HEDRICK WATER TOWER, CITY OF HEDRICK, KEOKUK COUNTY, IOWA:

Architectural/Historical Intensive Survey and Evaluation

Drinking Water State Revolving Fund (DWSFR) Project

IDNR Contract No. 22ESDWQCLASK-0001

HADB No. 54-02872

Tallgrass Report No. TA22-845

Prepared for

Iowa Department of Natural Resources
502 E 9th Street
Des Moines, IA 50319

Prepared by

Tallgrass Archaeology LLC
Project Historian, Ray J. Werner and
Leah D. Rogers, Principal Investigator
2460 South Riverside Dr.
Iowa City, IA 52246

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Abstract

The Architectural/Historical Intensive Survey & Evaluation for the Hedrick Water Distribution System Improvements Drinking Water State Revolving Fund (DWSRF) Project (DNR Contract No. 22ESDWQCLASK-0001).identified 18 total resources within or near the subject structure—the Hedrick Water Tower.. Of them, six are located within the current project boundary and 12 are located adjacent or very near to the current project boundary. Though many of these resources have been previously inventoried, their numbers and addresses should be considered mismatched and/or not recorded on the city inventory list on file with the State Historic Preservation Office. Furthermore, none of the forms contain an evaluation of individual or collective NRHP eligibility except for two sections of exposed brick pavement on 1st and Main streets.

One resource, the subject of the current study--the Hedrick Water Tower—is recommended by the current study as individually eligible for inclusion at the local level in the National Register of Historic Places under Criteria A (historical significance) and C (engineering significance). The period of significance extends from its construction in 1913-14 to 1972 during which time it has served as the center piece of Hedrick's water distribution system and as a local landmark. An Iowa Site Inventory Form has been completed for this structure and included in the appendix of this report. It has been assigned number 54-0016845 in the current state inventory. The appendix also includes a Historical Architectural Data Base (HADB) form for the current report.

Neither the commercial area along Main Street or the agricultural/industrial/railroad area to the west and south of the water tower appear to retain sufficient historic integrity or visual cohesion to be eligible as NRHP districts. However, these areas would both require intensive survey and evaluation in order to make a final determination of NRHP eligibility as historic districts. It can be stated that neither district would likely include the water tower within its boundaries.

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Introduction and Project Area

The following is an Architectural/Historical Intensive Survey & Evaluation for the Hedrick Water Distribution System Improvements Drinking Water State Revolving Fund (DWSRF) Project (DNR Contract No. 22ESDWQCLASK-0001). This includes a survey and evaluation of the extant water tower and other historical resources within and adjacent to the current project area as described below. The current report presents the results of the intensive survey and evaluation that was conducted by Tallgrass Archaeology LLC of Iowa City, Iowa, for the Iowa Department of Natural Resources. Leah D. Rogers of Tallgrass served as Principal Investigator and co-author with Project Historian, Ray J. Werner.

The project area is completely within the corporate limits of the City of Hedrick, Keokuk County, Iowa (Figure 1). It includes the N½ of Lot 13, Block 16, Original Plat, where the extant 1913-14 water tower stands. This is an area along the alley of Block 16 and along W. 1st Street in the west half of the block which are part of the extant water main corridor, and irregular parts of the former railroad lots on both sides of W. 1st Street between Main Street and Half Street (Figure 2). Adjacent properties were also surveyed to the reconnaissance level for this report. The Water Tower and five additional resources that were identified within the current project corridor are the primary focus of this report, and the assessment of the twelve resources from outside of it were of secondary importance. The archaeological potential of the project area was examined by another entity and reported elsewhere.

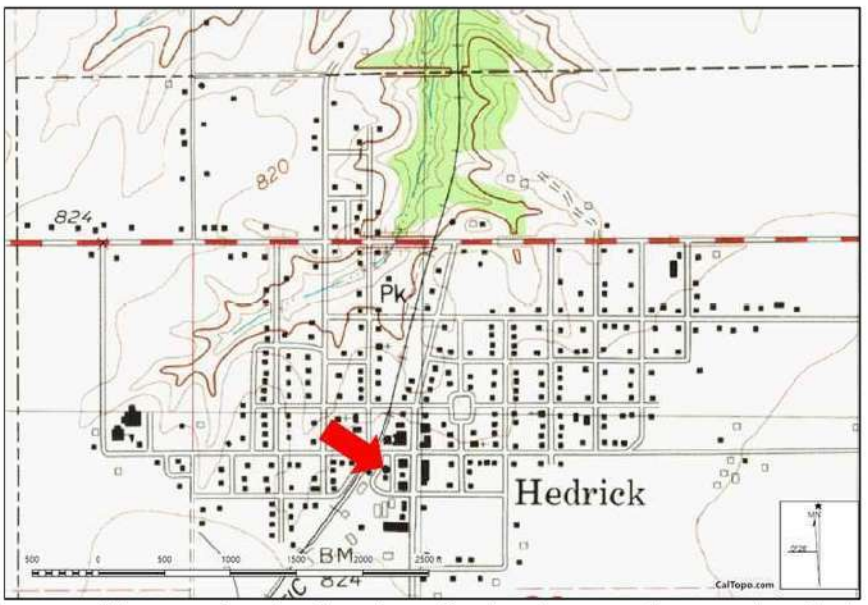

Figure 1. Topographic map showing location of water tower and current project area within Hedrick, Iowa corporate limits. Base map: ExpertGPS mapping software, accessed June 2022.

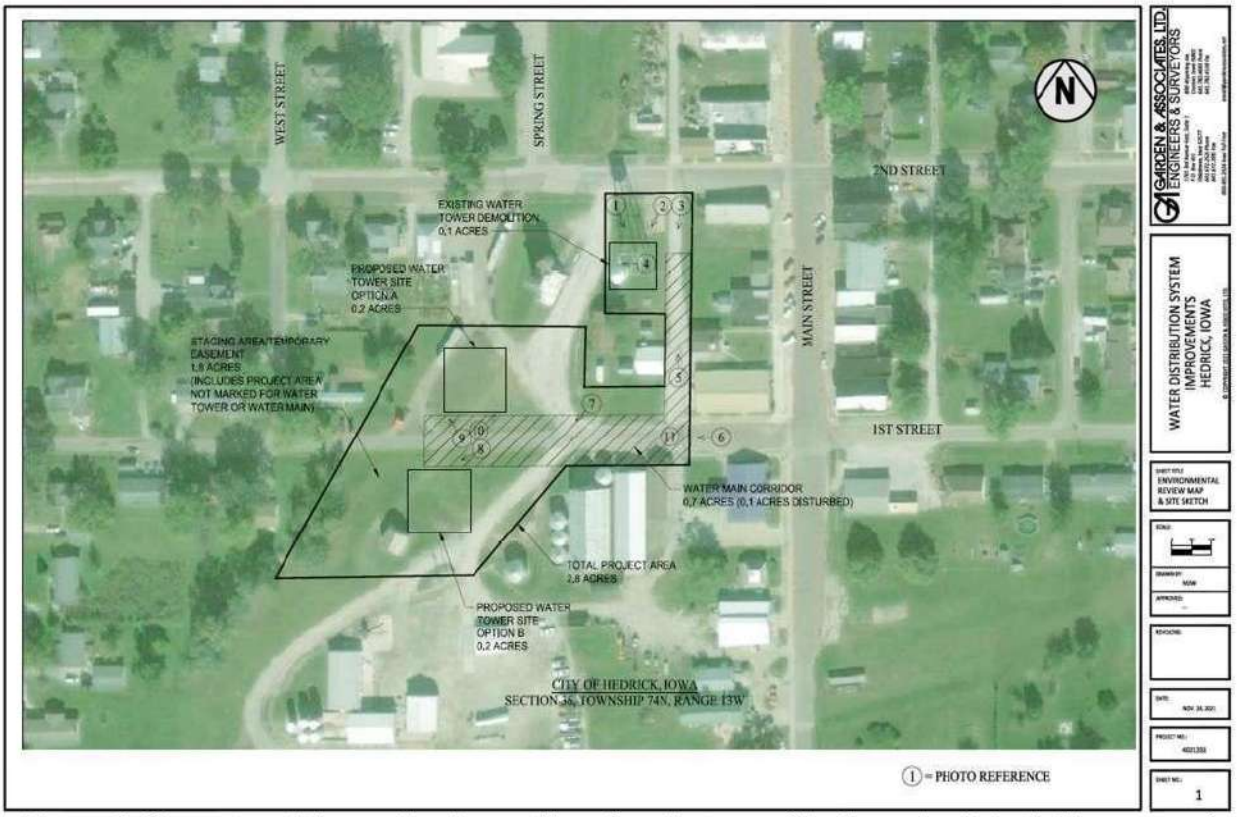

Figure 2. Current aerial map showing outline of project area (black overlays), including areas of proposed demolition and construction. Source: Garden & Associates 2022.

Methodology and Resources

The intensive survey and evaluation included field photography by Tallgrass staff Cindy L. Nagel and Lauren Bleeker on May 4, 2022. These photos were supplemented by photographs taken by Viking Industrial Paint company in July 2020 and by the county assessor's office at various dates.

Historical and architectural research was conducted by Ray J. Werner of Tallgrass Archaeology. Research included accessing Keokuk County recorder and assessor repositories online. The survey included historical newspaper and periodical research conducted through newspapers.com, newspaperarchives.com, and Google Books online as well as inspection of historical maps, plats, and photographs, including some accessed through the Iowa Geographic Map Server. Research materials were acquired from the State Historic Preservation Office concerning previous architectural survey reports, review and compliance files, and Iowa Site Inventory forms. The I-Sites Pro database was also examined for information concerning previous studies in Hedrick. The Hedrick Public Library was also contacted for photographs and additional information. Further online research was conducted through the University of Iowa, National Archives and Record Administration, Library of Congress, and Iowa GenWeb. The survey concluded with brief consultation of secondary resources and similar surveys from across the state.

The National Register of Historic Places (NRHP) eligibility of the Hedrick Water Tower and surrounding resources was evaluated according to the NRHP integrity considerations and significance criteria. An Iowa Site Inventory Form (ISIF) was compiled for the Hedrick Water Tower, with the surrounding resources examined only to the reconnaissance level with no ISIFs completed for those properties for the current study. The report was compiled by Ray J. Werner and the Principal Investigator, Leah D. Rogers, who is responsible for the evaluations and recommendations.

