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APPENDIX I:

VERMONT HISTORIC SITES AND STRUCTURES SURVEY FORMS

STATE OF VERMONT Division for Historic Preservation Montpelier, VT 05602 HISTORIC SITES & STRUCTURES SURVEY District ☐ Complex ☒ Survey Form	SURVEY NUMBER: NEGATIVE FILE NUMBER(S): 7189, 7193 UTM REFERENCES: Zone/Easting/Northing A B C D U.S.G.S. QUAD. MAP: Burlington, VT
	COMPLEX INFORMATION ONLY
COUNTY: Chittenden TOWN: Burlington	COMMON NAME: Pine Street Barge Canal
LOCATION: Pine Street	PRESENT FORMAL NAME: Pine Street Barge Canal
NAME OF DISTRICT: Pine Street Barge Canal	ORIGINAL FORMAL NAME: Pine Street Barge Canal
TYPE OF DISTRICT: industrial, archeological	TYPE OF COMPLEX: industrial, archeological
PHYSICAL CONDITION OF STRUCTURES: Excellent % Good % Fair 50 % Poor 50 % LEVEL OF SIGNIFICANCE: Local ☐ State ☒ National ☐	TYPES OF STRUCTURES: boat basin, breakwater, railroad bridge, remains of boathouses PRESENT USE: not in use, railroad bridge ORIGINAL USE: boat basin, boat repair, railroad bridge
THEMES: Industry Lake Champlain Navigation	ARCHITECT/ENGINEER: Strauss Bascule Bridge Company (bridge) BUILDER/CONTRACTOR: Luther Whitney (Port Douglass, NY) Canal ACCESSIBILITY TO PUBLIC: Yes ☐ No. ☐ Restricted ☒

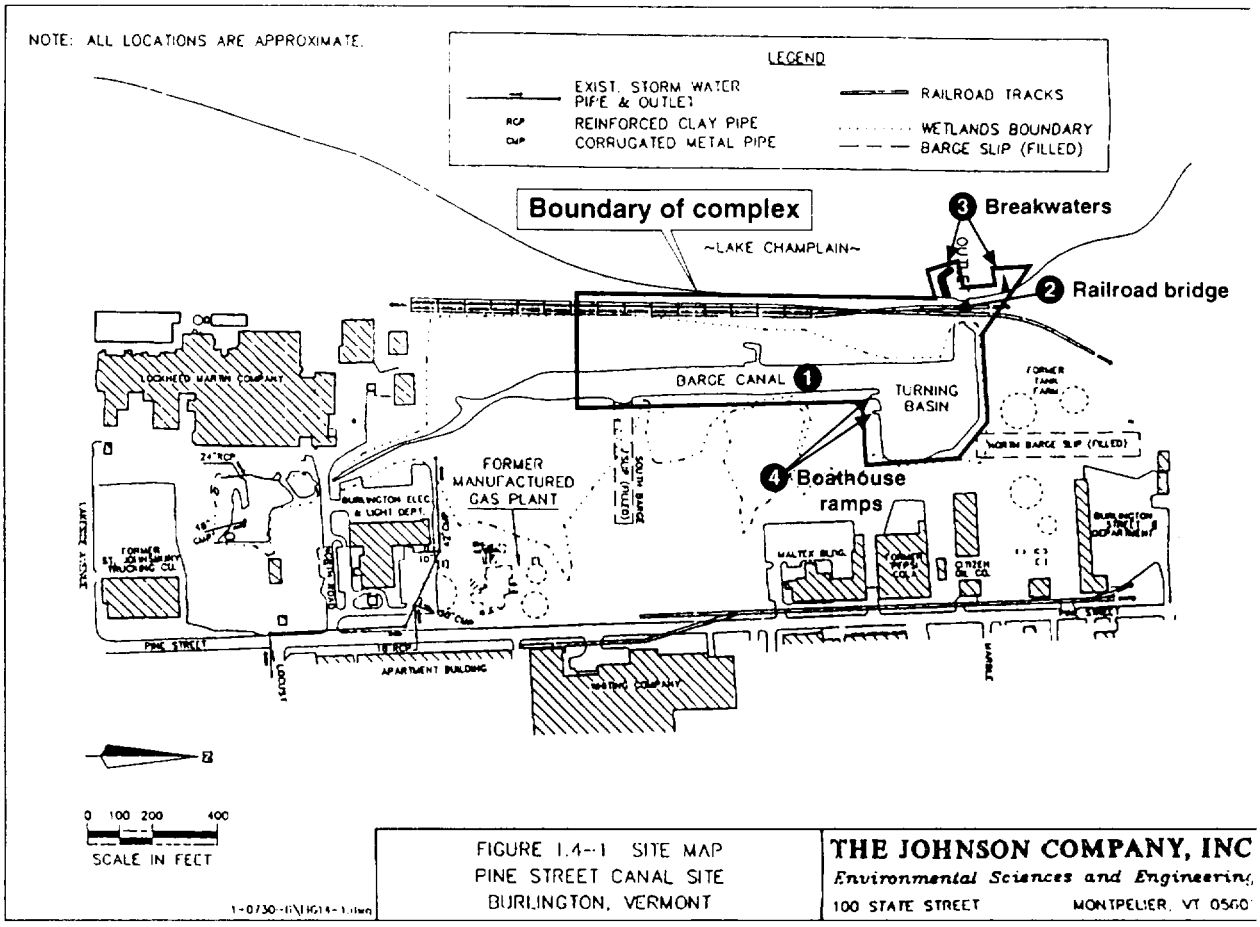
STATEMENT OF SIGNIFICANCE:

