

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name New Pump-House

other names/site number Byrd Park Pump House, VDHR # 127-193

2. Location

street & number 1708 Pump House Drive not for publication N/A
city or town Richmond vicinity N/A
state Virginia code VA county (in city) _____ code 760
zip code 23221

3. 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. I recommend that this property be considered significant _____ nationally _____ statewide X locally. (_____ See continuation sheet for additional comments.)

[Signature] _____
Signature of certifying official Date 10/2/02

Director, Virginia Department of Historic Resources
State or Federal agency and bureau

In my opinion, the property ___ meets ___ does not meet the National Register criteria. (___ See continuation sheet for additional comments.)

Signature of commenting or other official Date

State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is:

___ entered in the National Register _____

___ See continuation sheet.

___ determined eligible for the _____
National Register

___ See continuation sheet.

___ determined not eligible for the _____
National Register

___ removed from the National Register _____

___ other (explain): _____

Signature of Keeper Date of Action

5. Classification

Ownership of Property (Check as many boxes as apply)

- ___ private
- public-local
- ___ public-State
- ___ public-Federal

Category of Property (Check only one box)

- building(s)
- ___ district
- ___ site
- ___ structure
- ___ object

Number of Resources within Property

Contributing	Noncontributing	
<u>3</u>	<u>1</u>	buildings
<u>0</u>	<u>0</u>	sites
<u>0</u>	<u>0</u>	structures
<u>0</u>	<u>0</u>	objects
<u>3</u>	<u>1</u>	Total

Number of contributing resources previously listed in the National Register 3

Name of related multiple property listing (Enter "N/A" if property is not part of a multiple property listing.)
N/A

6. Function or Use

Historic Functions (Enter categories from instructions)

Cat: <u>INDUSTRY/PROCESSING/</u>	Sub: <u>waterworks</u>
<u>EXTRACTION</u>	
<u>RECREATION/CULTURE</u>	<u>music facility</u>

Current Functions (Enter categories from instructions)

Cat: <u>VACANT/NOT IN USE</u>	Sub: <u>waterworks</u>
<u>INDUSTRY/PROCESSING/</u>	
<u>EXTRACTION</u>	

7. Description

Architectural Classification (Enter categories from instructions)

<u>Gothic Revival</u>
<u>Beaux Arts</u>
<u>Italianate</u>
<u>No Style</u>

Materials (Enter categories from instructions)

foundation STONE: Granite
CONCRETE
BRICK
roof STONE: Slate
walls STONE: Granite
STUCCO
CONCRETE
BRICK
other WOOD
METAL: Cast iron, tin

Narrative Description (Describe the historic and current condition of the property on one or more continuation sheets.)

8. Statement of Significance

Applicable National Register Criteria (Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations (Mark "X" in all the boxes that apply.)

- A owned by a religious institution or used for religious purposes.
- B removed from its original location.
- C a birthplace or a grave.
- D a cemetery.
- E a reconstructed building, object, or structure.
- F a commemorative property.
- G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance (Enter categories from instructions)

ARCHITECTURE
ENTERTAINMENT/LEISURE
INDUSTRY

Period of Significance 1881- present

Significant Dates 1881
1905
1924

Significant Person (Complete if Criterion B is marked above)
N/A

Cultural Affiliation N/A

Architect/Builder Cutshaw, Colonel Wilfred Emory

Narrative Statement of Significance (Explain the significance of the property on one or more continuation sheets.)

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9. Major Bibliographical References

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(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

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

Name of repository: Richmond Public Library, Main Branch

10. Geographical Data

Acreage of Property 2 acres

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing	Zone	Easting	Northing
1	18	280,400	4,157,000	3	_____	_____
2	_____	_____	_____	4	_____	_____

____ See continuation sheet.

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Justin W. Gunther, Intern

organization Historic Richmond Foundation date February 8, 2002

street & number 4 East Main Street telephone 804/643-7407

city or town Richmond state VA zip code 23219

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

- Maps
- A USGS map (7.5 or 15 minute series) indicating the property's location.
 - A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs

Representative black and white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of the SHPO or FPO.)

name Richmond Department of Public Utilities

street & number 600 E. Broad Street, Room 831 telephone 804-644-3000

city or town Richmond state VA zip code 23219

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

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NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section 7 Page 1

New Pump-House
name of property
Richmond, VA
county and state

Summary Description

The New Pump-House (historically spelled with a hyphen) is a Gothic Revival building constructed to house the waterworks for the city of Richmond, Virginia. The waterworks consist of the original three-part 1883 building and an attached 1905 annex. The upper story of the 1883 building was originally an open-air pavilion, which was enclosed in 1899 with latticework stained glass and wood trim. The first story housed the pumping machinery, which was scrapped and sold before WWII. The one-story, L-shaped annex is attached to the southwest corner of the main building. The steep pitch of the roof, projecting gables, Gothic arches, and lancet windows of the addition match exceptionally well with the original pump house. Both are constructed of local granite. Also constructed of local materials, the roof is slate, window frames are cypress, and flooring and doors are pine. Majestically situated on an embankment between the Three-Mile Locks of the James River and Kanawha Canal and the Pump House Canal, the building speaks of a romantic age. Its picturesque, wooded setting and medievalism remind us of a Victorian time when beauty in construction was honored and scenic public entertainment was enjoyed. Although windows and doors are boarded up, the magnificence of the building and its surroundings have been maintained, and the New Pump-House is still a sightseeing destination. Three additional buildings are located within the boundaries of the property being nominated. Just east of the New Pump-House is the 1924 Hydro Electric Pumping Station. The Beaux Arts pump house is constructed of brick, concrete, and stucco. East of the 1924 waterworks is the Worthington Steam Pump Building. Erected in 1881-1882, this one-story Italianate pump house is built of brick coated with stucco. Its hipped roof is covered with slate shingles. Circa 1970, the Department of Public Utilities built a brick administrative office building just northeast of the Worthington Steam Pump Building. The office building is a noncontributing resource for the property. The Hydro Electric Pumping Station and the Worthington Steam Pump Building are still well-maintained, functioning pump houses, and the office building is an occupied facility.

Detailed Description

The New Pump-House was constructed from 1881 to 1883 of local granite that was extracted from the site and other local quarries belonging to James Netherwood along the James River. Richmond's granite was of national significance as a building material at the turn of the century. The stonework of the walls and foundation is random ashlar and is testimony to the workmanship of the builders. The 1883 New Pump-House is a symmetrical, three-part, "I" plan building, which consists of a long central mass flanked by two perpendicular wings. The pavilion, offices, and bathrooms are on the upper story of the building, and the machine room is on the lower story of the New Pump-House. Slight setbacks occur at the intersection of the foundation and first story and first and second stories. The pavilion forms the central part of the building on the upper story. The wings at each end possess steeply sloped cross-gables crowned with flat-topped pinnacles. The slate roof is also steeply pitched, and a few rows of imbrication are present halfway up. A cast-iron, decorative cresting originally lined the ridge of the roof, but is now missing.

