New Jersey Department of Environmental Protection
Historic Preservation Office

PROPERTY REPORT

Property ID: 613220621

Property Name: Watson Machine **Ownership:** Private
Address: 74-102 Railroad AVE **Apartment #:** **ZIP:** 07501

PROPERTY LOCATION(S):

County:	Municipality:	Local Place Name:	USGS Quad:	Block:	Lot:
PASSAIC	Paterson		Paterson	6105	1

Property Photo:

Old HSI Number: PAS1608-377 **NRIS Number:** **HABS/HAER Number:**

Description:

Watson Machine is an industrial complex situated on 2 acres containing a 150ft., 1-story foundry; a 50 ft., 3.5-story office building; a 2-story, L-shaped machine shop; and a 140 ft., 2-story erecting shop, all dating ca. 1875. Several other early-20th-century storage buildings and mid-20th-century infill fill the lot along Dale Avenue.

Setting:

The Watson Machine site is set within the northern two-thirds of a rectangular city block bound by Grand Street to the north, Railroad Avenue to the East, Slater Street to the south, and Dale Avenue to the west. The setting is a mixed-use urban neighborhood, primarily consisting of industrial buildings interspersed with 20th-century residences and office buildings. To the south is the Barnert Mill and to the west is the Barbour Flax Works store house. The historic Erie Railroad corridor runs immediately east of the Watson Machine site.

Registration and Status Dates:

National Historic Landmark?: ☐
National Register: **SHPO Opinion:**
New Jersey Register: **Local Designation:**
Determination of Eligibility: **Other Designation:**
Certification of Eligibility: **Other Designation Date:**

☑ **Eligibility Worksheet included in present survey?** ☐ **Is this Property an identifiable farm or former farm?**

Location Map:

Site Map:

BIBLIOGRAPHY:

Author:	**Title:**	**Year:**	**HPO Accession #:** (if applicable)
Shriner, Charles A	Paterson, New Jersey	1890	
Trumbull, L R	A History of Industrial Paterson	1882	
McCarl, Robert S	Watson Machine International: Microcosm of American Industrial Development	1996	
Department of Community Development	City of Paterson Survey	1987	
Archimede, Gianfranco	Paterson Historic Mills Group Municipal Historic Site Designations Staff Opinion of Eligibility	2012	
Hyde, E B	Atlas of Passaic County, New Jersey	1877	
Robinson, E	Atlas of the City of Paterson, New Jersey	1884	
Robinson, E	Atlas of the City of Paterson and Haledon, New Jersey	1899	
Mueller, A H	Atlas of the City of Paterson, New Jersey	1915	
Sanborn Map Company	Insurance Maps of Paterson, New Jersey	1915	
Sanborn Map Company	Insurance Maps of Paterson, New Jersey	1931	
Sanborn Map Company	Insurance Maps of Paterson, New Jersey	1950	

Additional Information:

At the time of this survey, the sidewalk surrounding Watson Machine was under construction.

More Research Needed? ☑ (checked=Yes)

INTENSIVE-LEVEL USE ONLY:

Attachments Included:

0	Building	0	Bridge
0	Structure	0	Landscape
0	Object	4	Industry

Historic District ? ☐

District Name: not applicable

Status:

Associated Archeological Site/Deposits? ☑

(known or potential sites. If Yes, please describe briefly)

Potential for industrial archaeology (interior)

Conversion Problem? ☐ ConversionNote: 8

Date form completed: *9/7/2012*

INDUSTRIAL BUILDING ATTACHMENT

Common Name: 74-102 Railroad Avenue

Historic Name: Foundry at Watson Machine

Present Use: Industrial, heavy industrial

Historic Industry: Machine Manufacture (All types)

ConstructionDate: 1875 **Source:** Historic Maps

Construction Start Date: **Construction End Date:** Building ID:

Style: ☐ Vernacular?

Exterior Finish Materials: Brick, Common Bond

Foundation Materials:

Roof Finish Materials: Asphalt Shingle

Structural System:

Roof System:

Equipment/Machinery:

Physical Condition: Good

Remaining Historic Fabric: Medium

Length: 90 **Stories:** 1

Width: 150 **Bays:** 7

Transportation Links: (checked if applicable)
☐ airstrip ☐ loading dock ☐ slip
☐ dock ☐ rail siding ☐ other

Exterior Description:

The foundry at Watson Machine fronts 150 ft. along Railroad Avenue. It is a 1-story, 7-bay, brick building with a saltbox roof sheathed in asphalt shingles. An interior brick chimney projects from the roof. A 7 ft., frame monitor roof on this building as late as 1950 has been removed. Below metal coping at the roofline is a dentiled brick cornice. Metal tie rods on the east and south elevations have star-shaped ends. The bays along the east elevation are divided by projecting brick pilasters. Window openings are infilled with vinyl siding and have arched stone lintels and stone sills. On the east façade are to arched garage bays as well as two rectangular garage bays near the north end where the foundry connects with the office. The façade also has near ground level circulat cast-iron vents, a characteristic of foundry design. On the south elevation is a replacement 3-part window above a rectangular garage bay.

