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NAT. REGISTER OF HISTORIC PLACES
NATIONAL PARK SERVICE

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**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 National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* 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 certification comments, entries, and narrative items on continuation sheets if needed (NPS Form 10-900a).**

## 1. Name of Property

historic name Washington City Reservoir; McMillan Park Reservoir and Sand Filtration Plant

other names/site number McMillan Park Reservoir Historic District (preferred)

## 2. Location

street & number _____ [ ] not for publication

city or town Washington, D.C. [ ] vicinity

state District of Columbia code DC county _____ code 001 zip code _____

## 3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, 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 at the following level(s) of significance:

___ **national** ___ **statewide** X **local**

DAVID MARONEY, DC SHPO 12/28/2012
Signature of certifying official/Title Date

DC HISTORIC PRESERVATION OFFICE
State or Federal agency/bureau or Tribal Government

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

Signature of commenting official Date

Title State or Federal agency/bureau or Tribal Government

## 4. 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:) _____

Patrick Andrus 2/20/2013
Signature of the Keeper Date of Action

## 5. Classification

**Ownership of Property**
(Check as many boxes as apply.)

- [ ] private
- [X] public - Local
- [ ] public - State
- [X] public - Federal

**Category of Property**
(Check only **one** box.)

- [ ] building(s)
- [x] district
- [ ] site
- [ ] structure
- [ ] object

**Number of Resources within Property**
(Do not include previously listed resources in the count.)

| Contributing | Noncontributing | |
|---|---|---|
| 20 | 4 | buildings |
| 1 | | sites |
| 67 | | structures |
| 1 | | objects |
| 89 | 4 | **Total** |

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

N/A

**Number of contributing resources previously listed in the National Register**

0

## 6. Function or Use

**Historic Functions**
(Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION/
Waterworks

**Current Functions**
(Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION/
Waterworks

## 7. Description

**Architectural Classification**
(Enter categories from instructions.)

20th CENTURY REVIVALS/Italian
Renaissance/Colonial Revival

**Materials**
(Enter categories from instructions.)

foundation: Concrete
walls: Concrete and Brick
roof: Terra cotta tiles
other:

## Narrative Description

(Describe the historic and current physical appearance of the property. Explain contributing and noncontributing resources if necessary. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, setting, size, and significant features.)

### Summary Paragraph

The McMillan Park Reservoir Historic District occupies an extensive 113-acre site at First Street and Michigan Avenue, N.W. and includes the still functioning McMillan Reservoir plant to the west of First Street, the now-defunct Slow Sand Filtration Plant principally located to the east of First Street, and remnants of the landscaped grounds and park designed by landscape architect Frederick Law Olmsted, Jr. The property also includes the McMillan Memorial Fountain, designed by architect Charles Platt and sculptor Henry Adams, and sited within the Olmsted-designed park landscape. The reservoir and the sand filtration plant with their associated buildings and structures, present an architecturally cohesive engineering complex in which the majority of the historic buildings constructed as part of the development of the reservoir/filtration plant survive intact.

The McMillan Reservoir, including the 38-acre reservoir basin excavated 1885-1888 is located west of First Street, NW, and is still a functioning element of the city's water supply system. Although closed to the public, the reservoir basin and its associated buildings are visible from the public right-of-way, especially along its western side at 5th Street and along its northern edge at Michigan Avenue. The reservoir presents a picturesque setting with the curving Olmsted-designed drive, McMillan Drive, encircling the basin and providing views over the water. The entrance to the McMillan Reservoir plant is located on the west side of First Street, between Michigan Avenue on the north and Bryant Street on the south, with flanking and arched brick gates demarcating access to the guardhouse and plant beyond. The reservoir site is enclosed within a tall, chain link fence allowing relatively unobscured visual access to the site.

The former Slow Sand Filtration Plant, constructed 1902-1905, is principally located to the east of First Street, NW and occupies an approximately 25-acre parcel of the 113-acre property. This plant is readily visible from North Capitol and First Streets with orderly rows of robust and tall concrete sand bins dominating the flatly graded site and giving it its principal character. The filtration plant has been abandoned since 1986 and its associated buildings and grounds have been neglected and are overgrown with vegetation, adding to a romantic sense of beauty to the site. A large-scale, mixed-use development project is currently being planned for the filtration plant site.

In 1991, the McMillan Park Reservoir site was listed in the D.C. Inventory of Historic Sites as the McMillan Park Reservoir Historic District and was recommended for listing in the National Register.[i] Although recommended, the nomination was never forwarded to the National Register for no reason other than lack of adequate staffing to do so. This National Register Nomination for the McMillan Park Reservoir Historic District thus fulfills that 1991 recommendation. The boundaries of the historic district include 19 contributing buildings, 66 contributing structures (including the surviving 22 of 29 sand bins), two sites (the Olmsted-designed landscape and the McMillan Reservoir basin), and one object (the McMillan Fountain). The property also includes four non-contributing buildings, namely those associated with the new chemical water treatment plant, completed in 1986 to replace the slow sand filtration plant.

The 1901 McMillan Commission Plan identified the reservoir and sand filtration plant as a key linkage to the plan's system of parks, extending from Rock Creek to Anacostia through the developing suburbs north of the federal city. In 1906, the reservoir was designated as a park and a memorial to the late Senator James McMillan who had died in 1902, and before implementation of the plan which bears his name. According to the park plans designed by Frederick Law Olmsted, Jr. in 1908 following the reservoir's designation as a park two years earlier, the filtration plant was landscaped in a formal manner, complementing the industrial character of the various engineering elements. A monumental fountain, designed by Charles Platt and Herbert Adams was designed between 1908 and 19011 and erected in 1913 at the highest point on the reservoir property and clearly visible to all who were in, or passing by, the reservoir.

[i] The boundaries of the McMillan Park Reservoir Historic District listed in the D.C. Inventory and those proposed for listing in the National Register of Historic Places are identical. The acreage listed in the D.C. nomination form lists the property as having 92 acres; however, based upon the city's Geographic Information System, that land area is actually 113 acres.

**Narrative Description**

The McMillan Park Reservoir Historic District includes the McMillan Reservoir (built 1885-1888), the Sand Filtration Plant (1904-1906), and the Olmsted-designed park (1908-1913) designated in 1906 as the McMillan Park Reservoir. The property occupies an expansive 113-acre site in Washington, D.C. consisting of the still functioning historic reservoir with its present 1986 replacement filtration system, and the now-defunct sand filtration plant with all of its associated buildings and structures including 22 of the original 29 iconic sand bins. The property also includes landscaping remnants of McMillan Park designed by landscape architect Frederick Law Olmsted, Jr. This park (established in 1906 and built 1908-1913) at the reservoir and named for James McMillan whose McMillan Commission had designated the reservoir as parkland, includes a fountain named in his honor.

The entire site is located north of the Bloomingdale neighborhood and south of Michigan Avenue, and is bounded on the east by North Capitol Street and on the west by Howard University. The reservoir is located on the western part of the site, abutting Howard University, while the former sand filtration plant sits east of the reservoir basin and largely east of First Street, NW. The Reservoir site west of First Street is owned by the federal government, having been acquired by an Act of Congress at the turn of the 20th century and is operated by the U.S. Army Corps of Engineers. It consists of the 38-acre reservoir basin with its amorphous shape and surrounding undulating terrain, as well as a section of the original sand filtration plant[ii], including historic and non-contributing buildings and structures associated with both the reservoir and the sand filtration plant (both historic and contemporary).

The sand filtration plant is an extensive grass-covered flat area that historically spanned First Street and included twenty-nine underground filter cells, two east-west service courts (or, service lanes), and one north-south service court. Although remnants of the plant still survive west of First Street on the reservoir site, the plant is primarily preserved on the 25-acre site east of First Street. The grassy open space of the site actually corresponds with the roofs of the twenty, below-grade concrete filter beds that have been covered by a layer of fill. To construct these filter beds, the site's topography was re-graded, and an extensive campaign of cut and fill created an artificial topography that rises approximately sixteen feet above the level of Channing Street to the south and is depressed approximately ten feet from the level of Michigan Avenue to the north. The paved service courts are depressed approximately five feet into this plateau and are bounded to the north and south by the parapet walls of the subterranean filter beds. These depressed service courts at the north and south ends of the site retain the original regulator buildings, the sand washers and the storage bins, all aligned in rows along the courts. The "filter planes" over the underground filters are comprised of concrete decking covered with approximately two feet of soil to support the growth of turf. This turf is dotted by a network of manholes located fourteen feet on-center that once provided service access to each of the filter cells below. The cylindrical sand bins, the most prominent feature of the site, stand as the tallest visible structures and can be seen from a distance from the surrounding streets. Many of these abandoned bins are covered with vines, contributing to a picturesque image of the site.

The sand filtration site east of First Street is owned by the District of Columbia. In 1986, the federal government deeded the sand filtration plant site to the city after a new rapid sand filtration plant was constructed and put into operation on the reservoir site and the original slow sand filtration plant was abandoned. A large-scale mixed-use development, which will include preservation of the sand filtration plant, is currently being planned for the site.

The water for the McMillan Reservoir is supplied by the Potomac River at Great Falls, fourteen miles away, through a gravity-fed aqueduct system. This system, the Washington Aqueduct, was originally designed by Civil War Quartermaster General Montgomery Meigs in the 1850s and is listed as a National Historic Landmark. Historically, before reaching the McMillan Reservoir, the water passed through two sedimentation reservoirs, the Dalecarlia and Georgetown reservoirs and was then piped to the north end of the open reservoir basin where it was allowed to settle. From the reservoir, it was pumped twenty to thirty feet upwards and distributed into the twenty-nine (29) slow sand filtration beds where the water was cleansed. The water gradually filtered through the sand to the bottom of the cells, where weep holes in the floor collected the clean water. Regulator houses in four court areas contained sets of valves, manually operated, which controlled the flow of water through the underground beds and into the large clear water basin underground. Presently, the water is pumped into the rapid sand filtration plant on the Reservoir site, and once cleaned, fed by gravity to the city's water mains.

[ii] Twenty of the twenty-nine sand filtration beds were located east of First Street, while the other nine were located on the reservoir site west of First Street. All twenty sand bins survive on the filtration site, while seven of these nine bins on the reservoir site have been demolished.

The McMillan Park Reservoir is a legacy of the City Beautiful Movement and an engineering achievement for the city. Much of the filtration system's mechanics, including the clear water basins and the sand filtration bins occurs underground and is thus not visible. However, other associated buildings and structures, including the regulator houses, the original sand bins, washers, and other structures, most of which date from between 1901 and 1905 when the plant was originally constructed, are readily visible from afar, and survive as important visual landmarks in the city.

The following is a description of the individual resources (buildings, structures, site and object) within the McMillan Park Reservoir Historic District. The list identifies the contributing structures, buildings, sites and object in that order. A list of the non-contributing resources follows.

**The McMillan Reservoir Basin** (Structure): The McMillan Reservoir Basin, originally called the Washington City Reservoir, was established by an Act of Congress in 1882. Its selected site in the vicinity of Howard University was intended to improve the water service to the eastern part of the city, and the large size of the reservoir was designed to provide better sedimentation. Approximately 66 acres of land were required for construction of the basin and its buildings. Work on the four-mile-long Washington City Tunnel that would supply the reservoir with water was begun in 1882, and excavation of the basin itself began in 1883. Construction of the basin was completed in 1888, but it remained empty for fifteen years until 1902, when the Washington City Tunnel was finally completed, connecting the reservoir to the city's aqueduct system.

The reservoir basin occupies 38 acres and holds 100 million gallons of water and serves as a sedimentation basin for the water before cleansing. The basin is riveted along the sides with beautifully laid riprap stone work. As originally constructed, the basin was dug out by day laborers working with horses and scrapers. The basin was dug to form an earth dam over the copious Smith's Spring which had been providing water to the city for several decades. A concrete conduit along the basin floor extends from the East Shaft Gatehouse to the Circulating Conduit Structure. This ensures that the water entering the reservoir enters at the western end of the reservoir and is subject to the maximum setting time before being pumped up to the filter beds at the eastern end of the reservoir. The basin was altered at its northeastern corner when the wash water energy dissipater was added in 1986.

**The Springhouse** (Structure): The cylindrical springhouse in the center of the reservoir basin was designed by Captain T.W. Symons, U.S. Army Corps of Engineers in 1886 and built in 1887. It sits toward the center of the basin on a 22-foot-high concrete foundation, braced by five underwater concrete buttresses. The structure is Moorish Revival in style with an arched shaped entrance and low onion dome. Occupying the spring head of Smith's Spring, it was the centerpiece of the newly dug reservoir.

**North Clear Water Basin** (Structure) (WA-80): The North Clear Water Basin is the original underground reservoir constructed in 1904 to store the water after being filtered. Clean water was transported from the filter beds to this reservoir basin through cast iron mains. The regulator houses controlled the flow of water to the reservoir using sluice gates. From the basin, water passed directly into the city's mains. The reservoir remains in operation today.

**South Clear Water Basin** (Structure) (WA-81): The South Clear Water Basin was constructed at McMillan Reservoir in 1939 to increase the clear water storage capacity at the plant. The construction of this second basin necessitated the removal of the McMillan Fountain and the elaborate park landscaping on this parcel.

**Filtration Beds (26)** (Structures)**:** The plan for the McMillan Filtration plant called for a total of 29 slow sand filter beds organized around three service courts. The service courts are essentially linear alleés running parallel and perpendicular to each other between the underground beds and depressed from them. Court #1 is located west of First Street and runs north-south between Filters 1-2 and 3-5. Court #2 intersects Court #1 at the north end and runs east-west the full breadth of the site to either side of First Street. On its east side, Court #2 separates Filter Beds 10-14 from 15-19 and on its west side separates Filter Beds 6-9 from Filter Beds 2 and 5. Court #3 is located at the southern end of the filtration site, east of First Street. It runs east-west and separates Filter Beds 20-24 from 25-29. The service courts are paved with scored concrete.

The filter beds, completed in 1904, are subterranean concrete basins with concrete covers. Historically, the beds were filled with approximately 50 inches of sand and gravel, graded from top to bottom from fine sand to gravel. Water entered the filter beds through the top, flowed through the sand and gravel and collected in the central cast-iron drain located below the sloping floor of the filter bed. The suspended material from the water clung to the top layer of sand. When the flow of water was impeded by the accumulation of filtered particles in the top layer of sand, it was necessary to clean the

sand. In such a case, which was common and part of the process, the sand was removed, sent to sand washers for cleaning and eventually placed back in the filter beds. The 24-inch diameter collector located at the bottom of each filter bed carried the water from each filter bed to one of the regulator houses. Each regulator house controlled several filter beds.

Each filter bed is constructed below-grade of unreinforced concrete with evenly spaced piers supporting wide groin vaults which at their height are 12-feet tall. These subterranean, cavernous spaces recall the undercrofts of Gothic churches. The groin vaulted filter beds are perforated with approximately 108 evenly distributed openings called manholes. These manholes provided the filter beds with light and ventilation, as well as a place for sand to be added into the beds. Two valves—an influent and drainage valve—protrude from one corner of each bed and regulate the filling and draining of water.

Each underground bed is accessed through a pair of wide and segmental arched wooden doors called filter bed portals. These portals are built into a bunker at the level of the filter plain with a concrete retaining wall extending the length of the service courts. The filter bed portals open onto the service courts, while a concrete ramp descends from the door openings to the filter beds below grade. The filter portals are constructed of brick, parged with concrete, and feature a denticulate cornice. Huge iron hinges attach the doors to the masonry walls. The wooden doors are made of diagonally laid tongue and groove wood boards. The filter bed portals are numbered and such number is located above the arched door opening.

In 1986, three of the original twenty nine filter beds were demolished when the new treatment plant was built. These filter beds, 3-5, were located west of First Street and south of Court #2. The surviving filter beds, 1-2, and 6–29 are unaltered from their original construction, yet survive in varying degrees of preservation and integrity. Several of the cells have suffered some structural deterioration.

