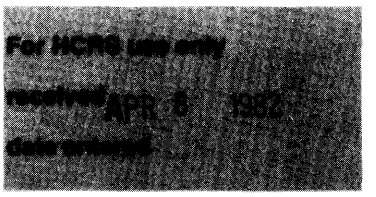
FHR-8-300 (11-78)

United States Department of the Interior
Heritage Conservation and Recreation Service

National Register of Historic Places Inventory—Nomination Form



See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Farmington Canal Lock No. 13

and/or common Farmington Canal Lock No. 13

2. Location

street & number Brooksvale Avenue N/A___ **not for publication**

city, town Hamden , , X **vicinity of** 3rd **congressional district**

state Connecticut **code** 09 **county** New Haven **code** 009

3. Classification

Category	Ownership	Status	Present Use	
___ district	___ public	___ occupied	___ agriculture	___ museum
___ building(s)	X private	X unoccupied	___ commercial	___ park
X structure	___ both	___ work in progress	___ educational	___ private residence
___ site	**Public Acquisition**	**Accessible**	___ entertainment	___ religious
___ object	___ in process	X yes: restricted	___ government	___ scientific
	___ being considered	___ yes: unrestricted	___ industrial	___ transportation
	N/A	___ no	___ military	X other: vacant

4. Owner of Property

name Conrail

street & number 744 Broad Street, Suite 423

city, town Newark N/A___ **vicinity of** **state** New Jersey

5. Location of Legal Description

courthouse, registry of deeds, etc. Hamden Town Clerk, Memorial Town Hall

street & number 2372 Whitney Avenue

city, town Hamden **state** Connecticut

6. Representation in Existing Surveys

title State Register of Historic Places **has this property been determined elegible?** ___ yes X no

date 1975 ___ **federal** X **state** ___ **county** ___ **local**

depository for survey records Connecticut Historical Commission

city, town Hartford **state** Connecticut

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AT&T Long Lines
440 Hamilton Avenue
White Plains, NY

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Continuation sheet	Item number	Page
Farmington Canal Lock No. 13	6	2

Connecticut: An Inventory of Historic Engineering and Industrial Sites
1981
Federal
Library of Congress
Washington, D.C.

7. Description

Condition		Check one	Check one
___ excellent	___ deteriorated	___ unaltered	_X_ original site
_X_ good	___ ruins	_X_ altered	___ moved date _____
___ fair	___ unexposed		

Describe the present and original (if known) physical appearance

When completed in 1835, the Farmington Canal ran eighty miles between New Haven, Connecticut and Northampton, Massachusetts. The canal directors used existing topography wherever possible to minimize construction of artificial embankments or masonry structures. For most of its length, the canal was cut into natural slopes, and a ten-foot-wide towpath was built with the excavated material. The canal prism was designed to be twenty feet wide at the bottom and thirty-six to forty feet wide at the top, with water four feet deep and two to five feet below the towpath.[1]

Lock 13 was one of sixty required to raise and lower barges on the canal. The twenty-eight locks built in Connecticut between 1826 and 1829 were all designed by engineer Davis Hurd and built by contractors Stephen Walkley and Leonard Johnson of Southington.[2] Original lock design called for a wooden lock chamber fifteen feet high, twelve wide in the clear, and ninety feet long including mitered wooden gates. The chestnut and oak framework was separated from the earthen canal embankments on either side by a dry-laid sandstone rubble wall about twelve feet high and three feet wide. A space of twelve to fifteen inches was maintained between the stone and wood walls by stone headers built into the masonry.[3] At Lock 13 in Hamden near the Cheshire town line, the headers were set in vertical groups of three or four at horizontal intervals of eight to thirteen feet.[4] The space thus created was intended to minimize decay of the wooden lock chamber.[5] Wooden lock chambers were built instead of all-stone locks to avoid the expense of importing hydraulic cement, but after problems of leakage and rotting the canal company rebuilt some locks in stone and cement.[6] (see Sketch Plan)

