



**Broyles and Associates**  
structural engineers

April 15, 2015

Mr. Steven McMahon  
Manager of Architectural Services East  
**Dollar Tree Stores, Inc.**  
500 Volvo Parkway  
Chesapeake, VA 23320

Re.: Dollar Tree – Western Plaza, 2085 N. Marine Blvd., Jacksonville, NC 28546  
Structural Report on Findings, Site Visit (April 14, 2015)

Dear Steve:

**Broyles and Associates, P.C.** visited the above referenced property to ascertain the structural condition of the building and provide a survey of the roof framing and associates features. This report serves as a summary of our findings and recommendations. Please note that we did find some structural items that will need to be addressed by the landlord prior to Dollar Tree occupying the space.

**EXISTING CONDITIONS:**

The proposed Dollar Tree space is located at an end of a row of retail shops in the Western Plaza Shopping Center in Jacksonville, North Carolina (See Photo #1). The proposed space is currently occupied by Rugged Wear House (RRMM provide the interior build-out conversion in October, 2004). The space is adjacent a Sally Beauty Supply (who share the same loading dock area) and a Rainbow Clothing Store. It appears that the construction of the shopping center was probably done in the 1980's. Unfortunately, we were not able to obtain the original contract drawings of the space.

The building is comprised of interior steel columns (HSS6X6) supporting 36" deep joist girders (spanning left to right of the retail space) and bar joists (ranging from 14" to 24" deep) running front to rear of the space (See Photo #2). The joist spacing is typically around 5'-3" on center and supports a 1.5" narrow rib deck. Currently, the structural steel framing is exposed (no ceiling), however, the entire space is sprinkled.

The right side of the space (looking from the parking lot) is a metal stud demising wall that extends up to the roof deck. The left side wall is a 12" CMU that extends above the neighboring retail building. The rear of the building consists of a 12" CMU load bearing wall (See Photo #3). As noted previously, the loading dock is shared with the adjacent tenant (separated off by metal stud demising walls) (See Photo #4). This space is framed with 14" joists spaced at 5'-0" on center clear spanning the 25'-0" width. Please note that only one overhead door will be accessible by Dollar Tree.

The loading dock currently receives product from trucks that back up inside the recessed truck well (See Photo #5). A sloped truck ramp is located directly behind the proposed Dollar Tree. The concrete ramp extends down to 4'-0" below finished floor elevation. There is a 12" CMU retaining wall on the open side of the ramp. Structurally, the wall appears to be in satisfactory condition.

Also, please note that there are two (2) egress doors (3'-4") on the left side walls with concrete stoops (See Photo #6). Boot of the concrete stoops are approximately 8" above the surrounding asphalt grade. New concrete ramps will be required at the egress doors to match grade elevation.

We did not quite a bit of cracking of the exterior CMU walls on the rear and left side walls. The crack at the corner of the wall (adjacent to the loading dock) is cracked for the entire height of the wall (See Photo #7). According to the current tenant, there is moss growing on the inside of the wall (a bit of an exaggeration, however, there is quite a bit of cracking). There is also cracking above both egress exterior door openings (See Photo #8). It appears that the cracks are relatively small but are open to the elements and allow water to enter the building. It appears that the cracks are from settlement and that the rear of building footprint was built up. We recommend that the landlord address the cracks and report as required. In the case where the CMU units are cracked, we recommend replacement and tooling back into the wall. Please note that the wall thickness on the rear and side walls is 12" and both walls are essentially bearing.

It is also obvious that water has been getting inside the wall cavities (efflorescence is visible on the inside of the walls) (See Photo #9). This is due to the aforementioned cracking and at least two downspouts are missing from the rear gutter. The water cascades down the outside face of the CMU. We understand that the landlord has already been informed of the missing downspouts.

There are currently seven (7) mechanical roof top units over the proposed Dollar Tree space (See Photo #10). There are four (4) original Carrier units and three (3) additional Trane units that must have been added later during a renovation. One of the rear Trane units does not have any steel angles supporting it beneath the roof structure (See Photo #11). The other RTU's do have structural steel angles below them and appear to have been designed initially or in good locations. The units appear to be fairly worn and may need to be replaced. We recommend that the mechanical engineer reuse the existing locations as much as possible to minimize the structural impact.

