Form No. 10-300 (Rev. 10-74) PH0670693

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY DATA SHEET
RECEIVED DEC 21 1976
DATE ENTERED MAR 30 1978

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC **
Eighth Avenue South Reservoir

AND/OR COMMON

2 LOCATION

STREET & NUMBER
Eighth Avenue South — NOT FOR PUBLICATION

CITY, TOWN — VICINITY OF
Nashville

CONGRESSIONAL DISTRICT
Fifth

STATE: Tennessee — CODE: 47 — COUNTY: Davidson — CODE: 37

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
__DISTRICT	X PUBLIC	X OCCUPIED	__AGRICULTURE	__MUSEUM
__BUILDING(S)	__PRIVATE	__UNOCCUPIED	__COMMERCIAL	__PARK
X STRUCTURE	__BOTH	__WORK IN PROGRESS	__EDUCATIONAL	__PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	__YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	__INDUSTRIAL	__TRANSPORTATION
		X NO	__MILITARY	X OTHER municipal water supply

4 OWNER OF PROPERTY

NAME
Metropolitan Government of Nashville and Davidson County

STREET & NUMBER
Metro Courthouse

CITY, TOWN — VICINITY OF
Nashville

STATE
Tennessee

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.
Metro Courthouse

STREET & NUMBER
Court Square

CITY, TOWN
Nashville

STATE
Tennessee

6 REPRESENTATION IN EXISTING SURVEYS

TITLE
Tennessee Historical and Architectural Survey

DATE
August 1976 — __FEDERAL X STATE __COUNTY __LOCAL

DEPOSITORY FOR SURVEY RECORDS
Tennessee Historical Commission

CITY, TOWN
Nashville

STATE
Tennessee

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
__EXCELLENT	__DETERIORATED	__UNALTERED	X ORIGINAL SITE
X GOOD	__RUINS	X ALTERED	__MOVED DATE_____
__FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Located on Kirkpatrick's Hill, the 8th Avenue South Reservoir was constructed on the site of Fort Casino, a stronghold manned by Union forces during the Battle of Nashville in 1864. City Engineer J. A. Jowett designed the structure, and the contract was let to Whitsett and Adams. The contractor employed 750 men and 50 teams, 9 hoist towers and 22 derricks, 11 steam engines and 3 steam drills in the project which required two years to complete (August 24, 1887 to August 24, 1889). The total cost of the 50,000,000 gallon reservoir was $364,525.21.

The reservoir is eliptically shaped; the major axis measures 603 feet and the minor 463.4 feet. The 33.75-foot-tall walls are 22.9 feet thick at the base and 9 feet at the top and were constructed of rubble faced with limestone ashlar quarried near the site. A brick parapet tops the circumference of the reservoir. A second wall built along the minor axis divides the reservoir into two 25,000,000 gallon basins.

Atop the north wall of the reservoir is a Romanesque brick and stone gatehouse. The rough-faced limestone details--round arch window surrounds, quoins, and the finials surmounting each of the six gables--contrast sharply with the red brick. An unusual feature of the gatehouse is a small octagonal tower on the east side of the building.

Cumberland River water was pumped four miles to Kirkpatrick's Hill through a thirty-six-inch cast iron pipe. This pipe crossed Brown's Creek over a stone arch bridge. River water entered one basin and was stored there to permit the mud to settle; the clear water flowed into the second, distribution basin through a wier at the top of the dividing wall. Once each year the input and output basins were reversed and the former was drained to permit city prisoners to clean out the accumulated mud. In 1908 a system to clarify the water by sedimentation and coagulation was instituted, and a year later the city began employing a sterilization process.

The southeast quadrant of the wall collapsed on November 5, 1912 and released 25,000,000 gallons of water. Two years later the break had been repaired by the Gould Contracting Company at a cost of approximately $100,000. The hole was filled with concrete, and the wall was rebuilt using the original stone. To eliminate further leakage, which was observed in 1920, the basins were relined and waterproofed. In 1974 the reservoir was again cleaned and a floating polyvinyl cover was installed.