Historic Contexts

Historical Development of Hedrick, Iowa

Hedrick is a small town along the south boundary of Keokuk County in southeast Iowa. The area is predominantly rural and surrounded by agricultural use land and supports agricultural industries. Hedrick, Iowa was a founded in 1882, as the area became an intersection for three prominent railroads. These railroads were the Burlington and Western Railroad (a predecessor of the Chicago, Burlington and Quincy), the Iowa Central Railroad (a predecessor of the Minneapolis & St. Louis), and what would become part of the Chicago, Milwaukee and St. Paul Railroad or "Milwaukee Road" (Hofsommer 2005:108; Lotz and Franzen 1989:37-52). Hedrick grew quickly in its first 15 years after incorporation, reaching a population of 592 in 1890 and a population of 1,035 in 1900. However, the first half of the 20th century was a long period of decline for the city. Its population fell to 978 in 1910 and 901 in 1920, before even further declines. Despite these population losses, however, the citizens of the city recognized the need for running water in their town. Citizens worked to conceive, advocate for, and eventually pass a water works referendum in 1913 (Federal Census Records for Hedrick, Iowa 1890, 1900, 1910, 1920). The water tower was built from about November 1913 to about January 1914.

Planning and Referendum for the Hedrick Water Tower

Although the Keokuk County Recorder lists the construction date as circa 1950, further research has found that the water tower was constructed from approximately November 1913 to very early 1914. These dates rule out any hypotheses that the construction may have been a part of a New Deal "make work" programs, such as the Public Works Administration or others, and those hypotheses would also have predated the Assessor's estimate. Despite no connection to those or other federals programs, the structure still holds local significance.

The history of its conception and planning is much like that of other water towers throughout the state, beginning with local advocacy for better water distribution and service within the local community. The earliest of such rumblings for Hedrick was recorded 1908, when a chronology of relevant news items in Engineering Record, a professional periodical, noted that in Hedrick, Iowa "the question of constructing water works is reported under consideration" (Engineering Record 1908:52).

However, it was still five more years before official action would be taken. There were two community meetings in February 1913 to address the matter. These meetings were both held at the office of Utterback & Cecil Bros. in Hedrick. At the first meeting, "a fair crowd" was

addressed by Max Whittaker, a contracting engineer for the Des Moines Bridge & Iron Company, the firm that would ultimately build the tower. Whittaker described various options, types of water facilities, and other details. The crowd was mostly in favor of the idea, although the newspaper did report there were some expected "knockers" in attendance. At this meeting, an estimated cost of approximately $15,000 was announced which could be covered by a bonding measure and through the eventual taxation of properties connected to the new water system. At the second meeting, a committee presented citizens with further price estimates and correspondence from cities who already had such water works systems. In the end, the crowd unanimously passed a resolution to have the committee address the city council about the matter and recommend to them a city-wide referendum for building and funding such a water works system, including the water tower (Journal 02/19/1913:4, 02/26/1913:4).

The council moved quickly. By March 13, they had received the recommendation and voted unanimously to appoint a committee of three (councilpersons C.C. Cecil, H.S. Cline, and G.W. Storey being chosen from among them) to provide, by "an early date," in cooperation with an attorney, a draft ordinance and a total dollar sum to be voted on in a referendum (Journal 03/12/1913:7).

This too was a quick process. By April 7, Mayor G.G. Bowers proclaimed that May 12, 1913 would be the day of the bond referendum. Votes were to be cast at the council room from 8am to 7pm. The ballot included the question of "Shall the Town of Hedrick, Keokuk County, Iowa, erect and establish a Water Works System in and for said Town?" with the options for a "Yes" or "No" response. It also included the options of "For" and "Against" the issuance of $16,000 in bonds. This mayoral proclamation was published by L.L. Bowlin, the town clerk, and it was run in several subsequent issues of the local newspaper (Journal 04/23/1913).

Local activists worked hard to promote the benefits of the proposed water works, and as with many issues of this era, women were an important part of the movement. One newspaper article in favor of the matter was headlined "Ladies Can Vote: Equal Suffrage May Be Enjoyed at Waterworks Election Monday" as was allowed within Iowa statute. The article further noted, in its period tone, that water access would provide many benefits to the domestic life for the "Hedrick ladies" as well as for its men. "Let every Hedrick lady boost for the proposition," the piece concluded. In the same issue, Mayor Bowers supported the measure with a separate article, noting its benefits and quieting rumors that the council had already hired the firm to build the waterworks. In his article, the mayor also pointed out that if the proposition were to pass, an adequate water supply would have to be identified and secured before any further work could even begin. Further into the same issue, a third pro-water works article suggested that any objections to the measure ranged from "sublime" to "ridiculous" (Journal 05/07/1913:1a, 05/07/1913:1b, 05/07/1913c:4).

The referendum passed by a margin of almost 4-to-1, and the importance of women voters was highlighted by the local newspaper. The tallied votes included 217 yesses, of which 95 were women, and 69 nays, of which 14 were women. In congratulating the city on joining the "wet column" of cities, the article noted that the Des Moines Bridge and Iron Co., the firm likely to be contracted for the work, had done about 75% of extant water systems within the state. It also touted the benefits that system would have for purposes of firefighting. The article concluded by

stating that any property tax increase would be very light, not enough to harm any individual, and that its overall value would become clear very quickly. The result of this referendum was so successful and seen so positively that at least one local merchant, Floyd R. Gambell, ran an ad for his dry goods store that likened the apparent popularity of his store to the popularity of the water works. "Most everybody voted yes on the water works question," his ad touted, "and if you were to ask them to vote on whether or not our's was a good place to trade, most of them would vote yes" (Journal 05/14/1913a:1, 05/14/1913b:4).

Construction and Maintenance of Hedrick Water Tower

A 1913 notice to contractors in the Des Moines Register requested bids on a water works system and elevated water tank. Sealed bids for the construction of a water works system, as per plans and specifications on file with the town clerk, will be received by the town council of Hedrick, Ia., at their council room until 8p.m., Sept. 15, 1913. A certified check for 10 per cent of the amount of bid, drawn on local bank and made payable to town treasurer, must accompany each bid as evidence of good faith. The council reserved the right to accept or reject any or all bids. – J.J. Jennings, Town Clerk (Register 09/12/1913:11).

Work began on the overall water works system in early June 1913, before the construction of the tower itself. The old jail building on the property was sold off, and C.W. Daniels built the new building that housed the jail and hose/pump house adjacent to the tower site. The newspaper advertised on November 19 in a want ad for 15 to 20 men "at once" to help build the new water works, which included construction and connection of the associated water main lines. The article instructed them to apply with the Superintendent of the Des Moines Bridge and Iron Company in Hedrick. Water mains were delivered to the city in early November, and the Des Moines Bridge and Iron Company soon began the installation of them (Journal 06/04/1913:3, 10/29/1913:6, 11/12/1913:1, 11/19/1913a:1, 11/19/1913b:1). Work began on the tower at about that same time. By December 31 of that year, the newspaper reported that "the mains were all laid for Hedrick's new water works system, and that the tower is raised and the tank is partially completed. It will take about three more weeks to complete the work." Of the new pump house and jail, it stated that it was "also practically finished. This is a neat concrete building, located over the first well." Final construction costs were about $16,000 (Journal 12/31/1913:5).

In March 1914, the first customer was connected to the system. It was reported: "G.W. Storey is the first costumer of the new city water works, having connected his residence last week. The water is clear and good tasting, and the big tank is full to the top." Storey also happened to be one of the three councilpersons on the water works committee appointed by the mayor earlier that year (Journal 03/18/1914:2).

The Des Moines Bridge and Iron Company thanked the city with a gift of two drinking fountains, "one for humans and the other for beasts." The announcement did not give a location fort the drinking fountains (Journal 03/25/1914:1).

The 1916 Sanborn fire insurance map for Hedrick showed the new system. It marked the 50,000-gallon elevated water tank at this position as well as the building used for the new jail and hose house/pump. It remained very much the same in the 1933 edition of the Sanborn maps.

Through the 1930s, the City of Hedrick took measures to maintain the tank and care for its appearance. The city council voted in May 1935 to "let the job of refinishing and painting the tower tank to Des Moines men" (Courier 05/15/1935:7), and the city had it repainted again in 1939. A photograph, printed in December 1939 and titled "Tower Perks Up" describes the next paint work to be done: "besides rebuilding the town equipment building this fall and gravelling some of the streets, Hedrick's city council has had the water tower given a new coat of aluminum paint with the letters done in black paint" (Courier 12/12/1939:7).

Des Moines Bridge and Iron Company

This firm and its agents, including contracting engineer Max Whittaker, were responsible for encouraging the local citizens toward favoring the new water system. The firm supplied plans, options, prices, a list of its many benefits, and testimonials from leaders in other Iowa towns. The company built the elevated water tank and tower and installed the initial water main lines that distributed its water to the community. The company thanked the community with a gift of two fountains after its completion. This firm and its successor company, the Pittsburgh-Des Moines Steel Company or Pitt-Des Moines Steel Company, were responsible for building very many such tanks throughout the state and went on to supply materials for such notable projects as the Gateway Arch in St. Louis and the World Trade Center's twin towers in New York City. Some of the company's projects are listed in the NRHP.

Jones & Laughlin

The steel girder legs on this tower are marked with the name of this company. It is unknown if the company supplied just the steel legs or if they provided other materials as well. The company was a notable Pennsylvania-based steel company with significant operations and headquarters in Pittsburgh. The Jones & Laughlin company produced and supplied steel materials and construction services for many bridges, buildings, and water towers throughout the country, including some that are listed in the NRHP. In the decades following the construction of this water tower, the company would expand, buying out steel works in Ohio and Illinois.