The pavilion has a Gothic arcade of six Tudor arches on its north and south sides. The bays of the two terminal arches are less wide than the four central ones, making these more pointed. Each arcade has seven columns of cast iron, and

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Description (continued)

the railings of zinc-coated tin are a series of Gothic arches. The builders also used tin to construct the spandrel panels. In 1899 the pavilion was enclosed with glass and wood trim. This allowed year-round events and prevented rainwater leakage into the machine room through the floor. Yellow and orange stained glass filled the latticework of the arches. Only the north façade of the building retains the enclosure, and much of the glass has been broken.

Lancet windows are common to all facades of the building, including the annex. The east and west elevations of the 1883 building have three bays of double lancet windows on the upper story. The first floor follows this pattern, but the southwest and southeast bays possess Gothic-arched doorways. The south façade overlooks the Three-Mile Locks, the James River and Kanawha Canal, and the James River and has five bays of double lancet windows on the machine room level. On the wings, the pavilion story of the south elevation has double lancet windows. Each gable has an arrow loop, adding ventilation and a decorative element. On the first story of the wings, the architect incorporated triple lancet windows in the design with the arches of the central windows rising slightly higher than those of the two side windows. The pavilion story of the north façade is identical to that described for the south. However, to create the necessary waterpower to drive the water wheels, the Pump House Canal was dammed off at the far east side of the building. The waterline was level with a walkway that wraps around the north façade of the building. This walkway is just below the upper course of the building, so the lower story of the New Pump-House is below ground/water on its north façade. Another evident difference between the south and north is the greater protrusion of the wings on the south.

The symmetry of the New Pump-House was disrupted with the 1905 addition of the annex. Nevertheless, the addition of the annex is testimony to the medieval philosophy of form following function. With this ideal, symmetry can be ignored when extra space is needed. In order to produce extra pumping power for a burgeoning city, the annex was constructed to house power-generating equipment. The L-shaped annex covered up the southwest doorway of the 1883 building, creating new entranceways through the annex. The "leg" of the annex possesses four bays of single lancet windows on the south side. The north side has three bays plus a doorway in the bay furthest east. The north elevation of the "base" of the annex has a triple lancet window, and the south and west elevations have central Gothic-arched doorways with lancet windows on either side. The gables of the annex's "base" have double lancet windows. A unique component of the annex is a heavy bracketed parapet on the north wall. Also, the annex once had a tall smokestack in its northwest corner.

The interior of the 1883 New Pump-House is composed of a machine room on the first floor and a pavilion, lavatories, and offices on the second floor. The cavernous machine room once held the works' three huge waterwheels and pumps. Water entered the building through three penstocks, or openings, on the north wall. This water spun the turbines of the pumps and was then carried out through tunnels to the canal on the south side. The pumps then cranked water into a central pipe that ran from the building to the Byrd Park reservoir. These machines were scrapped and sold to the Japanese before World War II. The machine pits today are filled with water, and James River Park

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uses them to store remains of wooden bateaux found in the canal. The only machinery that remains in this room is a rising stem valve in the northwest corner. This mechanism controlled the water flow from the canal to the pumps. A rather ornate cast-iron spiral staircase at the east end of this room goes up to a catwalk that was originally used to service and grease the joints. The metal trusses that support the pavilion floor are exposed on the ceiling of the machine room. The wooden flooring has long been removed, and the floor is now simply granite stone and earth.

Stairs at the southern corners of the machine room give access to a suspended catwalk from a landing halfway up. Pump-House workers could observe and pavilion visitors could admire the machinery from here. Continuing up the stairs, one can enter the pavilion. Powder rooms were located at each end of the pavilion with one for gentlemen on the west and one for ladies on the east. These have long been out of service, and the east room was last used as an office and storeroom for maps. The rooms have floor-to-ceiling lancet windows that open onto the pavilion. Plaques were located on the east and west walls but are now missing. Researchers have yet to determine the inscriptions on these plaques. Much of the woodwork remains inside the pavilion, including window and cornice moldings. The pine floor was originally painted gray, and volunteers recently repainted it for protection and to cover graffiti. The ceiling is flat rather than vaulted, and the skeletons of the original electric chandeliers still exist. Large wooden trusses span the open dance floor and office spaces to support the pine board sheathing and slate of the roof.

The annex consists of a boiler room and a hydroelectric room. Entrances on the west and south lead into the boiler room of the annex. The tall smokestack for the boilers has been reduced to a pile of rubble, and the boilers no longer remain. The hydroelectric room held steam-powered and water-powered turbines which were also scrapped. This room currently houses a small exhibit of miscellaneous relics that have been discovered at the New Pump-House. The floors of the annex are earth, and ceilings are vaulted.

After its abandonment in 1924 the New Pump-House suffered from neglect. A tornado damaged the roof, and leaking water and vandalism have contributed to the building's decline. In the early 1980s, the city repaired part of the roof as a retirement present for Howe Todd, an Assistant City Manager who campaigned for the canal's restoration. Nevertheless, many of the roof trusses are currently rotting. According to structural experts, the condition of the roof is critical. Volunteers from Friends of the Pump House and Friends of James River Park have worked hard to stabilize the building. They raised money for renovations, removed graffiti, boarded up the windows to prevent further breakage, and attempted to secure the roof.

Overall, the New Pump-House has retained its integrity through time. The building lacks its machinery, but the pumps were not what made this building unique. Granted, they were instrumental in improving water availability to Richmond's citizens. However, the New Pump-House's social history gives the utility building a distinctive significance. The combination of a pavilion, or entertainment venue, and a waterworks makes the New Pump-House a unique historic resource. The beauty of the setting has also been maintained. The New Pump-House and Three-Mile Locks were originally described by George W. Bagby in *The Old Virginia Gentleman* of 1910 as "a pretty place,

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as everyone will own on seeing it." Richmonders continue to visit the park to walk along its wooded trails and admire the Gothic splendor and serenity of the New Pump-House.

