NPS Form 10-900 OMB No. 1024-0018

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.

1. Name of Property

Historic name: Hernando Water Tower
Other names/site number: _____
Name of related multiple property listing:

_____
(Enter "N/A" if property is not part of a multiple property listing

2. Location

Street & number: northeast corner of Losher and Church streets
City or town: Hernando State: MS County: DeSoto
Not For Publication: ☐ Vicinity: ☐

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

Applicable National Register Criteria:

X A ___B X C ___D

Signature of certifying official/Title: R. C. Robins, SHPO	**Date** 07.22.2013
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:) _____

_____

Signature of the Keeper Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private:	☐
Public – Local	☒
Public – State	☐
Public – Federal	☐

Category of Property

(Check only **one** box.)

Building(s)	☐
District	☐
Site	☐
Structure	☒
Object	☐

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

Contributing	Noncontributing	
		buildings
		sites
1		structures
		objects
1	0	Total

Number of contributing resources previously listed in the National Register 0

6. Function or Use
Historic Functions
(Enter categories from instructions.)
GOVERNMENT/public works

Current Functions
(Enter categories from instructions.)
VACANT/NOT IN USE

7. Description

Architectural Classification
(Enter categories from instructions.)
OTHER/water tower

Materials: (enter categories from instructions.)
Principal exterior materials of the property: steel

Narrative Description
(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

The Hernando Water Tower is located on a small corner lot, at the northeast corner of Losher and Church streets, in downtown Hernando, Mississippi. It is a steel cylinder with a conical roof and kettle bottom. The tower was built in 1925 by the Pittsburgh-Des Moines Steel Company to service the town of Hernando. It is a design of water tower that was widely used during this period, called a hemispherical bottom elevated water tower. There is a small concrete block building directly under the tower that housed the pumping equipment that would pump water into the tank. The tower retains its integrity of location, design and materials. It remains a prominent visual feature of the community's landscape.

Narrative Description

The Hernando Water Tower is located on a small lot in downtown Hernando, Mississippi, on the northwest corner of Losher and Church streets. It is fabricated in steel plates and is set on "Z"-braced steel legs. It has a reeded central water pipe. Steel lattice-girder legs are set on concrete bases and have steel cables for cross-bracing. The tank is cylindrical and is made of riveted plates of metal and has a conical roof and hemispherical bottom. There is a catwalk at the tank base accessed by a ladder built into the northeast leg. The tank holds 50,000 gallons of water and stands approximately 100' tall. It was designed and constructed by the Pittsburgh-Des Moines Steel Company in 1925, as is evidenced by a steel plaque reading "Pittsburgh-Des Moines Steel Company," which is riveted to the tower's southeast leg. The tower is painted silver with "Hernando" painted in black block letters. There is a small concrete block building directly under the tower that housed the pumping equipment that would pump water into the tank.

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.

[ ] 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.)

- ☐ 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.)
COMMUNITY PLANNING AND DEVELOPMENT
ENGINEERING

Period of Significance
1925

Significant Dates

Significant Person
(Complete only if Criterion B is marked above.)
n/a

Cultural Affiliation
n/a

Architect/Builder
Pittsburgh-Des Moines Steel Company

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Hernando Water Tower is locally significant under Criteria A for association with Community Planning and Development and Criteria C for association with Engineering as the first and only historic water tank in the city. Further, as a representative of a specific period in the evolution of water tower design and engineering, retention of the historic form and the various components that create it are critical to the integrity of both design and materials. The Hernando Water Tower is an example of an all-steel elevated tank in the hemispherical design. It retains its suspended hemispherical bottom, lattice-girder tower, balcony stiffener and conical roof, making it as an important example of the hemispherical form of water tower. The Hernando Water Tower, having had no significant alterations made to it, retains its integrity of

materials, workmanship, location, and association. The period of significance is 1925, the date of construction.

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

The Hernando Water Tower is eligible for listing under Criteria A for association with Community Planning and Development and Criteria C for association with Engineering as an excellent intact example of a water-system engineered structure built in 1925 and the first and only historic water tower in the city. The Hernando Water Tower is a visual focal point within downtown Hernando as it is the tallest structure in the area. Built by the City of Hernando, the tower is an emblem of the foresight that civic leaders showed in providing a clean water supply and fire protection. In 1925, a bond issue was called to raise $20,000 for the purpose of building a water system with an elevated water tank, fire hydrants, and water pipes underground to every business and home. The importance of this action is emphasized by the fact that this was only the second bond issue passed in Hernando, the first being to raise funds to build the Hernando High School.[1] The Hernando Water Tower was used until a new tank was constructed in 2009 outside of the downtown area.

