

United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A) Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-9000a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

Historic name Highland Water Tower

Other name/site number _____

2. Location

Street & number Southeast corner, N. Genesee & W. Illinois Streets not for publication

City or town Highland vicinity

State Kansas Code KS County Doniphan Code 043 Zip code 66035

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this 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 meets does not meet the National Register criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

Patrick Zelmer DSHPO

2/20/07

Signature of certifying official/Title
Kansas State Historical Society

Date

State or Federal agency and bureau

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

Signature of commenting official /Title

Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is

entered in the National Register.

See continuation sheet.

determined eligible for the National Register

See continuation sheet.

determined not eligible for the National Register

removed from the National Register

other, (explain:)

for Edson A. Beall
Signature of the Keeper

Date of Action

4.4.07

Highland Water Tower
Name of Property

Doniphan County, Kansas
County and State

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	
1		buildings
		sites
		structures
		objects
1		total

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

Hist. Res. of Highland, Doniphan County, KS

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions
(Enter Categories from instructions)

EXTRACTION: Waterworks/Water Tower

Current Functions
(Enter categories from instructions)

EXTRACTION: Waterworks/Water Tower

7. Description

Architectural Classification
(Enter categories from instructions)

OTHER

Materials
(Enter categories from instructions)

Foundation: METAL
Walls: METAL

Roof: METAL

Other:

Narrative Description

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

Highland Water Tower
Name of Property

Doniphan County, Kansas
County and State

8. Statement of Significance

Applicable National Register Criteria

(Mark "X" in one or more boxes for the criteria qualifying the property for National Register)

- A** Property is associated with events that have made a significant contribution to the broad patterns of our history
- B** Property is associated with the lives of persons significant in our past.
- C** Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D** Property has yielded, or 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 of age or achieved significance within the past 50 years

Narrative Statement of Significance

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

Areas of Significance

(Enter categories from instructions)

COMMUNITY PLANNING AND DEVELOPMENT

Period of Significance

1913-1914

Significant Dates

1914

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

Chicago Iron and Bridge Works, builder

9. Major Bibliographical References

Bibliography

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

Previous documentation on file (NPS):

- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository:

Kansas State Historical Society

Highland Water Tower
Name of Property

Doniphan County, Kansas
County and State

10. Geographical Data

Acreage of Property Less than one acre

UTM References

(Place additional UTM references on a continuation sheet.)

1

1	5	3	0	6	0	7	4	4	4	1	4	5	0	2
Zone		Easting					Northing							

2

Zone		Easting					Northing							

3

Zone		Easting					Northing							

4

Zone		Easting					Northing							

See continuation sheet

Verbal Boundary Description

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

Boundary Justification

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

11. Form Prepared By

Name/title Susan Jezak Ford
Organization Citysearch Preservation Date November 22, 2006
Street & number 3628 Holmes St. Telephone 816-531-2489
City or town Kansas City State Missouri Zip code 64109

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items

(Check with SHPO or FPO for any additional items)

Property Owner

Name City of Highland
Street & number 220 West Main Street Telephone 785-442-3765
City or town Highland State Kansas Zip code 66035

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

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

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National Park Service

National Register of Historic Places
Continuation Sheet

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Highland Water Tower
Highland, Doniphan County, Kansas

Overview

The Highland Water Tower, built in 1913-1914, is located on the southeast corner of North Genesee and West Illinois Streets in Highland, Doniphan County, Kansas. The tower has been a significant contribution to the local skyline since its construction. It is nominated to the National Register of Historic Places under Criterion A in the area of COMMUNITY PLANNING AND DEVELOPMENT, under the Multiple Property Documentation Form (MPDF) Historic Resources of Highland, Doniphan County, Kansas. The tower has local significance as the most significant extant structure associated with the installation of Highland's city water system.

Description

The Highland Water Tower is 117 feet and six inches tall. The steel tank, which holds 50,000 gallons of water, is constructed of rectangular panels riveted together and elevated on four support posts that are 100 feet tall. The tank measures seventeen feet, six inches tall and has a diameter of 19 feet. The exterior has an alkyd coating and the interior is coated with epoxy. "HIGHLAND" is painted once on the southwest and once on the southeast side of the tank. The water tower's original conical roof was removed in 1989 due to severe rust and deterioration. The current roof, slightly sloped, extends approximately two feet beyond the side of the tank. The top of the tank has a vent and aviation warning light. A drainpipe, likely added in 1989, extends from the roof of the tank down the northwest support post to the ground. A ladder, also likely added in 1989, extends from the upper portion of the southwest support post to the roof of the tank, where a section of the roof overhang is missing to accommodate the ladder. The base of the tank has a 24-inch-wide balcony with a metal lattice handrail. The hemispherical bowl of the tank extends below the base. The supply pipe, clad in a metal frost case, extends from the center of the bowl through a concrete base and into the ground.