Two additional pump houses are located along the James River and Kanawha Canal just east of the New Pump-House. Directly beside the New Pump-House is the Hydro Electric Pumping Station. Built in 1924, the building replaced the New Pump-House as the principal water pumping facility for Richmond. Constructed of brick, concrete, and stucco, the Hydro Electric Pumping Station is fireproof throughout. The building has a flat roof with a parapet wall and is placed on a high concrete foundation. The Pump House Canal, which flows on the north side of the building, is dammed off at the second bay from the northeast corner of the building. A concrete walkway, at the top of the foundation, wraps from this point around the north and west facades of the Station. When the dam is closed, the waterline of the Pump House Canal is level with the walkway. Water entered the building through openings in the foundation on the north side to spin water wheels and generate power. Designed in the Beaux Arts style, the building has five bays of arched windows on the north and south sides, and three bays on the east and west sides. The two bays farthest east on the south side of the building are without windows, the arched openings filled in at a later time with concrete. On the west side of the building, only the central bay has a window. This window does not extend to the top of the foundation like the rest, for a doorway from the concrete walkway provides access into the building. A doorway also exists in the foundation on the west side of the building. Since the Pump House Canal wraps around the west side of the Station and empties back into the James River and Kanawha Canal, a bridge provides access to this doorway. Other decorative elements of the building are a large cartouche centered on the parapet wall and quoins. The plant maintains all its original pumps—two water wheels that connect to electric generators and three electrically operated pumps. The electrically operated pumps still function and are used to pump water into the Byrd Park Reservoir.

The Worthington Steam Pump Building was constructed at the same time as the New Pump-House. Built from 1881 to 1882, the one-story building is brick coated with stucco and has a hipped slate roof. Built in the Italianate style, the building has arched windows and doors. The building was constructed to house a H. R. Worthington Company steam pump. The Brooklyn company had exhibited the pump at the Philadelphia Centennial Exposition of 1876, so it was highly finished and of superior workmanship. An addition to the east side of the building was built in 1908-1909 to house four electric-driven centrifugal pumps. Before this addition, four smokestacks were present on the east side of the building for the boilers of the steam pump. The Worthington steam pump was eventually put out of service in 1912 after its boilers were removed to make room for two additional electric-driven centrifugal pumps. The 1881-1882 part of the building has four bays of windows on its west facade and eight bays of windows and doors on its north facade. From east to west, the second, fifth, and eighth bays on the north side of the building have doorways. The third and sixth bays on the north side are filled in, lacking windows or doors. The remaining bays possess double-hung windows, each sash having four panes. The 1908-1909 addition is slightly stepped back from the original building on the north side but is flush on the south side. The addition has three bays of windows on the east façade. From east to west, the north façade of the addition has a doorway below windows in the third bay and

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windows in the remaining bays. Since the addition is flush with the original building on the south side, the building possesses twelve bays on this façade. From east to west on the south façade, the third bay is filled in, a doorway exists in the sixth bay, and windows are in the remaining bays. A square smokestack projects from the building between the fifth and sixth bays. The electric-driven pumps of the building were updated in the 1930s and continue to pump water to neighborhoods on the south side of the James River. A small, granite rubble coal shed exists on the north side of the Worthington Steam Pump Building. This building was likely constructed in the early 1880s. A tin roof with skylights covers the shed. The shed is not considered in the resource count because it is a minor building in size and significance.

A noncontributing building exists near the northeast corner of the Worthington Steam Pump Building. Constructed circa 1970 of red brick, the building houses offices for the Department of Public Utilities. The irregular plan building has a one-story part with a flat roof cater-cornered to the northeast corner of a two-story part with a gable roof.

Statement of Significance

The New Pump-House, or the Byrd Park Pump House, is an excellent example of Gothic Revival architecture. Completed in 1883, the building was designed and constructed by Colonel Wilfred Emory Cutshaw, who served as Richmond's City Engineer from 1873 until his death in 1907. Cutshaw was an exceptional figure in Richmond planning and architecture, and his vision helped create a city of coherence and beauty. Thus, the New Pump-House meets National Register Criterion C in the area of Architecture as the work of a local master and as an outstanding component of Richmond's Gothic Revival style. An integral part of the waterworks' history, the building was constructed to pump water from the James River and Kanawha Canal into a reservoir in Byrd Park. The scenic location of the New Pump-House at the Three-Mile Locks of the canal system inspired Cutshaw to create the unique combination of a waterworks and dancehall pavilion. Therefore, the building served the citizens of Richmond in two capacities: its machinery supplied the growing city with water and its pavilion gave Richmonders a picturesque scene for entertainment. National Register Criterion A is satisfied in the areas of Entertainment/Recreation and Industry because the New Pump-House is important to local history and culture. The New Pump-House served as a waterworks from 1883 to 1924. No record has been found to document the last event held in the building's pavilion. Three additional buildings exist within the boundaries of the property being nominated. In 1924, the Hydro Electric Pumping Station was constructed beside the New Pump-House. The Station replaced the New Pump-House as the principal pump house for the city. To the east of the Hydro Electric Pumping Station is another pump house, the Worthington Steam Pump Building of 1881-1882. Both the Hydro Electric Pumping Station and the Worthington Steam Pump Building continue to serve as water pumping facilities. They contribute to the history of Richmond's waterworks and meet National Register Criterion A in the area of Industry. The third building, circa 1970, houses offices for the Department of Public Utilities and is noncontributing.

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Statement of Significance (continued)

Historical Background:

Richmond's waterworks have their beginning with wooden pipes, laid at private expense, that carried water to citizens' houses from Richmond's numerous springs and the open stream that flowed from the Capitol across Main Street. Wells were also dug at street corners for general use and fire protection.¹ In April 1828, a petition was made to the City Council to construct iron pipes for the purpose of conducting water. On January 29, 1829, the General Assembly passed an Act authorizing the City of Richmond to provide water via iron pipes to any streets upon the petition of two-thirds of the property owners. This is the first time authorization was given to the city to construct a water distribution system.² Richmond was growing rapidly, and by the following spring the demand for a general supply of water was urgent. A petition was introduced into City Council asking that plans and estimates be obtained "through a skillful, practical, and experienced Civil Engineer for introducing our City an abundant supply of good and pure water for all purposes."³ Albert Stein of Petersburg was procured to propose a plan, and an ordinance was passed on July 20, 1830, entitled "An Ordinance providing for watering the City of Richmond, authorizing the appointment of Commissioners for that purpose, and describing their duties, and for other purposes."⁴ The Watering Committee began to carry out the plans of Albert Stein, selecting a site for a dam and reservoir (the Marshall Reservoir) and proceeding with the construction of the first pump house in the vicinity of Hollywood Cemetery.

An experienced engineer, Albert Stein had provided Richmond with a good design for the waterworks; however, the city was inexperienced and lacked the knowledge to effectively run the public utility. The distribution system was inadequate from the start, the machinery was over-taxed, and the regulations for the works were constantly undergoing revisions. For the next forty years few improvements were made, however, and dissatisfied Richmonders complained their water was neither "sweet nor pure."

