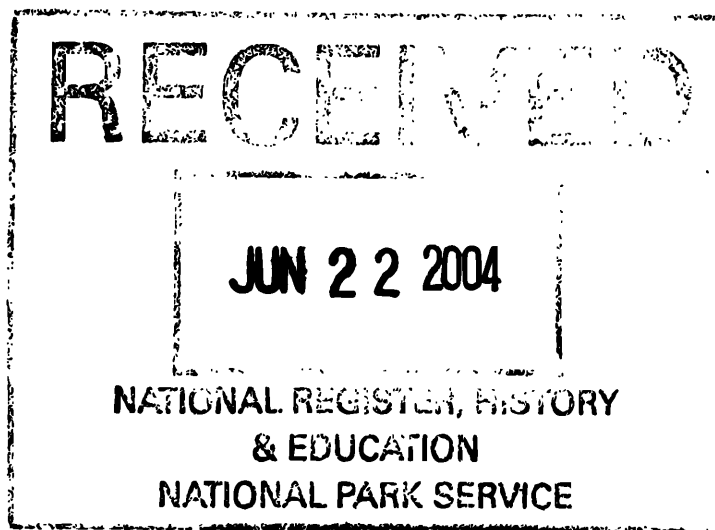


United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form



1. Name of Property

historic name: Providence Dyeing, Bleaching, and Calendering Company

other name/site number: Valley Bleachery

2. Location

street & number: 46, 50, 52, 60 Valley Street; 80 Delaine Street

not for publication: N/A

city/town: Providence vicinity: N/A

state: RI county: Providence code: 007 zip code: 02909

3. Classification

Ownership of Property: Private

Category of Property: Buildings

Number of Resources within Property:

Contributing	Noncontributing	
<u>17</u>	<u>1</u>	buildings
<u>2</u>		sites
		structures
		objects
<u>19</u>	<u>1</u>	Total

Number of contributing resources previously listed in the National Register:

Name of related multiple property listing:

Property name Providence Dyeing, Bleaching, and Calendering Company, Providence County, Providence, RI

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this X nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets does not meet the National Register Criteria.

See continuation sheet.

Frederick P. Williamsan 6/9/04
Signature of certifying official Date

State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria.

See continuation sheet.

Signature of commenting or other official Date

State or Federal agency and bureau

5. National Park Service Certification

I hereby certify that this property is:

- entered in the National Register
determined eligible for the National Register
determined not eligible for the National Register
removed from the National Register
other (explain):

Signature of Keeper

Date of Action

6. Function or Use

Historic: INDUSTRY
Current: VACANT/NOT IN USE
INDUSTRY

Sub: manufacturing facility
Sub: manufacturing facility

Property name Providence Dyeing, Bleaching, and Calendering Company, Providence County, Providence, RI

7. Description

Architectural Classification: OTHER: industrial construction

Other Description:

Materials: foundation STONE/granite, roof SYNTHETIC/rubber
BRICK, CONCRETE
 walls STONE, BRICK, other
CONCRETE

Describe present and historic physical appearance.

X See continuation sheet.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties: locally

Applicable National Register Criteria: A, C

Criteria Considerations (Exceptions):

Areas of Significance: Industry

Period(s) of Significance: 1837 (or possibly 1773)-1920

Significant Dates: 1837, 1885-98, possibly 1773

Significant Person(s):

Cultural Affiliation:

Architect/Builder: Sheldon, Frank P. (c. 1885 construction phase)

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

X See continuation sheet.

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Description

The Providence Dyeing, Bleaching and Calendering (PDB&C) Company Mill consists of eighteen moderate- to small-sized industrial buildings, one- to four-story, shallow gable and flat-roofed, built of rubble masonry, brick, and cinder block. The complex occupies an area of about four acres, most of the block bounded by the Woonasquatucket River on the west, Valley Street on the east, Delaine Street on the north, and San Souci Drive on the south in the Olneyville section of Providence.

PDB&C began its operations on Sabin Street in Providence under the name Patent Calendering and Bleaching Company. By 1845 this company, reorganized as PDB&C, had acquired a water privilege and industrial building along the Woonasquatucket in the Olneyville section of Providence. Converted for use as a bleachery, this building provided the nucleus for the company's 19th-century expansion, which included the construction between 1843 and 1875 of a Grey Room, a Packing House, and a Kier Room. In 1885 the company closed its Sabin Street plant, consolidating all operations in Olneyville. From 1885 to 1898, a rapid expansion followed which included the construction of a Starching and Drying House, a Boiler/Engine Room, a Machine/Carpenter Shop, a Storage House and a Mangle/Tenter Room. The last phase of expansion occurred between 1900 and 1920 when the company expanded the Boiler/Engine Room and constructed a Filter House, a Lime Room, a Calender Room, an Office/Storage Building, a Chemical Storage Building, a Garage, a Gatehouse and a Stock Room. PDB&C purchased the c. 1895 Atlantic-Degras Building in 1904 and outfitted it as a storehouse.

The complex comprises all or significant elements of seventeen contributing buildings constructed between 1773 and 1918. PDB&C ceased operation in 1952. The oldest buildings in the complex are now vacant; two plating companies occupy a series of late 19th- and early 20th-century brick buildings along the river at the south of the alley, and a scrap metal company occupies the former tentering room (1895, expanded 1900) attached to and west of the oldest buildings of the complex. The complex includes an asphalt-covered cobblestone alley and the Paragon Dam (RIDEM No. 139), historically associated with PDB&C's power system until about 1900 and the company's process water until 1952.

All buildings should be considered contributing unless otherwise noted.

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INVENTORY

Delaine Street

80 Building No. 10, Mangle/Tenter Room (1899 et seq.): An irregularly shaped, 135' x 325', brick, single-story, pier and spandrel building with shallow gabled roof. Segmental arch window openings along Delaine Street are predominantly cinderblock filled.

This building was constructed in two phases. Around 1900 PDB&C eliminated its hydraulic system by filling in the headrace from Dam No. 139 and demolishing the old gatehouse. The land thus reclaimed was used for a building to house various finishing processes. The first of these (1899), situated at the end of the alley west of the Starching and Drying House (No. 5), was a 130' x 130' building that housed a Mangle Room (130' x 70'), in which fabric was smoothed by rollers after washing, and a Shipping and Storage area (130' x 60'). This Shipping and Storage area was eventually absorbed into the Mangle Room.

The second phase (by 1904) was a large (175' x 190' overall), irregularly shaped addition extending to Delaine Street that served as a Tenter Room. Tentering is a process by which fabric is dried under tension to remove wrinkles after washing. This new room replaced an older, frame Tenter Room that stood in the general location of the present Calender Room (No. 13) from c. 1885 to c. 1915.

This building has been occupied by Ocean State Metals, a scrap metal company, since the mid-1990s.

Valley Street

46 Building No. 18, Garage/Gatehouse/Iglesia Evangelica (1908-1918,
NC rear addition 1956-1963): A single-story, shed-roofed, 18' x 18' brick garage fronting on Valley Street. The garage door was bricked-in by 1953. A cinderblock, flat-roofed, 40' rear extension was added in the mid-20th century. Currently, this

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building houses the Iglesia Evangelica, a small church serving the area's Spanish-speaking population.

50 Building No. 7, Machine/Carpenter Shop (1895 et seq.): A two-story, 40' x 80' brick building with a shallow gabled roof. Originally single story, a second story was added by 1920. All segmental arch windows have been replaced. Upper windows are late 20th-century replacement type; lower windows are early 20th-century, steel frame rectangular sash. A modern double entryway is found on the east elevation. A second-story beam once served as a machinery hoist. This beam has been trimmed flush with the façade of the building. Currently occupied by Antonelli Plating.

50 Building No. 9, Atlantic-Degras Building (1895-1900, 1908-1920): A single-story, brick building with monitor roof aligned north-south along the river, the southernmost building associated with PDB&C. The rear, older part of this building (93' x 143'), the original profile of which is visible from the south, was constructed c. 1895 by the Atlantic-Degras Company on land purchased from PDB&C. After the failure of this company c. 1898, the land, now improved with a substantial building, was repurchased by PDB&C and outfitted as a storehouse by 1904. Once freestanding, this is the oldest of five contiguous buildings now occupied by Antonelli Plating.