The tower's four steel support posts sit on four concrete pads that are six feet deep. The four support posts are constructed of riveted triangular lattice bolted to the concrete pads. Each support post is approximately 100 feet tall. The support posts are divided into three sections, each approximately 33 feet tall. Four horizontal riveted lattice struts are attached to the support posts between each section. Eight tower rods are cross-tied between the support posts in each section. Additional tie rods have been added since construction to anchor the structure. The upper struts support two metal mesh platforms and miscellaneous equipment, added after construction.

The water tower retains its original form and massing. Despite the removal of the cone roof, it maintains much of its original appearance, especially when viewed from Highland's Main Street. According to a 2006 inspection report, the interior and exterior materials are in fair to poor condition, showing rust, corrosion and blisters.¹ The tower is maintained by the city of Highland.

¹ Tom Stechman, Utility Service Co. Inc., "50,000 Gallon Elevated Water Storage Tank Inspection Report," 22 May 2006.

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Highland Water Tower
Highland, Doniphan County, Kansas**Overview**

The Highland Water Tower is nominated to the National Register of Historic Places under Criterion A in the area of Community Planning and Development, under the Multiple Property Documentation Form (MPDF) Historic Resources of Highland, Doniphan County, Kansas.

The MPDF states, "Buildings and structures associated with COMMUNITY PLANNING AND DEVELOPMENT demonstrate Highland's gradual growth and development of infrastructure as a modern town during the 20th century...Modernizing the town required the construction of structures and buildings to accommodate these developments. Progress was often contentious, however, and frequently cautious. Structural additions to the city infrastructure are eligible under Criterion A, for their 20th century contributions to Highland's development." The tower, built in 1913-1914, is the best extant resource associated with the development of Highland's city water system. It is significant locally as a reminder of this important city improvement.

History and Significance

Highland lost many buildings to fires in the late 1890s and early 1900s. An 1894 fire destroyed 20 frame downtown buildings located at Main and Ives Streets in 45 minutes.² Again, in January 1913, fire struck in the same location, destroying three of the town's largest brick buildings on the northeast corner of Main and Ives.³ The Highland Presbyterian Church also slowly burned in 1913 until the entire building was gone.⁴ Shortly after the January 1913 fire, Highland citizens began agitating in earnest for a city water system. The local press blamed the loss of the buildings solely on the lack of a public water system. Newspaper articles pointed out that most of the properties would have been saved if Highland had city water and reliable fire fighting equipment. The danger of fire was the sole impetus mentioned in *The Highland Vidette* for the establishment of city water pipes and a tower. In June, the city council began exploring the possibility of putting the question to voters.⁵

As the bond vote in August approached, *The Highland Vidette* firmly supported the measure. An article the day before the vote refuted arguments that the new water system would not reach the north section of town, that the system would cost more than the \$21,000 estimate and that the city council and project engineer were deceitful.⁶ The landslide vote the following day overwhelmingly supported the project, with 240 in favor of and 41 against the bonds. The council had already hired a firm to act as consulting engineer on the project until details were finalized.⁷ The vote approved \$21,000 in bonds for the construction of a water plant, well and associated equipment, which included the water tower, fire hose and a hose cart. The lowest bid for the project came from T.C. Brooks & Sons Co. of Jackson, Michigan.⁸

² "Fire! Fire!" *The Vidette*, 18 October 1894, p. 1.

³ "Highland Has A \$50,000 Fire," *The Highland Vidette*, 9 January 1913, p. 1.

⁴ "Presbyterian Church Burned," *The Highland Vidette*, 9 October 1913, p. 1.

⁵ "Water Works Meeting Tomorrow," *The Highland Vidette*, 20 June 1913, p. 1.

⁶ "Waterworks," *The Highland Vidette*, 7 August 1913, p. 1.

⁷ "Carried Overwhelmingly," *The Highland Vidette*, 14 August 1913, p. 1.

⁸ "Let Waterworks Contract," *The Highland Vidette*, 11 September 1913, p. 1.

