 for females. These restrooms also appear to be in general compliance with ADA guidelines. Some adjustment to them will be required to obtain full compliance.



Restrooms in the lobby area are suitable, but those in the back portion of the building, serving Court Room B, are not. Openings into these restrooms measured 22 inches; current code standards require that openings be a minimum of 32 inches. In addition, fixtures should be modified to adapt to ADA requirements. After analyzing the existing flaws in these restrooms (and considering that their intended purpose is to serve a courtroom) it may be desirable to remodel them in full. Initial plumbing rough-in could be salvaged so that foundations do not have to be torn out.

Division 23 - Heating Ventilation Air Conditioning

If an additional courtroom is to be added to the building footprint, it would be necessary to consult an HVAC design professional to ensure that the demands are accurately met for optimum efficiency of the new courtroom. Having improperly sized HVAC could lead to serious, and potentially costly, issues in terms of comfort, air quality, dust and mold, noise, and wear and tear.

On the roof of the building it was observed that most of the units serving the building were installed within the last ten years. However, when observing the space above drop ceilings, it was apparent that numerous modifications to the duct work have been made over time. The maze of ductwork has likely reduced the efficiency and air flow of the system. If renovation is undertaken, the HVAC system should be investigated by a professional mechanical engineer to ensure good performance and efficient operation.



Division 26 – Electrical

Electrical wiring was observed in multiple rooms. The wiring was installed in an unworkmanlike and potentially unsafe and non-compliant manner. Out-of-service wires were not put away in a secure manner, leaving some that were exposed and live. This could potentially lead to fire hazards or injuries to personnel. In this instance a certified electrician should be contacted to thoroughly inspect and address the areas of concern and bring these areas into compliance with the National Electric Code (NEC) and the acceptable standards of workmanship.

**Division 28 - Electronic Safety & Security**

The IBC states the following regarding egress from a building:

Section 1017.3 Measurement – *“Exit access travel distance shall be measured from the most remote point within a story along the natural and unobstructed path of horizontal and vertical egress travel to the entrance to an exit.”*

Per Table 1017.2 for occupancy Type A (Assembly), exit access travel distance is limited to 200 feet. During the visit it was noted that, in some places, the path of egress was unclear, due in part to issues with emergency exit signs. It was noticed that not all exit signs were working properly.



Code requires that emergency egress doors be illuminated. In the event of a failure in the power supply, the IBC states that for rooms and spaces that require two or more means of egress, an

emergency electrical system shall automatically illuminate the following areas that apply: exit passageways, vestibules and areas on the level of discharge used for exiting discharge. Other areas that require illumination in the event of a power outage include electrical equipment rooms and public restrooms with an area greater than 300 square feet. Per code requirements these areas must maintain illumination for a duration not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. In this circumstance a storage battery would apply for temporary illumination.

A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupancy load is greater than 300. Manual fire alarms were present in the building, however they appeared to be outdated with no signs of being operational. Smoke detectors installed in the ductwork were observed but were not tested to determine if the system was functioning properly.



Keeping the fire alarm system in service can be a challenge. However, simple and periodic inspections performed by a Fire Protection company would help ensure a working system.

Division 32 - Exterior Improvements

Exterior Ramp and Walkways

Access to the building is non-compliant and hazardous. Over time, the walkways have settled and heaved due to improperly constructed concrete joints, tree roots and erosion.

Currently, the building does not comply with the standards set by IBC and the ADA regarding parking or access by the disabled. Among the required standards are:

Section 1012.2 Slope – *“Ramps used as part of a means of egress shall have a running slope not steeper than one unit vertical in 12 units horizontal (8-percent slope). The slope of other pedestrian ramps shall not be steeper than one unit vertical in eight units horizontal (12.5-percent slope).”*



Section 1012.6 Landings – *“Ramps shall have landings at the bottom and top of each ramp, points of turning, entrance, exits and at doors. Landing shall comply with Sections 1012.6.1 through 1012.6.5.”*

Section 1012.6.1 Slope – *“Landings shall have a slope not steeper than one unit vertical in 48 units horizontal (2-percent slope) in any direction. Changes in level are not permitted.”*

Section 1012.6.2 Width – *“The landing width shall not be less than the width of the widest ramp run adjoining the landing.”*

Section 1012.6.3 Length – *“The landing length shall be 60 inches minimum.”*

Section 1012.8 Handrails – *“Ramps with a rise greater than 6 inches shall have handrails on both sides. Handrails shall comply with Section 1014.”*

It is important that these guidelines are followed so that safe access to the building for disabled individuals is provided.

Exterior Façade

Deterioration of the façade was noted around the perimeter of the building. Serious weathering has occurred on the north exterior façade of the building. The aggregate covering has separated, and in some cases fallen off the wood substrate. Having wood exposed to exterior elements such as moisture could lead to mold growth, rotting of the exterior sheathing, reduced insulation value and rapid overall façade deterioration.