As built in 1827, Lock 13 had masonry side walls about sixteen feet apart which extended in a flared fashion about thirty-five feet beyond the wooden lock chamber at the southern or downstream end. The widened stone extension may have been designed to minimize turbulence when barges were released downstream from the narrow lock. Lock 13 was never rebuilt before the canal was abandoned in 1847, but several undated alterations visible at the site today may have been built during the canal era to counter chronic problems of water control. A stone-lined underground channel about four feet square in cross section leaves the canal just above the lock on the west side and enters the lock about where the downstream gate was located. The dimensions and lining of this channel make more sense as a means of adjusting water levels for northbound barges than as part of a small mill site which stood near the lock in the 1850s. The ends of a cemented rubble wall, which crosses the lock where the channel enters, may have been part of a gate rebuilding program implemented after the canal company began using hydraulic cement.[7]

The under-capitalized canal company suffered constant maintenance problems which drained its waters and its revenues, and in 1846 the directors began construction of a railroad along the canal route to replace the waterway. Within several years after the tracks were built on the towpath east of Lock 13, the wooden lock chamber and gates were removed. A group of carriage hardware manufacturers in the Mt. Carmel section of Hamden gained control of all rights to canal water from Locks 13 to 17 for industrial purposes around 1850, but local farmers who had often objected to the canal on their lands resisted industrial diversions. One farmer evidently dammed up the canal at Lock 13 during this dispute, extending the cross wall with more rubble masonry and boulders. Most of this wall remains today, but it was opened enough to allow a small sawmill licensed by hardware manufacturers Charles Brockett and Henry Ives to operate during the 1850s. No trace remains of the sawmill operated by Lemuel Rice of Cheshire.[8]

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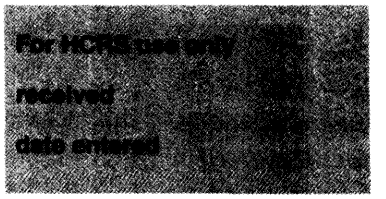

Active use of the lock ended when the sawmill was removed. During the last 120 years, the masonry lock walls have been preserved nearly intact. About four feet of silt and rubble now fill the bottom of the lock. The superstructure and some of the foundation of a lockkeeper's house forty feet from the lock on the west side have been removed,[9] but along most of its length only the top course of stone is missing from the lock walls. Nearly all the moved stones are lying next to the lock. The most serious threat to the stability of the structure is the slumping of the earthen embankments, especially on the towpath side where railroad activity accelerates the slumping process. Due to embankment movement, the original alignment of the lock walls is slightly distorted, and twelve feet of wall on the eastern side have largely collaped into the lock. Aside from the railroad, the wooded lock surroundings suggest little of time's passage. The masonry walls have most of the stone headers intact, and correspond well with the original design plans for retaining walls supporting a wooden chamber.

1. Raber, Michael S., "Farmington Canal Lock No. 13, Hamden, Connecticut: An Assessment of Significance," typescript, Raber Associates, Cobalt, CT, pp. 3-6; Harte, Charles R., " Some Engineering Features of the Old Northampton Canal," Annual Report, Connecticut Society of Civil Engineers XLIX, 1933, p. 31.

2. Raber, pp. 6, 13; Harte, pp. 30-31.

3. Hurd, Davis, "Specifications, plan, birdseye view and broadside view of wooden lock," unpublished plans and manuscript, Connecticut State Library, 1825.

4. Raber, p. 8.

5. Hurd.

6. Harte, p. 39.

7. Raber, p. 15.

8. Raber, pp. 14-15.

9. Circumstantial documentary data suggest the original construction date and use of this feature: Hamden Land Records, Office of the Town Clerk, Hamden, CT, vol. 18, p. 80 and vol. 23, pp. 285, 306; Farmington Canal Company, "Map fo the Farmington Canal," Connecticut State Library, 1828. Limited archaeological testing conducted at this feature did not further establish the date of construction: see attached Sketch Plan for test location, and Raber, op. cit., p. 9 for test results.

