A photograph of a large, multi-story stone industrial building, identified as the former Abbot Worsted Company Mill #1. The building features a prominent, tall, cylindrical brick chimney on the left side. The structure is surrounded by dense trees and a hillside. In the foreground, there is a paved area with a metal railing. The overall scene is captured in a slightly desaturated, historical style.

**FORMER ABBOT WORSTED COMPANY MILL #1**  
**12 North Main Street, Graniteville, Westford, MA**

**PROGRESS MEETING**  
**12 NORTH MAIN STREET TASK FORCE**  
**July 22, 2015**

**Bargmann Hendrie + Archetype, Inc.**  
**Structures North Consulting Engineers, Inc.**

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

HAND-BOOK OF 128 BUSINESSES. 185

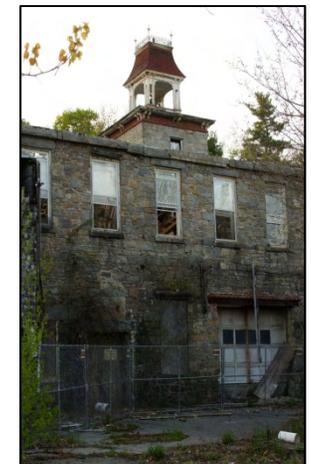
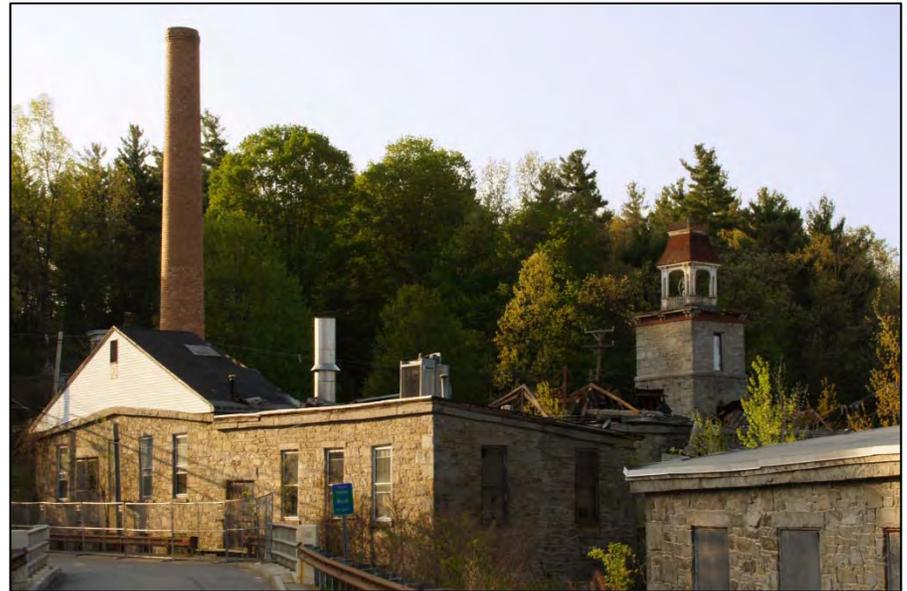
THE ABBOT  
Worsted Company,

Having located themselves  
IN GRANITEVILLE, MASS.,  
Are prepared to Manufacture

CREWELS,  
CROCHETS, TASSELS,  
COACH LACE,  
AND  
Fine Worsted Yarn  
GENERALLY.

Manufactory and Post-office Address,  
Graniteville, Mass.

1855 advertisement (reprinted in June W. Kennedy,  
Westford Recollections, 1729-1979 (Westford: 1979), J.V.  
Fletcher Library collection.



FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

❖ HISTORICAL NARRATIVE

Charles G. Sargent

Arriving in Westford from Lowell in 1854, Charles G. Sargent formed a partnership with Francis Calvert and began the manufacture of woolen mill machinery in an 18<sup>th</sup>-century farmhouse and shop approximately 1/8-mile upstream from the existing mill complex. After the buildings burned in 1855 (actually 1858?), Calvert & Sargent excavated the Mill Pond, rebuilt the dam and erected the existing stone Mill #1 in 1858 (or 1859?). The pond was enlarged in conjunction with the addition of Mill #2 in 1877.

Abbot Worsted Company

An important customer of Calvert & Sargent, Abbot Worsted Company rented the Graniteville factory and purchased their machinery from Mr. Sargent. However, a 20<sup>th</sup>-century Abbot Company employee handbook states that the company was established in Graniteville in 1855, for the manufacture of fine worsted braid and upholstery yarn. By 1858, "**Abbot and Company**" manufactured carded woolen and, later, carpet woolen and worsted yarn. Although the business was incorporated under the name "**Abbot Worsted Company**" in 1900, an 1875 map of Graniteville shows "Abbot Worsted Co." adjacent to the C.G. Sargent & Son complex, at the corner of North Main Street and River Street. Presumably, the company relocated into the stone mill complex at the beginning of 1878.

Sources:

- Westford Preservation Plan, "Graniteville Historic District," pp. 31, 37;
- "Welcome to Abbot," Abbot Worsted Company, 1950.

FORMER ABBOTT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

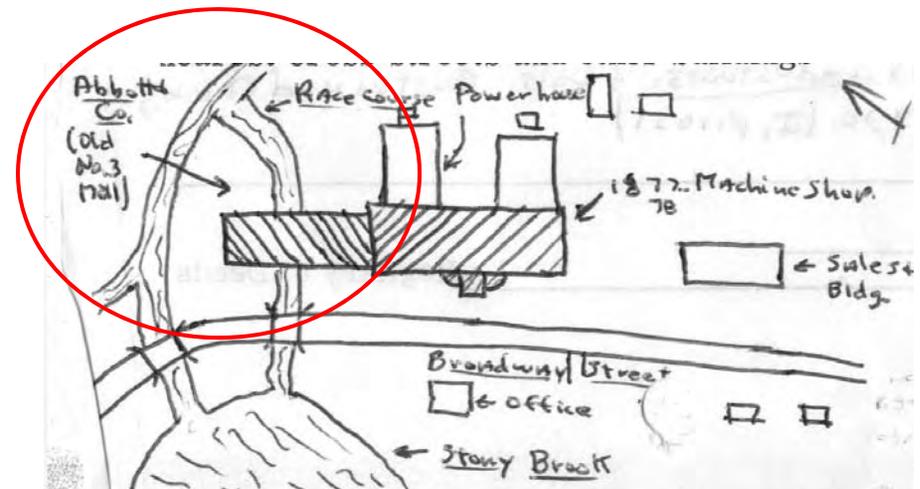
Original Buildings on Site

According to MHC's MACRIS inventory form WSR-1 prepared in 1970, Mill #1 was erected in **1856**, Mill #2 was added in **1857** and Mill #3 followed in **1865**. However, several other accounts reference destruction of the entire complex by fire in 1858 and construction of replacements in **1859 and/or 1860**.

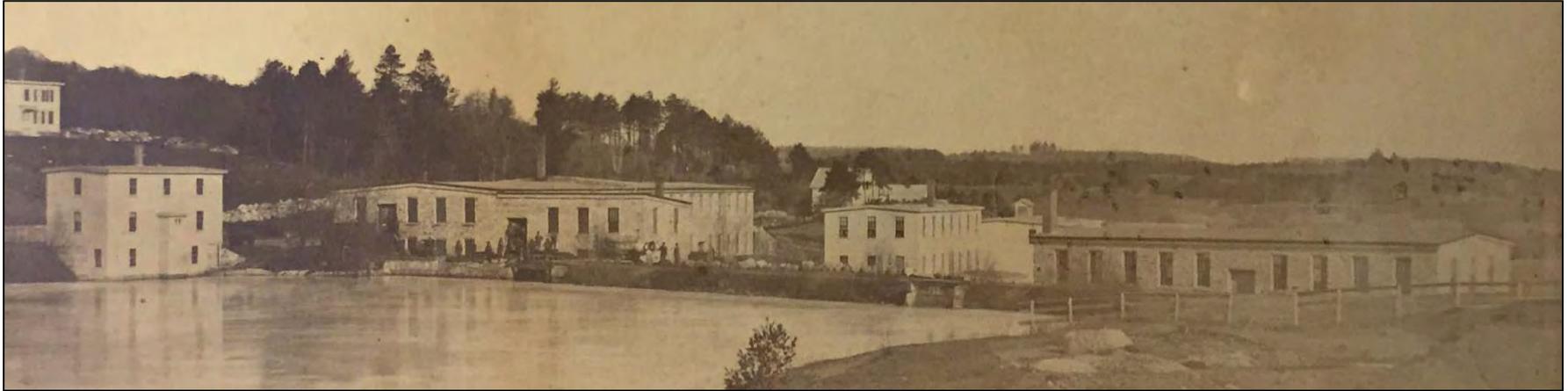
The Historic American Buildings Record (HAER) inventory form (prepared by Peter M. Molloy, 12/8/75) describes an **1878** extension "identical in style to the 1860 mill," 150' x 50' in size.

MACRIS inventory form WSR-27 (prepared by Bryant Fallon, 9/3/70) includes a hand-drawn location map (right) identifying the northwest wing of the C.G. Sargent's Sons building as "Abbott Co. (Old No. 3 Mill)"; it is unclear whether this "No. 3" was confused with the Mill #3 wing added to the North Main Street complex.

The mills were originally powered by a 75-horsepower water turbine and, after 1877, a steam engine of approximately 100 horsepower was also employed.



FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



Early, undated photo from J.V. Fletcher Library collection predates the 1877 Sargent's Sons machine shop; the one-story building (at right) may date to 1863.



Winter scene.

Photo studio listed as "C.+ G.H. Drew, 72 Tremont Street, under Boston Museum" [1868-1876].

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



1875 Graniteville Map.



1889 Graniteville Map (Geo. Walker Atlas); note the additions along North Main Street.

Additions and Alterations for Abbot Worsted Company:

Barlow insurance surveys No. 5012, Charles G. Sargent & Sons' Machine Shop and Hosiery" and "No. 5011. Abbott [sic]/Worsted Company" both included supplements.

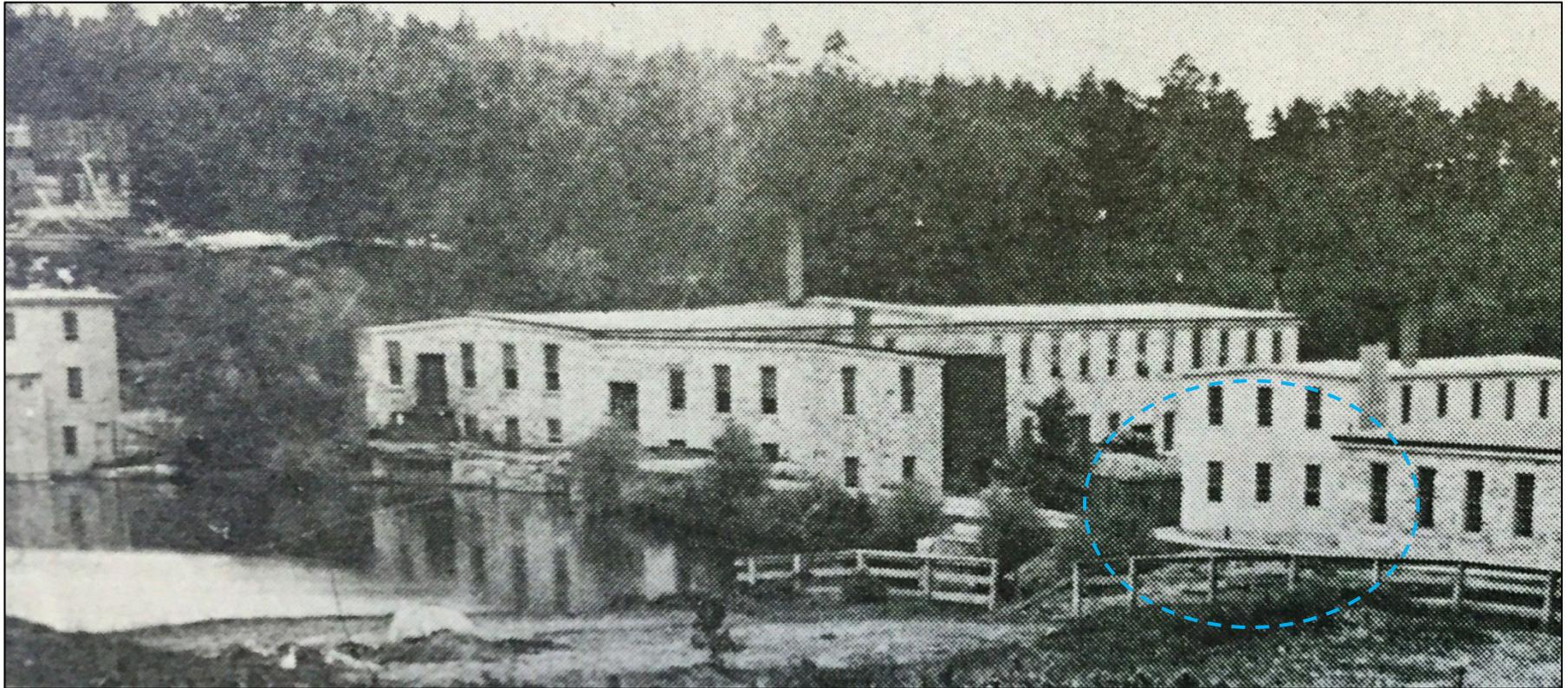
- 1877: "...to be occupied by the Abbott Worsted Co. after January 1."
- 1877: "Part of No. 2 is new, not wholly finished... About the first of January, they are to occupy Nos. 1 & 3."
- 1881: "Intend to build an addition to No. 2."

***Was 1878 a big year for Abbot Worsted Company?***

- 1875 Abdiel J. Abbot admitted as partner; firm name is changed to "Abbot and Company"
- 1879 Abbot and Company purchases buildings and water rights of Forge Village Horse Nail Company and converts the buildings and machinery...