**Sand Bins (22)** (Structures) (WA 76, 78): Twenty-nine sand bins were originally designed and built along the service courts between the sand filtration beds as a place for clean sand to be stored after being washed in the sand washers. Twenty-two of the original twenty-nine bins survive, including the original 20 on the east side of the site, and two of the original nine on the west side of First Street. The clean sand was mixed with clean water in order to be transported through hoses from the washers to the storage bins. Once in the storage bins, the sand would settle to the bottom and the water would rise to the top and drain off. When needed, the clean sand was loaded into horse-drawn carts that could be driven through the arched openings in the base of the storage bins. A chute in the bin allowed the sand to be loaded directly into the carts without any hand shoveling. The horse carts were then driven up the ramps from the service courts to the tops of the filter beds for the sand to be deposited through manholes on the roof of the beds.

When a more efficient method of returning sand to the filter beds was developed in 1909, this system of using horses became obsolete. The new system ejected the sand directly back to the beds using slurry hoses attached to the bins. Further improvements to the sandwashing process in the 1930s resulted in the abandonment of the sand bins and stationary washers. The new process allowed for the sand cleaning to occur within the filter beds. A tractor-like machine had been developed that would ride along the top layer of sand, cleaning the sand as it progressed. The clean sand was ejected immediately from the back of the machine.

The sand bins are cylindrical in form and constructed of reinforced concrete. They measure 32 feet in height above ground, and 23 feet six inches in diameter. The interiors are conical. The thickness of the walls tapers in towards the top. The walls are 18 inches thick at the base, thinning to one foot in the middle and nine inches at the top. The circular foundation extends six feet into the ground. Two wide arched openings opposite each other provide access to the interior of each bin. The interior is divided into two parts: the upper section where sand is stored, and the lower section where sand could be outloaded onto carts. The upper section is conical with a chute at the bottom of the cone. The lower section has a concrete floor with a drain that carries overflow water into the city sewer system. Two pipes extend from the ceiling on the side closest to the connecting sandwasher. One pipe brought cleaned sand into the top of the bin; the other drained excess water from the bin.

Three of the sand bins, located in Court #2 west of First Street and four sand bins in Court #1 west of First Street, were removed in 1986 as part of the new filtration plant. The twenty-two other bins survive in various levels of intactness. All have been modified in one way or another over the years. Most of the modifications involved improving the sand bins to make them more effective in draining off the dirty water left over from the sand washing process.

**Sand Washers (14)** (Structure) (WA 77, 79): Stationary sand washers, built in 1905, were used to clean the dirty sand from the filter beds. Around 1910, new sand washers were built replacing the original ones. The circa 1910 sand washers are located adjacent to and between the sand bins and consist of two parts: a hopper/washer and tub. The hopper/washer is approximately ten-feet high, of which about six feet extends above ground. The remaining four-foot section is set into a fenced, rectangular concrete well below ground level. Four iron ladder rungs set into one side of the opening provide access to the bottom of the well. A trough extending from the rim of the hopper carried the overflow waste water into the adjacent tub. The tub is made of aggregate concrete and rests on four short legs set into a concrete foundation.

Fourteen of the ca. 1910 sand washers survive; 12 are located on the sand filtration site and two on the reservoir site.

**East Shaft Gatehouse** (Building) (M1): The East Shaft Gatehouse was constructed in 1901 at the inlet to the new reservoir and was designed to control the flow of water from the Washington City Tunnel to the reservoir. At its completion, the East Shaft Gatehouse and the Smith Springhouse were the only structures on the reservoir site. Designed by New York architect Henry Alexander McComb, the building is expressed on the exterior in an ecclesiastical form executed in a northern Italian Romanesque style.[iii] The building consists of two parts: the main, single-story brick block covered with a pyramidal roof, and a four-story brick tower covered with a hipped roof abutting the main block on-center of its southwestern façade. Both roofs of the Gatehouse are covered in orange-red, flat, interlocking, terra cotta tiles with rounded half-tiles at the corner ridges.[iv] These same terra cotta roofing tiles were used in all of the subsequent buildings at the Reservoir and Filtration plant, giving the property an architectural uniformity.

The distinctive tower has arched openings at its base and an open loggia on the top floor where brown terra cotta columns with Corinthian capitals articulate the three-part round arch openings on the three exposed elevations. The arched opening at the base of the tower and on-center of the western façade features a terra cotta *bas-relief* in the form of a shield over the door. The shield is ornamented with stars and stripes surrounded by a moulded roundel bearing the date of 1901 and the insignia of the Corps of Engineers. The upper floors of the tower are reached by a cast iron spiral stair.

The main block is five bays wide on the three elevations not abutted by the tower. On each of these facades, a large arched opening is located on-center with a projecting gable surround, and two, single windows flanking it. The interior of the building consists of a single open room provided by W-shaped trusses that allowed for a single, clear span of space below. Valves inserted into the concrete floor connect to the city tunnel outlet below to control the flow of water into the reservoir. A metal spiral stair provides access to the upper floors of the tower.

The East Shaft Gate House functions as a regulator for the flow of water in to the reservoir. Wooden blocks are lowered into the deep shafts at the base of the gatehouse to act as dams. In the 1930s, the East Shaft Gatehouse was fitted with a booster pump in order to pipe more water into the reservoir when needed, particularly during the summer months. The building operates much as it did originally, and has not been changed structurally or cosmetically.

**Circulating Conduit** (Building) (WA-66): Designed in 1904, this diminutive Georgian Revival-style brick building[v] is located in the reservoir basin at its northern end and is only accessible by boat. Typical of the other period buildings at McMillan Reservoir, the Circulating Conduit features Flemish bond brick walls, hipped roofs with brick corbelling, and orange-red interlocking terrace cotta roofing tiles. The building rests on an arch of concrete over the pipes which debouch water into the basin at this point, piped from under the East Shaft Gate House.

**Pumping Station** (Building) (M8): The pumping station, located on the southeastern side of the reservoir, was constructed in 1904 as part of the filtration plant, but has been extensively enlarged and altered since the 1940s. The building was originally designed to supply the power necessary to feed water to the sand filters. Three coal-fired pumps were used to raise the water from the reservoir to the height of the filters (20 feet or more). The pumps were also used to supply the necessary water to the sand washers. The generator located in the pump house also was responsible for supplying electricity to the entire filtration plant.

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[iii] The East Shaft Gatehouse is the only building on the reservoir site known to have been designed by a private architect.
[iv] The roofing tiles appear to be "French Tile A" manufactured by the Mound City Roofing Tile Company. See Vincent H. Hobson, *Historic and Obsolete Roofing Tile: Preserving the History of Roofing Tiles* (Evergreen, Colorado: Remai Publishing Company, Inc), 2001.
[v] The design of the Circulating Conduit building as well as the other buildings at McMillan were apparently based on engineer Allen Hazen's file of designs. Many of the original drawings for these buildings exist in the Washington Aqueduct Archives, yet none is signed by an architect or designer.

Originally, the building consisted of a two-story principal section and a lower one-story wing to the west with a towering steam stack rising 150 feet high from its western side. The principal block was built into the hillside so that the south, reservoir-facing side rises two stories, while the land side stands only a single-story in height. The building is constructed of brick with glazed headers, is lit with round-arched openings, and is covered with a hipped, tile roof. The double-height interior of the building was designed to contain the large pumps. An upper-level balcony wraps around the perimeter of the room, providing a view to the pumps below.

In 1945, the steamstack was removed when the coal-fed centrifugal pump engines were replaced by electrically operated motors. Around the same time, the lower one-story wing was replaced by a larger three-story brick structure constructed against the western wall of the original main block and somewhat encasing it at the north end. The building was enlarged when the U.S. Army Corps of Engineers used the building at McMillan for its central administrative offices. At the same time, four other buildings were constructed on the site, but were later removed. A later addition abuts this 1940s addition to the west.

The addition to the original pumping station is covered with a complex, hipped roof form that intersects with the original hipped roof of the main block. The roof of the addition is covered with a red tile roof to match the original.

**Laboratory/Substation** (Building) (M10): The laboratory building is located just north of the pumping station. Constructed in 1904, the building historically served as a laboratory and as offices for the superintendent, gate tenders, and filter foreman, and currently serves as a substation. Chemical and biological laboratories were located at either side of the building, while a large room for experiments was located in the lower level. The superintendent's office had an excellent view of the pumping station and of the reservoir proper, as did that of the filter foreman and the gate tenders. Here the filter foremen monitored the state of the water as it coursed from Great Falls through the aqueduct to McMillan Reservoir. At the time of its construction, the building served as the center of operations for the Washington Aqueduct, before Dalecarlia took over this role.

The building is stylistically similar to the other buildings at the reservoir from the period and features Georgian Revival-style massing and materials, including red brick walls with Flemish bond brickwork and round-arched window openings. Set upon a raised foundation with windows in the basement level (now bricked in), the building is rectangular in plan measuring 36 feet by 56 feet and is covered with a hipped roof with terra cotta tiles. The principal elevation of the building faces south to the pumping station and features a round-arched door opening on-center of the façade with two single windows to either side. The hipped roof is capped at its height by a hipped-roof cupola similarly clad with flat, interlocking orange-red tiles.

**Gatehouse** (Building) (M7): The gatehouse, constructed in 1904, is located about 300 feet east of the intake gatehouse and projects into the water at the bank of the reservoir. Excess water from the clear water reservoir underground can be returned to the open reservoir through pipes under this structure. The square-in-plan, brick structure sits atop a concrete foundation and is covered with a hipped roof clad with interlocking tiles and features a corbelled brick cornice. Each elevation has three, single, arched openings with brick surrounds. On the water side and the opposing land side, a single door with a blind brick arch opens in end one of the three bays. A brick watertable surrounding the building serves as a plinth for the window sills. Two of the original arched windows on the northeast façade have been filled in with brick.

**North Controller House** (Building) (M6): The North Controller House, built 1904, is located at the southwestern corner of the enclosed North Clearwater Basin. The North Controller House is a one-story brick rectangular structure covered with a hipped roof clad with flat, interlocking tiles. The brick walls are laid in Flemish bond and offer arched openings on all elevations and a central door on the west elevation. As originally designed, the water flowed from the pure water reservoir, then passed through the controllers operated from this house, reducing the water's level to the highest elevation permissible in the east shaft gate house. Eight pairs of balanced valves operated a copper float resting on the water in the discharge chamber, holding the water in the chamber at the desired level and letting it flow evenly. The pure water reservoir and the discharge chamber are provided with overflows back to the reservoir in order to prevent the water from going over the desired level.

**South Controller House** (Building) (M4): The South Controller House, located at what is the southwestern corner of the enclosed South Clearwater basin, was constructed in 1939 at the time that the south Clearwater basin was added to the reservoir site. The building controlled the outflow of filtered water from the south clear water reservoir to the Bryant Street Pumping Station. The building is a modest, square in plan brick structure covered with a pyramidal roof with orange pantiles. Like the regulator houses, it has brick corbelling at the cornice line, but unlike the regulator houses, it has

rectangular rather than arched window openings. A single arched door opening (the arch has been infilled) opens on the north elevation; single wood louvered openings are located on both the east and west elevations and a window opening on the south elevation has been infilled with brick.

**Flume Building** (Building) (M20): This building was constructed in 1939 at the northern end of the North Clearwater Basin at the same time that the adjacent chemical building and tower were added to the reservoir site. The modest, one-story building is constructed of brick laid in Flemish bond and is covered with a hipped red tile roof. The building features a central arched opening with two arched windows to either side and is similar to the South Controller House which was constructed the same year. The flume building was part of the system to feed chemicals such as chlorine and lime into the filtered water.

**Shelter House/Chemical Treatment Building and Chemical Tower** (Building) (M21): This building was built in 1904 as a shelter house for the employees working at the filtration plant. In 1939, it was converted to a chemical treatment facility and, at that time, the cylindrical tower was added to store the lime added to the filtered water. The one-story brick structure is rectangular in plan and is covered with a hipped roof with clay tiles. The building is five bays long on its long sides with a central entry with windows to either side. When the building was converted into a chemical treatment plant, the window openings were filled with louvered vents.

**Storehouse and Garage** (Building) (M17): This 1911 Storehouse and Garage building, designed to be compatible stylistically with the original 1904 structures, is a one-story brick building, covered with a hipped roof clad with red tiles. The walls of the rectangular shaped building are laid in Flemish bond, pierced with seven tall segmental-arched garage door openings. A one-story brick addition, constructed in 1939, abuts the entire north elevation of the building. Sand bins were located to either side of the garage before being removed in 1981. The former storehouse and garage building currently serves as the Standby Generator.

**Blacksmith and Storehouse/Machine Shop** (Building) (M15): This building located north of the pumping station along Court #2 and constructed in 1904 originally served as a blacksmith shop and storehouse and presently serves as the machine shop. The original building is a one-story brick structure covered with a hipped roof clad with tiles. The south (front) elevation is divided into five bays with a round-arched entry on-center and two, single, arched 4/4 wood sash windows to either side. A flat roofed addition, built in two phases, abuts the west end wall of the building, while another addition extends across the rear (north) wall of the original building. Although the original building has been enlarged, its massing and fenestration pattern is clearly discernible from its later additions.

**East Shaft Annex** (Building) (WA 67): This annex building, circa 1904, is located south of the east Shaft Gatehouse and faces McMillan Drive. The one-story brick building has a T-shaped plan and is covered with an intersecting hipped roof clad with terra cotta tiles. An arched door opening is centered on the front façade and flanked by round-headed windows. The building, now used by the D.C. Department of Public Works, has been enlarged by a corrugated metal wing to its east elevation.

**Guardhouse** (Building) (M5): The guardhouse is located at the main entry to the McMillan Plant, on the west side of First Street, just inside the gate. The building was constructed in 1952 at the time that the reservoir complex was enclosed by a chain link fence. This small, rectangular building was constructed of brick and terminates in a low-pitched gable roof. One-over-one, aluminum sash windows are located on all facades to allow for good visibility from within. A single entry door is located in the center of the north and south facades.

**Regulator Houses (6)** (Buildings) (M19): Seven regulator houses, of which six survive, were designed and built in 1905 to control the flow of filtered water from the sand filters to the clear water basin. The regulator houses are located along the three service courts and in-line with the sand bins. A filter attendant manned each regulator house, and manually operated sluice gates that controlled the flow of water from each filter bed. Each regulator house controlled several filters. A shaft in the middle of each building contains the gauges and control valves. Six of the original seven regulator houses survive. Two are located west of First Street in Court #2, two are located in Court #2 east of First Street, and two others are located in Court #3, east of First Street. The regulator houses east of First Street measure 24 by 29 feet. They are single-story brick buildings, laid in Flemish bond and covered with hipped roofs clad with red pantiles and featuring corbelled brick cornices. Each long elevation has two, single, round-arched window openings with molded brick surrounds. The short ends have single openings—one a door, the other a window—surrounded by an arch of molded brick.

The two regulator houses west of First Street are smaller in scale and squarer in plan. They are similarly single-story brick buildings with molded water tables, hipped roofs clad in pantiles, and corbelled brick cornices. However, rather than two, single arched openings on the long elevations, these smaller regulator houses have single arched openings—either a door or window—on the center of each elevation. The arched openings have molded brick surrounds.

McMillan Park Reservoir and McMillan Fountain (Contributing Site and Object)

**McMillan Park Reservoir Park and Fountain (WA 86):** The reservoir site and the filtration plant were included in the park system proposed by the McMillan Commission Plan of 1902, and in 1906 the site was designated as McMillan Park. In 1907, Frederick Law Olmsted, Jr. was hired to design the park within the grounds of the waterworks facility. The underground filter beds were covered with topsoil to form an extensive flat lawn, while the linear courts were planted with allees of cork trees to either side of the sand bins, sand washers and regulator houses which aligned the central axis of the courts. Hawthorn trees were planted along the perimeter of the site. At the southern end of the filtration site at its escarpment, Olmsted designed an active park with recreation space crowned at its height by the McMillan Fountain, sited with views south to the U.S. Capitol. For the reservoir side of the site, Olmsted encircled the basin with winding drives and walking paths with views of and across the water.

The McMillan Fountain at McMillan Reservoir is a remnant of the original monument designed between 1908 and 1911 as a collaborative effort between sculptor Herbert Adams and architect Charles A. Platt, and erected in 1913 in honor of James McMillan. The present fountain, not functioning as such, is located within the reservoir property, just south of the First Street entrance. The now-defunct fountain sits fifty yards north of its original location, on-axis with Channing Street. Originally, the fountain occupied a high point on the grounds of the Olmsted-designed park within the reservoir property. The park was largely compromised by the construction of the South Clear Water basin in 1939 and later closed to the public and not maintained. In 1992, after years of being in storage, the fountain was re-erected, in part, on its present site. Although the fountain as re-erected only includes five of the original eighty pieces, it does include the principal bronze sculpture of the three graces, designed by sculptor Herbert Adams. The remaining pieces of the fountain remain in storage.

