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: Osseo Water Tower
Other names/site number: _____
Name of related multiple property listing:
n/a
(Enter "N/A" if property is not part of a multiple property listing

2. Location

Street & number: 25 4th Street NW
City or town: Osseo State: MN County: Hennepin
Not For Publication: N/A Vicinity: N/A

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 __ 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: **Date**
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	x
Public – State	☐
Public – Federal	☐

Category of Property

(Check only **one** box.)

Building(s)	☐
District	☐
Site	☐
Structure	x
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.)
GOVERNMENT/public works

7. Description

Architectural Classification
(Enter categories from instructions.)
_OTHER: hemispherical tank, steel water tower_____

Materials: (enter categories from instructions.)
Principal exterior materials of the property: _____METAL/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 1915 Osseo Water Tower is sited on a parcel of city property at the north end of the city's historic downtown commercial area, which flanks the historic route of the Jefferson Highway, stretching three and a half blocks south from the water tower to MN-81.

The Osseo Water Tower is a well-preserved example of a hemispherical bottom water tower, typical of municipal towers constructed between ca.1890-ca.1940. The tower features a cylindrical, riveted-steel tank with a suspended, hemispherical bottom. The 50,000-gallon tank, which is capped by a conical roof, is elevated on a four-post, lattice-girder trestle tower that rises to 127-feet, 3-inches. The tower's four posts are riveted to poured-concrete footings. An 8-inch standpipe connects the tank with the underground water system. A steel plaque reading "1915 Minneapolis Steel and Machinery Co Builders Minneapolis Minn." is riveted to the tower's northeast leg just below a caged access ladder.

Narrative Description

The community of Osseo, Minnesota is located in northwestern Hennepin County, near the northwest edge of the Minneapolis metropolitan area (Figure 1). The city is situated between the cities of Brooklyn Park on the east and Maple Grove on the west, carrying an historic association with each. The original town of Osseo (including the site of the water tower) is currently wedged between Highway 169, which runs north to south from Minneapolis on the south, and MN-81, which runs diagonally on the west edge of town. The route of the historic Jefferson Highway runs north to south along Central Avenue, bisecting the community.

Figure 1. USGS 7.5 Minute Topographic Map – Osseo Quad – 2013

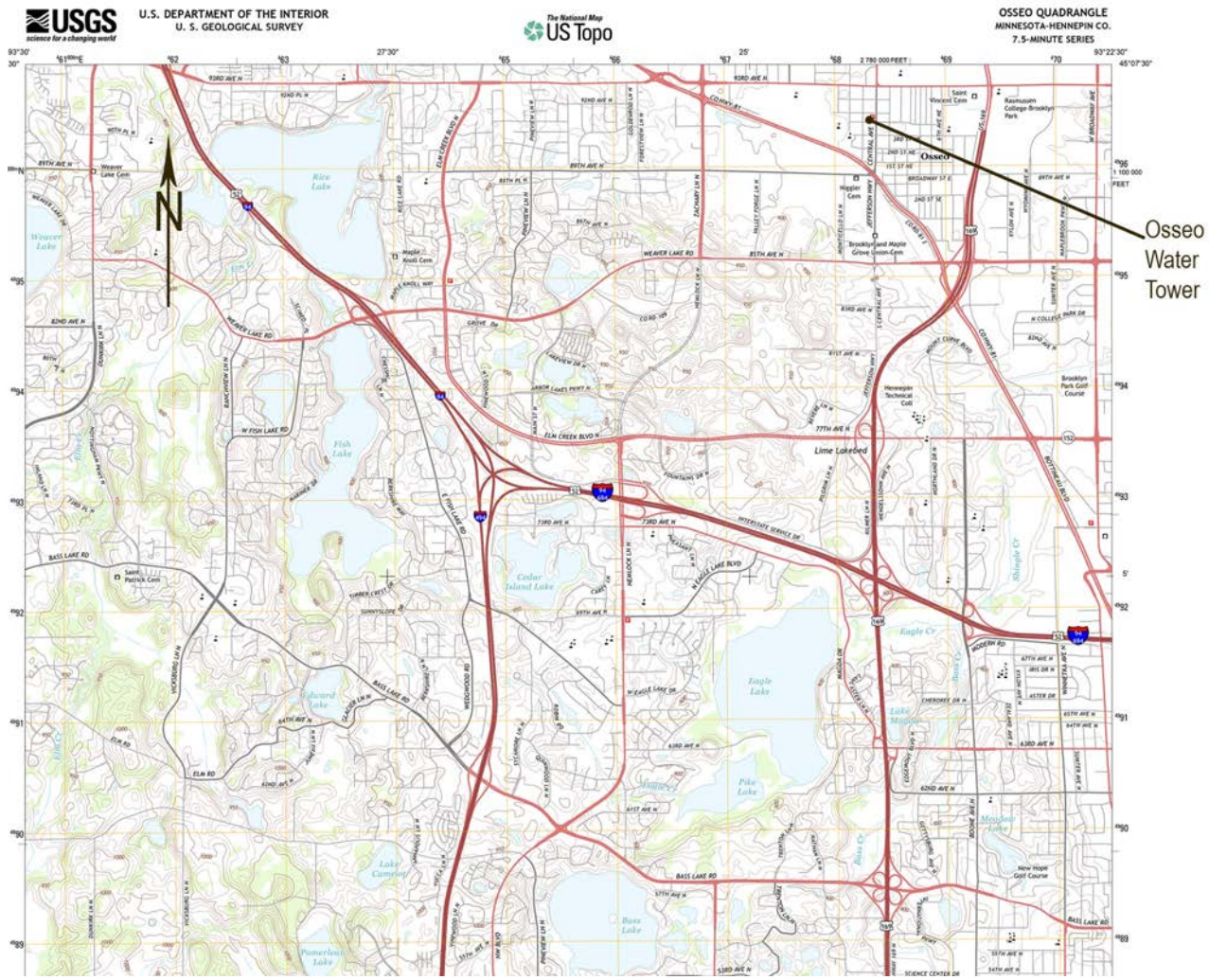


Figure 2. Aerial Site View – 2016

(SOURCE: www.maps.google.com. Last accessed 06/20/2016.)

The location of the 1915 Osseo water tower is indicated.

The 1915 Osseo Water Tower is sited on a .75-acre parcel of city property in the northwest corner of the intersection of Central Avenue and 4th Street NW (Figure 2). The parcel is located west of Central Avenue (historic route of the Jefferson Highway), across the roadway from Boerboom Veterans Park. A 1967 building housing the Osseo City Hall, the public library, and the fire department is located immediately east of the water tower. A mid-twentieth century, one-story commercial building is situated on the west.

The water tower site, which measures approximately 35-feet square, is covered in gravel. A non-historic, steel utility box is located within the boundaries of the tower site. A wooden fence enclosing the City's dumpster is sited immediately adjacent to the east boundary. The tower has an approximate 8-foot setback from 4th Street NW on the south and two-feet from the public sidewalk that runs the length of the block.

The water tower site is adjoined by parking areas associated with the City property and by a commercial building on the west. With the exception of the water tower site, a small lawn north of the commercial building, and the planted parking strip in front (east) of the City Hall, the entire block upon which the Osseo Water Tower is sited has been paved.

The Osseo Water Tower is situated at the north end of the city's historic downtown commercial area, which flanks the historic route of the Jefferson Highway, stretching three and a half blocks south from the water tower to MN-81. A cross-section of commercial, governmental and residential properties are located in the immediate vicinity of the tower site (Image 1). By-in-large, these properties post-date the water tower, with a number dating to the recent past – this is particularly true north of the tower property where large-scale residential development is underway.

Image 1. Context View - 2016

(Image by AKAY Consulting July 05, 2016)

View of the Osseo downtown, looking north along the historic route of the Jefferson Highway (now Central Avenue) with the water tower in view.

The 1915 Osseo Water Tower (Image 2) features a cylindrical, riveted-steel tank with a suspended, hemispherical bottom. A riveted, conical roof with a finial caps the tank, which is encircled by a girder balcony stiffener. The 50,000-gallon tank is elevated on a four-post, lattice-girder trestle tower that rises to 127-feet, 4-inches. A lattice plate has been added to the lower section of each leg to prevent unauthorized access to the tower. Diagonal tie rods provide additional stability to the tower. The tower's four posts are riveted to a poured-concrete pad. An 8-inch standpipe connects the tank with the underground water system. A steel plaque reading "1915 Minneapolis Steel and Machinery Co Builders Minneapolis Minn." is riveted to the tower's northeast leg. A caged access ladder rises on the same leg of the tower from a point just above the plaque to the roof peak.

The Osseo Water Tower is currently painted silver with the city name appearing in black, block lettering. Typically, hemispherical water towers of a similar construction period were painted silver (both tower and tank) with a red roof and black lettering. Because it is in black and white, an historic image of the Osseo Water Tower neither confirms nor refutes that as the historical scheme.