8. Significance

Period	Areas of Significance—Check and justify below			
___ prehistoric	___ archeology-prehistoric	___ community planning	___ landscape architecture	___ religion
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science
___ 1500–1599	___ agriculture	X economics	___ literature	___ sculpture
___ 1600–1699	___ architecture	___ education	___ military	___ social/ humanitarian
___ 1700–1799	___ art	X engineering	___ music	___ theater
X 1800–1899	X commerce	___ exploration/settlement	___ philosophy	X transportation
___ 1900–	___ communications	___ industry	___ politics/government	___ other (specify)
		___ invention		

Specific dates 1827 **Builder/Architect** Davis Hurd

Statement of Significance (in one paragraph)

The Farmington Canal was the largest engineering project completed in Connecticut before the advent of railroads. While the canal was not a financial success, it opened up much of west-central Connecticut to Long Island Sound, stimulating both the growth of New Haven as a major New England distribution point and the development of hardware industries north and west of the city. Lock 13 and adjacent canal sections are not only representative of an important transition in Connecticut's commercial, industrial, and transportation history, but are also rare and substantial artifacts of a transitional period in American canal construction (criteria A and C).

Ambitious New Haven merchants, spurred by the progress of the Erie Canal around 1820, hoped to capture potential trade with the upper Connecticut River Valley from their rivals in Hartford by building a rapids-free waterway from the river to Long Island Sound. Though they gained support for the project in communities along the route from New Haven to Northampton, the New Havenites had less success in obtaining state funding due to the opposition of their metropolitan rivals. Forced to rely largely on private subscriptions, the Farmington Canal Company completed the Connecticut section of the waterway between 1825 and 1829 using cost-saving construction techniques which doomed the enterprise to chronic maintenance problems.[1]

The canal was designed by engineers with experience on the Erie Canal, but Benjamin Wright and Davis Hurd were unable to apply all the lessons of three decades of American canal building. Porous local soils were used to build a canal which was similar in cross section to the Erie Canal, but lacked the careful embankment construction and clay lining of the New York system. Hurd's canal locks had almost identical dimensions to those of the earlier project, but were built as wooden chambers supported by dry-laid stone walls to avoid the cost of hydraulic cement needed for more watertight all-stone locks. Only with the successful development of hydraulic cement in Southington, Connecticut were some locks rebuilt entirely in stone.[2]

Lock 13 remained a wood-lined structure, and is the only surviving example of this type on the Farmington Canal. Restored Lock 12 in Cheshire was rebuilt with cement, and together with Lock 13 comprise virtually all that is left of the original sixty locks between New Haven and Northampton. As an un-rebuilt wood-lined lock, the stone walls of Lock 13 are not only unique on the Farmington Canal but are extremely rare remains of this type of lock construction in the United States. Wood-lined locks on other canals from this period have generally been rebuilt in stone or destroyed in the course of later land use developments.[3]

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Problems of water retention and water supply eventually led the canal company to build a railroad in 1846, but when operating the canal became a major transport artery for much of the Connecticut interior even if the objective of dominating Connecticut River trade was never achieved. New or enlarged town centers appeared along the canal, and industrial growth in the Naugatuck Valley was aided by the short overland trip between Waterbury and the canal in Cheshire. Water power development along the canal itself was a goal of the company directors which was rarely met because of the unreliable flows, although in Hamden the canal was important in stimulating iron and brass carriage hardware enterprises near locks in Mt. Carmel south of Lock No. 13. Opposition of farmers to a wide leaky ditch which often spoiled their lands was a constant source of vandalism in Farmington Canal history, and a dam built in Lock 13 around 1850 to protest industrial water use in Mt. Carmel is the most durable expression of this conflict between agrarian and commercial interests.[4] The lock and canal sections of this property are excellent examples of the tremendous landscape and social changes undergone by Connecticut between 1820 and 1850 during its evolution from a declining agricultural economy to a major industrial center.