Originally, the fountain, sited at the height of three broad flights of steps and flanked by evergreen trees, consisted of a low octagonal basin, a central pedestal supporting a bowl and 15-foot tall *Graces* statue. The three female figures, nearly nude, stood on the pedestal shoulder-to-shoulder and facing outward forming an unbroken circle. The figures symbolized the three theological Virtues, or "graces" of god, namely Faith, Hope and Charity.[vi] The basin, bowl, and central pedestal flanked by steps and benches, were all made of the same Maine pink granite. When the fountain was in full operation, a short jet of water would shoot upward from the center of the small bronze basin above the heads of Adams's *Three Graces*. In addition, a continuous flat stream of water would flow just below the feet of the statues, giving the illusion that the three female figures were "standing" on a cone of water.[vii] Heavy sprays of water also poured from the mouths of four water serfs found at the base of the pedestal into small granite bowls which, in turn, overflowed into the larger collection basin at the base.

Non-Contributing Resources:

**Chemical and Filter Building** (Building) (M26/27): Constructed in 1986, the Chemical and Filter Building was designed to incorporate all filter beds, and chemical storage and feeding activities in a single facility. The building was constructed atop Slow Sand Filtration Beds 3, 4 and 5 and caused the demolition of four of the original 29 sand bins. The Chemical and filter building is the largest structure at the McMillan complex. The extensive brick building is three stories in height and measures approximately 196 feet by 320 feet. A tall brick tower occupies the northeast corner of the building.

**Storage Building** (Building) (WT-12): This building was built circa 1985 to provide the McMillan complex with an additional storage area. It was built between two sand bins located along Court #2 towards its western end. The building is rectangular in plan, has metal siding and a flat metal roof.

**Intake Gatehouse** (Structure) (WA 68): The Intake Gatehouse structure was built in 1904 and marks the point that water is taken in from the reservoir and enters the filtration process. Located directly on the banks of the reservoir just to the east of the pumping station, the structure consists of three pumping devices that sit on a concrete platform, surrounded by

[vi] Thomas P. Somma, p. 101.
[vii] Thomas P. Somma, p. 98.

a tubular railing. Originally, this structure was covered with a brick envelope building stylistically matching the other 1904 buildings at McMillan. The brick superstructure was removed during the 1990s. Due to the removal of the superstructure, the structure no longer retains its integrity of design and materials.

**Washwater Energy Dissipator** (Structure) (WA 69): This structure was erected in 1986 in connection with the new treatment plant constructed that year. The structure was designed to serve as an entrance point for wash water used to backwash the filters. A silt curtain placed in front of this structure prevented the inflow of water from this structure from disrupting the sedimentation process in the rest of the reservoir. This system was devised so that the backwash water would not overflow the city's sewers. A dredge periodically pumps the sediment from the pool created by the silt curtain to the city sewer. The structure consists of a large pipe flanked by two parallel concrete walls that are built into the bank of the reservoir. Water exits from the pipe and is directed into the reservoir by the concrete walls. There is no roof covering the structure.

## 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.)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [X] B Property is associated with the lives of persons significant in our past.
- [X] 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.)

Property is:

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

### Areas of Significance

(Enter categories from instructions.)

ARCHITECTURE, ENGINEERING, LANDSCAPE ARCHITECTURE

### Period of Significance

1883-1963 (fifty years from the present)

### Significant Dates

1883; 1888; 1902; 1905; 1941

### Significant Person

(Complete only if Criterion B is marked above.)

James McMillan

### Cultural Affiliation

### Architect/Builder

Allen Hazen, Engineer

Frederick Law Olmsted, Jr., Landscape Architect

Charles Platt, Architect

### Period of Significance (justification)

The Period of Significance for the McMillan Park Reservoir Historic District extends from 1883 when excavation for the reservoir basin began until 1963, a point fifty years from the present.

### Criteria Considerations (explanation, if necessary)

**Statement of Significance Summary Paragraph** (Provide a summary paragraph that includes level of significance and applicable criteria.)

The McMillan Park Reservoir Historic District consists of the McMillan Reservoir (built 1883-1888), which remains an integral part of the city's water supply system; the Sand Filtration Plant (1905), designed and built as the city's first water treatment facility; and McMillan Park, built 1908-1913. The park, designed by Frederick Law Olmsted, Jr. as a public park and memorial to the late Senator James McMillan whose McMillan Park Plan of 1901-1902 was instrumental in the establishment of the park at McMillan Reservoir. The reservoir was built as an extension to the Washington Aqueduct—first designed and built by Civil War Quartermaster General Montgomery Meigs in 1852 to supply water from the Potomac River via a gravity-fed aqueduct from Great Falls to Georgetown. Beginning in 1882, the U.S. Army Corps of Engineers, under whose jurisdiction the Washington Aqueduct fell, began construction of a tunnel from the Georgetown Reservoir through Rock Creek to a new reservoir (McMillan Reservoir) in order to extend the water supply to the growing population centers in the eastern part of the city. From this new reservoir, initially called Washington City Reservoir, but named McMillan Reservoir in 1906, water was fed by gravity to the city's mains. Shortly after construction of the reservoir, Congress approved the establishment of a water filtration system to filter and purify the city's water prior to distribution. The McMillan Reservoir site was selected for the new plant, and between 1902 and 1905, the Slow Sand Filtration Plant with its vast array of filter beds and sand bins, was constructed at the reservoir, and on a 25-acre site immediately adjacent to and east of the reservoir. Upon its completion in 1905, water was pumped from the reservoir to the twenty-nine slow filtration beds—vaulted and sand-filled structures built of unreinforced concrete—where the water was cleansed and piped to an underground clear reservoir before being distributed. In 1986, a chemical treatment facility on the reservoir side of the site replaced the Slow Sand Filtration Plant, and the former filtration complex ceased operation. At the time it was closed, the sand filtration plant was one of the last working examples of the slow sand filtration method in the United States.

The reservoir and filtration plant were included in the park system proposed in the McMillan Commission Plan, 1901-1902, and in 1906 the entire site was designated as McMillan Park Reservoir, in honor of James McMillan, head of the McMillan Commission, who had died four years earlier. In 1907, Frederick Law Olmsted was hired to design the park, which resulted in a picturesque drive and walking paths around the reservoir, landscaped grounds at the filtration plant, and a recreation area at the southern end of the site, culminating at a high point with a fountain, designed by architect Charles Platt and sculptor Henry Adams, in honor of James McMillan.

The McMillan Park Reservoir Historic District meets National Register Criterion A for its association with the development of water supply and water treatment in Washington, D.C. and as an urban engineering feat and testament to the City Beautiful Movement. The property is a major element of the water system of the nation's capital. The McMillan Reservoir and filtration system is significant at the local level as the first water treatment facility for Washington and is an important element in the federal city's aqueduct and water supply system. The slow sand filtration plant was designed in 1902 by the U.S. Army Corps of Engineers, with consultant Allen Hazen serving as Supervising Engineer for the project, along with E.M. Hardy and Lieutenant-Colonel A.M. Miller, head of the U.S. Army Corps of Engineers. The slow sand water filtration system, put into operation in 1905, resulted in a dramatic drop in colon bacilli in the public water supply and to the eventual end of typhoid and malaria epidemics in the city.

The McMillan Park Reservoir Historic District meets National Register Criterion B as a memorial to Michigan Senator James McMillan and his McMillan Commission Plan of 1901-1902 which he spearheaded and which transformed the urban fabric of the Nation's Capital in the early 20th century The McMillan Commission Plan, formally titled "The Improvement of the Park System of the District of Columbia" established a comprehensive plan based on the completion, expansion, and enhancement of the 1791 L'Enfant plan for the city. The 1901-1902 report was one of the first attempts to implement the City Beautiful Movement, which was born out of the 1893 World's Columbian Exposition in Chicago. The McMillan Plan called for the completion of the National Mall, the articulation of ceremonial boulevards throughout the city, the establishment of a comprehensive park and recreation system, and the overall beautification of the city. McMillan's sudden death in 1902 before the implementation of his plan, came as a shock to many in Washington and in his home state of Michigan. James McMillan's name was given to the reservoir and filtration plant complex in honor of his integral role in the development of the city's infrastructure, namely water purification. The designation of the reservoir and sand filtration site as a publicly accessible park was a testament to his efforts to beautify the nation's capital by enlarging and enhancing its system of public open spaces as part of the City Beautiful Movement at the turn of the century.

The McMillan Park historically had, at its centerpiece, a fountain, designed by architect Charles Platt and sculptor Herbert Adams and erected in memory of the senator and called the McMillan Fountain. Although the park has been closed to the public since World War II and the fountain dismantled and placed in storage, the central feature of the fountain has been re-erected within the grounds of the reservoir, reviving an important memorial to a significant figure in the history of urban planning in Washington.

The McMillan Park Reservoir Historic District meets National Register Criterion C as an excellent and important example of a reservoir, water filtration complex, and public park that was the result of a collaborative engineering and design effort of experts in their respective fields of engineering, city planning, art and architecture, and landscape architecture. The structures and buildings associated with the reservoir and the slow sand filtration plant survive as intact examples of the city's water supply and cleansing system. The slow sand filtration plant is one of the sole-surviving such complexes in the nation. The sand filtration plant was principally the work of engineer Allen Hazen, while the park and fountain were the result of design collaboration between Frederick Law Olmsted, Jr., Charles Platt, architect, and Herbert Adams, all of whom had been participants in the World's Columbian Exposition of 1893 in Chicago. The buildings at the plant all reflect a consistency of design that required an academic understanding of the building traditions and features of Colonial America and Georgian architecture and, as such, embody the distinctive characteristics of a type and period of design.

**Narrative Statement of Significance** (Provide at least **one** paragraph for each area of significance.)

The McMillan Park Reservoir Historic District is significant in the areas of Engineering, Architecture and Landscape Architecture. The reservoir is an important element of the city's still functioning water supply system, while the now-defunct slow sand filtration plant provides an example of a water purification system designed and constructed at the turn-of-the-20th-century. Although chemical filtration systems were already in use elsewhere in the United States at the time of its design and construction, the Washington medical community advocated for and Congress mandated the establishment of a slow sand filtration system over a chemical one. The reservoir and filtration system, as designed by the U. S. Army Corps of Engineers, and its Consulting Engineer, Allen Hazen, is significant in the history of water supply and purification and is an engineering marvel that includes well-designed above-ground buildings and structures that were integral to the function of the filtration system.

Architecturally, the above-ground buildings and structures are all executed in a Georgian Revival-style of architecture that was consistent with the aesthetic values of the City Beautiful Movement and that are significant to the city's architectural history. The buildings all embody distinguishing elements of the style, including red brick walls laid in Flemish bond with glazed headers, arched openings with molded surrounds, and cornices with dentils. The ensemble is an important expression of architecture as it relates to the municipal works project in the District of Columbia.

The McMillan Park, designed and landscaped after completion of the reservoir and filtration plant, opened the waterworks up for public use and contributed to the civic beauty of the city. The landscaped grounds were designed by the nationally acclaimed landscape architect, Frederick Law Olmsted, Jr. who sought to soften the well-ordered and stark engineering complex with rows of trees, curvilinear drives and walkways that were a signature of his more picturesque treatment of designed landscape. Although the designed landscape is no longer fully legible on the landscape, and only scattered remnants of the original plantings survive, the notion of the reservoir as a park open to the public contributes to a complete understanding of the site.

**Developmental history/additional historic context information** (if appropriate)

The Washington City Aqueduct and Reservoir:

The historic McMillan Reservoir and Sand Filtration Plant is part of the extensive Washington Aqueduct system, the country's only municipal water supply system built and operated by the U.S. Army Corps of Engineers. The Washington Aqueduct is a single integrated water supply system that comprises a multitude of disparate but connected functioning parts. The system was initially built from 1852 to 1863 and placed in service in 1864 to the designs of Civil War Quartermaster General Montgomery Meigs, but saw later additions including the McMillan Reservoir (1885-1888) and the Sand Filtration Plan (1902-1905). The Washington Aqueduct is a gravity-fed system that begins at Great Falls, Maryland,

and extends approximately sixteen miles into the city center. A dam was built at Great Falls to divert water into intake works located on the Maryland shore of the Potomac River. From there, the water flowed ten miles through a nine-foot diameter masonry conduit (now called "the old conduit") to a receiving reservoir at Dalecarlia Farms. This 50-acre receiving reservoir, formed by an earthen dam across the Little Falls Creek, provided both a place for the turbid Potomac River water to settle and a storage site for times when the conduit was closed due to muddy Potomac water. From the Dalecarlia Reservoir, water was channeled through a two-mile extension of the conduit to a 36-acre distributing reservoir west of Georgetown (Georgetown Reservoir). From the distributing reservoir, water was delivered through cast iron pipes to various areas of the city.[viii] The system, which remains in use today, includes a masonry dam at Great Falls, six bridges, several miles of tunnels, twelve miles of water conduits, brick air vents, siphons, pumping stations, reservoirs, and filtration and treatment plants, including McMillan Reservoir and Sand Filtration Plant. The Washington Aqueduct, listed in the D.C. Inventory of Historic Sites and the National Register of Historic Places, is also a National Historic Landmark.

The McMillan Reservoir, built 1883-1888, and the Sand Filtration Plant, built 1902-1905 are part of subsequent phases of construction of the Washington Aqueduct system, intended to improve the quantity and quality of water being distributed to the residents of Washington, D.C. Because the McMillan Reservoir and Sand Filtration Plant were not part of the original design of the Washington Aqueduct, the site was not included in the National Register nomination on the Washington Aqueduct.

Improvements to the Aqueduct and Construction of the McMillan Reservoir:

Population expansion in the federal city after the Civil War led to the need for increased capacity in the city's water supply. Concerns were raised not only over the quantity of water, which was in short supply, but over the quality of water provided by the Washington Aqueduct. Water generally was muddy and unappealing to drink. A series of changes to the Washington Aqueduct over the course of many years were undertaken to address these concerns. Three of the most significant improvements included modification of the Great Falls dam to increase the volume of water diverted into the aqueduct; the construction of a new reservoir (McMillan Reservoir) north of Washington to improve water service to the eastern areas of the city[ix]; and, the establishment of a filtration plant to ensure a clean water supply.[x]

To improve the water flow to the eastern parts of the city, Congress authorized the creation of this second, new reservoir (Washington City Reservoir and later, McMillan Reservoir) on July 15, 1882. Major Garrett J. Lydecker, then engineer commissioner, chose the site for this new storage facility on high ground near Howard University. The site selected for the new reservoir was one of the city's largest and most well-known springs and had been supplying water to the city for fifty years. In 1832, Congress had purchased one-acre of the ground, which included several springs, from its then-owner, Joseph A. Smith, deputy clerk (later Clerk of the Court) of the Old Circuit Court. In 1833 pipes were constructed for carrying water two miles south to the U.S. Capitol for fire protection and for "*aqua pura.*"[xi] Four years later a six-inch cast iron water main fed by Smith Spring supplied water to twelve fire hydrants on Pennsylvania Avenue.

Excavation of the new reservoir at Smith's Spring began in 1883 and was completed in 1888. Day laborers working with horses and pick axes dug the basin and built a dam across the valley of Smith's Spring. In 1887, the round brick springhouse sporting a small Moorish-style onion dome was built to stand directly over the spring in the center of the basin where it remains today. Despite completion of the reservoir basin in 1888, it remained dry for years awaiting completion of the water tunnel which was to link McMillan to the existing Georgetown Reservoir four miles away. This four-mile-long tunnel, known as the Washington City Tunnel was begun in 1882, but was not completed until 1902. Upon completion of the tunnel, the reservoir was put into operation. Three buildings were constructed in association with the new reservoir and city tunnel: the Castle Gatehouse, built at Georgetown Reservoir to control the flow of water to the West Shafthouse;

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[viii] Goodwin & Associates, "Washington Aqueduct Architectural Survey: District of Columbia and Montgomery County, MD," Report prepared for the U.S. Army Corps of Engineers, March 1998, p. 52-57.