The Pine Street Barge Canal is one of the few visible remnants of the nineteenth century lumber industry of Burlington. Beginning in the mid-nineteenth century and continuing to almost the end of the century, Burlington was one of the major lumber ports and lumber processing centers of the United States. Canadian timber was floated down Lake Champlain on barges to Burlington. The raw logs were transformed into lumber by large mills along the waterfront. Some of the lumber was converted into finished goods at Burlington factories, while most of the lumber produced was loaded onto railroad cars for shipment to urban centers of New England and other parts of the northeast.

Early on, lumber businesses faced a shortage of storage space. The waterfront of Burlington was a relatively narrow strip of land along the lakefront with residential, commercial and industrial development bounding it on the east and extending up the hillside. One of the early lumbermen, Lawrence Barnes, sought to expand both lumber storage and manufacturing areas by filling a swampy area, described in one source as a "miasmatic frog pond," at the south end of the waterfront. A centerpiece of Barnes's plan was a sheltered boat basin, the Pine Street Barge Canal, where lumber barges could be moored to unload timber for processing in the city's mills. Construction of the canal was begun in 1868, and the waterway was enlarged later in the century in response to increased demand from lumber companies located along its banks.

THREAT TO STRUCTURES: No Threat ☐ Zoning ☐ Roads ☐ Development ☐ Deterioration ☒ Alteration ☐ Other: Hazmat Remediation	LOCAL ATTITUDES: Positive ☐ Negative ☐ Mixed ☒ Other:

MAP: (1. Indicate NORTH in circle. 2. Represent each structure as an open box. 3. Number each structure inside of its box.)



BOUNDARY DESCRIPTION:

The boundary of the complex is an irregular figure whose northwest corner is indicated by the end of the north breakwater extending from the north side of the turning basin outlet. The boundary then extends east along the northern shore of the turning basin and including the railroad bridge across the outlet to the turning basin. At the eastern edge of the turning basin, the boundary extends south and includes the area on the south side of the turning basin formerly occupied by the boathouses/boat ramps. The southern end of the complex is the point at which the south arm of the Pine Street canal loses its historic linear form. At that point, the boundary extends west to the west side of the former Rutland Railroad right-of-way and extends north to the vicinity of the south side of the turning basin outlet, turning west to include the south breakwater.