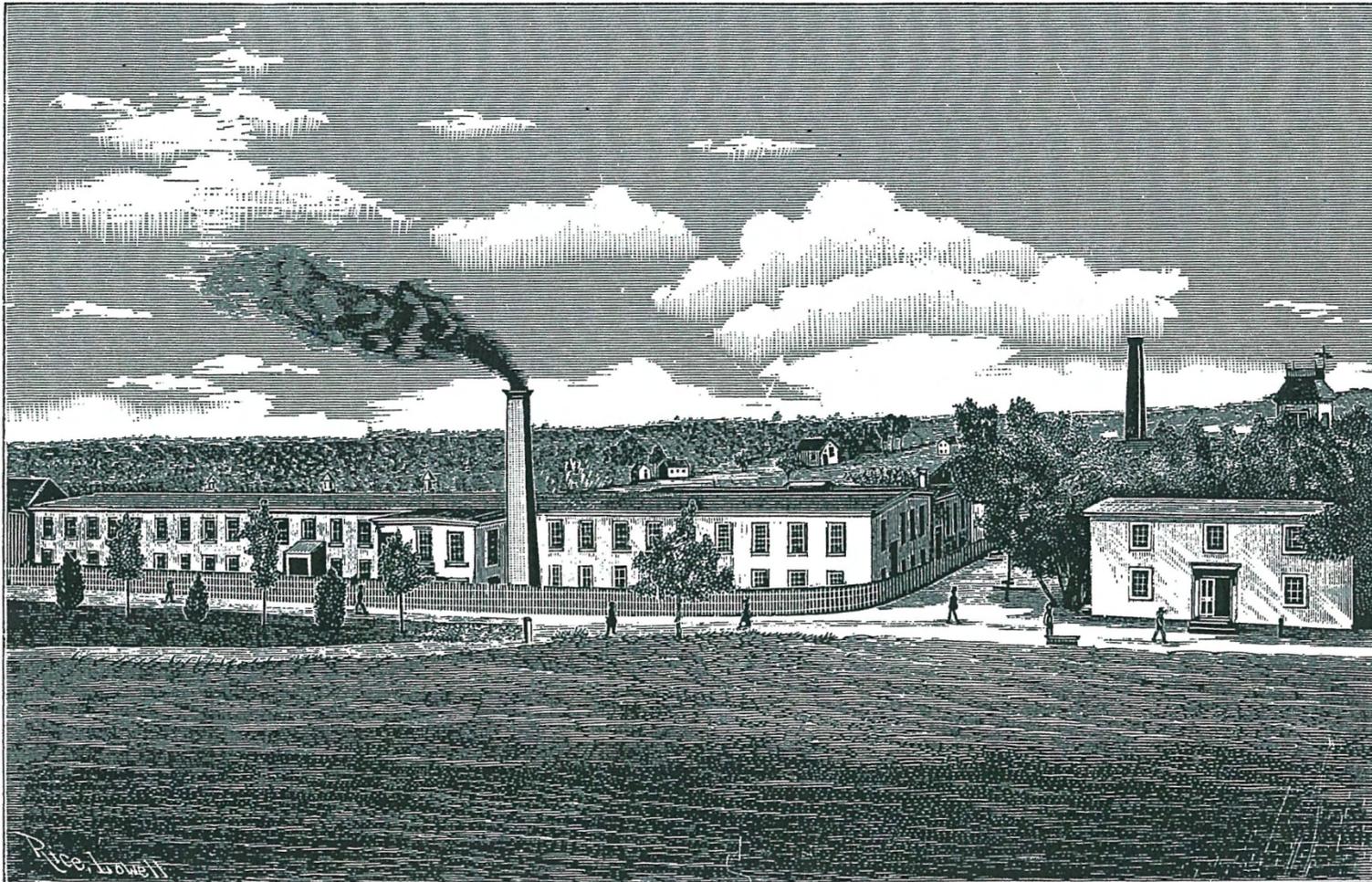
Source: "Welcome to Abbot," ca. 1946 (J.V. Fletcher Library collection)

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



This photograph from the J.V. Fletcher Library collection appears to predate 1880 – well before the bell tower was constructed. Curiously, the original smokestack does not appear here, nor does the wood picket fence. The privy lean-to (center of photo) clad in flush wood siding is painted black at this juncture. Note that the Mill #3 wing has a shed roof sloping away from Broadway. The extant Sargent's Sons building north addition does not yet appear.

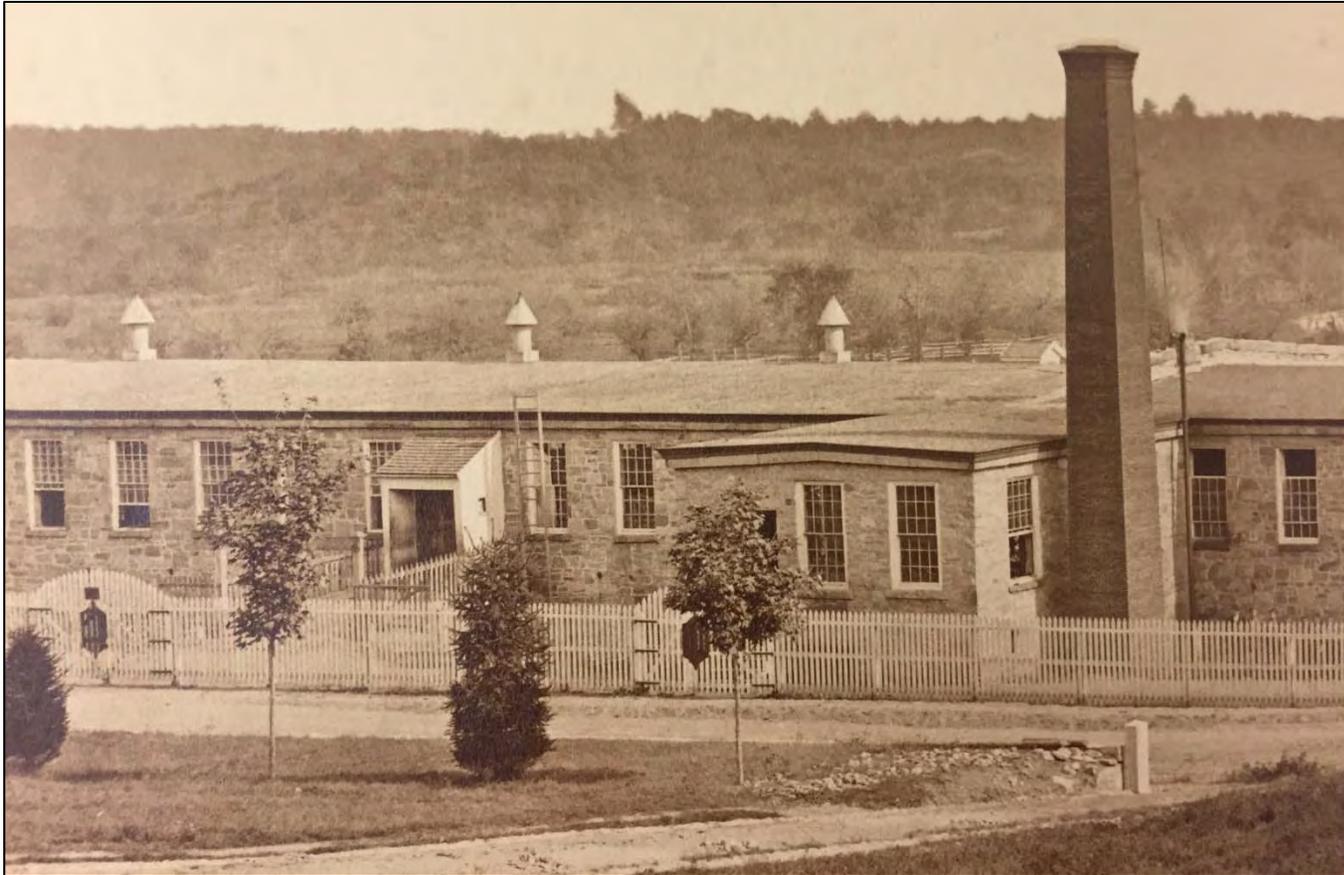
FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



Abbot & Co.'s Worsted Mill, Graniteville

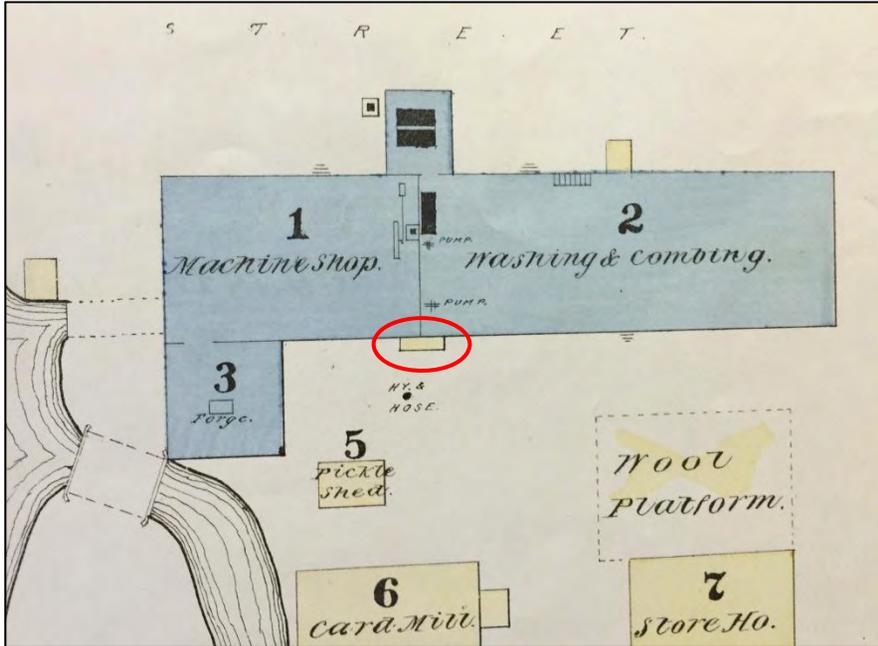
Illustration in Rev. E.R. Hodgman, History of the Town of Westford, 1883 (J.V. Fletcher Library Collection) shows smokestack and perimeter fence; note Sargent 's Sons 1877 machine shop in background, far right.

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

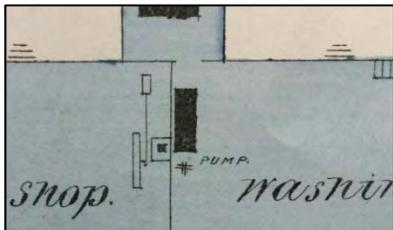


Enlarged portion of photograph from the J.V. Fletcher Library collection illustrates the original boiler wing; extant iron or steel roof beams may belong to this wing.

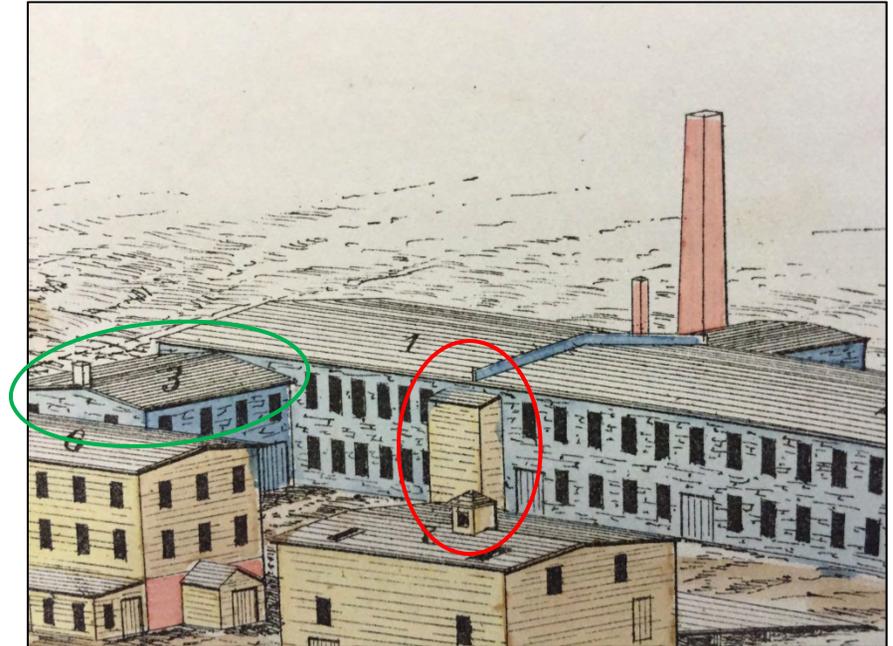
FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



Prior to full occupancy by Abbot Worsted Company, Mill #1 was used by Charles G. Sargent & Sons as a machine shop. A wood-framed lean-to (shown circled) straddling both sides of the fire wall between Mills 1 and 2 housed privies; the addition survives in poor condition.