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A project presently underway at the Eighth Avenue, South Reservoir will provide for the installation of a poured concrete reinforcing ring around the entire base of the structure. This ring will be largely underground, but in certain critical areas it will rise four or five feet above ground. Sensor rods are to be installed in the reinforcing ring to detect potentially dangerous seismic disturbances. Some of the steps which provide access to the floor of the reservoir from the rim have deteriorated, and these will be repaired. Also the project includes the installation of an elevator in the gatehouse.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE
__1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE
__1600-1699	__ARCHITECTURE	__EDUCATION	__MILITARY	__SOCIAL/HUMANITARIAN
__1700-1799	__ART	X ENGINEERING	__MUSIC	__THEATER
X 1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	__TRANSPORTATION
__1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)
		__INVENTION		

SPECIFIC DATES 1887-89 BUILDER/ARCHITECT J. A. Jowett

STATEMENT OF SIGNIFICANCE

The early settlers of Nashville gathered together in Fort Nashboro for mutual protection against the marauding Indians; they obtained their water from the Cumberland River and two nearby springs. Later families dug wells on their property, caught rainwater in barrels, or purchased it in 25-gallon kegs for 12½ cents each.

The city contracted with Samuel Stacker (and later with the firm of Avery and Ward) to pump water from the river to a reservoir located on Church Street between Fourth and Fifth Avenues, through black locust log pipes. This system operated until March 9, 1830, when the pump house was destroyed by fire. Albert Stein began work on new pumping station and reservoir a year later. Stein used eight-inch lead pipes and some of the old wooden pipes to convey water from the Cumberland to a new 650,000-gallon reservoir. The city drew from this supply until 1891; during the last years it served as an emergency system.

Major W. F. Foster, city engineer, reported on the condition of the municipal waterworks in 1877. He recommended construction of a filtration field on an island in the river, a new pumping station, and elevated, more capacious reservoir. The present Eighth Avenue South Reservoir was completed and in service twelve years later.

The new reservoir was built on thin layers of limestone interspersed with clay. The defective footing resulted in leakage which in turn caused the southeastern wall to settle. On November 5, 1912, at 12:10 a.m. the wall collapsed and 25,000,000 gallons of water roared down the hill toward the State Fairgrounds, sweeping houses from their foundations. Although most residents were in their beds, surprisingly there were no fatalities. The remaining basin stored the city's water until the damaged wall was repaired in 1914. The Eighth Avenue South Reservoir continued to serve the needs of approximately seventy percent of the citizens of Nashville.

From 1889 to 1917, Kirkpatrick's Hill was a favorite recreation area, and bicycle races around the rim of the reservoir were a favoirte pasttime. Fearing sabotage by enemy agents during World War I, the reservoir was closed to the public and has remained a restricted area.

The Eighth Avenue South Reservoir is a major engineering accomplishment, both in design and construction. The American Waterworks Association has designated the structure an American Water Landmark in August 1971.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Wilbur Foster Creighton. Buildings of Nashville. Revised ed. by Wilbur F. Creighton, Jr. and Leland R. Johnson. Nashville: privately printed, 1969.

Arthur Weir Crouch and Harry Dixon Claybook. Our Ancestors Were Engineers. Nashville: Nashville Section American Society of Civil Engineers, 1976.

Information provided by David Paine, Metropolitan Historical Commission, Nashville, Tennessee, n.d.

