SITE FILE COPY

Form 10-300
(July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

(Type all entries -- complete applicable sections)

STATE:	
Missouri	
COUNTY:	
St. Louis City	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE

SEE INSTRUCTIONS

1. NAME

COMMON:
Grand Avenue Water Tower or Old Water Tower

AND/OR HISTORIC:
Water Tower Number 1

2. LOCATION

STREET AND NUMBER:
Intersection, East Grand Avenue and 20th Street

CITY OR TOWN:
St. Louis

STATE	CODE	COUNTY:	CODE
Missouri	24	St. Louis City	510

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP		STATUS	ACCESSIBLE TO THE PUBLIC
☐ District ☐ Building ☐ Site ☒ Structure ☐ Object	☒ Public ☐ Private ☐ Both	Public Acquisition: ☐ In Process ☐ Being Considered	☐ Occupied ☒ Unoccupied ☐ Preservation work in progress	Yes: ☒ Restricted ☐ Unrestricted ☐ No

PRESENT USE *(Check One or More as Appropriate)*

☐ Agricultural	☐ Government	☐ Park	☐ Transportation	☐ Comments
☐ Commercial	☐ Industrial	☐ Private Residence	☒ Other *(Specify)* Landmark	
☐ Educational	☐ Military	☐ Religious		
☐ Entertainment	☐ Museum	☐ Scientific		

4. OWNER OF PROPERTY

OWNER'S NAME:
City of St. Louis (Water Division)

STREET AND NUMBER:
1640 South Kingsbighway

CITY OR TOWN:	STATE:	CODE
St. Louis	Missouri 63110	24

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC:
St. Louis City Hall

STREET AND NUMBER:
12th and Market Streets

CITY OR TOWN:	STATE	CODE
St. Louis	Missouri 63103	24

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY:
Building Art in St. Louis, Two Centuries (George McCue)

DATE OF SURVEY: 1964 ☐ Federal ☐ State ☐ County ☒ Local

DEPOSITORY FOR SURVEY RECORDS:
St. Louis Chapter, American Institute of Architects

STREET AND NUMBER:
107 North 7th Street

CITY OR TOWN:	STATE:	CODE
St. Louis	Missouri 63101	24

STATE: Missouri
COUNTY: St. Louis City
FOR NPS USE ONLY
ENTRY NUMBER
DATE

Form 10-300a
(Dec. 1968)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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INVENTORY - NOMINATION FORM

(Continuation Sheet)

STATE	
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COUNTY	
St. Louis City	
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(Number all entries)

GRAND AVENUE WATER TOWER
or
OLD WATER TOWER

6.

Missouri State Historical Survey (state)

1969

Missouri State Park Board

P.O. Box 176

1204 Jefferson Building

Jefferson City, Missouri 65101 Code: 24

7. DESCRIPTION

CONDITION	(Check One)					
	☒ Excellent	☐ Good	☐ Fair	☐ Deteriorated	☐ Ruins	☐ Unexposed
	(Check One)		(Check One)			
	☒ Altered	☐ Unaltered	☐ Moved	☒ Original Site		

DESCRIBE THE PRESENT AND ORIGINAL *(If known)* PHYSICAL APPEARANCE

The Grand Avenue Water Tower was designed by St. Louis architect, George I. Barnett and completed in 1871. It is a collossal Corinthian column with plinth, base, shaft and capital, totalling 154 feet high, constructed in brick and stone with cast iron trim.

The brick shaft is 116 feet high, 14 feet in diameter at the base and 11'10" in diameter at the neck. The shaft walls are 2'2" thick at the base and 12 inches thick at the top. The octagonal plinth is 20 feet in diameter between opposite faces. The column and plinth are constructed primarily of brick laid in running bond. Two broad courses of stone give the appearance of structural reinforcement near the base of the shaft. The octagonal plinth has a double fascia at grade level and at its top. The 6 foot high column base with two torus mouldings, and scotia between fillets, is also stone. The capital with its several parts (abacus, volutes, roses, caulicoli and acanthus leaves) is cast iron.

The original entrance is on the west side.

The column was built to house a standpipe which absorbed the surge from the reciprocating water pumps of 1871 and, thus, maintained an even water pressure in the area. The standpipe was five feet in diameter, made of boiler iron. It was served by three induction pipes leading from the "high service engines" (Report of the Board of Water Commissioners, May 1, 1871), two eduction pipes leading along Grand Avenue to the storage reservoir on Compton Hill, and one eduction pipe connecting directly with the city distribution at Fourteenth Street.