Narrative Description of the Hedrick Water Tower

The Hedrick Water Tower is located in the northwest portion of Block 16 (annotated by the Keokuk County Assessor as N½ Lot 13) in the Original Plat of Hedrick, Keokuk County, Iowa. This is in the southwest part of the small, rural community that is surrounded by agricultural land primarily used for row crop cultivation. To the east of the tower is the Main Street commercial area of the community, and to the west and south are industrial areas and former railroad properties. There is a modern church across the street to the north. Residential neighborhoods surround these areas. A former pump/hose house and jail building, initially built in conjunction with the water tower, has been removed. Main Street is a half-block east; 2nd Street borders the project area on the north, and 1st Street to the south and crossed by the project area all have exposed brick pavement. The brick pavement on 1st and Main streets was previously recommended eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion C (architectural significance) (see Iowa Site Inventory Forms [ISIF] 54-00332 and 54-

01476). Most of the buildings along Hedrick's Main Street have been inventoried, with the buildings either not fully evaluated or recommended as not eligible (I-Sites Pro 2022).

The size, construction, and design of the 1913-14 Hedrick Water Tower are typical of those built throughout Iowa in the very late-19th and early-20th centuries. It is 50,000 gallons in size, built almost entirely of steel, and is largely held together with rivets. Steel components include the girders that form the four legs and their webbing, the struts and rods that hold them together, and the various parts of the ladder and zig-zag balcony railing. The vertical pipe is also wrapped in sheet metal. The roof, tank walls, and rounded tank belly are also made of steel. The steel is painted silver with black-painted text reading: "Hedrick 1882" on its north and south sides, the date of which acknowledges the city's founding. Its four corners, where the legs meet the concrete pads, are oriented northeast, southeast, southwest, and northwest. The tower was built by the Des Moines Bridge and Iron Company, which was the predecessor to the Pittsburg-Des Moines Steel Company. The name of the company was changed in 1916.

The water tower has a conical, steel roof with a steel ball at its peak. The roof also has a 24-inch "manway" hole with a steel lid. The eave overhang of the tower roof is moderate to narrow in width. It may have been cut back from its original width but this is uncertain. The cylindrical tank walls and spherical tank belly are made of steel. Inside the tank is a steel hub with web-like spokes that connect to the walls. The tank interior has steel rungs that descend as a ladder from the manway. An exterior balcony wraps around the tank at about the bottom of the cylindrical wall. The balcony railing is a zig-zag pattern common to the standard designs of the Pittsburgh-Des Moines Steel Co. A safety light is mounted to a rod that connects to the northeast wall of the tank and rises above the roofline. There are various modern communication receivers/dishes that are connected to the tank and balcony.

The tower's four legs are steel girders and connect to the tank just below the balcony. The steel girders are webbed on their outer and inner sides, though the lower portions are wrapped with sheet metal to deter climbing. There are two sets of steel struts that connect the legs, each forming a square, and there are steel, angled rods that serve as webbing on each side. An overflow/drain pipe runs along the northwest leg. It empties to a concrete pad that remains exposed at ground level. There is a city siren mounted at the junction of the northeast leg with the lower struts. The northeast leg also holds the ladder, which is gated and has a safety cable that attaches at the balcony.

Four concrete pads support the legs and remain exposed above ground level. Deterioration of one concrete pad has revealed brickwork within it.

The vertical water pipe rises from the ground and meets the center of the tank belly. It is insulated with a steel-wrapped jacket.

Historic Integrity

All of these designs and materials, except for the affixed light, siren, and communication receivers/ dishes are visible in the 1930s photograph and are likely original designs and materials. One change might have been the replacement of the original cast iron ball finial at the

top of the tower roof with a cylindrical steel vent in later years, although this is difficult to tell from below. The main integrity concern is general deterioration, particularly of the lower portion of the tank and the balcony railing, which has been impacted to varying degrees by the communications dishes that are now affixed to that balcony. But in general, the historic integrity of the Hedrick Water Tower is good particularly for a 1913-14 water tower.

The brick street pavement exposed on 1st and Main streets south and east of the water tower were previously inventoried and recommended as eligible for inclusion in the NRHP (54-00332 and 54-01476). However, most of the commercial buildings along Main Street were also previously inventoried and either not evaluated or recommended as not eligible (I-Sites Pro 2022). A check of the Iowa Site Inventory did not provide much information about any of these forms (Berry Bennett, State Historic Preservation Office, Des Moines).

Evaluation of NRHP Eligibility of the Hedrick Water Tower

Comparison to the South Dakota Statewide Study of Rural Water Towers

A statewide survey of water towers in South Dakota provided detailed historic contexts, property types, and registration requirements for evaluating the NRHP-eligibility of these structures (Mathis and Chlebeck 2012). While specific to South Dakota, the study is applicable to Iowa because the history of water distribution system construction is similar to that in Iowa. This study noted that steel water towers associated with water systems can be eligible for inclusion in the NRHP under Criteria A (historical significance) and C (engineering significance), but typically would not be eligible under Criteria B (association with significant persons) or D (information potential). To be eligible under Criterion A, "a water tower must be associated with the initial development of a water works or water system in a city or town; or a substantial upgrade, expansion, or improvement of this system; or improved living conditions and standards in a community" (Mathis and Chlebeck 2012:62). In this case, the Hedrick Water Tower would qualify under Criterion A since it was associated with the initial development of the water works system for Hedrick, Iowa, in the early 1910s. As such, it was a substantial upgrade, expansion, and improvement to this system and certainly improved the living conditions and standards in the community. The area of significance is in community planning and development.

For water towers to be eligible under Criterion C in the area of Engineering, they must be the most prominent visual landmark in the community and largest designed resource; or an example of outstanding or unique design characteristics (e.g., innovative or high artistic value), or is a rare example of a particular water tower of style (Mathis and Chlebeck 2012:64). Standard plan water towers can be eligible "since standard designs of manufacturers were integral to the development of water tower systems," reduced design costs for these structures, and reduced fabrication costs since they were mass produced. As such, they "made water towers more affordable for even small communities" (Mathis and Chlebeck 2012:64). The Hedrick water tower is the most prominent visual landmark in the community and its largest designed resource and for that reason appears to meet the basic eligibility requirement under Criterion C. The builder of the Hedrick Water Tower, the Des Moines Bridge and Iron Company, was the predecessor to the Pittsburgh-Des Moines Steel Co., which was a manufacturer "who was integral" to the development of water tower systems in Iowa. The construction of the Hedrick Water Tower

came within a few years of the name change of the company and makes the Hedrick tower among the earliest of the company's constructions in Iowa. It also conforms to the company's standard design plan for this type of elevated water tank. Absent a statewide inventory of all-steel elevated water towers in Iowa, it is not known how many of this type of standard-plan steel water towers remain standing across the state.

Finally to be eligible for inclusion in the NRHP, the South Dakota study noted that "a water tower must possess sufficient integrity to convey its significance" and will "need to possess at least several aspects of historic integrity to be eligible" (Mathis and Chlebeck 2012:65). In the case of the Hedrick water tower, this structure retains good integrity in all seven aspects of historic integrity having seen only minor modifications/additions through the years. It still retains its original structural components including the conical tower roof, tank, tank railing, legs, and other supports, although the original cast iron finial may have been replaced with a steel cylinder vent in more recent years. It retains good integrity of location and setting being on its original site. The water tower is still the tallest structure in the community and identifies the community for miles around. The next highest structure is the grain elevator, which is located to the west of the water tower and along the former railroad tracks. It retains excellent integrity of materials and workmanship because the steel is original having only been repainted through the years, with the workmanship evidenced by the original construction elements. It retains excellent integrity of design being recognizable as a standard design of the Des Moines Bridge and Iron Co. based on the retention and design of the zig-zag hand railings and other components, and it retains good to excellent integrity of feeling and association being a landmark structure in the community and conveys the community identity.

Statement of Significance

Hedrick is a small town along the south boundary of Keokuk County in southeast Iowa. The area is predominantly rural and surrounded by agricultural use land and supports agricultural industries. At the time of its establishment in 1882, Hedrick was at an intersection of three railroads. The water tower was proximal to the railroad and related buildings and infrastructure, which were located to the west of it. The grain elevator, lumber yard, and oil tanks were located between the tower and the railroad. Today, the grain elevator is the main extant building from that railroad-related complex. To the east of the tower was a commercial zone of the city, and residences were beyond. A building was built at the same time as the tower to house the hose and pump equipment for the water works as well as a new city jail. That building is now gone, and the water tower is all that stands of that once-important city project. The railroads are now also gone; however; the commercial zone, industrial-type areas, and the peripheral residences still complete the setting (Sanborn 1916, 1933). The surrounding buildings have mixed usage, styles, ages, and levels of historic integrity. The neighborhood overall has poor historic integrity. Many buildings in the immediate vicinity have been inventoried but not assessed. It is unlikely that many would qualify for National Register consideration individually or as part of any potential district. However, intensive survey and evaluation of the former commercial area along Main Street would be required before a final determination of district eligibility could be made. The only previously inventoried structures noted in the Iowa Site Inventory are two sections of exposed brick pavement on 1st and Main streets to the south and east of the water tower. If the commercial area on Main Street were found to be an eligible historic commercial district, the

brick paved street sections would be considered contributing to such as a district. However, the water tower, being a half block west of the commercial area along Main Street, would be unlikely to be included in that district.

The Hedrick Water Tower has good to excellent overall historical integrity. It is still used and maintained by the City of Hedrick, though some rusting and other deterioration has occurred. The design, materials, location, setting, feeling, and craftsmanship are intact. Very few pieces have been replaced, though the associated water works building has been removed and some modern features have been affixed to the tank and legs/struts.

The current study recommends that the Hedrick Water Tower is eligible for NRHP inclusion locally under Criterion A of the National Register of Historic Places for its importance to the Community Planning and Development of the City of Hedrick and for its role in the modernization of water distribution and services to the citizens of the community. It is also recommended eligible locally under Criterion C for its engineering significance as an early example of the steel elevated water tank standard design of the Des Moines Bridge and Iron Company. The period of significance is from 1913, when the tower was first planned and construction began and completed in 1914, to 1972, which is the current 50-year end date for basic consideration of NRHP eligibility. During this period, the water tower served as the center piece of the city's waterworks distribution system.

