

**United States Department of the Interior  
National Park Service**

For NPS use only

**National Register of Historic Places  
Inventory—Nomination Form**

received **FEB 2 1983**  
date entered

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

**1. Name**

historic Bigelow-Hartford Carpet Mills

and/or common Bigelow-Sanford Carpet Mills

**2. Location**

street & number Main and Pleasant Streets,

N/A not for publication

city, town Thompsonville, Enfield N/A vicinity of

state Connecticut

code 09

county Hartford

code 003

**3. Classification**

Category	Ownership	Status	Present Use
<input type="checkbox"/> district	<input type="checkbox"/> public	<input type="checkbox"/> occupied	<input type="checkbox"/> agriculture
<input checked="" type="checkbox"/> building(s)	<input checked="" type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input checked="" type="checkbox"/> commercial
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input checked="" type="checkbox"/> work in progress	<input type="checkbox"/> educational
<input type="checkbox"/> site	<b>Public Acquisition</b>	<b>Accessible</b>	<input type="checkbox"/> entertainment
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input checked="" type="checkbox"/> industrial
	<u>N/A</u>	<input type="checkbox"/> no	<input type="checkbox"/> military
			<input type="checkbox"/> museum
			<input type="checkbox"/> park
			<input type="checkbox"/> private residence
			<input type="checkbox"/> religious
			<input type="checkbox"/> scientific
			<input type="checkbox"/> transportation
			<input type="checkbox"/> other:

**4. Owner of Property**

name Martin Levitz, Dallas-Enfield Mills Properties, Inc.

street & number P. O. Box 27, 86 Main Street

city, town Enfield

N/A vicinity of

state Connecticut

**5. Location of Legal Description**

courthouse, registry of deeds, etc. Enfield Town Hall, Town Clerk's Records

street & number 820 Enfield Street

city, town Enfield

state Connecticut

**6. Representation in Existing Surveys**

(Continued)

title State Register of Historic Places has this property been determined eligible?  yes  no

date 1982  federal  state  county  local

depository for survey records Connecticut Historical Commission

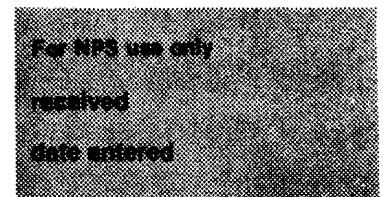
city, town Hartford

state Connecticut



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Bigelow-Hartford Carpet Mills  
Enfield, Ct.

Representation in Existing Surveys (continued):

Connecticut: An Inventory of Historic Engineering and Industrial Sites.  
1982; federal/state  
depository: Connecticut Historical Commission  
Hartford, Connecticut

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Page 1

Bigelow-Hartford Carpet Mills  
Enfield, Ct.

Description (continued):

All dyeing and some weaving operations took place in buildings designed specifically for those purposes. Dyeing required large vats built into the floor to hold the dye liquor; the skein-dyeing wheels were suspended over the vats. The broadlooms which wove Axminster and Brussels were very large and heavy, requiring either an extremely strong structural system in a multi-story mill, as in the Axminster Building, or a 1-story mill, as in the Brussels Weave Shed. Tapestry looms were generally lighter than those for other loop-piled carpets because, as noted below, Tapestry featured only one course of pile yarn, thus eliminating the need for multiple frame-heads on the looms. Accordingly, the Tapestry Mill utilized standard "mill construction," albeit on a very large scale.

Ingrain weaving and the yarn-preparation operations for both woolen and worsted required no special facilities or structural design beyond the standard "mill construction," although the buildings reflected the vast scale of operation in this plant in their monumental size. The Worsted Yarn Mill, which continues to stand, held only the cards, gill boxes, combs and spinning frames for that material. The huge Filling Mill contained the cards and mule-spinning machines to make woolen yarn.

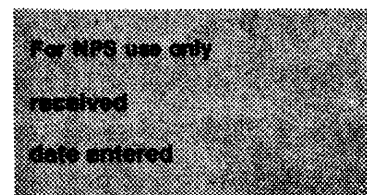
Movement of materials between buildings was accomplished by handcarts and horse-drawn wagons. Small trucks and forklifts powered by internal combustion engines later replaced the wagons. In the period represented by the extant structures the plant was powered entirely by steam engines located at several locations (which are unknown) throughout the plant.

In the late 1920s and early 1930s this plant was the largest carpet-manufacturing facility in the United States. It now stands partly tenanted but mostly vacant, as it has since carpet production ceased in the mid-1960s after several decades of decline. During its last stages of operation and after active use of the complex had ended, the carpet company demolished several of the factories. Subsequent owners have also demolished several buildings. These demolition losses (noted in broken lines in Figure 1) included: the 1883 building noted above; the Filling Mill, a 3- and 4-story brick mill with shallow-pitched roof, which held dyestuffs-storage and color-mixing departments; the Saxony Weave Shed, a 1-story brick building (roof type unknown); and the ell-shaped Storehouse and Cloth Room, 4-story, brick, with flat roof. Despite these losses, the complex still displays the configuration of long buildings in the center enclosed by perpendicular structures at the north and south ends of the yard;

(Continued)

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Bigelow-Hartford Carpet Mills  
Enfield, Ct.

Description (continued):

and it retains major structures from all the principal operations of carpet-making, including the factories which held the most distinctive processes of this business: carpet-weaving and the large-scale production of worsted yarn. Descriptions of individual buildings follow the discussion of Products and Processes.

General Description: Products and Processes

In the era represented by this plant, C.1895-1923, the Bigelow-Hartford Carpet Co. made every type of pile carpet sold in the United States, notably Brussels, Wilton, Tapestry and Axminster. All these types had a woven backing of cotton or linen.