In an attempt to better the water service to Richmonders, Superintendent of the Water Works James L. Davis recommended and executed additions to the Hollywood Plant, with the last addition occurring in 1872.⁵ However, it wasn't until 1874 that the city saw real advancements. Work finally began on a much-needed new reservoir on March 18, 1874, under the direction of the City Engineer, Colonel Wilfred Emory Cutshaw. Mr. Charles E. Bolling, Assistant to Cutshaw, was put in charge of the project. The reservoir began its service in January of 1876. The distribution system was then divided. The Marshall Reservoir supplied the lower portion of the city and the New Byrd Park Reservoir the higher portion.⁶

To provide for future growth, efforts were made to secure hydropower from the James River and Kanawha Canal. The city was able to reach an agreement with the James River and Kanawah Canal Company on March 3, 1880, two days before the canal was sold to the Richmond-Alleghany Railroad Company. This agreement allowed the city to divert water from the canal around the Three-Mile Locks. The fall of the water could generate power to pump water into the Byrd Park Reservoir.⁷

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Statement of Significance (continued)

City Engineer, Colonel Cutshaw, was authorized and instructed to build the new pumping station. The building was designed in the Gothic Revival style. Once again, Cutshaw put Mr. Charles E. Bolling in charge of the work, which began in 1881. The building was constructed of granite from local quarries along the James River. Much of the stone used in building the New Pump-House was from the quarries of James Netherwood. Granite from these quarries was also used in Richmond's Old City Hall of 1894 and the State, War, and Navy Building of 1888 in Washington, D.C.⁸ This material is exceedingly hard and expensive to work but creates a solid building. Three huge triplex pumps, geared to what were called partial turbines, were placed in the pump house. Each pump shaft had a diameter of fourteen inches and a stroke of six feet. They were set vertically and were single acting. The nominal capacity of each set of three was four million gallons per day when operated at twenty strokes per minute. Horizontal turbines replaced the partial turbines which had proven to be a failure.⁹ The New Pump-House commenced full service on May 4, 1883. Isaac M. Tomlinson was the first Superintendent of the Pump Houses, and he and his men serviced the works. The pumps at the New Pump-House ran twenty-four hours a day, stopping only for repairs, low river levels, or ice during winter months.¹⁰

After the New Pump-House was completed, the city had sufficient power to supply the average daily consumption of 9,250,000 gallons of water per day.¹¹ The Hollywood Plant, the New Pump-House, and a steam pump housed in a station in close proximity to the New Pump-House were now available to provide Richmonders with running water. The steam pump was purchased from the H. R. Worthington Company of Brooklyn and put in service on October 10, 1882. This pump had been exhibited at the Centennial Exposition of 1876 in Philadelphia and was of exceptional workmanship and quality. The city acquired the steam pump to function as a reserve source of power for the waterworks. The Worthington Steam Pump Building was erected from 1881-1882 of brick and stucco with a slate roof. Superintendent James L. Davis, in his *Annual Report* of 1881, had recommended the purchase of a steam pump because "plenty of indispensable water . . . is too essential for the health, comfort, and safety of the city."¹²

After the death of Mr. J. L. Davis in 1885, Mr. Charles E. Bolling was elected to the position of Superintendent of the Water Works, a position he held until 1907.¹³ In 1891 the partial vertical turbine wheels of the three pumps were removed and replaced with 40-inch double turbine wheels of Leffel design. Superintendents Bolling and Tomlinson greatly admired the Leffel water wheels for their "perfect satisfaction."¹⁴ However, Bolling is most remembered for his efforts in improving the City's water quality. Much of his career was devoted to constructing large settling basins to clear the water by sedimentation. Professor J. W. Mallet of the University of Virginia and Dr. E. C. Levy of the Medical College of Virginia (also Richmond's first Chief Health Officer) were employed to conduct chemical and bacteriological tests, respectively. Along with Bolling, they advised the construction of subsiding and coagulating basins for the improvement and clarification of the city's water. Actual work on the construction of the basins began in 1903, and the first water was drawn off on December 22, 1909. Dr. Levy believed that "Mr. Bolling's plan would serve to eliminate some causes of disease in the City" and vigorously supported the construction efforts.¹⁵ The long delay occurred because of extremely cold winters, wet summers, and lack of labor.

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Statement of Significance (continued)

By 1903, the cemeteries above the Old Pump House at Hollywood were rapidly filling up. A fear of water contamination, the fact that the new coagulating basins being constructed were located a mile upstream from the new works, and the abundance of unused waterpower at the new works spurred Bolling to ask the city to "abandon the Old Pump-House, make additions to the New Pump-House, and install an up-to-date pumping plant at this station. All our citizens would have the same class of water, and for all to have the benefit of the improved water from the basins being built, these additions to the New Works are necessary."¹⁶ However, the Old Pump House was not abandoned until 1909.

In the meantime, Bolling had to compensate for the city's rapid expansion in the Lee District. Special appropriations to the Water Works in 1903 were used to construct a standpipe, or water tower, and annex to the New Pump-House. The annex, finished in 1905, was described as "a substantial building of broken range granite masonry" and housed a 200 hp McCormick turbine, 200 hp electric generator and exciter, a 200 hp Harrisburg engine, and 200 hp Babcock & Wilcox boilers, and a second 200 hp generator and exciter, wiring, switchboard, etc. and a complete electric plant for lighting all buildings and the stand pipe. This was the city's first electric plant, and power was transmitted over a pole line of about a mile to electric motor pumps located in a small brick building under the standpipe. Those pumps sucked water from the Byrd Park Reservoir and stored it in the water tower. Steam pipes from the boilers in the annex were also run to the penstocks of the water pumps in the main building. This steam was useful in freeing the wheels of ice.¹⁷

E. E. Davis became Superintendent of the Water Works in 1908.¹⁸ That same year more pumping capacity was installed at the New Works. An addition to the Worthington Steam Pump Building was built to house four centrifugal pumps. The Municipal Electric Plant replaced the Old Pump-House and powered these new pumps. That plant also created electricity for streetlights and public buildings.¹⁹ The Municipal Electric Plant did not go into full service until 1911. The Annex of the New Pump-House and some electricity from the unfinished Municipal Plant partially powered the centrifugal pumps in the meantime.²⁰ The boilers of the Worthington steam pump were removed in 1912 to make room for two new Jeanesville motor-driven, three-million gallon pumps that supplied water to the standpipe directly from the settling basins. Instead of replacing the ones already present under the standpipe, the Worthington pump's boilers were compromised. The steam pump had loyally served the city and was never put back in service.²¹