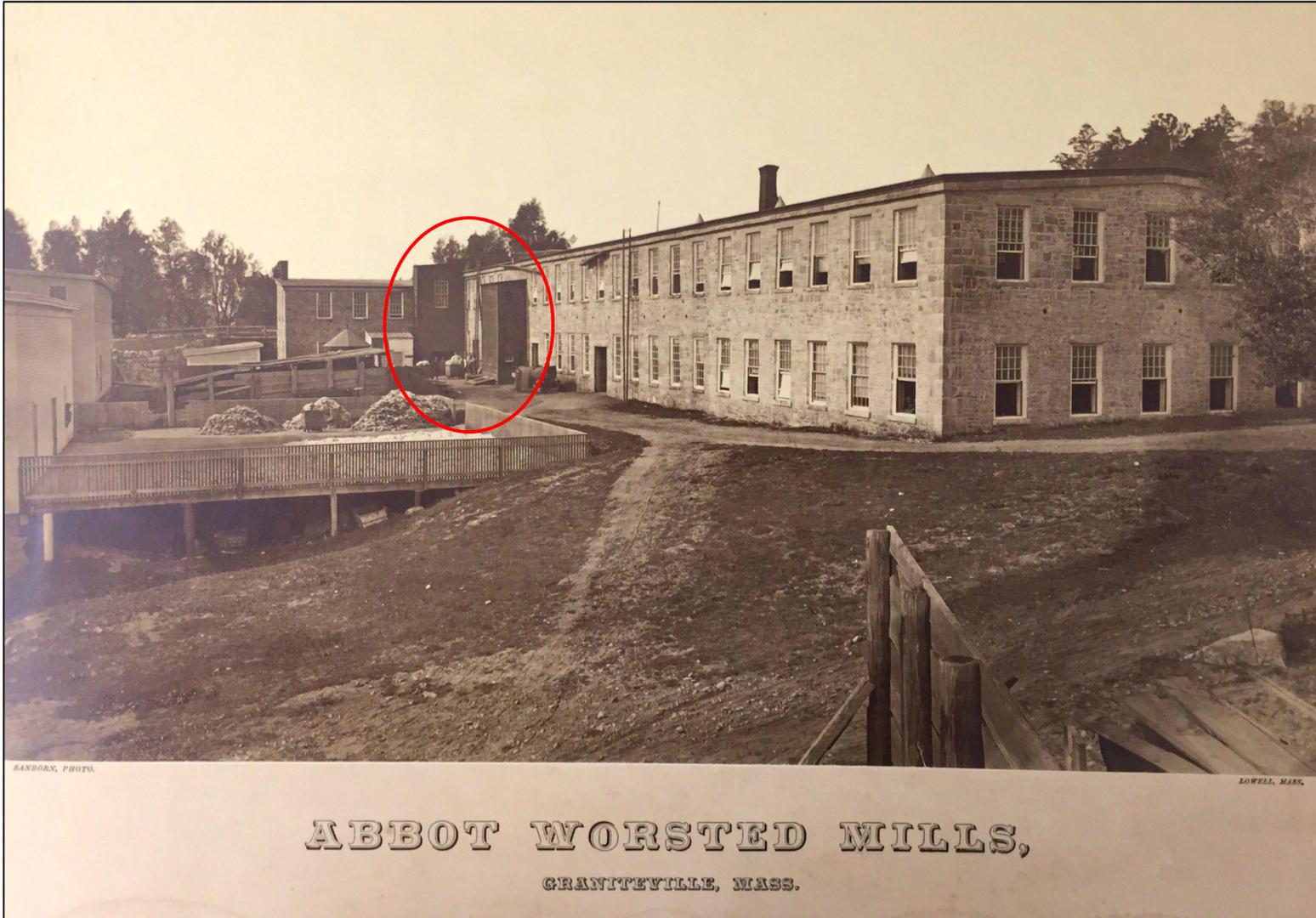


The C.G. Sargent's & Sons operation required a steam-powered water pump. Barlow survey #5012 identified the power source as "water, and steam in dry times."



Crop from G.G. Sargent's Sons 1877 Survey #5011 (Barlow), which includes the wood-framed privy lean-to (circled in red). The Mill #3 "Forge" ell is illustrated with a shallow-pitch gable roof (circled in green) rather than the extant shed roof; this may have been a drafting error. Color plan and bird's eye view courtesy of ATHM.

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

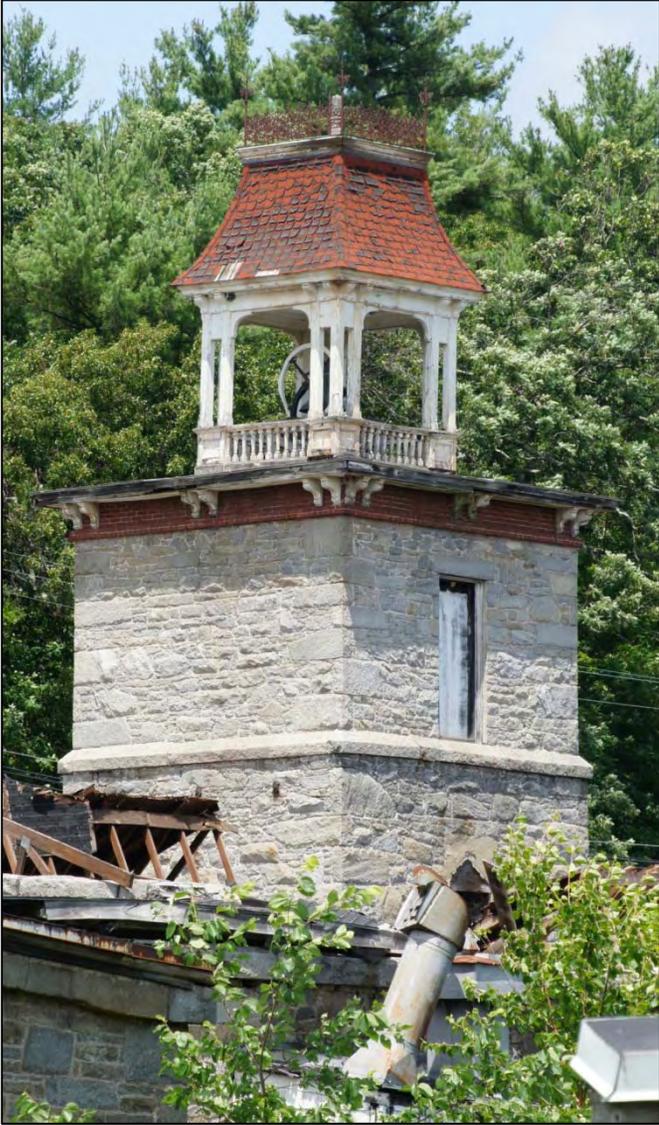


Undated photo from J.V. Fletcher Library collection; note privy and stair tower.

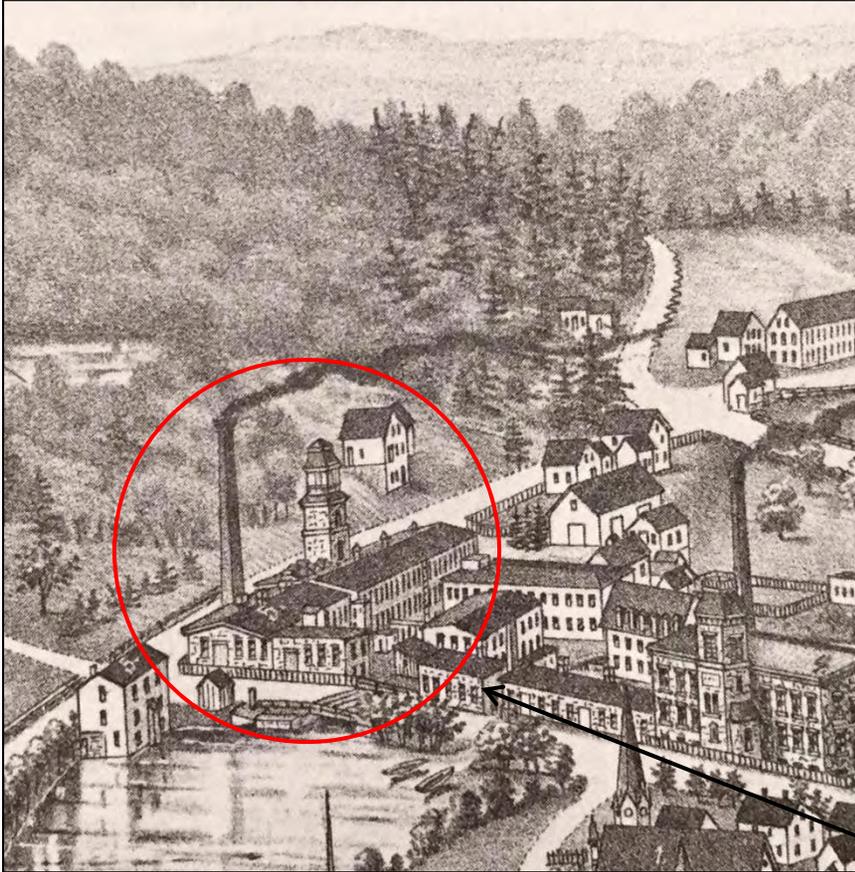
FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



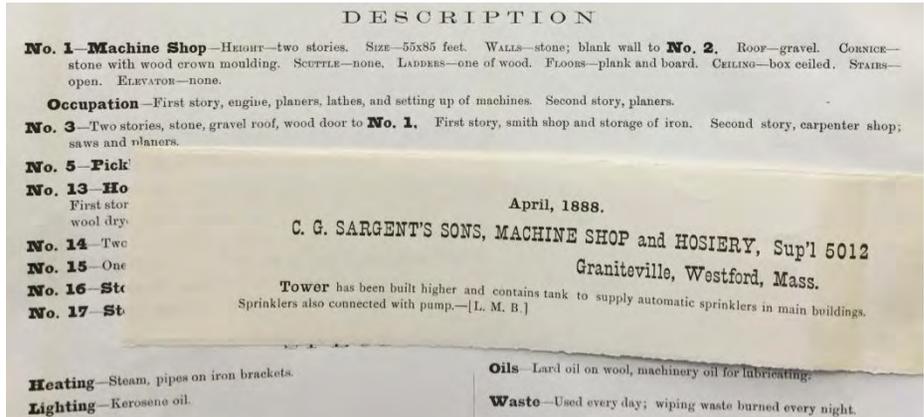
Undated photo from J.V. Fletcher Library collection.



FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



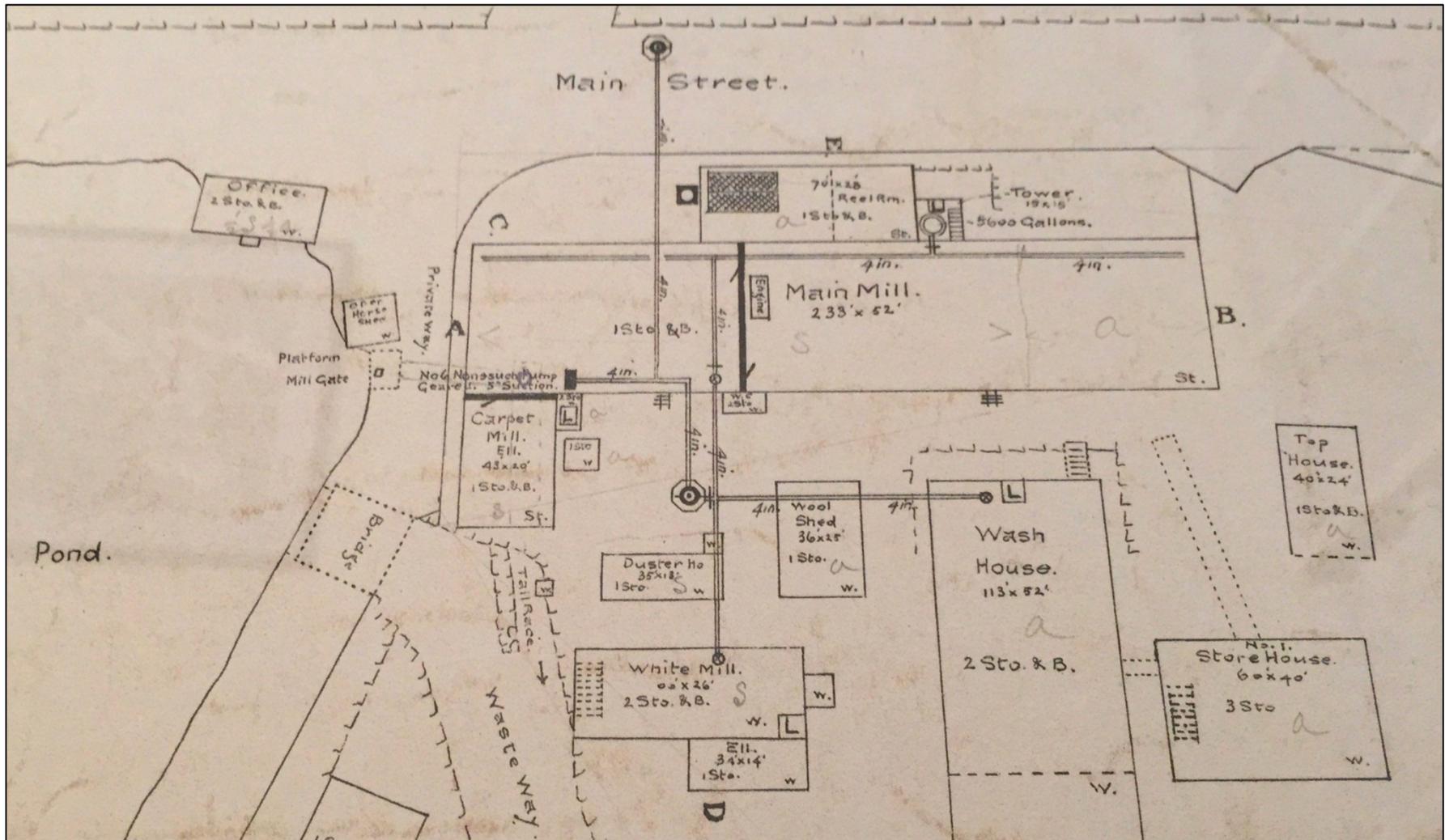
Inset from 1886 L.R. Burleigh bird's eye view of Graniteville; note the apparently exaggerated height of the bell tower. The original, square smokestack is indicated, as are the privy lean-to and what appears to be a stair tower between Mill #1 and the Mill #3 ell.



From C.G. Sargent's Sons Survey No. 5011 "Abbott Worsted Company"; Mill No. 2 was described in a separate Survey #5012. An April, 1888 supplement indicated an increase in tower height to accommodate a water tank for an automatic sprinkler system.

