Structural Conditions

A majority of the existing structural framing was not visible due to the current wall and ceiling finishes. The existing drawings from 1926 were reviewed to better understand the structural system. The structural system for the building consists of an interior beam and column system with exterior masonry bearing walls. The exterior masonry bearing walls also serve as the lateral system for the building.

The main structure for the second floor, third floor and high roof is a one-way concrete joist slab supported by concrete-encased steel beams and concrete-encased steel columns. The clay tile formwork between the concrete joists was left in place, as is typical for joist framing of this era.

The main structure for the first floor is a one-way concrete joist slab supported by concrete beams and a combination of concrete columns and concrete-encased steel columns. The columns are supported on standard spread footing foundations and the exterior walls are supported on continuous strip footings.

The existing drawings note that the concrete around the steel framing is for fireproofing. An alternate fireproofing detail is shown, using clay tile block, which indicates the steel and concrete were likely not designed to work together as a composite section.



Alternate Fire Proofing Detail from Existing Drawings

At the high roof and low roof on second floor, there is a pitched wood post and beam roof system builtup on top of the existing concrete slab.



Underside of Pitched Wood Roof Framing

The old court room on second floor is a two story space. There is an opening in the third floor slab for this space and the existing drawings indicate the roof slab is recessed 1'-10 3/4".



Recessed Roof Slab at Court Room from Existing Drawings

Plaster cracking was observed at the upper corners of multiple doors on third floor. This is to be expected given the age of the building and the flexible nature of the steel beam support girders.



Plaster Cracking at Corners of Third Floor Door

Where visible, the exterior basement walls appear to be multi-wythe brick walls. At the water service room in the west corner of the building, there is evidence of water damage to the existing brick. The paint is delaminating and portions of the brick faces have popped off.



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Existing Brick Basement Wall Water Damage