REFERENCES:

A complete list of references is contained in the bibliography for the report, *Pine Street Canal Superfund Site, Burlington, Chittenden County, Vermont: Historic Resources Study* (John Milner Associates, Inc., 2001). Principal sources used in compilation of this form were: (continued on attached sheet)

RECORDED BY:	ORGANIZATION:	DATE RECORDED:
Douglas C. McVarish	John Milner Associates, Inc.	December 2000

OUTSTANDING COMPONENTS OF DISTRICT ☐ COMPLEX ☒
(Include individual survey number ONLY if surveyed individually.)

MAP NUMBER: 1 DATE BUILT: 1868	SURVEY NUMBER:
FUNCTIONAL TYPE: boat basin	NEGATIVE FILE NUMBER: 7189-8
COMMON NAME: Pine Street Barge Canal	OWNER: unknown

DESCRIPTION:

The present Pine Street Barge Canal is the remnant of an originally larger resource. At its maximum extent, the canal consisted of a square turning basin with an outlet to Lake Champlain, narrower channels extending from the northeast and southwest corners of the turning basin, and a side channel extending east off the southern end of the south channel. The north channel has been infilled as has the south side channel. The south end of the south channel has silted in.

The canal basin is lined with boulders, many of which have been displaced from their original locations. Most of the shore of the canal is now overgrown with trees, shrubs, and vines. Originally a strictly rectangular body of water, the shoreline is now less regular due to erosion and filling. Originally a maximum of eight feet deep, the depth of at least some portions of the waterway appears to have been reduced. (continued on attached sheet)

MAP NUMBER: 2 DATE BUILT: 1919	SURVEY NUMBER:
FUNCTIONAL TYPE: bridge	NEGATIVE FILE NUMBER: 7193-10
COMMON NAME:Barge Canal Railroad Bridge	OWNER: Vermont Agency of Transportation

DESCRIPTION:

The barge canal bridge originally consisted of a steel-framed moving leaf with a main trunnion, counterweight trunnion, and concrete counterweight. A steel-framed tower extended across the width of the bridge and rose 38 feet from the base of the bridge. In its resting position, the leaf rested on poured concrete bridge seats anchored to the banks of the channel by pilings. The moving or bascule leaf pivoted on a main trunnion mounted to the north bridge seat. Rising above the main trunnion was the trunnion tower. A link at the top of the tower connected to the counterweight trunnion and then to the counterweight. The counterweight was, in turn, connected to the tail trunnion on the tail of the moving leaf behind the main trunnion. The combination of power generated by the bridge engine and the shifting of the counterweight permitted the moving leaf to be raised and lowered. (continued on attached sheet)

MAP NUMBER: 3 DATE BUILT: late 19th c	SURVEY NUMBER:
FUNCTIONAL TYPE: breakwaters	NEGATIVE FILE NUMBER: 7193-23
COMMON NAME: Barge Canal breakwaters	OWNER: unknown

DESCRIPTION:

Nineteenth and early twentieth century maps clearly show a pair of breakwaters located at either side of the barge canal outlet. A substantial portion of the south breakwater remains. This structure, constructed of stone slabs and rubble extends from the shore of the canal outlet in an arc westward into Lake Champlain. On the north side of the outlet, the curve of the Lake Champlain shoreline is lined with rubble, and a short rubble breakwater extends into Lake Champlain from the outer portion of the curve.

MAP NUMBER: 4 DATE BUILT: c. 1910	SURVEY NUMBER:
FUNCTIONAL TYPE:boat ramp	NEGATIVE FILE NUMBER: 7159-22
COMMON NAME: Barge Canal boathouse ramps	OWNER: unknown

DESCRIPTION:

Two structures, identified in a previous survey as marine railways (Cohn 1996) are located adjacent to the south side of the turning basin. Both structures are in ruinous condition and are now largely hidden by undergrowth. Extant portions of the fabric of each structure include poured concrete ramps walls that extend downward into the south end of the turning basin and a series of parallel poured concrete footings. Timbers, probably either a portion of the shipway or a portion of the boathouse framing, lie on the ground in the vicinity of the concrete footings. No rails or remains of machinery were visible during a partial pedestrian reconnaissance of the area. (continued on attached sheet)

Continuation Sheet:

Statement of Significance (continued).