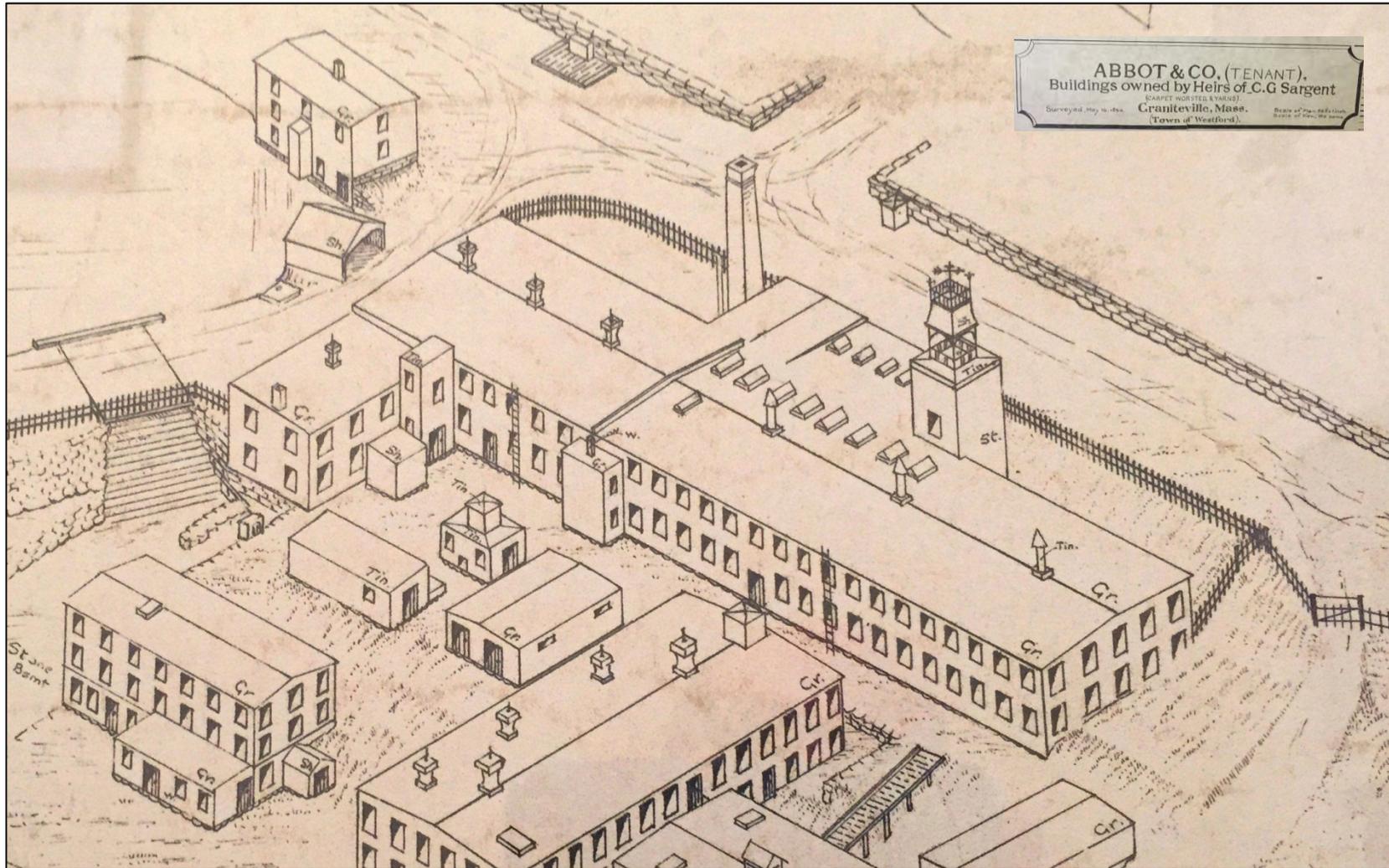
*Note: the northwest addition to C.G. Sargent's Sons building shown here does not yet appear in the photo above that was taken from across the pond.*

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



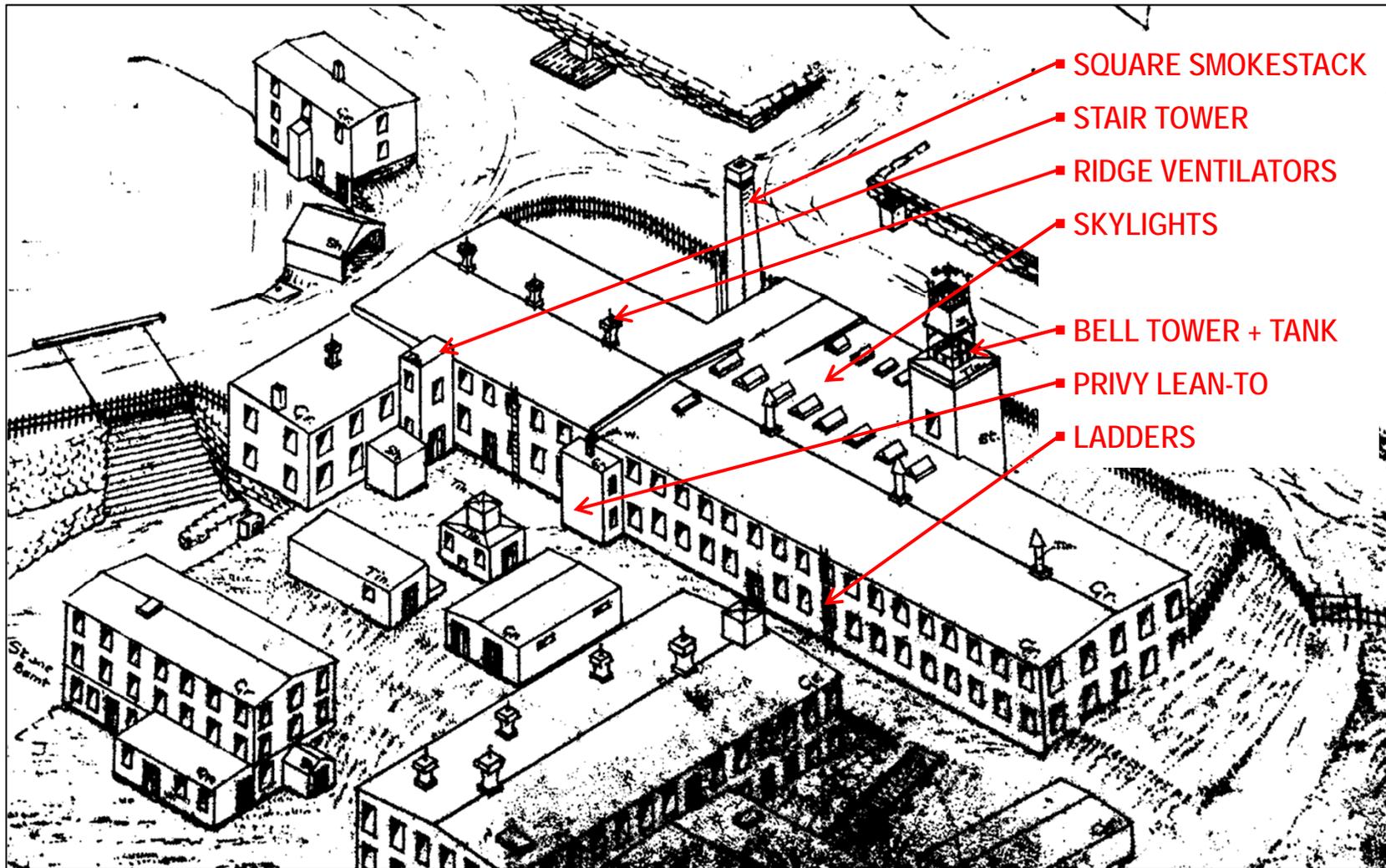
1890 Associated Mutual Insurance Co. map (courtesy ATHM); note fire suppression system (hydrants and pipes) and 5,600-gallon water tank indicated in bell tower. A stone retaining wall encloses a portion of the tower area.

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



1890 Associated Mutual Insurance Co. survey bird's-eye view; the boiler wing and adjacent square-plan chimney are still intact, but have been expanded and joined by the bell tower. Note various features and amenities.

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



1890 Associated Mutual Insurance Co. survey bird's-eye view; the boiler wing and adjacent square-plan chimney are still intact, but have been expanded and joined by the bell tower . Note various features and amenities.

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



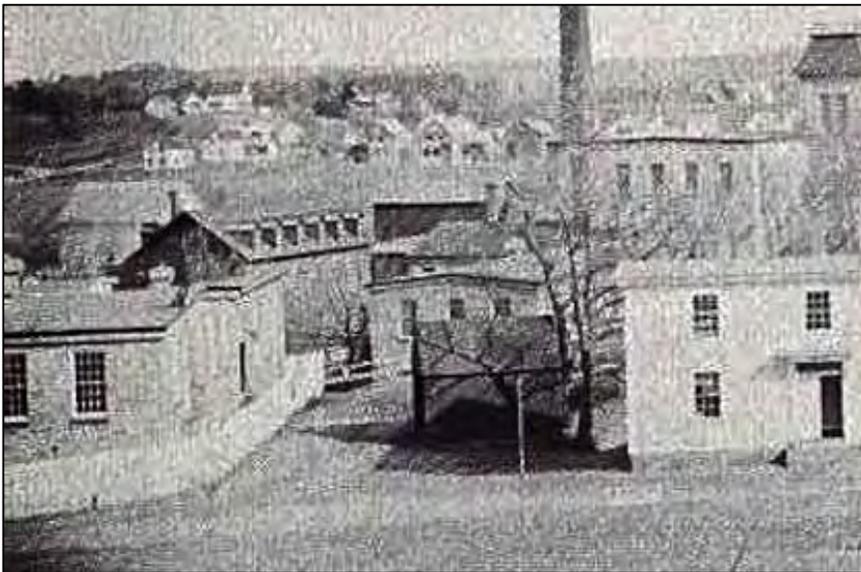
In this Quincy W. Day photograph shot in 1900, the square smokestack remains. The roof access and/or fire escape ladders have been removed and the Mill #2 windows have been protected with shutters.. (Source: WHM and HS)

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

❖ From “Graniteville Walls Report” by Finch & Rose, May 2013



Extant mill pond edge walls and sluiceway date to ca. 1857.



Crop of ca. 1900 photo, intersection of Broadway and North Main Street; note picket fence at Abbot Worsted Co. building.



Crop of photo labeled “From Shop Tower, 1900,” courtesy of Robert Oliphant; note added flagpole.

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

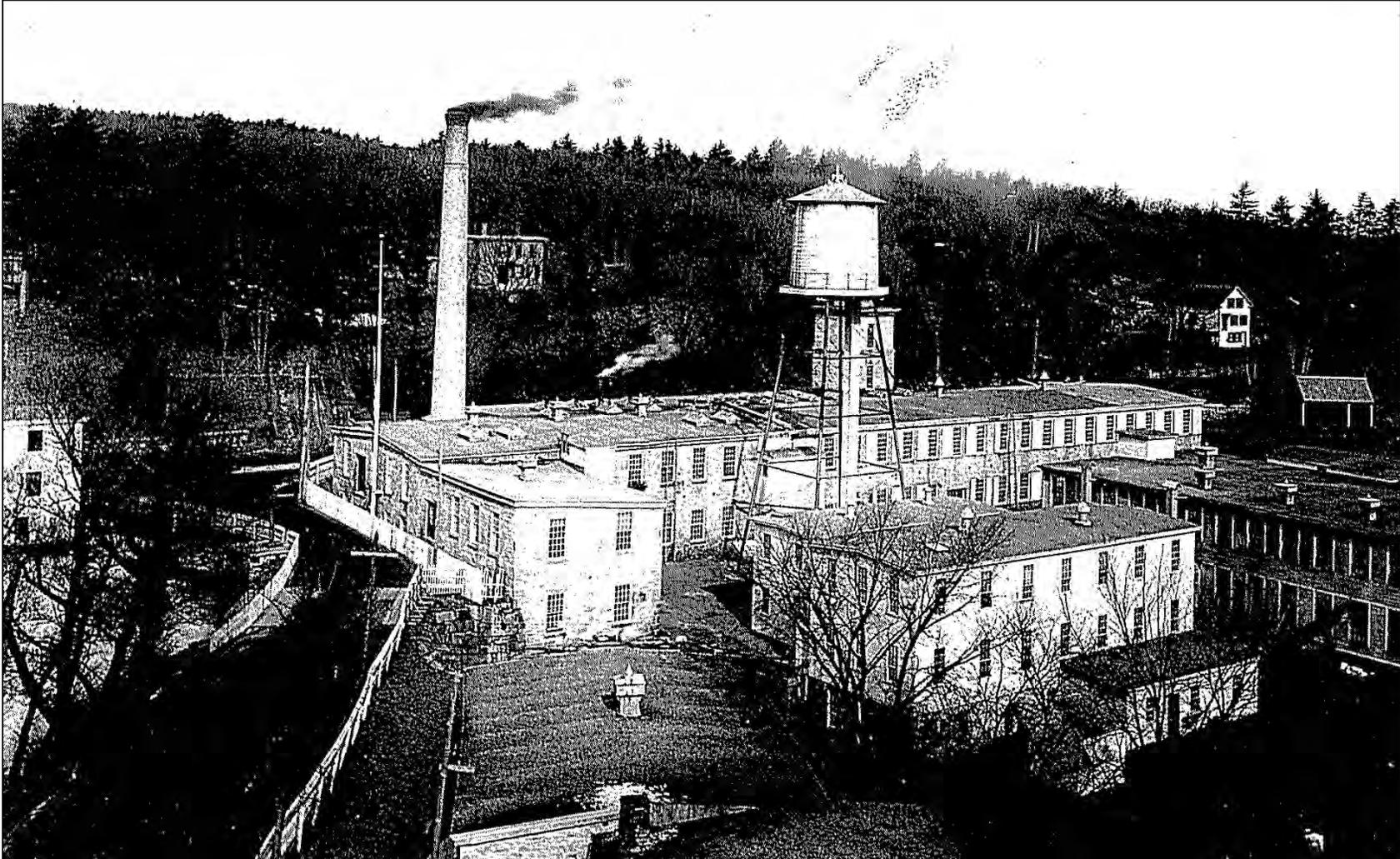


According to the Graniteville Historic District nomination form, the extant cylindrical smokestack constructed of radial brick (see brick photo below) was erected ca. 1880, but insurance drawings and Quincy Day photographs show that the original smokestack survived until at least 1900.

The extant smokestack was probably erected just after the turn of the century.