The original building consists of a deep single story with a 7' raised monitor running the length of the building. A stepped gable end is visible from the south. Windows on the visible (south) elevation are small, rectangular, early 20th-century metal frame sash. Visible in the brickwork are two, now brick-filled, segmental arch openings. Tile coping edges the roofline. Between 1908 and 1918 PDB&C built a brick, single-story, east addition (48' x 143'). In the 1970s Antonelli Plating built a single-story, triangular plan, 19' x 44' x 115', cinderblock addition following the lines of the riverwall behind this building and Building No. 15. This addition occupies land reclaimed after the removal of a large settling basin associated with the process water needs of PDB&C.

50 Building No. 15, Chemical Storage Building (1908-1918): This is the oldest of a series of three small, contiguous infill buildings that occupy the riverfront space between the

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Machine/Carpenter Shop (No. 7) and Atlantic-Degras Building (No. 9). All are now occupied by Antonelli Plating Co.

Built as a PDB&C addition to the Atlantic-Degras Building (No. 9), this is a 46' x 64', two-story, brick, flat-roofed structure. An altered second story survives as part of an overhead walkway that spanned the alley to the Office/Storage Building (No. 14). What appears from the alley to be a second story is actually a narrow passageway that was part of a now-demolished elevated walkway from the upper floor of the Office/Storage Building (No. 14) to Building No. 15. This enclosure is sheathed in a mix of c. 1930s shiplap wood siding and later 20th-century Texture 1-11.

In c. 1956, Antonelli Plating built a single-story, cinderblock 22' x 35' addition to the east wall of this building and the north wall of the Atlantic-Degras Building (No. 9). It serves as a sheltered shipping dock providing access to Building No. 9.

- 50 Building No. 16, Garage (1st floor)/Laboratory and Electrician's Room (2nd floor) (1918-1920): A four-bay, two-story, 36' x 45' brick building, the first floor of which originally served as a garage. The roof is a shallow pitched gable. Window openings are segmental arch with concrete sills. Paired upper windows are modern replacements. The first story shows steel framing flush with the brickwork. This is likely associated with the bricking-in of the original garage door.
- 50 Building No. 17, Stock Room (1918-1920): A brick, two-story, 28' x 55' shallow pitched gable roof building occupying the space between the Machine/Carpenter Shop (No. 7) and Building No. 16. Windows openings are segmental arch. All but one of the original paired 12/12 double-hung windows have been replaced with modern metal 1/1 replacements. A modern doorway has been built into a now brick-filled segmental arch door opening.
- 52 Building No. 11, Filter House (1904-1908): A 30' x 95', deep single-story brick structure built to house filtration equipment for the plant's process water. The roof is a shallow pitched gable; windows are segmental arch. On the north elevation, two

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louvered windows flank a central entryway. On the west elevation there are eleven bays on which the predominant window form is an upper 20-light fixed sash over paired 4/4 double hung sashes. Most sills are quarry-faced granite; some are steel plate. A metal plate and timber planked channel carries a fuel oil pipe from an underground tank between this building and the Mangle/Tenter Room (No. 10). Until some time after 1950 an open, trapezoidally-shaped reservoir, occupying about 45' along the north end of the rear (west) elevation of this building, was associated with the process water use of PDB&C. When the reservoir was drained, an underground fuel tank (removed in early 2004) was placed within its brick walls.

This building is currently occupied by Stevell's Plating.

52 Building No. 14, Office/Storage Building (1908-1918): A two-story, brick, 82' x 114' building with two shallow pitched gable roofs. Between 1908 and 1918 an Office/Storage Building was built from the east wall of the Filter House (No. 11) to Valley Street. About one fourth of the floor space at the front of the building served as the PDB&C office; the remainder served as storage space. This building replaced an earlier small office and frame storage shed that occupied the area between the Filter House and Valley Street.

Window openings are segmental arch with quarry-faced granite sills. Along the north and south elevations, on the ground floor, these are paired 6/6 double-hung with 6-light transoms; on the second floor are a mix of paired, double-hung, 9/9 windows and paired, 18-light casement windows with 6-light transoms. Some windows are altered, most notably the ground level windows of the Valley Street elevation. Although these are partially bricked-in, the upper paired transoms survive. A central Valley Street double entryway dates to the mid-20th century. An elevated walkway once spanned the alley between this building and the Storage House (No. 8).

This building and the attached Filter House are occupied by Stevell's Plating.

60 Building 1, Bleach House/Brown George Mill (1773 or 1837 et seq.): A tall, single story, rubble masonry structure 59' x

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105'. The original dimensions of this building were 46' x 105'; its expansion to the present dimensions is discussed below. Between 1849 and 1857 PDB&C built a Packing House (No. 3) of the same length parallel to and south of the stone Bleach House, the oldest building of the complex. An open alleyway about 14' wide separated the two buildings. Between 1882 and 1889 this alleyway was roofed over in stages and used for chemical vat storage. By 1900 the south wall of the stone Bleach House had been removed and the alleyway space incorporated into its floor space. The Packing House now shared a wall with the Bleach House and this latter building acquired its present dimensions. At the time of this alteration, PDB&C built a shed roof to span the new 59' width. This truss structure has two parallel box monitors and is supported by wooden columns. In recent decades many of these square section, chamfered timber columns have been removed. A few have been replaced with round section steel columns.

There is some evidence to suggest the height and angle of the Bleach House's original gabled roof. An original southeast corner of the original footprint survives and reveals what appears to be about 10' of an original rafter.¹ Further investigation may determine this to be the original roofline. The Grey Room (No. 2), constructed between 1843 and 1849, shared the east wall of the Bleach House. Because this new building was higher than the Bleach House, this addition of wall height likely required alterations to the older Bleach House wall. The surviving east and north walls show evidence of frequent alteration and repair. Visible on the north wall are earlier window and door openings, now filled. Notable among these filled openings is what appears to be the heavy granite framing of an earlier door.

The Bleach House's west wall was removed at the time of the construction of the 2-story Starching and Drying Building (No. 4) between 1885 and 1889. This wall is of brick construction.

Although there is no surface evidence of a raceway, the 1843 Smith Bosworth estate map shows a waterpowered mill with a mill pond and headrace at the rough midpoint of the Bleach House's south wall. By 1857 the water system had been altered due to the construction of the Packing House. There may be evidence of the original 18th-century raceway or wheel pit below the concrete

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floor of the current footprint.²

60 Building No. 2, Grey Room³/Singe Room (between 1843 and 1849): A three-story, 75' x 38', rubble stone masonry building with shallow gabled roof, occupying the space between the east wall of the Bleach House (No. 1) and Valley Street. Although longer than the Valley Street elevation of the Bleach House, this building, extending nine bays along Valley Street, shares the east wall of the Bleach House and represents the first expansion of the old mill site by PDB&C. The original north rubble wall of this building was replaced with brick, an alteration that likely dates to boiler and engine room construction after 1885. This wall has segmental arch window openings similar to those used in other construction from that period at the site. The northeast corner of the building exhibits the mating of brick to the earlier rubble masonry.

The surface of the Valley Street elevation of this building has been stuccoed and coated with a brown epoxy skim coat. The windows on this elevation vary. On the third floor all windows are segmental arch, 6/6, double hung. Second floor windows are rectangular 2/2 horizontal lights. Ground floor alterations have combined two original window openings into one; thus, six of the original window openings are now combined into three. This alteration appears to date to the same period as the epoxy skimcoat (see below). Although covered, one original narrow ground floor window opening survives next to the doorway. A deep double doorway at the south end of the elevation is framed in heavy granite. Sills are quarry-faced granite.

Per the 1904 Sanborn Fire Insurance Drawing, the first floor served as a Grey Room, the probable location of an operation called gray scouring, in which unbleached woven goods direct from the loom were washed in an alkali solution. The 2nd, 3rd, and 4th floors served as storage of gray and finished goods. A 40' x 15' section at the north of the first floor (sharing a wall with the boiler room) served as a Singe Room. This process removed the fuzz on new yarn or cloth by burning. Singeing was commonly employed in cotton manufacture and consisted of rapidly passing cloth over a heated roller or plate or open gas flame.