Image 2. Osseo Water Tower - 2016

(Image by AKAY Consulting July 05, 2016)

View of the Osseo water tower looking northeast across 4th Street NW.

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 & DEVELOPMENT_____
_ENGINEERING_____

Period of Significance
___1915-ca1955_____

Significant Dates
__1915_____

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

Cultural Affiliation

Architect/Builder
Minneapolis Steel and Machinery Co._____

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 Osseo Water Tower is eligible for listing on the National Register of Historic Places under Criterion A. The tower is considered locally significant in its association with the history of community planning and development in Osseo, specifically as it relates to the development of municipal waterworks service to protect existing built resources from threat of fire, provide piped water service to its residents and businesses, and to support the future growth of the community.

The Osseo Water Tower is also eligible for listing on the National Register of Historic Places under Criterion C. The water tower is considered locally significant as an example of engineering practices applied to a structure that embodies the distinctive characteristics of a property type of a specific period: the Osseo Water Tower represents a specific type of water tower, the hemispherical bottom, that exemplifies the evolution of water supply systems during the period from the 1890s to about 1940. The elevated steel water tank was developed in the 1890s and by the early twentieth century was the typical type utilized in communities across the state and nation. Once a common landmark on the Minnesota landscape, this particular form of the water tower is quickly vanishing as the requirements of communities grow beyond the capacity of the early tower and are thus replaced by larger capacity structures.

The Period of Significance is 1915 through ca.1955 marking the year in which the water tower was placed in service through the construction of the city's second water tower. The period embraces the years in which the public works system, and water tower specifically, presented a significant impact on the city's ability to serve its residents - construction of the second tower marking the diminished impact of the 1915 structure. The Significant Date is 1915 – the year in which the water tower was constructed and placed in service.

The Osseo Water Tower, located in the corporate limits of Osseo in Hennepin County, Minnesota, is an all-steel water tower constructed in 1915 to store water and maintain water pressure in the city water system. Establishment of a water works system was a periodic topic of discussion by Osseo residents and the Village Council as early as 1900. It was the Osseo Commercial Club that, in late 1914, provided the needed boost to turn discussion into action. The water tower is a typical example of the property type of that period, featuring a suspended, hemispherical tank on a four-post, lattice-girder trestle tower. The water tower retains a high level of historic integrity and remains a prominent visual feature on the community's landscape.

Beginning in late 1914 the Osseo Commercial Club was actively engaged in bringing both water and electrical services to the village. The group promoted the services as indispensable to any town with an eye on growth. The benefits of a municipal waterworks were a topic of considerable discussion; the significant savings on fire insurance, protection against material loss to fire, and the important selling point those features would present to business enterprises interested in relocating being the focus of the case made by the Commercial Club. A few short

months after a January 1915 special election to bond for the systems was accomplished, the local newspaper was reporting on multiple new buildings under construction, with others projected for the coming months. The establishment of municipal waterworks and electrical services were widely seen as the reason for that growth and what was projected to be a banner year in the village of Osseo.

The development of a waterworks system is a common element of historic municipal planning. As a result, water towers have been historically, and remain today, highly visible structures on the Minnesota landscape. Water towers come in a variety of shapes and sizes, the form and scale utilized in a specific town indicative of its era of construction and the size of the community for which it was built. From the 1890s through about 1940, the hemispherical bottom type of water tower was commonly used in young communities, making them commonplace but no less significant in their association with the history of the community in which they were located.

With storage capacities typically ranging from 50,000-100,000 gallons, the utility of a hemispherical bottom water tower was limited to smaller communities. Rising populations and the subsequent increased demand for water have made hemispherical water towers obsolete in many cases. This is particularly true in large metropolitan areas such Minneapolis-Saint Paul where towers with storage capacities exceeding 1,000,000-gallons have replaced most of the smaller towers.

The 1915 Osseo Water Tower stands as one of only seven historic, municipal, hemispherical towers remaining within a 50-mile radius of Osseo; at one time there having been at least 17 towers of that type in the same area. It should be noted that the number of non-extant, municipal towers of the hemispherical type is undoubtedly higher than 17 – more extensive research into Metropolitan resources is necessary to fully appreciate the loss of historic municipal water towers of the hemispherical type in the Twin Cities.

The Osseo Water Tower is an excellent representative of the type that featured distinctive characteristics including all steel materials, a conical roof, a riveted tank with a suspended, hemispherical bottom, and a tower of four lattice-channel posts with diagonal tie rods. The retention of a high degree of historic integrity marks the Osseo Water Tower as well-preserved example of a representative and vanishing form.

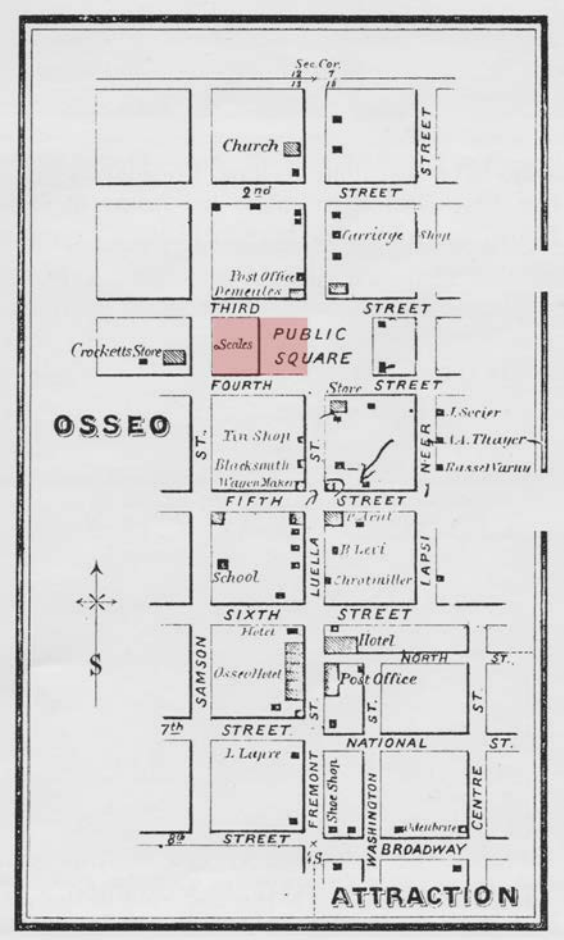
Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

Historical Background

In July of 1852, Pierre Bottineau and his companions arrived on the prairie in the vicinity of what became Osseo exclaiming, “This is Paradise.” Within a short period, others settled on “Bottineau Prairie” and soon established the necessities for survival and subsequent growth.

Warren Sampson opened a general store and post office in 1854. In 1856 the settlement, first known as Palestine, was renamed Osseo and platted. Local histories suggest that Osseo is a Native American name, "Waseia," meaning "there is light" or, more commonly, "son of the evening star." Further speculation about the source of the city's name connects it to poet Henry Wadsworth Longfellow who mentions Osseo in the well-known poem of Indian legends, "The Song of Hiawatha".[1]

Figure 3. Historic Plat – 1873



(SOURCE: *Map of Hennepin County, Minnesota,* 1873)

Osseo, which was platted in 1856, was laid out in a linear fashion with a public square as a central feature. Subsequent to this map, the public square was reconfigured, with a park remaining on the west half of the block on the east side of Luella Street (now Central Avenue). The highlighted block marks the location where the City Hall and water tower were constructed.

[1] Osseo Centennial Committee, *100 Year History of the City of Osseo: Osseo Centennial, 1875-1975.* Souvenir Centennial Booklet (Osseo: Osseo Centennial Committee, 1975), 6.

Originally governed by the townships of Brooklyn and Maple Grove, on February 24, 1875 Osseo was incorporated as a Village by an act of the state legislature.[2] The Common Council was then established with a composition of a president, three councilmen, a recorder and a treasurer. The first Council was sworn in on March 19, 1875.[3]

The 1880 arrival of the Great Northern Railroad in Osseo was an important factor in early development for town and county, which subsequently became a center for potato farming. The spring of 1914 was a banner year for the potato harvest, the crop that year being noted as the largest in the city's history; an average of 150 train carloads of potatoes were shipped out of Osseo each day. The scale of the harvest and the resulting need to transport the product resulted in construction of an additional line by the Great Northern Railroad specifically to accommodate the extra loads during the potato harvest.[4] In addition, a starch factory was located in town, which benefited area farmers, particularly in seasons when abundant crops lowered market prices in Minneapolis. At those times, the factory processed an average of 10,000 pounds of crude starch daily and employed 20 men.[5]

Along with the agricultural prosperity came projections of growth for the city. When comparing their community with the nearby city of Robbinsdale, which was (by that town's own reckoning, at least) already considered a suburb of Minneapolis, Osseo real estate men projected a similar trajectory of growth. Such growth would be predicated in part upon the extension of Twin City lines north from Robbinsdale to Osseo and beyond. Businessmen also noted that good roads were essential to the future growth and prosperity of Osseo.[6]

The establishment of a nationwide system of good roads was a significant factor in the growth and development of communities located along and in the vicinity of a major route. Just months after Osseo made the important commitment to construct a waterworks and electric plant, the establishment of the Jefferson Highway was underway. The country's first north to south transcontinental roadway, the Jefferson Highway ran between Winnipeg and New Orleans. On its diagonal route through the state of Minnesota, the highway passed along the Osseo downtown main street (now Central Avenue) on its way to St. Paul.