The land on which Hernando now sits was occupied by the Chickasaw Indians at the time of European contact. According to local tradition, a Chickasaw trading village existed here when European traders began to visit the area in the late 18th and early 19th century. The Treaty of Pontotoc Creek in 1832 provided limited sections of land to the Chickasaw and provided for the sale of the remainder by United States government land offices which were established in 1834 and 1836. DeSoto was one of ten counties organized within the former Chickasaw lands.[2]

Hernando, originally named Jefferson and renamed to honor the Spanish explorer, was incorporated in 1839.[3] The town grew through developments in transportation. In 1852, a bond issue was passed to build a plank road from Hernando to Memphis, which may be the old route of Highway 51.[4] The Mississippi and Tennessee Railroad linking Memphis and Grenada, MS, was opened at Hernando in 1856, improving the transportation of cotton and other agricultural crops to New Orleans and Memphis. Because of its proximity to Memphis, Hernando was

[1] Bell, J.B. *Hernando Historic Windows*. Hernando, MS: J.B. Bell, 1986.
[2] Idid.
[3] "DeSoto History" Commercial Appeal Special Supplement. Memphis: Commercial Appeal, September 8, 1996.
[4] Ibid.

subject to several Union raids during the Civil War. Union troops took Memphis in June of 1862 and soon after Union raiders burned several businesses in Hernando. By the middle of 1863, almost all of the commercial and public buildings had been torched.[5]

Despite a nationwide economic depression in 1873 and a devastating Yellow Fever epidemic in 1878, Hernando entered into a prosperous period that lasted from 1880 through the 1920s. In Hernando Historic Windows, author J. B. Bell describes Hernando at the turn of the century as a small, agricultural town, growing slowly but steadily on the efforts of agricultural production in traditional Southern crops such as corn, cotton, and rice and specialties like honey. The plank road to Memphis had been superseded by the railroad, which carried crops to Memphis or New Orleans and brought back goods to stock the general merchandise stores and specialty shops. Pine timber was also a major product shipped from Hernando by rail. Evidence of continuing growth and prosperity includes the purchases and expansion of the Mississippi and Tennessee Railroad by the Illinois Central Railroad in 1886, the establishment of the Farmer's Alliance in 1888, the chartering of the Hernando Bank in 1890, the establishment of the first high schools for black and white students in the early 1890s, the establishment of Randle University in 1901, the expansion of city services to include an electric power plant in 1916 and a city water system in 1923. From 1910 to 1930, the population of Hernando grew from 660 to 938, a thirty percent increase. Another twenty-two percent increase in population was recorded from 1930 to 1950, from 938 to 1,206. By 1990, the population had almost tripled to 3,000, but this increase pales in comparison to the increase from 1990 to 2013 with an estimated 17,000 residents. This huge leap is also reflected in the need to replace the 1925 water tower with a new, much larger tower in 2009.

Water distribution has been essential to advance of human civilization. Early examples are the precisely engineered Roman aqueducts that transfer water over long distances. Aqueducts use gravity to convey water from higher to lower elevations and regional topography determined water system design and location. Often, these systems include networks of fountains and retention basins. While water systems' materials and designs have changed, the basic gravity-fed concept used by the Romans remains the same.

The oldest water system in the United States dates from 1754 when Hans Christopher Christiansen erected a 225,000-gallon standpipe in Bethlehem, PA. Standpipes are supported directly on the ground and the pressure needed for the water system determines the height of the structure. Most municipalities in the United States use gravity-fed water systems that in which water tanks provide adequate pressure for the system.[6]

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[5] Ibid.

[6] Hazelhurst, James Nesbit. *Towers and Tanks for Water-works.* New York: John Wiley and Sons, 1901. Pg. 5.

The primary purpose of water tanks is to store water, pressurize water systems, and provide fire protection. Water towers provide extra water storage for a town's water supply. They hold about a day's worth of water, so if the town's pumps fail, the water tower acts as a backup water supply. Water towers are built high up because they need the pressure produced by the elevation of the water to push water into the town's water pipes, so no pump is needed. But, mainly a water tower is used to handle excess demand, generally in the morning when people use more water at the same time. At night, when usage is down, the water tower refills itself from the town's water supply. A pump is used to get the water up into the water tower.