The interior of the column was originally served by a narrow stairway which wound around the standpipe, spanning the void between the standpipe and the interior surface of the shaft. When built the structure cost $35,530.38. (Report of the Board of Water Commissioners, May 1, 1871.)

The exterior appearance of the structure remains essentially the same as when it was completed. On the interior the standpipe and winding stairway were removed after the City Water Department discontinued its use in 1912. Alterations include 1) the installation of a vertical metal ladder attached to the interior surface of the shaft to provide access for maintainance, 2) the addition of an aircraft warning light at the top of the tower, and 3) the addition of the railing to the top of the capital.

The column is presently in need of a routine painting of the exterior. The cast iron capital has been recently reanchored and the column is in sound structural condition.

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Form 10-300a
(July 1969)

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GRAND AVENUE WATER TOWER
or
7. OLD WATER TOWER

This summary description of the physical appearance of the building is based, in part, on data included in the field report by architectural consultant W. Philip Cotton, Jr., A.I.A., received June 1969. The report was contracted by the Missouri State Park Board and is filed at its central office, P.O. Box 176, 1204 Jefferson Building, Jefferson City, Missouri 65101.

8. SIGNIFICANCE

PERIOD *(Check One or More as Appropriate)*

- ☐ Pre-Columbian
- ☐ 15th Century
- ☐ 16th Century
- ☐ 17th Century
- ☐ 18th Century
- ☒ 19th Century
- ☐ 20th Century

SPECIFIC DATE(S) *(If Applicable and Known)* 1871

AREAS OF SIGNIFICANCE *(Check One or More as Appropriate)*

- Aboriginal
  - ☐ Prehistoric
  - ☐ Historic
- ☐ Agriculture
- ☒ Architecture
- ☐ Art
- ☐ Commerce
- ☐ Communications
- ☐ Conservation
- ☐ Education
- ☒ Engineering
- ☐ Industry
- ☐ Invention
- ☐ Landscape Architecture
- ☐ Literature
- ☐ Military
- ☐ Music
- ☐ Political
- ☐ Religion/Philosophy
- ☐ Science
- ☐ Sculpture
- ☐ Social/Humanitarian
- ☐ Theater
- ☐ Transportation
- ☐ Urban Planning
- ☐ Other *(Specify)*

STATEMENT OF SIGNIFICANCE

The Grand Avenue Water Tower is significant as an architect-designed landmark of the neighborhood in which it has been the tallest constructed element for almost 100 years. With the opening of the Mark Twain Expressway to the north, the tower has become an important city landmark which is visible from this major circulation artery. Although its function was utilitarian, the design of this well proportioned column accurately follows the tenants of classic Greek architecture. It was placed at the center of the intersection of two major streets in the North St. Louis area.

This combination of providing a housing for a necessary mechanical function in a large-scale public monument fortuitously gave to an otherwise ordinary section of St. Louis, a tall, vertical element which has served as an orientation and location reference point. Location reference elements, whether they be a water tower, as in this instance, a church spire, clock tower, or other tall vertical structures, establish neighborhood identity as being tied to a specific place. The automobile and contemporary man's many spheres of involvement, "...the corporation, the profession, the labor union, and the like..." are bringing about the loss of neighborhood identity with geographically defineable units. (David W. Minar and Scott Greer. The Concept of Community, 1969, Chapter 3, "Community as Place," p. 47 ff.)

The Grand Avenue Water Tower, or stand pipe, is the earliest of three towers constructed in St. Louis in the late nineteenth century for the purpose of reducing the intensity of the water pressure pulse as it left the reciprocating pumps and creating an even-pressured flow of water to consumers. The other towers were the "Red Water Tower" or "Bissell Street Water Tower" at Blair and Bissell streets, designed by St. Louis architect, William S. Eames (Report of the Board of Water Commissioners, St. Louis, April 11, 1887), and the Compton Heights Tower, on South Grand Avenue, designed, 1889, by Harvey Ellis for St. Louis architect George R. Mann. (Eileen Phyllis Manning Michaels. "The Architectural Designs of Harvey Ellis," unpublished Master's thesis, University of Minnesota, 1953.) All three towers remain standing. None are any

SEE INSTRUCTIONS

longer functional as water towers, but all are important landmarks, and orientation reference points in St. Louis.