The waterworks at the New Pump-House were supplying the entire city in 1911. Service to South Richmond, on the opposite side of the James River, was completed in 1914. As the city annexed surrounding areas, the New Pump-House and waterworks expanded its services. Pump houses in these new sections of the city were abandoned, their machinery sold.²²

The New Pump-House and waterworks became a component of the newly formed Bureau of Gas and Water Distribution of the Department of Public Utilities in 1919. The Bureau was placed under the direction of

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Mr. William Lawton, Jr. The new Bureau faced great public discontent resulting from the quality of the water being supplied. "Unsatisfactory in taste and smell," the water was safe to consume but contained so much chlorine that it was not palatable to drink. The low altitude of the reservoir caused insufficient water pressure in certain sections of the city. The sewer system needed expanding, which would require extra water. Money, labor, and materials became available in 1921.²³ The years 1922 to 1924 saw the construction of an Auxiliary Pumping Plant/Pressure Boosting Station in Byrd Park beside the reservoir; a filtration plant to replace the basins; and a Hydro Electric Pumping Station. The filtration plant was located in Korah, Virginia, which is on the James River one mile west of the New Pump-House. The railroad frequently named mile markers and assigned the name Korah to the one located at the filtration plant.

Water was redirected from the New Pump-House to the Hydro Electric Pumping Station, which began full service on September 1, 1924.²⁴ This new building housed two water wheels, each of 900-horsepower capacity, that drove electric generators. In addition, three electrically operated pumps of a combined capacity of 50,000,000 gallons per day pumped water to the Byrd Park Reservoir.

The efficiency of the new machinery in the Hydro Electric Pumping Station made the New Pump-House obsolete. The pumps in the New Pump-House were not used after 1924 and were sold as scrap to the Japanese just before World War II.²⁵ In the 1950s, the city slated the New Pump-House for demolition but sold it to the First Presbyterian Church for \$1. Since then, the ownership has reverted back to the City of Richmond.²⁶ Presently, the New Pump-House is vacant. The other two pump houses, on the other hand, still supply water to the city. All the original machinery remains in the Hydro Electric Pumping Station, and the building's electric pumps are used to help fill the Byrd Park Reservoir. The motor-driven pumps in the Worthington Steam Pump Building were updated in the 1930s and pump water to neighborhoods on the south side of the James River. The brick office building, circa 1970, continues to house offices for the Department of Public Utilities.

To conclude the historical background, it is important to discuss the New Pump-House's pavilion. Colonel Cutshaw originally received criticism for the additional construction costs the open-air pavilion would impose on the city. Nevertheless, he succeeded with his plans and united pleasure with utility. The New Pump-House became a popular scene for "pleasure parties." The Superintendent of the Pump House and his men took great pride in the maintenance of the pavilion and grounds surrounding the New Pump-House. The pump house received fresh coats of paint nearly every year, and constant improvements to the yard gave the surroundings a "neat appearance." Heavy rains caused the water to leak through the floor of the pavilion onto the machinery in the room below. Glass and woodwork for enclosing the pavilion were purchased in 1898 from Whitehurst and Company and installed in 1899.²⁷ Both C. E. Bolling, Superintendent of the Water Works, and Alexander Delaney, Superintendent of Pump-Houses, felt this was "a great improvement and protection to the machinery room, as the present floor of the pavilion is the only covering to this room, and it is next to impossible to prevent its leakage. It will also be most attractive to pleasure parties, as it can be used at all seasons, and under all conditions of weather."²⁸ The building was also electrified in 1898. Pulleys and

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belts connected with one of the pump's turbine shafts ran the dynamo. The Virginia Electric Construction Company supplied this equipment. Thirty incandescent lamps were installed in the pump room, two arc lamps in the pavilion, and one arc lamp outside on the north side of the forebay.²⁹

The Dolly Vardon Line operated several towboats drawn by mules for a ride up the canal to the New Pump-House. Party-going Richmonders could board a canal boat, especially the *Rosebud*, at Seventh and Canal Streets. Pat Belton would drive the mule and slowly carry the eager passengers up the canal to the Three-Mile Locks, the site of the New Pump-House. The nation's first successful electric trolley system began in Richmond in 1888, and could take dancers as far as the New (Byrd Park) Reservoir. The reservoir had become a popular destination for Sunday strolls and summer leisure. Dancers could walk the short distance from Byrd Park to the New Pump-House for the evening's entertainment. As time passed, the trolley and the towboat lost their fascination. People preferred to drive to the New Pump-House through the winding roads of Byrd Park. The City devoted extensive time and money to the beautification of the park, and "driving faster than six miles per hour was positively forbidden."³⁰ No one is sure when the last event was held in the pavilion.

Architectural Significance:

The Gothic Revival style was popular in Richmond during the second half of the 19th century and early 20th century. The 1848 Second Presbyterian Church at 13 North 5th Street is Richmond's earliest Gothic Revival church and numerous others were built afterwards in the medieval style. The cast-iron pavilion covering the Hollywood Cemetery Tomb of James Monroe was erected in 1859 and is an exquisite example of the incorporation of Gothic Revival in cemetery ornament. Richmond's Old City Hall (1887-1894) designed by Elijah Myers and built by Colonel Cutshaw, was a symbol for Richmond's resurgence after the Reconstruction era and is a "Gothic fantasy."

As Calder Loth writes in *The Only Proper Style*, "When cities were young and raw and generally monotonous, the demand for picturesque relief, preferably of a historic [Gothic] flavor, was at its greatest. Conspicuous public facilities, such as firehouses and water towers, provided an excellent opportunity for the creation of imaginative architectural eyecatchers." As city engineer, Colonel Cutshaw might have looked to cities like Philadelphia for this kind of inspiration. The Fairmount Park standpipe (demolished 1932) incorporated Gothic motifs to embellish a public utility. The pipe was supported by a buttressed masonry base and encircled by a winding staircase that led to an observation platform, making a joy of necessity.³¹ Following examples like this, Cutshaw accepted the Gothic Revival style for the design of the New Pump-House, also uniting pleasure with utility. Cutshaw had also gained a fondness for Gothic Revival architecture while he was a student at VMI. He would extensively promote this picturesque style in his position as City Engineer, using castellated forms for his First Battalion Virginia Volunteers' Armory of 1895, Richmond's Howitzers' Battalion Armory of 1895 (demolished), and the First Regiment Cavalry Virginia Volunteers Armory of 1895 (demolished).³²

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Setting separates the New Pump-House from Richmond's other Gothic Revival buildings. The rusticated granite and pointed arches of the waterworks set in a rural location with views of the canal and James River continue to excite romantic-minded Richmonders. As Andrew Jackson Downing, America's first important landscape gardener, wrote of the Gothic style, "To the man of taste, there is no style which presents greater attractions, being at once rich in picturesque beauty, and harmonious in connection with the surrounding forms of vegetation."³³ The use of medieval forms brought a touch of fantasy to Richmond, enchanting the eyes and exciting the imaginations of the New Pump-House's visitors.