[ix] Montgomery Meigs himself advocated for the construction of a second distributing reservoir, so construction of the new reservoir effectively revived an unrealized component of his original 1853 plan. See "McMillan Park Reservoir," D.C. Historic Preservation Application for Historic Landmark, 1990.

[x] Goodwin & Associates, p. 58.

[xi] John Proctor, "Washington Suburban Development," *The Evening Star*, June 11, 1933.

the West Shafthouse built at the Georgetown Reservoir to monitor the flow of water into the tunnel; and the East Shaft House, built at the western edge of the new (McMillan) Reservoir to control the flow of water from the tunnel into the reservoir.[xii]

Construction of the Slow Sand Filtration Plant:

As the city's population continued to grow during the 1890s, water flowed increasingly fast through the aqueduct system. The inadequate settling time resulted in muddy water. Although it remained healthier to use than water from the city's numerous wells, its aesthetic qualities drove many citizens back to their wells.[xiii] Public health officials felt that this preference left the city vulnerable to outbreaks of contagious disease, particularly typhoid fever. In addition, the danger of dysentery and cholera further mandated the need for effective water filtration. In 1898, Congress ordered a study of water filtration systems for the city. After conducting a series of tests on the muddy Potomac River water, the U.S. Army Corps of Engineer Lieutenant Colonel Alexander M. Miller presented his findings to Congress in March 1900, recommending construction of a mechanical rapid-sand filtration system.[xiv] Mechanical filters would have depended upon the addition of a coagulant—sulphate of alum—to the water supply at the Georgetown sedimentation chamber. The coagulant caused impurities to clump together in a substance called floc which could then be filtered out mechanically. Local professional, medical and citizen's organizations, concerned about the introduction of chemicals into the water supply, objected to the recommendation.

The Senate Committee on the District of Columbia, chaired by James McMillan thus held hearings on the matter. In the hearings, members of the city's medical community strongly advocated for the slow sand method, expressing misgivings over the long-term effects of chemical additives to the water supply. A subsequent Senate-appointed committee of civilian experts that included engineer Allen Hazen, recommended chemical-free slow-sand filtration. The slow sand filtration method filtered water through beds of finely granulated sand to remove suspended solids. Slow sand systems often incorporated large masonry filter chambers that contained approximately five feet of sand and gravel. Water entered the filter bed through the top, flowed through the sand, collected in drains, and was carried to a clear water reservoir.

After heated debates, Congress approved in March 1901, construction of a slow sand filtration plant. The final recommendation was that slow-sand filters should be used, but that Potomac water should receive a coagulant additive whenever the river became turbid, about 30 days per year. The Senate Committee voted for slow-sand filters without use of a coagulant with the provision that appliances for using a coagulant could be installed later, as needed. With this provision in place, aluminum sulphate was later routinely added to the water at the Georgetown sedimentation chamber before the water came to the Washington City Reservoir. Still, the selection of the slow sand filtration method, which required extensive land and labor, over the fast chemical filtration method already in use in New York City, was considered a triumph of the medical community of Washington.

Three sites were considered for Washington's new filtration plant, but ultimately the site adjacent to the Washington City Reservoir was selected, and construction of the filtration plant began in 1902 according to plans designed by U.S. Army Corps of Engineers Lieutenant Colonel Miller and Edward Hardy, and consultant Allen Hazen. Allen Hazen was an early proponent of slow-sand filtration in the United States. From 1887 to 1893, Hazen served as the first director of the State Board of Health Experiment Station in Lawrence, Massachusetts, an organization that became an authority in sewage and water purification. In 1893, Hazen was selected to manage the sewage disposal plant at the World's Columbian

[xii] The Castle Gatehouse and the West Shafthouse at Georgetown Reservoir are included in the Washington Aqueduct National Register and National Historic Landmark nominations. The East Shafthouse is included in this nomination on McMillan Park Reservoir.
[xiii] Pamela Scott, *Capital Engineers: The U.S. Army Corps of Engineers in the Development of Washington, 1790-2004*, p.175-177.

[xiv] "Washington Aqueduct Architectural Survey: District of Columbia and Montgomery County, MD.," Report prepared by R. Christopher Goodwin & Associates for the U.S. Army Corps of Engineers, March 17, 1998, p. 75. See also Pamela Scott, *Capital Engineers: The U.S. Army Corps of Engineers in the Development of Washington, 1790-2004*, p.175-177.

Exposition in Chicago. His first slow sand filtration system was constructed at Albany, New York in 1899 and served as the model for the Washington system.[xv]

The plans called for 29 slow-sand filter beds, a pumping station to transfer water from the reservoir to the filter beds, sand washers, sand storage bins, an underground clear water reservoir, and regulator houses to regulate the flow of water from the filter beds to the clear water reservoir.[xvi] Designs of the masonry structures closely followed those of the Albany plant. The filter beds, like those in Albany, were covered to prevent freezing. In 1905, after three years of construction, the filtration plant became operational, providing the city with filtered water for the first time.

The Filtration Process and Later Changes to the System

The water filtration process began by pumping water from the reservoir up 20 to 30 feet to the slow sand filters using steam-driven centrifugal pumps. Each of the slow sand filters measures one-acre in area, is located below grade, and is contained in a covered concrete compartment. Following a sustained period of filtration, the dirty sand was shoveled by hand and thrown into movable ejectors which transferred the sand hydraulically to stationary concrete sand washers outside the filters. Here, reverse currents of water flushed the mud to the city sewer system, while the clean sand was pumped to the large cylindrical storage tanks, or sand bins. There were originally 29 sand bins—one for each filter—rising thirty-two feet high and twenty-three and one-half feet in diameter.

About 20,000 tons of sand were washed in this manner each year. Upon return to service, each filter was allowed to run at a very low rate for about ten days to build up a thin surface film known as "schmutzdecke." This film did most of the work of filtration, particularly in removing bacteria. When the amount of sand removed from a filter for washing operations reduced the depth to two feet, donkey-powered carts were driven under the sand bins and filled with sand. The carts were then driven to the top of the filters and dropped through the manholes and into the filters. The sand traveled down a revolving chute which redistributed the clean sand over the filter bed. The sand was later returned to the bins for cleaning by mixing it with water and forcing it under pressure back over the bed. This process was continued until sand washing machines were introduced circa 1910, thereby replacing the outside sand washers and silos. The filtered water was collected in tile drains and then traveled through the regulator houses that metered and controlled the flow to the clear water basin (a covered concrete basin). Most of the treated water flowed by gravity to the city, with the balance going to the Bryant Street Pumping Station, built by the city for pumping to two High Service Reservoirs.[xvii]

The McMillan Reservoir and Sand Filtration Plant, the first water treatment facility for Washington, D.C., served the city as originally designed and built (1902-1905) until 1986 when a new treatment facility was built, rendering the historic slow-sand filtration plant obsolete. Some changes did occur in the interim, though.[xviii] In 1907 an experimental plant was constructed to test three different water pre-treatment systems, including coagulation, and in 1912, a permanent coagulation facility went into operation at Dalecarlia Reservoir, greatly improving the clarity of the water being filtered at McMillan. In 1910, the original sand washers were modified, and in 1945 were replaced with self-contained and self-propelled washers that cleaned and re-deposited the sand in one operation. The introduction of chemical processing, which began with the use of liquid chlorine in 1922, and lime at an unknown date, necessitated the conversion of the former shelter building on the reservoir site to a chemical treatment plant in 1939. The reservoir site, originally open to the public was fenced during World War II because of a concern about possible sabotage. No longer used as a park, the southern part of the site was converted into a second clear water reservoir and the fountain and plantings were removed and replaced with gun emplacements. The coal-burning equipment in the pump house was replaced with electrically powered units in 1938. During the course of the twentieth century, the rest of the Washington water supply system, still under the control of the U.S. Army Corps of Engineers, also expanded its service to meet the needs of the rapidly growing population of the Washington. A parallel conduit was constructed from Great Falls, a new and elaborate rapid sand

[xv] Ibid.
[xvi] In addition to the filter beds and associated structures, a caretaker's house was also constructed on the site. This wood frame structure, no longer extant, was located on a hill at the northeast edge of the Reservoir.
[xvii] Harry C. Ways, *The Washington Aqueduct, 1852-1992.*
[xviii] These changes as listed here are described in the "Architectural and Archeological Survey, Eastern Portion, McMillan Water Treatment Plant," prepared by Engineering Science, Inc. for the Office of Business and Economic Development, Government of the District of Columbia, June 1990, p. 39-41.

filtration plant was constructed adjacent to the Dalecarlia Reservoir, and additional sources of supply were found at the Patuxent River watershed and elsewhere. During the 1980s, the U.S. Army Corps of Engineers built a new filter plant at McMillan Reservoir. The new facility, built on the site of three original filter beds, houses twelve rapid sand filter beds, chemical treatment equipment, a chemical storage area, pumps and control equipment in a single building. With the opening of the new filter plant in 1986, one of the last slow sand filtration systems still in operation in the country was abandoned. Shortly before the new plant went into operation, the old McMillan Water Treatment Plant was designated an American Water Landmark by the American Water Works Association. Though no longer in use, the filtration beds, sand bins, washers and regulator houses—a striking testimonial to the civil engineering infrastructure of the city—still survive at the former Sand Filtration Plant at McMillan Park Reservoir.

Upon completion of its new filtration plant on the reservoir site west of First Street in 1986, the federal government disposed of the approximately 25-acre filtration plant property east of First Street, NW, transferring it to the government of the District of Columbia. The still functioning reservoir and fast sand filtration plant west of First Street and operated by the Corps of Engineers is now known as the McMillan Treatment Plant. As before, water from the Georgetown Reservoir is directed to McMillan via the Washington City Tunnel. Water enters the McMillan basin through the East Shaft, then settles in the basin before being treated in the on-site filter building. Prior to distribution to the city, the clean water is stored in two underground reservoirs.

The McMillan Park Plan and the McMillan Reservoir Park:

In 1906, Secretary of War William Taft designated the Washington City Reservoir and the Filtration Plant as McMillan Park Reservoir in honor of the late Senator James McMillan.[xix] James McMillan had led the Senate Commission on the Improvement of the Park System—often referred to as the McMillan Commission—and in that capacity was instrumental in recommending that the reservoir grounds be landscaped and opened for use as a public park. While the McMillan Commission is most well-known for its efforts to reshape the National Mall and for restoring the vision of Washington's first city planner, Peter (Pierre) Charles L'Enfant, its efforts reached far beyond the city's federal monuments. The McMillan Commission conceived of and began implementation of numerous civic improvements, including improvements to the city's water and sewerage systems, and the development of a system of parks, including that at McMillan Reservoir, that was intended to form an "emerald necklace" around the city. The interconnection of open tracts of land in the outer areas of cities was a hallmark of the Olmsted firm's comprehensive planning of parks in cities. The permanent reserve of green, open spaces would serve growing suburban communities and city residents alike. Daniel Burnham, Charles McKim, Frederick Law Olmsted, Jr., Augustus St. Gaudens, and Charles Moore, aide to the McMillan Commission, saw the escarpment along the city's original boundary as a natural situation for a series of green open spaces, in large part for the wonderful vistas such a height afforded. In the McMillan Plan this green swathe—the emerald necklace—is the link between the two anchor parks of Rock Creek and the Anacostia River.

The Commission's 1902 report, *Improvement of the Park System of the District of Columbia* noted that "on account of its considerable expanse of water forming an element of the Soldiers' Home Landscape, the new reservoir can be made an important supplement to the Park Systems."[xx] Although the Sand Filtration Plant was essentially an industrial concern, the tops of its underground sand pits were available for landscaping, and, as so envisioned by the McMillan Commission, provided an appropriate adjunct to the Park System.

Immediately after the park was named for James McMillan, the Senator's widow and family established the McMillan Memorial Corporation to fund the design of the park and to provide the park with a memorial statue to the late senator. James McMillan's son Philip McMillan sat on the committee with Charles Lang Freer and Charles Moore, McMillan's former congressional aide. In 1907, the committee hired the firm of Frederick Law Olmsted to design the landscaping for

[xix] William Howard Taft, as Secretary of War, had quietly approved the official designation of the reservoir as McMillan Park in 1906, but the matter was not submitted to Congress at that time. It was enacted by Congress in 1911 after Taft had become President and was attached to a $2,000 appropriation for landscaping. (See D.C. Landmark Application for McMillan Park Reservoir, p. 7.)
[xx] As quoted in "Final Report and Recommendations: McMillan Reservoir and Sand Filtration Site, Washington, D.C.," Prepared by Greenhorne & O'Mara for the District of Columbia Office of Planning, January 2001, p.2-10.

the park. Frederick Law Olmsted, Sr. had designed one of the first island parks in the country at Belle Isle in Detroit, a project promoted by James McMillan when he was a businessman in that city during the 1880s.

Frederick Law Olmsted, Jr.'s Designs for McMillan Park[xxi]:

When Frederick Law Olmsted, Jr. visited the site with Captain Cosby of the Army Corps of Engineers in 1907, he formed a vision of how the park would be developed. The place, after all, included acres of flat land with only two feet of topsoil over concrete vaults, making it unsuitable for tree planting. Olmsted decided to exploit the south end of the western half "because of its good views southward toward the city," and considered this an ideal area for "an important playground for the people of the neighborhood."[xxii] The filter beds would be treated geometrically and lined with low-growing trees, with shrubbery at the filter bed entrances and groups of trees at the regulator houses.

Upon his first visit to the site in May 1907, Olmsted noticed, "the concrete work in connection with the filters form a most unusual and striking site. To improve their appearance [Captain Cosby] has already planted Boston ivy at every possible point." On March 27, 1908, Olmsted drafted his first detailed landscaping plan for McMillan Park and wrote:

> "The area including the covered reservoirs, filter beds, sand washers and their appurtenances, consists of a series of engineering constructions of a strikingly artificial and formal appearance which it would be impossible to obscure by any decoration or planting, which, even if not beautiful, is certainly very interesting and full of individual character appropriate to the purpose subserved, and which therefore should be recognized and emphasized in such slight and subordinate decoration as may be undertaken in connection with this area."[xxiii]

From 1907 to 1911, Frederick Law Olmsted, Jr. developed the landscape design for the various components of the reservoir and filtration plant complex. This landscape plan was substantially implemented between 1908 and 1919. His "General Plan for the Landscape Treatment of McMillan Park," (March 27, 1908), provides a narrative of his design intentions for the Park. The plan starts by dividing the entire site into three distinct parts --Part A, Part B, and Part C—which Olmsted described as follows:

- **Part A: "**The area including the covered reservoirs, filter beds, sand-washers and their appurtences [sic], consisting of a series of engineering constructions of a strikingly artificial and formal appearance."
- **Part B:** "The spacious and impressive open reservoir with its enclosing banks and hillsides, including the curvilinear banks of the filter beds which face toward it."
- **Part C:** "The southerly part, lying in the main below the dam of the reservoir but sweeping up gradually to the hill top in the southeast corner of part B."

Olmsted's design for Part A was based on the primary physical structures of the site: the "straight banks" bordering the site; the "formal plain" created by the roofs of the filter beds; and the architectural elements found in the two service courts. From the 1908 general plan, it is apparent that one of Olmsted's primary design intentions was to emphasize and reinforce the border of the formal plain, through the introduction of a perimeter path and multiple layers of perimeter plantings. Olmsted started the design with a "low formal hedge bordering the formal plain and marking the top edge of the bank." Olmsted specified the "low" hedge because of his concern that a high, solid hedge would obscure visibility to the site

[xxi] This discussion of Olmsted's design is paraphrased from the "McMillan Slow Sand Filtration Plant, Historic Preservation Report for the Proposed Redevelopment of the McMillan Slow Sand Filtration Plant," July 28, 2010, Prepared by EHT Traceries for Vision McMillan Partners. As part of this report, Traceries conducted thorough primary research of the Olmsted firm's involvement in McMillan Park. See the report for a more complete discussion.
[xxii] Charles Moore, "James McMillan," *Dictionary of American Biography*, vol. 12, 1934, p. 144, as quoted in "McMillan Park Reservoir" D.C. Historic Preservation Review Board Application for Historic Landmark, 1990, p. 310.23.
[xxiii] Olmsted Firm Papers, Manuscript Division, Library of Congress, Box 137, Olmsted Report, March 27, 1908.

from the street and would be ill-proportioned to the "straight banks" at certain points. As a result, he limited the perimeter hedge to three feet in height, but in order to provide "as strong an emphasis of the border as the scale of the plain demands," he recommended planting a double row of small- scale trees inside the hedge, "beneath the foliage of which the view could pass and between which a border path could be provided whence the plain could be overlooked." This idea of overlooking the formal plain from a perimeter path, rather than allowing public access on the plain, was based on Olmsted's recognition of the dangerous condition created by the hundreds of open manholes across the plain.