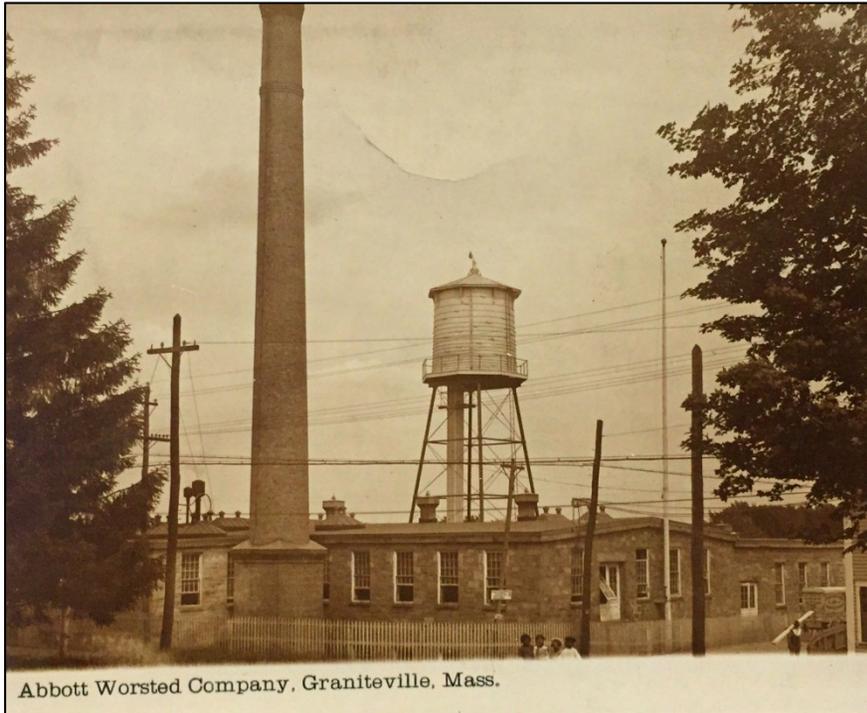


FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



In this undated photograph, the extant hollow-cored radial brick chimney and a new staved-wood cistern elevated on steel pylons appear.

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

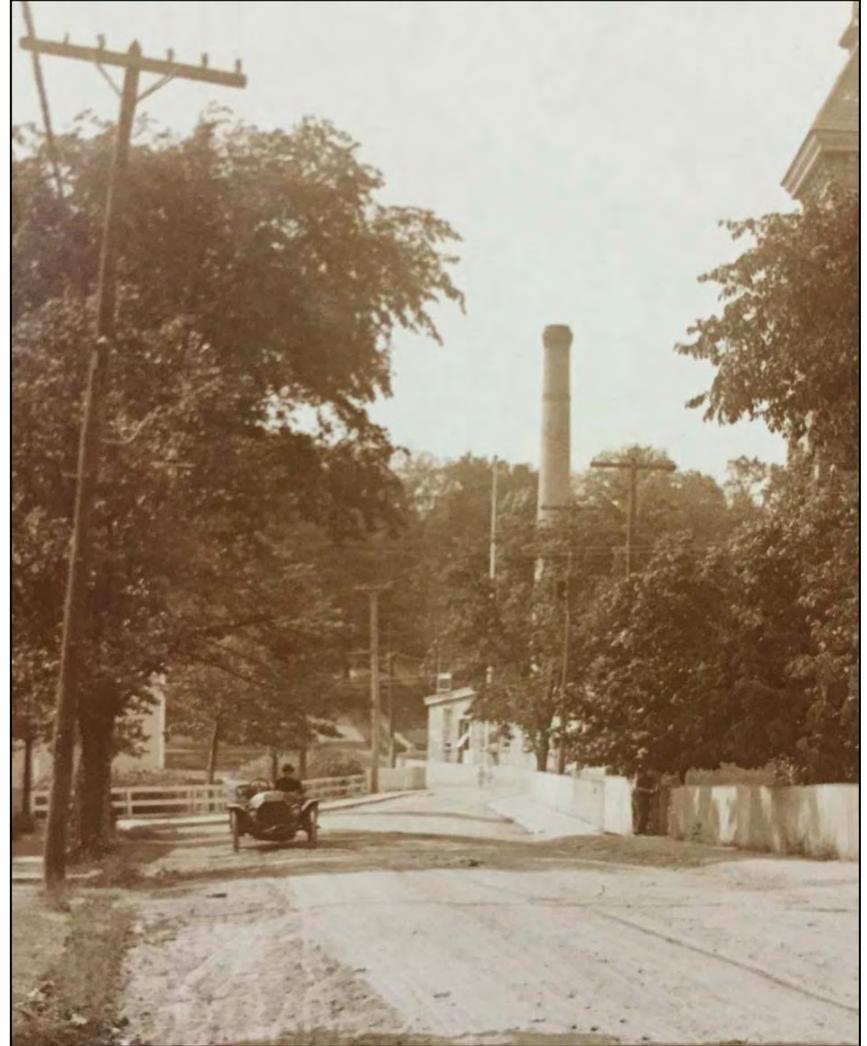


Postcard (Underwood & Underwood Co., so post-1910) indicates the standpipe and wood cistern supported by on steel pylons. Window frames and doors appear to be painted white; window sash may be painted a light gray.



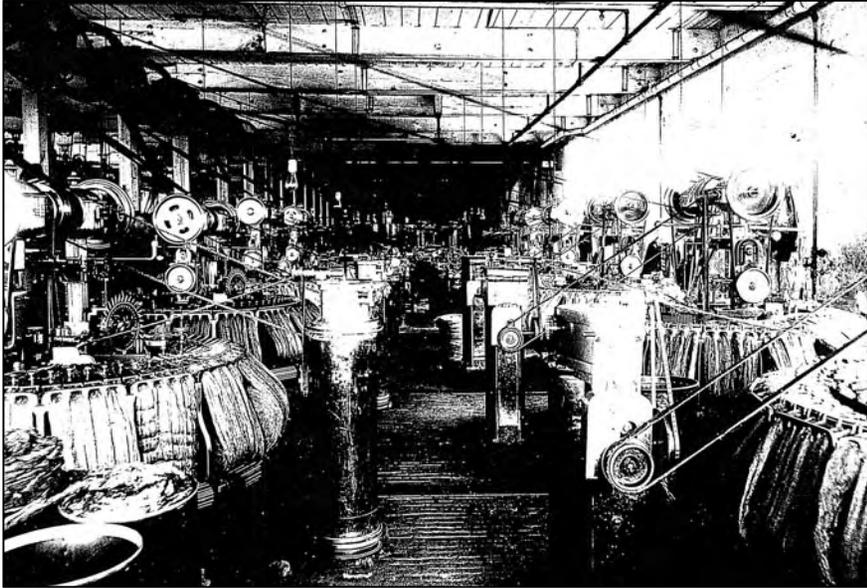
Ca. 1906 photo illustrates the new (soot-stained?) smokestack beyond and includes telephone wires and the flag pole, far left. The white picket fence appears to be a C.G. Sargent's Sons "standard" feature.

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

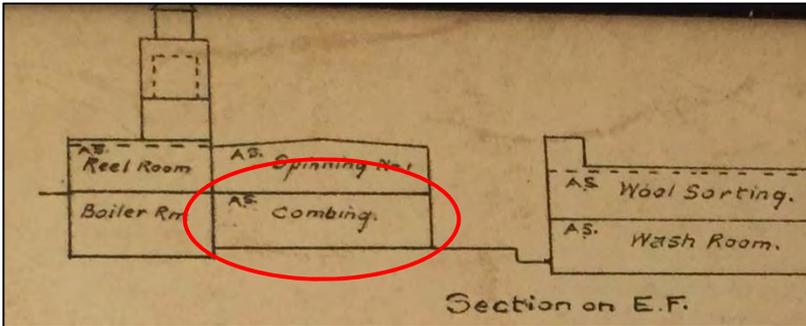


Early 20<sup>th</sup>-century photo of Broadway shows the relatively new smokestack (courtesy ATHM).

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

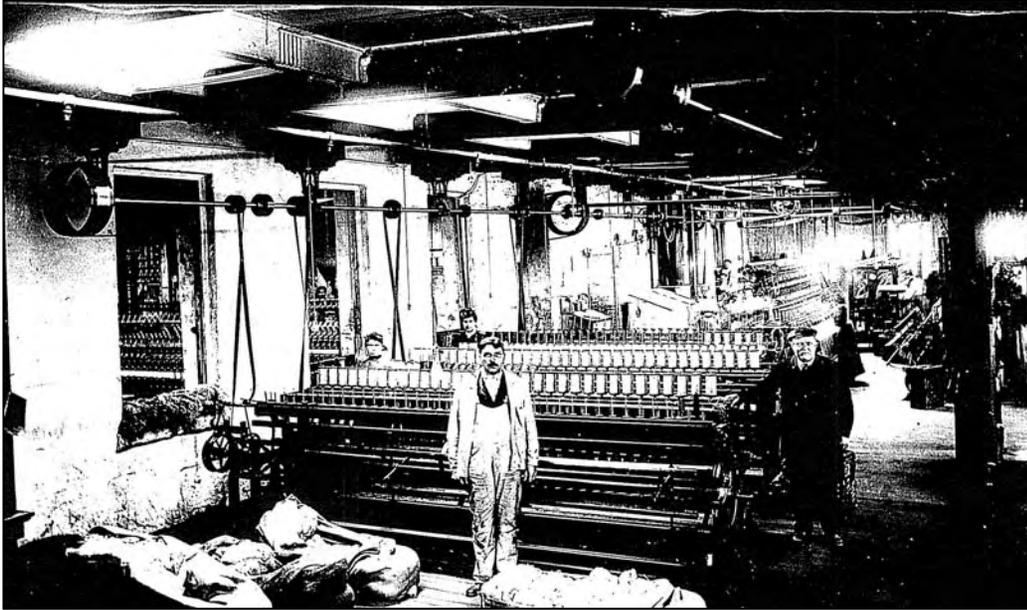


Undated photo of **Wool Combing Room** at Graniteville facility (from J.V. Fletcher Library Collection).



Cross-section from 1890 Associated Mutual Insurance Co. map (courtesy ATHM).

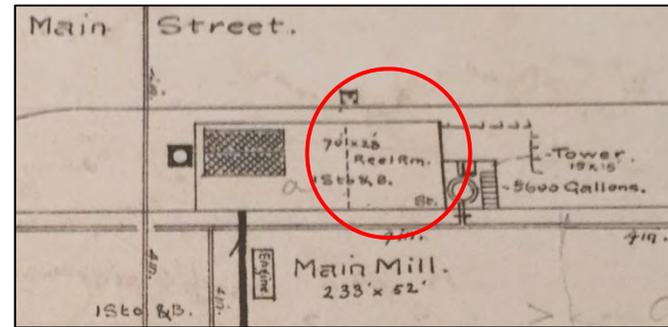
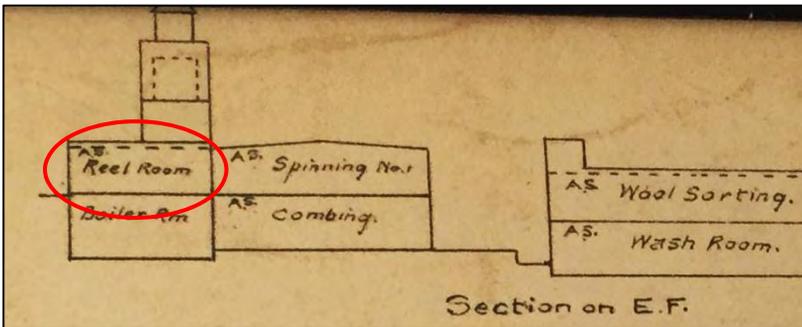
FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



Undated photo of Reeling Room at Graniteville facility (from J.V. Fletcher Library Collection); note skylights.

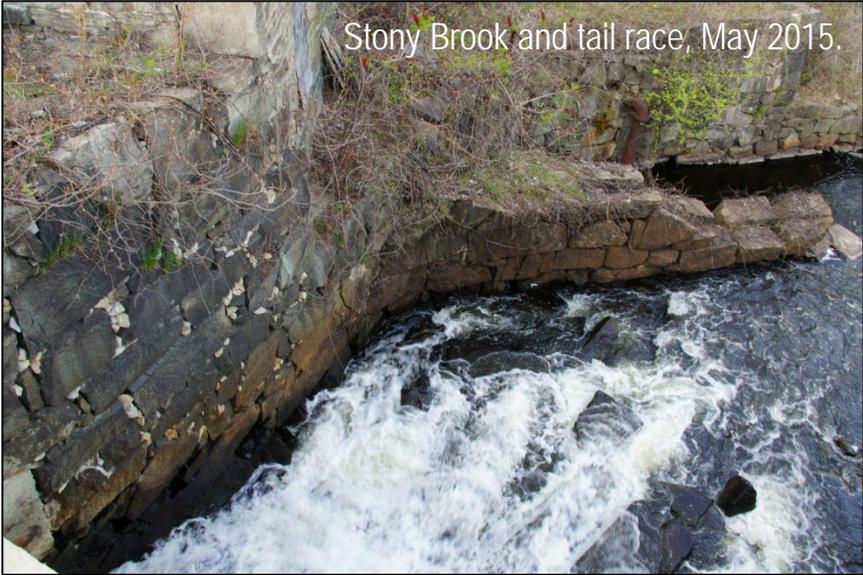


Boarded-over skylight opening.



Cross-section and plan from 1890 Associated Mutual Insurance Co. map (courtesy ATHM).

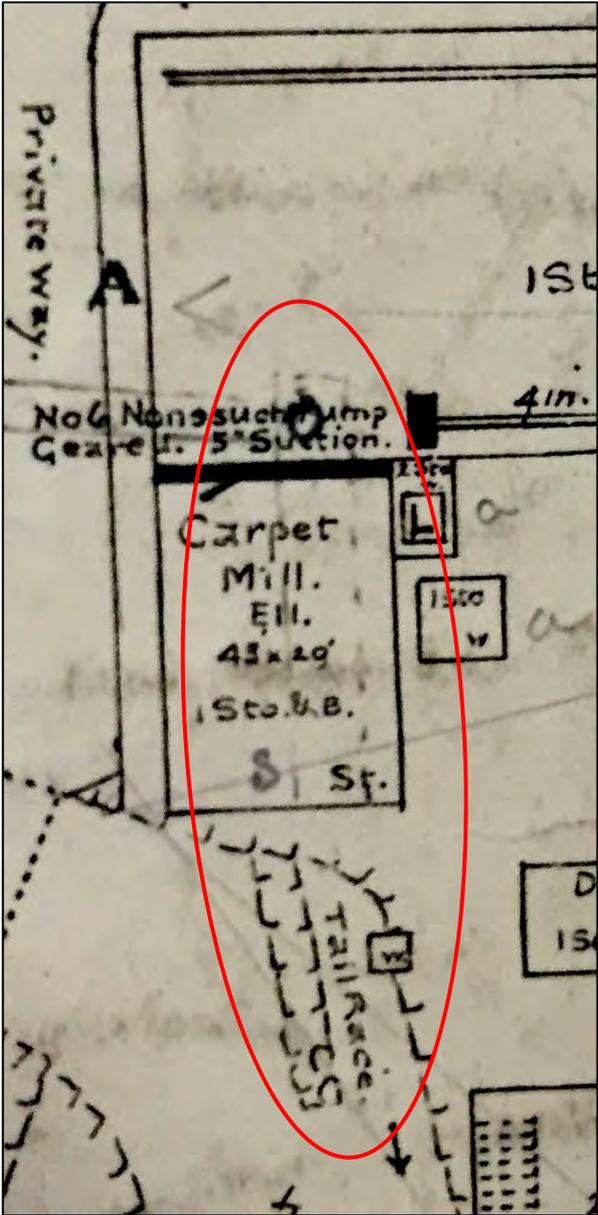
FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



Stony Brook and tail race, May 2015.