In the United States, elevated water tank design adopted seven basic types of construction: flat bottom, hemispherical bottom, double ellipsoidal, spheroid, pedestal sphere, water ball, and hydropillar. The flat bottom is the earliest American form of elevated water tank and was commonly associated with railroad lines. They were generally constructed of wood planks held in place with wrought iron tie rods. The hemispherical bottom was considered the standard of the industry from the late 1890s to the 1950s. The hemispherical form had the significant advantage of reducing stresses. Further, the tank's shape made securing it to the tower easier and provided ready access for ongoing maintenance.[7] Hemispherical tanks, with a capacity of over 50,000 gallons, typically had a conical roof of light, steel-plate and a projecting eave. A flagstaff was often used both as ornamentation and to provide rigidity to the roof.[8] Ladders were recommended to run along one of the legs beginning near the ground and extending to the roof. Such ladders required steel clip connections at regular intervals.[9] The balcony provided access to the tank, but just as importantly, acted as a support girder, often called a stiffener, around the perimeter of the tank. Design guidelines recommended that plate steel with drain holes be used for the balcony deck rather than wood.[10]

The earliest examples of the hemispherical bottom designed-towers were constructed of riveted plates, with the use of welding technology coming into play with the advent of World War II. The major companies that were active in water tower construction developed variations on the hemispherical form. In the mid-1920s, the Pittsburgh-Des Moines Steel Company (PDM) began using what they termed an elliptical bottom. The tank was shortened, thereby allowing for the tower height to be lower. The structure was otherwise the same as a hemispherical tower, using laced channel columns and a cone roof. At the time, unofficial company trademarks were also introduced in the design of the balcony stiffeners. PDM used a running "V," while others adopted an "X" or vertical supports.[11] From the turn of the century to the 1950s, steel water

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[7] Cochran, Chris and Adam Smith. "Architectural Survey of a Water Tower in Youngstown Air Reserve Station." U. S. Army Corps of Engineers Environmental Research and development Center, November 2010..
[8] Ibid., 197.
[9] Ibid., 199.
[10] Ibid., 200.
[11] Foster, James R. and Rich Lundgren. *Towering Over America: An Illustrated History of Pittsburgh-Des Moines*, Inc. PDM Inc. 1992.

tower design changed very little. Evidence of this is the design of PDM"s first water tower erected in Scranton, Iowa in 1897 and a tank erected in Alvarado, Minnesota in 1956. Only the balconies differed. Technology changed designs in the mid-1950s with the introduction of welding instead of rivets.[12]

The third design is the double ellipsoidal which was introduced in the 1930s in response to the demand for larger capacity tanks. Like the hemispherical type, double ellipsoidal water tanks were first constructed using rivets. Beginning during the World War II era, double ellipsoidal tanks were welded and their capacity ranged from 50,000 to 500,000 gallons. Following the war, the spheroid elevated water tank was introduced, but was employed mostly in large urban areas because of its high capacity- 2,000,000 gallons. Built by both the Chicago Bridge and Iron Company and the Pittsburgh-Des Moines Company, the spheroid tank is comprised of plates of variable curvature with no vertical shell, with plates in tension requiring two sets of supports. As a result, the form can be identified by the use of a large center standpipe with slender outer columns and wind bracing. Both companies also developed the next tower, the pedestal sphere. This tank holds up to 200,000 gallons and is a spherical tank set on a supporting cylinder enclosing the standpipe. The welded design allowed for considerable variation in the shape of the tank. The water ball was also a post-war era development. The small tank set on slender posts, was more economical than the pedestal sphere, and its small capacity made it attractive to smaller communities. The final design is the hydropillar which was developed and patented by PDM in 1962. This water tower has a large diameter fluted standpipe supporting a tank with a vertical shell and ellipsoidal bottom and top. The form allowed for a wide range of capacity tanks and created a base that doubled as an enclosed space commonly used for storage.

Two water tower constructing companies dominated the field from the 1920s to the 1980s. Together, the Chicago Bridge and Iron Company and the Pittsburgh-Des Moines Steel Company employed around 1000 workers and erected between 8,000 and 11,000 water towers between the Mississippi River and the Rocky Mountains.[13]

The Hernando Water Tower was constructed by the Pittsburgh-Des Moines Steel Company which was founded in 1892 by William H. Jackson and Berkeley M. Moss. Initially their steel tanks were fabricated by Keystone Bridge Company of Pittsburgh, but soon they took on a third partner, Edward W. Crellin, who operated a small fabricating shop in Des Moines, Iowa. The company, named Des Moines Bridge and Iron Company, shipped steel stock from Pittsburgh to Des Moines to manufacture engineered products including water towers, bridges, water works, and electric plants. In 1916, the name was changed to Pittsburgh-Des Moines Steel Company

[12] Spreng, Ronald E. "They Didn't Just Grow There- Building Water Towers in the Postwar Era." Minnesota History Magazine, Winter 1992.