1. Analytical overviews of Farmington Canal history are presented in Raber, Michael S., " Farmington Canal Lock No. 13, Hamden, Connecticut: An Assessment of Significance," typescript, Raber Associates, Cobalt, CT, pp. 3-6, and Roth, Matthew, Bruce Clouette, and Victor Darnell, Connecticut: An Inventory of Historic Engineering and Industrial Sites, Washington: Society for Industrial Archaeology, 1981, pp. 183-185.

2. Raber, p. 17.

3. Raber, pp. 16-18.

4. Raber, pp. 14-15; Blake, William P., History of the Town of Hamden, Connecticut, with an Account of the Centennial Celebration, New Haven: Price, Lee & Co., pp. 144-158, 257-261; Dickerman, George S., The Old Mount Carmel Parish: Origins and Outgrowths, New Haven: Yale University Press, 1925, pp. 206-208; Hartley, Rachel, The History of Hamden Connecticut 1786-1959, Hamden: The Shoe String Press, Inc., pp. 208-211.

ACREAGE ... VERIFIED

9. Major Bibliographical References

"Survey of the Farmington Canal, as the same was laid out by the Commissioners on said Canal..," unpublished map, Connecticut State Library, 1828.

Harte, Charles R., "Some Engineering Features of the Old Northampton Canal," Annual Report, Connecticut Society of Civil Engineers XLIX (1933), 21-53

10. Geographical Data

Acreage of nominated property c. one half acre

Quadrangle name Mount Carmel, Conn. **Quadrangle scale** 1: 24,000

UMT References

	Zone	Easting	Northing
A	1 8	6 7 3 8 5 0	4 5 9 1 6 4 0
B	1 8	6 7 3 8 6 0	4 5 8 1 6 5 0
C	1 8	6 7 3 8 8 0	4 5 9 1 5 4 0
D	1 8	6 7 3 8 7 0	4 5 9 1 5 4 0
E	1 8	6 7 3 8 6 0	4 5 9 1 5 7 0
F	1 8	6 7 3 8 4 0	4 5 9 1 5 7 0
G	1 8	6 7 3 8 3 0	4 5 9 1 6 1 0
H	1 8	6 7 3 8 5 0	4 5 9 1 6 2 0

Verbal boundary description and justification

The property includes the remains of the lock, associated lockkeeper's house foundation and underground side channel, and adjoining canal sections of 100 feet at either end of the lock.

List all states and counties for properties overlapping state or county boundaries

state	code	county	code
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

11. Form Prepared By

name/title Michael S. Raber, Owner/Principal

organization Raber Associates, acting as consultants to the Town of Hamden, CT **date** November 18, 1981

street & number 41 Great Hill Road, P.O. Box 198 **telephone** 203/267-2280

city or town Cobalt **state** Connecticut

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

___ national   _x_ state   ___ local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89–665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the Heritage Conservation and Recreation Service.

State Historic Preservation Officer signature [signature]

title Director, Connecticut Historical Commission **date** March 31, 1982

For HCRS use only

I hereby certify that this property is included in the National Register

Entered In the National Register

date 5/6/82

for [signature]