One source refers to more than 423 standpipes in the United States. (James N. Hazlehurst, Towers and Tanks for Waterworks. 1910, pp. 7-9.)

Six towers remain standing. Chicago, New York and Milwaukee each have one tower. In 1969 these three towers were designated American Water Landmarks, by the American Waterworks Association, Inc. (Edward A. Ruesing, Field Report, received March 1970, and filed at the central office of the Missouri State Park Board, P.O. Box 176, 1204 Jefferson Building, Jefferson City, Missouri 65101.) The survival of three water towers in St. Louis is exceptional.

Standpipes serve a purpose similar to that of water storage tanks elevated on steel supporting towers or trestles. In the standpipe design, however, the weight of the "effective upper 20 or 30 feet of water" was supported by a vertical column of water rather than by a trestle. (Hazlehurst, pp. 9 f.) The standpipes were the earlier form of water storage structure, but because of their greater cost and history of frequent structural failure, standpipes were seldom constructed after 1910. (Alfred Douglas Flinn, Robert Spurr Weston and Clinton Lathrop Bogert, Waterworks Handbook. 1916, p. 530; and Hazlehurst, pp. 12b-31b.)

Although it might seem that the masonry sheathing for the cast iron standpipe was added as a purely gratuitous gesture on the part of the water department, such a sheathing had been found to be essential to the long life and service of the standpipe in climates where weather was occasionally freezing. The history of standpipe failures (Hazlehurst, pp. 12b-31b.) makes it clear that the exposed metal pipes frequently burst in cold climates because of the enormous pressures created by ice inside the standpipes. With the need for a masonry jacket for the standpipes came the recommendation that this sheath be handsomely designed. (Hazlehurst, p. 310.)

Form 10-300a
(July 1969)

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(Continuation Sheet)

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8. (# 2)

GRAND AVENUE WATER TOWER
or
OLD WATER TOWER

The towers were of added importance for their role as part of the modern and comprehensive water distribution system in the City of St. Louis. The development of the water department had a significant influence on the city's physical expansion. Builders and investors were attracted to neighborhoods that offered the double amenities of sanitation and fire protection which this system provided.

The Grand Avenue Water Tower standpipe was not used after 1912 when the Water Department converted to updated equipment which produced a more even flow of water than the earlier pumps had. After that time the column was maintained as a North St. Louis monument. When repairs were needed in the 1920's and 1930's, members of the city government wanted to dismantle the tower. The Water Tower Merchants Association, an organization composed of area businessmen, successfully agitated for the necessary repairs. The St. Louis Water Department continues to keep the structure in good repair. (W. Philip Cotton, Jr., A.I.A., Architectural Consultant Field Report, June 1969.)

George Ingham Barnett was born in Nottingham, England in 1815. He studied under Sir Thomas Hine in London and came to the United States in 1839. He arrived in St. Louis late that year and worked for a brief time in the offices of several local architects before establishing his own practice. During the subsequent 50 years St. Louis gained many buildings of his design. His son, Thomas P. Barnett, and grandson, George H. Barnett, both followed him in the architectural profession, also based at St. Louis. George I. Barnett was a charter member of the American Institute of Architects. He died at St. Louis in 1898. (John Albury Bryan, Missouri's Contribution to American Architecture, 1928, pp. 11-12.)

9. MAJOR BIBLIOGRAPHICAL REFERENCES

1. Bryan, John Albury. Missouri's Contribution to American Architecture. St. Louis, Missouri: St. Louis Architectural Club, 1928.

2. Cotton, W. Philip, Jr., A.I.A. Architectural Consultant Field Report, received June 1969, contracted by the Missouri State Park Board and filed at its central office, P.O. Box 176, 1204 Jefferson Building, Jefferson City, Missouri 65101.