The building's high style also contributes to the New Pump-House's significance. Constructed of local granite, the substantial structure is evidence of the stonemason's skill and strenuous labor. The imbrication and steep pitch of the roof, pointed gables, lancet windows, arrow loops, pointed arches of the doors and pavilion's arcade, and the Gothic detailing in the pavilion's columns, banisters, and lattice windows all contribute to making the New Pump-House a brilliant example of the Gothic Revival style.

The 1905 annex to the New Pump-House was constructed of the same materials and stylizations, blending exceptionally well with the original building. Adding some asymmetry to the building, the annex carries on the medieval tradition popular in castle and cathedral construction. Unlike classical architecture, which is bound to the principles of symmetry, the Gothic style allowed asymmetrical additions when more space was needed. When the annex was built to provide power for the new standpipe, the New Pump-House's medievalism was enhanced.

Architecturally, the other two pump houses are not as significant as the New Pump-House. However, they contribute two additional styles, enriching the architectural diversity and beauty of the property. With its segmentally arched window tops, the Worthington Steam Pump Building can be classified as Italianate. This style was popular in Richmond residential and commercial architecture at the time of the building's construction in the 1880s. The Hydro Electric Pumping Station was built in the Beaux Arts style. The building's symmetry, ornamental keystones, arched windows, quoins, and cartouche make the classically inspired pump house exceptionally pleasing.

History of the Architect/Builder:

The main source for information on Colonel Wilfred Emory Cutshaw is Selden Richardson's master's thesis entitled *Architect of the City: Wilfred Emory Cutshaw (1838-1907) and Municipal Architecture in Richmond*. According to Richardson, "the layout of the city's roads, the arrangement of many of its foremost public spaces, the ambiance of the tree-shaded streets, and to a large extent, the architectural program of many important buildings are the creation of the mind of one person." The so-called "architect of the city," Colonel Wilfred E. Cutshaw held the post of City Engineer from 1873 until his death in 1907. His influence on the planning of the City of Richmond persists one hundred years after his death.

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The son of a farmer, Cutshaw was born on January 25, 1838, at Harper's Ferry, Virginia. After preparation at home and at a local academy, Cutshaw graduated from the Virginia Military Institute in 1858. Until he resigned in 1861 to join the Confederate army, Cutshaw was an instructor at the Hampton Military Institute.

Cutshaw rose through the ranks of the Confederate army rapidly, becoming a Colonel of Artillery in 1865. He suffered severe wounds at the Battle of Winchester in 1862 and was paroled in early 1863. As he healed, Cutshaw served as Acting Commander of Cadets at the Virginia Military Institute. In the fall of 1863 Cutshaw returned to the War and was again wounded in 1864 at the Battle of Spotsylvania. On April 1, 1865, an artillery shell shattered Cutshaw's leg while he was observing the movement of his troops at the Battle of Saylor's Creek. Cutshaw's leg was amputated, and his military record was called "one of the most gallant and self-sacrificing service." Cutshaw's Battalion was also noted to be "one of the most serviceable and famous in the artillery arm of the Confederate forces."

After the war he returned to V.M.I. and by 1868 was chair of civil and military engineering for the school. With the death of Charles H. Dimmock in 1872, the Richmond City Council elected Colonel Cutshaw the new City Engineer on June 23, 1873. Thus began Cutshaw's thirty-year term, and "through the power of his office and the determination of his will" he greatly influenced Richmond's development.

Cutshaw's important municipal projects included schools, armories, parks, markets, and the construction of City Hall. The 1880s saw an overcrowding of schools, and Cutshaw responded with a campaign that led to some of the "most durable and stylistically coherent group of buildings of the period." Cutshaw's castellated armories were attractive and functional additions to Richmond, and his Marshall Street Market provided citizens with a necessary public space. His interests in public parks created a much more livable city. As stated in the December 20, 1907, issue of the *Richmond Times-Dispatch*, "His greatest ambition was to turn every available foot of space into recreation resorts for the public." William Byrd Park, Chimborazo Park, Jefferson Park, Gamble's Hill Park, Marshall Square, Monroe Square, and many others were created by Cutshaw and continue to serve Richmonders today. Cutshaw promoted tree-lined streets, and he established a tree nursery at the Byrd Park Reservoir to facilitate this goal. His design for the grid of the city; the systematic plans he presented for laying of sewer, water and gas lines; and his recommendations for paving of sidewalks, gutters, and roads all contributed to a successful and comfortable Richmond.³⁴

Always planning for the public's well being, the New Pump-House is a perfect example of his ideals. Not only did he improve the city's water distribution system, but he also provided a site for entertainment. Cutshaw's obvious interest in the welfare of Richmonders motivated him to dedicate his life to improving his city. An anonymous testimonial from the December 20, 1907, issue of the *News Leader* provides a good conclusion to the story of Cutshaw's influence during his term as City Engineer:

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We believe that time will vindicate some of his policies and methods to which many of us most seriously objected. We think that the future will show that, quiet and reserved as he was, he was a far-seeing enthusiast, and was planning and thinking of a far greater city than most of us can dream of. Years hence his work and purposes will be appreciated and people will realize his wisdom.³⁵

Conclusion:

The New Pump-House is a building of historical significance in relation to the city's public utilities and entertainment facilities. A beautiful example of Richmond's Gothic Revival, the high style of the waterworks makes it an exceptional component of Richmond's historic canal system. Built by a master City Engineer, Colonel Cutshaw created a lasting structure that will hopefully be brought back to life to entertain current and future Richmonders. The Hydro Electric Pumping Station and the Worthington Steam Pump Building also contribute to the history of Richmond's waterworks and, remarkably, still serve the city as pump houses.

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7. Paul Murphy, *Richmond and Its Historic Canals* (Richmond, Reynolds Metals Company, Packing Division, 1971), 71.
8. Elizabeth Barnett, interview by author, Richmond, Virginia, 11 October 2001.
9. George H. Whitfield, *Story of the Water Works and Annual Report 1930* (Richmond, The William Byrd Press, Inc., 1930), 62.
10. *Annual Report of the Superintendent of the City Water Works to the Mayor of the City, for the Fiscal Year Ending January 1, 1885* (Richmond, Walthall & Bowles, Printers, 1885).
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16. *Annual Report of the Superintendent of the City Water Works to the Mayor of the City, for the Fiscal Year Ending December 31, 1903* (Richmond, O. E. Flanhart Printing Co., 1904), 5-7.
17. *Annual Report of the Superintendent of the City Water Works to the Mayor of the City, for the Fiscal Year Ending December 31, 1905* (Richmond, Clyde W. Saunders, City Printer, 1906).
18. George H. Whitfield, *Story of the Water Works and Annual Report 1930* (Richmond, The William Byrd Press, Inc., 1930), 73.
19. *Annual Report of the Superintendent of the City Water Works to the Mayor of the City, for the Fiscal Year Ending December 31, 1908* (Richmond, Clyde W. Saunders, City Printer, 1909), 6.