Industrial/Agricultural/Railroad Area

The areas of Block 16 to the south and east and west of the current project area are industrial and agricultural in nature. At one time, the Chicago, Milwaukee and St Paul Railroad also crossed through this area from roughly north to south, and some buildings and structures affiliated with it once sat here. The extant buildings in this area are of low historic integrity. Some are still owned by the Hedrick Elevator Company but others are under different ownership. Because of this, there is no potential for a historic district here. The only extant structure of note is the grain elevator, which still stands to the west of the water tower and along the former railroad grade. This is a historic building that may be individually eligible for inclusion in the NRHP and certainly warrants intensive survey and evaluation if it is ever slated for removal. However, given the loss of most of the railroad and agricultural-related buildings in its vicinity, the loss of the unrelated city water tower to east would likely not impact the NRHP eligibility of the grain elevator.

Main Street Commercial Area

Little remains intact of the commercial zone that once sat along the east part of Block 16. Integrity is low, and many of the former commercial buildings were replaced in the late 20th century. Some of the buildings are owned by the City of Hedrick, one is an operating store, and another, the oldest along this stretch, appears to be vacant. Most of the commercial buildings were assigned inventory numbers in the 1980s but the forms have little information and no evaluation of eligibility was made except for two sections of exposed brick pavement on 1st and Main streets that were identified as potentially eligible for inclusion in the NRHP as "contributing in potential district." This is assumed to be a potential commercial district along Main Street. Since the 1980s, there has been building loss and deterioration along Main Street; therefore, it is uncertain whether sufficient integrity remains for this area to qualify as a NRHP-

eligible commercial historic district. However, it can be stated that it is likely given that the city water tower is a half block to the west of the commercial area, that it would not be included in any potential historic commercial district boundary.

Identification of Resources

No resources within the current project area have been previously inventoried, though a number of resources adjacent to the project area have been. Of these adjacent resources, however, few of the forms included an evaluation of the properties' NRHP eligibility. In addition, their association to specific addresses is not known. Because of this, each resource will be enumerated here as if it has not been previously inventoried. Two sections of the brick paved streets are also recorded as individual structures (54-00332 and 54-01476) and were recommended as "contributing to potential district" in the 1980s. This would reference a potential commercial district along Main Street; however, no evaluation of that district was ever made.

Table 1. Resources Within Current Project Area.
All photographs taken by Tallgrass Archaeology LLC, May 4, 2022.

Name (type)	Construction Year	Materials/Notes	Assessment	Photograph
Hedrick Water Tower (structure)	1913-14	Steel	Eligible under Criteria A and C; Iowa Site Inventory Form Completed - 54-0016845	
Building South of W. 1st Street (possible crib structure)	Circa 1950 per assessor	Metal	Not Eligible	
Foundation of former building NE of Tower (object)	Unknown	Concrete	Not Eligible	
Concrete pad S of Tower (object)	Unknown	Concrete	Not Eligible	

Utility Building S of Tower (building)	Unknown	Perhaps Modern; On Sylvester property	Not Eligible	
Streets (1st, 2nd, and Main streets)	Unknown	Exposed brick-paved streets	Two sections previously noted along Main Street as "contributing to potential district"	 photo from county assessor site for 106 2nd Street

Outside the identified project boundary. The Hedrick Water Tower is in the vicinity of several buildings of potential significance to the city of Hedrick. With railroad tracks that formerly ran roughly north-to-south to the west of the tower, there were affiliated buildings and structures that were once are a part of that operation. This included various agricultural and industrial buildings, tanks, silos, cribs, and others. To the east is a commercial area that also contains municipal buildings.

Table 2. Resources Adjacent to Current Project Area

All photos from Keokuk County Assessor's website unless otherwise noted.

Name (Location)	Construction Year	Materials/Notes	Assessment	Photograph
Grain Elevator (Irregular parcel west of water tower)	Circa 1950 per assessor; further research could find that it is older	Possible modifications or additions made over time	Further Research Recommended; Potentially Eligible	
Mefford Shed (SW of Tower)	Circa 1880 per assessor	Metal Roof; various wall materials; modified	Not Eligible	
Sylvester Sheds (SE Corner Block 16)	Circa 1950 per assessor	Various; modified	Not eligible	
Hedrick Elevator Site (4 Bins, warehouse, Other Equip't)	Circa 1950 per assessor	Metal; holds good integrity but lacks significance	Not Eligible	

Dickey Shed (Lots 9-10, Block 27, Original Plat)	Circa 1950 per assessor	Metal	Not Eligible	
Mefford Garage (Lot 8, Block 27, Original Plat)	1940, 1985	Metal	Not Eligible	
South Ottumwa Savings Bank (101 S. Main St)	1969	Metal Roof, Brick Veneer	Not Eligible	
Hedrick City Hall (Lots 11-12, Block 16, Original Plat)	1985	Metal Roof, brick veneer and wood siding	Not Eligible	
Hedrick City Utility Building (Lots 8-10, Block 16, Original Plat)	Circa 1950 per assessor	Concrete Block; large tank that rises through roof	Further research recommended; may be relocated water works building	
Church of Living Water (113 N Main St)	Circ 1950 per assessor	Concrete Block and wood exterior, flat roof, commercial building	Not Eligible	
Store (115 N. Main)	1997	Modern	Not Eligible	

Earnest Building (119 N. Main)	1878	Material and façade modifications	Not Eligible	

Summary and Recommendations

The current study identified 18 total resources within or near the subject structure—the Hedrick Water Tower.. Of them, six are located within the current project boundary and 12 are located adjacent or very near to the current project boundary. Though many of these resources have been previously inventoried, their numbers and addresses should be considered mismatched and/or not recorded on the city inventory list on file with the State Historic Preservation Office. Furthermore, none of the forms contain an evaluation of individual or collective NRHP eligibility except for two sections of exposed brick pavement on 1st and Main streets.

One resource, the subject of the current study--the Hedrick Water Tower—is recommended by the current study as individually eligible for inclusion at the local level in the National Register of Historic Places under Criteria A (historical significance) and C (engineering significance). The period of significance extends from its construction in 1913-14 to 1972 during which time it has served as the center piece of Hedrick's water distribution system and as a local landmark. An Iowa Site Inventory Form has been completed for this structure and included in the appendix of this report. It has been assigned number 54-0016845 in the current state inventory. The appendix also includes a Historical Architectural Data Base (HADB) form for the current report.

Neither the commercial area along Main Street or the agricultural/industrial/railroad area to the west and south of the water tower appear to retain sufficient historic integrity or visual cohesion to be eligible as NRHP districts. However, these areas would both require intensive survey and evaluation in order to make a final determination of NRHP eligibility as historic districts. It can be stated that neither district would likely include the water tower within its boundaries.

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Hedrick Journal [Journal]
1913 The Waterworks Meeting. 19 February:4. Hedrick, Iowa.
1913 Another Waterworks Meeting. 26 February:4. Hedrick, Iowa.
1913 Will Vote on Water: Special Election to be Called for Waterworks Meeting. 12 March:7. Hedrick, Iowa.
1913 Mayor's Proclamation. 23 April:7. Hedrick, Iowa.
1913a Ladies Can Vote: Equal Suffrage May Be Enjoyed at Waterworks Election Monday. 7 May:1. Hedrick, Iowa.
1913b Waterworks Meeting. 7 May:1. Hedrick, Iowa.
1913c Should Vote Yes: Hedrick Citizens Should Carry Waterworks Election Unanimously. 7 May: 4. Hedrick, Iowa.
1913a Waterw'rks Carried: Proposition Carried by a Vote of Almost Four to One: Many Ladies Voted: One Hundred and Ten of the Fair Sex Cast Ballot. 14 May:1. Hedrick, Iowa.
1913b Advertisement for Gambell's dry goods store, eliciting waterworks victory. 14 May:4. Hedrick, Iowa.
1913 Work will commence. 4 June:3. Hedrick, Iowa.
1913 Notice to bidders. 29 October 1913. Hedrick, Iowa.
1913 Water Pipe Here. 12 November:1. Hedrick, Iowa.
1913 C.W. Daniels was awarded the contract. 19 November:1. Hedrick, Iowa.
1913 Wanted. 15 or 20 men at once. 19 November:1. Hedrick, Iowa.

1913 The Water Works. 31 December:5. Hedrick, Iowa.
1914 G.W. Storey is the first consumer of the new city water works. 18 March:2. Hedrick, Iowa.
1914 To Have Drinking Fountains. 25 March:1. Hedrick, Iowa.
Ottumwa Courier [Courier]
1935 Council Picks Cuddy as Mayor. 15 May:7. Ottumwa, Iowa.
1939 Tower Perks Up. 12 December:7. Ottumwa, Iowa.

Figure 3. Current aerial photograph showing location of water tower (red circle) within Block 16 of Hedrick, Iowa Original Plat. Base map: ExpertGPS mapping software, June 2022.

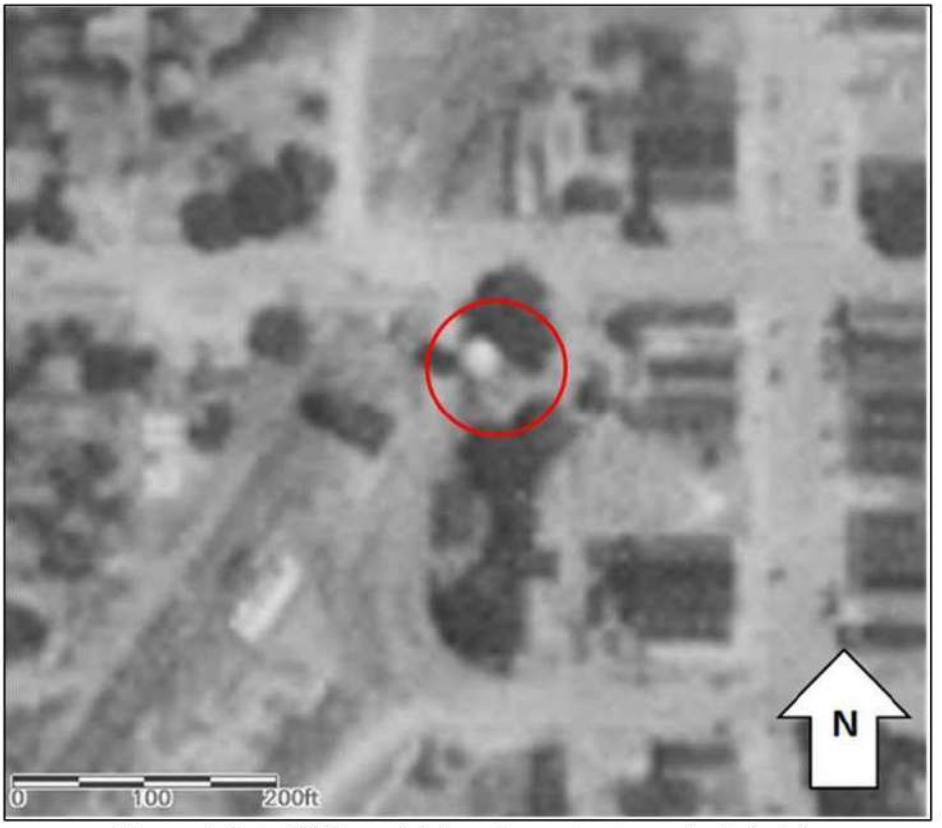

Figure 4. Late 1930s aerial showing water tower (red circle).
Source: Iowa Geographic Map Server, accessed June 2022.