Information extracted from Annual Report of City of Nashville for fiscal year ending October 1890

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 17

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	16	~~520000~~ 519-930	3999280
B	16	519-930	3999060
C	16	519 ~~580~~ 600	3999130
D	16	519620	3993220

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

Robert E. Dalton, Director of Field Services

ORGANIZATION — DATE

Tennessee Historical Commission — October 1976

STREET & NUMBER — TELEPHONE

170 Second Avenue North — (615) 741-2371

CITY OR TOWN — STATE

Nashville — Tennessee

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL ___ STATE ___ LOCAL X

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE Herbert L. Harper

TITLE Executive Director, Tennessee Historical Commission DATE 12/14/76

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

~~DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION~~ ~~KEEPER OF THE NATIONAL REGISTER~~ DATE 3-30-78

ATTEST: Kathleen Cole ~~KEEPER OF THE NATIONAL REGISTER~~ DATE 3-16-78

GPO 892-453

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Verbal Boundary Description

The property nominated is a quadrilateral area bounded as follows: beginning at point A the line extends in a west-northwestwardly direction 1,000 feet to point D; then in a south-southwestwardly direction 640 feet to point C; thence in an east-southeastwardly direction 1,160 feet to point B; thence in a north-northeastwardly direction 680 feet, to the point of beginning.

1.) The Omohundro Water Filtration Complex District
Northeast of Omohundro Drive

2.) Eighth Avenue South Reservoir (NR 1978)
Eighth Avenue South

3.) Lebanon Road Stone Arch Bridge
Over Brown's Creek at Lebanon Road

The Eighth Avenue South Reservoir was listed on the National Register on March 30, 1978.

Non-contributing buildings on the Omohundro Water Filtration Complex District site include:

- The Office Building - ca. 1970, modern, rectangular one-story brick building with flat roof.
- The Classroom Building - ca. 1980, modern, metal building used for classes and education purposes.
- The Omohundro Water Filtration Complex District site also contains numerous modern chemical tanks at various locations. In addition, the site includes a Nashville Electric Service substation located 75 feet west of the Pumping Station surrounded by a chain link fence.
- The site also includes two Louisville and Nashville Railroad Company right-of-ways. One bisects the property running east and west. The other track runs above the complex on an elevated bridge running north and south.

Eighth Avenue South Reservoir (NR 1978)

Eighth Avenue South Reservoir (NR 1978) is located on Kirkpatrick's Hill, the former site of Fort Casino, used by Union troops in the Battle of Nashville in 1864. The reservoir, designed by City Engineer, J. A. Jowett, was under construction from August 24, 1887 to August 24, 1889. It cost $364,500 to build.

The reservoir is elliptical in shape, with a major axis of 603 feet and a minor axis of 463.4 feet. Its walls, constructed of rubble faced with limestone ashlar quarried near the site, are 22.9 feet thick at the bottom, 8 feet thick at the top and 33.75 feet high. A red brick parapet runs around the top of the wall. The reservoir is divided in two by a wall along its minor axis. Originally, Cumberland River water was pumped into one side, where the mud settled out, and then into the other side for distribution.

Sitting atop the wall on the north side is a small brick and stone gatehouse. It is a picturesque building with Romanesque details executed in limestone which contrasts with the red brick. There is a small octagonal tower on the east side and rough faced stone outlines the round arched windows and forms quoins at the corner of the building. The apex of each of the building's six gables is adorned by a stone finial.

Lebanon Road Stone Arch Bridge

Built in 1888 to transport a 36 inch water main across Brown's Creek, as well as Lebanon Road traffic, the Lebanon Road Stone Arch Bridge is a single masonry arch, 40 feet in length, and 25 feet wide. At either end of the bridge are 33' 6" stepped wingwalls. The structure is composed of large rectangular coursed limestone of varying sizes. Smaller stones form a rail at the top of the bridge. The arch is lined with eight courses of common bond red brick. Abandoned by traffic in 1925 the bridge remains unaltered and continues to transport water as it was originally intended.