Interior Description:

The interior of this building was not accessible at the time of this survey. Sanborn maps from 1915-1950 indicate the foundry has an earth floor, a common characteristic of foundry design. The rear of the building was divided into 7 rooms for the following processes: moulding, casting and cleaning, storage, housing the core oven, and housing the blower motor.

Alteration Dates:

Alteration(s):	Circa Date:	Date Range:		Source:
Physical alteration			to	Garage bays; window materials; monitor roof removed

Architect/Designer:

Date form completed: *9/28/2012*

New Jersey Department of Environmental Protection
Historic Preservation Office

Property ID: 613220621
Element ID: 1102547765

INDUSTRIAL BUILDING ATTACHMENT

Common Name: 74-102 Railroad Avenue

Historic Name: Office at Watson Machine

Present Use: Industrial, light industrial

Historic Industry: Machine Manufacture (All types)

ConstructionDate: 1875 **Source:** Historic Maps

Construction Start Date: **Construction End Date:** Building ID:

Style: ☐ Vernacular?

Exterior Finish Materials: Brick, Common Bond

Foundation Materials:

Roof Finish Materials: Asphalt Shingle

Structural System:

Roof System:

Equipment/Machinery:

Physical Condition: Good

Remaining Historic Fabric: Medium

Length: 75 **Stories:** 3.5

Width: 50 **Bays:** 6

Transportation Links: (checked if applicable)
☐ airstrip ☐ loading dock ☐ slip
☐ dock ☐ rail siding ☐ other

Exterior Description:

The ca. 1875 office at Watson Machine is a 3.5-story, 6-bay brick building with a front-gabled roof sheathed in asphalt shingles. Skylights, dating as far back as 1890, punctuate the roof. At the gable end is a dentiled brick cornice. Windows are replacement 1/1 double hung sash set in arched openings with arched brick lintels and stone sills. The first story is recessed and framed by cast concrete quoining. Simple oncrete pillars support the overhanging second story. The modified entryway has doublewide glazed doors in a metal frame, above which is a large glazed transom. The building is flanked by the connected foundry to the south and the connected machine shop to the north. The east façade of the office, however, projects 1-bay beyond those of the foundry and machine shop.

Interior Description:

The interior of the office was not accessible at the time of this survey. Sanborn Maps from 1915-1950 indicate that office space and wood working stations were located on the first floor, offices and a pattern shop were on the second floor, and a drafting room and pattern storage was on the third floor.

Alteration Dates:

Architect/Designer:

Date form completed: *9/28/2012*

INDUSTRIAL BUILDING ATTACHMENT

Common Name: 74-102 Railroad Avenue

Historic Name: Machine Shop at Watson Machine

Present Use: Industrial, heavy industrial

Historic Industry: Machine Manufacture (All types)

ConstructionDate: 1875 **Source:** Historic Maps

Construction Start Date: **Construction End Date:** Building ID:

Style: ☐ Vernacular?

Exterior Finish Materials: Brick, Common Bond

Foundation Materials: Modern Concrete

Roof Finish Materials:

Structural System:

Roof System:

Equipment/Machinery:

Physical Condition: Good

Remaining Historic Fabric: Medium

Length: 140 **Stories:** 2

Width: 120 **Bays:** 12

Transportation Links: (checked if applicable)
☐ airstrip ☐ loading dock ☐ slip
☐ dock ☐ rail siding ☐ other

Exterior Description:

The ca. 1875 machine shop at Watson Machine is a 2-story, 12-bay, brick building with a cross-gabled roof sheathed in asphalt shingles. Below the roofline is a dentiled brick cornice. The east elevation, fronting Railroad Avenue is a 1-bay cross-gabled where a hoisting mechanism was once mounted. The exaggerated window opening at the second story of this bay has been infilled with brick and smaller, replacement window. The first story, multi-pane garage bay is intact. Other window openings are replacement 1/1 double hung sash set in arched openings with arched brick lintels and stone sills. On the north elevation is a flush metal door. The west end of the machine shop is connected to the erecting shop.

Interior Description:

The interior of the machine shop was not accessible at the time of this survey. Sanborn maps from 1915-1950 indicated that the east side of the ell was a machine shop on both the first and second floors; the north side of the ell was a machine shop on the first floor and had assembling space on the second floor.