In Brussels the pile consisted of two to five "frames," or layers of yarn which were looped over a metal rod as they were woven into the backing, the tops of the loops forming the surface of the carpet. The frames were looped over the rod in sequence so that the frames not appearing on the surface at a given point formed the thick body which gave Brussels its lush texture. Wilton resembled Brussels except for one detail: in making Wilton the rod around which the loops were formed held a blade to cut the loops as the rod was withdrawn. Thus the surface of Wilton consisted of yarn ends, unlike the uncut loops of the Brussels surface. Tapestry, another loop-pile carpet, also resembled Brussels, except that instead of dyed yarn forming the surface it had yarn printed with the desired design. To enable the entire pre-printed design to appear on the surface, only one layer was used for the loops. Thus Tapestry lacked the thick pile of Wilton or Brussels.

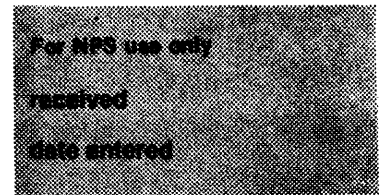
Axminster was a tufted-pile carpet. The tufts were inserted between warps laid over the backing, and were then bound in by wefts running through both warps and tufts. The tufting carriage above an Axminster loom held a spool of yarn for every row of tufts. While extremely complicated to run, this arrangement permitted many more colors than the maximum of five in loop piles, thus allowing vastly more complicated designs in Axminsters.

In addition to these pile carpets, Bigelow-Hartford manufactured plain-woven, or ingrain, carpets. Ingrains had no pile but could offer thick texture through the interweaving of two or three plies.

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Bigelow-Hartford Carpet Mills  
Enfield, Ct.

Description (continued):

In the plant which stands today Bigelow-Hartford followed a plan of integrated manufacture, starting with raw wool and producing finished carpets. The only major product components purchased by the company were cotton and linen backings. Both woolen and worsted yarns were made in this plant. Woolen yarn formed the "filling," or weft material binding piles or tufts into backing. The stronger, more lustrous worsted yarns formed the pile and visible surface of all but the most inexpensive carpets.

The process began with yarn preparation: "opening," the pulling apart of matted raw wool and elimination of large pieces of dirt; "scouring," the washing, wringing and drying of the wool; and "picking," in which spiked drums rotating in opposite directions pulled apart the fibers to impart a lighter, looser texture to the mass of scoured wool. After picking the process varied depending upon whether the yarn was to be worsted or woolen.

For worsted, the yarn next went into carding machines which separated the fibers and kept them as closely parallel as possible, utilizing spiked rolls rotating in the same direction. The carded wool, or roving, was then drawn out with rollers in devices called "gill boxes;" this operation also increased the density of carded wool by inter-folding six thicknesses into one. Then the wool was combed, separating the "noilles," or short fibers, from the "longs." The longs were then attenuated and twisted on spinning frames, creating worsted yarn.

Woolen yarn was also carded after picking, but the carding rolls rotated in opposite directions, mixing the fibers so that they ran in all directions to create a softer, furrer roving than for worsted. The wool rovings were then simultaneously drawn and twisted on mule-spinning machines, yielding woolen "filling" yarn.

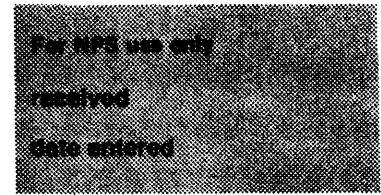
Both woolen and worsted yarns were dyed in the same fashion, utilizing a large wheel with rods around its periphery to hold skeins of yarn. These wheels revolved in vats containing the dye liquor, which was heated by steam.

The variations in weaving processes used in this plant have been suggested in the discussion of product variations. Carpet looms rank among the most complex instruments of mechanical technology, and details of their construction and operation fall beyond the scope of this document. It should be noted, however, that carpet looms were extremely large and heavy, both because they had a huge number of moving parts and because carpets were generally woven in larger widths than other textile products.

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Bigelow-Hartford Carpet Mills  
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Description (continued):

Following are descriptions of individual buildings in the complex.

Brussels Weave Shed (Photo 1)

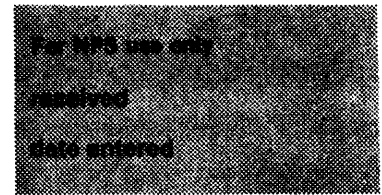
The oldest standing portion of the plant is the south end of the Brussels Weave Shed, erected c.1895; the north section was added in 1922-23. The south portion is of brick, stands a single high story tall, and measures about 295' X 115'. The typical bay features a flat-arched window opening with sandstone sills and lintels. Above the windows run two courses of corbels. The northern eight bays of the east elevation once formed a common wall with the now-demolished Saxony Weave Shed, which dated from earlier in the 19th century. The outside of the existing structure at this point originally formed the interior wall of the Saxony Weave Shed. (Photo 2) Window openings in this section have plain wood sills and round arched heads, with corbeling inside the arches to blend the wall surface to the plane of the sash. Inside the Brussels Weave Shed, in these eight bays, one can observe the conformation of the Saxony Shed's exterior. It is of brick-pier design, with pilasters framing panels which have corbeled heads. (Photo 3) Each panel contains one window opening with a projecting, round-arched hoodmold that has sandstone impost blocks; sills are of sandstone as well. The roof of the south portion of the building has two parallel, shallow-pitched gables, each surmounted by a monitor with glazed sides. Inside, the structural system consists primarily of timber posts, beams and roof trusses. (Photo 4)

The north portion of the Brussels Weave Shed, about 225' X 180' is also brick and one high story tall, although it differs from the south portion in several important details. The double-width window openings feature sills of concrete and flat-arched heads of a single soldier course. The west side of this north addition was erected in 1923, one year after the east side. This west side has a concrete stringcourse at the cornice and concrete coping; it also has a basement, due to the westward down-slope of the land. The roof of the north portion holds ten sawtooth monitors, which run continuously across the east and west sections. The structural system inside features composite steel members forming the columns, beams and roof trusses. Two small brick wings, containing entries, project from the east side.