The 1908 and 1910 planting plans for the site show that Olmsted, Jr. specified Japanese Barberry with one-foot spacing for the hedge and Cockspur Thorns for the double row of trees. Other thorny species (Japanese Climbing Rose, Double-flowering Scarlet Thorne, Dwarf Wild Rose, Early Wild Rose, etc.) were used to frame entry stairs at the four corners of the site. The trees and hedges were planted in straight lines around the perimeter, except at the north side of the site, where the spacing and configuration of the trees were more appropriate for the curvilinear character of the north leg of the perimeter path. Larger species (Yellowwood, American Elm, Pagoda Tree, Catulpa Tree, etc.) were used to mark and frame entrances located at the east and west ends of the two service courts, but in general,Olmsted used smaller plantings to avoid blocking views into the site. Olmsted also designed plantings in the two east-west service courts to emphasize the rhythms created by the arrangement of the sand storage bins. Olmsted, Jr. specified rows of widely spaced Chinese Cork Trees and suggested replacing the Boston Ivy that was already planted along the surfaces of the sand bins, regulator houses, and court walls with "creepers of a...more picturesque and less flatly enveloping habit."

Olmsted's planting and grading plans for all areas around the reservoir (Part B), he chose to make informal and picturesque creating a unifying harmony through grading and trees. Since the reservoir basin was the central element, he felt that anyone circling the drive around the water, or walking along the bank should be able to gain lovely views over the water. To this end he had the tall iron fence moved down the embankments next to the water, so it would not obstruct the view. Euonymus and honeysuckle were planted along the banks, and evergreens, along the grades near the water. Michigan Avenue had not yet been cut west of First Street, a source of frustration for Olmsted who was apparently eager to connect the park with an east-west street at the park's north end. Within a few years Michigan Avenue was extended westward, strengthening this cross-city connection. Olmsted also suggested the careful planting of large trees along Fourth Street and the elimination of the narrow western drive, incorporating Fourth Street as a gracious edge to the park with an avenue of tall trees screening and softening the westward views of the park. The street plan was only partially carried out, with no screening trees to define the western edge of the park and set off the water.

While a majority of Olmsted's landscape design focused on the enhancement of Parts A and B, he briefly addressed the land south and southeast of the reservoir (Part C), which he identified as having "no practical functions in the operation of the water works and presenting a distinct landscape unit." Olmsted sought to shape this area into "an agreeable and consistent piece of informal park landscape with provision at the westerly end for a children's playground." As such, this area of McMillan Park was set aside for public recreation and for the installation of a public memorial to Senator James McMillan. Olmsted's 1908 plan for McMillan Park specifies the provision of a wading pool and a track south of the reservoir. It is not known whether Olmsted's design for these recreational areas was implemented as planned; however, historic documentation indicates that the Bloomingdale Playground was located in the area south of the reservoir. The playground accommodated numerous community activities, including soccer games, basketball games, baseball games, folk festivals, and more. McMillan Park was also the venue for military band concerts, which most likely took place around the McMillan Memorial Fountain.

This landscape scheme would take five years to be carried out, because careful grading was necessary and some alterations for the drive around the reservoir were made. Congress appropriated funds for the landscaping in spurts over the years.

The McMillan Memorial Fountain:

Olmstead's first idea of a memorial was that of an arch spanning First Street, such as that illustrated in the McMillan Plan for the entrance to the Soldier's Home just up First Street at Michigan Avenue. However, this idea was jettisoned in favor of a statue, perhaps as that idea was favored by the McMillan family. The McMillan Memorial Fountain designed between 1908 and 1911 and erected in 1913, was a collaboration between sculptor Herbert Adams and architect Charles Platt. Platt designed the landscape and the architectural setting for the fountain, while Adams supplied *The Three Graces*, the

bronze trio of female figures that crowns the fountain's apex.[xxiv] The monument was a gift from the citizens of the state of Michigan to the District of Columbia in memory of the late senator from Michigan. The $25,000 cost of the bronze figures was financed with pennies, nickels and dimes donated by the public school children of that state. Congress appropriated $15,000 for the memorial's foundations and approaches.

The site selected for the fountain was a high point on the grounds of the reservoir abutting the Bryant Street Pumping Station at the north end of the Bloomingdale neighborhood. Olmsted apparently selected this site "upon the summit of the hill...and commanding the best views over the reservoir and across the city to the southwest.[xxv] The fountain, placed at the height of three broad flights of steps and flanked by evergreen trees, consisted of a low octagonal basin, a central pedestal supporting a bowl and 15-foot tall *Graces* statue. The three female figures, nearly nude, stood on the pedestal shoulder-to-shoulder and facing outward to form an unbroken circle. The figures symbolized the three theological Virtues, or "graces" of god, Faith, Hope and Charity.[xxvi] The basin, bowl, and central pedestal flanked by steps and benches, were all made of the same Maine pink granite. When the fountain was in full operation, a short jet of water would shoot upward from the center of the small bronze basin above the heads of Adams's *Three Graces*. In addition, a continuous flat stream of water would flow just below the feet of the statues, giving the illusion that the three female figures were "standing" on a cone of water.[xxvii] Heavy sprays of water also poured from the mouths of four water serfs found at the base of the pedestal into small granite bowls which, in turn, overflowed into the larger collection basin at the base.

In 1913, Charles Moore wrote,

> "Of all the forms of memorial that might have been chosen, a beautiful fountain is the one which seems most suitable to the memory of Senator McMillan, who was by nature quiet and modest in all personal matters. And its location, also, is most fortunate; for through his labors the water supply of Washington was perfected and a filtration plant was provided."[xxviii]

At its site, the water that fed the fountain was on its way from the reservoir to the initial filtration beds, before its final treatment and eventual dispersal to the city. Thus, an endless and non-wasteful supply of water was available for the fountain as long as the water treatment facility was in operation.[xxix] In 1941, the McMillan Fountain was dismantled and placed in storage at Fort Washington to accommodate the expansion of the reservoir by the U.S. Army Corps of Engineers, a preparedness measure on the eve of World War II. The fountain in its various pieced remained in storage for years, despite efforts to find it a new and permanent resting place. Finally in 1983, five of the original 80 sections of the fountain were found and removed from storage, and the McMillan Fountain was re-erected in part at the Crispus Attucks Museum in Bloomingdale, just below the fountain's original location at the reservoir. The museum occupied part of a site that was being envisioned as a multi-tiered, landscaped park where the fountain would serve as a major centerpiece. In 1990, a disastrous fire destroyed the Crispus Attucks Museum, scorched the McMillan Fountain. In 1992, the blackened sections of the fountain were removed from the burned-out building to the statue's current site just within the First Street entrance to the McMillan Water Treatment Plant, about 50 yards from where the fountain used to stand. The remaining pieces of the memorial fountain remain in storage at Fort Washington.

The McMillan Fountain was a striking addition to the park. At the top of its three tiers of steps which ascend the embankment at First Street where Channing terminates, the fountain was the focal point of three walks which converged at the circular plaza. The fountain could be glimpsed by passersby on First Street and could be seen from much of the park. Platt pushed to have large trees planted so that an immediate effect would result. He wrote to Olmsted that "young trees while ultimately will look very fine, during our lifetime will be very unsatisfactory." The red cedars that Platt had wanted were planted, and Olmsted managed to persuade the government to put in specimens eight to sixteen feet in height at extra cost. Sadly, these red cedars were removed within 30 years to make room for the new clear water basin.

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[xxiv] Thomas P. Somma, "The McMillan Memorial Fountain: A Short History of a Lost Monument," Washington History, Vol. 14, Number 2, Fall/Winter 2002, p. 97.
[xxv] McMillan Park Reservoir, D.C. Historic Preservation Review Board Application for Historic Landmark, 310.23, p. 3.
[xxvi] Thomas P. Somma, p. 101.
[xxvii] Thomas P. Somma, p. 98.
[xxviii] Charles Moore, "The McMillan Memorial Fountain," *Detroit Saturday Night*, Oct. 18, 1913, as quoted in Thomas P. Somma, p. 100.
[xxix] Thomas P. Somma, p. 100.

The park was closed off to the public by a chain link fence placed around the entire site in 1941, and has suffered since then, the replacement of trees and shrubs having been neglected. The hawthorns, evergreens, cork trees in the courts can still be seen on the site, and the Army Corps of Engineers has continued to plant small flowering trees, as recommended by Olmsted. The most serious loss to the park is its south section above Bryant Street, play areas that are currently covered by parking lots.

According to the 1991 D.C. Landmark nomination on McMillian Park Reservoir Historic District, many old residents of Washington fondly remember skating as children on the ice rink, playing ball on the wide playground above the Bryant Street Pumping Station, walking their dogs under the allees of hawthorns along North Capitol Street, and playing football on the filter beds between First and North Capitol Streets. These same individuals remember roller skating wildly down the granite borders of the steps to the fountain.[xxx]

Senator James McMillan:

James McMillan was born in Hamilton, Ontario on May 12, 1838 and in 1855, still a teenager, headed to the booming commercial metropolis of Detroit. There, McMillan became a successful businessman and industrialist, and eventually with an amassed fortune, a major philanthropist to the city. McMillan started his career in Detroit in the railroad industry working as a railroad agent and railroad construction contractor, ultimately founding and managing the hugely successful freight car company, the Michigan Car Company. From there, McMillan began acquiring, founding, and/or consolidating one Detroit industrial concern after another. In 1910, he was described as "the real founder of Detroit's manufacturing industry." According to McMillan biographer Geoffrey Drutchas, McMillan plowed profits from one business into the next, including utilities and urban transportation, enhancing the entire commercial infrastructure of the state of Michigan. At one point, McMillan apparently served as president for almost a dozen companies and was the principal backer, investor, or director for even more.[xxxi]

Like many other wealthy industrialists of the era, McMillan became a patron of the arts. He purchased and presented to the University of Michigan a valuable collection of Shakespeare's manuscripts. He made major contributions to Albion College, Michigan Agricultural College (present-day Michigan State University) and the Mary Allen School for African American women in Texas. Following the death of his daughter Grace, McMillan founded and endowed Grace Hospital in Detroit to provide free medical care for needy women and children. In 1879, Michigan led the civic campaign to purchase Belle Isle in Detroit for a public park, and then oversaw its development according to plans prepared by Frederick Law Olmsted, Sr. In his transition from business to civic affairs to politics, James McMillan stood for the U.S. Senate in 1889 and was handily elected by the Republican-controlled State House and Senate and later re-elected in 1895 and 1901.

In Washington, D.C., McMillan apparently worked hard, quickly making a name for himself and earning several prominent Senate positions. In 1891, McMillan became chairman of the Senate Committee on the District of Columbia, a committee which was established to handle the District's political and administrative affairs. With his interest in civic improvements and infrastructure as well his belief that the United States should have an impressive capital, McMillan worked to increase the role of the committee and ultimately became the city's staunchest supporter and advocate in Congress. Inspired by the 1893 World's Columbian Exposition in Chicago, McMillan sought to enhance Washington according to the tenets of the ensuing City Beautiful Movement. With the support of the District's appointed commissioners, McMillan started by addressing Washington's basic amenities, namely sewer and water, including the development of the city's water filtration plant.

McMillan's greatest and lasting accomplishment, however, came as he moved beyond the city's infrastructure problems and into the larger question of urban planning, where he sought to refashion the capital city according to the original design

[xxx] Interview with Thomas Hage of Crofton, Maryland, who lived at 25 Bryant Street, N.W. from 1936 through 1945 and with Henry Jenkins of Silver Spring, Maryland, who played in the park in the early 1930s, as noted in the McMillan Park Reservoir, D.C. Landmark Nomination form.
[xxxi] See Geoffrey Drutchas, "A Detroiter's Gift to the Nation," *Michigan History*, March/April 2002, p. 32.

by Pierre (Peter) Charles L'Enfant.[xxxii] In 1900, Washington celebrated the centennial of its founding. As the head of the newly organized Senate Centennial Committee and as chair of the Senate Committee on the District, McMillan, with input from the American Institute of Architects, appointed a panel of experts to prepare a report to the U.S. Senate on the "development and improvement of the entire park system of the District of Columbia." The panel included architects Daniel H. Burnham and Charles F. McKim, artist and sculptor Augustus Saint Gaudens and Frederick Law Olmsted, Jr. All of the panel members, except Olmsted, Jr., had played an instrumental role in the art and design of the World's Columbian Exposition. After a few initial meetings, the group began their work on developing an urban plan for the city by taking a grand tour of capitals and other major cities in Europe. As the Commission finished its work, member Charles McKim impressed upon his colleagues the importance of properly publicizing its plan, arguing that the best artists needed to be hired to appeal to the public. "Go ahead," Senator McMillan reportedly said. "If Congress won't pay for it, I will."[xxxiii]

In January 1902 at the Corcoran Gallery of Art, the Senate Park Commission, also known as the McMillan Commission, unveiled its final report *Improvement of the Park System of the District of Columbia*, along with a three-dimensional scale model and artists' renderings of the Commission's plan for the monumental core. The comprehensive plan, with special attention given to the National Mall, revived and extended L'Enfant's original design for Washington. As mentioned above, the McMillan Commission Plan was not limited to the city's monumental core, however, but included a system of parks forming a ring around the outside of the city's original boundaries. To McMillan's delight, public reaction was favorable, despite concern over the cost of implementing it. While never officially adopted, the McMillan Commission Plan serves as the benchmark for all future urban planning projects in the capital.

Eight months later, in August 1902, James McMillan died unexpectedly. He left Washington in the heat of the summer for his home in Manchester-by-the-Sea, Massachusetts. Once there, McMillan suffered a heart attack and died on August 10, 1902. McMillan's body was returned to Detroit for a public funeral, while flats in Michigan and Washington, D.C. were flown at half-mast. In 1906, after Taft designated the Washington City Reservoir as McMillan Park Reservoir, Edwin Denby, Congressman from the First District of Michigan wrote,

> "Senator McMillan was respected and loved almost as much in Washington as he was in Detroit, and I cannot think the citizens of Washington would be anything but greatly pleased to have his name given to one of their beautiful parks and more useful institutions. I venture also to suggest that the term McMillan Park should embrace the filtration beds at the plant, the reservoir and all approaches."[xxxiv]

In April 1907, the Michigan Legislature issued resolution number 60, "expressing the appreciation for the naming of the filtration plant the McMillan Park and asking for 'cordial cooperation of all our people for erecting in the Park a suitable memorial.'" That memorial would be the McMillan Fountain, with its three bronze nymphs rising above a granite basin.

The McMillan Park Reservoir and its McMillan Fountain are the only known and surviving memorials to Senator James McMillan.

Future Development

The McMillan Reservoir plant, including its associated historic buildings and more recent new buildings west of First Street, remains actively in use as a reservoir. In 1986, the U.S. Army Corps of Engineers transferred federal ownership of the 25-acre sand filtration plant to the District of Columbia. Since then, the former sand filtration site has sat vacant and neglected. The District of Columbia (DC) government has targeted this property for redevelopment since its acquisition of the property from the federal government. After several previous attempts to come to an agreement about plans for the site, the DC Deputy Mayor for Planning and Economic Development (DMPED) issued a Request for Proposals in 2006 with the goal of attracting a developer to partner with the DC government in the development of the site. In 2007, DMPED

[xxxii] Geoffrey Drutchas, "Gray Eminence in a Gilded Age: The Forgotten Career of Senator James McMillan of Michigan, *Michigan Historical Review*, vol. 28, No. 2 (Fall 2002), p. 98.
[xxxiii] As quoted in Drutchas, "Gray Eminence in a Gilded Age: The Forgotten Career of Senator James McMillan of Michigan," p.100.
[xxxiv] As quoted in the McMillan Park Reservoir, D.C. Application for Historic Landmark,p. 8.

selected Vision McMillan Partners (VMP) as the Master Developer for the McMillan Redevelopment Project. According to their commitment letter with the District of Columbia and community, VMP seeks to balance the equities of economics with public benefit, preservation, and community amenities on the McMillan Site. As such, the McMillan Redevelopment Project will focus on mixed-use development to include a combination of retail, office, and townhouse-style and/or multi-family residential. The proposed plan is currently under review by the D.C. Historic Preservation Review Board.