The roof is a built-up asphalt roof with ballast. The roof appears to be in moderate condition. Please note that this roof is different from the adjacent roof which is metal.

There is continuous storefront located along the front of the store. We noted two steel columns within the front storefront wall that do not coincide with either the interior steel column locations or exterior pier locations. If doors are to be relocated in the front, they will need to be located around these existing columns. Also, please note that there are exposed L3X3 diagonal braces above the storefront extending back to the existing steel joists (See Photo #12). These angles appear to be somewhat randomly placed and help brace the wide flange beam located above the storefront wall. We believe that a CMU is located above this beam and extends upward forming a minimal parapet wall.

We did note that there was some cracked CMU above the lintel plate where the proposed Dollar Tree store enters the stockroom space (See Photo #13). The steel beam extends approximately 6'-3" with this space. We recommend that the landlord remove the cracked CMU pieces and place grout on both sides as required to maintain bearing on the lintel plate. Please note that this is fairly minor.

There are some cracks in the exterior front sidewalk in front of the entrance into the proposed Dollar Tree space. The cracks are fairly minimal and are typical considering the age of the building.

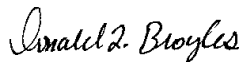
**CONCLUSION:**

As noted above, the major structural issue with existing building (Dollar Tree portion) involves the exterior masonry cracking – particular around the rear corner of the building. We recommend that cracked CMU be removed and repointed back into place. There are other cracks too that need to be repointed along the rear and side walls. This is needed to prevent water infiltration into the stockroom and sales areas. If new mechanical units are replaced, we recommend that they be located at the existing locations – if possible. Some steel support may still be needed depending upon the size and location of units. There will need to be some remedial work done at the egress doors. A new concrete ramp and landing is anticipated. The recessed truck well and loading dock can be used for Dollar Tree without any modification. We recommend some remedial work be done over the lintel beam heading into the loading dock area.

We appreciate being of service to you with regards to this survey. If you should have any questions regarding this information, please do not hesitate to contact this office.

Sincerely,

**BROYLES and ASSOCIATES, P.C.**



Donald L. Broyles, P.E.  
President  
/dlb

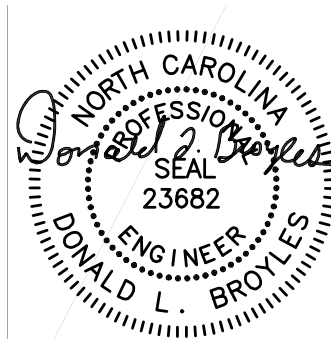




Photo #1 – Proposed Dollar Tree location – current Rugged Wear House located within a strip of shops at the Western Plaza, Jacksonville, NC.



Photo #2 – Interior HSS6X6 steel column supporting 32” deep joist girders, steel bar joists and metal decking. There is no ceiling located within the proposed Dollar Tree space.





Photo #3 – Rear exterior 12" CMU load bearing wall with 22" deep joist bearing on top of wall.



Photo #4 – Overhead door leading to exterior recessed truck ramp.  
Duel loading dock is divided with a metal stud demising wall.  
Dollar Tree would have access to loading dock closes to rear wall of  
building.



Photo #5 – Recessed truck ramp and loading dock. Dollar Tree would have loading dock closes to exterior wall.





Photo #6 – Egress door leading out from stockroom with concrete slab. Concrete slab is raised up from surrounding asphalt – typical for both exterior doors on this side of the building.