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Bigelow-Hartford Carpet Mills  
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Description (continued):

Axminster Building (Photo 5)

The Axminster Building is a 4-story, 470' X 130' brick-pier factory with pre-cast concrete trim. Each set of piers, or pilasters, contains a tier of flat-arched windows, with a window at each floor. Each window head has a single soldier course with a steel shelf-angle, and sills are of concrete; the openings contain steel industrial sash. Above each fourth-story window is a concrete molding at the outward step from the plane of the windows to that of the cornice. Simple concrete moldings also appear at the tops of the pilasters, and a concrete stringcourse marks the cornice. Concrete coping protects the low parapet, which projects slightly above the flat roof. At each corner of the mill appears a projecting stair tower with an entry at the ground floor. Door openings in the towers have heavy lintels on molded consoles, paneled pilasters, and double doors under glazed transoms; entry trim is of concrete. The corner towers rise above the parapet of the main walls, although the lines of the cornice and coping of the main walls are continued on the towers with, respectively, a stringcourse of molded concrete and one of plain concrete. Inside the building, the structural system utilizes cast iron columns to hold steel I-beams. Thick timbers run along the top flanges of the I-beams, providing backing for the floor planks, which are spiked in place (Photo 6). At each end of the mill is an elevator shaft which extends through the roof and is topped by a small, square brick cupola with hip roof. The Axminster Building was erected in 1923.

Tapestry Mill

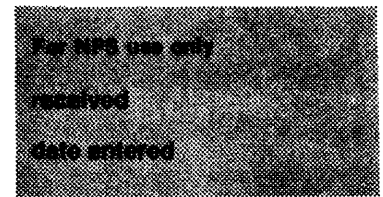
The 1901 Tapestry Mill runs along Pleasant Street, forming the eastern limit of the industrial complex (Photo 7). This huge (897' X 100') brick factory has two stories, with a basement under its south end. Segmental-arched window openings have slate sills and most contain deteriorated twelve-over-twelve sash. Three courses of corbeling accent the cornice, with the center course consisting of a sawtooth pattern which was achieved by laying half-bricks with their corners facing outward. The shallow-pitched gable roof has a low, flat-sided monitor along its ridge; plywood now fills the sides of the monitor, which sides were once glazed to help light the mill's upper floor.

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Description (continued)

Worsted Yarn Mill

Parallel to the Tapestry Mill, and just inside it to the west, stands the Worsted Yarn Mill, the largest structure in the yard which was entirely devoted to spinning operations. The Worsted Yarn Mill (Photo 8) consists of a main section built in 1903 and a north addition erected in 1922. The original section, 510' X 105', has brick walls and a shallow-pitched gable roof surmounted by a monitor along its ridge. It is three-story at its south end and two-story as it encounters an upward slope to the north. Window openings are segmentally arched and have slate sills. Heavy steel pintels, which once held shutters, remain in the walls on either side of each window. Star-shaped, cast iron wall anchors appear between windows. These anchors provide bearing for the steel tension ties which run through the timber floor beams and connect the floors and walls into one rigid structure. The north addition is also of brick, but its similarity to the earlier section of the building ends with that wall material. The two-story addition has a flat roof with parapet, concrete coping and concrete cornice. Window openings are flat-arched with concrete sills. Interior framing is of riveted, composite steel members, which are not rigidly tied to the outer walls.

Old Axminster Building

The Old Axminster Building (Photo 9) marks the southern end of the complex. Built c.1905, it stands four stories tall and measures approximately 400' X 120'. The extra-large window openings, approximately 6' X 8', feature segmental-arched lintels and stone sills, and contain fifteen-over-fifteen industrial sash. Two towers with freight openings are appended to the mill near the center of its south side. The shallow-pitched roof has a low, flat-sided ridge monitor, which terminates in brick step-gables at the ends of the ridge. The mill's east end once formed a common wall with the now-demolished Color House.

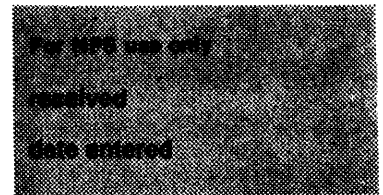
Dye House

In the center of the complex, amid the buildings described above, stands the brick Dye House (Photo 10), which consists of three sections built between c.1901 and 1920 and connected end-to-end on a north-south axis. The south section, two-story and about 240' X 90', has a near flat-roof. Its first-floor windows reach almost to the ground

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Bigelow-Hartford Carpet Mills  
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Description (continued):

and have segmental-arched lintels and stone sills; sash has been removed, as is the case throughout most of the Dye House. Second-floor windows are similar, though not as tall. Inside, cast iron columns support the beams holding the upper floor; these beams are now encased in concrete and their material could not be determined. Star-shaped wall anchors between floor levels tie the beams into the exterior walls. The center section of the Dye House, three-story and about 205' X 105', has a flat roof. With two exceptions, its windows resemble those of the south section. The exceptions are that freight openings replace windows in one entire bay on the east side, and that the side windows on the third floor are flat-arched in triple-width openings. The north portion of the Dye House is one-story and about 135' X 90'. A wide, flat-sided monitor surmounts the near-flat roof. This north section is the newest part of the Dye House. Its window openings are very large, about 10' high and 7' wide, and have segmental-arched lintels; the cast-concrete sills are incorporated into the concrete water table. Glazing in these windows is divided into upper and lower sections, with the upper section in each containing fixed units of three-over-three sash. All lower sash is missing except in the windows of the north endwall, where two casement units, each with fifteen panes, fill the lower sections of the window openings.

Manufacturing Equipment

No production equipment remains in any of these buildings. Some interior signs, however, continue to suggest the operations once housed in the complex. Several hangers for shafting and brackets used to secure broadlooms are found in the Axminster Building. In the floor of the Dye House are holes that once held dyeing vats. These holes are simply concrete-lined rectangular depressions.