the upper island would be sufficient. The filter gallery consisted of a cast iron cage, 152 feet long, 6 feet high, and 10 feet wide, and placed in the natural gravel beds of the upper island. (The upper island was adjacent to the pumping station; the southern channel has since been filled in.) While this system worked fairly well, it still permitted some silt to reach the reservoir. When the river was low, the city took its water essentially "unfiltered." With increases in population and demand, the system increased its capacity to 30 million gallons per day with the installation of two Worthington Pumps, one in 1891 and the second in 1893. Power for the pumps was provided from coalfired boilers and steam turbines. In 1892 an intake structure was completed 1700 feet upriver from the pumping station, thus eliminating the need for the filter gallery. With ever increasing demand the city replaced the boiler house with a larger structure in 1926. Built to house the steam boilers that powered the pumps, this building was converted to the control station in 1953 when the system switched to electric-powered equipment.

In 1929-30, the third building, the filtration plant, was erected with a capacity of 28 million gallons per day. Both the new boiler house and the filtration plant were designed by the Chester Engineers of Pittsburg, Pennsylvania and built by the Foster and Creighton Company of Nashville. Additions to the filtration building in 1932, 1953, and 1963, brought the capacity to its present level of 90 million gallons per day. Floridation of city water began in 1953.

Lebanon Road Stone Arch Bridge

In 1888 the site of the new pumping plant was seen as an important factor in the quality of service it could provide. Prior to 1888 the old pumping plants had at times been hindered by river water with a high degree of muddiness. This was due primarily to water flowing from Brown's Creek into the Cumberland River. Brown's Creek was known to become very muddy after hard rains. The site for the new Pumping Plant therefore, would be above, or up-river from Brown's Creek. By locating at this site however, a new problem was created; how to transport the water across Brown's Creek in order to reach the new reservoir four miles away on Kirkpatrick's Hill. This was accomplished with the erection of a stone arch bridge which carried a 36 inch water main across Brown's Creek. The bridge also carried Lebanon Road traffic. The bridge was designed by J. A. Jowett, City Engineer and erected by the Foster and Creighton Company in 1888, one of the earliest commissions for that firm. The bridge was abandoned by traffic in 1925 when a new structure was completed to handle heavier demand. However, the bridge continues to support the 36 inch water main and still serves as the means for water to cross Brown's Creek to reach the reservoir.

Eighth Avenue South Reservoir (NR 1978)

Construction of a new 50 million gallon reservoir on Kirkpatrick's Hill on Eighth Avenue South, began in 1887 and was completed two years later in 1889. J. A. Jowett, City Engineer, designed the structure and the construction contract was awarded to Whitsett and Adams. The structure was designed with a 463 foot wall dividing the basin

into two sections. Originally water was pumped into one side, where the mud settled out, and then into the other side for distribution. Once a year the side used for settling was drained and city prisoners cleared out the mud. This configuration proved to be a blessing, for on November 5, 1912, the southeast quadrant of the wall collapsed sending 25 million gallons of water down Kirkpatrick's Hill toward the State Fairgrounds. The accident caused considerable property damage but fortunately no one was killed. The broken wall was filled with concrete and rebuilt using the original stone, a process that took two years. Druing the period of repair the city's water needs were filled by the other section of the reservoir that had not been damaged.

From 1889 to 1917, Kirkpatrick's Hill was a favorite recreation area, and bicycle races around the rim of the reservoir were a favorite pastime. Fearing sabotage by enemy agents during World War I, the reservoir was closed to the public and has remained a restricted area.

The Eighth Avenue South Reservoir is a major engineering accomplishment, both in design and construction. The American Waterworks Association designated the structure an American Water Landmark in 1971 and the reservoir was listed in the National Register of Historic Places in 1978.