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**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 #_____
____recorded by Historic American Landscape Survey #_____

**Primary location of additional data:**

_x_ State Historic Preservation Office
____Other State agency
____Federal agency
____Local government
____University
____Other
Name of repository: _____

Historic Resources Survey Number (if assigned): _____

## 10. Geographical Data

**Acreage of Property** 113 acres
(Do not include previously listed resource acreage.)

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

| | Zone | Easting | Northing |
|---|---|---|---|
| 1 | 18 | 3 24 802 | 43 10 500 |
| 2 | 18 | 3 25 065 | 43 10 484 |
| 3 | 18 | 3 25 235 | 43 10 385 |
| 4 | 18 | 3 25 799 | 43 10 324 |

**Verbal Boundary Description** (Describe the boundaries of the property.)

The McMillan Park Reservoir occupies a 113-acre site between North Capitol Street and 5th Street, NW on the east and west, and Bryant Street and Michigan Avenue, NW, on the south and north. The boundaries include parcels 108/5; 108/7; and 108/8 on Square 3126, exclusive of the Bryant Street Pumping Station which shares part of Parcel 108/8 with the reservoir property, and exclusive of the Highway Department Garage, and the Fire Alarm Headquarters on parcel 108/6 of Square 3126. The boundaries also include Square 3128 Parcels A and H.

**Boundary Justification** (Explain why the boundaries were selected.)

The boundaries include all of the resources and land associated with the McMillan Reservoir, the adjacent Sand Filtration Plant, and McMillan Park, known together as McMillan Park Reservoir.

## 11. Form Prepared By

name/title Kim Williams (compiler), Architectural Historian
organization D.C. Historic Preservation Office date June 2012
street & number 1000 4th Street, SW telephone 202 442-8840
city or town Washington, D.C. state DC zip code 20024

e-mail Kim.williams@dc.gov

## Additional Documentation

Submit the following items with the completed form:

- **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. Key all photographs to this map.

- **Continuation Sheets**

- **Additional items:** (Check with the SHPO or FPO for any additional items.)

## Photographs:

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map.

Unless noted otherwise, the following information pertains to all photographs:

**Name of Property:** McMillan Park Reservoir Historic District
**City or Vicinity:** Washington, D.C.
**Photographer:** Kim Williams
**County:** **State:** District of Columbia
**Date Photographed:** July 2012

**Description of Photograph(s) and number**: View looking southwest at sand filtration plant site towards sand bins on south end of site
1 of 48

**Description of Photograph(s) and number**: View looking east at sand filtration plant site at sand bins on north side of site
2 of 48

**Description of Photograph(s) and number**: View looking west across sand filtration plant site with tower at Howard University at far right of photo
3 of 48

**Description of Photograph(s) and number:** View looking north at sand filtration plant site at sand bins and regulator houses on north end of site (Washington Hospital Center in background)
4 of 48

**Description of Photograph(s) and number**: View looking north at eastern-most sand bins at north end of sand filtration plant site.
5 of 48

**Description of Photograph(s) and number**: View looking northwest across northern end of sand filtration plant site.
6 of 48

**Description of Photograph(s) and number**: Court #2 at sand filtration plant site; view looking east at north end of site
7 of 48

**Description of Photograph(s) and number**: Detail of typical sand bin
8 of 48

**Description of Photograph(s) and number**: View looking through base of typical sand bin showing chute used for loading sand into carts
9 of 48

**Description of Photograph(s) and number**: View looking through base of sand bin showing chute and oculus window openings
10 of 48

**Description of Photograph(s) and number**: View of typical regulator house; view looking northeast from south side of sand filtration plant site
11 of 48

**Description of Photograph(s) and number**: Typical regulator house, interior view
12 of 48

**Description of Photograph(s) and number**: Detail of typical regulator house arched entry opening
13 of 48

**Description of Photograph(s) and number**: Detail of typical regulator house entry door
14 of 48

**Description of Photograph(s) and number**: Regulator house at north end of sand filtration plant site
15 of 48

**Description of Photograph(s) and number**: Typical sand washer
16 of 48

**Description of Photograph(s) and number**: Ramp leading from Court #2 to roof of filtration cells; view looking south from north end of site.
17 of 48

**Description of Photograph(s) and number**: View of Portal #28 leading to filtration bed #28 on south end of sand filtration site
18 of 48

**Description of Photograph(s) and number**: View of typical door on portals to filtration cells
19 of 48

**Description of Photograph(s) and number**: View of typical ramp leading from portal into filtration cell
20 of 48

**Description of Photograph(s) and number**: View of typical filtration cell at one of the manhole openings
21 of 48

**Description of Photograph(s) and number**: View of typical filtration cell with manhole opening
22 of 48

**Description of Photograph(s) and number**: View of Portal #1 to Filtration Bed #1 on Reservoir side of site
**Photographer**: Patrice Gilbert of Patrice Gilbert Photography

23 of 48

**Description of Photograph(s) and number**: View looking northwest across basin showing springhouse and the circulating conduit
24 of 48

**Description of Photograph(s) and number**: View looking northwest to springhouse in reservoir basin
**Photographer**: Patrice Gilbert of Patrice Gilbert Photography
25 of 48

**Description of Photograph(s) and number**: View northwest to East Shaft Gatehouse showing northeast and southeast elevations
26 of 48

**Description of Photograph(s) and number:** East Shaft Gatehouse; view looking northwest showing northeast and southeast elevations
**Photographer**: Patrice Gilbert of Patrice Gilbert Photography
27 of 48

**Description of Photograph(s) and number**: East Shaft Gatehouse; view looking southeast showing northwest elevation
28 of 48

**Description of Photograph(s) and number**: East Shaft Gatehouse; view looking southwest showing northeast and northwest elevations
29 of 48

**Description of Photograph(s) and number**: Detail of East Shaft Gatehouse
30 of 48

**Description of Photograph(s) and number**: East Shaft Gatehouse, view of interior
31 of 48

**Description of Photograph(s) and number**: Laboratory/Substation; view looking north showing south elevation
32 of 48

**Description of Photograph(s) and number**: Laboratory/Substation; view looking northeast showing west elevation
33 of 48

**Description of Photograph(s) and number**: Laboratory/Substation; view looking northeast showing west elevation
34 of 48

**Description of Photograph(s) and number**: Pumping Station; view looking southeast showing north and west elevations
35 of 48

**Description of Photograph(s) and number**: Pumping Station; view looking north showing south elevation
**Photgrapher**: Patrice Gilbert of Patrice Gilbert Photography
36 of 48

**Description of Photograph(s) and number**: Pumping station; view of interior
**Photographer**: Patrice Gilbert of Patrice Gilbert Photography
37 of 48

**Description of Photograph(s) and number**: Pumping Station; view of interior
**Photographer**: Patrice Gilbert of Patrice Gilbert Photography
38 of 48

**Description of Photograph(s) and number**: Blacksmith and Storehouse/Machine Shop; general view looking north
39 of 48

**Description of Photograph(s) and number**: Blacksmith Shop and Storehouse/Machine Shop; view looking north showing south elevation
**Photographer**: Patrice Gilbert of Patrice Gilbert Photography
40 of 48

**Description of Photograph(s) and number**: Regulator house on reservoir side of site; view looking northeast
**Photographer**: Patrice Gilbert of Patrice Gilbert Photography
41 of 48

**Description of Photograph(s) and number**: Shelter House/Chemical Treatment Building and Tower; view looking south showing north elevation and tower
42 of 48

**Description of Photograph(s) and number**: Storehouse and Garage; view looking northeast showing south and west elevations
43 of 48

**Description of Photograph(s) and number**: North Controller House; view looking southeast showing north and west elevations
44 of 48

**Description of Photograph(s) and number**: Reservoir Gatehouse; view looking southeast
45 of 48

**Description of Photograph(s) and number**: Reservoir Gatehouse; view looking northwest
46 of 48

**Description of Photograph(s) and number**: Reservoir Gatehouse; view looking south
**Photographer:** Patrice Gilbert of Patrice Gilbert Photographer
47 of 48

**Description of Photograph(s) and number**: McMillan Fountain
48 of 48

**Property Owner:**

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

name United States Government and Government of the District of Columbia

street & number US Army Corps of Engineers 5900 MacArthuer Blvd.
Dept. of Administrative Services, District Building telephone

city or town Washington, D.C. state DC zip code

**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.460 et seq.).

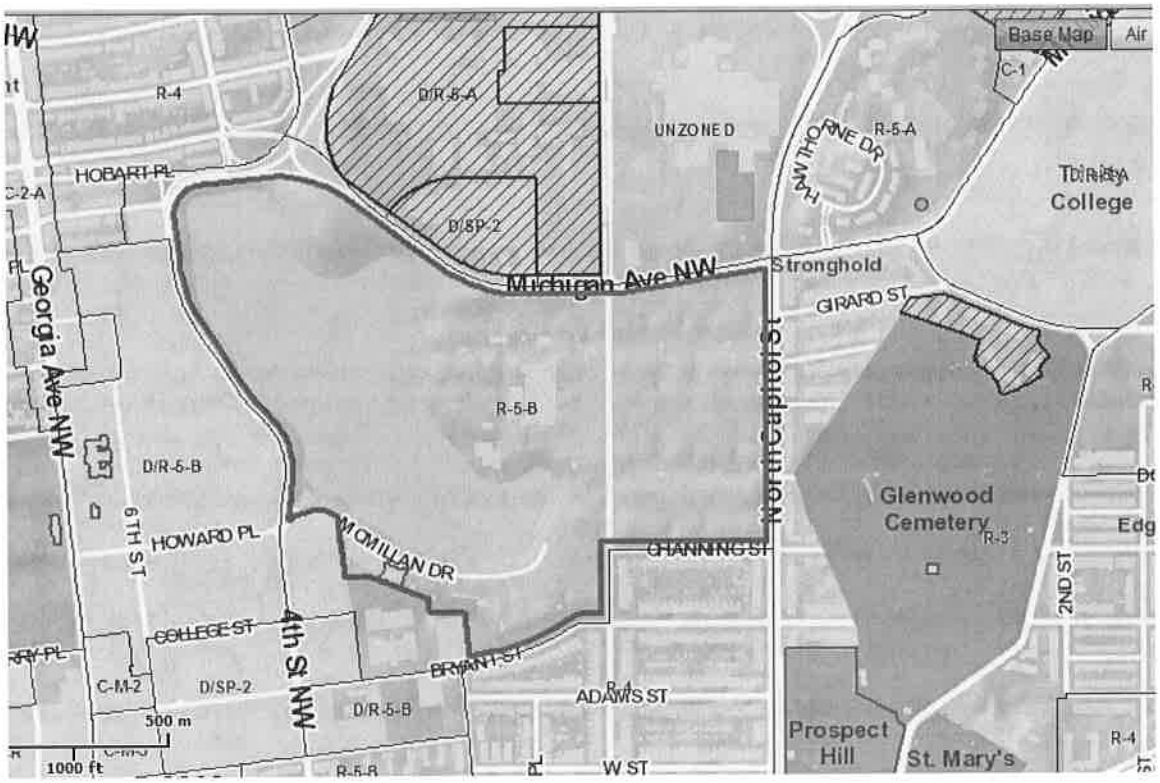
**Estimated Burden Statement**: Public reporting burden for this form is estimated to average 18 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management. U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.

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

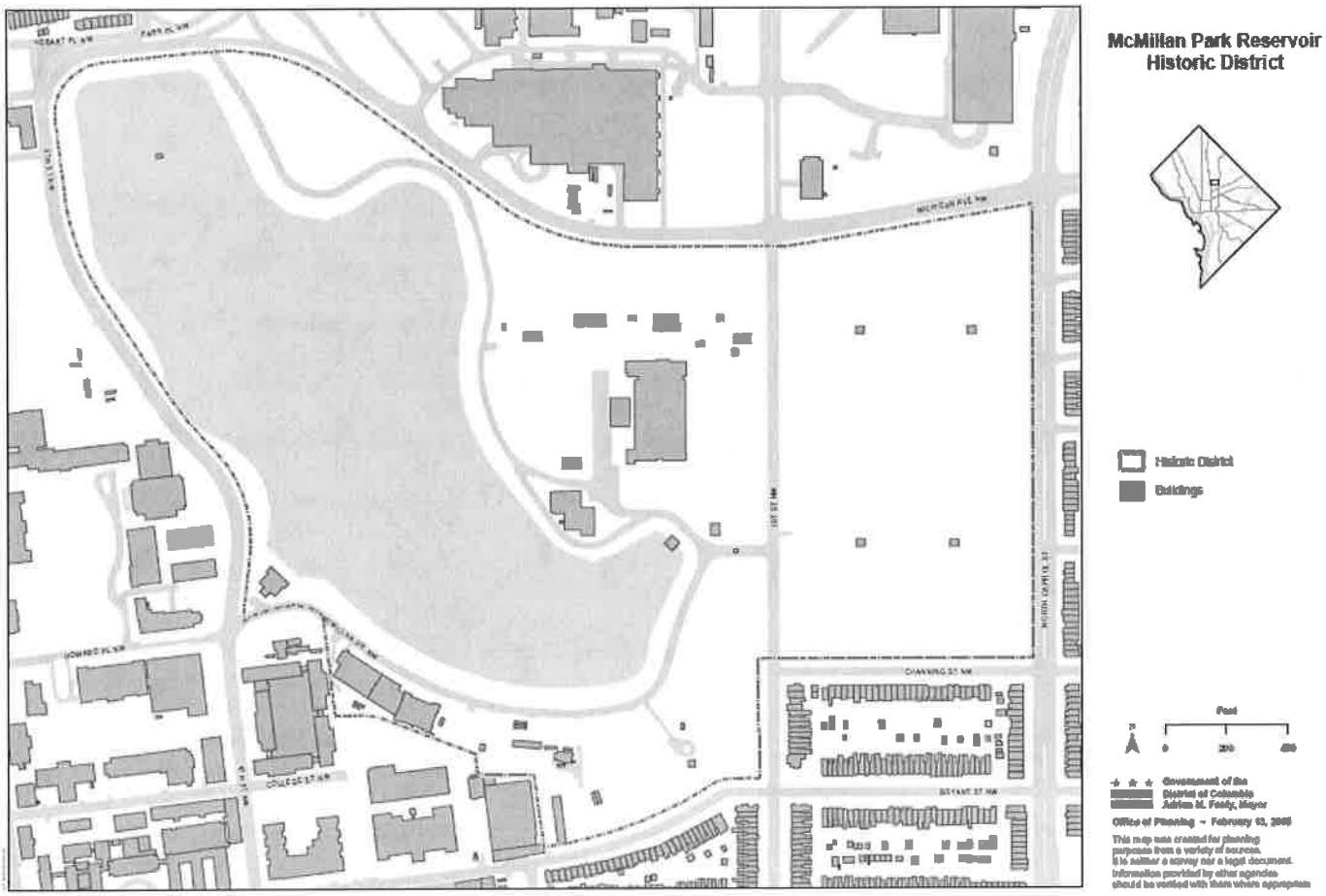
# National Register of Historic Places Continuation Sheet

| |
|---|
| McMillan Park Reservoir Historic District |
| Name of Property |
| Washington, D.C. |
| County and State |
| |
| Name of multiple listing (if applicable) |