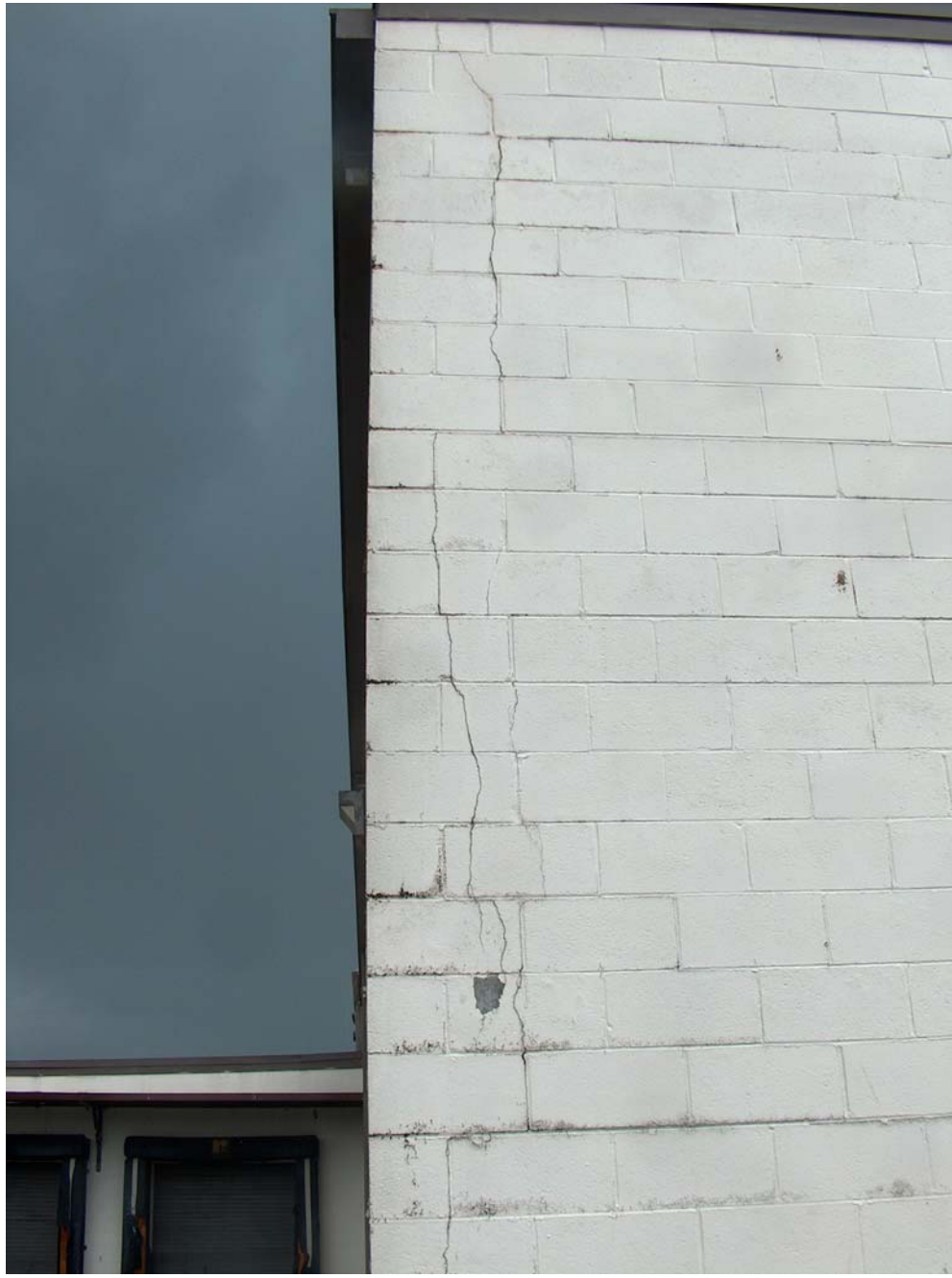


Photo #7 – Crack at rear corner of building extends for full height of wall. We recommend replacement of cracked CMU and repointing. This is typical of several areas on the rear and side walls.



Photo #8 – Cracking of CMU side wall above personnel door –  
typical for both doors.





Photo #9 – Efflorescence located on inside face of CMU rear bearing wall. Water has been getting inside wall cavity.





Photo #10 – Existing Carrier RTU located over proposed Dollar Tree space. There are 7 units total – a combination of Trane and Carrier. This unit appears to be in an original location.



Photo #11 – Rear Trane RTU with no support below existing curb.





Photo #12 – Steel L3X3 braces extending up from lintel beam over storefront to roof structure above. The angles may be exposed if Dollar Tree provides a new ceiling.



Photo #13 – Cracked CMU face shell above steel lintel plate around the rear stockroom entrance. We recommend that the broken CMU be replaced with grout to maintain bearing.