Figure 5. 1970s aerial showing location of water tower (red circle). Source: Iowa Geographic Map Server, accessed June 2022.

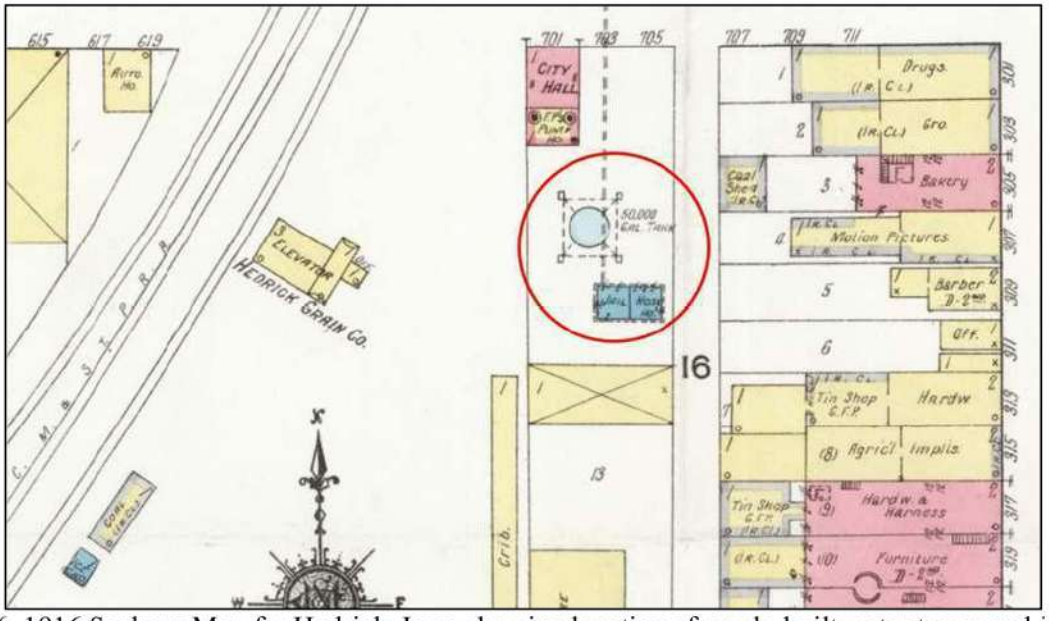

Figure 6. 1916 Sanborn Map for Hedrick, Iowa showing location of newly-built water tower and jail/hose house. Source: Sanborn 1916. Accessed from Library of Congress digital archives, May 2022.

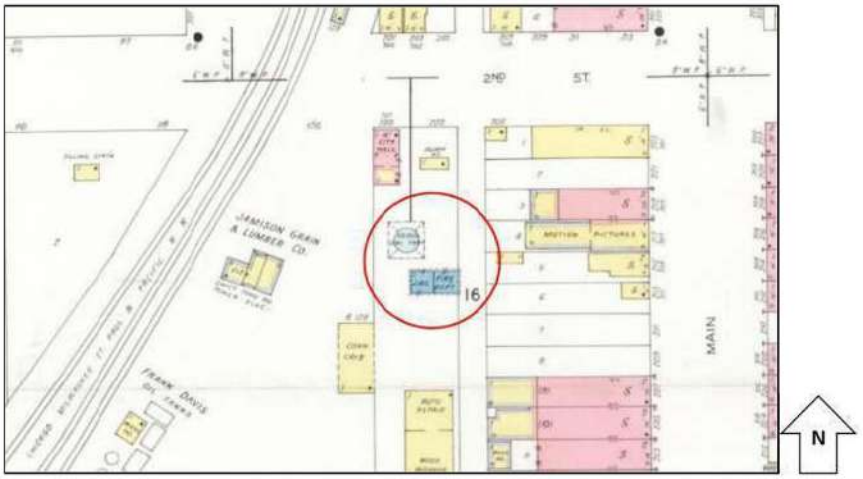

Figure 7. 1933 Sanborn fire insurance map showing location of water tower. Source: Sanborn 1933. Accessed from Library of Congress digital archives, May 2022.

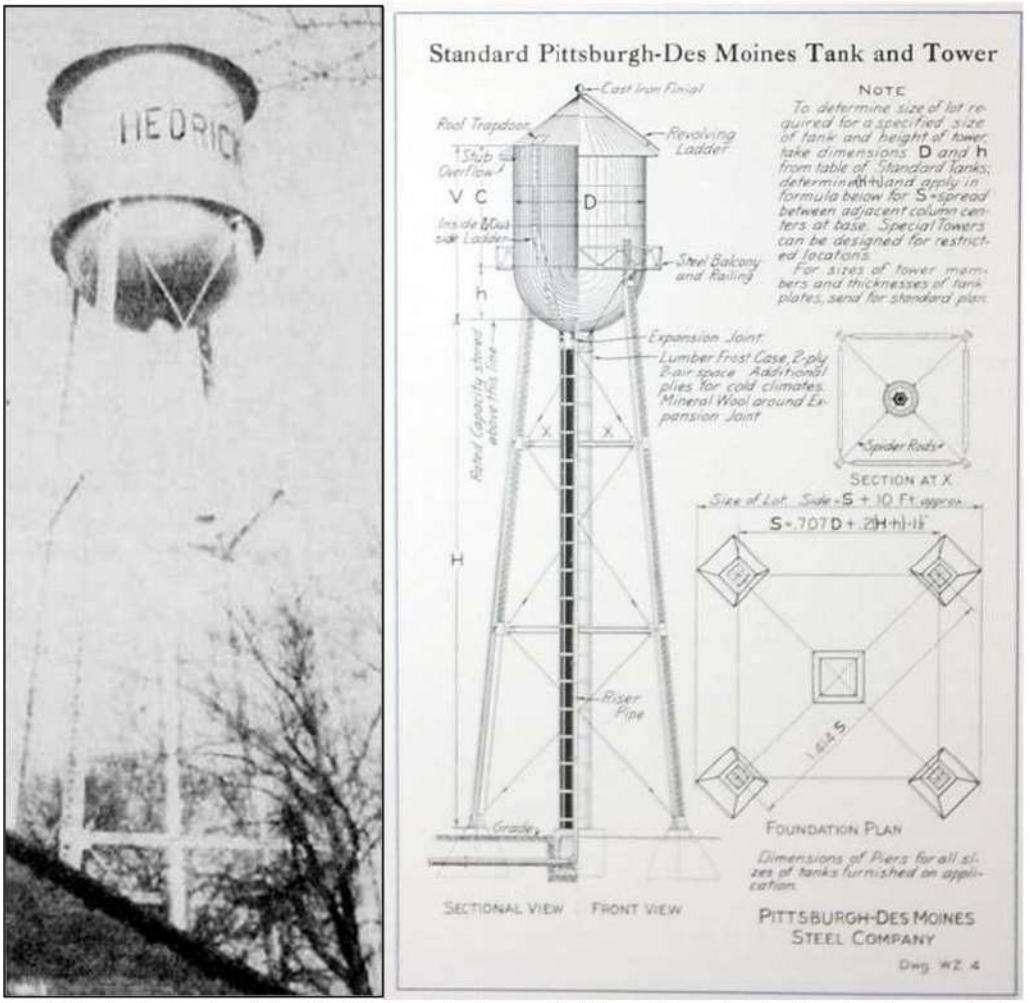

Figure 8. 1939 photograph of the Hedrick water tower (left) and the standard water tower design of the Pittsburgh-Des Moines Steel Co., circa 1924 (right). Note that the standard design of the 1920s had remained the same since the 1910s when the Hedrick tower was built. Sources: *Courier* 12/12/1939:7; Pittsburgh-Des Moines Steel Co. circa 1924.

Figure 9. Facing south towards water tower and surrounding area including the grain elevator to the right and the commercial area to the left. Field date of photograph: May 4, 2022.

Figure 10. Facing north towards water tower and surrounding buildings.
Field date of photograph: May 4, 2022.

Figure 11. Facing NNE towards water tower and surrounding buildings.
Field date of photograph: May 4, 2022.

Figure 12. Facing SW towards proposed water tower location, gabled building within project area.
Field date of photograph: May 4, 2022.

Figure 13. Facing NW towards building near proposed water tower area. Field date of photograph: May 4, 2022.

Figure 14. Facing SE on 1st Street towards buildings along south end of road, east of proposed water tower area. Field date of photograph: May 4, 2022.

Figure 15. Facing NW towards Hedrick elevator. Field date of photograph: May 4, 2022.

Figure 16. Facing SW towards Hedrick elevator. Field date of photograph: May 4, 2022.

Figure 17. View of water tower behind (west of) the commercial area at the intersection of W 2nd Street and North Main Street. Note that 2nd street also has exposed brick pavement as well as Main Street and 1st Street to the south. Source: Pete Zarria, flickr, accessed at flicker.com and https://www.pinterest.com/pin/369084131936382176/, accessed June 2022.

Figure 18. Facing ESE towards water tower. Field date of photograph: May 4, 2022.

Figure 19. Facing SE towards base of current water tower. Field date of photograph: May 4, 2022.

Figure 20. Close-up on base of water tank showing general condition.
Field date of photograph: May 4, 2022.