[13] Ibid.

and the headquarters was moved to Pittsburgh. A 1922 advertisement placed by the company featured an elongated steel tank with a conical cap and hemispherical bottom. The ad extolled that "Good clean, pure water is the life-stream of every community- of yours, too. And now stop and ask yourself- is your water system adequate, sanitary, economical? If it isn't, don't you think the matter important enough to correct the condition?" Further it boasted that "Pittsburgh-Des Moines Elevated Steel Tanks supply water to thousands of towns, isolated communities, and individual buildings thru-out the country. They give you health and fire protection at a nominal cost. We design, fabricate and erect these tanks ourselves." In 1922, there were district offices for the company in New Your, Chicago, Dallas, Des Moines, Detroit, San Francisco, Washington, Chatham, Ontario, and Montreal, Quebec. In 1956, the company was incorporated and then in 1980 it became the Pittsburgh-Des Moines Corporation. The company was acquired by Chicago Bridge and Iron Company in 2001.

There is no accounting of the number of extant Pittsburgh-Des Moines water tanks from the 1920s in the United States. There are, however, at least twenty-two elevated water towers extant in Mississippi, with six of them listed in the National Register within districts. The Hernando tower is the only one of its kind in Hernando and DeSoto County, Mississippi. The tower has been the centerpiece of downtown since 1925 and has been a part of its heritage and traditions. For example, during World War II, a guard was posted at the tower out of fear that Germans would poison the water. There are, of course, multitudes of stories of children attempting to climb the tower and even some who succeeded and let the town know by painting the metal tank. In addition, the tower graces the cover of an album by the *North Mississippi Allstars*, a country blues band whose members grew up in Hernando.[14]

The Hernando Water Tower was designated a Mississippi Landmark in 2009 at the request of the City of Hernando.

[14] Dewan, Shaila. "Seeking a Tribute to the Ordinary in a Water Tower." Hernando: Hernando Journal, February 6, 2009.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

Bell, J.B. *Hernando Historic Windows*. Hernando, MS: J.B. Bell, 1986.

Cochran, Chris and Adam Smith. "Architectural Survey of a Water Tower in Youngstown Air Reserve Station." U. S. Army Corps of Engineers Environmental Research and Development Center, November 2010.

"DeSoto History" Commercial Appeal Special Supplement. Memphis *Commercial Appeal*, September 8, 1996.

Dewan, Shaila. "Seeking a Tribute to the Ordinary in a Water Tower." *Hernando Journal*, February 6, 2009.

Foster, James R. and Rich Lundgren. *Towering Over America: An Illustrated History of Pittsburgh-Des Moines*, Inc. PDM Inc. 1992.

Hazelhurst, James Nisbit. *Towers and Tanks for Water-works.* New York: John Wiley and Sons, 1901.

Ivy, Pam McPhail, ed. *Our Heritage, DeSoto County*, MS Memphis, TN: *North Mississippi Times*/ Frank Meyers and Associates, n.d.

Spreng, Ronald E. "They Didn't Just Grow There- Building Water Towers in the Postwar Era." *Minnesota History Magazine*, Winter 1992.

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 # _____

Hernando Water Tower
Name of Property

DeSoto, Mississippi
County and State

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): 033-HER-0068 ML_____

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10. Geographical Data

Acreage of Property __less than 1 acre____

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates
Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)

1. Latitude: Longitude:

2. Latitude: Longitude:

3. Latitude: Longitude:

4. Latitude: Longitude:

SEE CONTINUATION SHEET

Or
UTM References
Datum (indicated on USGS map):

☐ NAD 1927 or ☐ NAD 1983

1. Zone: Easting: Northing:

2. Zone: Easting: Northing:

3. Zone: Easting: Northing:

4. Zone: Easting : Northing:

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

The property is that section of land owned by the City of Hernando, MS on which the water tower sits. DeSoto County parcel number 3-08-6-13-00-4-00030-00.

Boundary Justification (Explain why the boundaries were selected.)

The boundaries follow property lines of the parcel of land upon which the nominated resource is located.

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11. Form Prepared By

name/title: Nancy Bell, Executive Director
organization: Vicksburg Foundation for Historic Preservation
street & number: 1107 Washington Street
city or town: Vicksburg state: MS zip code: 39183
e-mail vburgfoundation@aol.com
telephone: 601.636.5010
date: 4/8/2013

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.

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

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

Name of Property: Hernando Water Tower

City or Vicinity: Hernando

County: DeSoto State: MS

Photographer: Nancy Bell

Date Photographed: 8 April 2013

Description of Photograph(s) and number, include description of view indicating direction of camera:

1 of 6 Water tower tank, view to southeast.
2 of 6 Water tower within the context of downtown Hernando, view to southeast.
3 of 6 Water tower from below.
4 of 6 Southeast support, view to north.
5 of 6 Northeast support with ladder.
6 of 6 Base of tower, view to southwest.

