

Pawtucket Canal: Swamp Locks
Lowell, Massachusetts
Middlesex County

HAER No. MA-2B

HAER
MASS,
9-LOW,
9B-

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Historic American Engineering Record
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HISTORIC AMERICAN ENGINEERING RECORD

PAWTUCKET CANAL: SWAMP LOCKS

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DATE: 1822-23, and 1839-41

LOCATION: At the junction of the Pawtucket and Merrimack Canals, Lowell, Massachusetts

DESIGNED BY: Unknown

OWNER: Proprietors of Locks and Canals

SIGNIFICANCE: The Swamp Locks complex consists of a flight of two navigation locks with a dam at the west end of the upper lock. The original locks opened in 1797, and were rebuilt in 1822-1823 when this configuration was basically achieved. Remains of the 1822-1823 work are the rubble stonework of the south wasteway wall and the 25 foot wide portion of the lower lock chamber. Extant physical works date mostly from 1840-1841, when the dam was rebuilt with a straight sloped apron, which is still evident south of the sluiceway. The sluiceway through the dam was probably also built in the early 1840s.

In addition, the locks were narrowed from 25 feet to 12 feet between 1839 and 1841. The lock walls around the three gate pockets were constructed of ashlar masonry, and the remaining chamber walls reconstructed in wood, all within the existing rubble locks. The walls of the upper chamber were rebuilt in stone masonry to the 12 foot width in 1892. The wooden sides of the lower chamber no longer remain. There have been other additions and modifications subsequently. The protective light frame house has been atop the flashboard crest of the dam and over the sluiceway since 1859.

Flashboard weirs and sluice gates have been periodically renewed, and sluice gate operating machinery was installed in the late 19th century. The ramp into the upper Pawtucket Canal was built in 1891, while the one into the lower Pawtucket Canal from the industrial bridge was built in 1896. The sluiceway around the south end of the dam, its gate, and operational machinery were completed in 1928. The frame building now sheltering this machinery was built in the late 19th century as a tool house and has occupied several slightly different sites.

Concrete was used to rebuild the north wall of the wasteway in 1942, and the apron on the north part of the dam in 1946. The apron on the south part was then faced with concrete. The north section of the dam house was demolished and flashboard weirs replaced in 1972.

TRANSMITTED BY: Monica E. Hawley, Historian, 1983