In January of 1916, letters went out from the office of the Minnesota state engineer to commercial clubs in communities located along the potential 500-mile route of the Jefferson Highway through Minnesota asking the groups to create committees for the purpose of promoting completion of the road and facilitating activities to boost interest.[7] The Osseo Commercial Club was undoubtedly fully engaged in the effort to secure the route through the

[2] Ibid.

[3] *Village Council Minutes,* March 19, 1875.

[4] "Osseo Prize Potato Section of the State," *The Minneapolis Sunday Tribune*, July 19, 1914:10.

[5] *100 Year History,* 19.

[6] "Osseo Prize Potato Section of the State," *The Minneapolis Sunday Tribune*, July 19, 1914:10.

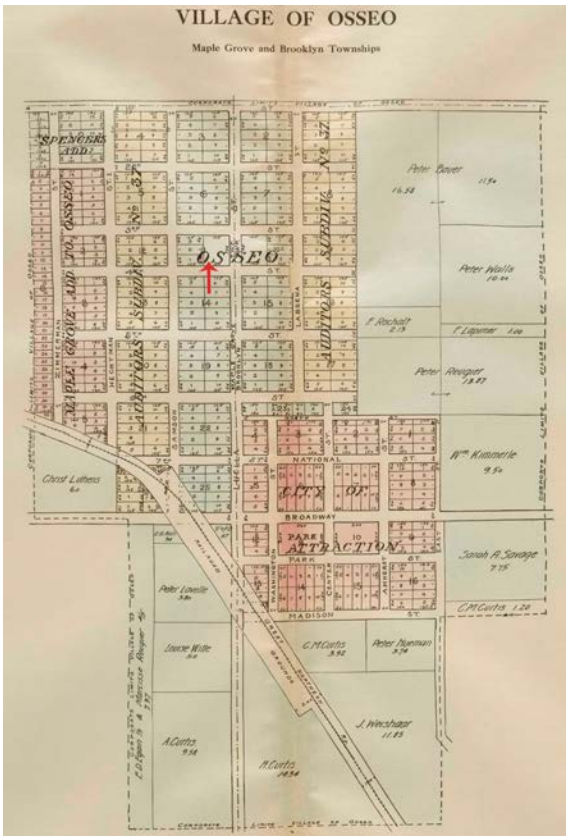
[7] "Jefferson Highway Plans Boosted Here," *The Minneapolis Morning Tribune.* January 06, 1916:14

village. The finalized route of the Jefferson Highway in Minnesota passed through Albert Lea, Faribault, St. Paul, Minneapolis, St. Cloud, Little Falls, Wadena, Itasca State Park, Bemidji, Red

Lake Falls, and Thief River Falls. Along that route, threaded among the larger towns, were smaller communities such as Osseo, which likewise benefitted from the tourist traffic that passed along the roadway.

The Jefferson Highway initially provided a tremendous boost to the nation's emerging automobile industry, its highway system, and tourism with towns such as Osseo seeing the benefit of increased traffic to their community. Such increase in traffic was one element of many necessary to ensure the long-term prosperity of the village and it is but one more example of the multi-pronged effort made by the Osseo Commercial Club on behalf of the community.

Figure 4. Historic Plat – 1913



(SOURCE: *Map of Hennepin County and Environs*, 1913)

By 1913 Osseo had extended its boundaries to the east and to the south. In addition, the public square had been reconfigured, with Luella Street (now Central Avenue) cut north to south through its center. In 1916 the Jefferson Highway was routed along Luella Street, becoming another feature to bring growth to the city. The arrow indicates the site upon which the water tower was constructed in 1915.

Building the Waterworks System

Beginning in 1914 the Osseo Village Council began to explore the costs associated with establishing electric and water service – discussions that had been periodically engaged in over the previous decades. It was the Osseo Commercial Club that provided the push needed to turn discussion into action. News accounts reported on the group's investigations to secure those services for Osseo; the group's position being that such services were "indespensable [sic] in any town, and ones which materially reduce the excessively high rates on insurance and lights." The Commercial Club underscored the savings to City and citizens that water works and electric plants would provide. They estimated an annual savings of $3,750 on fire insurance, plus savings on the City sprinkling bill. They also projected strong returns on the establishment of a municipal electric plant that would put the City in a position to reap the financial benefits of electric service fees rather than paying royalties and dividends to another provider.[8]

The group also discussed the dangers of not having a water works system, with members noting that, although the city had been fortunate to not have a disastrous fire, the risk was ever-present without adequate protection. Minnesota Governor A.O. Eberhart said as much in a statement on State Fire Protection Day on October 9, 1914. The governor noted that loss due to fire in 1913 had amounted to $3,920,972. Although personal responsibility for safety related to fire hazard would go a long way to prevent fire, municipal fire departments played a critical role in putting down fire and limiting destruction.[9]

Further, the Association of Underwriters rated Osseo as having no fire protection at all. As a result, the cost of fire insurance was almost prohibitive, which posed a significant deterrent to development. Construction of a water works system would result in an "enormous" savings in insurance rates and increase its attractiveness to new enterprises looking for a beneficial location for expansion.[10]

At a meeting called for mid-December 1914, the Commercial Club, with a Minneapolis consulting engineer on hand and a large audience in attendance, appointed a committee to bring the issue of establishing a waterworks and electric plant, to be constructed and operated by the City of Osseo, before the Village Council by year's end.[11]

At the Village Council meeting held on December 28, 1914, the special committee of the Osseo Commercial Club presented a petition requesting that the Council submit to voters a proposition to bond the village in the amount of $20,000 to build and equip a waterworks plant and an electric plant. The Village Council acted positively, moving to present their recommendation to

[8] "Commercial Club Meeting Take Action For Fire Protection," *The Osseo Review,* December 09, 1914:1.

[9] "Fire Prevention Day," *The Osseo Review,* October 08, 1914:1.

[10] "Electric Light Plant and Water Works System," *The Osseo Review*, December 30, 1914:1 and "Special Election Jan. 12 Electric Lights – Water Works," *The Osseo Review,* January 06, 1915:1.

[11] "Electric Lights and Water Works in Sight for Osseo," *The Osseo Review,* December 16, 1914:1.

bond in the amount of $9,000 for an electric plant and $11,000 for a waterworks system.[12] A special election was scheduled for January 12, 1915.

News accounts in advance of the election make it apparent that the proposal to bond for the construction of the systems had many detractors, indicating the issue as one of longstanding discussion that had finally come to the fore; the moment being described as a time to "prove our progressiveness or our regressiveness." The author of the article (clearly an advocate for establishment of both systems) goes on to say of the need for a water works,

> "Water works means the protection from loss by fire. It means a saving to the village property holders of thousands of dollars annually. It means a convenience you have all longed to have for years. It means that your property in Osseo will be worth many thousands of dollars more on the market. It means that every person carrying insurance at a cheap rate may save the difference between the insurance they carry and the amount would really burn out for. Would you let your home and its contents burn for the insurance you carry? No! Not one of you would. It is worth three or four times that much to you. Today you can burn out and lose all. With the water works to reach your home, you can save three times its value besides getting more insurance at a still cheaper rate."[13]

The avocation of Osseo's local boosters was effective, with both propositions passing with a sound majority. The positive outcome was lauded as confirmation that Osseo was indeed "a progressive village and not a regressive one."[14] The prognostication that the establishment of the public systems would result in growth and development in village soon bore fruit. By early February, six new families had moved to town and a new agricultural implement firm by the name of Rohe and Cook had established themselves in the community.[15] By April *The Osseo Review* was predicting 1915 to be for the city of Osseo the "Greatest Advance in History." The paper's statement was based on improvements in the amount of $40,000 underway and contracted for at that time. These improvements included construction of several residences, a new Lutheran church, and the electric and waterworks plants.[16]

At the Village Council meeting on March 29, 1915, Mayor Hechtman appointed a committee to arrange for "the issue and sale of the electric light and waterworks bonds." Ordinance No. 56 (the first reading of which was undertaken at that same meeting) outlined the specifics of the plan for electrification – the bond would contract with the Minneapolis General Electric Co. for the erection and maintenance of "light poles, wires, and other fixtures in the streets, alleys, and public grounds in the Village of Osseo, MN."[17]

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12 *Village Council Minutes*, December 28, 1914.

13 "Special Election Jan. 12 Electric Lights – Water Works," *The Osseo Review,* January 06, 1915:1.