End of Description

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**National Park Service**  
**National Register of Historic Places**  
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Bigelow-Hartford Carpet Mills

Continuation sheet Enfield, CT

Item number 7: Amendments Page 1 of 2

Amendments

Item #7

Paragraph 2, last line, General Description: The Factory Complex - substitute "1869" for "1883",

Paragraph 7, line 7 - delete "the 1883 building mentioned above,"

Paragraph 1, line 1, Brussels Weave Shed - change "the oldest" to "the second oldest",

Add to Description between Dye House and Manufacturing Equipment:

New Power Mill (photo 11 or 13)

The New Power mill stands in the center of the complex, southwest of the Dye House. It is the oldest building presently standing in the Bigelow Mills. There is conflicting evidence on its construction date. The 20th century insurance records list 1884, but a number of other sources indicate that it was "the new power mill" built in 1869, a date more compatible with its style. (Company histories state that no building had taken place between 1878 and 1894. Several buildings in this area shown under construction on the 1869 Baker and Tilden map, and an 1878 bird's eye view of Thompsonville shows a building of similar appearance in this location, as does a photograph of the millyard supposed to have been taken in 1875.)

The sixteen-bay, two story brick building is 239 feet long and 59 feet wide. Each bay has an inset panel containing a window in each story. First floor windows have brownstone sills and lintels; those on the second floor have brownstone sills and are topped by round-headed brick arches. The wooden sash are twelve-over-twelve. The original entrances, as well as several windows, have been altered for later industrial uses. The building has a pitched roof and no monitor. The

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Bigelow-Hartford Carpet Mills  
Enfield, CT

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date entered

7/7/84

accept  
8/14/84

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Ammendments

Item #7, cont'd

damaged eave-line of the south facade of the building shows a corbelled brick cornice at the east end, but no such cornice is evident on the north side. Both gable ends have brick dentil detail at the cornice line. Both end walls of the building were altered when it was connected to later buildings, and their original configuration is not readily apparent. There is, however, evidence of a round-arched window in the gable in each end and regular fenestration below that. On the interior, the wood posts and beams have been replaced with steel. (photos 11 - 14)

# 8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input checked="" type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/ humanitarian
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> theater
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<input type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input checked="" type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> other (specify)
		<input type="checkbox"/> invention		

Criteria A, C

**Specific dates** x.1895-1923      **Builder/Architect** not known

**Statement of Significance (in one paragraph)**

The significance of the Bigelow-Hartford Carpet Mills rests primarily upon their importance in American economic and business history (Criterion A). The succession of related carpet firms that operated on this site represents the full range of American industrial organization: the proprietorship of 1828 (Thompsonville Carpet Co.) was reorganized into a chartered corporation in 1854 (Hartford Carpet Co.), which combined with its major competitors in 1901, 1914 (becoming Bigelow-Hartford Carpet Co.) and 1928 (becoming Bigelow-Sanford Carpet Co.), to emerge as the nation's largest carpet-manufacturing firm. Through the mergers the company was able to compete in all markets for carpet; to assure access to proprietary production processes, and to stabilize its financial position. The complex is also an important resource in the history of industrial architecture (Criterion C) because it exhibits the culmination of New England textile-mill design. The Axminster Mill, the Tapestry Mill and the Worsted Yarn Mill rank among the largest buildings ever erected in New England utilizing multi-story "mill construction," characterized by brick bearing walls and post-and-beam interior structural system. Furthermore, the Axminster Mill and the Brussels Weave Shed both illustrate solutions to problems faced by mill engineer/architects in designing buildings specifically intended to hold looms.

Carpet-making began in the Middle East and the Orient in distant antiquity. By the 16th century European craftsmen had refined traditional carpet-weaving techniques, but highly skilled hand production remained dominant, and artisan-made carpets were available only to the wealthiest Europeans until the end of the 18th century. In the British Isles during the late 18th century, entrepreneurs capitalized upon innovations in mechanized spinning and, simultaneously, organized carpet manufacture under integrated factory systems, with characteristic features of institutional financing (from banks and trading houses), wage-earning workforces, and questions regarding the discipline and coordination of work. Carpet-weaving had as yet defied the efforts of mechanical innovators. Nonetheless, the first generation of British factory production brought costs low enough to enable the middle classes to buy carpets.

It was this transitional, half-mechanized state-of-the-art that Orrin Thompson adopted upon starting Thompsonville Carpet Co. in 1828. Thompson (b. 1788) grew up in Enfield and began his career as a clerk in Hartford before opening his own store in Enfield. He moved to New York City in 1821 to become a wholesale commission merchant, involved primarily in importing carpets from the British Isles. When his sales volume quintupled over several years, Thompson recognized the opportunity in domestic production. With financing from his New York trading house and technical assistance from one of his principal suppliers in Scotland, Thompson returned to Enfield to start his carpet-making venture.

(Continued)

# 9. Major Bibliographical References

Associated Mutual Fire Insurance Co., "Bigelow-Hartford Carpet Co.,"  
insurance survey #17850, 1923; courtesy Martin Levitz.