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY									OR	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES					
CORNER	LATITUDE			LONGITUDE						LATITUDE			LONGITUDE		
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds				Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
NW	°	'	"	°	'	"				38 °	40 '	13 "	90 °	12 '	31 "
NE	°	'	"	°	'	"									
SE	°	'	"	°	'	"									
SW	°	'	"	°	'	"									

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: Less than one

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

STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE

11. FORM PREPARED BY

NAME AND TITLE: M. Patricia Holmes, Research Architectural Historian

ORGANIZATION: Missouri State Park Board
State Historical Survey and Planning Office

DATE: April 20, 1970

STREET AND NUMBER: P.O. Box 176, 1204 Jefferson Building

CITY OR TOWN: Jefferson City

STATE: Missouri 65101

CODE: 24

12. STATE LIAISON OFFICER CERTIFICATION

As the designated State Liaison 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. The recommended level of significance of this nomination is:

National ☐ State ☐ Local ☒

Name Joseph Jaeger, Jr.

Title Director, Missouri State Park Board, and Missouri State Liaison Officer

Date

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

Chief, Office of Archeology and Historic Preservation

Date

ATTEST:

Keeper of The National Register

Date

SEE INSTRUCTIONS

Form 10-300a
(July 1969)

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INVENTORY - NOMINATION FORM

(Continuation Sheet)

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9.

GRAND AVENUE WATER TOWER
or
OLD WATER TOWER

3. Flinn, Alfred Douglas, Robert Spurr Weston and Clinton Lathrop Bogert. Waterworks Handbook. New York: McGraw-Hill Book Company, Inc., 1916.

4. Hazlehurst, James N. Towers and Tanks for Water-works. New York: John Wiley & Sons, 1910.

5. Manning (Michaels), Eileen Phyllis. "The Architectural Designs of Harvey Ellis." Unpublished Master's thesis, University of Minnesota, 1953.

6. Minar, David W. and Scott Greer. The Concept of Community. Chicago: Aldine Publishing Company, 1969.

7. Report of the Board of Water Commissioners, (St. Louis) May 1, 1871.

8. Ruesing, Edward A. Field Report, received March, 1970, and filed at the central office of the Missouri State Park Board, P.O. Box 176, 1204 Jefferson Building, Jefferson City, Missouri 65101.

Form 10-301
(Dec. 1968)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES

PROPERTY MAP FORM

(Type all entries - attach to or enclose with map)

STATE	
Missouri	
COUNTY	
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SEE INSTRUCTIONS

1. NAME

COMMON: Grand Avenue Water Tower or Old Water Tower

AND/OR HISTORIC: Water Tower Number 1

2. LOCATION

STREET AND NUMBER: Intersection, East Grand Avenue and 20th Street

CITY OR TOWN: St. Louis

STATE:	CODE	COUNTY:	CODE
Missouri	24	St. Louis City	510

3. MAP REFERENCE

SOURCE: U.S.G.S. 7.5' Quadrangle "Granite City, Ill.-Mo."