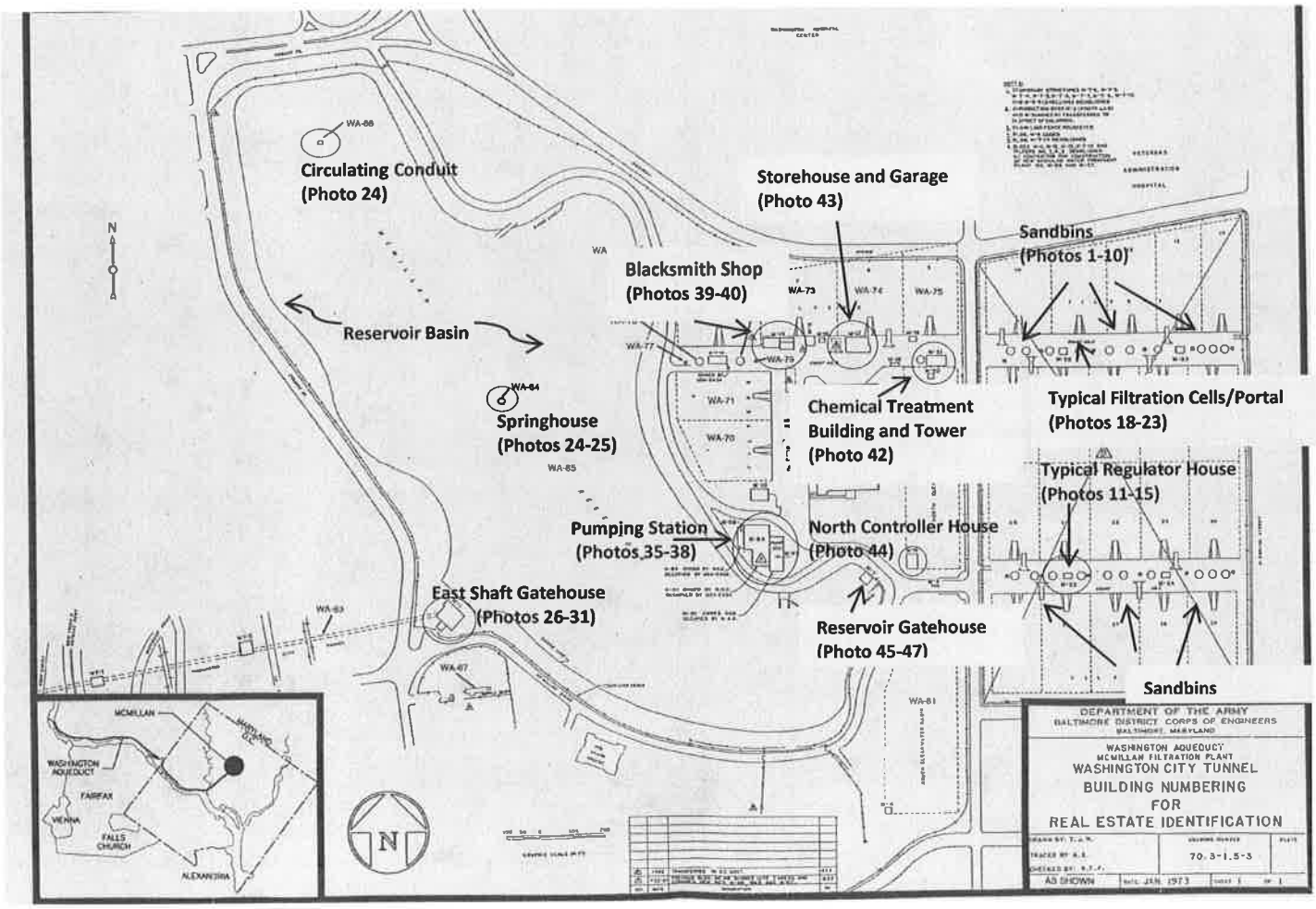
Section number MAPS Page 1



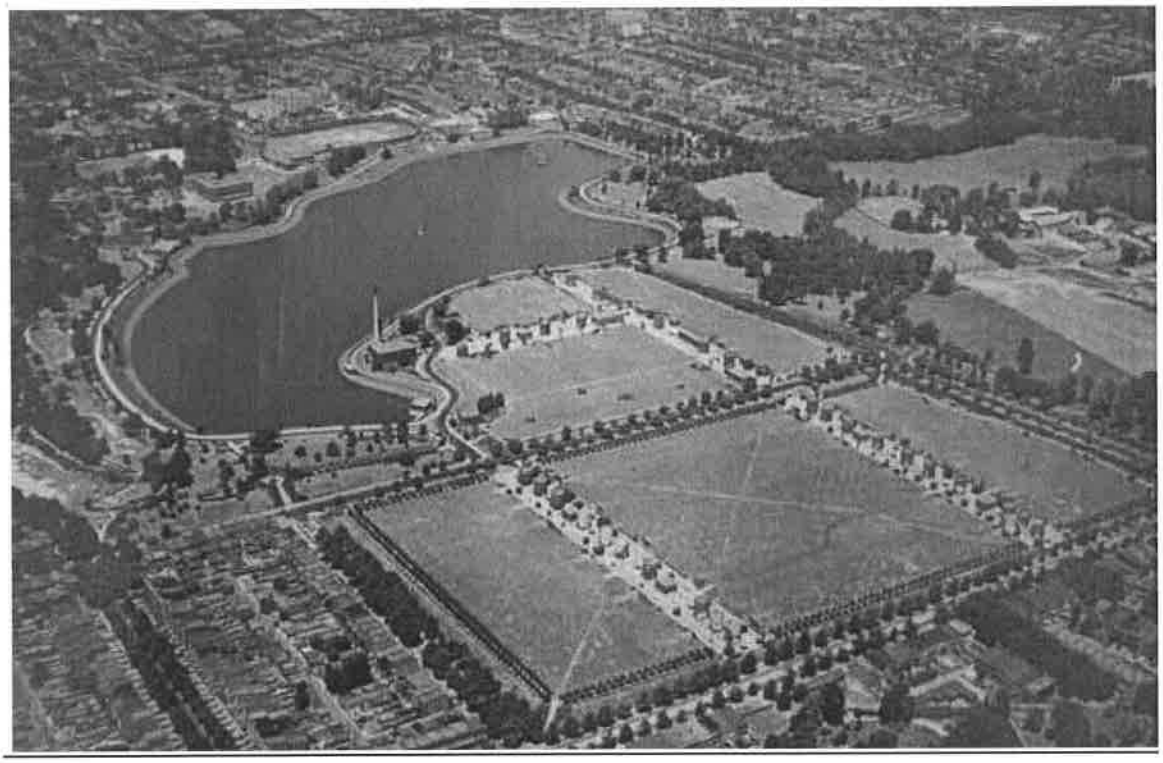

Map showing McMillan Park Reservoir Historic District
(from Property Quest, D.C. Office of Planning, 2012)



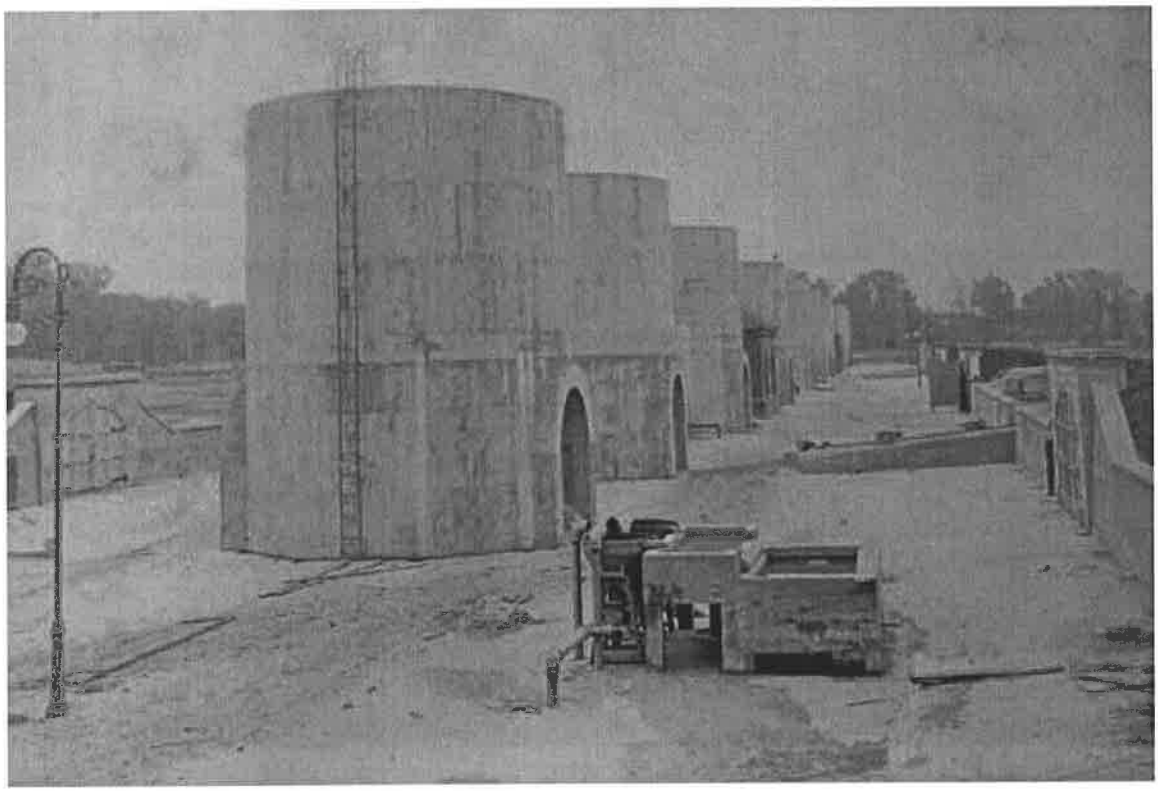

Site plan of McMillan Park Reservoir Historic District
D.C. Office of Planning, 2008



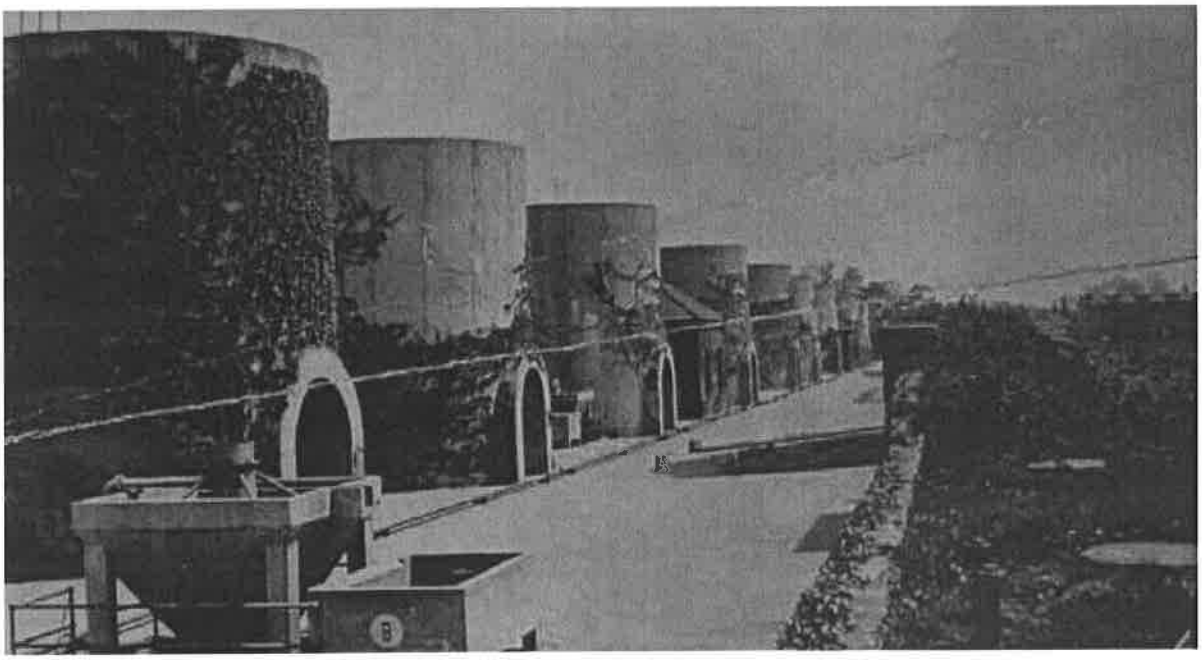

Site Plan and Key to Photographs



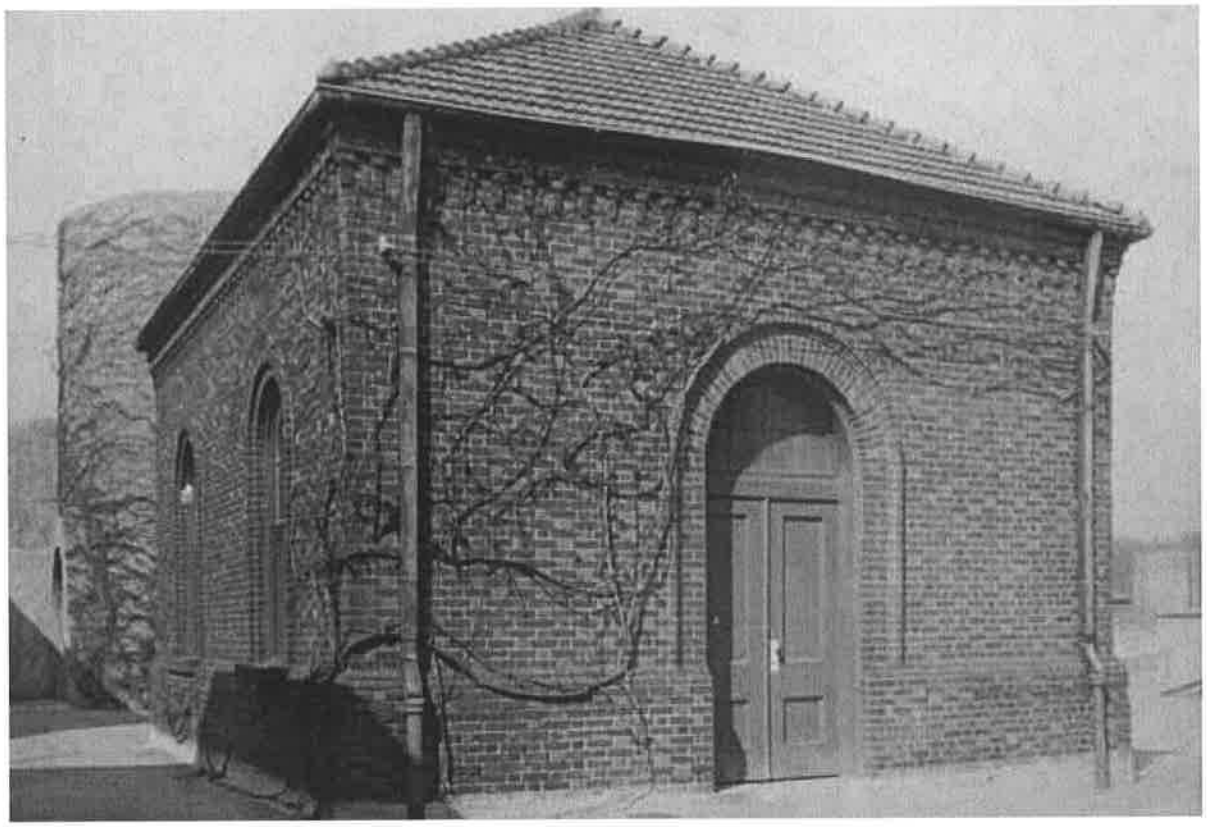
Aerial Photo of Site, ca. 1930
Courtesy of the Archives of the Washington Aqueduct