60 Building No. 3, Packing House (between 1849 and 1857): A three-

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(alley) story, 42' x 101' building of rubble masonry and brick. PDB&C added a fourth brick story in 1897 that was removed in the 1950s. The upper portion of the third floor is brick. Originally stuccoed, much of this surface has fallen away.

Viewed from the alleyway, this building presents nine bays (about 80') of mid-19th-century stuccoed rubble wall and two bays (about 20') of brick wall stylistically similar to the adjacent 1898 Storage House (No. 8) to which it is attached. A 1901 engraving indicates that from 1897 to c. 1950 this building continued the four-story roofline of the Storage House that fronts on Valley Street. Windows on the first two floors of the older section are rectangular with a mix of wood and metal casement windows. On the third floor, window openings are segmental arch. One four-light window, set deeper than the others in its opening and located in the seventh bay from the left on the second floor, appears older. Lintels of quarry-faced granite predominate on the first and second floors; lintels are segmental arch brick on the third floor. Sills are predominantly granite. Three 20th-century doorways are found on the alley elevation. Framing in the oldest sections of this building consists of heavy floorbeams resting on square-section, chamfered timber columns. Elsewhere, the framing is more typical of late 19th-century industrial buildings. There is evidence in the basement that the current floor level represents a late 19th-century excavation of about three feet from the original floor. This basement has a ceiling height of about 14'. There is also evidence on the third floor of the earlier (pre-1897) roofline.

Per the 1904 Sanborn Fire Insurance drawing, the first floor served as an expansion of the company's bleaching operation, the second and third floors were used for packing, and the fourth floor was used for storage.

60 Building No. 4, Kier Room (c. 1875 et seq.): Originally a deep, single-story, 30' x 106' rubble masonry addition on the north wall of the Bleach House. A second brick story with shed roof was added by 1888. This second story rests on a concrete slab floor supported by steel columns. The wall shared by the Kier Room and the Bleach House has two roughly 9' openings providing passage between both buildings and access to a loading dock. As in the

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Bleach House, the present concrete floor of the Kier Room is at a higher level than the original floor elevation. Second story windows are frame, 9/9 double-hung set in segmental arch openings.

Kiers are large metal vats, usually pressurized, for boiling or bleaching. Kier boiling is the process of boiling out cotton goods with an alkali solution before bleaching or dyeing. Although the brick second story, erected c. 1888, was intended originally as an improvement to the kier process, by 1923 this floor housed the mercerizing process, in which cotton fibers were treated chemically to make them stronger and more receptive to dyeing.

60 (alley) Building No. 5, Starching and Drying House (between 1885 and 1889): A two-story, brick, near flat roofed, 43' x 131' building perpendicular to and sharing its west wall with the Bleach House (No. 1). This building served as a replacement to a frequently modified frame structure that occupied the area west of the Bleach House from at least 1843 to the construction of the present building. Window openings are segmental arch with quarry-faced granite sills; all sashes on the second floor of the alleyway elevation have been removed. An early to mid-20th-century entryway occupies the westernmost bay. The remaining three first-floor window openings are brick-filled. The east wall of this building became the north wall of the Bleach House, an alteration that likely occurred c. 1885.

Per the 1904 Sanborn Fire Insurance Map, the first floor served as a starching and drying area; the second floor housed unspecified finishing operations.

60 Building No. 6, Boiler and Engine Room (c. 1887 et seq.): A series of northward extensions to an original single-story, brick boiler and engine house north of the Grey Room (No.2) built as part of the improvements associated with the consolidation of PDB&C to Valley Street. By 1900, PDB&C had filled in the old headrace and eliminated the waterwheel and gatehouse. The Boiler and Engine Room now extends 190' to Delaine Street; its maximum width is 52'. Located in the northernmost extension, a 150' brick chimney that once bore the inscription *Prov. DB&C* was shortened to its present, roughly 50' height in February 2001 after a

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partial structural failure. By 1918 this building housed nine boilers.

Viewed from the interior courtyard, there is much evidence of alteration, removal of equipment, 20th-century cinderblock construction, and some demolition of interior walls. A frame courtyard wall is heavily damaged by fire. The Valley Street elevation, however, shows no evidence of this damage and is little changed from its 1918 appearance.

- 60 Building No. 8, Storage House (1898): A four-story, 43' x 56' brick, shallow end-gable building. This building incorporates the rubble masonry south wall of the mid-19th-century Packing House (No. 3) and part of the rubble east wall of the Grey Room (No. 2). Overhanging rafters are exposed and dressed with a fascia board. The ghost of a former painted company sign is visible between floors 2-3 and 3-4 on the Valley Street elevation. Evidence of a former elevated walkway spanning the alley between the second floor of this building and the Office Building (No. 14) is visible in the brickwork of both buildings.

Paired, wood frame, and double-hung windows are set in segmental arch openings. On the first, second, and third floors these are predominantly 6/6; on the fourth floor, 9/9. Sills are of quarry-faced granite. Double entrances are found on the Valley Street and alleyway elevations. A cinderblock 20th-century elevator shaft was created at the front of the building. The only visual evidence of this, however, is a cinderblock elevator room on the roof, visible from Valley Street.

- 60 Building No. 12, Lime Room/Loading Dock (1908-1918): A series of three small, brick rooms serving as a loading area and shipping dock from the Bleach House (No. 1) and the Kier Room (No. 3) to a courtyard extending to Delaine Street. These rooms are in the location of and probably incorporate part of the old Lime Room, a storage area for the lime used in the kier boiling process. This building first appeared as a frame structure north of the Kier Room used for chemical storage. Between 1908 and 1918 the general proportions of this room took shape.

- 60 Building No. 13, Calender Room (1908-1918): A two-story, 74' x

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190', brick, pier and spandrel building with a shallow pitched gable roof. Some of the segmental arch window openings are cinderblock filled; the remainder, with varying degrees of damage, are paired, frame windows with double hung 9/12 sashes. Sills are quarry-faced granite. What appears to be an original frame double door with paired 6/6 transoms (similar in design to one found on Building No. 7) opens onto Delaine Street.

Calendering, a mechanical finishing process closely associated with the history and early success of PDB&C, is the process of moving fabric through a series of heated rollers to produce glazed or watered finishes. William Smith's original calendering machine employed differential gearing. This brought fabric into contact with pairs of rollers rotating at different speeds, thus imparting a glazed finish to the fabric. Calendering was carried out at the Sabin Street operation until the construction of the first (frame) calendering room at Valley Street after 1885.

[off] Cobblestone Alley, off Valley Street, vicinity of Building No. 14: Approximately 10,000-15,000 sq. ft. of cobblestone road likely dating to the mid-1880s improvements associated with the consolidation of all company operations to Valley Street. Before 1875 the hydraulic system of the Valley Bleachery brought the head race into the area now occupied by Building No. 14. By 1875 a new dam and gatehouse (demolished c. 1900) had been built and the reclaimed land used for improvements that began to shift the activities of the plant southward. Between 1895 and 1918, PDB&C expanded southward with the purchase of the Atlantic-Degras Building (No. 9) as well as the construction of Buildings No. 7, 11, 14, 15, 16, 17, and 18. Communication among these buildings, separated from the main block of earlier buildings clustered around Building No. 1, necessitated a paved internal road.

Although the Delaine Street courtyard shows some evidence of granite and brick pavers, this surface does not appear to have the integrity of the cobblestone alley.

Woonasquatucket River

Paragon Dam (RIDEM No. 139) (late 1880s?, 1969) : A 5' high and 35' long dam of concrete and stone masonry. Although this dam now

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carries the name Paragon (for Paragon Worsted, located across the river), it is associated historically with PDB&C. Before it was shortened in 1969, the dam, likely dating to the post-1885 improvements made by PDB&C, was 95' in length and included a wheelhouse (demolished c. 1900) located within the footprint of what is now Building No. 10.

This water privilege dates to the first industrial impoundment made by Christopher Olney in 1773 for the Brown George Paper Mill. Maps from 1835 to the present day show a continuously evolving hydraulic system used for mechanical power until c. 1900 and for process water throughout the period of PDB&C occupation. PDB&C was a member of the Woonasquatucket Reservoir Company⁴ (successor to the Woonasquatucket River Company established by Zachariah Allen in 1823). The modification of this dam in 1969 was necessitated by upstream Manton Industries' concern about backwater and flooding caused by the impoundment.