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20. *Annual Report of the Superintendent of the City Water Works to the Mayor of the City, for the Fiscal Year Ending December 31, 1911* (Richmond, Clyde W. Saunders, City Printer, 1912), 5.

21. *Annual Report of the Superintendent of the City Water Works to the Mayor of the City, for the Fiscal Year Ending December 31, 1912* (Richmond, Clyde W. Saunders, City Printer, 1913), 5.

22. *Annual Report of the Superintendent of the City Water Works to the Administrative Board for the Year Ending December 31, 1914* (Richmond, Clyde W. Saunders, City Printers, 1915); *Annual Report of the Superintendent of the City Water Works to the Administrative Board for the Year Ending December 31, 1915* (Richmond, Richmond Press, Inc., Printers, 1916).

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26. Christina DeNardo, "The Pump House: Tour an effort to restore interest in 119 years of history," *Richmond Times-Dispatch*, 31 July 2001.

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28. *Annual Report of the Superintendent of the City Water Works to the Mayor of the City, for the Fiscal Year Ending December 31, 1898* (Richmond, O. E. Flanhart Printing Co., City Printers, 1899), 6.

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Verbal Boundary Description

The New Pump-House, Hydro Electric Pumping Station, Worthington Steam Pump Building, and Department of Public Utilities' office building are part of the property parcel described by the City of Richmond with the City Map Reference Number W0000879030 and Map GPIN Number 99900003.

Boundary Justification

The boundaries were selected as the parcel described in the Verbal Boundary Description because they contain the buildings being nominated.

Photographic Index

The following information is the same for all photographs:

Property: New Pump-House or Byrd Park Pump House, DHR File #127-193
Location: 1708 Pump House Drive, Richmond, Virginia 23221
Photographer: Justin W. Gunther
Date: February 8, 2002
Negative filed at: Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, Virginia 23221
Negative file number: 19682

List of photographs:

- 1 of 23: North side of the 1905 annex.
- 2 of 23: North side of the New Pump-House looking east up Pump House Canal.
- 3 of 23: Leg of 1905 annex looking east toward the machine room. The arched doorway was one of the original entrances to the 1883 building. The annex covered the doorway when it was added onto the southwest corner of the 1883 building.
- 4 of 23: Cast-iron staircase on the east side of the machine room.
- 5 of 23: Interior view of the pavilion looking east.
- 6 of 23: Interior view of the pavilion showing the enclosure on the north side.
- 7 of 23: Interior view of the pavilion showing the cast-iron arcade with the enclosure removed on the south side.
- 8 of 23: Interior view of the pavilion showing the enclosure on the north side and wall damage in the far left corner.
- 9 of 23: Detail of cast-iron columns of the pavilion's arcade.

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Section Photo List Page 21 New Pump-House
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Photographic Index (continued)

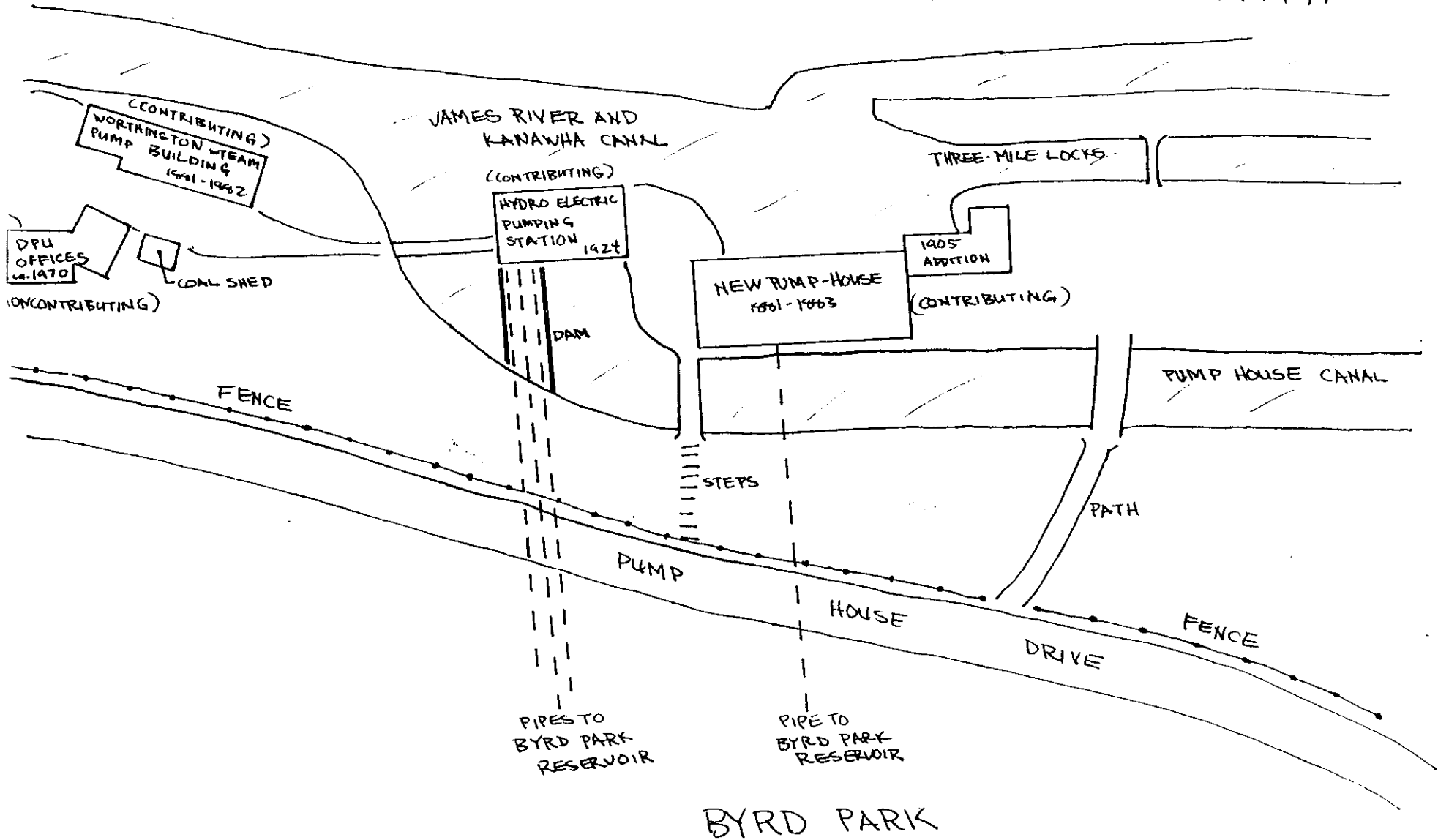
- 10 of 23: Interior view of rooms at east end of the second story; pavilion is seen through the lancet windows of these rooms.
- 11 of 23: Catwalk in the machine room on the south side of the room.
- 12 of 23: Northern wall of the machine room. The three large openings on the wall are where the water entered the building for the three pumps. The pipe with three openings is where the water entered to be pumped up to the Byrd Park Reservoir.
- 13 of 23: Machine room looking east.
- 14 of 23: Roof trusses of vaulted ceiling in leg of annex. The brick wall separates the two rooms of the L-shaped annex, the leg and the base.
- 15 of 23: Exterior view of the southern elevation of the New Pump-House looking east. The building to the right of the New Pump-House is the 1924 Hydro Electric Pumping Station. The Three-Mile Locks can be seen in front of the door to the 1905 annex (bottom left).
- 16 of 23: Exterior view of the pavilion and arcade on the south side of the building.
- 17 of 23: Exterior view looking west up the James River and Kanawha Canal. The buildings, closest to farthest, are as follows: Worthington Steam Pump Building, Hydro Electric Pumping Station, and New Pump-House.
- 18 of 23: Exterior view of the Department of Public Utilities' offices and the northeast side of the Worthington Steam Pump Building.
- 19 of 23: Exterior view of the north side of the Worthington Steam Pump Building.
- 20 of 23: Exterior view looking up the canal, eastward, from the Three-Mile Locks. The buildings, closest to farthest, are as follows: New Pump-House, Hydro Electric Pumping Station, and the Worthington Steam Pump Building.
- 21 of 23: Exterior view of the west and south sides of the Hydro Electric Pumping Station.
- 22 of 23: Exterior view of the south side of the Worthington Steam Pump Building.
- 23 of 23: Exterior view looking west up the canal. The buildings, closest to farthest, are the Worthington Steam Pump Building, the Hydro Electric Pumping Station, and the New Pump-House.