(Continued)

# 10. Geographical Data

Acreeage of nominated property 22.8

Quadrangle names Broad Brook, Springfield South

Quadrangle scale 1:24000

UTM References

A 

1	8	6	9	8	4	2	0	4	2	5	1	2	1	4	0
Zone				Easting				Northing							

B 

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Zone				Easting				Northing							

C 

1	8	6	9	8	6	0	0	4	6	5	2	4	8	0	0
Zone				Easting				Northing							

D 

1	8	6	9	8	4	0	0	4	6	5	2	5	8	0	0
Zone				Easting				Northing							

E 

Zone				Easting				Northing							

F 

Zone				Easting				Northing							

G 

Zone				Easting				Northing							

H 

Zone				Easting				Northing							

## Verbal boundary description and justification

The historical boundary of the factory complex duplicates the present-day property line as described in Enfield Land Records, vol. 450, pg. 46 (1980), Exhibit A, Description of Premises. (Continued)

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

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

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

# 11. Form Prepared By

name/title Matthew W. Roth, Partner, edited by John Herzan, National Register Coordinator

organization Historic Resource Consultants

date August 18, 1982

street & number 2 Diggins Avenue

telephone 203/342-1562

city or town Portland

state Connecticut

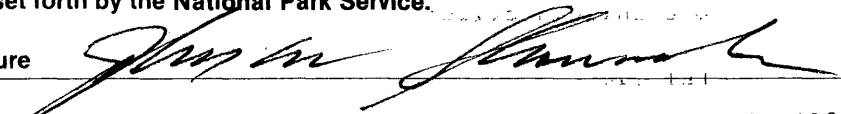
# 12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national  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 National Park Service.

State Historic Preservation Officer signature



title Director, Connecticut Historical Commission

date January 28, 1983

For NPS use only

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

Entered in the  
National Register

date

3/10/83

Keeper of the National Register

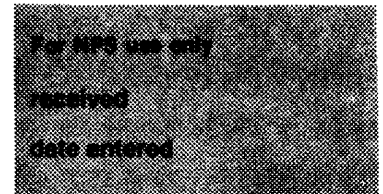
Attest:

date

Chief of Registration

**United States Department of the Interior  
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Bigelow-Hartford Carpet Mills  
Enfield, Ct.

Statement of Significance (continued):

Unlike Thompson, the founders of another contemporary producer added technological innovation to the initial capital of their business. Boston Associates, the investment and management group which founded, financed and ran America's first industrial city--Lowell, MA--hired Erastus Bigelow to adapt his powered coach-lace loom to ingrain carpet production. The Lowell Manufacturing Co. began operation in 1828, the same year as Thompson, with looms designed by Bigelow. Bigelow kept innovating, developing in the 1840s a loom to make Brussels, but the market dominance of ingrain discouraged Lowell Manufacturing from adopting the new technique. In 1849 Bigelow started his own firm, Bigelow Carpet Co., to make Brussels.

Thompson's firm prospered in this period, making mostly ingrain carpets hand-woven by Scotsmen recruited with the help of Thompson's commercial connections, and growing to employ some 650 workers by 1850. But the course was not smooth, with a major wage-based strike in 1833 and several less disruptive work stoppages based on disagreements over working conditions. The Scots first lived in houses erected by Thompson--a necessity in beginning such a venture in a non-industrial community--but by the late 1830s many of these independent-minded workers had built their own homes. In 1840 Thompson acquired another Connecticut carpet firm, the Tariff Manufacturing Co., founded in Simsbury in 1825, but the two factories ran as entirely separate operations.

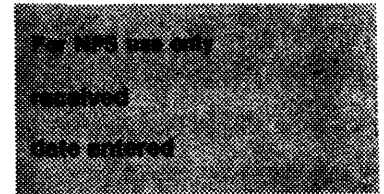
As the nation's rate of population growth increased, and with it the market for carpets, Thompson's company began losing ground to Lowell Manufacturing because of technical disparities and the recalcitrance of Thompson's workers to step up production. Thompson then gambled in 1847 by buying licenses from his Lowell competitors to use power carpet looms built according to the Bigelow patents. While this action broke the strength of the handloom weavers, the license fees, royalties on output and costs of buying the new looms drained the company's resources, causing bankruptcy in 1852. By selling all the firm's on-hand materials and paying creditors at low rates, Thompson salvaged his plant and equipment. In 1854 he formed a new corporation, Hartford Carpet Co., financed by Hartford businessmen, notably T. Mather Allyn and William R. Cone.

To run the plant the new firm chose John L. Houston, the son of one of Thompson's original Scottish workmen who had risen through the ranks as Thompson's protege. Under Houston the firm turned completely to mechanized production. The plant still consisted entirely of frame buildings erected between 1828 and 1850, but elevated power requirements exceeded the capacity of Freshwater Brook (which flows into the

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Statement of Significance (continued):

Connecticut River south of the present complex), and by the mid-1860s the operation relied entirely upon steam engines. More significantly, Houston broadened the product line. Upon expiration of Bigelow's patents in the late 1850s many machinery firms started producing power carpet looms, and Hartford Carpet Co. bought Brussels looms from the English firm of Weild and Co., Ltd. Ingrains remained the largest portion of output, but the move into Brussels made the firm more secure against competitive pricing on the part of the hundreds of small, handloom ingrain producers. Also, the more complex and colorful patterns possible with Brussels appealed to the evolving taste of the still-growing domestic market, and mechanized production brought prices of Brussels within the reach of most of that market.

Aesthetic judgments of Victorian house furnishings vary widely, as do opinions on whether carpet producers followed or created their markets. But whatever the causes or results of what one contemporary commentator described as America's "abject enslavement to tawdry upholstery,"<sup>2</sup> Houston's policy of making the lushest and most intricate carpets met with unqualified success. Between 1860 and 1870 the firm's consistent profits enabled an increase in capitalization from \$.6 million to \$1.5 million, and the workforce grew from 620 people to over 1,100. Immigrant Irish and French-Canadians made up the largest portion of the increase, although relocation of the workers from Tariff Manufacturing Co.'s Simsbury mill, which burned in 1867, accounted for some of this rise.