As transportation routes evolved in the late nineteenth century and protectionist tariffs were instituted, Burlington lost its leading role as a lumbering center. The Pine Street barge canal continued in use. Instead of lumber barges, coal barges tied up in the waterway and unloaded their cargo to pockets located along the canal. As coal was supplanted by more environmental sensitive and efficient methods of home and industrial heating, the canal ceased active use. A variety of industrial concerns located along the canal and in the canal vicinity. One such enterprise was a manufactured gas plant, established in 1895. Waste from its operations was routinely dumped in the wetlands surrounding the canal. This documentation was prepared in connection with remediation of these hazardous materials.

Contributing resources of the canal complex include the canal itself, the remains of two breakwaters built to provide a sheltered entrance into the canal from Lake Champlain, the former Rutland Railroad bridge across the outlet to the canal, and the remnants of early twentieth century boathouses/marine railways on the south bank of the turning basin and extending into the turning basin. Although definitive evidence is lacking, the last-mentioned structures appear to have been erected in the early twentieth century for a boat repair business.

Description Pine Street Barge Canal (continued).

The shoreline of the canal was originally surround by a dike, possibly constructed of rubble. The inner side of this dike was finished with planking. According to a local informant, planking or cribbing is visible along the southern reaches of the canal during times of low water.

Description Barge Canal Railroad Bridge (continued).

The machinery for the bridge is still largely intact, though not operational. The concrete slab walls of the operator's house remain. In March 1987, the counterweight for the bridge was removed and placed on the north shore of the barge canal outlet west of the bridge. Portions of the counterweight and associated steel framework remain in place. A portion of one side of the counterweight was cut away to permit the construction of the Burlington bicycle path across the opening of the canal.

Description Barge Canal boathouse ramps (continued).

Early twentieth century Sanborn maps show two, wood-framed, one- and two-story boathouses in this location with ramps extending northward into the turning basin. No documentary evidence could be located concerning the date of construction and use of these structures.

References (continued).

Blow, David J.
1991 *Historic Guide to Burlington Neighborhoods.* Chittenden County Historical Society, Burlington, Vermont.

Cohn, Arthur
1996 Preliminary results of An Archaeological Assessment within the Pine Street Barge Canal. Submitted to The Johnson Company, Montpelier, Vermont.

Cook, Lauren J. and John P. McCarthy
1992 A Stage IA Cultural Resources Survey of the Pine Street Canal Superfund Site, Burlington, Vermont. Prepared by John Milner Associates, Inc. for Metcalf & Eddy, Inc. and the U.S. Environmental Protection Agency.

Manley, Pat, Tom Manley and Art Cohn
1996 Pine Street Barge Canal Survey, Side-scan Sonar and ROV, April-May 1996. Report prepared for the Johnson Company, Montpelier, Vermont.