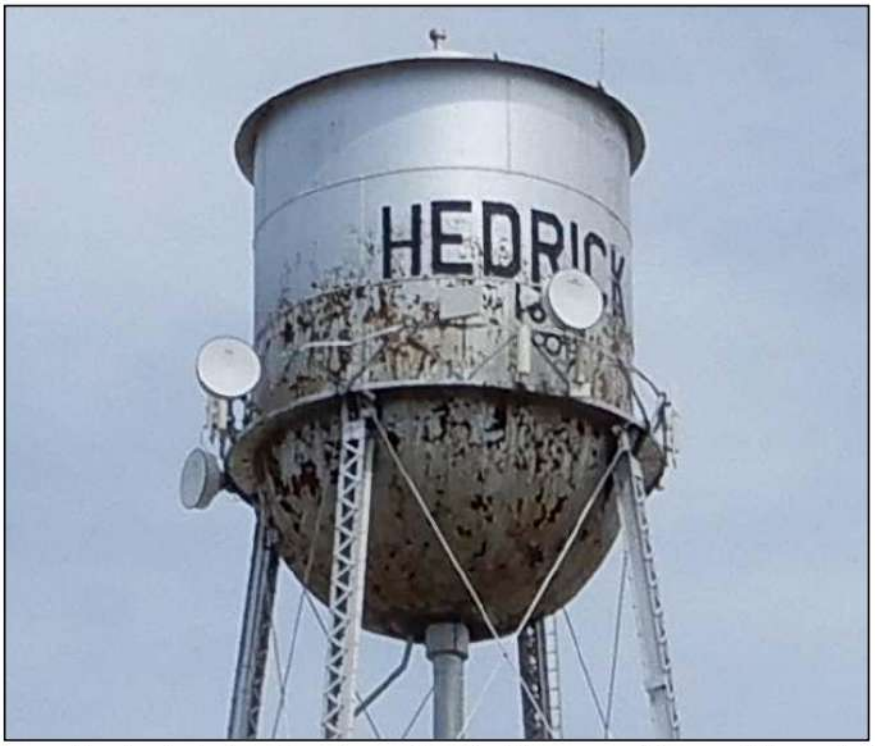

Figure 21. Close-up of water tank showing zig-zag hand railing around base and the cylindrical vent at the roof apex. Field date of photograph: May 4, 2022.

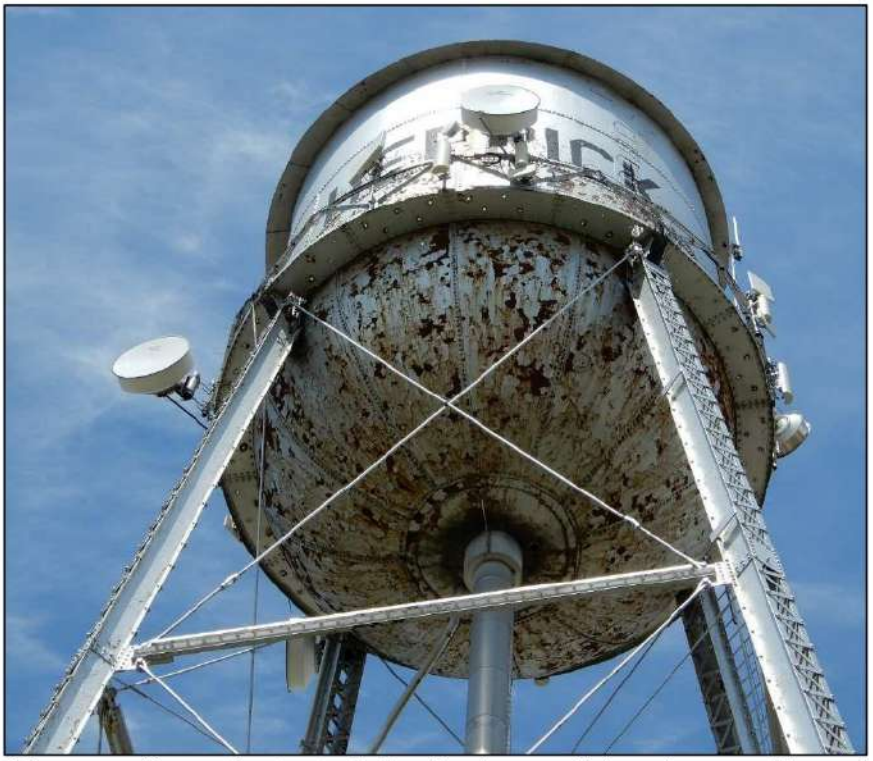

Figure 22. Close-up of base of water tank showing legs, webbing, zig-zag railing and the many communication devices since added to that railing.
Field date of photograph: May 4, 2022.

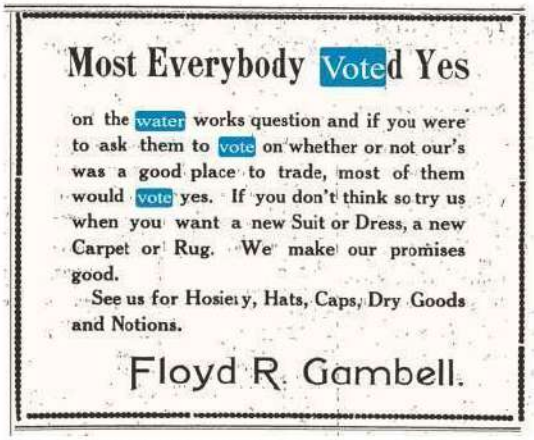

Figure 23. 1913 advertisement for local dry goods store of Floyd R. Gambell using the water works referendum as an example of something popular. Source: *Journal* 05/14/1913:4).

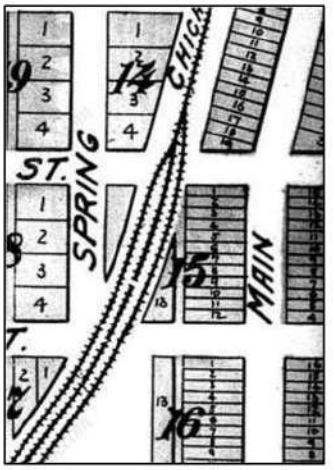

Figure 24. West part of Hedrick, Iowa prior to water tower. Source: Bishop 1895.

Figure 25. 1902 map of Iowa railroads, cropped to show area of Hedrick and intersection of three railroad lines. Source: Iowa Railroad Commission 1902.

Appendix:
Historical Architectural Data Base (HADB) Form and Iowa Site Inventory Form 54-0016845

Historical Architectural Data Base

Data Entry Form for Studies and Reports

Doc. No.: _____

Source of Study: ☐ Certified Local Government Project ☒ Section 106 Review & Compliance Project
☐ Historical Resource Development Program Project ☐ Other

Project Reference #: _____

Authors/Editor/Compiler/Originator:
Werner, Ray J., and Leah D. Rogers

Author Role: ☒ Consultant ☐ Private Researcher/Writer ☐ Teacher ☐ Student
☐ Project employee/volunteer ☐ Site Administrator ☐ Other: _____

Title of Work:
Hedrick Water Tower, City of Hedrick, Keokuk County, Iowa: Architectural/Historical Intensive Survey and Evaluation

Year Issued: 2022

Type of Work Performed:
(*check one only*)

Survey:

- ☐ Windshield survey minimum level documentation
- ☐ Reconnaissance survey to make recommendations for intensive survey(s).
- ☐ Intensive survey
- ☒ Mixed intensive and reconnaissance survey

Plan:

- ☐ Planning for Preservation/Survey
- ☐ Community Preservation Plan

Property Study:

- ☐ Iowa Historic Property Documentation Study
- ☐ Historic American Building Survey (HABS)
- ☐ Historic American Engineering Record (HAER)
- ☐ Management or Master Plan
- ☐ Historic Structure Report
- ☐ Feasibility/Re-use Study
- ☐ Architectural/Engineering Plans and Specs.

National Register:

- ☐ Multiple Property Documentation Form

Other (e.g., private research, school project, video): _____

Hedrick Water Tower, City of Hedrick, Keokuk County, Iowa: Architectural/Historical Intensive Survey and Evaluation

Kind of Work Produced:
(*fill in one section only: Report or Monograph or Chapter, etc.*)

Report: Published/produced by: Tallgrass Archaeology LLC

Place issued: 2460 S. Riverside Drive, Iowa City, IA 52246

Client: Iowa Department of Natural Resources, Des Moines, IA

If applicable, include:

Series Title: _____

Volume #: _____ Report #: TA22-845

Monograph: Publisher Name: _____

Place: _____

Chapter: In: _____ First pg. #: _____ Last pg. #: _____

Journal: Name: _____ Vol. _____ No. _____ Pages: _____ to _____

Thesis: Degree (check one): ☐ Ph.D. ☐ LL.D. ☐ M.A. ☐ M.S. ☐ B.A. ☐ B.S.

Name of College/University: _____

Paper: Meeting: _____

Place: _____

Other: _____

Geographic Scope of Study:

☒ City/town ☒ Township(s) ☒ County ☐ Region of Iowa ☐ Statewide ☐ Other: _____

State:	IA	__	__	__
County:	Keokuk	_____	_____	_____
Town:	Hedrick	_____	_____	_____
Township:	74N	____	____	____
Range:	13W	___	___	___

Time Focus: (check any decades that receive particular attention)

☐ before 1830 ☐ 1830s ☐ 1840s ☐ 1850s ☐ 1860s ☐ 1870s ☐ 1880s ☐ 1890s

☐ 1900s ☒ 1910s ☒ 1920s ☒ 1930s ☒ 1940s ☒ 1950s ☒ 1960s ☒ 1970s ☐ 1980/later

Keyword: (Index of any subjects, topics, or people given prominent attention in the report)

Hedrick Water Tower	all-steel elevated tank
1913-14	Des Moines Bridge and Iron Company
standard water tower design	muncipal water system
four-legged tower	cylindrical tank
hemispherical bottom	conical roof
zig-zag railing	_____
_____	_____
_____	_____

Iowa Site Inventory Form

State Historic Preservation Office
(January 2016)

State Inventory Number: 54-0016845 ☒ New ☐ Supplemental
9-Digit SHPO Review & Compliance (R&C) Number: _____
☐ Non-extant Year: _____

***Read the Iowa Site Inventory Form Instructions carefully**, to ensure accuracy and completeness before completing this form. The instructions are available on our website.*

• Property Name

A) Historic name: Hedrick Water Tower

B) Other names: _____

• Location

A) Street address: _____
B) City or town: Hedrick (☐ Vicinity) County: Keokuk
C) Legal description:
Rural: Township Name: _____ Township No.: _____ Range No.: _____ Section: _____ Qtr: _____ of Qtr: _____
Urban: Subdivision: Original Plat Block(s): 16 Lot(s): N1/2 13

• Classification

A) Property category: *Check only one*

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

B) Number of resources (within property):

If eligible property, enter number of: Contributing		Noncontributing	*If non-eligible property, enter number of:*
__	Buildings	__	__ Buildings
__	Sites	__	__ Sites
1	Structures	__	__ Structures
	Objects		Objects
1	**Total**	__	__ **Total**

C) For properties listed in the National Register:
National Register status: ☐ Listed ☐ De-listed ☐ NHL ☐ NPS DOE

D) For properties within a historic district:
☐ Property contributes to a National Register or local certified historic district.
☐ Property contributes to a potential historic district, based on professional historic/architectural survey and evaluation.
☐ Property *does not* contribute to the historic district in which it is located.