Houston continued to broaden production, introducing Wilton in the 1870s, and by 1880 Hartford Carpet Co. claimed 39% of the domestic market for these cut-pile carpets. Even more boldly, Houston initiated Axminster production in the 1870s. The expensive, hand-tied tufting of Axminster had precluded any mass market for it, delaying any successful levels of sales even after Alexander Smith and Sons, a Massachusetts carpet firm, developed in the early 1870s a power loom capable of tufting. Houston negotiated with Smith and Sons for an exclusive license on the loom's design, leaving Smith and Sons and Hartford Carpet Co. to share any market for machine-woven Axminster. Hartford Carpet Co. accelerated Axminster production in the late 1880s, by which time the loom patents had expired and competing loom producers had driven equipment costs down. Also in the 1880s, Houston instituted production of Saxony, a type of Wilton with maximum pile body, and this line prospered as well.

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Bigelow-Hartford Carpet Mills  
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Statement of Significance (continued):

Contracting markets during the recession of the 1890s caused Hartford Carpet Co. to reduce its workforce from 1,800 people to 1,000 in that decade, although the firm's concentration on the more expensive carpets with high profit margins prevented financial catastrophe. On the eve of the 20th century Hartford Carpet Co. faced an uncertain future. Its assets included a famous name, a substantial share of the still-growing Axminster market, and the base of experienced workers who had been retained through the 1890s. However, the firm was cash-poor after large investments in new machinery, its plant was obsolete, and, most significantly, the carpet industry as a whole suffered from falling prices for its output. Constant technological development and the building of more efficient plants, notably by firms in eastern New York state, had caused industry-wide over-production. Price-cutting and ever-higher production levels exceeded the informal control of "gentlemen's agreements" among firms as to minimum pricing and quotas on output. Hartford Carpet Co. accordingly responded with favor to merger inquiries from E. S. Higgins Carpet Co., a New York firm with ample cash reserves and that wished to expand beyond its principal product of ingrain, which was still profitable but whose popularity was declining.

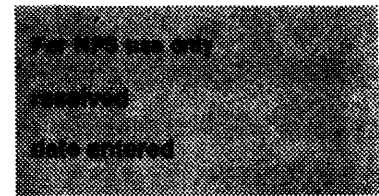
The resultant firm, Hartford Carpet Corp., armed with new financial strength, embarked on a massive rebuilding program at its Thompsonville plant, eliminating all the frame factories and leaving the 1883 brick mill/machine shop as the earliest building on the site. This building program in 1901-1905 established the overall plant layout which exists today. The Higgins plant was closed. Workers relocated from New York included Greeks and Armenians; further diversification of ethnicity in the workforce occurred with the recruitment of Polish and Italian immigrants starting around 1910. The new corporation's product line covered the entire carpet market, from the modest ingrain to the expensive Axminster, and including Brussels, Wilton with its Saxony variant, and a larger commitment to Tapestry, the most recent carpet type to experience broad and growing acceptance. Buoyed by the unprecedented prosperity of the 20th century's first decade and the important new market for automobile carpeting, Hartford Carpet Corp. ranked among the largest several carpet firms in the nation.

The old Massachusetts competitors, Lowell Manufacturing and Bigelow Carpet, had merged in 1899 and the new firm, which took the latter name, kept pace with Hartford Carpet Corp. But a prolonged crisis in management succession at Bigelow prompted the desire of Bigelow's directors to tap the expertise of Hartford Carpet Corp. by merging. Hartford accepted this offer, motivated largely by the even broader markets possible because of Bigelow's dominance in the Brussels line. The merger in 1914

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Statement of Significance (continued):

created Bigelow-Hartford Carpet Co., the nation's second largest carpet producer behind Smith and Sons. The capacity of the Thompsonville facility was almost double the combined total of Bigelow's two Massachusetts plants, and exceeded the size of any single unit in Smith and Sons' more widespread productive base. Thompsonville, then, was the largest carpet plant in New England at this time, and probably the largest in the nation.

After re-tooling for civilian production following World War I, Bigelow-Hartford resumed its successful course with the help of extensive advertising campaigns engineered by "super salesman" John F. Norman, who became president of the firm in 1924. Norman's concentration on the marketing end of the business slowed the firm's high level of investment in new production technology, ignoring the trend toward broader looms and seamless carpets. This lag in penetrating a developing market was eliminated by a familiar means in 1928, when Bigelow-Hartford merged with Stephen Sanford and Sons, a New York firm which led the industry in broad-goods production. The new Bigelow-Sanford Carpet Co. was the nation's largest carpet producer, and Thompsonville its largest plant.

The company's deep financial reserves sustained it through the Great Depression, although no new factories were built. After World War II the New York-based management of the firm looked to expand in the South and overseas, gradually de-emphasizing the importance of the Thompsonville plant. Production and employment in this plant declined through the 1950s, and carpet manufacture ceased altogether in the mid-1960s. Thus, despite over 130 years of carpet-making on this site, and the variety in size and type of firms that operated here, the surviving Thompsonville plant represents only one important phase of that multi-faceted history. Built between c.1895 and 1923, the plant spans and reflects the period of the first two mergers, when abundant financial resources and unprecedentedly broad markets fueled the most ambitious construction plans. These buildings illustrate the confidence, vigor and ascendancy of the company in the first decades of the 20th century.

The most direct physical evidence of the company's position at this time is the sheer size of the mills it erected. The Tapestry Mill and the Old Axminster Building, for example, both served limited functions--the former housed weaving of Tapestry, the latter weaving of Axminster--yet each rivals in scale the largest buildings in Connecticut erected to house fully integrated textile production, the mills at North Grosvenordale and Ponemah. These carpet mills followed the general design of 19th-century textile mills, with their brick bearing walls and post-and-beam framework.

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Statement of Significance (continued):

The use of steel framing members slightly differentiates the carpet mills from their predecessors in the New England textile villages, but the principal differences are of date and size: the carpet mills are among the latest and the largest such structures built in New England.