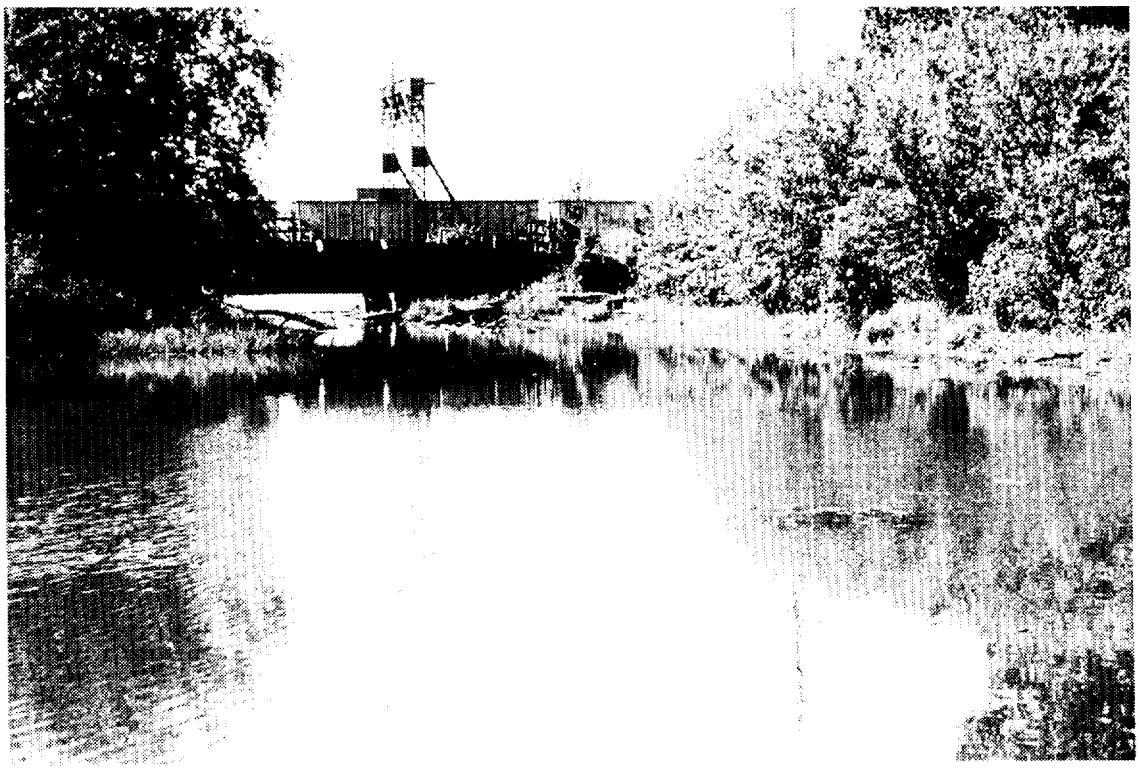
References (continued).

Sanborn Map Company

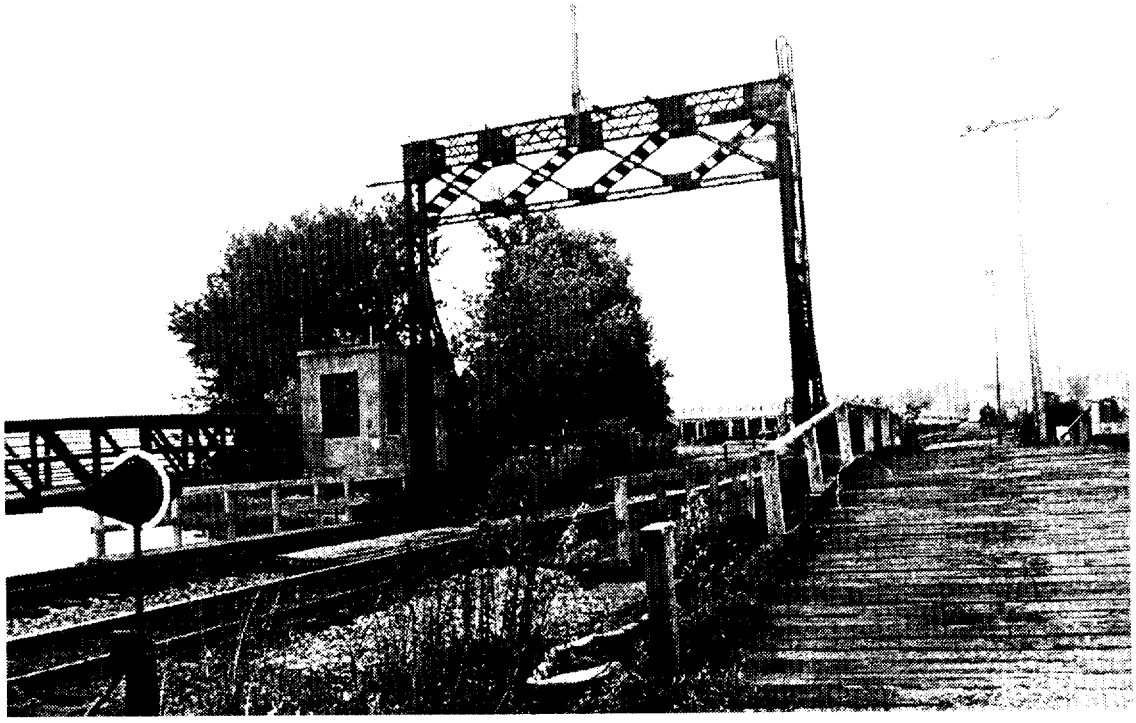
Insurance Maps of Burlington, Vermont. Sanborn Map Company, New York. 1885, 1894, 1900, 1906, 1912, 1919, 1926, 1943, 1955.