14 "Progress Wins – Light and Water for Osseo," *The Osseo Review,* January 13, 1915:1.

15 "New Business Houses Added to Osseo," *The Osseo Review,* February 10, 1915:1.

16 "Buildings and Improvements Surpass All Records," *The Osseo Review,* April 28, 1915:1.

17 *Village Council Minutes*, March 29, 1915.

Bids for the Osseo water system were received at the May 04, 1915 council meeting. Companies that submitted proposals included the Des Moines Bridge & Iron Works ($13,400-, not including a well), Ilstrup & Olson ($13,750-, not including the well), C.F. Bosworth ($14,597.39, not including a well), W.D. Lowell ($12,983.50, not including a well), Wm. C. Foster ($13,555-, not including a well), Pastoret Construction Co. ($13,2488-, not including a well), Chicago Bridge & Iron Works ($3,635-, tank only), Hill-Mauring-Whalen Co. ($14,000-, not including a well). Other companies bid for construction of the well. Those included J.F. McCarthy, Artesian Well Co., and F.J. Kapp, each pricing their services by the linear foot. The Council awarded contracts to the low bids – W.D. Lowell being awarded the tower contract and J.F. McCarthy the well contract. Specifics of the contract required that the contractor install a Smith-Vaile pump (manufactured by the Platt Iron Works, Co. of Dayton), a Fairbanks-Morse Co. motor, Eddy valves and hydrants, and that the contractor furnish a tower and tank built by the Minneapolis Steel and Machinery Company.[18]

On May 5, 1915 it was reported that, due to a legal technicality with the January election, a second special election authorizing the bonding was to be held. Completion of both the electrical plant and waterworks being contingent upon a legally successful bonding process, Osseo residents took to the polls on May 17, 1915.[19] Although in their reporting on the issue *The Osseo Review* did not note any variation in the specifics of the bonds, Village Council Minutes include the formal resolution specific to the waterworks, which reflects a significant increase in the bond for the water works:

> "Resolved; by the Common Council of the said Village of Osseo, that said village establish, build, construct, and equip a public water works plant for the supply of water for public and private use in said village, and that said village borrow the sum of Fourteen Thousand Dollars ($14,000.00) for the erection and construction of said water works plant and that for said purpose the said Village of Osseo issue it negotiable bonds in the sum of Fourteen Thousand ($14,000) Dollars."

Results of the special election were positive. With more than 5/8s of duly qualified electors casting their ballot, the measure passed 83 to 22.[20] By late June 1915 construction of the electrical system was well underway with the new "Great White Way" set for completion by the end of July.[21]

Village Council minutes in the coming months record the process of paying off the bond debt, which was held by German American Bank in Minneapolis. With 28, $500.00 bonds issued with a 6% per annum rate of interest, the City paid a total debt of $14,670 with bi-annual payments beginning July 01, 1918.[22]

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[18] Ibid., May 04, 1915.

[19] "Village Must Hold Another Election," *The Osseo Review,* May 05, 1915:1.

[20] *Village Council Minutes*, May 19, 1915.

[21] "Electric Lights for Osseo Before August First," *The Osseo Review,* May 23, 1915:1.

[22] *Village Council Minutes*, minutes book pp. 378-379.

Progress on the waterworks was also underway during the summer of 1915. On July 21 the newspaper reported that the Western Steel and Construction Co. of Minneapolis was at work pouring the concrete bases for the tower. Each 8- by 8-foot footing was described as being 7-feet deep and containing 6-yards of concrete. Two large, 3-inch anchor bolts extended through the center with heavy, railroad steel cross-pieces at the bottom. The cross-pieces were 41-feet 9-inches apart from center to center and were heavy enough to withstand anything the elements may throw against them. Completion of the 100-foot tower and 50,000-gallon tank was expected to take 4-6 weeks. At the same time, contractor W.D. Lovell was in town laying the water mains and hydrants, with service to be functional before winter set in.[23]

While work on the electric and water systems continued, the village prepared for a celebration. The Osseo Light and Water Carnival was scheduled for September 16-18, 2015. The event, which was billed as "The Greatest Municipal Prosperity and Improvement Celebration in the History of Northern Hennepin County," featured Osseo's Concert Band, "the Aztec from Old Mexico," Frau Helene of Norway, Big Austin, a 2,800-pound horse said to be the biggest in the country, and many other special acts and activities.[24]

On November 24, 1915 the local newspaper reported that the water tower tank was full, the plant had been fully tested, and hydrants and pipes had been flushed. The only remaining work was completion of the pump house, which would protect the pump from the elements.[25]

As noted, the promise of reduced fire insurance rates and protection against material loss due to fire was a key selling point in the campaign to establish a waterworks system. In years prior, fire fighting in Osseo relied solely on a "bucket brigade." As early as 1900, residents were calling for more effective means of protecting the city from the threat of fire. The immediate response was the installation of hand pumps at critical locations. Such pumps required six men, three on each side of the pump, to create a strong stream of water. As small as the city remained at that time, a 300-foot hose reached most buildings.[26] The 1913 addition of a "No. 8, 40 gallon Chemical Engine with 50-foot of hose" at a cost to the City of $222.50 was a decided advancement in the city's fire protection capability.[27]

Shortly after the construction of the waterworks system, Village Council minutes record various activities related to fire protection. In September of 1915 the Council received communication from the "Department of Insurance relative to the 2% of fire insurance premiums payable to the Village each year, provided a regular fire organization was maintained."[28]

[23] "Improvements Going On Village a Prosperous One," *The Osseo Review,* July 21, 1915:1.

[24] Advertisement for "Light and Water Carnival," *The Osseo Review,* August 04, 1915.

[25] "Tank Full of Water," *The Osseo Review,* November 24, 1915:1.

[26] *100 Year History*, 72.

[27] *Village Council Minutes*, minutes book, 294.

[28] Ibid., 389.

Image 3. Historic Image – 1915

(SOURCE: *The Osseo Review,* December 15, 1915.

View of the newly constructed Osseo water tower, looking northwest across 4th Street NW at what would in 1916 be adopted as the route of the Jefferson Highway.

It was the Commercial Club that called a meeting with the State Department of Insurance, resulting in the formal creation of the Osseo Fire Department. Chartered on December 10, 1915, the department had a crew of 36 men led by Chief George Heesen and Assistant Chief, George Neumann.[29] The Council supported the newly formed department, with multiple entries in Council minutes reflecting presentations by the Osseo Fire Department requesting equipment, etc. noted over subsequent months. In February of 1916, the Council moved to purchase 500-feet of "Helmet" hose from the Eureka Fire Hose Manufacturing Co. at a cost of $.80/foot.[30]

Osseo's first fire truck was purchased in 1929. Where once the ringing of church bells sounded a fire alarm, the construction of the water tower eventually resulted in the location of a siren at that site.[31]

[29] *100 Year History*, 73.
[30] *Village Council Minutes*, February 1916.
[31] *100 Year History*, 73.

Establishment of the Osseo waterworks, of which the water tower was the most visible element, was a critical element in a multi-pronged approach taken by the Osseo Commercial Club to ensure the future growth and prosperity of their community. As a means of protecting existing buildings, providing affordable fire insurance, and supplying piped water to businesses and homes, the waterworks was an important feature to the citizens of the community. Just as importantly, having a waterworks served as a strong enticement to individuals and businesses looking to establish themselves in a progressive community.

Positive signs of growth presented themselves very soon after the January 1915 bond issue special election, with a handful of new homes under construction that summer and at least one business choosing Osseo to establish a new enterprise. Population statistics indicate a steady growth over subsequent decades, a reversal of the trend between 1890 and 1900 when there was a 2% loss of population.

It is difficult to know the precise expectations of the Osseo Commercial Club – how large did they anticipate the town could grow? So many variables were at play over the years following the 1915 establishment of the waterworks and electric system, with many of those being beyond the control of both the Club and the Village Council. Osseo remains today a small village, now nestled in the wedge of two major highways with little physical room for expansion. However, from a population of 390 in 1910 to its peak at 2,974 in 1980 Osseo grew by 662% - a growth that would have been impossible were it not for a waterworks and electric system (Table 1.)

TABLE 1. Historical Population of Osseo[32]

Census	Population	Percentage Change +/-
1880	206	----
1890	353	71.4
1900	346	-2.0
1910	390	12.7
1920	433	11.0
1930	561	29.6
1940	738	31.6
1950	1,167	58.1
1960	2,104	80.3
1970	2,908	38.2
1980	2,974	2.3
1990	2,704	-9.1
2000	2,434	-10.0
2010	2,430	-0.2
2016	2,661	8.68

In ca.1955 a second water tower was constructed to serve the growing community. That tower is located in a light industrial area in the southwest corner of town, just west of Highway 81 and

[32] http://www.census.gov/prod/www/decennial.html. Last accessed 06/28/2016.

north of 85th Avenue. Typical of the period, the second tower is a double-ellipsoidal in form. With the addition of a second water tower, Osseo was in a position to meet the demands of an increasing population.