Alteration Dates:

Alteration(s):	Circa Date:	Date Range:		Source:
Physical alteration			to	window materials; removal of hoisting mechanism and second story entry

Architect/Designer:

Date form completed: *9/28/2012*

INDUSTRIAL BUILDING ATTACHMENT

Common Name: 74-102 Railroad Avenue

Historic Name: Erecting Shop at Watson Machine

Present Use: Institutional, government services

Historic Industry: Machine Manufacture (All types)

ConstructionDate: 1875 **Source:** Historic Maps

Construction Start Date: **Construction End Date:** Building ID:

Style: ☐ Vernacular?

Exterior Finish Materials: Brick, Common Bond

Foundation Materials:

Roof Finish Materials: Rolled Asphalt

Structural System:

Roof System:

Equipment/Machinery:

Physical Condition: Good

Remaining Historic Fabric: Medium

Length: 65 **Stories:** 2

Width: 140 **Bays:** 12

Transportation Links: (checked if applicable)
☐ airstrip ☐ loading dock ☐ slip
☐ dock ☐ rail siding ☐ other

Exterior Description:

The ca. 1875 erecting shop at Watson machine is a 2-story, 12-bay brick building with a side-gabled roof covered in rolled asphalt. An iron-clad frame monitor roof covered with vinyl siding projects from the roof. The north end of the monitor roof has a brick veneer that continues from the north façade wall. Metal tie rods on the north and west elevations have star-shaped ends. The building has a dentiled brick cornice. Windows are replacement 1/1 double hung sash, although some older metal 4/4 double hung sash windows remain. Windows are set in arched openings with arched brick lintels and stone sills. Entryways along the west elevation have been infilled with brick and replaced with windows and/or smaller entries. A sign on the west façade reads “Passaic County Probation.” At the south end of the west elevation is a rectangular garage bay. The south elevation of the erecting shop is connected to a two-story, brick, 20th-century infill building. The east end of the erecting shop is connected to the machine shop.

Interior Description:

The interior of the erecting shop was not accessible at the time of this survey. Sanborn maps from 1915-1950 indicate that the erecting shop had a plank floor and that machine working was done on the first floor and the second floor was used for storage. The shop had a traveling crane supported on steel girders at the second floor level.

Alteration Dates:

Alteration(s):	Circa Date:	Date Range:		Source:
Physical alteration			to	Window materials

Architect/Designer:

Date form completed: *9/28/2012*

ELIGIBILITY WORKSHEET - Properties

Property ID 613220621

History:

William G. Watson and his younger brother James Watson immigrated from Chroley, England to Paterson as children in 1829. They worked for the Colts and other cotton and woolen mills by the falls beginning when William was nine years old. In this way the Watsons acquired a thorough practical knowledge of machine-making of all sorts. By 1848, William Watson took charge of the machinery of the print-works of Jackson & Mageunis at the Franklin Mill. From there he went on to the nearby Union Works where he was a shop foreman while taking drafting lessons in the evening.

Having completed all of such apprentice work and practical studies, in 1851 he and his brother decided to set up a machine-shop of their own, named W. G. & J. Watson, and leased one of the buildings of the Franklin Mill property. In the course of the first year they turned out thirty thousand dollars worth of work, had a room filled with machinery, and employed fifteen hands.

They next removed to the Nightingale Mill on Van Houten Street., where they occupied the whole of the first floor, built a blacksmith-shop in the rear, and later expanded to the second floor of the mill and built a frame foundry on the raceway. In the spring of 1860 the Watsons bought a large tract of land at the southwest corner of Grand Street and Railroad Avenue, and erected their own 3-story, 120 by 44-foot machine shop. They introduced steam power to run their machinery. In 1865, the Watson Manufacturing Co. was incorporated.

The Watsons occupied the whole of the first floor, and leased the rest to other parties. Their business continued to grow rapidly, and they undertook any kind of related work. In 1868 the county gave the Watsons a contract for building an iron bridge at Straight Street in Paterson, and they succeeded so well that it led to an immense business in iron bridges. For ten years thereafter their bridge contracts amounted to several millions of dollars. In 1872 their shop burned down, but was immediately rebuilt on a larger scale than before.

They erected a larger number of iron bridges along the Erie Railway, about one hundred in all, including the Susquehanna Bridge. For 2-3 years the Watsons did this work, amounting to a million dollars annually. The brothers constructed many iron bridges in Passaic County, but the great bulk of their work was in other localities, such as New York City, in Central Park, and elsewhere. They also produced the architectural iron, furnishing iron, and erecting the iron work for the Metropolitan Museum of Natural History, the Metropolitan Museum of Art, and for the Lenox Library in New York. At one point, the Watsons had six or eight hundred men at work in various parts of the country, including at their Paterson shops. They accomplished this until, yet again, in 1875, their shops were destroyed by fire, just three years after the previous fire rebuild. This second fire had a devastating financial effect.

