

- **Owner:**
Altoona Blair Development Corporation
- **Services:**
 - Structural Engineering
- **Completed:**
2017
- **Construction Cost:**
\$2,900,000



Penn Building Renovation



Altoona Blair County Redevelopment Corporation, Altoona, PA



Stahl Sheaffer Engineering provided structural engineering services for the renovation of the Penn Building, constructed in 1922, to be commercially leased to The Pennsylvania State University. The basement of the structure extends outside of the footprint of the building above to the curb of the street. Steel framing supports cast-in-place concrete which forms the base for the sidewalk in front of the building. A large concrete beam supports the three-story façade wall above. Water infiltration led to severe corrosion of the steel framing as well as the reinforcing within the concrete beam.

The severity of corrosion was assessed, and a remediation plan was developed. New steel members were added to supplement the existing members which were corroded beyond repair and inaccessible in large part due to the construction detailing. The concrete beam reinforcing was cleaned and coated, and spalling concrete was patched with a repair mortar. Sequencing was provided to the contractor to ensure the integrity of the member was not jeopardized throughout the construction process. Reconfiguration of the basement space allowed the design team to locate a new bearing and footing directly below the deteriorated concrete beam to assure long-term stability of the exterior façade wall supported above the beam. Miscellaneous concrete defects throughout the slab were also identified for repair as part of the project.