The Hemispherical Bottom Type

The concept of storing water at a raised elevation for the purpose of creating sufficient pressure to distribute it to a population has existed in various forms since antiquity. With the advancements of the Industrial Age and the requirements that came with the development of the railway system in America, the concept of water distribution that began with the aqueducts of Rome was transformed into the design of elevated water tanks (a.k.a., water towers). The earliest examples of water towers appeared in the U.S. in the 1880s to supply the boilers of steam engines and, when towns and cities grew up along a railroad line, water tower engineering was refined to provide fire protection and to pipe water to the growing communities. Water tower forms and scale changed through time, a reflection of technological advancements as well as an indication of increased demand resulting from an ever-growing population.

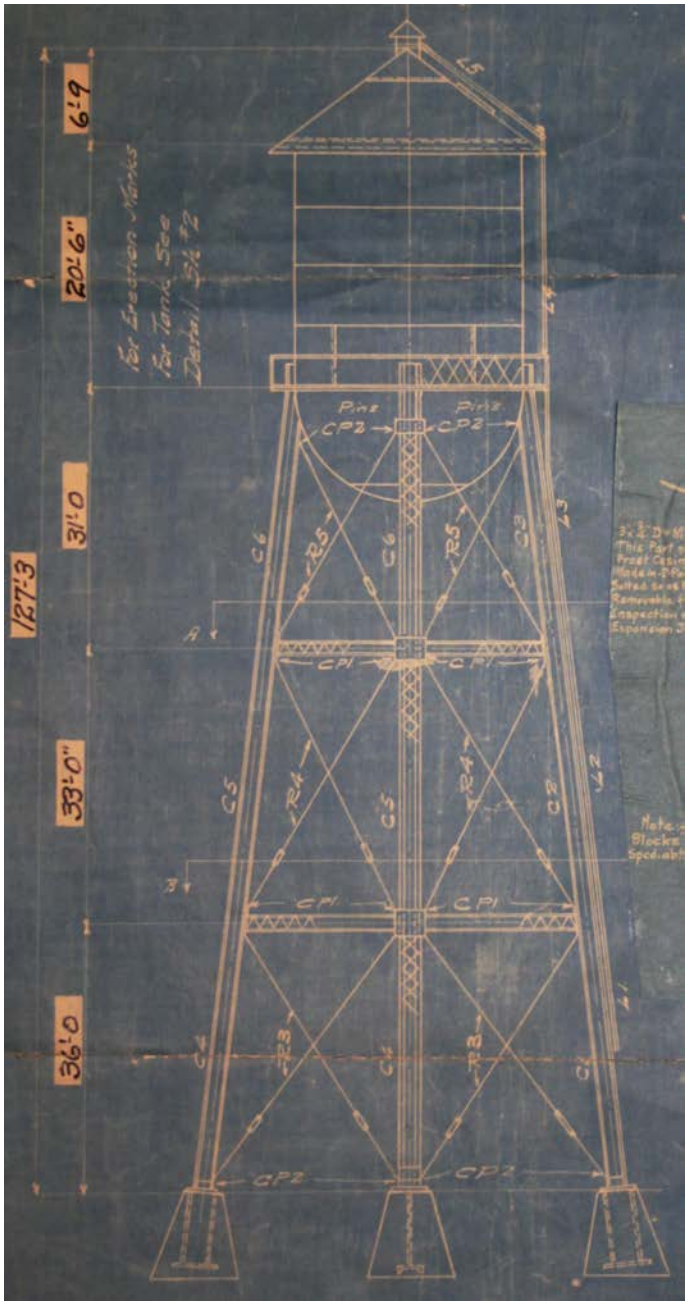
The hemispherical bottom water tower was considered the standard of the industry from the late 1890s to about 1940. The hemispherical form had the significant advantage of reducing stresses. Further, the tank's shape made securing it to the tower easier and provided ready access for ongoing maintenance. The form was also thought to be more pleasing to the eye.[33]

Hemispherical tanks with a capacity of over 50,000-gallons (a 100,000-gallon elevated tank being considered large through ca.1910) 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.[34] 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.[35] The balcony provided access to the tank but, just as importantly, acted as a support girder (often referred to as a stiffener) around the perimeter of the tank. Design guidelines recommended that plate steel with drain holes be utilized for the balcony deck rather than wood.[36]

The task of painting the water tower required considerable effort; the proper finish reduced maintenance and assured the longevity of the structure. Beginning with a clean surface was paramount, followed by a primer and a finish coat. Red lead oxide, lampblack, and linseed oil were the primary elements of the paint primer with asphaltic varnish used as the finish coat.[37] Most water towers of the period sported a silver tower and tank, black lettering, and a red roof.

FIGURE 6. Osseo Water Tower Plans – 1915

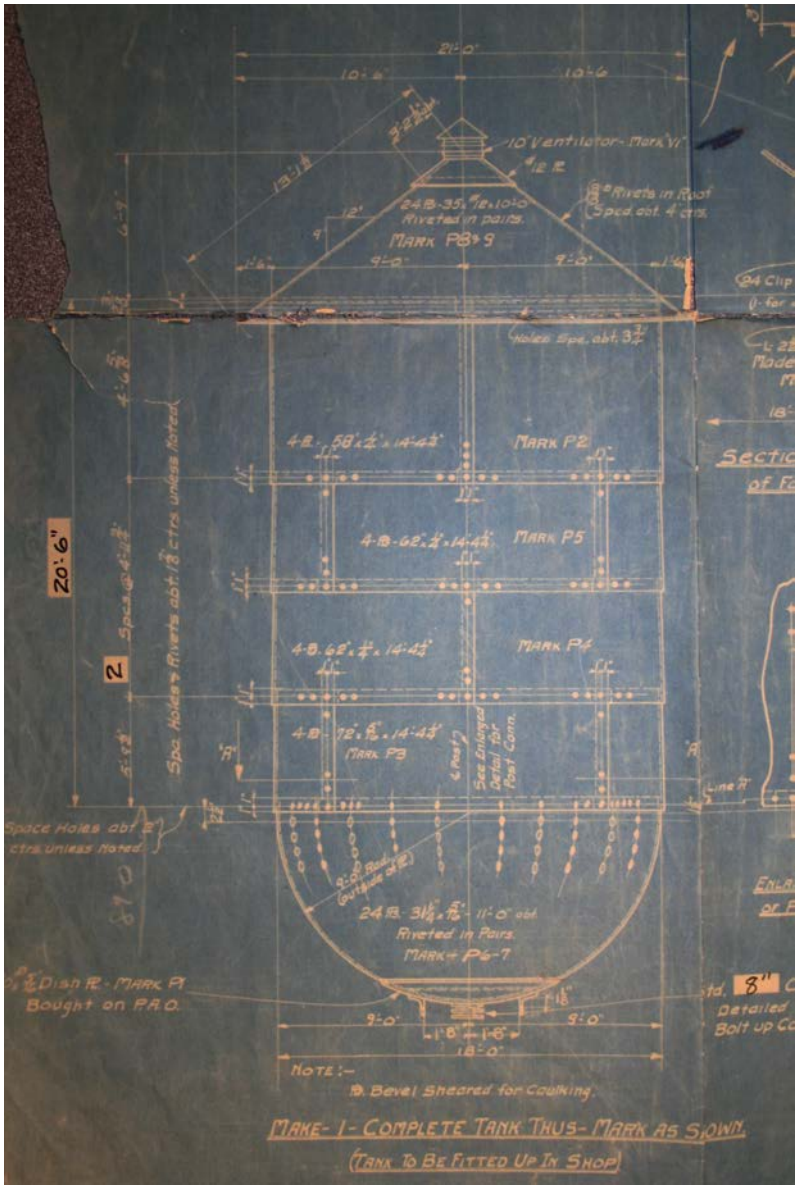
[33] J.N. Hazlehurst, *Towers and Tanks for Waterworks. The Theory and Practice of Their Design and Construction* (New York: John Wiley & Sons, 1907), 178.
[34] Ibid., 197.
[35] Ibid., 199.
[36] Ibid., 256.
[37] Ibid., 256.



(SOURCE: City of Osseo, Vertical Files)

Design plan for the 1915 Osseo Water Tower supplied to the Osseo Village Council by Minneapolis Steel & Machinery Co.

FIGURE 7. Osseo Water Tower Plans – 1915



(SOURCE: City of Osseo, Vertical Files)

Water tower construction plans supplied to the Osseo Village Council by Minneapolis Steel & Machinery Co. include this detail of the tower's 50,000-gallon holding tank.