Bridge and architectural work was discontinued, and general machine shop work was taken in, such as gearing, silk machinery, steam engines, etc., although the occasional bridge order was filled. In 1885, the name was changed again to the Watson Machine Co. William Watson served as a Fifth Ward Alderman and in 1866 served a term as Paterson's Mayor. Following his death in 1889, the business was continued by his brother and son, Samuel J. Watson.

During the twentieth century, the company name was changed yet again to Watson Machine International. At this time, continued adaptability was required as the silk industry declined in Paterson. The company fabricated and refurbished a variety of machines used in the wire, cable, and fiber-optics industries, eventually closing its operations in the late 1990s. This is significant in that Watson Machine is most likely the oldest continuously operated manufacturing firm in Paterson. A 1996 American Memory project study on work culture in Paterson that is found on line at the Library of Congress, (http://memory.loc.gov/ammem/collections/paterson/essay3a.html) chose Watson Machine as an important study example of "a microcosm of American industrial development." The following text, written by Robert S. McCarl, III, is excerpted from the report:

"From its founding by two British immigrants in 1845, it has continuously adjusted its production (and therefore its work force and work culture) to meet changing markets. In chronological order, its products have ranged from cast turbine wheels, to prefabricated iron bridges, to twining machines, to cable-twisting machinery, to wire-twisting machinery (for bridge, nautical, and construction work), to electronics, and, finally, to fiber optics. Over the years, the firm evolved to meet changing needs. By the 1850s, it was casting enormous turbine water wheels and structural iron bridges. In 1875, it received a contract to develop machinery for the new McCormick harvester, [which changed the scale of agricultural production consistent with the rise of the great American cityscapes such as Chicago and New York.] In 1907, at the start of the American automobile industry, Watson began producing the Watson Conover Automobile.

Throughout the evolution from twine to cable to wire and fiber optics, Watson Machine itself has evolved in three major ways: physically, spatially, and culturally. Accordingly, recent changes—the closure of the forge, the consolidation of the machine shops, and the adoption of international standards of measurement and organization—have generated changes in work techniques, shifts in

the responsibilities of engineers and salesmen, and alterations in the work culture.

Probably the most important stabilizing influence during these transitions has been the Watson family's close relationship to the company. Another major source of stability has been the continuity in two aspects of production, the high quality and the mechanical similarity of much of the machinery made in the plant. Thus while Watson machines (such as twiners, bunchers, wire take-offs and pay-offs) have changed to adapt to new materials, from twine to fiber-optic cable, their basic mechanisms have remained largely the same. The high quality of the machines enhances the company's revenues both because the machines' characteristic longevity is an important selling point, and because the fact that the machines are long-lasting means that owners commonly send older models back to Watson Machine for repair and retrofitting.

The history of Watson Machine contains many points of interest. Its roots are planted in the nineteenth-century period when Paterson rose to prominence as a manufacturing center, yet by virtue of its adaptation to changing market conditions over the years, it currently exemplifies the latest trends in custom production of high-tech products for an international marketplace. In addition, undoubtedly because the firm has been in the Watson family for several generations, Watson Machine has a deep interest in its own history. Such interest is often found in family-run enterprises, where a long history is used as a marketing device and as a means of intensifying family members' pride in their involvement with the business."

Statement of Significance:

The Watson Machine site is a symbol of durability through adaptation as the company successfully operated for nearly 150 years. Although operations at the Paterson plant ceased in 1990, Watson Machine is among the oldest continually operating manufacturing companies in Paterson history. Not only was the company able to adapt with changing times and technology, but so were its buildings, constructed so that they could accommodate change over time. Characteristic of 19th-century industrial architecture, the buildings are simple in design with an emphasis on functionality over ornamentation.

Eligibility for New Jersey and National Registers: ◉ Yes ○ No **National Register Criteria:** ☑ A ☐ B ☑ C ☐ D

Level of Significance: ☑ Local ☑ State ☐ National

Justification of Eligibility/Ineligibility:

Watson Machine is recommended eligible under Criterion A as it is a microcosm of Paterson's machine industry, adjusting and adapting to succeed for over a century. The Watson Machine complex is recommended eligible under Criterion C as it embodies distinct characteristics of 19th-century machine works with all of its major component buidlings including foundry, machine shop, erecting shop and office.