Knowledge of the buildings' functions contributes to an understanding of the firm's position in the carpet market of the early 20th century, and of the firm's coordination of operations among its several manufacturing sites. Judging from the size of their respective weaving buildings, Tapestry and Axminster clearly commanded huge markets when the Thompsonville plant was built. Axminster was especially important, the firm having built two mills for that carpet within a span of 20 years. The Brussels Weave Shed, while certainly of substantial size, enclosed much less space in its single story than did the multi-story Tapestry and Axminster mills, indicating Hartford Carpet Corp.'s relatively minor participation in that market during the period of the construction programs, and the concentration of Brussels production in the former Bigelow plants in Massachusetts after the 1914 merger. Taken together, the Thompsonville factories reveal the company's policy to compete across the entire range of carpet production, from the inexpensive woolen ingrain to the elegant worsted Axminster. The same comprehensive scope of production which required these buildings also motivated the market-spanning mergers, so the extant buildings at Thompsonville truly testify to the corporate policy which catapulted Bigelow-Hartford Carpet Co. to the forefront of its industry, and which created one of the nation's largest industrial firms.

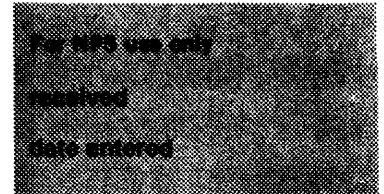
The building technology employed in the Thompsonville factories reveals another element in the corporate policy of the firm: its ready adoption, and in-house innovation, of the most up-to-date techniques. The machinery that would illustrate this point is gone, but the buildings remain to affirm the company's technological leadership.

The Brussels Weave Shed is significant in the history of industrial architecture because it represents a unique functional building type--the weave shed--and because it shows incremental advances in the design of this type. Looms presented special problems in textile-mill design: 1) large-scale operation used hundreds of looms, often tightly packed together, which amounted to considerable concentrations of weight; and 2), the rhythmic operation of looms caused vibration, so when many looms ran simultaneously the combined resonance could weaken the structural connections of a building, especially at those points where the floor beams joined the walls.

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Statement of Significance (continued):

Non-building-related solutions to this problem included the staggered operation of looms to preclude sympathetic vibration, and partial operation of weaving departments to minimize the amplitude of the vibration.<sup>3</sup> However, by the mid-1870s many New England textile plants began to feature one-story buildings to house weaving, thereby eliminating many of the connections potentially endangered by large departments of looms. To provide the requisite floor area these weave sheds were often wider, in relation to length, than the typical multi-story mill; and therefore they included some arrangement to allow natural light through the roof, such as skylights or monitors, because light from the side windows would not reach the center of such wide buildings. While the south, or earlier, portion of the Brussels Weave Shed fits these general characteristics, the north portion embodies the fully realized architecture of weave sheds in the 20th century. Steel structural members replace the earlier timber framing, enabling larger spans for the roof trusses and resulting in an even wider structure, almost square in plan. Double-width windows allow more light in from the sides, and sawtooth monitors illuminate more completely than the ridge monitors of the earlier portion. This building, in its several parts, portrays vividly the evolution of weave shed architecture in the New England textile industry.

The 1923 Axminster Building depicts a solution to weaving-building design under an additional important constraint: the need for unprecedentedly vast amounts of floor-space. The huge and growing popularity of Axminster carpets in the early 20th century demanded high levels of production. A one-story building to hold all the necessary looms would have occupied much of the plant property. A multi-story weaving building offered the solution, and the concerns of load-bearing capacity and resistance to fatigue from vibration were addressed in the design of this mill by the use of a very strong, stiff flooring scheme: planks nailed to timbers which run along the tops of horizontally placed I-beams. This use of "nailers" on beams was typical of bridge-deck design in the 1920s.<sup>4</sup> The adaptation of a flooring system capable of withstanding the heavy, moving loads borne by a bridge indicates the extreme constraints imposed by the massive broadlooms which this mill was built to contain. This solution to the problems imposed by large departments of looms also provides an interesting example of the convergence of techniques which characterizes technological change.

This factory complex, then, presents a picture of carpet manufacture in Connecticut after a century of development and growth, and the extant structures suggest the dominant position of Hartford Carpet and Bigelow-Hartford when these buildings were erected. Mergers of smaller firms into Bigelow-Hartford combined both markets and

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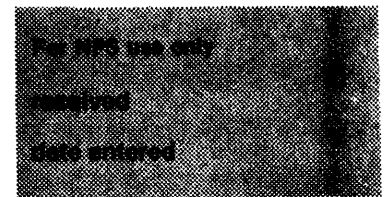
Statement of Significance (continued):

assets, the former dictating the scale of production represented by the mills, and the latter providing the capital and credit pool to finance the expansion of capacity. Furthermore, the buildings illustrate innovations in factory design which were characteristic of the New England textile industry. Indeed, because this complex includes buildings which rank among the largest examples of both "mill construction" and weaving-building construction, it may well be said to represent the culmination of New England-based innovation in factory design.

1. Ewing, John S. and Nancy P. Norton, Broadlooms and Businessmen.  
Cambridge: Harvard University Press, 1955: 47.
2. Morse, Edward S., Japanese Homes and Their Surroundings. Salem, MA:  
Peabody Academy of Science, 1886; reprint, Rutland, VT: Charles  
E. Tuttle Co., 1972: 117.
3. Woodbury, C.J.H., "Mill Floors," American Society of Mechanical Engineers  
Transactions 2(1881):469-499.
4. Many steel truss bridges in Connecticut, built in the 1920s, have this  
characteristic deck arrangement (or had it before alteration). See,  
for instance, Berlin Construction Co., "Niantic River Bridge,"  
contract #5421, 1919-1920, fabrication and erection drawings in the  
Map File Room, Drawer 10, CT Dept. of Transportation, Wethersfield.

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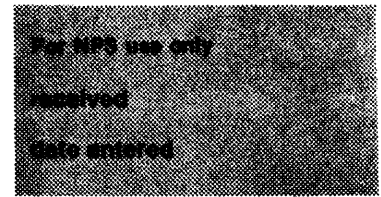
Cook, Alexander N., ed., A Century of Carpet and Rug Making in America. New York: Bigelow-Hartford Carpet Co., 1925.