The earliest examples of the hemispherical bottom were constructed of riveted plates, with the use of welding technology coming into play with the advent of World War II. The major companies 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; by diminishing the elongation of the tank form, the overall height of the tower could be lessened. The structure was otherwise the same as a hemispherical tower, utilizing laced channel columns and a cone roof. At that time, unofficial company trademarks were introduced in the design of the towers' balcony stiffeners. PDM utilized a running "V" while others adopted an "X" or vertical supports. This practice provided a ready means for identifying the builder of the water tower.[38]

The Osseo Water Tower retains all of the hallmark elements of a pre-World War II, hemispherical bottom type, including a riveted tank, conical roof, a four-post lattice tower with cross bracing and a balcony stiffener with a running "X" design, marking the tower as a construction by a company other than the Pittsburgh-Des Moines Steel Company.

Although the Minneapolis Steel and Machinery Co., the builder of the Osseo Water Tower, erected water towers across Minnesota and the Midwest, no comprehensive survey of water towers in Minnesota has been completed to fully document their contributions. It is not known how many were built in Minnesota or, of those constructed by the company, which remain and in what condition. Two other companies, the Chicago Bridge and Iron Company (now CBI, Inc.) and the Pittsburgh-Des Moines Steel Company (now PDM, Inc.), dominated the water tower construction business in the Midwest. As the typological descriptions on the pages to follow indicate, the majority of advancements in water tower engineering are attributed to one or the other of these two dominant companies.

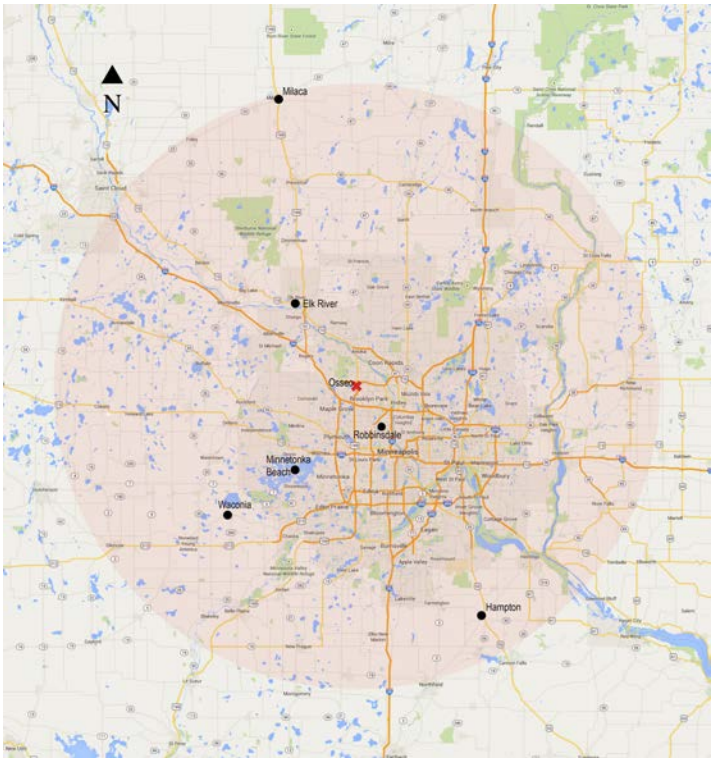
The Osseo Water tower stands as one of only seven historic, municipal, hemispherical towers remaining in a 50-mile radius of Osseo; at one time there having been at least 17 towers of that type in the same area (Figures 8-9). In addition to Osseo, the cities that retain their hemispherical bottom water towers are: Elk River, Hampton, Milaca, Robbinsdale, Minnetonka Beach, and Waconia (Table 2). It should be noted that the number of non-extant, municipal towers of the hemispherical type is undoubtedly higher than the 17 that were identified in this nomination – more extensive research into Metropolitan resources is needed to fully appreciate the loss of historic towers of the type.

[38] Jim Foster, *Towering Over America: The 100 Year History of Pitt-Des Moines, Inc.* (Des Moines, IA: Pitt-Des Moines, Inc., 1992), 39.

Table 2. Hemispherical Water Towers Within 50-miles of Osseo

CITY	STATUS	
	Extant	**Non-Extant**
Annandale		x
Anoka		x
Belle Plaine		x
Buffalo		x
Cokato		x
Dassell		x
Elk River	NRHP	
Hampton	x	
Medina		x
Milaca	x	
Minnetonka Beach	x	
Minnetrista		x
New Brighton		x
Robbinsdale	x	
Tonka Bay		x
Waconia	x	

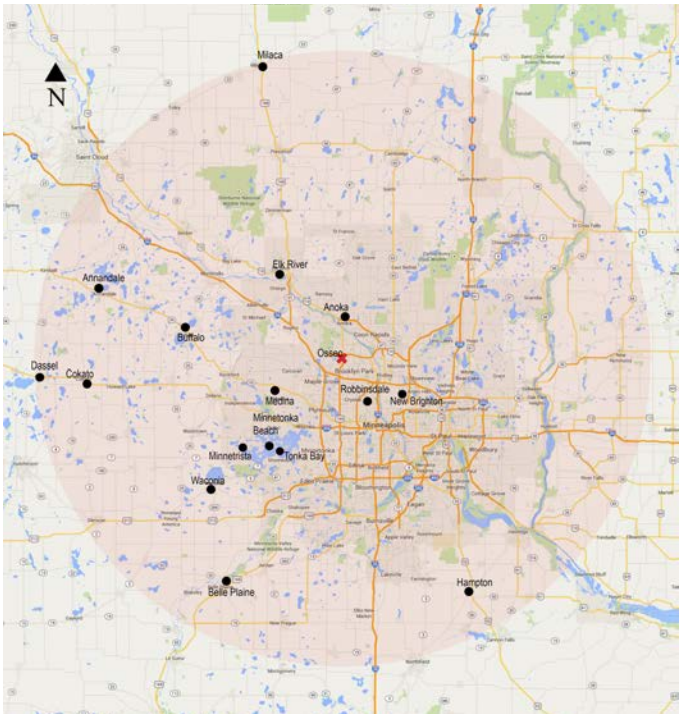
Figure 8. Extant Municipal Hemispherical Water Towers Within 50-miles of Osseo



(Base Map: maps.google.com. Accessed 02/01/2015)

The locations of EXTANT municipal water towers of the hemispherical type are indicated.

Figure 9. Known Non-Extant Municipal Hemispherical Water Towers Within 50-miles of Osseo



(Base Map: maps.google.com. Accessed 02/01/2015)

The locations of NON-EXTANT municipal water towers of the hemispherical type are indicated.

Once a commonplace feature on the Minnesota horizon, historic water towers of all types are quickly disappearing as community populations grow beyond the holding capacity of their early towers and expensive maintenance issues present economic challenges. While the research for this nomination focused on identifying hemispherical towers located in a 50-mile radius surrounding Osseo, information about water towers across the state was accumulated.

Some important evidence to emerge from the process undertaken to nominate the Osseo Water Tower to the National Register indicates that the majority of hemispherical water towers remaining in use in Minnesota are located in small communities in outlying areas, far from quickly expanding cities and major population areas. The research also documents the proliferation of post-hemispherical period water towers that, in Minnesota, most commonly take the form of the elevated spheroid or hydro-pillar types. Further, it appears there is a slow-growing recognition of the significance of the hemispherical water tower to the history and identity of towns across the state, but that a community's desire to preserve their historic water tower collides with the prohibitive cost of doing so.[39]

[39] In a radius of 51-100 miles around Osseo, 22 of 34 known hemispherical water towers remain. In a radius greater than 100 miles from Osseo, 34 at least of 100 known hemispherical water towers remain with 18 of the 100 confirmed as non-extant including the once National Register listed tower at Crosby.

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Previous documentation on file (NPS):

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

Primary location of additional data:

_x__ State Historic Preservation Office
____ Other State agency
____ Federal agency
_x__ Local government
____ University
____ Other
Name of repository: _____

Historic Resources Survey Number (if assigned): _G-MHCG-1403-03508__

---

9. Geographical Data

Acreage of Property __less than one 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: 45.120535 Longitude: -93.402923

Or
UTM References
Datum (indicated on USGS map):

☐ NAD 1927 or ☐ NAD 1983

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

The Osseo Water Tower is located in the northwest corner of the intersection of Central Avenue and 4th Street NW in Osseo, Hennepin County, Minnesota. The structure is located within a .75-acre, City-owned parcel with the property boundary associated with the tower specifically being a concrete pad measuring approximately 35- by 35-feet.

The property boundary is outlined.

Boundary Justification (Explain why the boundaries were selected.)

The boundary encompasses the Osseo Water Tower and the approximately 35- by 35-foot area upon which the structure was constructed in 1915.