Total Number of Attachments: 4

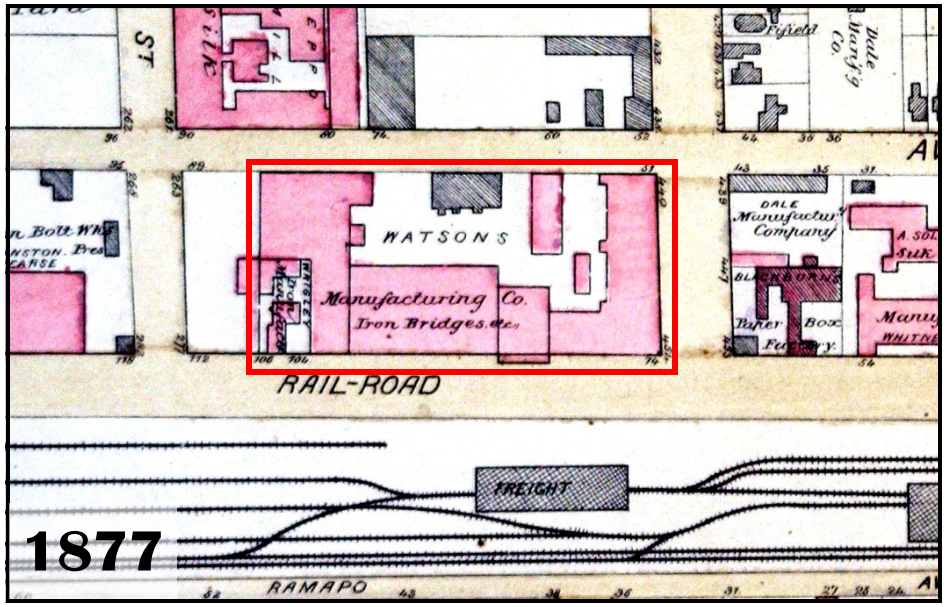
List of Element Names: Foundry at Watson Machine, Office at Watson Machine, Machine Shop at Watson Machine, Erecting Shop at Watson Machine

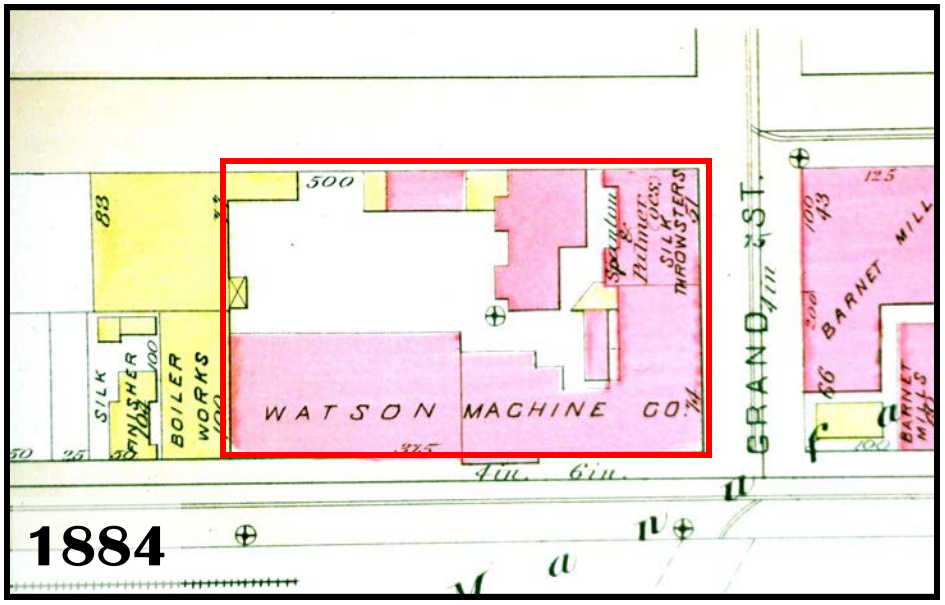
Narrative Boundary Description:

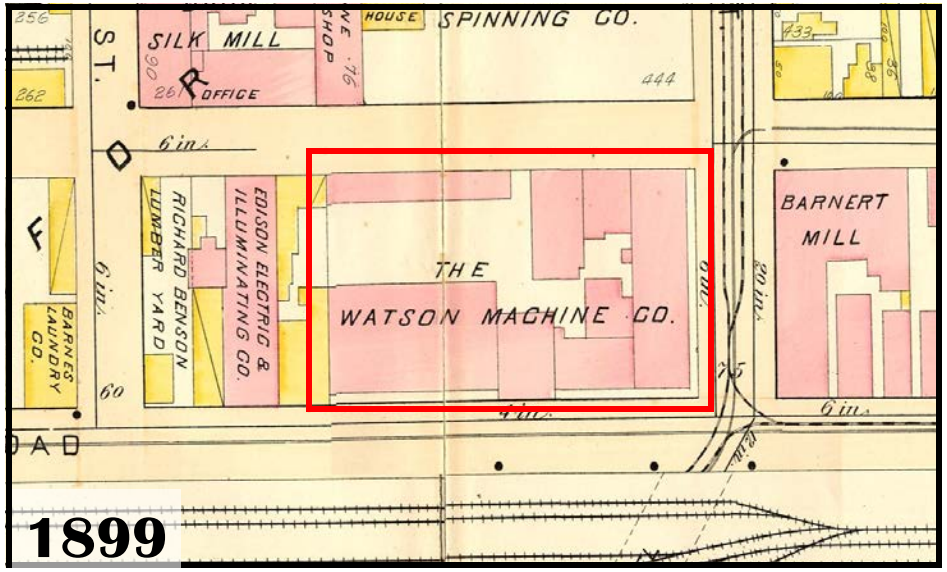
The property boundary is tax block 6105, lot 1, as shown on the 2006 tax map accompanying this form.

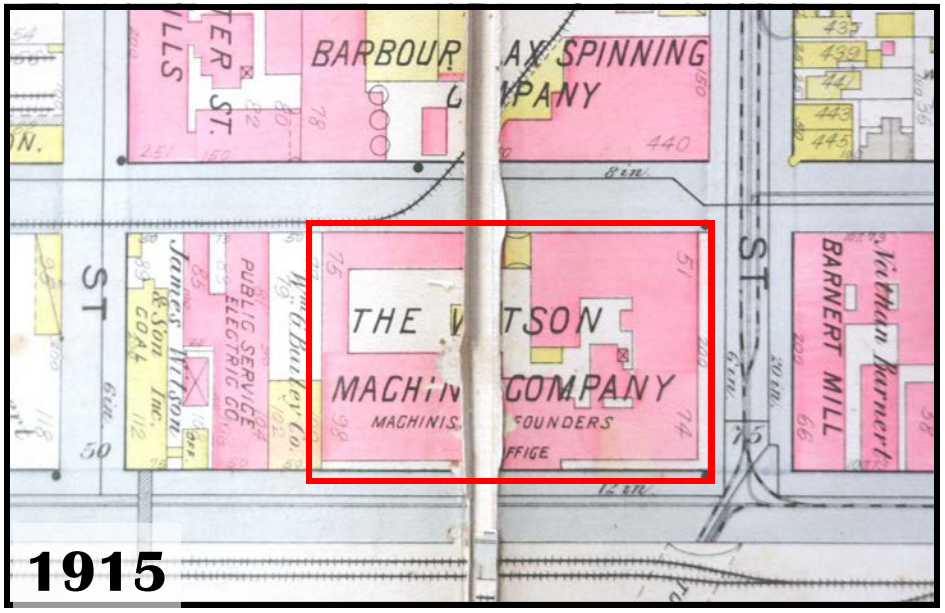
Date Form Completed: *9/28/2012*

WATSON MACHINE WORKS
74-102 Railroad Ave., Paterson, NJ B 6105 L 01
Site Development Maps 1877, 1884, 1899, 1915