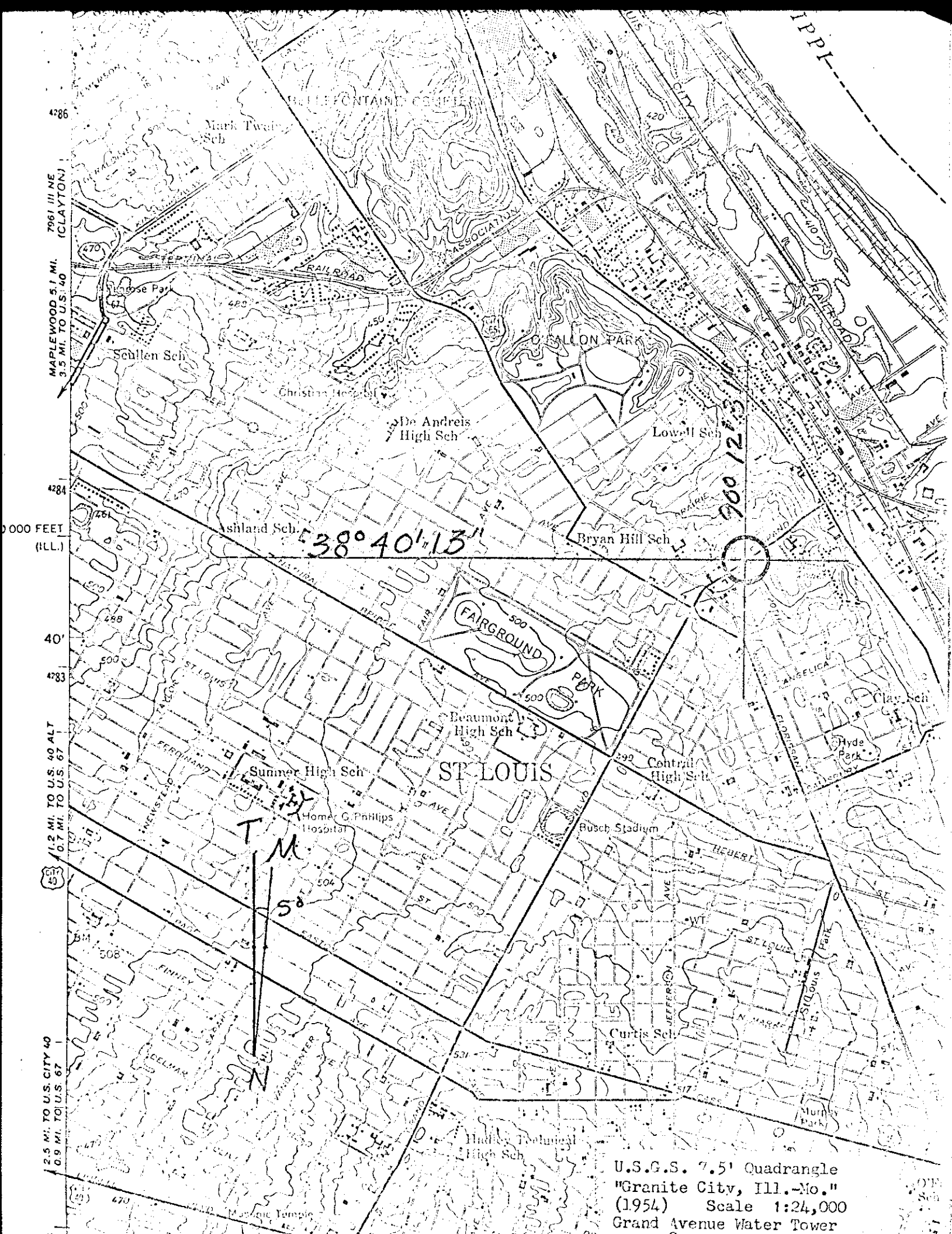
SCALE: 1:24,000

DATE: 1954

4. REQUIREMENTS

TO BE INCLUDED ON ALL MAPS

1. Property boundaries where required.
2. North arrow.
3. Latitude and longitude reference.



U.S.G.S. 7.5' Quadrangle
"Granite City, Ill.-Mo."
(1954) Scale 1:24,000
Grand Avenue Water Tower

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES

PROPERTY PHOTOGRAPH FORM

(Type all entries - attach to or enclose with photograph)

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Missouri	24	St. Louis City	510

3. PHOTO REFERENCE

PHOTO CREDIT: W. Philip Cotton, architectural consultant, Mo. State Park Board

DATE OF PHOTO: 18 June 1969

NEGATIVE FILED AT: Missouri State Park Board, P.O. Box, 176, 1204 Jefferson Building, Jefferson City, Missouri 65101

4. IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC. From north, view to the south. Full view of the 154 foot high water tower located at the center of the intersection of East Grand Avenue and Twentieth Street. Shaft, base and plinth are constructed of brick and stone with a cast iron capitol. The column looms dramatically above the neighboring buildings.


WATSON
FURNITUR
BIG LIFT
TIP TOP

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PHOTO CREDIT: W. Philip Cotton, architectural consultant, Mo. State Park Board

DATE OF PHOTO: 18 June 1969

NEGATIVE FILED AT: Missouri State Park Board, P.O. Box 176, 1204 Jefferson Building, Jefferson City, Missouri 65101

4. IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC.

Detail of the cast iron capitol seated atop the brick shaft. Top railing is not original.