Bill Kenison photo, 2015.

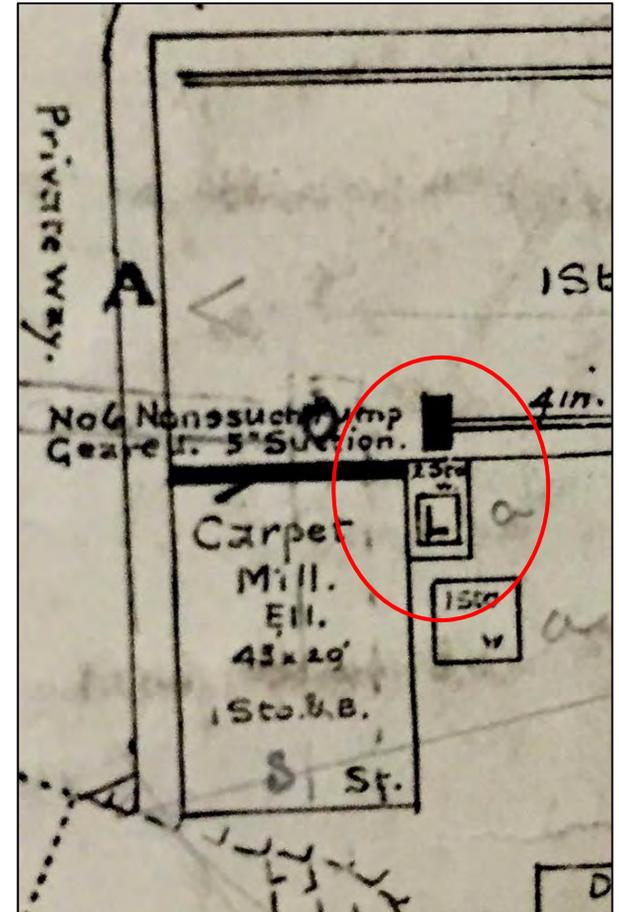


Crop from 1890 Insurance Map (ATHM); note penciled-in sluiceway.

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

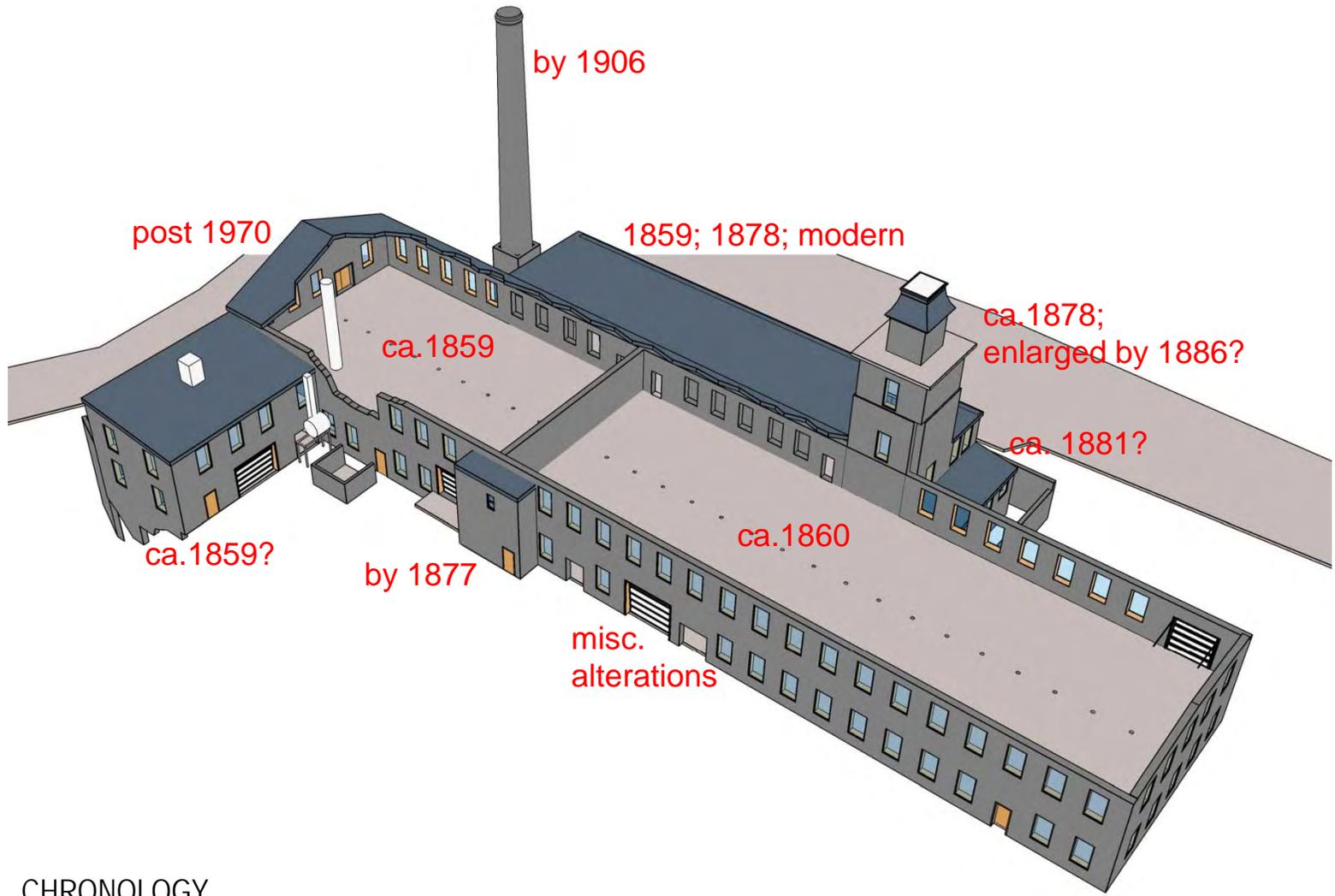


East façade of Mill #3 "ell"; note ghosting in stone masonry of former stair tower addition.



Crop from 1890 Insurance Map (ATHM); note 1-story lift/elevator, designated "L."

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



CHRONOLOGY

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



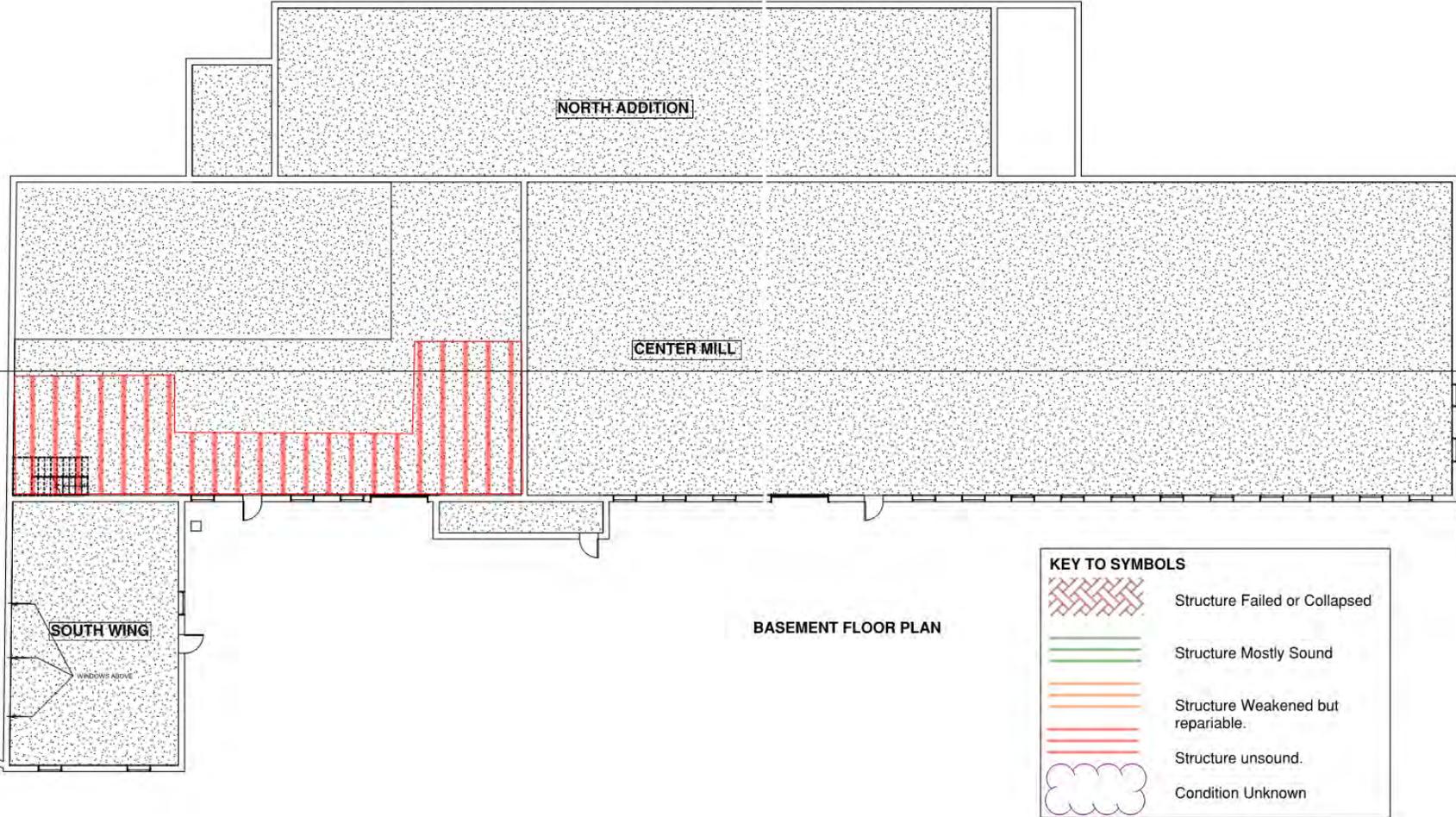
Ca. 1955 aerial photo; water tower and wood fencing were still extant. (The 1866 mill office building was enlarged during the 1920s-30s and demolished ca. 1958.)



The low-pitched gable roof of Mills #1 and #2 was removed and replaced with a prefabricated truss system after 1970.

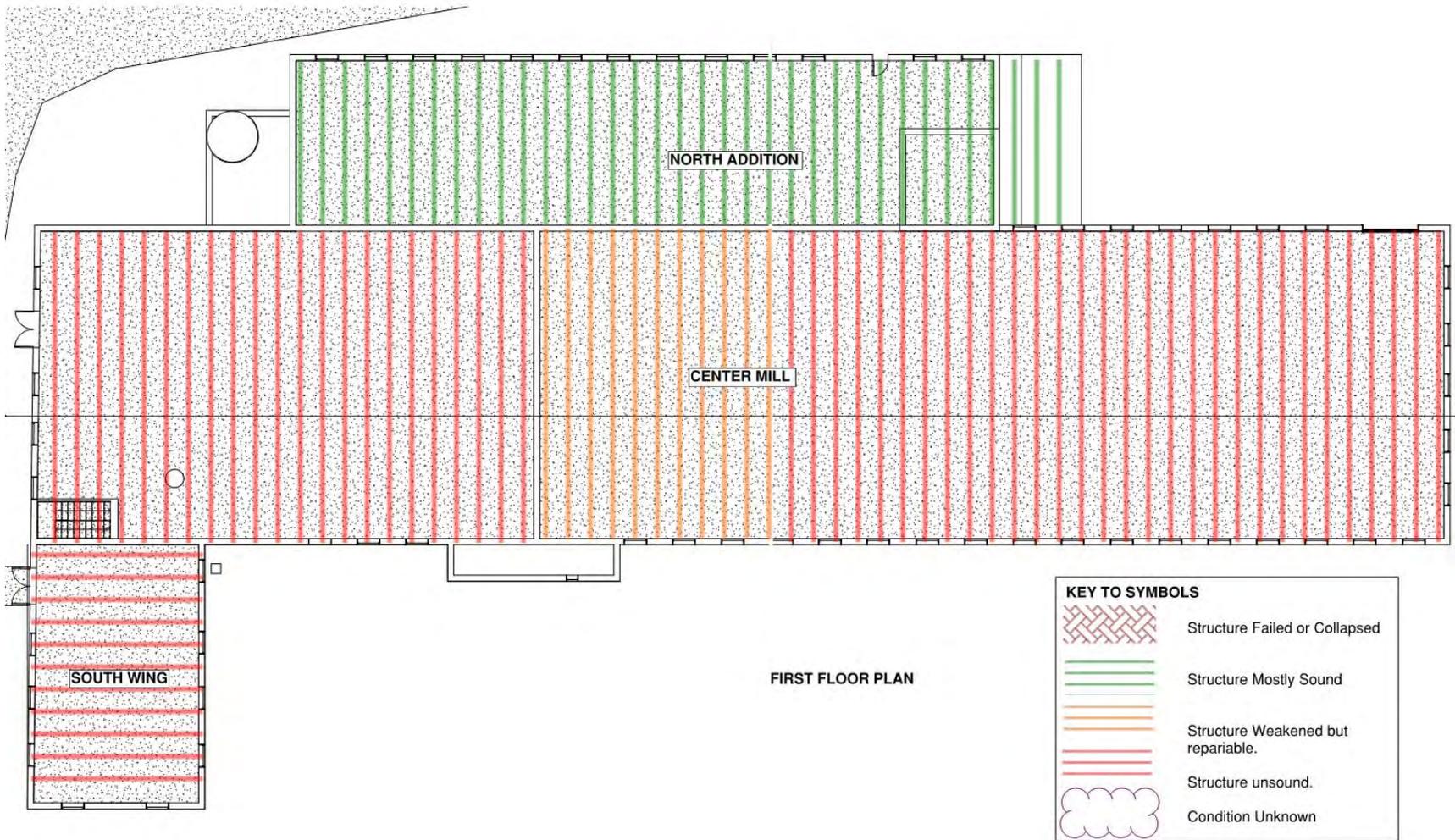
FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