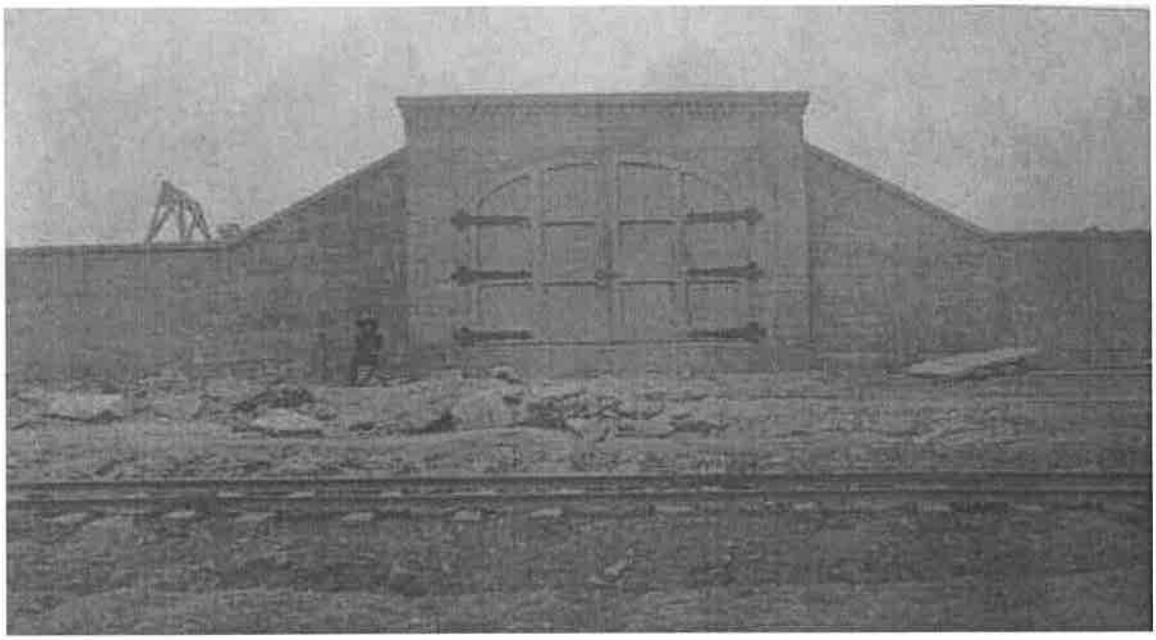
View Looking East Through Court #3, ca. 1904



Service court #3 Looking East, 1944



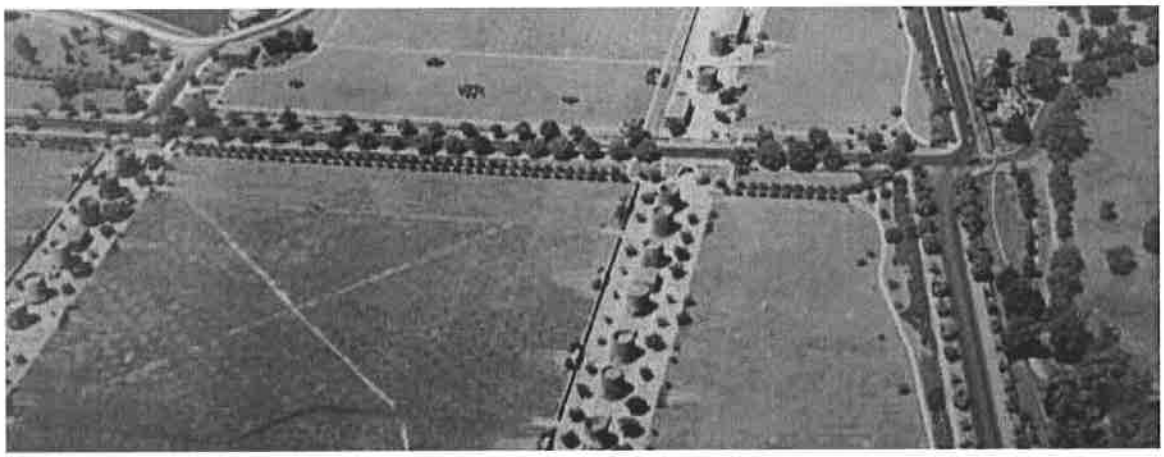
View of Regulator House #1, 1944
Courtesy of the Archives of the Washington Aqueduct



Construction of Filter Bed Portal, 1904
Courtesy of the Archives of the Washington Aqueduct

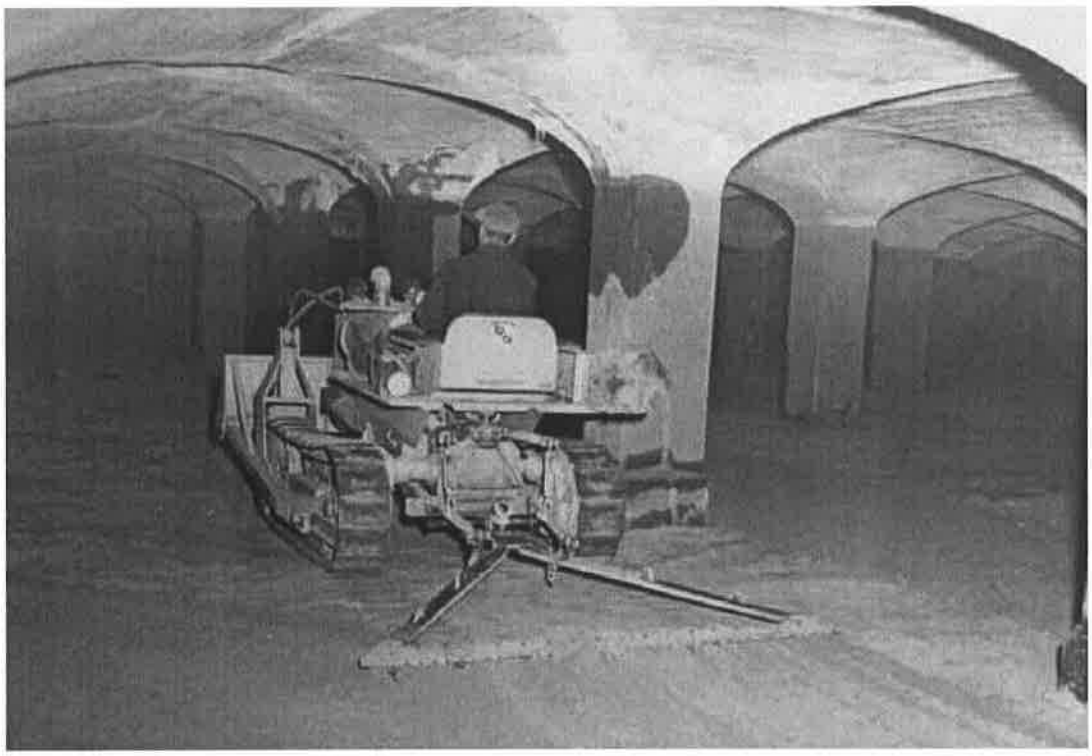
View looking NE over filter beds, ca, 1910

Courtesy of the Archives of the Washington Aqueduct

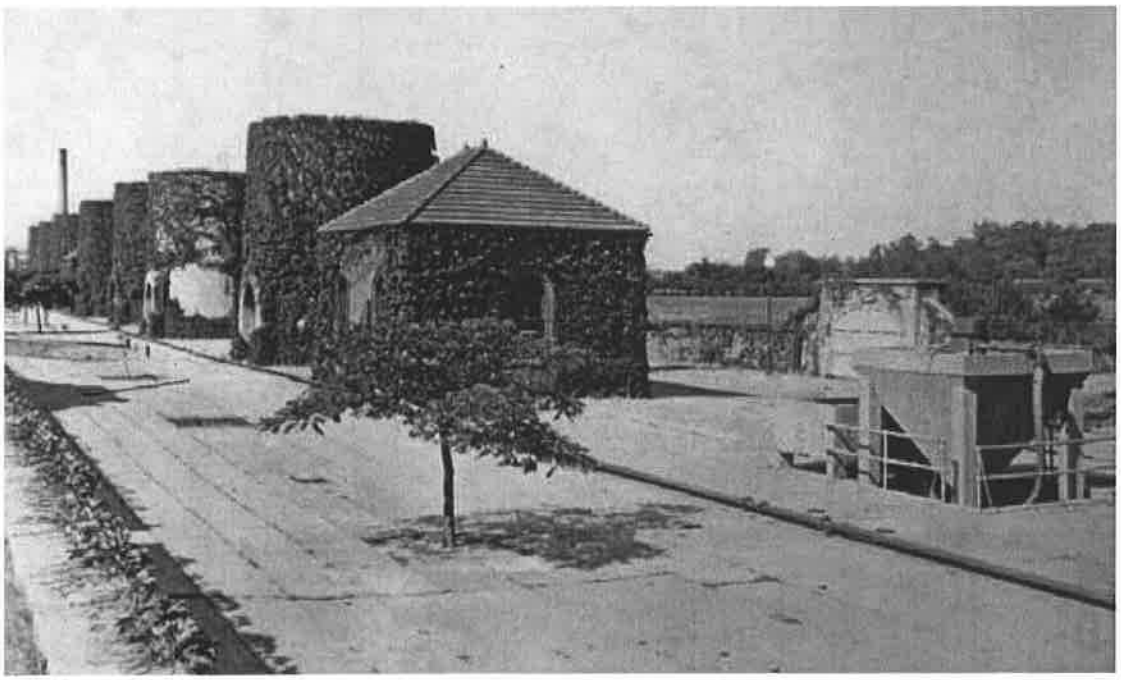


Aerial view of Olmsted Permiter Plantings, 1930
Courtesy of the Archives of the Washington Aqueduct

McMillan Memorial, east of First Street near intersection of Channing Street and First Street (c. 1911)
Courtesy of the Archives of the Washington Aqueduct



**Tractor and filter rake pulverizing the filter sand surface and filter operation (c. 1944)**
Courtesy of the Archives of the Washington Aqueduct

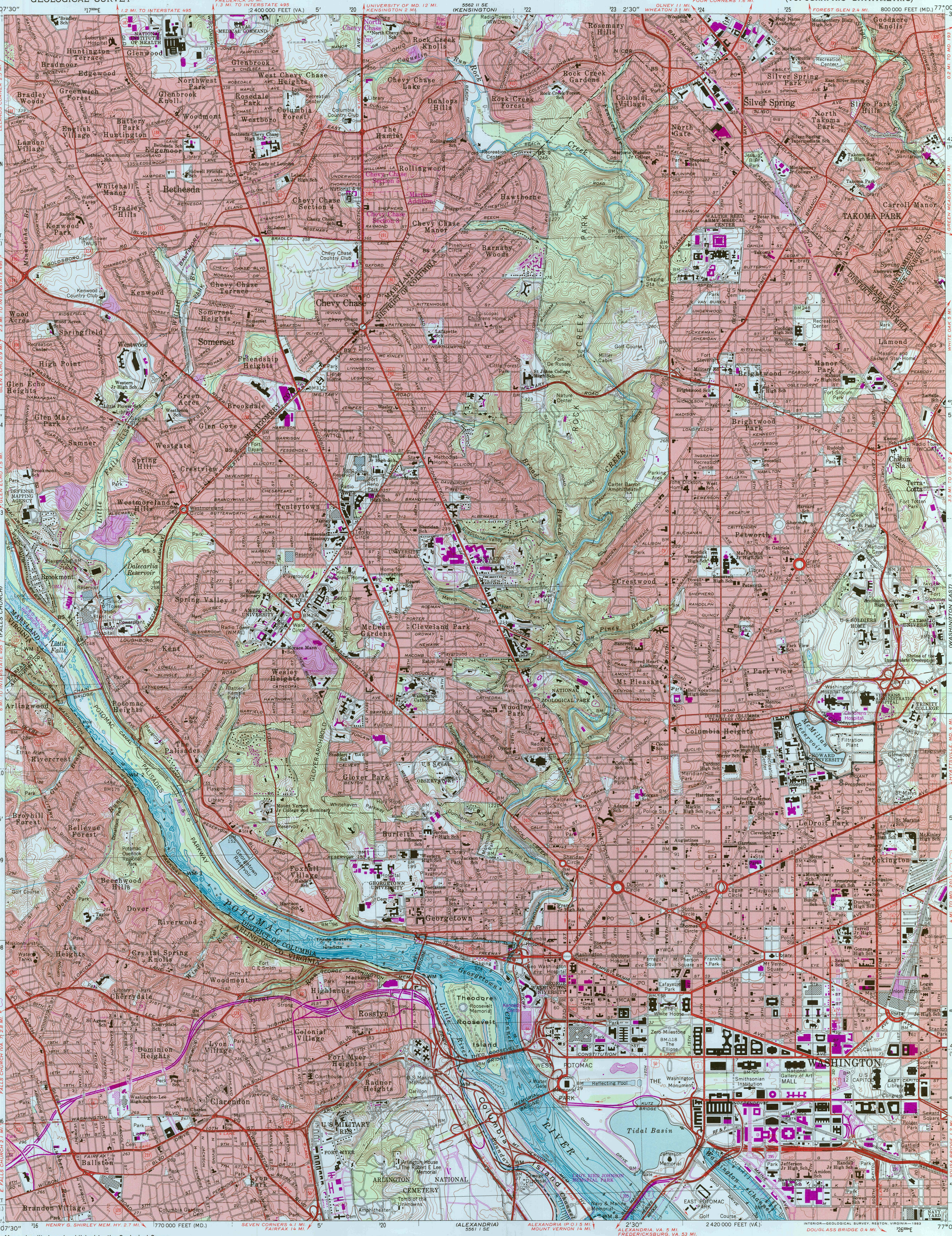


View looking west on Court 3, ca. 1928
Courtesy of the Archives of the Washington Aqueduct

McMillan Park Reservoir Historic District
Washington, DC

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

# WASHINGTON WEST QUADRANGLE
DISTRICT OF COLUMBIA–MARYLAND–VIRGINIA
7.5 MINUTE SERIES
(TOPOGRAPHIC–BATHYMETRIC)




McMillan Park Reservoir Historic District
1. 18/324802E 4310500
2. 18/325065 43/10 484
3. 18/3 2523[illegible] 43103[illegible]

CONVERSION SCALES

To convert feet to meters multiply by .3048
To convert meters to feet multiply by 3.2808

Mapped, edited, and published by the Geological Survey and the National Ocean Service

Control by USGS, NOS/NOAA, NCPS, and WSSC

Compiled by photogrammetric methods from aerial photographs taken 1955. Field checked 1956. Revised 1965

Bathymetry compiled by the National Ocean Service from tide-coordinated hydrographic surveys. This information is not intended for navigational purposes

Mean low water (dotted) line and mean high water (heavy solid) line compiled by NOS from tide-coordinated aerial photographs. Apparent shoreline (outer edge of vegetation) shown by light solid line

Polyconic projection. 10,000-foot grid ticks based on Maryland coordinate system, and Virginia coordinate system, north zone
1000-meter Universal Transverse Mercator grid, zone 18
1927 North American Datum
To place on the predicted North American Datum 1983 move the projection lines 8 meters south and 26 meters west as shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

There may be private inholdings within the boundaries of the National or State reservations shown on this map

Revisions shown in purple and woodland compiled in cooperation with Commonwealth of Virginia agencies from aerial photographs taken 1981 and other sources. This information not field checked
Map edited 1983

Purple tint indicates extension of urban areas

NATIONAL OCEAN SERVICE
HYDROGRAPHIC SURVEY INDEX

HYDROGRAPHIC SURVEY INFORMATION

| Survey Number | Survey Date | Survey Scale | Survey Line spacing (Naut. Miles) |
|---|---|---|---|
| H-9478 | 1977 | 1:5,000 | .01–.08 |
| H-9488 | 1976 | 1:5,000 | .01–.05 |

SCALE 1:24 000

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929
BATHYMETRIC CONTOUR INTERVAL 1 METER WITH SUPPLEMENTARY 0.5 METER CONTOURS—DATUM IS MEAN LOW WATER
THE RELATIONSHIP BETWEEN THE TWO DATUMS IS VARIABLE
THE MEAN RANGE OF TIDE IS APPROXIMATELY 0.4 METER

BASE MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
BATHYMETRIC SURVEY DATA COMPLIES WITH INTERNATIONAL HYDROGRAPHIC ORGANIZATION (IHO) SPECIAL PUBLICATION 44 ACCURACY STANDARDS AND/OR STANDARDS USED AT THE DATE OF THE SURVEY
FOR SALE BY U. S. GEOLOGICAL SURVEY
DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
NATIONAL OCEAN SERVICE, ROCKVILLE, MARYLAND 20852
AND VIRGINIA DIVISION OF MINERAL RESOURCES, CHARLOTTESVILLE, VIRGINIA 22903
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

UTM GRID AND 1983 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

QUADRANGLE LOCATION

ROAD CLASSIFICATION
Heavy-duty — Light-duty
Medium-duty — Unimproved dirt
Interstate Route — U. S. Route — State Route

WASHINGTON WEST, D. C.–MD.–VA.
38077-H1-TB-024
1965
PHOTOREVISED 1983
BATHYMETRY ADDED 1982
DMA 5561 I NE–SERIES V833

ISBN 0-607-13454-2

1

HOWARD UNIVERSITY

19
18

CAUTION

NORTH CLEAR WATER BASIN
CAT

SERVICE