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Highland Water Tower
Highland, Doniphan County, Kansas

By November 1913, approximately three-fourths of the underground water pipes were laid in Highland. The well, located on the southwest corner of West Ohio and North Ives Streets, was 25 feet deep, close to the water line at 35 or 40 feet. The foundation for the steel tank and tower was already in place. The supplies for the tank and tower were on their way from the Chicago Bridge and Iron Works.⁹ The bulk of the project was complete in April 1914, with the tower complete. The tank and mains filled with water and all was well except for one small leak in the tank that was quickly repaired. By April, Highland selected a fire company and systematic drills began in order to avoid future catastrophic blazes. The completion of the project soon led to water connections to individual houses primarily near Main Street. The mayor's residence was the first house connected to the new water system. The cost of a connection and water meter were estimated at \$25.¹⁰ In the early 1910s and 1920s, the tower served the town's population of approximately 700-800.

Early construction and maintenance records were destroyed by a fire in the early 1960s that burned a local dry cleaner.¹¹ The tower has received regular inspections, cleaning and painting since the mid-1960s. Today it supplements a 100,000-gallon tank built in 1988. A new well south of Highland supplements the town's original well.

The tower today retains its integrity in its massing, materials and significance as the most recognizable structure associated with the development of Highland's city water system. Maintained by the city of Highland, it remains a significant contribution to Highland's skyline.

Steel Water Towers

The Highland water tower was built in a form common during the early 1900s. Conical water towers sprouted across the country as rural and urban communities planned and developed consistent water supplies to fight fires and improve health through clean water.

Ames, Iowa boasts a very early version of a conical steel tower, the Marston water tower on the campus of the Iowa State University. Built in 1897, it was designed by Anson Marston, a civil engineering professor. Marston's design specified steel framework instead of wood to double the tower's strength and make it more stable. The tower, 168 feet tall, was the first elevated steel tank west of the Mississippi.¹²

The form of the conical steel tower loomed over many towns in Kansas. Today they are occasionally incorporated into tourist attractions. The tower in Goodland, Kansas sits near a giant painting of Van Gogh's sunflowers. Pratt, Kansas is home to two towers placed side by side. The city of Pratt labeled the towers "Hot" and "Cold" in 1956.

⁹ "Working on Waterworks," *The Highland Vidette*, 13 November 1913, p. 1.

¹⁰ "Waterworks Completed," *The Highland Vidette*, 9 April 1914, p. 1.

¹¹ One page of the general plan for the Highland tank and tower remain from the Chicago Bridge and Iron Works.

¹² The tower was listed on the National Register of Historic Places in 1981. "Marston Water Tower," *Engineering Communications and Marketing* newsletter, Iowa State University College of Engineering, 2004.

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**Highland Water Tower
Highland, Doniphan County, Kansas**

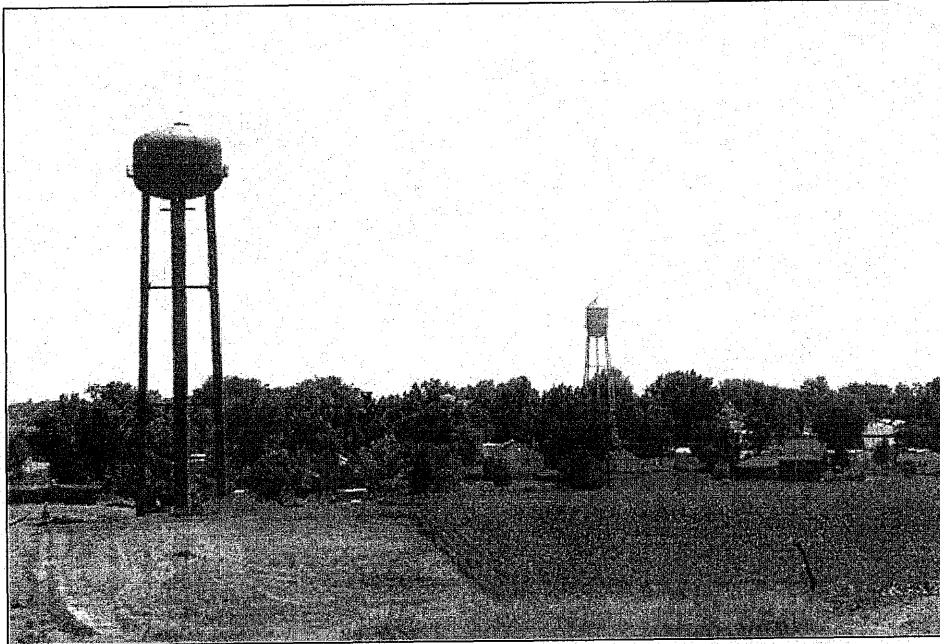
Chicago Bridge and Iron Works, the maker of the Highland water tower, was founded in 1889 in Chicago as the Chicago Bridge and Iron Company. The company began constructing bridges, but focused on bulk liquid storage in the late 1800s and early 1900s. In 1894, the company erected its first elevated steel plate water tank in Fort Dodge, Iowa. It was the first tank built with a hemispherical bottom, an important technical innovation that is present on the Highland water tower.