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Geographical Data (continued):

Boundary Justification

The boundaries of the nominated property duplicate the extent of the Bigelow-Hartford carpet-manufacturing facilities during the period represented by the extant structures, c. 1895-1923. These property lines exclude the commercial district and housing of Thompsonville. While the architectural components of Thompsonville--industrial, commercial, residential and transportation-related--all represent important historic resources, the carpet plant stands on its own as a significant resource in the history of business and the history of industrial architecture. (See Item 8, Statement of Significance, for an elaboration of the carpet factories' significance in these areas.)

Thompsonville has been formed by a complex of imperatives far beyond the policies and actions of carpet production. While Thompsonville may have resembled a factory village for a brief period in the 1830s and 1840s, its subsequent development presents a much more varied picture. To include the residential and commercial resources in this nomination could well impose the false sense that life in Thompsonville was completely supplementary to carpet production.

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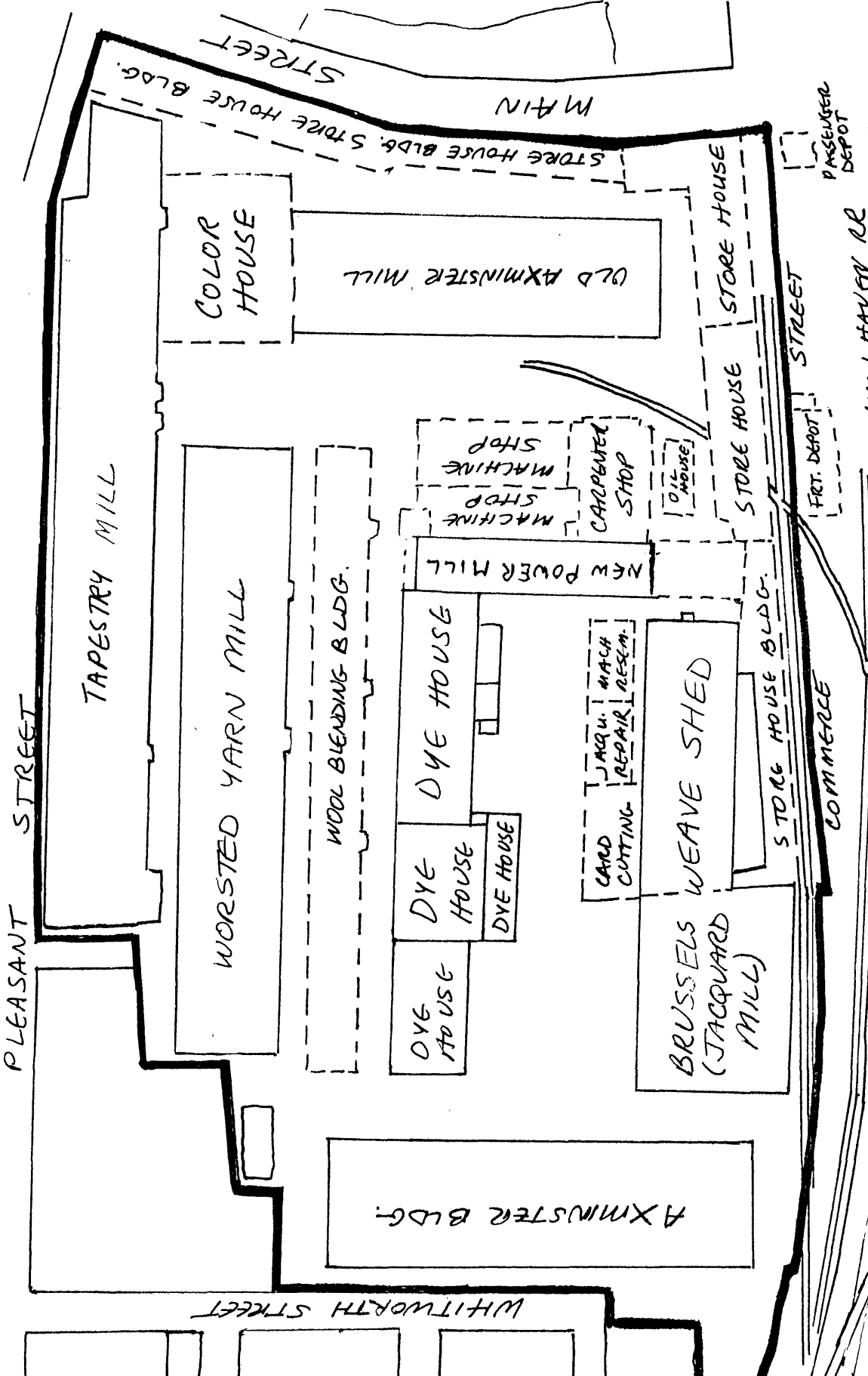
Ammendments

Item #10

Map, Boundaries

While the boundaries described verbally in Item #10, Geographical Data, of the National Register Nomination Form submitted January 28, 1983 are accurate, the sketch map of the property attached to that form is inaccurate in two ways; (1) it does not indicate the westerly boundary of the property and includes two railroad buildings not within the property and also no longer standing on that date; (2) within the nominated property, it does not correctly show the relationships among the several buildings, and shows one building as demolished which is still standing. The attached map is an accurate record of the property as it existed on January 28, 1983, and as it now exists.





KEY  
 — BOUNDARY  
 — STANDING BLDGS.  
 - - - DEMOLISHED BLDGS.

BIGELOW-HARTFORD  
 CARPET MILLS,  
 NATIONAL REGISTER DISTRICT

Figure 1: Bigelow-Hartford Carpet Mills, Spring 1982  
not to scale; demolished buildings shown in broken lines