Three individuals, "Captain" George Reyer, Robert L. Lawrence, Jr., and James A. Jowett, Jr., played significant roles in the evolution of the system. George Reyer became superintendent of the City Waterworks in 1881. His foresight in the deisgn and planning of the new system is the primary reason it is still in use today. Following his departure from Nashville in 1898, he was also instrumental in the development of the water system in Birmingham, Alabama and later became the Superintendent of the Interurban Waterworks System in New York City. In 1908 he returned to Nashville determined to make Nashville's system "the best in any city" and instituted a system of improvements until his death in 1932. Known as "Captain" Reyer, he received his military title from his service as commander of the famous Porter Rifles - "the pride of Nashville" - from 1879 to 1885. Reyer also played a key role in the lighting system for the Centennial Celebration in 1897. In honor of his service to the city the waterworks pumping station was renamed the George Reyer Pumping Station in 1932 after his death.

Robert Lawrence, Jr., who later became known as "Mr. Waterworks," began his career with the waterworks in 1925 as a graduate of the Vanderbilt School of Engineering. Along with Captain Reyer, Lawrence contributed greatly in the development of the filtration plant in 1932. In 1963, the City Council voted to rename the filtration plant The Robert L. Lawrence Jr. Filtration Plant.

James A. Jowett, Jr., came to Nashville in 1883 from Manchester, England where he served as district engineer. He was employeed as Nashville's City Engineer from 1886 to 1898. His most notable contributions include the Eighth Avenue South Reservoir, the Lebanon Road Stone Arch Bridge, and the design for the Waverly Place Subdivision in South Nashville, one of Nashville's first subdivisions to be planned with curving streets and gently rolling terrain.

Verbal boundary description and justification

The Omohundro Water Filtration Complex District
Starting at a point on the Cumberland River and the eastern boundary of parcel 94-7-8, then running south and then southwest along the property line of parcel 94-7-8 to a point where it meets parcel 94-7-23. Then following the property line of parcel 94-7-23, denoted by a chainlink fence, south, then west, then northwest, to a point where it meets the Louisville and Nashville Railroad right-of-way. From that point the boundary runs due north to the bank of the Cumberland River, then along the bank of the river east to the starting point. Approximately 23 acres.

Intake Tower
The intake tower was an integral part of the waterworks system and its inclusion contributes substance to the nomination's theme. Because of its distance from the Omohundro Water Filtration Complex District it was included in a discontiguous manner. The intake tower stands in the Cumberland River 1700 feet east of the Omohundro Water Filtration Complex District. The tower is 50 feet from the river's south bank, adjacent to parcel 94-8-143. Less than 1 acre.

Eighth Avenue South Reservoir (NR 1978)
Eighth Avenue South Reservoir includes all of parcel 105-6-84.*

The Lebanon Road Stone Arch Bridge
The Lebanon Road Stone Arch Bridge include the bridge and its abutments, located just north of, and partially under the current Lebanon Road Bridge where it crosses Brown's Creek. Less than 1 acre.

The boundaries of this thematic nomination were chosen to include all the structures in the system and to accurately convey the sense of site and setting of the properties.

* This is a clarification of the boundary description of the Eighth Avenue South Reservoir and does not designate a change in the original boundary description of 17 acres.

NPS Form 10-900-a
(3-82)

OMB No. 1024-0018
Expires 10-31-87

United States Department of the Interior
National Park Service

National Register of Historic Places Inventory—Nomination Form

Continuation sheet | Item number | Page

Multiple Resource Area
Thematic Group

dnr-11

Name Omohundro Waterworks System TR
State Davidson County, TENNESSEE

Nomination/Type of Review		Date/Signature
	Substantive Review Cover — A Schlagel 5/13/87	
1. Lebanon Road Stone Arch Bridge	Keeper	A Schlagel 5/13/87
	Attest	
2. Omohundro Water Filtration Complex District	Keeper	A Schlagel 5/13/87
	Attest	
3. Eigth Avenue South Reservoir (already listed 3-30-78)	Keeper	
	Attest	
4.	Keeper	
	Attest	
5.	Keeper	
	Attest	
6.	Keeper	
	Attest	
7.	Keeper	
	Attest	
8.	Keeper	
	Attest	
9.	Keeper	
	Attest	
10.	Keeper	
	Attest	