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Photographs

Photographer: Edward Connors

Date: November 2003

Negative: RIHPHC

(The above information applies to all photographs)

Photo #1 of 25

View: Interior, Building #1, box monitor framing.

Photo #2 of 25

View: Interior, Building #1, showing mill framing.

Photo #3 of 25

View: Interior, Building #1, possible rafter from Brown George mill.

Photo #4 of 25

View: Building #2, view northwest (Map No. 1).

Photo #5 of 25

View: Interior, Building #2, showing mill framing.

Photo #6 of 25

View: Building #3 on alley, view northwest.

Photo #7 of 25

View: Interior, Building #3, showing mill framing.

Photo #8 of 25

View: Building #5, view northeast.

Photo #9 of 25

View: Interior, Building #5, showing mill framing.

Photo #10 of 25

View: Building #6, view southwest.

Photo #11 of 25

View: Building #7 and overhead passage, view west.

Photo #12 of 25

View: Building #8, view northwest.

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Photo #13 of 25

View: Building #9, view northeast.

Photo #14 of 25

View: Building #10, view southeast.

Photo #15 of 25

View: Building #11, view west.

Photo #16 of 25

View: Building #13, view southwest.

Photo #17 of 25

View: Building #14, view southwest.

Photo #18 of 25

View: Building #16, view west.

Photo #19 of 25

View: Building #17, view southwest.

Photo #20 of 25

View: Building #18, view west.

Photo #21 of 25

View: Courtyard between Buildings #6 and 13, view south.

Photo #22 of 25

View: Pavers in courtyard

Photo #23 of 25

View: Alley, view west.

Photo #24 of 25

View: Detail of cobble in alley.

Photo #25 of 25

View: Paragon Dam (RIDEM NO. 135), view west.

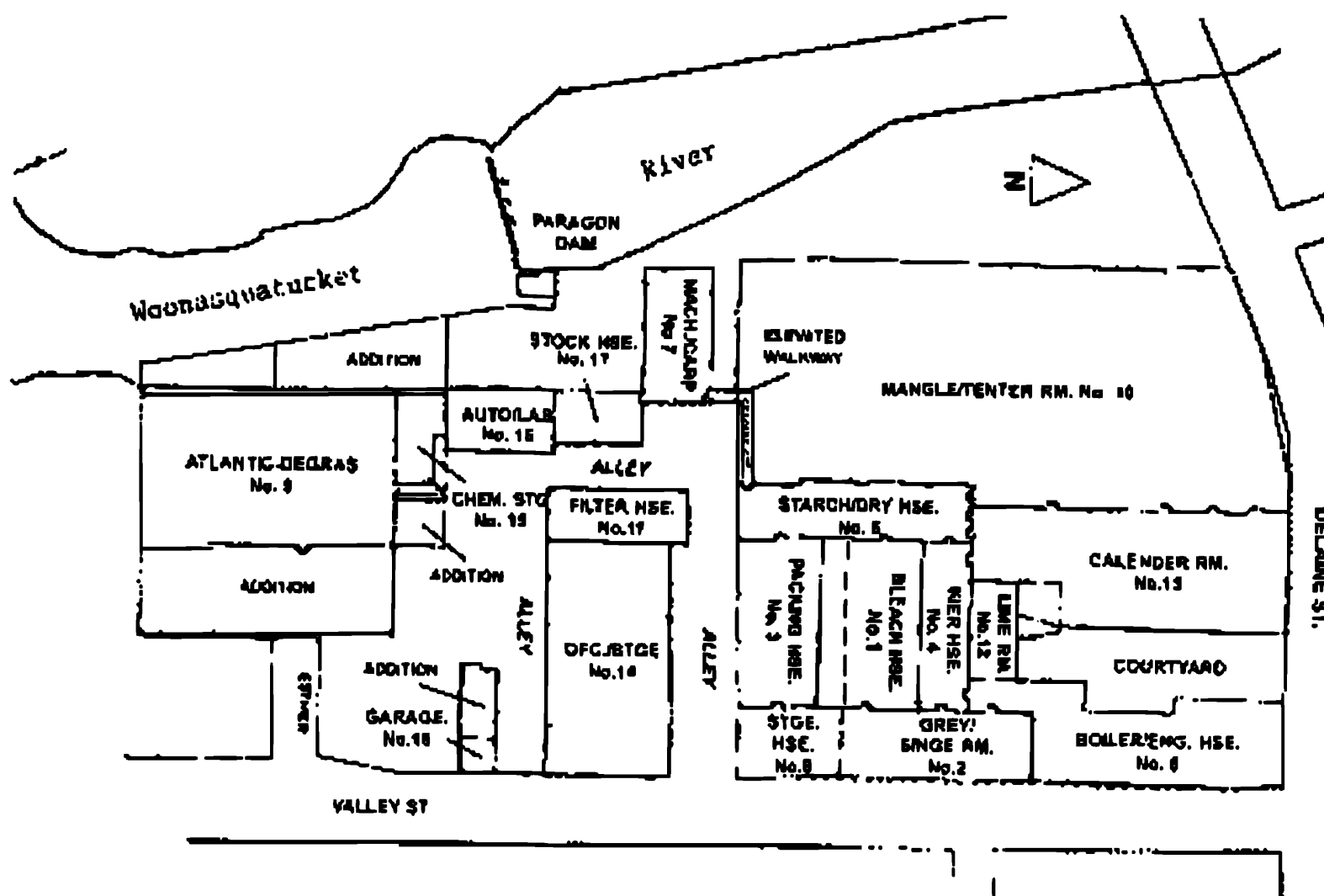
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KEY TO INVENTORY



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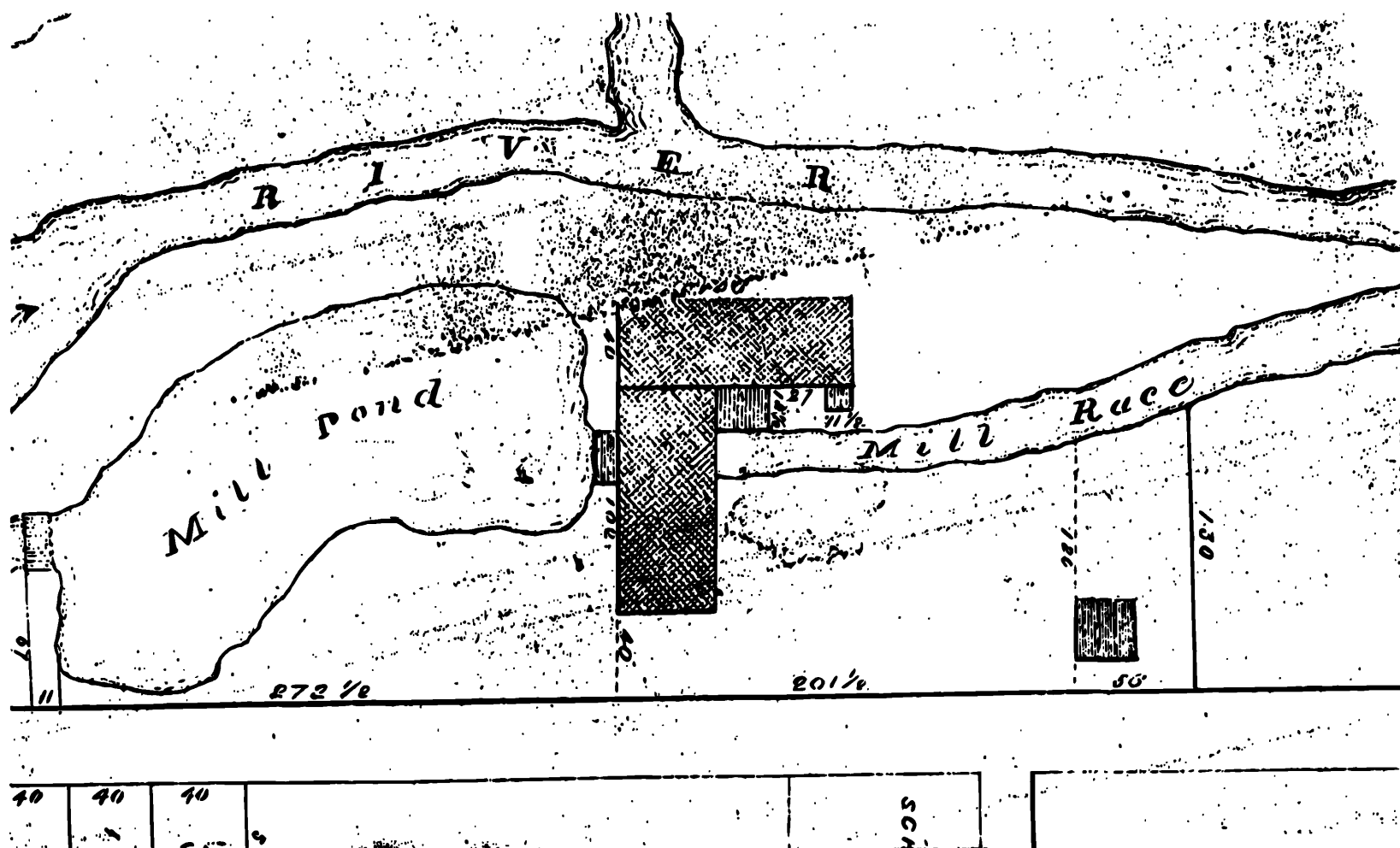