Keeper of the National Register

Attest: **date**

Chief of Registration

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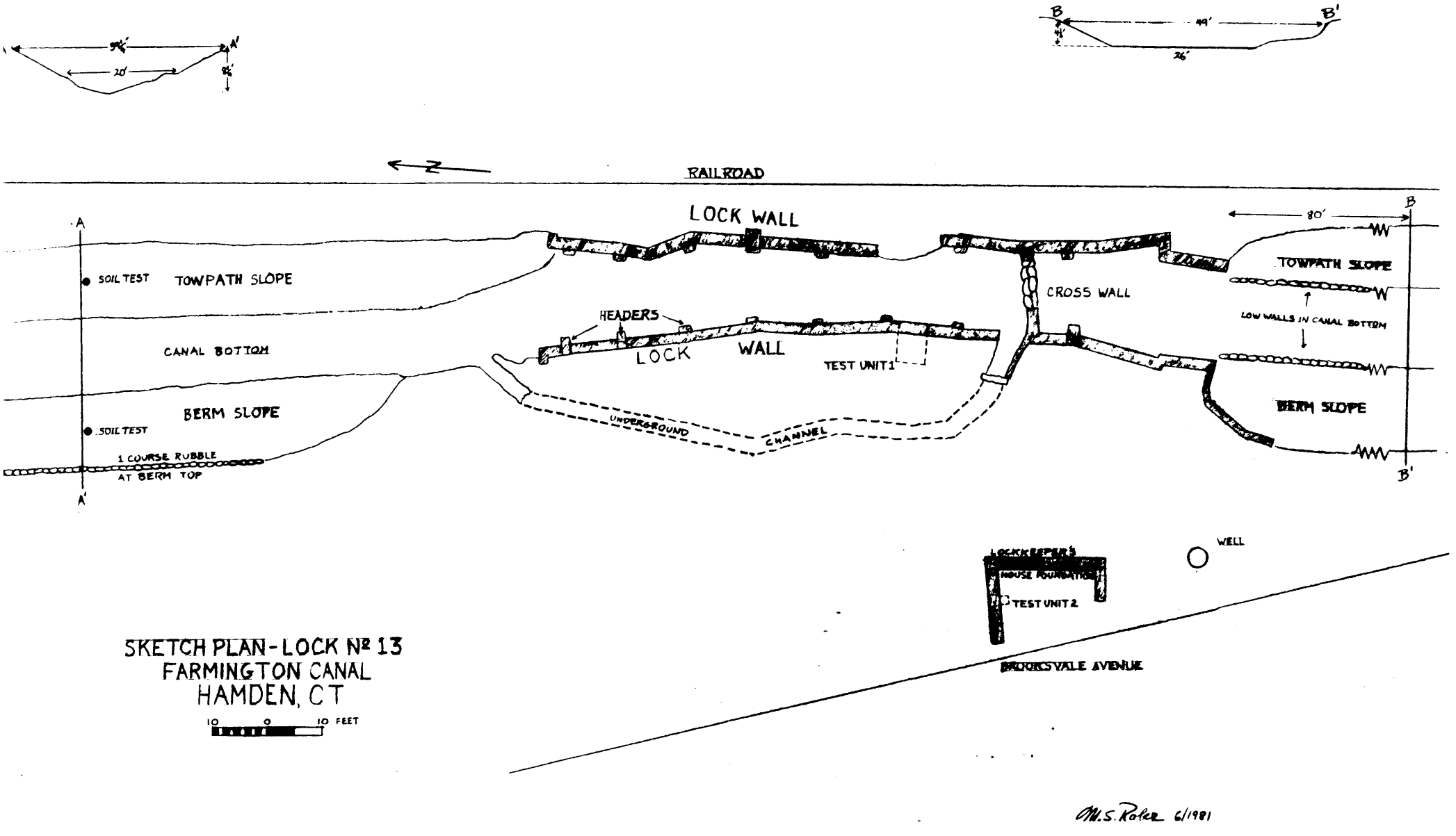
Roth, Matthew, Bruce Clouette, and Victor Darnell. Connecticut: An Inventory of Historic Engineering and Industrial Sites. Washington: Society for Industrial Archaeology, 1981.



SKETCH PLAN - LOCK Nº 13
FARMINGTON CANAL
HAMDEN, CT

10 0 10 FEET

M.S. Roker 6/1981