Strauss Bascule Bridge Company

1919 Strauss Trunnion Bascule Bridge. Patented for Rutland Railroad at Burlington, Vermont. Microfilm copy of engineering drawings on file at the Vermont State Records Center, Middlesex, Vermont.

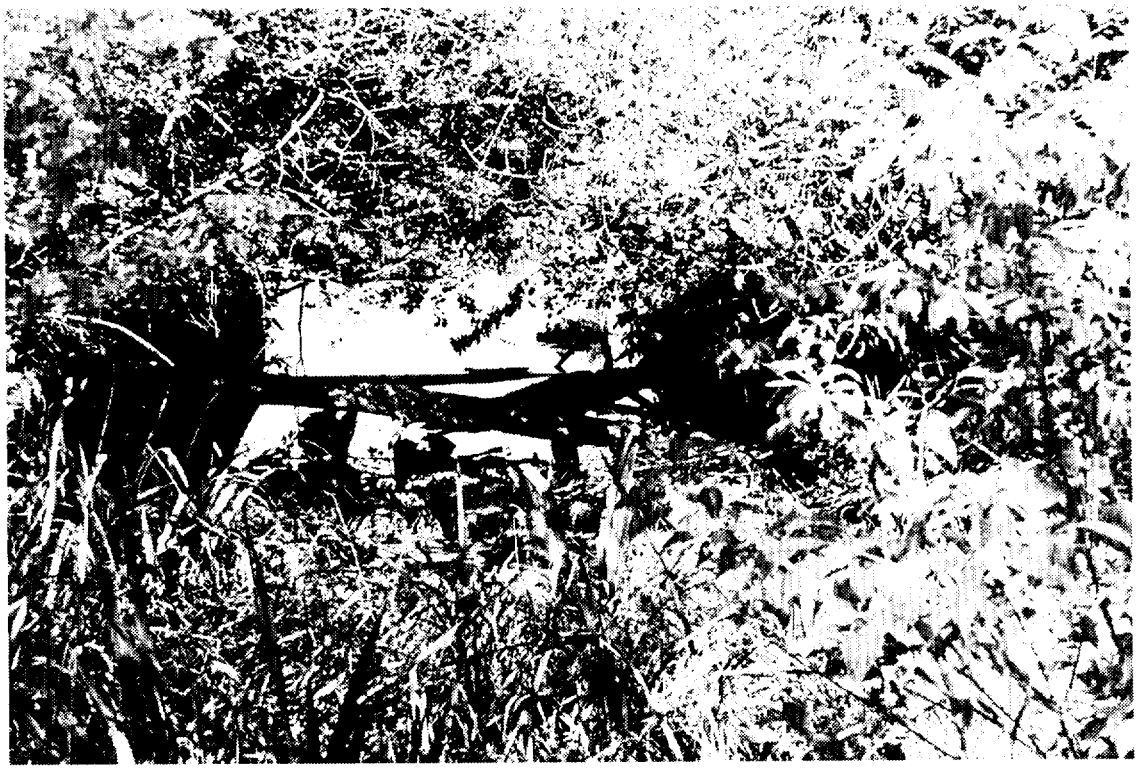


1) Turning basin and barge canal outlet with railroad bridge in background. Toward northwest.



2) Barge canal railroad bridge. Toward north.

3) Breakwater on south side of outlet of barge canal. Toward west.



4) View of area of former boathouse ramp in the vicinity of the south shore of the turning basin. Toward north.