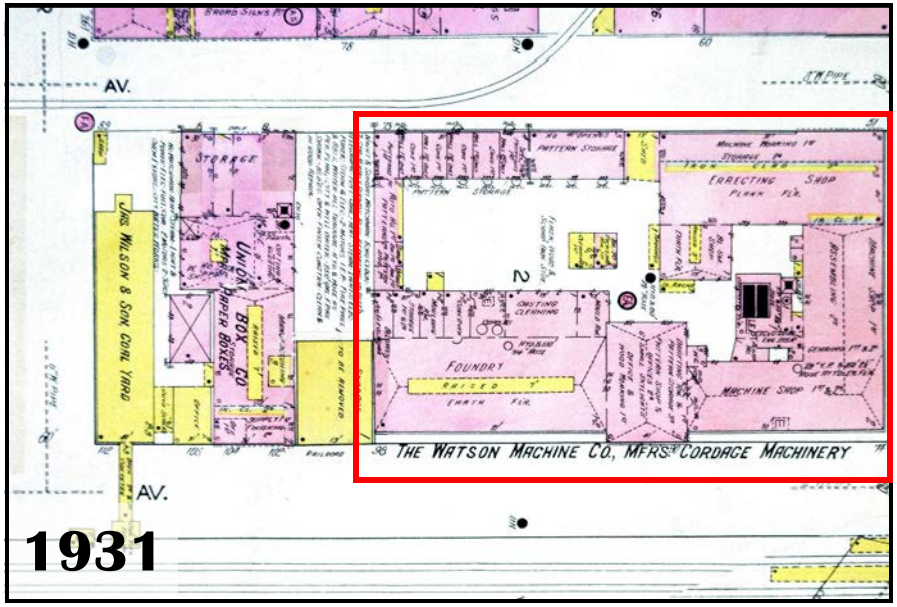


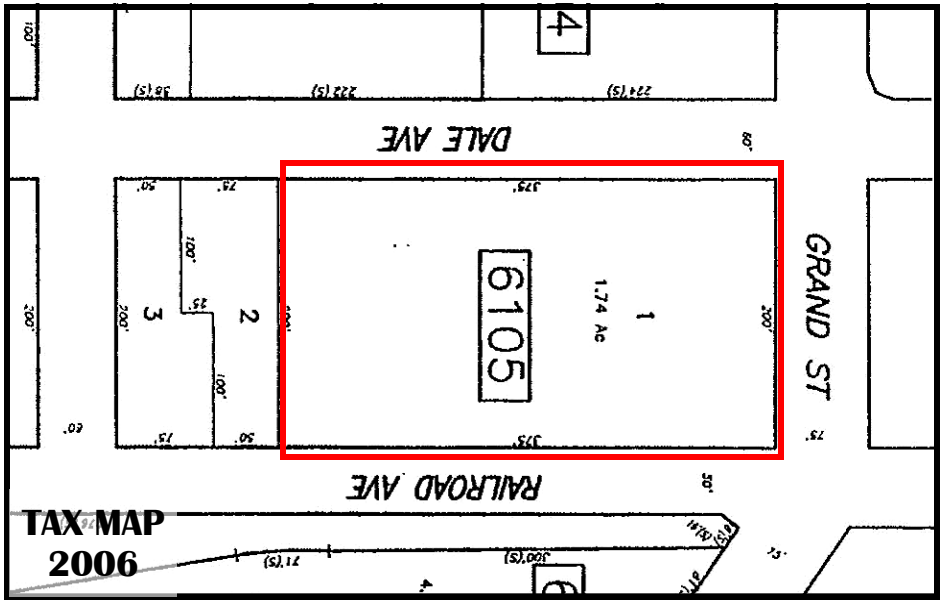




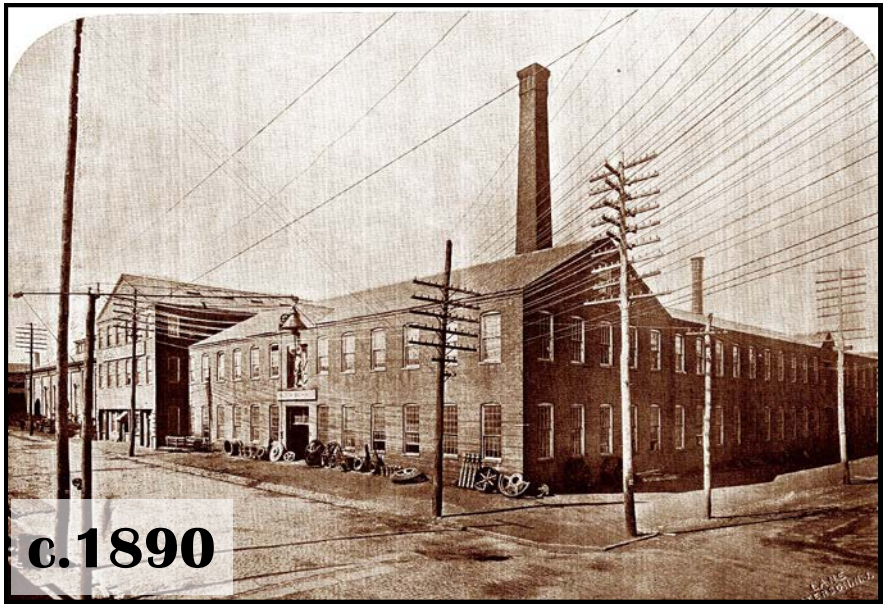


WATSON MACHINE WORKS
74-102 Railroad Ave., Paterson, NJ B 6105 L 01
Site Development Maps, 1931, 2006, 2010





WATSON MACHINE WORKS
74-102 Railroad Ave., Paterson, NJ B 6105 L 01
Photographs, historic / contemporary



WATSON 1: c.1890 looking SW from corner of Railroad (left) and Grand St. (right). .

WATSON 2: current day overview, looking SW from corner of Railroad (left) and Grand St. (right). Compare to photo Watson 1.

WATSON 3: detail view of Railroad Ave. east side, looking SW. This was the Foundry building, and its entrances have been modified aver the years..