Figure 1

Detail from map of *Smith Bosworth's Estate* (1843)
Showing early footprint of Bleach House (No. 1) and hydraulic system
Providence Plat Book 1, p. 61 and Plat Card 23

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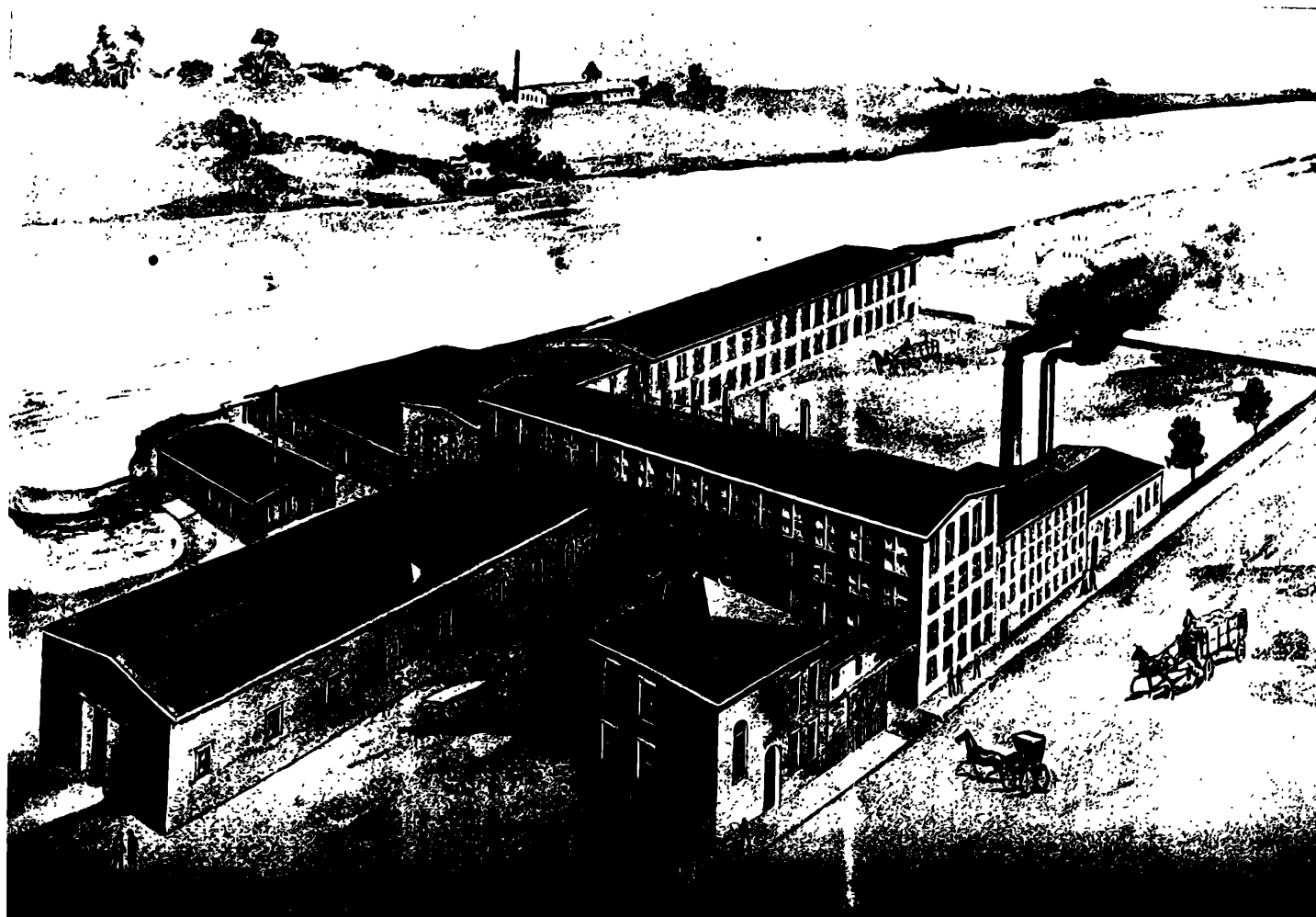


Figure 2

Engraving of Providence, Dyeing, Bleaching and Calendering
From *Biographical History of the Manufacturers and Businessmen of RI* (1901)

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Significance

The Providence Dyeing, Bleaching and Calendering Complex is significant as a textile dyeing and finishing plant, an important component of the textile industry. This complex is thus significant locally under Criterion A for its association with the rise and decline of textile manufacture and finishing as well as its association with industrial development along the Woonasquatucket River in the City of Providence.

Architecturally, this complex represents more than a century of the company's evolution and expansion. This complex began with a late 18th-century or early 19th-century stone mill (two walls of which survive in the center of the complex) and by 1920 encompassed eighteen buildings, a dam, and a cobblestone alley, all of which survive. The complex is thus significant under Criterion C as it embodies the distinctive characteristics of 19th- and early 20th-century industrial architecture.

Within a few years of the establishment of the first waterpowered textile factory in Pawtucket, a growing market emerged for vendors capable of taking in yarn or cloth for washing, bleaching, printing, or dyeing to the specifications of the customer. The Providence Dye House Company, established at Sabin and Mathewson Streets in 1810 (predecessor to Providence Dyeing, Bleaching and Calendering) was one such enterprise. By 1815 the principals of this company had associated themselves with Hercules Whitney and Henry Hoppin, two Providence merchants who had acquired the unexpired patent rights to a differential calendering machine (1811) and an Oliver Evans steam engine (1814) to provide the motive power for the calender and other finishing machinery. This association was made formal in the name of the Patent Calendering Company (1815). The combination of this calendering machine, steam power, geographic location, and the entrepreneurial zeal of the new company soon established the Patent Calendering Company as a regional leader in textile finishing.

The company, incorporated as the Providence Dyeing, Bleaching and Calendering Company in 1842, purchased a small mill complex at a water privilege on the Woonasquatucket River in 1845. This location was named the Valley Bleachery and operated as a bleaching operation subsidiary to the main plant until a reorganization in the 1880s consolidated all work of the company to Valley Street. Overseen by noted mill engineer Frank P. Sheldon, an initial expansion of the site followed, continuing in phases until about

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1918. The company survived the Great Depression and the war years finding specialty markets and continuing the company's history of technical innovation. The company ceased operations in 1952 after 137 years of operation.

The Providence Dyeing, Bleaching and Calendering Company Mill is representative of the evolution of a textile finishing plant, reflecting diverse industrial processes associated with dyeing and finishing. While finishing plants employ some loft-type buildings, they also typically include a variety of other building types as well. These different building types were adopted for different finishing processes involving high volumes of process water, heat, and chemicals, and the necessity to process large amounts of cloth. This led manufacturers to build single-story buildings with high ceilings, wide floorplans, and roof forms that allowed for light and the ventilation of heat and chemical vapor.