❖ STRUCTURAL CONDITIONS



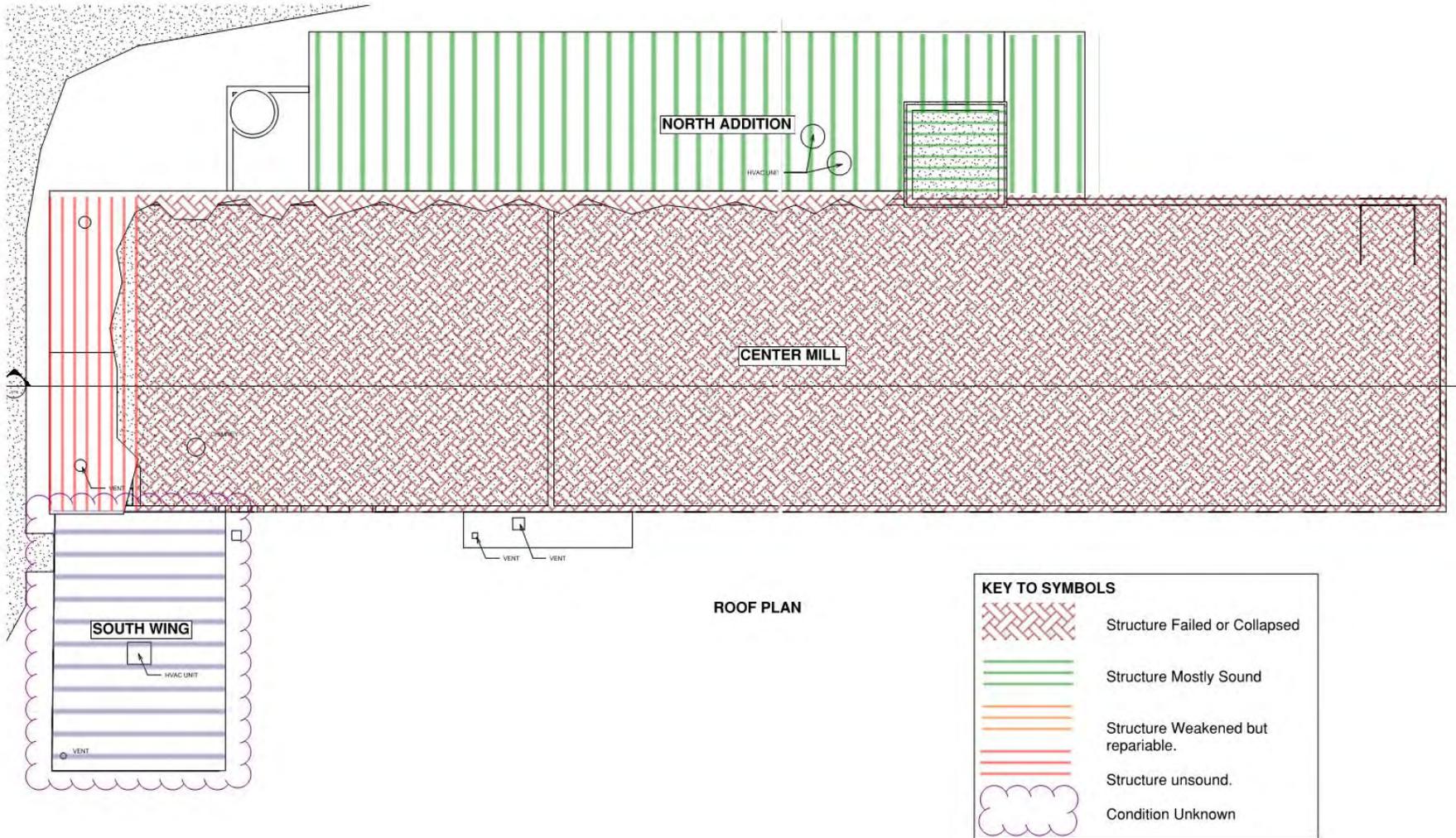
STRUCTURAL CONDITIONS - BASEMENT

FORMER ABBOT WORSTED COMPANY MILL #1  
 12 North Main Street, Graniteville, Westford



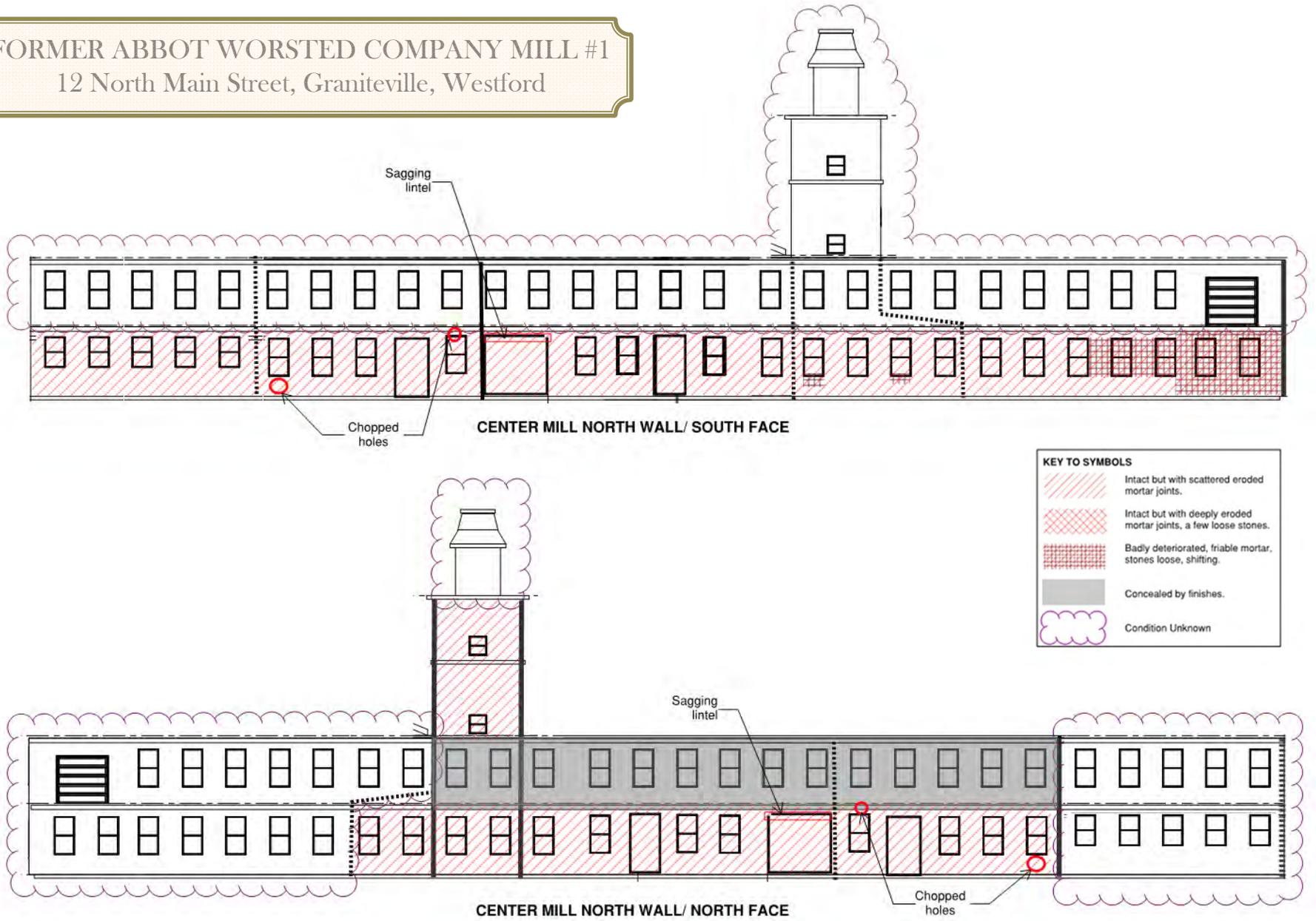
STRUCTURAL CONDITIONS - FIRST FLOOR

FORMER ABBOT WORSTED COMPANY MILL #1  
 12 North Main Street, Graniteville, Westford



STRUCTURAL CONDITIONS - ROOF

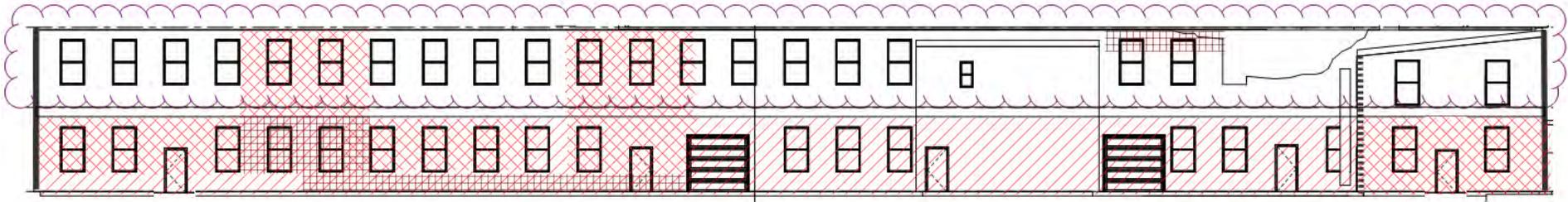
FORMER ABBOT WORSTED COMPANY MILL #1  
 12 North Main Street, Graniteville, Westford



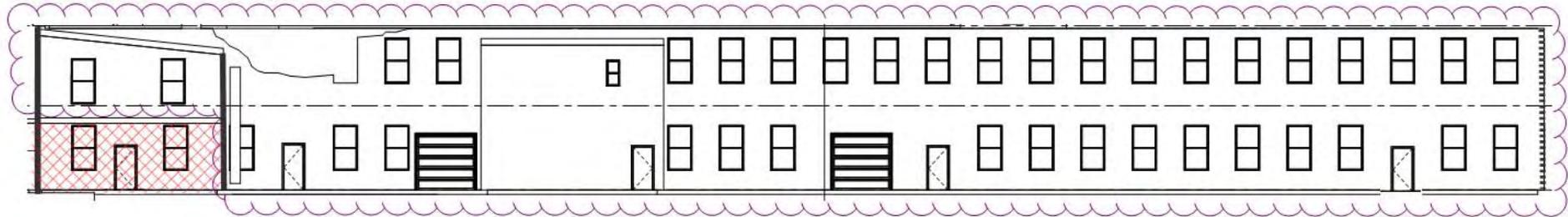
STRUCTURAL CONDITIONS - CENTER MILL WALLS

FORMER ABBOT WORSTED COMPANY MILL #1  
 12 North Main Street, Graniteville, Westford

KEY TO SYMBOLS	
	Intact but with scattered eroded mortar joints.
	Intact but with deeply eroded mortar joints, a few loose stones.
	Badly deteriorated, friable mortar, stones loose, shifting.
	Concealed by finishes.
	Condition Unknown



CENTER MILL SOUTH WALL/ NORTH FACE

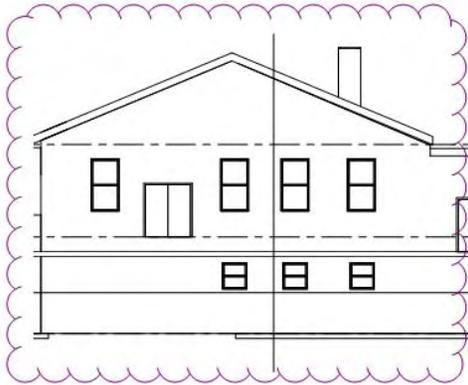


CENTER MILL SOUTH WALL/ SOUTH FACE

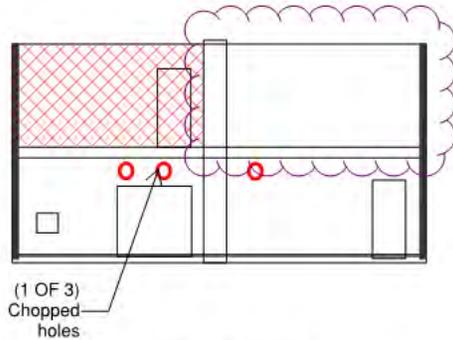
STRUCTURAL CONDITIONS - CENTER MILL WALLS

**FORMER ABBOT WORSTED COMPANY MILL #1**  
 12 North Main Street, Graniteville, Westford

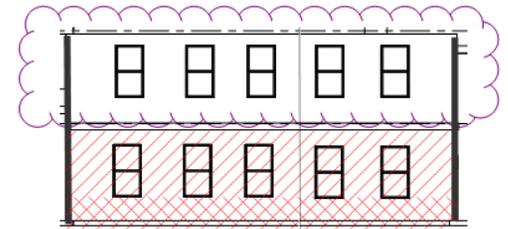
KEY TO SYMBOLS	
	Intact but with scattered eroded mortar joints.
	Intact but with deeply eroded mortar joints, a few loose stones.
	Badly deteriorated, friable mortar, stones loose, shifting.
	Concealed by finishes.
	Condition Unknown