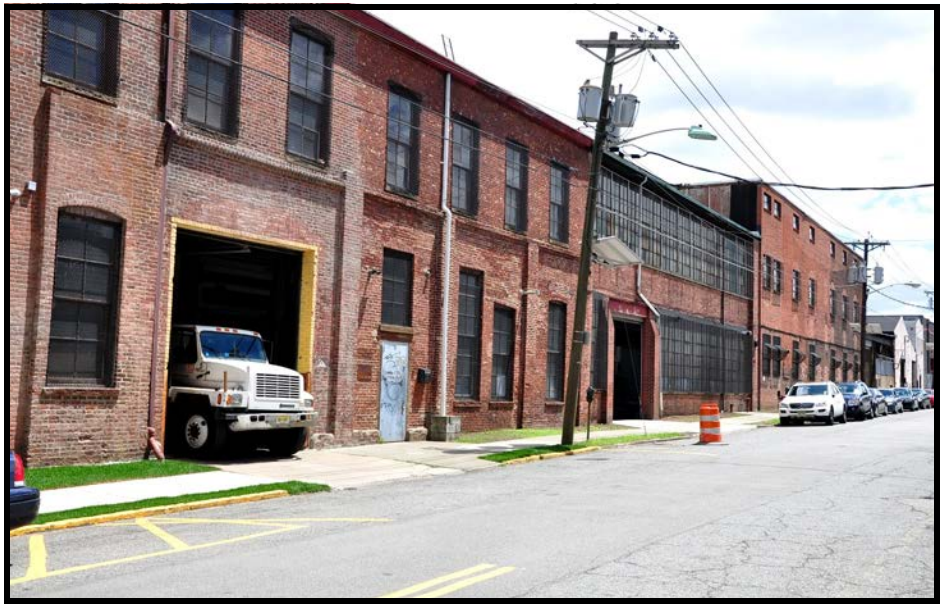
WATSON 4: close up view of E side central gable, looking NW, from Railroad Ave. with Foundry to left.

WATSON MACHINE WORKS
74-102 Railroad Ave., Paterson, NJ B 6105 L 01
Photographs, historic / contemporary

WATSON 5: oblique view looking SE along Grand St. showing N. side.

WATSON 6: detail view looking S, showing entrance modifications.

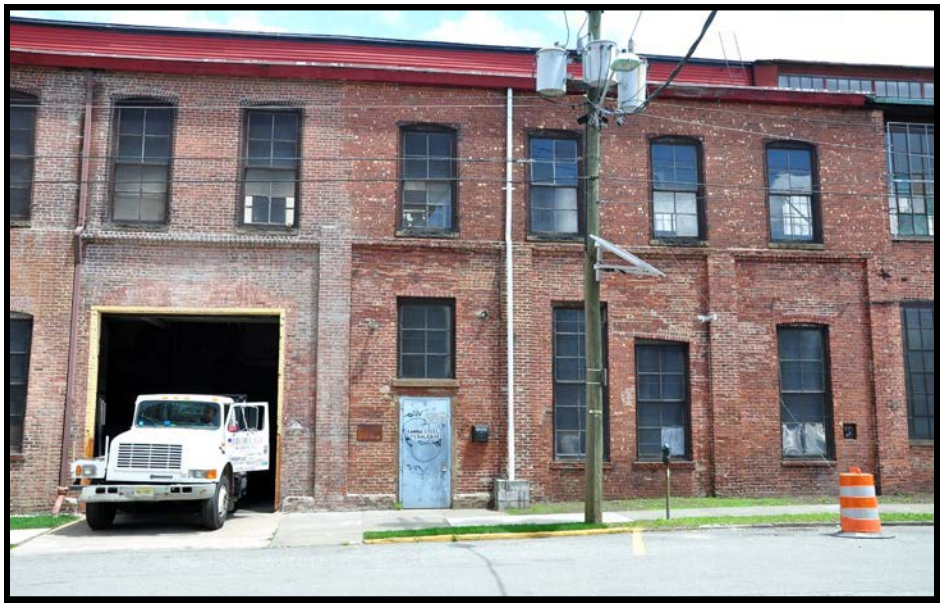
WATSON 7: oblique overview from corner of Grand St. (left) and Dale Ave. (right) looking SE, showing N and W sides of complex.



WATSON 8: view looking S along Dale Ave., showing Erecting Shop entrances.

WATSON MACHINE WORKS
74-102 Railroad Ave., Paterson, NJ B 6105 L 01
Photographs, historic / contemporary

WATSON 9: oblique view of W side along Dale Ave. looking NE toward Grand St. corner in distance.



WATSON 10: detail view looking E, showing W side entrance modifications to the Erecting Shop.

WATSON 11: detail view of Erecting Shop addition looking SE from Dale Ave.

WATSON 12: detail view looking E from Dale Ave. showing West side of later addition to the complex, possibly 1940s.