

Morris Arboretum Grist Mill



PROJECT

Springfield Grist Mill
Philadelphia, Pennsylvania

CLIENT

Morris Arboretum of the University of Pennsylvania

DATES

2003 Conditions Assessment and Survey
2006 Structural Assessment
Design and Documentation- *"Emergency Stabilization of the Hurst Frame"*
2009 Structural Assessment
Design and Documentation- *"Grist Mill Structural Stabilization"*
2011 Design and Documentation- *"Grist Mill Hurst Frame Stabilization"*

CHALLENGE

The Springfield Grist Mill, located on the grounds of the Morris Arboretum, is the oldest surviving mill in Montgomery County, Pennsylvania. The building, which dates back to 1854, also features an impressively preserved set of early 20th century works. The building is constructed of stone masonry walls and foundation and framing with timber members. Our involvement was initiated in 2003 and our design work still continues today.

SERVICES

Conditions Assessment and Survey

Documented the existing conditions of the mill through measured drawings and photographs. Prepared a comprehensive report describing issues and recommendations related to roof replacement, stabilizing the south wall, and stabilizing the area supporting the milling machinery.

Design and Documentation- *"Emergency Stabilization of the Hurst Frame"*

Prepared an existing conditions assessment and construction documents for immediate structural stabilization of the Hurst Frame and south wall.

Design and Documentation- *"Grist Mill Structural Stabilization"*

Provided a full structural assessment and analysis of the existing walls, foundation, and timber framing elements as well as a comprehensive building code study. Designed structural repair details in order to stabilize the building and increase its live load capacity, including: repairs to the first floor column bases, steel reinforcement to the first floor girder, sistering existing joists, select masonry repairs, and re-engagement between the joists, floorboards, and girders. Developed highly detailed schedules identifying all individual joists, girders, and columns for the purpose of specifying unique repair methods. Designed a new two story stair, exterior site upgrades, and fire safety plan.

Design and Documentation- *"Grist Mill Hurst Frame Stabilization"*

Designed a procedure and repair details for the Hurst frame's realignment which detailed the detachment of the framing members from the surrounding structure, jacking up the deflected horizontal members to their original elevation, raising and repairing to the damaged column bases, and replacement of any failing timber members.

POINTS OF INTEREST

The Grist Mill was placed on the National Register of Historic Places in 1976 through efforts of a Springfield High School student's senior project.