History

In 1845 the newly incorporated Providence Dyeing Bleaching and Calendering Company (PDB&C), located on Sabin Street in downtown Providence, purchased a stone mill on Valley Street in Olneyville to serve as a bleachery. Much of this area had been owned by Christopher Olney, who established two paper mills, the Rising Sun and the Brown George, at neighboring water privileges on the Woonasquatucket during the period 1765-1773. Olney built the Brown George Mill in 1773-4 and operated it until his death in 1809. His son, Nathaniel Greene Olney, continued paper manufacturing until financial difficulties forced him to sell the mill at public auction in 1816. In 1837 ownership of the mill passed to Smith Bosworth, who had served as Agent of PDB&C from 1817 to 1835. The company purchased the mill property outright in 1845 and began a series of improvements, the most significant period of which followed the consolidation of all the company's operations to Valley Street in 1885. PDB&C continued to expand its Olneyville operations until about 1920.

Christopher Olney's water privilege on the Woonasquatucket

Christopher Olney (1745-1809), a descendent of Thomas Olney, an early settler of Providence, settled in the area that came to be known as Olneyville in 1785. As a young man, Olney was associated with the Rising Sun Paper Mill, established at a mill privilege on the Woonasquatucket River in 1764 and operated by John Waterman. At age twenty he learned the

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papermaking trade from Waterman, and eventually came to purchase 100 acres of land along the river and operate the Rising Sun mill. In 1773-4 he built a second paper mill, the Brown George, at a privilege a few hundred yards upstream at what was to become the Valley Bleachery, owned by Providence Dyeing, Bleaching and Calendering after 1846. Shortly after his death in 1809, the Brown George Mill passed to Olney's son, Nathaniel, who operated the mill for a short time. With the probate settlement of his father's estate in 1811, it was determined that Nathaniel Olney had inherited his father's debt of about \$12,000. Within a year Olney took out a mortgage on the property from Providence merchants, Hercules Whitney and Henry Hoppin.¹ Although he was able to repay the mortgage, continuing financial difficulties forced Olney to sell the Brown George Mill at public auction in 1816 to Providence merchants Stephen C. Smith and Seth Davis.

Little is known of the industrial activity at the site from the time of the 1816 auction to the mid-1830s, when Smith Bosworth (1781-1857), a well-established stone mason and architect of some of Providence's finest houses, bought land in Olneyville associated with the Brown George. Although Providence Land Evidence Records² indicates that at some point before 1844 Bosworth had built a stone mill at the site to serve as a "calico printing establishment" along with "other improvements," it is possible that he improved the existing Brown George Mill.³ Partial rafters on the east wall of the earliest building (Bleach House, No. 1) appear to define the lines of the original gable roof. The north and east stone walls of this building may date to Christopher Olney's original 1773 paper mill.

In 1843 Providence real estate investor Stephen Kinyon purchased the site from Bosworth. A year later Kinyon took out a \$13,000 loan from banker Richmond Bullock with the provision that he spend "not less than \$5000 in the erection of other buildings or in machinery and tools" at the site. As the specific nature of Kinyon's improvements are not described in the mortgage deed, it appears that Kinyon was serving as an agent for PDB&C and his improvements were associated with the intended conversion of the mill site to a bleachery. PDB&C purchased the property from Kinyon in 1845. The company continued to improve the property as a bleachery, subsidiary to its downtown Providence location.

Providence Dyeing, Bleaching and Calendering Company

Around 1800 Dr. Benjamin Dyer of Cranston, a wholesaler and retailer in medicinal drugs, entered into the field of dyestuffs. In 1810 he

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established a family partnership, the Providence Dye House Company, hiring Smith Bosworth to build a plant at Sabin Street to provide dyeing and bleaching of yarn and cloth to a growing clientele of textile manufacturers. Bosworth, who had completed the plant by about 1814, went on to become part owner and company agent.

Shortly after the formation of the company, two Providence merchants, Hercules Whitney and Henry Hoppin, proposed to the Dyers that they purchase partial rights to the use of a differential (also called friction) calendering machine. This innovative machine, for which William Smith of New York had received a patent in 1805, imparted different finishes to cloth by squeezing it under tension through rollers moving at different speeds. Whitney and Hoppin had themselves purchased the unexpired patent rights to the machine from Smith's widow, Mary, in 1811 and joined with Daniel Bates and Edward Mason in the \$6,000 purchase of a 20 HP "Columbian" steam engine manufactured in Philadelphia by Oliver Evans (1755-1819), a purchase completed in 1814.⁴ Evans, an important figure in the industrialization of the United States, had been perfecting a small-size, high-pressure steam engine since 1801 and selling them for various uses since 1802.

A year later in 1815 a new company, the Patent Calendering and Bleaching Company, was formed and capitalized at \$40,000. For the sum of \$1600 paid by the principals of the Providence Dye House Company to Whitney and Hoppin, the new company now had at its disposal the differential calendering machine driven by the Columbian engine and the Sabin Street dyeing plant recently completed by Smith Bosworth.⁵ Two factors made this an opportune time for this new enterprise: the Tariff of 1816 protected the New England textile industry from the flood of cheap British textiles that followed the end of hostilities, thus stimulating local investment in textile manufacture; and the introduction of the power loom, in phases between 1815 and 1818, which brought to market a dramatically increased volume of woven cloth in need of finishing. The Patent Calendering and Bleaching Company is reputed to be the first steam-driven textile finishing plant in the country.

In 1842 the company was incorporated as Providence Dyeing, Bleaching and Calendering Company, making official a name that had been in common usage for some time. Capitalized at \$192,000, the company sought space for expansion in Olneyville, an area west of downtown Providence, the industrial development of which was enhanced by available water privileges and the proximity of the New York Providence and Boston Railroad, completed

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in 1837. By the time PDB&C expanded to Olneyville in 1845, water privileges along the Woonasquacket River were already powering neighboring cotton and worsted mills that included the upstream Lymanville, Manton, Dyerville, Merino, and Union mills and the downstream Valley Worsted Mill. The Eagle Steam Mill was in operation south of Olneyville by the 1830s and the steam-powered Atlantic DeLaine Mill (1851) and National and Providence Worsted (1877) were soon to follow.

The land in Olneyville included Christopher Olney's Brown George privilege and a 40' x 100' stone mill either improved or built by Smith Bosworth as a calico printing operation in the mid-1830s. Physical evidence at the site suggests that the two surviving rubble masonry walls of what PDB&C renamed the Valley Bleachery (No. 1) may be surviving elements of Christopher Olney's 1773-4 Brown George paper mill. Early improvements (1845-1849) included the refitting of the stone mill building as a Bleach House and the construction of a Grey Room/Singe Room (No. 2) on land fronting on Valley Street. Around 1850 the company successfully introduced "beetling," a finishing process utilizing small wooden mallets to flatten the thread and impart a closed texture and improved luster.

Despite growing congestion at the Sabin Street operation as downtown Providence grew in population and commercial activity, improvements at the main plant included the first installation of a Corliss steam engine (200 HP, installed in February 1848).⁶ The 1850 Federal Census described an operation employing 200 and processing 13,500,000 yards of bleached goods. By 1857 the Valley Bleachery had been expanded to include a new Packing House (No. 2) and a small boiler and engine room to the north of the Bleach House. The census of 1860 showed a 30% increase in output of bleached goods to 17.5 million yards. By the Civil War era, the Valley Bleachery housed a 60 HP steam engine and was bleaching six tons of cloth per day.

An 1869 description of PDB&C described the operation of the two plants. Dyeing and finishing of fine cambrics, jaconets, silesias, and other fancy cotton goods were carried out at Sabin Street, still powered by a 200 HP Corliss engine. At that time the Valley Bleachery was powered by a combination of steam and water power. There were 150 employees at both operations. Despite this level of activity, there were no annual dividends to stockholders from 1857 to 1865. The company still operated on the agent model borrowed by early industrialists from the maritime trade that preceded them.⁷ Troubled post-Civil War years were described in a 1947 *Textile Age* article: "...the Hoppins and Dyers acquired other interests and grew old. The Providence Dyeing, Bleaching and Calendering Co. also began

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to show signs of age. Old machinery was wearing out. The system of absentee management [the agent system] was passing.⁸

William Snow, who had replaced Smith Bosworth as the company agent thirty years earlier, died in 1872. In that same year the company decided to seek plans and estimates for extensive improvements to the Valley Bleachery. Mounting difficulties during the depression years after 1873 and the increasing difficulty of maintaining an aging plant amid the congestion of downtown Providence forced the company to consider a consolidation of operations at Olneyville.

