



April 13th, 2023

Patrick Farrell
Via e-mail: pat@northvalley.build

Reference: Torian Plum Window Headers – Outline of Proposed Scope of Work
1855 Ski Time Square Dr
Steamboat Springs, CO 80487
SEAD Job Number 23024

Dear Mr. Patrick Farrell,

Per your request, I, Marvin Standekar, P.E. of Steamboat Engineering And Design, Inc. (SEAD) visually inspected the Torian Plum Condominiums property on April 11th, 2023. I focused on the existing framing in the Lobby area with special emphasis on the potential structural modifications that would need to be made to install (4) new windows in the exterior walls facing Ski Time Square Drive. This letter will outline SEAD's proposed engineering approach on how to remove the existing cross-bracing discovered in the field and installation of a new steel moment frame systems to adequately brace the exterior walls to ultimately install the requested widows. Please be advised that the proposed framing layout outlined in this letter contains only general information regarding member sizes and is pending a full structural analysis to determine the final design. SEAD is planning to provide stamped engineering drawings outlining all required information at a later date as deemed necessary by the building department.



Fig.1: Torian Plum Condominiums

Existing Framing:

The existing exterior walls are approximately (approx.) 7'-9" tall, are framed with 600S162-43 metal studs spaced at 16" o.c. (with a single top and bottom track) and are bearing directly on the existing perimeter concrete foundations. Located right above this wall is a W12 steel beam which spans parallel to the exterior walls and is fastened to steel columns on each end using standard shear connections. Based on existing framing plans and field observations, SEAD was able to determine that the roof framing is bearing directly on the steel beam and does not transfer any loading to the metal studs below. As measured in the field, there is an approx. ½" gap between the bottom flange of the steel beam and the top track of the metal stud wall, making the walls non-loading bearing from a gravity-loading perspective. After cutting multiples holes into the existing drywall, diagonal cross-bracing was discovered in one of the wall sections spanning at a 60 degree angle from the foundation to the middle of the wall section. Although the exact size of the bracing was not able to be determined, it is clear that these ties provide lateral bracing to the entire wall segment and shall not be removed without providing an alternate bracing system.

Proposed Framing:

Based on limited information with regards to the existing framing, SEAD proposes the following generalized steps to safely remove the existing cross-bracing so that the proposed windows may be installed: (Please note that as referenced above, SEAD will be providing stamped permit drawings. The design is forthcoming)

1. Remove existing insulation, fire-protection, drywall, electrical/mechanical components...etc. to verify the size and condition of the existing steel beam, roof framing and foundations.
2. For the wall segment without diagonal cross-bracing (located to the right of the existing fireplace), install new steel columns which shall bear directly on the existing concrete footers and shall be fastened with steel base plates and epoxy anchors. The top of the columns shall be field welded to the underside of the existing W12 steel beam using a full penetration weld. Depending on the findings of the lateral analysis of the walls, it may be possible that no additional columns or other structural components need to be added. Please note that the exact size of the columns, plates and anchors will depend on the field conditions of the framing and foundation members. All new steel members need to be fire-coated to meet current building code standards.
3. Install new steel web stiffeners, one on each side of the existing W12 steel beam web, centered above the new columns using fillet welds.
4. If the installation of only one steel frame is sufficient, the existing cross-bracing may be cut and removed at this time to install the new windows as needed. If a second frame is required, a similar approach as previously stated shall be implemented. Please note that if existing electrical or mechanical equipment needs to be temporarily moved or relocated, SEAD recommends hiring a licensed electrical/mechanical engineer to provide guidance as needed.
5. Lastly, the contractor shall ensure that any existing insulation, drywall, or other miscellaneous items that may have been damaged during construction shall be repaired to meet or exceed the original condition.

Conclusion:

As outlined in this letter, SEAD believes that with the installation of new steel columns welded to the underside of the existing W12 steel beam, the existing cross-bracing may be safely removed. This is pending a full structural analysis of the wall section and stamped repairs drawings outlining all required information including member sizes and fastening specifications. These drawings will be produced by SEAD in the near future.

SEAD reserves the right to amend the statements above if any additional information is discovered. SEAD's scope is limited to the structure in the walls referenced above and does not include Mechanical, Electrical, or Plumbing aspects, nor does it include any material testing. Please contact me if you have any questions regarding this letter. Thank you for inviting SEAD to be part of your project.

Sincerely,

Steamboat Engineering And Design, Inc.
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Reviewed By:
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