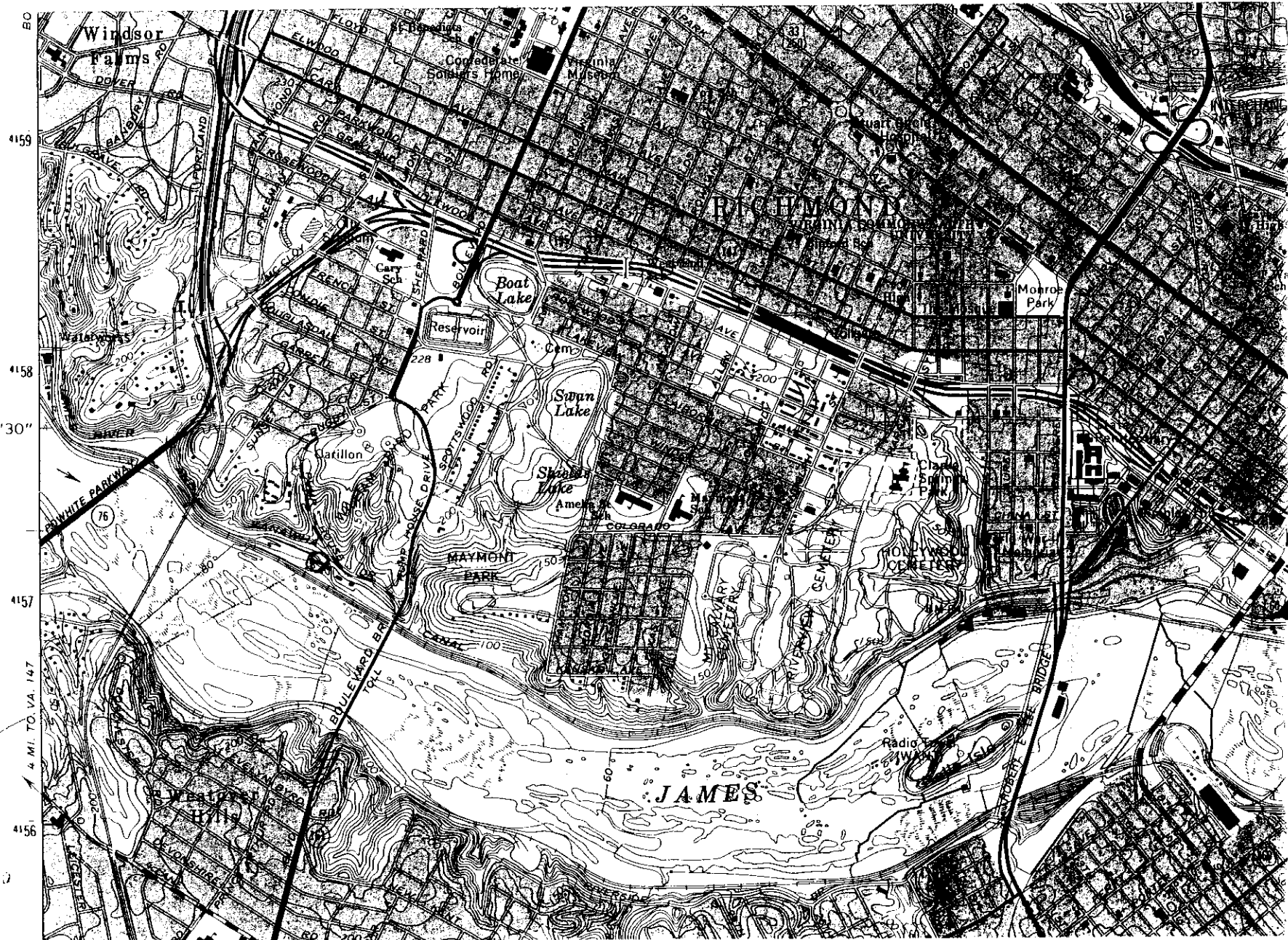
SKETCH MAP
New Pump-House
Richmond, Virginia
DHR 127-193

JAMES RIVER



C & O RAILROAD





New Pump House
 Richmond, VA
 DHR # 127-143
 UTM Zone 18
 E 330 290 400
 N 157 000