With the return of prosperity and the closing of the Sabin Street plant, the company was able to concentrate on improving the Valley Bleachery. Begun in 1885, this process included the elimination of all dyeing operations and the hiring of noted mill engineer Frank P. Sheldon to modernize and improve the old plant. The first phase of this improvement, visible in detail in the 1889 Sanborn Fire Insurance map, included the construction of a brick Starching, Drying, and Finishing House (No. 5) and expansion of the Boiler/Engine House (No. 6) to accommodate five boilers and a larger engine. This expansion also included a group of frame structures south of the main cluster of buildings along Valley Street. By the late 1880s the company was bleaching annually 30 million yards of fabric.

Expansion continued into the 1890s with the construction of the surviving Machine/Carpenter Shop (No. 7), a frame Filter House, and a frame Tentering Room (both demolished). Around this time the company introduced the mercerizing process into the United States.⁹ In this process fabric is immersed in a cold sodium hydroxide solution in order to make it more receptive to dyes. This process was carried out in the new, brick second story of the Kier Room (No. 4).

By 1904 PDB&C had bought back a parcel of land at the south of the property previously sold to the Atlantic-Degras Company¹⁰ c. 1894. This company erected Building No. 9 around this time for the extraction of oils from wool scourings. These oils, valuable in the treatment of hides, were then sold to tanners and curriers. This building was converted for use as a storehouse. Around this time, the company also removed the old wheel and gatehouse and filled in the headrace as reconfigured between 1857 and 1875. On this reclaimed land they built a large, single story Mangle/Tenter Room (No. 10). In this building they also reintroduced dyeing for the first time

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since the closing of the Sabin Street plant, a decision likely related to the introduction of the mercerizing process.

The expansion of the physical plant to its present plan was accomplished by about 1918. Between 1904 and 1918 the company built the Filter House (No. 11), the Lime Room (No. 12), the Calender Room (No. 13), the new Office/Storage Building (No. 14), the three infill buildings between the Atlantic-Degras Building (No. 9) and the Machine/Carpenter Shop (No. 7), and a small garage on Valley Street (No. 18).

Significant changes in the management structure took place during these years. John P. Farnsworth, who had purchased control of the company in 1907, became president and shifted production to bleaching. In 1926 Farnsworth sold his interest in the company to Wilfred Ward, who converted the plant to specialize in fast color vat dyeing of cotton fabrics.¹¹ During this period the company continued to provide bleaching and calendering and, during the Second World War, finishing of heavyweight fabrics. Annual capacity by this time was 75,000,000 yards.

In the immediate postwar years, Ward set about to re-equip the plant for dyeing and finishing of synthetic materials, a path that he had considered as early as the 1920s. Well aware of the technical precision required for such a move, he outfitted and staffed a laboratory that would also oversee quality control and the training of future management in the technology and chemistry of finishing. Despite these efforts at modernization, the company was unable to secure an adequate regional market because of the relocation of New England textile mills to the southern states, a process that had begun some thirty years earlier. In ill health at age 79, Ward put his stock in the company up for sale in 1952. There were no buyers; after 137 years of operation PDB&C was liquidated in April, 1952. A company representative stated the reason for failure in very simple terms: "lack of profit."¹² Jali Realty (Jacob Licht) purchased the plant at auction on June 4, 1952. As described in a *Providence Journal* article the following day, much of the plant's \$300,000 worth of machinery was shipped to southern mills.¹³

The plant has been occupied by various tenants since that time. One current occupant, Antonelli Plating, Inc., was incorporated in 1956 at which time it occupied Buildings 7, 11, 16, and 17. C. 1962 Antonelli acquired Buildings No. 9 and 15 and built a rear cinderblock addition in 1976. The buildings of the central, and oldest part of the complex,

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including Buildings 1-6, 8, 12, and 13, are vacant. Ocean State Metals has occupied the Mangle/Tenter Room (No. 19) since the mid-1990s.

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9. Major Bibliographical References

See continuation sheet.

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested.
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey #
- recorded by Historic American Engineering Record #

Primary Location of Additional Data:

- State historic preservation office
- Other state agency
- Federal agency
- Local government
- University
- Other -- Specify Repository: RI Historical Society Library, Hope St., Prov., RI

10. Geographical Data

Acreage of Property: 4 acres

UTM References: Zone	Easting	Northing	Zone	Easting	Northing
A	<u>19</u>	<u>297179</u>	B	<u>4632300</u>	
C	<u> </u>	<u> </u>	D	<u> </u>	

See continuation sheet.

Verbal Boundary Description: See continuation sheet.

Boundary Justification: See continuation sheet.

11. Form Prepared By

Name/Title: Edward Connors, Principal

Organization: Edward Connors and Associates Date: 11/2003

Street & Number: 14 Brook Street Telephone: 401-433-2871

City or Town: Barrington State: RI ZIP: 02806

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(*Smith Bosworth*, pp. 209).

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"138-year old Firm to be Liquidated." *Providence Journal* (29 March 1952): 10.

"Frank P. Sheldon Dead at His Home," *Providence Journal* (19 August 1915): 14.

"Jali Buys Plant." *Providence Journal* (16 May 1952): 14.

"Liability Pact is Needed to Permit Dam Change." *Providence Journal* (16 December 1969).

"Mills Machines Go at Auction." *Providence Journal* (5 June 1952): 22.

"Providence Dyeing, Bleaching and Calendering." *Board of Trade Journal* 14 (April 1902): 134

"Providence Dyeing, Bleaching and Calendering: Story of America's Oldest Finishing Plant." *Textile Age* 3 (March 1947): 29-45.

"Providence Dyeing, Bleaching and Calendering: A Fragmentary History." *Daily News Record* (3 March 1947 to 6 June 1947).
(A series of advertisements on the history of the company, on file, RI Historical Society)

Unpublished sources

Accounts, Minutes Books, and correspondence files for PDB&C (1805-1952)
Rhode Island Historical Society, Manuscripts Division.

Kulik, Gary and Julia Bonham. Worksheets for *Rhode Island: A Survey of Historic Industrial and Engineering Sites*. Entry for PDB&C, dated 3 September 1975.

Letters patent for William Smith's differential calendering machine, 1805.

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(The original copy of this patent does not appear in U.S. Patent Office records. Nor is there any reference to this patent in indices for early, unnumbered patents. An 1815 certified copy of the patent is on file at the Manuscripts Division of RI Historical Society.)

License agreement for Columbian Engine between Oliver Evans and Whitney, Hoppin, Bates, and Mason, 1814.
(On file, RI Historical Society, Manuscripts Division.)