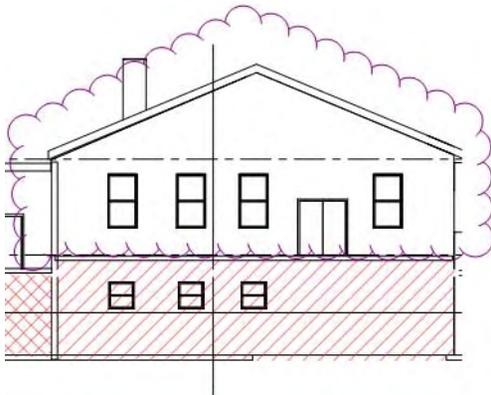
**CENTER MILL WEST WALL/  
WEST FACE**



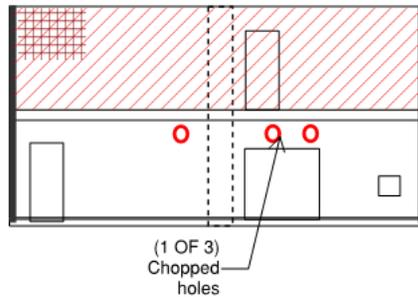
**CENTER MILL CROSS WALL/  
WEST FACE**



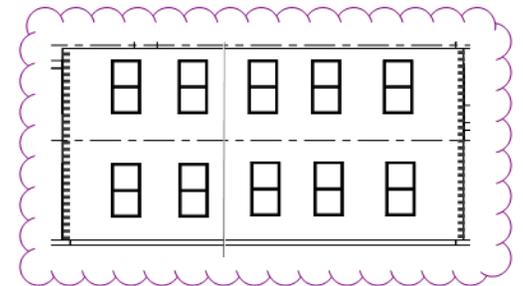
**CENTER MILL EAST WALL/ WEST FACE**



**CENTER MILL WEST WALL/  
EAST FACE**



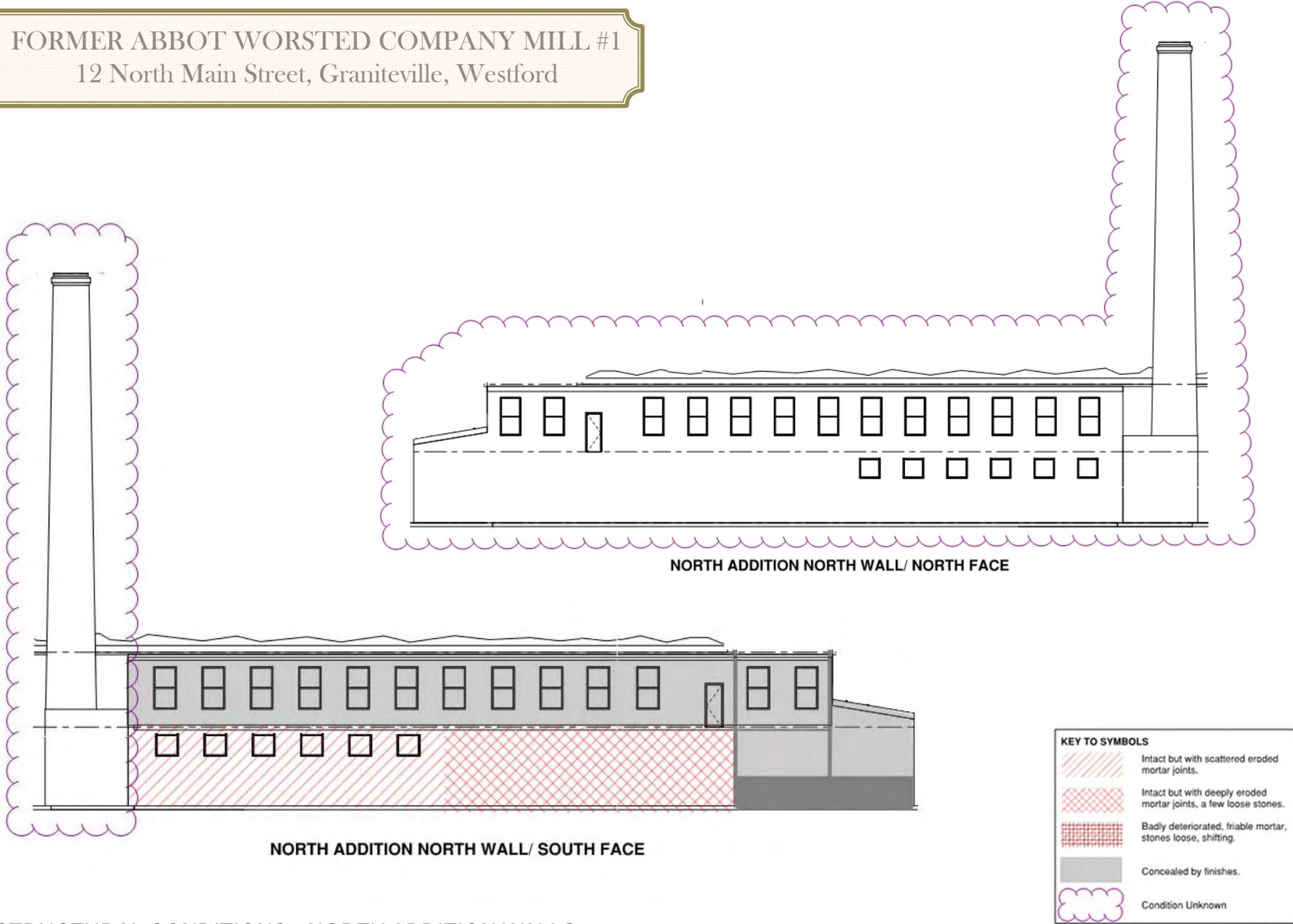
**CENTER MILL CROSS WALL/  
EAST FACE**



**CENTER MILL EAST WALL/ EAST FACE**

**STRUCTURAL CONDITIONS - CENTER MILL WALLS**

FORMER ABBOT WORSTED COMPANY MILL #1  
 12 North Main Street, Graniteville, Westford



NORTH ADDITION NORTH WALL/ NORTH FACE

NORTH ADDITION NORTH WALL/ SOUTH FACE

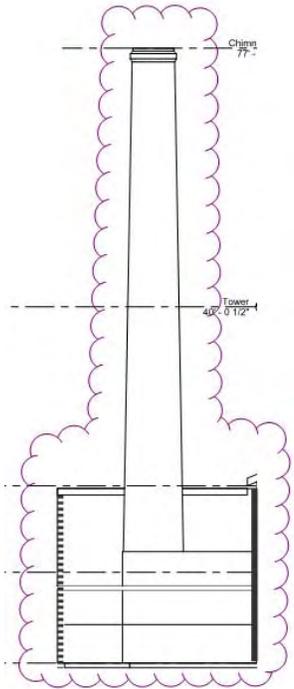
KEY TO SYMBOLS	
	Intact but with scattered eroded mortar joints.
	Intact but with deeply eroded mortar joints, a few loose stones.
	Badly deteriorated, friable mortar, stones loose, shifting.
	Concealed by finishes.
	Condition Unknown

STRUCTURAL CONDITIONS - NORTH ADDITION WALLS

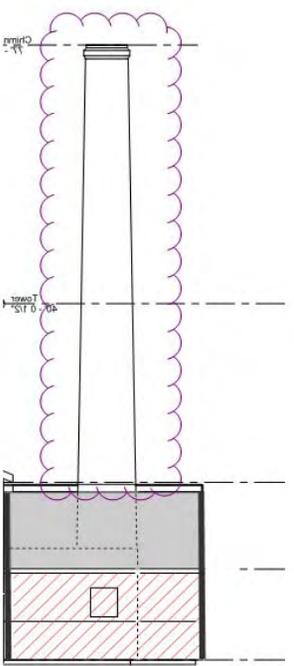
**FORMER ABBOT WORSTED COMPANY MILL #1**  
 12 North Main Street, Graniteville, Westford

**STRUCTURAL CONDITIONS- NORTH ADDITION WALLS**

KEY TO SYMBOLS	
	Intact but with scattered eroded mortar joints.
	Intact but with deeply eroded mortar joints, a few loose stones.
	Badly deteriorated, friable mortar, stones loose, shifting.
	Concealed by finishes.
	Condition Unknown



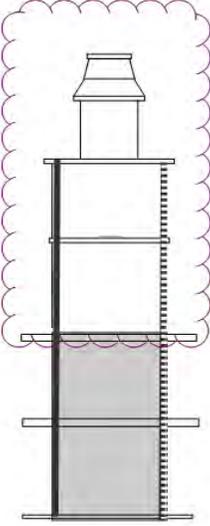
**NORTH ADDITION WEST WALL/  
WEST FACE**



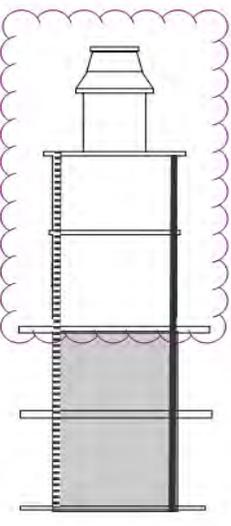
**NORTH ADDITION WEST WALL/  
EAST FACE**



**TOWER EAST WALL/  
WEST FACE**



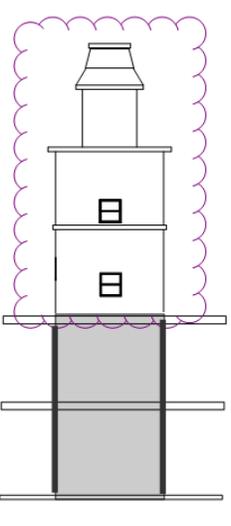
**TOWER EAST WALL/  
EAST FACE**



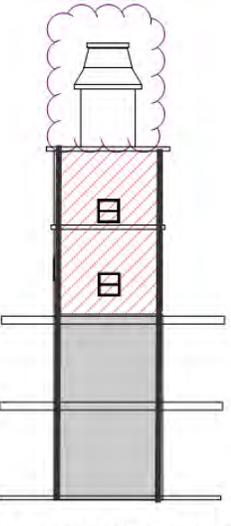
**TOWER WEST WALL/  
WEST FACE**



**TOWER WEST WALL/  
EAST FACE**

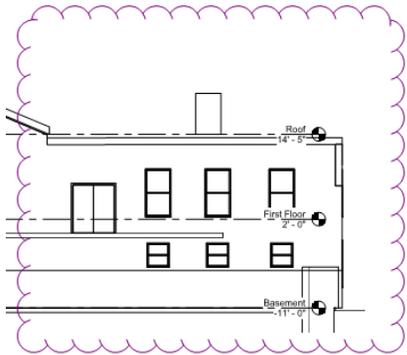


**TOWER NORTH WALL/  
NORTH FACE**

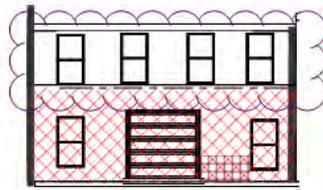


**TOWER NORTH WALL/  
SOUTH FACE**

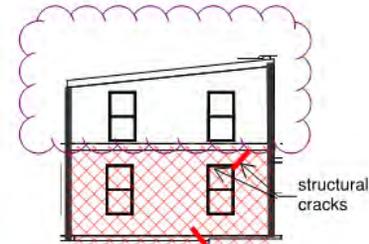
FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford



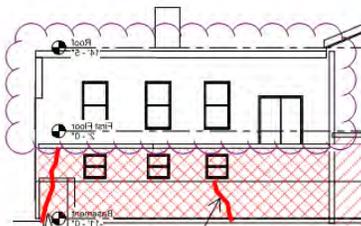
SOUTH WING WEST WALL/  
WEST FACE



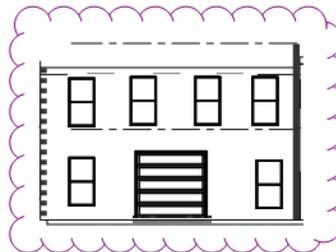
SOUTH WING EAST WALL/  
WEST FACE



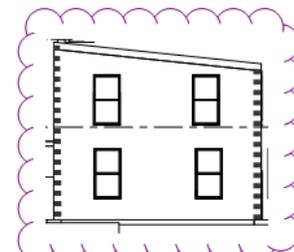
SOUTH WING SOUTH WALL/  
NORTH FACE



SOUTH WING WEST WALL/  
EAST FACE



SOUTH WING EAST WALL/  
EAST FACE



SOUTH WING SOUTH WALL/  
SOUTH FACE

KEY TO SYMBOLS	
	Intact but with scattered eroded mortar joints.
	Intact but with deeply eroded mortar joints, a few loose stones.
	Badly deteriorated, friable mortar, stones loose, shifting.
	Concealed by finishes.
	Condition Unknown



STRUCTURAL CONDITIONS- SOUTH WING WALLS

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

❖ NATIONAL REGISTER of HISTORIC PLACES

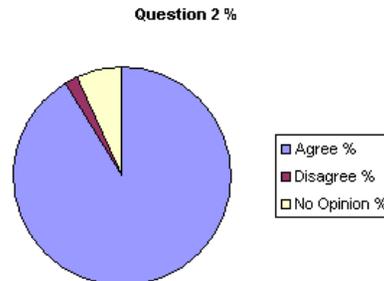
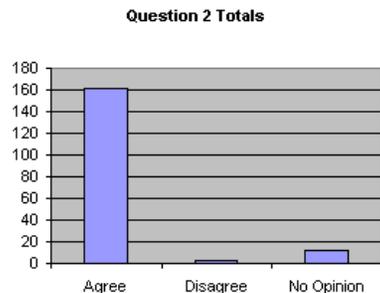
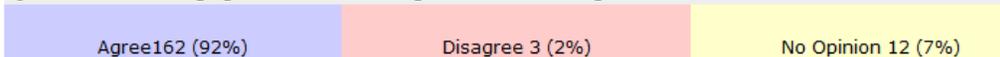
A listing of buildings, structures, sites, objects and districts significant in our nation's history, culture, architecture or archaeology and that are worthy of preservation. It is a federal designation, administered by the Secretary of the Interior through the Massachusetts Historical Commission as the State Historic Preservation Office. Listing in the National Register provides formal recognition of the property's significance, certain federal tax incentives for owners of income-producing property, and limited protection from federally funded, licensed or assisted projects. In addition, listing on the National Register can provide some exemptions from the state building code.

Properties listed on the National Register are also automatically included on the State Register of Historic Places. This provides limited protection from adverse effects by state funded, licensed or assisted projects. More importantly, it enhances the opportunity for owners of municipal or private nonprofit properties to apply for 50% matching state grants through the Massachusetts Preservation Projects Fund (MPPF).

Graniteville Historic District was listed on the National Register January 17, 2002.

❖ May–Sept. 2003 Public Opinion Survey

Question 2: Encouraging the alternative usage of our Mill buildings



FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

❖ ADAPTIVE USE CONSIDERATIONS



FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

❖ ADAPTIVE USE CONSIDERATIONS



**RUIN WALLS**



**BELL TOWER = LANDMARK**

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

❖ ADAPTIVE USE CONSIDERATIONS



**PLATFORMS, BRIDGES, BOARDWALKS**

FORMER ABBOT WORSTED COMPANY MILL #1  
12 North Main Street, Graniteville, Westford

❖ ADAPTIVE USE CONSIDERATIONS



**CREATIVE RE-PURPOSING AND RESPONSE**