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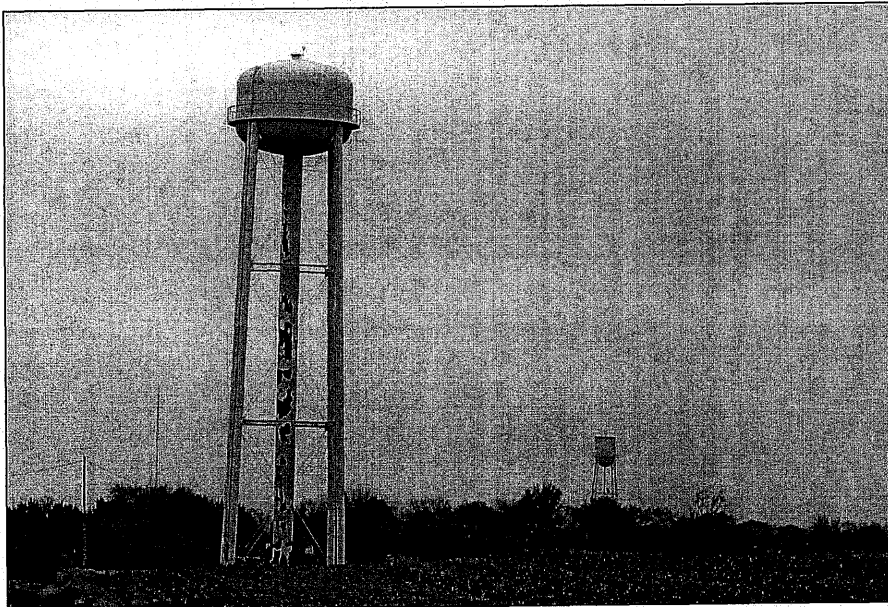
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Highland Water Tower
Highland, Doniphan County, Kansas



Highland's water towers in 1988, above, and in 2006, below.
(1988 photo, *The Highland Vidette*; 2006 photo, Susan Jezak Ford)



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Section number Add'l Info Page 6 Highland Water Tower
Highland, Doniphan County, Kansas

Sources

Archer, Bob. Stechman, Tom. "50,000 Gallon Elevated Water Storage Tank Inspection Report." Utility Service Co. Inc., 17 November 2003.

Gilmore, Jim. Interview by author. 9 January 2007. (Mr. Gilmore served as Highland's Superintendant of Maintenance from 1975 until 1995.)

The Highland Vidette: "Fire! Fire!" 18 October 1894; "Highland Has A \$50,000 Fire." 9 January 1913; "Presbyterian Church Burned." 9 October 1913; "Water Works Meeting Tomorrow." 20 June 1913; "Waterworks." 7 August 1913; "Carried Overwhelmingly." 14 August 1913; "Let Waterworks Contract." 11 September 1913; "Working on Waterworks." 13 November 1913; "Waterworks Completed." 9 April 1914.

"Marston Water Tower." Engineering Communications and Marketing newsletter, Iowa State University College of Engineering, 2004.

Stechman, Tom. "50,000 Gallon Elevated Water Storage Tank Inspection Report." Utility Service Co. Inc., 22 May 2006.

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Section number Add'l Info Page 7 Highland Water Tower
Highland, Doniphan County, Kansas

Verbal Boundary Description

The Highland Water Tower is located on Lots 1 and 2, Block 71 in the original town of Highland, Kansas. The property is bounded on the north by West Illinois Street, on the west by North Genesee Street, on the south by an alley and on the east by the property line.

Boundary Justification

The boundaries include the city lots originally associated with the Highland water tower at the time of its construction.

Photographic Information

The following information is the same for all of the photographs:

1. The Highland Water Tower
2. Doniphan County, Kansas
3. Susan Jezak Ford
4. August-October, 2006
5. Digital disk located at Kansas State Historical Society

The following information is applicable to individual photographs:

6. Northwest view
7. #1

6. Northeast view
7. #2

6. Southeast view
7. #3

6. Northwest view
7. #4

6. West view
7. #5