Woodward, Wm. Mackenzie. Notes on the life and work of Frank P. Sheldon.
(On file, RI Historical Preservation and Heritage Commission)

Maps and Insurance Drawings

- 1835 M.B. Lockwood, *Map of the City of Providence and the Town of North Providence*
- 1843 M. B. Lockwood, *Smith Bosworth's Estate*, Providence Plat Book 1, p. 61
- 1849 Cushing and Farnum, *Map of the City of Providence*
- 1857 Henry F. Walling, *Map of the City of Providence*
- 1857 Cushing and Farnum, *Plat of Land Owned by PDB&C Co.* (Plat Card 637)
- 1875 Commonwealth Land Title Map, *Part of Ward 8, City of Providence*
- 1875 G.M. Hopkins, *Atlas of the City of Providence and Environs* (also 1882)
- 1889 Sanborn Fire Ins. Map (also 1899, 1900, 1904, 1920, 1921, 1951, 1956, 1963)
- 1895 Everts and Richards, *Atlas of Surveys of Providence County.*
- 1908 L. J. Richards, *Atlas of the City of Providence*
- 1918 G.M. Hopkins, *Plat Book of the City of Providence* (also 1926, 1937)
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- 1953 *Property of Jacob Licht*

(8-86)

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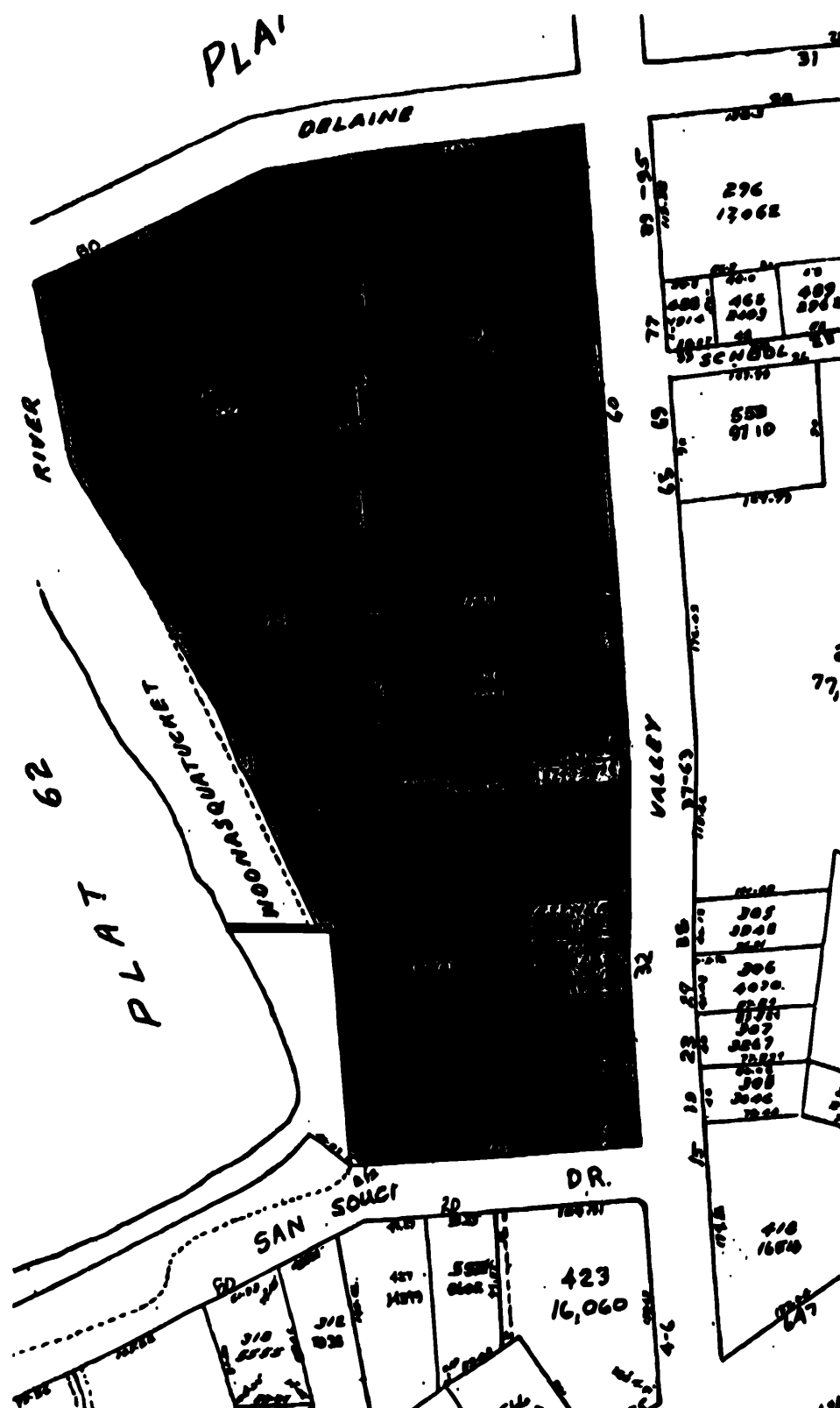
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Geographical Data

Boundary Description

The boundaries of the Providence Dyeing, Bleaching, and Calendering Company are contiguous with Providence Tax Assessor's Plat No. 35, Lots 516, 565, 572, 573, 574, and 571 and coterminous with Paragon Dam No. 139.



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Boundary Justification

The boundaries, comprising about four acres, define all of the Olneyville land historically associated with the Providence Dyeing, Bleaching, and Calendering Company during more than a century of industrial occupancy, adaptation, expansion, and decline. The boundaries include all standing buildings, the Paragon Dam, and the internal cobblestone alley.

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Notes

- 1 Stonework at the same height on the northeast corner also shows evidence of the opposite slope of what appears to be the original roof.
- 2 Sectional views on the 1923 Factory Mutual drawing show a space below the concrete floor of both the Bleach House and Kier Room. Although these views are not scaled, they suggest a space of about 5' to what may be the original ground level. A shortened, bricked-in segmental arch opening on the east wall of the Bleach House provides physical evidence of a raised floor.
- 3 "Gray goods" are fabrics fresh from the loom or knitting machine prior to any finishing treatment. This spelling may be an anglicization of the terms *greig*, *greige*, or *greigh*—all synonymous with gray goods and probably derived from the French *grege*, raw. For example, the Sayles Bleachery in Phillipsdale referred to a comparable room as the "greigh room."
- 4 The Woonasquatucket Reservoir Company was formed in 1906 as a successor to the Woonasquatucket River Company and the Stillwater Reservoir Company. This company included the Atlantic, Bernon, Queen Dyeing, Lymanville, and Centredale Mills.
- 5 Although Whitney and Hoppin were key figures in the establishment of PDB&C, there is no evidence at this point linking this mortgage to the Brown George Paper Mill or to their later ambitions for the property.
- 6 Book 88: Page 340, 1 Jan. 1844.
- 7 It should be noted that an 1837 deed (Providence Land Evidence Records, 71: 186) from Stephen C. Smith to Smith Bosworth refers to the mill as the "late Brown George." This could mean either the loss of the original mill or the fact that paper production was no longer carried out. Olney's Rising Sun Mill (1765) was of stone construction and it is reasonable to assume that the Brown George was of similar construction.
- 8 This was the third rotary steam engine introduced into Rhode Island of the type perfected by Watt in 1782. David Wilkinson of Pawtucket had built a steam engine for his textile operation in 1810 and in 1812 the Providence Woolen Manufacturing Company purchased the first Evans engine. A Newcomen

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engine (reciprocating, not rotary) had been built by Joseph Brown for use at the Cranston ore beds c. 1780. Including transport and installation, the Columbian engine cost the investors \$17,000.

⁹ The new company consisted of: Henry Hoppin, Benjamin Hoppin, T.C. Hoppin, Hercules Whitney, John Mason, Benjamin Dyer, Charles Dyer, Elisha Dyer, Olney Dyer, and Smith Bosworth. Partnership papers, on file RIHS Library, also make mention of a "patent press" with no further explanation of its function.

¹⁰ William T. Davis, *The New England States*, Vol. IV, p. 2560.

¹¹ Smith Bosworth served as agent from 1816 to 1835 (continuing as superintendent until 1841). William Snow succeeded Bosworth as agent until his death in 1872. The last agent was John P. Farnsworth, who purchased the company, became president and introduced a modern management structure after 1907.

¹² "Providence, Dyeing, Bleaching and Calendering Company: Story of America's Oldest Finishing Plant." *Textile Age* 3 (March 1947): 29.

¹³ *The Romance of Rhode Island Industry: Providence Dyeing, Bleaching, and Calendering* (1946)

¹⁴ This company is also listed in business directories as the American-Degras and Chemical Company. The word *degras* derives from the French *gras*, greasy or fatty. Degras implies degreasing.

¹⁵ "Fast color," in this sense, refers to the ability of fabric to retain its dyed color against the influences of repeated washing and exposure to light.

¹⁶ "Mill's Machines Go at Auction." *Providence Journal* (5 June 1952): 22

¹⁷ The bulk of the machinery was purchased by Industrial Products of America (Paterson, NJ) for reshipment to southern mills. The next largest buyer was Sayles Finishing of Lincoln. "Mill, Machines Go At Auction," *Providence Journal* (5 June 1952):