---

10. Form Prepared By

name/title: __Alexa McDowell, Architectural Historian_____
organization: __AKAY Consulting_____
street & number: __4252 Oakland Avenue_____
city or town:__Minneapolis_____ state: __MN___ zip code:__55407_____
e-mail__akaymcd@hotmail.com_____
telephone:_515-491-5432_____
date:_____11-02-2016_____

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: Osseo Water Tower

City or Vicinity: Osseo

County: Hennepin State: MN

Photographer: Alexa McDowell

Date Photographed: 07-05-2016

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

1 of 14 Context View: Looking north along Osseo's commercial district lining Central Avenue (historic route of Jefferson Highway)
MN_HennepinCounty_OsseoWaterTower_0001.tif

2 of 14 Context View: Looking west along 4th Street
MN_HennepinCounty_OsseoWaterTower_0002.tif

3 of 14 Context View: Looking west through Boerboom Veterans Park
MN_HennepinCounty_OsseoWaterTower_0003.tif

4 of 14 Context View: Looking southwest across the intersection of Central Avenue and 5th Street
MN_HennepinCounty_OsseoWaterTower_0004.tif

5 of 14 Context View: Looking southeast across the intersection of 1st Avenue NW and 5th Street NW
MN_HennepinCounty_OsseoWaterTower_0005.tif

6 of 14 Context View: Looking east along 4th Street NW
MN_HennepinCounty_OsseoWaterTower_0006.tif

7 of 14 View: View of the water tower looking northwest with the fire department at right
MN_HennepinCounty_OsseoWaterTower_0007.tif

8 of 14 View: View of the water tower looking southeast
MN_HennepinCounty_OsseoWaterTower_0008.tif

9 of 14 View: View of the water tower looking northeast
MN_HennepinCounty_OsseoWaterTower_0009.tif

10 of 14 View: View of the water tower base and pad, looking northeast
MN_HennepinCounty_OsseoWaterTower_0010.tif

11 of 14 View: View of the water tower's 50,000-gallon tank
MN_HennepinCounty_OsseoWaterTower_0011.tif

12 of 14 View: View of the water tower structure from beneath the tower
MN_HennepinCounty_OsseoWaterTower_0012.tif

13 of 14 Detail: View of the mounting of leg to concrete footing
MN_HennepinCounty_OsseoWaterTower_0013.tif

14 of 14 Detail: View of the builder's plaque located on the NE leg
MN_HennepinCounty_OsseoWaterTower_0014.tif

Additional Information: Water Tower Typologies

The use of the hemispherical bottom water tower falls with a continuum of the development of the municipal water system; while dominating the industry for nearly fifty-years the hemispherical bottom form was neither the first nor the last in the evolution of the water tower.

The ***Flat Bottom*** is the earliest American form utilized for elevated water tanks. Such tanks, commonly associated with railroad lines, were generally wood construction – both tank and tower. However, PDM's predecessor firm, Jackson & Moss, constructed a 55,000-gallon wood tank on a steel tower in LaPorte City, Iowa in 1896. The company also erected a flat bottom steel tank on a brick tower in Correctionville, Iowa in 1915. As one would expect, extant examples of the flat bottom type are rare; the Elysian Water Tower at Elysian, Minnesota (formerly listed on the National Register of Historic Places) was razed in 1989. A flat bottom with a wood tank in Stewart, Minnesota was replaced in ca.1920 by a hemispherical bottom, which remains today. The survey also found examples of the type were historically used in Anoka, Blooming Prairie, Carver, Cosmos, Elmore, New Prague, Nicollet, and Princeton (all non-exant). Flat bottom, steel tank water towers remain in Beardsley and Lindstrom.

TYPOLOGY 1: FLAT BOTTOM (ca.1870-1890s)

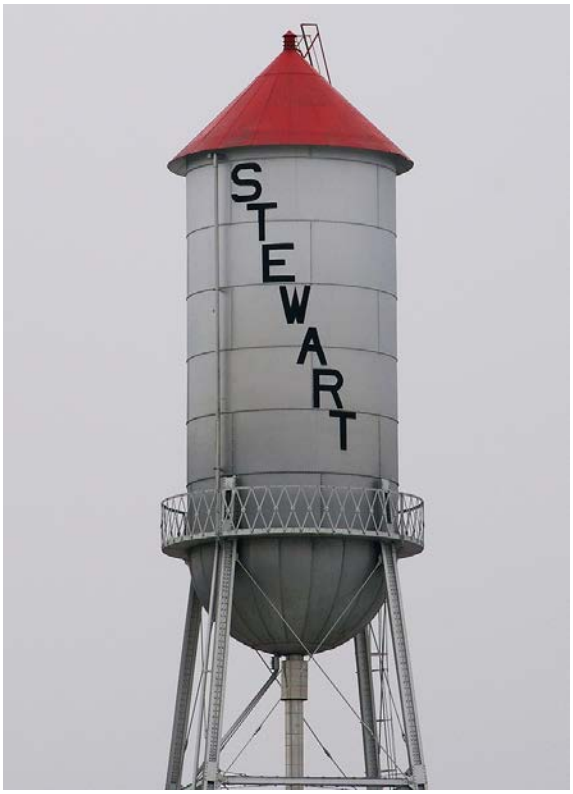
(SOURCE: http://www.loc.gov/pictures/item/mn0103.photos.091440p/resource/. Accessed 03/02/2015.)

As the above image of the Elysian Water Tower at Le Sueur, MN (razed 1989) illustrates, early water towers (in this case, wooden) utilized a flat bottom. In the 1890s, that form gave way the hemispherical tank.

TYPOLOGY 1: FLAT BOTTOM (Elevated)

(SOURCE: http://reflections.mndigital.org/cdm/singleitem/collection/mcc/id/76/rec/7. Accessed 03/02/2015.)

This ca.1900 image documents the wood, flat bottom elevated tank at Stewart, Minnesota.



(SOURCE: https://c2.staticflickr.com/4/3581/3334919542_7029b6de7f_b.jpg. Accessed 02/02/2015.)

Stewart's current hemispherical water tower, which replaced the flat bottom tank in ca.1920, remains in use. Although unusually elongated in form, the tower is considered a hemispherical type.

TYPOLOGY 1: FLAT BOTTOM

(SOURCE: http://reflections.mndigital.org/cdm/singleitem/collection/nico/id/3410/rec/1. Accessed 03/01/2015).

The towers at Nicollet, Minnesota (ca.1908): flat bottom, wood tank at left and hemispherical bottom at right.

TYPOLOGY 2: HEMISPHERICAL BOTTOM (1890s-ca.1940)

The ***Hemispherical Bottom*** was considered the standard of the industry from the late 1890s to about 1940; the Osseo Water Tower is an example of the hemispherical bottom. 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. The form was also thought to be more pleasing to the eye. Hemispherical tanks, typically with a capacity of over 50,000-gallons (a 100,000-gallon elevated tank being considered large through ca.1910), most often 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. 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. The balcony provided access to the tank but, just as importantly, acted as a support girder (often referred to as a stiffener) around the perimeter of the tank. Design guidelines recommended that plate steel with drain holes be utilized for the balcony deck rather than wood.

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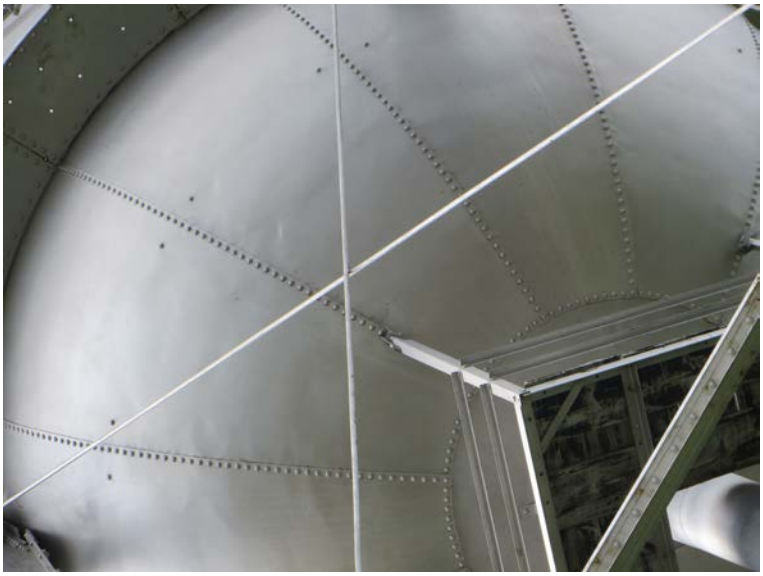
(SOURCE: AKAY Consulting , Floodwood, MN, September 2014)

The hemispherical bottom water tank was the dominant form utilized from the 1890s through ca.1940. The major companies active in water tower construction developed some variations on the hemispherical form. In the mid-1920s, the Pittsburgh-Des Moines Steel Company (now PDM) began using what they termed an elliptical bottom; by diminishing the elongation of the tank form, the overall height of the tower could be lessened. The structure was otherwise the same as a hemispherical tower, utilizing laced channel columns and a cone roof.

TYPOLOGY 2: HEMISPHERICAL BOTTOM



(SOURCE: AKAY Consulting, Floodwood, MN, September 2014)

The tank's riveted construction is seen in this detail view of the hemispherical bottom.