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3. PHOTO REFERENCE

PHOTO CREDIT: W. Philip Cotton, architectural consultant, Mo. State Park Board

DATE OF PHOTO: 18 June 1969

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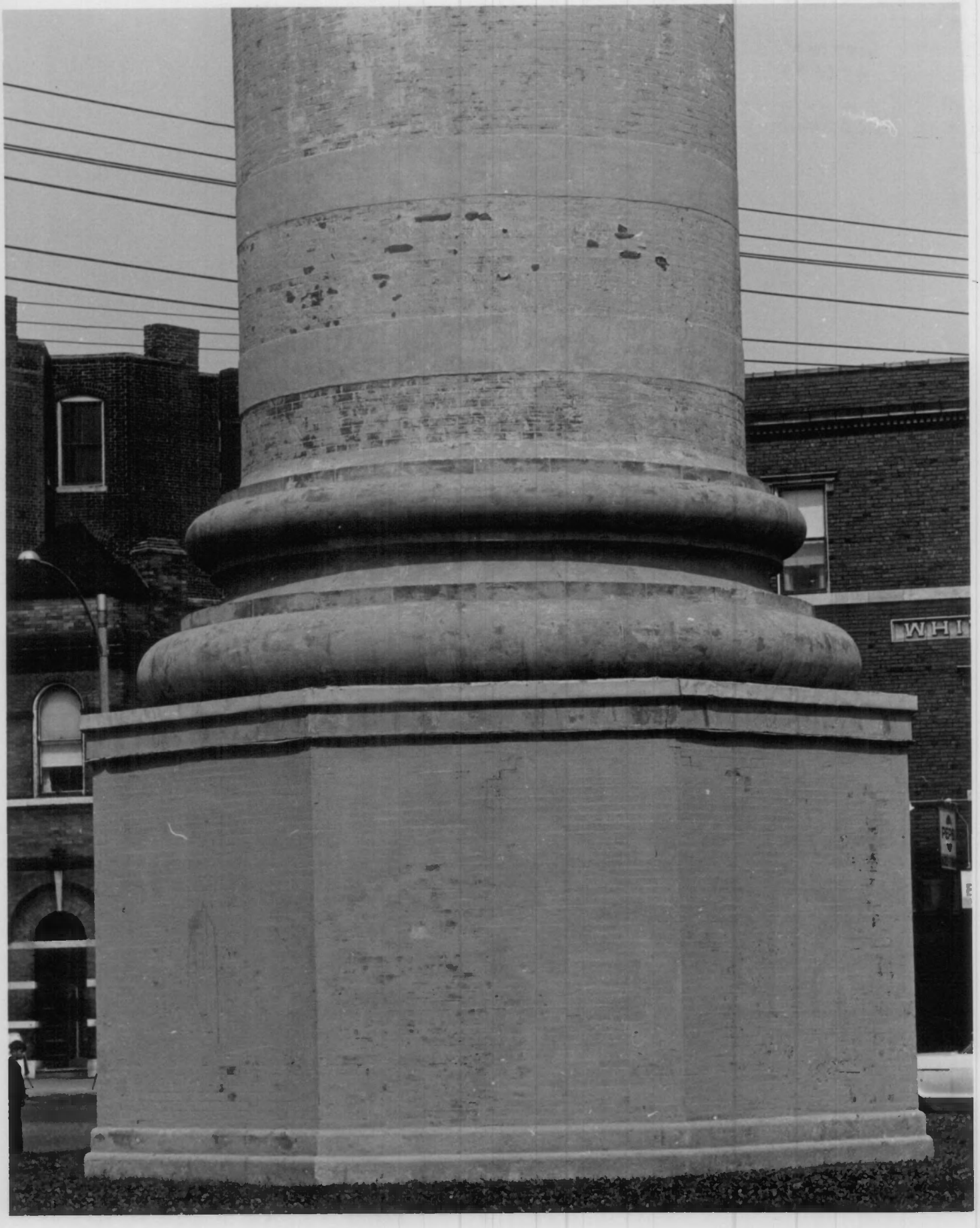
4. IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC.

From the east, view to the west. Detail of the plinth and column base. Plinth is octagonal in plan, 20 feet in diameter between opposite faces.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UNITED STATES DEPARTMENT OF THE INTERIOR
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Missouri		St. Louis City	510

3. PHOTO REFERENCE

PHOTO CREDIT: W.P. Cotton, architectural consultant to Mo. State Park Board

DATE OF PHOTO: copyphoto made June, 1969 of ca. 1871 drawing

NEGATIVE FILED AT: Missouri State Park Board, P.O. Box 176
1204 Jefferson Building, Jefferson City, Missouri 65101

4. IDENTIFICATION

DESCRIBE VIEW, DIRECTION, ETC.

Photocopy of the ink drawing on linen tracing cloth filed at the St. Louis Water Department. Sheet includes the elevation, section and plans at various levels. The plinth was not constructed as illustrated.