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

Hernando Water Tower
Name of Property
DeSoto County, Mississippi
County and State
Name of multiple listing (if applicable)

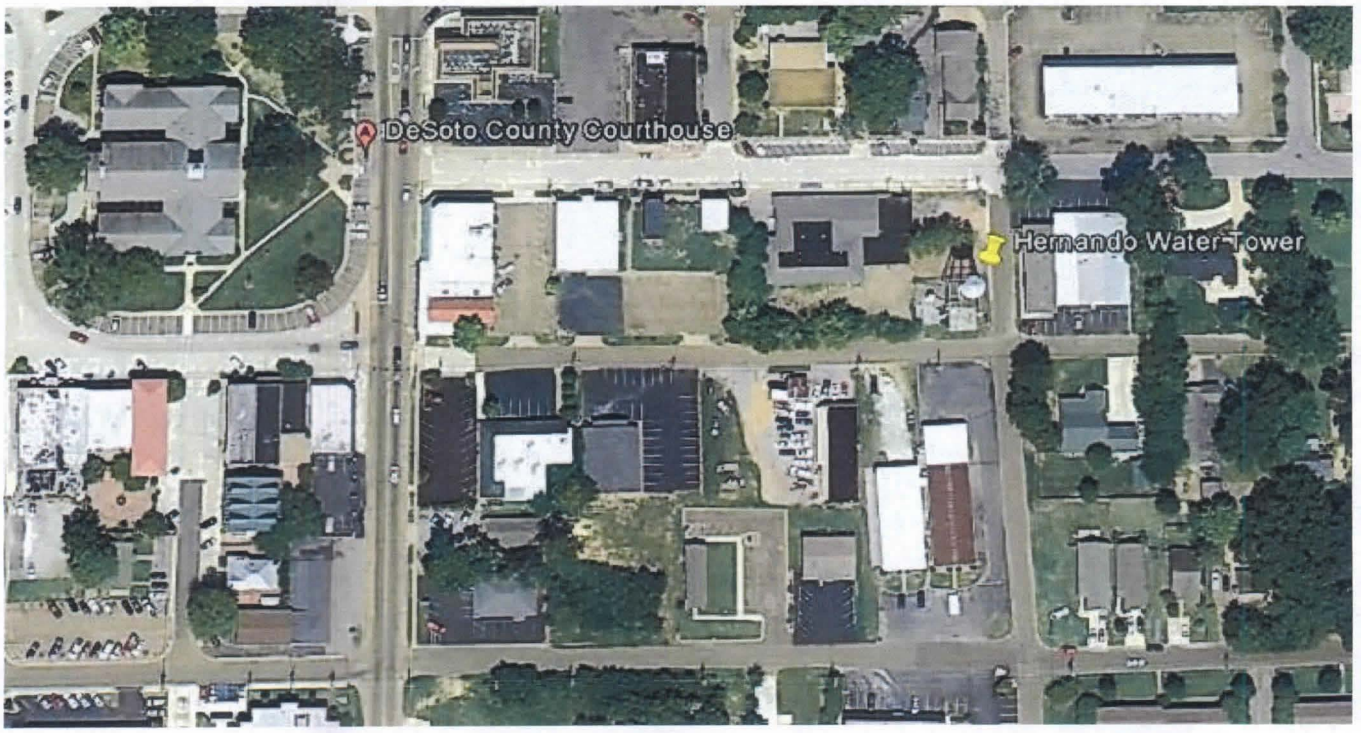
Section number 10 Page 1

Latitude/Longitude Coordinates

(Follow similar guidelines for entering these coordinates as for entering UTM references described on page 55, *How to Complete the National Register Registration Form*. For properties less than 10 acres, enter the lat/long coordinates for a point corresponding to the center of the property. For properties of 10 or more acres, enter three or more points that correspond to the vertices of a polygon drawn on the map. The polygon should approximately encompass the area to be registered. Add additional points below, if necessary.)

Datum: WGS 84

1. Latitude: 34.826389 Longitude: 89.99222




HERNANDO

MS DeSoto County Hernando
Water Tower 0001


HIGHWAY 51
Court Square Historic District
CIRCA 1832
ERNANDO

MS DeSoto County
Hernando Water Tower 0002

MS DeSoto County
Hernando Water Tower 0003

MS DeSoto County
Hernando Water Tower
0004

US DeSoto County
Hernando Water Tower
0005

MS DeSoto County
Hernando Water Tower
0906