(SOURCE: AKAY Consulting, Wanamingo, MN, January 2015)

The hemispherical at Wanamingo, with its historic paint scheme, stands in a prominent location overlooking the downtown commercial area.

TYPOLOGY 2: HEMISPHERICAL BOTTOM

(SOURCE: mnhsonlinecollection.org. Accessed 02/27/2015)

Although proportionately varied from the typical hemispherical, the Robbinsdale water tower (extant) is of the hemispherical bottom type.

TYPOLOGY 3: DOUBLE ELLIPSOIDAL (1930s-present)

The ***Double Ellipsoidal*** 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 more commonly utilized welded construction. The examples illustrate the variation in appearance of the double ellipsoidal tank, reflecting the tanks wide capacity range (50,000 to 500,000 gallons). The type is the most widely seen of those constructed in the post-war era.

(SOURCE: AKAY Consulting Postcard Collection)

As the hemispherical replaced the earlier flat bottom water towers, the hemispherical form was supplanted by the double ellipsoidal. That change is illustrated in this image of the towers in Albert Lea, Minnesota – while the double ellipsoidal (near center) remains in use today, the hemispherical (at left) is non-extant.

The following examples illustrate the variation in appearance of the double ellipsoidal tank, reflecting the tanks wide capacity range (50,000 to 500,000 gallons).

TYPOLOGY 3: DOUBLE ELLIPSOIDAL

(SOURCE: AKAY Consulting, Medina, MN, September 2014)

The double ellipsoidal in Medina is relatively small in scale and capacity. Still, its height makes it an attractive spot for the collocation of telecommunications antennae.

(SOURCE: AKAY Consulting, Big Lake, MN September 2014)

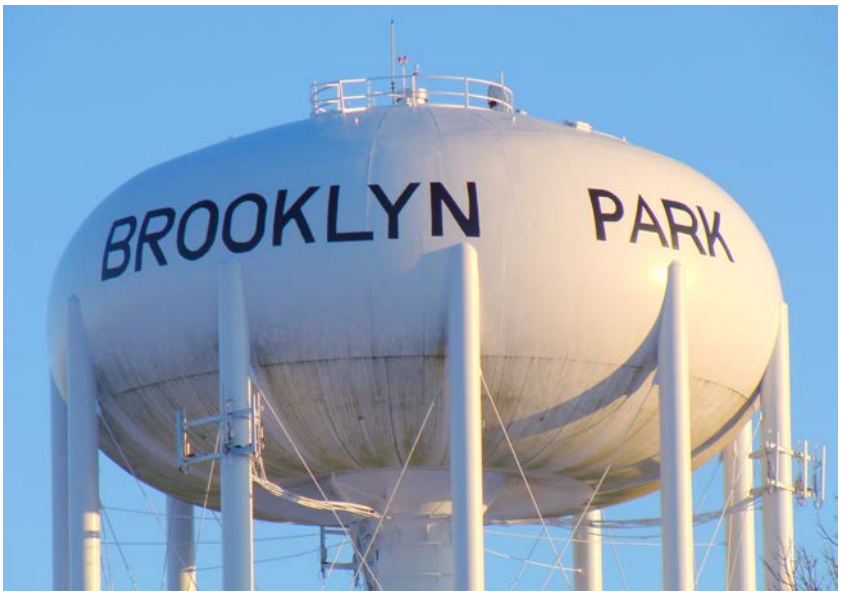
TYPOLOGY 3: DOUBLE ELLIPSOIDAL

(SOURCE: AKAY Consulting, Plymouth, MN September 2014)

Plymouth has four water towers, two of which are categorized as double ellipsoidal in form. The tower in the top image dates to 1961.

TYPOLOGY 4: SPHEROID ELEVATED TANK - TOROSPHERICAL – (ca.1945-present)

The ***Spheroid*** elevated water tank (a sub-type of which is the ***Torospherical***) was introduced post-war and, given its large capacity (2,000,000 gallons), is common in large communities and urban areas. Both the Chicago Bridge and Iron Company and Pittsburgh-Des Moines developed large capacity spheroid tanks. A 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.



(SOURCE: http://www.myfurnaceandac.com/images/brooklynpark_watertower_original.jpg. Accessed 02/20/2015)

(SOURCE: http://mw2.google.com/mw-panoramio/photos/small/16344293.jpg. Accessed 03/01/2015)

TYPOLOGY 5: SPHEROID ELEVATED TANK – PEDESTAL SPHERE (ca.1945-present)

The ***Pedestal Sphere*** came into use with the development of welded technology. Both the Chicago Bridge and Iron Company and the Pittsburgh-Des Moines Company developed this type of spherical tank with capacities of up to 200,000 gallons set on a supporting cylinder enclosing the standpipe. As the examples show, the welded design allowed for considerable variation in the shape of the tank. The pedestal sphere, along with the more economical water ball, replaced the previously dominant hemispherical and elliptical bottom forms.

(SOURCE: http://1.bp.blogspot.com/-qMBuOzQgXjs/UDPImqZzorI/AAAAAAAABJ8/mY6ySKKQOIE/s1600/ Dual+Water+towers+by+Plaster.jpg. Accessed 02/28/2015).

As the image above illustrates, the community of Brandon replaced their ca.1915 hemispherical water tower with an elevated spheroid – the process of constructing the new tower was captured in this image from August of 2012, with the older tower removed shortly thereafter. As the following examples show, the welded designs allowed for considerable variation in shape. The "spaceship" form (like the new tower at Brandon) is now a common element on the Minnesota horizon.

TYPOLOGY 5: SPHEROID ELEVATED TANK – PEDESTAL SPHERE

(SOURCE: AKAY Consulting, Annandale, MN, September 2014)

(SOURCE: http://www.mikiemetric.net/USAPics/Water%20Towers/BlaineDonutTower.jpg. Accessed 03/02/2015)

TYPOLOGY 5: SPHEROID ELEVATED TANK – PEDESTAL SPHERE

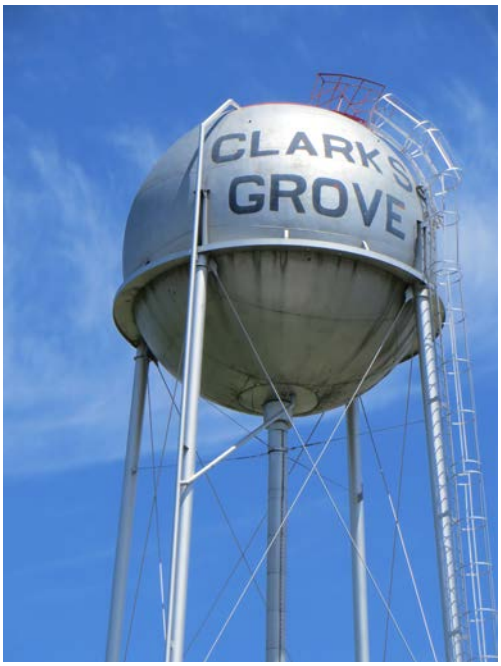
(SOURCE: http://smartdrycarpetcleaning.com/wp-content/uploads/2014/02/arlington.jpg. Accessed 02/25/2015)

(SOURCE: http://www.mikiemetric.net/USAPics/Water%20Towers/BlaineDonutTower.jpg. Accessed 02/25/2015)

TYPOLOGY 6: WATERBALL (ca.1945-present)

Like the pedestal sphere, the ***Water Ball*** was a post-war era development. The small tank set on slender posts was more economical than the pedestal sphere, but its small capacity limited its use to small communities.

(SOURCE: AKAY Consulting, Rockville, MN March 2015)



(SOURCE: AKAY Consulting, Clarks Grove, MN June 2016)

TYPOLOGY 7: HYDROPILLAR (ca.1990s – Present)

The ***Hydropillar*** was developed and patented by PDM in 1962. The hydropillar 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 utilized for storage; large door at the base (not visible in this view) provides access to the interior. This tower type is quickly becoming the dominant form in the Metropolitan area – its ability for large capacity storage (a number identified during the survey have capacities in excess of 1,000,000-gallons) makes it useful to cities facing an ever-increasing population.

(SOURCE: AKAY Consulting, St. Michael, MN, September 2014)

(SOURCE: AKAY Consulting, Plymouth, MN, September 2014)

TYPOLOGY 8: NOVELTY

(SOURCE: http://media-cache-ec0.pinimg.com/736x/e4/73/21/e47321da4c3a115a6e2ac7a18368b3e9.jpg. Accessed 02/28/2015).

(SOURCE: http://blog.lib.umn.edu/crd/rural_design/Lindstrom.jpg. Accessed 02/20/2015).

The towers at Rochester (top) and Lindstrom are, perhaps, Minnesota's most widely recognized water towers. Worth noting … the paint scheme of the Lindstrom tower post-dates the flat bottom tower by decades; the change coming after the tower was decommissioned.

Osseo Water Tower | Hennepin, Minnesota
Name of Property | County and State