Historic district name: _____ Historic district site inventory number: _____

E) Name of related project report or multiple property study, *if applicable:*

MPD title	*Historical Architectural Data Base #*
Intensive Survey and Evaluation of the Hedrick Water Tower, Keokuk County, IA	54-02872

• Function or Use *Enter categories (codes and terms) from the Iowa Site Inventory Form Instructions*

A) Historic functions

04I03 Government/water works/water tower

_____

_____

B) Current functions

04I03 Government/water works/water tower

_____

_____

• Description *Enter categories (codes and terms) from the Iowa Site Inventory Form Instructions*

A) Architectural classification

09 Other/Elevated Steel Water Tower

_____

_____

_____

B) Materials

Foundation (visible exterior): 10B Poured Concrete

Walls (visible exterior): _____

Roof: 05F Steel

Other: 05F Steel

C) Narrative description ☒ *SEE CONTINUATION SHEETS, WHICH MUST BE COMPLETED*

Site Number: 54-0016845 Address: ___ City:Hedrick County: Keokuk

- **Statement of Significance**

A) Applicable National Register Criteria: *Mark your opinion of eligibility after applying relevant National Register criteria*

Criterion A: Property is associated with significant events.	☒ Yes	☐ No	☐ More research recommended
Criterion B: Property is associated with the lives of significant persons.	☐ Yes	☒ No	☐ More research recommended
Criterion C: Property has distinctive architectural characteristics.	☒ Yes	☐ No	☐ More research recommended
Criterion D: Property yields significant information in archaeology/history.	☐ Yes	☐ No	☐ More research recommended

B) Special criteria considerations: *Mark any special considerations; leave blank if none*

☐ 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: Property less than 50 years of page or achieved significance within the past 50 years.

C) Areas of significance
Enter categories from instructions
12 Engineering

07 Community Planning/Development

D) Period(s) of significance

1913-1972

_____

E) Significant dates
Construction date
1913-14 ☐ *check if circa or estimated date*
Other dates, including renovations

_____

F) Significant person
Complete if Criterion B is marked above

_____

_____

G) Cultural affiliation
Complete if Criterion D is marked above

_____

_____

H) Architect/Builder
Architect
Des Moines Bridge and Iron Company
Builder/contractor
Des Moines Bridge and Iron Company

I) Narrative statement of significance ☒ *SEE CONTINUATION SHEETS, WHICH MUST BE COMPLETED*

- **Bibliography** ☒ *See continuation sheets for the list research sources used in preparing this form*
- **Geographic Data** *Optional UTM references* ☐ *See continuation sheet for additional UTM or comments*

	Zone	Easting	Northing	NAD		Zone	Easting	Northing	NAD
1	15	557896	4558094	83	2	15	557903	4558094	83
3	15	557896	4558087.	83	4	15	557903	4558087	83

- **Form Preparation**

Name and Title: Ray Werner, Project Historian and Leah Rogers, Principal Investigator Date:June 6, 2022
Organization/firm: Tallgrass Archaeology LLC E-mail:lrogerstallgrass@gmail.com
Street address: 2460 S. Riverside Drive Telephone:319-354-6722
City or Town: Iowa City State: IA Zip code:52246

- **ADDITIONAL DOCUMENTATION** *Submit the following items with the completed form*

A) ***For all properties, attach the following,*** *as specified in the Iowa Site Inventory Form Instructions:*

1. **Map** of property's location within the community.
2. **Glossy color 4x6 photos labeled** on back with property/building name, address, date taken, view shown, and unique photo number.
3. **Photo key showing each photo number on a map and/or floor plan, using arrows next top each photo number to indicate the location and directional view of each photograph.**
4. **Site plan** of buildings/structures on site, identifying boundaries, public roads, and building/structure footprints.

B) ***For State Historic Tax Credit Part 1 Applications, historic districts and farmsteads, and barns:***
See lists of special requirements and attachments in the Iowa Site Inventory Form Instructions.

State Historic Preservation Office (SHPO) Use Only Below This Line

The SHPO has reviewed the Site Inventory and concurs with above survey opinion on National Register eligibility:
☐ *Yes* ☐ *No* ☐ *More research recommended*
☐ *This is a locally designated property or part of a locally designated district.*

*Comments:*_____

_____

*SHPO authorized signature:*_____ *Date:* _____

Hedrick Water Tower	Keokuk
Name of Property	County
	Hedrick
Address	City

7. Narrative Description

The Hedrick Water Tower is located in the northwest portion of Block 16 (annotated by the Keokuk County Assessor as N½ Lot 13) in the Original Plat of Hedrick, Keokuk County, Iowa. This is in the southwest part of the small, rural community that is surrounded by agricultural land primarily used for row crop cultivation. To the east of the tower is the Main Street commercial area of the community, and to the west and south are industrial areas and former railroad properties. There is a modern church across the street to the north. Residential neighborhoods surround these areas. A former pump/hose house and jail building, initially built in conjunction with the water tower, has been removed. Main Street is a half-block east; 2nd Street borders the project area on the north, and 1st Street to the south and crossed by the project area all have exposed brick pavement. The brick pavement on 1st and Main streets was previously recommended eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion C (architectural significance) (see Iowa Site Inventory Forms [ISIF] 54-00332 and 54-01476). Most of the buildings along Hedrick's Main Street have been inventoried, with the buildings either not fully evaluated or recommended as not eligible (I-Sites Pro 2022).

The size, construction, and design of the 1913-14 Hedrick Water Tower are typical of those built throughout Iowa in the very late-19th and early-20th centuries. It is 50,000 gallons in size, built almost entirely of steel, and is largely held together with rivets. Steel components include the girders that form the four legs and their webbing, the struts and rods that hold them together, and the various parts of the ladder and zig-zag balcony railing. The vertical pipe is also wrapped in sheet metal. The roof, tank walls, and rounded tank belly are also made of steel. The steel is painted silver with black-painted text reading: "Hedrick 1882" on its north and south sides, the date of which acknowledges the city's founding. Its four corners, where the legs meet the concrete pads, are oriented northeast, southeast, southwest, and northwest. The tower was built by the Des Moines Bridge and Iron Company, which was the predecessor to the Pittsburg-Des Moines Steel Company. The name of the company was changed in 1916.

The water tower has a conical, steel roof with a steel ball at its peak. The roof also has a 24-inch "manway" hole with a steel lid. The eave overhang of the tower roof is moderate to narrow in width. It may have been cut back from its original width but this is uncertain. The cylindrical tank walls and spherical tank belly are made of steel. Inside the tank is a steel hub with web-like spokes that connect to the walls. The tank interior has steel rungs that descend as a ladder from the manway. An exterior balcony wraps around the tank at about the bottom of the cylindrical wall. The balcony railing is a zig-zag pattern common to the standard designs of the Pittsburgh-Des Moines Steel Co. A safety light is mounted to a rod that connects to the northeast wall of the tank and rises above the roofline. There are various modern communication receivers/dishes that are connected to the tank and balcony.

The tower's four legs are steel girders and connect to the tank just below the balcony. The steel girders are webbed on their outer and inner sides, though the lower portions are wrapped with sheet metal to deter climbing. There are two sets of steel struts that connect the legs, each forming a square, and there are steel, angled rods that serve as webbing on each side. An overflow/drain pipe runs along the northwest leg. It empties to a concrete pad that remains exposed at ground level. There is a city siren mounted at the junction of the northeast leg with the lower struts. The northeast leg also holds the ladder, which is gated and has a safety cable that attaches at the balcony.

Four concrete pads support the legs and remain exposed above ground level. Deterioration of one concrete pad has revealed brickwork within it.

The vertical water pipe rises from the ground and meets the center of the tank belly. It is insulated with a steel-wrapped jacket.

Historic Integrity

All of these designs and materials, except for the affixed light, siren, and communication receivers/ dishes are visible in the 1930s photograph and are likely original designs and materials. One change might have been the replacement of the original cast iron ball finial at the top of the tower roof with a cylindrical steel vent in later years, although this is difficult to tell from below. The main integrity concern is general deterioration, particularly of the lower portion of the tank and the balcony railing, which has been impacted to varying degrees by the communications dishes that are now affixed to that balcony. But in general, the historic integrity of the Hedrick Water Tower is good particularly for a 1913-14 water tower.

The brick street pavement exposed on 1st and Main streets south and east of the water tower were previously inventoried and recommended as eligible for inclusion in the NRHP (54-00332 and 54-01476). However, most of the commercial buildings along Main Street were also previously inventoried and either not evaluated or recommended as not eligible (I-Sites Pro 2022). A check of the Iowa Site Inventory did not provide much information about any of these forms (Berry Bennett, State Historic Preservation Office, Des Moines).

8. Statement of Significance

A statewide survey of water towers in South Dakota provided detailed historic contexts, property types, and registration requirements for evaluating the NRHP-eligibility of these structures (Mathis and Chlebeck 2012). While specific to South Dakota, the study is applicable to Iowa because the history of water distribution system construction is similar to that in Iowa. This study noted that steel water towers associated with water systems can be eligible for inclusion in the NRHP under Criteria A (historical significance) and C (engineering significance), but typically would not be eligible under Criteria B (association with significant persons) or D (information potential). To be eligible under Criterion A, "a water tower must be associated with the initial development of a water works or water system in a city or town; or a substantial upgrade, expansion, or improvement of this system; or improved living conditions and standards in a community" (Mathis and Chlebeck 2012:62). In this case, the Hedrick Water Tower would qualify under Criterion A since it was associated with the initial development of the water works system for Hedrick, Iowa, in the early 1910s. As such, it was a substantial upgrade, expansion, and improvement to this system and certainly improved the living conditions and standards in the community. The area of significance is in community planning and development.

For water towers to be eligible under Criterion C in the area of Engineering, they must be the most prominent visual landmark in the community and largest designed resource; or an example of outstanding or unique design characteristics (e.g., innovative or high artistic value), or is a rare example of a particular water tower of style (Mathis and Chlebeck 2012:64). Standard plan water towers can be eligible "since standard designs of manufacturers were integral to the development of water tower systems," reduced design costs for these structures, and reduced fabrication costs since they were

mass produced. As such, they "made water towers more affordable for even small communities" (Mathis and Chlebeck 2012:64). The Hedrick water tower is the most prominent visual landmark in the community and its largest designed resource and for that reason appears to meet the basic eligibility requirement under Criterion C. The builder of the Hedrick Water Tower, the Des Moines Bridge and Iron Company, was the predecessor to the Pittsburgh-Des Moines Steel Co., which was a manufacturer "who was integral" to the development of water tower systems in Iowa. The construction of the Hedrick Water Tower came within a few years of the name change of the company and makes the Hedrick tower among the earliest of the company's constructions in Iowa. It also conforms to the company's standard design plan for this type of elevated water tank. Absent a statewide inventory of all-steel elevated water towers in Iowa, it is not known how many of this type of standard-plan steel water towers remain standing across the state.

Finally to be eligible for inclusion in the NRHP, the South Dakota study noted that "a water tower must possess sufficient integrity to convey its significance" and will "need to possess at least several aspects of historic integrity to be eligible" (Mathis and Chlebeck 2012:65). In the case of the Hedrick water tower, this structure retains good integrity in all seven aspects of historic integrity having seen only minor modifications/additions through the years. It still retains its original structural components including the conical tower roof, tank, tank railing, legs, and other supports, although the original cast iron finial may have been replaced with a steel cylinder vent in more recent years. It retains good integrity of location and setting being on its original site. The water tower is still the tallest structure in the community and identifies the community for miles around. The next highest structure is the grain elevator, which is located to the west of the water tower and along the former railroad tracks. It retains excellent integrity of materials and workmanship because the steel is original having only been repainted through the years, with the workmanship evidenced by the original construction elements. It retains excellent integrity of design being recognizable as a standard design of the Des Moines Bridge and Iron Co. based on the retention and design of the zig-zag hand railings and other components, and it retains good to excellent integrity of feeling and association being a landmark structure in the community and conveys the community identity.

Hedrick is a small town along the south boundary of Keokuk County in southeast Iowa. The area is predominantly rural and surrounded by agricultural use land and supports agricultural industries. At the time of its establishment in 1882, Hedrick was at an intersection of three railroads. The water tower was proximal to the railroad and related buildings and infrastructure, which were located to the west of it. The grain elevator, lumber yard, and oil tanks were located between the tower and the railroad. Today, the grain elevator is the main extant building from that railroad-related complex. To the east of the tower was a commercial zone of the city, and residences were beyond. A building was built at the same time as the tower to house the hose and pump equipment for the water works as well as a new city jail. That building is now gone, and the water tower is all that stands of that once-important city project. The railroads are now also gone; however; the commercial zone, industrial-type areas, and the peripheral residences still complete the setting (Sanborn 1916, 1933). The surrounding buildings have mixed usage, styles, ages, and levels of historic integrity. The neighborhood overall has poor historic integrity. Many buildings in the immediate vicinity have been inventoried but not assessed. It is unlikely that many would qualify for National Register consideration individually or as part of any potential district. However, intensive survey and evaluation of the former commercial area along Main Street would be required before a final determination of district eligibility could be made. The only previously evaluated structures noted in the Iowa Site Inventory are two sections of exposed brick pavement on 1st and Main

streets to the south and east of the water tower. If the commercial area on Main Street were found to be an eligible historic commercial district, the brick paved street sections would be considered contributing to such as a district. However, the water tower, being a half block west of the commercial area along Main Street, would be unlikely to be included in that district boundary.

In summary, the current study recommends that the Hedrick Water Tower is eligible for inclusion locally under Criterion A of the National Register of Historic Places for its importance to the Community Planning and Development of the City of Hedrick and for its role in the modernization of water distribution and services to the citizens of the community. It is also recommended eligible locally under Criterion C for its engineering significance as an early example of the steel elevated water tank standard design of the Des Moines Bridge and Iron Company. The period of significance is from 1913, when the tower was first planned and construction began to be completed in 1914, to 1972, which is the current 50-year end date for basic consideration of NRHP eligibility. During this period, the water tower served as the center piece of the city's waterworks distribution system.

Hedrick, Iowa was a founded in 1882, as the area became an intersection for three prominent railroads. These railroads were the Burlington and Western Railroad (a predecessor of the Chicago, Burlington and Quincy), the Iowa Central Railroad (a predecessor of the Minneapolis & St. Louis), and what would become part of the Chicago, Milwaukee and St. Paul Railroad or "Milwaukee Road" (Hofsommer 2005:108; Lotz and Franzen 1989:37-52). Hedrick grew quickly in its first 15 years after incorporation, reaching a population of 592 in 1890 and a population of 1,035 in 1900. However, the first half of the 20th century was a long period of decline for the city. Its population fell to 978 in 1910 and 901 in 1920, before even further declines. Despite these population losses, however, the citizens of the city recognized the need for running water in their town. Citizens worked to conceive, advocate for, and eventually pass a water works referendum in 1913 (Federal Census Records for Hedrick, Iowa 1890, 1900, 1910, 1920). The water tower was built from about November 1913 to about January 1914.

Elevated water tanks had been built throughout Iowa since 1897, when Professor Anson Marston, Dean of Iowa State's College of Engineering designed and built one for the campus. That water tower is believed to be the first in Iowa and perhaps the first west of the Mississippi River. One of his innovations was a frost-proofing apparatus for the vertical pipe, and it helped popularize the use of steel in such tanks, at a time when wood was the industry standard (Christian 1982:3). The Ames water tower was built by the Chicago Bridge and Iron Co. From that time to 1913, when the Hedrick water tower was designed and built, other significant trends in water tower construction were the spherical bellies and conical roofs that became iconic for small water towers across the state. The Hedrick tower was built by the Des Moines Bridge and Iron Company, a predecessor to the well-known Pittsburgh-Des Moines Steel Company, which was responsible for many of Iowa's water towers and developing a recognizable appearance from this period and through the rest of the first half of the 20th century.

Planning and Referendum for the Hedrick Water Tower
Although the Keokuk County Recorder lists the construction date as circa 1950, further research has found that the water tower was constructed from approximately November 1913 to very early 1914. These dates rule out any hypotheses that the construction may have been a part of a New Deal "make work" programs, such as the Public Works Administration or others, and those hypotheses would also have predated the Assessor's estimate. Despite no connection to those or other federals programs, the structure still holds local significance.

The history of its conception and planning is much like that of other water towers throughout the state, beginning with local advocacy for better water distribution and service within the local community. The earliest of such rumblings for Hedrick was recorded 1908, when a chronology of relevant news items in *Engineering Record*, a professional periodical, noted that in Hedrick, Iowa "the question of constructing water works is reported under consideration" (*Engineering Record* 1908:52).

However, it was still five more years before official action would be taken. There were two community meetings in February 1913 to address the matter. These meetings were both held at the office of Utterback & Cecil Bros. in Hedrick. At the first meeting, "a fair crowd" was addressed by Max Whittaker, a contracting engineer for the Des Moines Bridge & Iron Company, the firm that would ultimately build the tower. Whittaker described various options, types of water facilities, and other details. The crowd was mostly in favor of the idea, although the newspaper did report there were some expected "knockers" in attendance. At this meeting, an estimated cost of approximately $15,000 was announced which could be covered by a bonding measure and through the eventual taxation of properties connected to the new water system. At the second meeting, a committee presented citizens with further price estimates and correspondence from cities who already had such water works systems. In the end, the crowd unanimously passed a resolution to have the committee address the city council about the matter and recommend to them a city-wide referendum for building and funding such a water works system, including the water tower (*Journal* 02/19/1913:4, 02/26/1913:4).

The council moved quickly. By March 13, they had received the recommendation and voted unanimously to appoint a committee of three (councilpersons C.C. Cecil, H.S. Cline, and G.W. Storey being chosen from among them) to provide, by "an early date," in cooperation with an attorney, a draft ordinance and a total dollar sum to be voted on in a referendum (*Journal* 03/12/1913:7).

This too was a quick process. By April 7, Mayor G.G. Bowers proclaimed that May 12, 1913 would be the day of the bond referendum. Votes were to be cast at the council room from 8am to 7pm. The ballot included the question of "Shall the Town of Hedrick, Keokuk County, Iowa, erect and establish a Water Works System in and for said Town?" with the options for a "Yes" or "No" response. It also included the options of "For" and "Against" the issuance of $16,000 in bonds. This mayoral proclamation was published by L.L. Bowlin, the town clerk, and it was run in several subsequent issues of the local newspaper (*Journal* 04/23/1913).

Local activists worked hard to promote the benefits of the proposed water works, and as with many issues of this era, women were an important part of the movement. One newspaper article in favor of the matter was headlined "Ladies Can Vote: Equal Suffrage May Be Enjoyed at Waterworks Election Monday" as was allowed within Iowa statute. The article further noted, in its period tone, that water access would provide many benefits to the domestic life for the "Hedrick ladies" as well as for its men. "Let every Hedrick lady boost for the proposition," the piece concluded. In the same issue, Mayor Bowers supported the measure with a separate article, noting its benefits and quieting rumors that the council had already hired the firm to build the waterworks. In his article, the mayor also pointed out that if the proposition were to pass, an adequate water supply would have to be identified and secured before any further work could even begin. Further into the same issue, a third pro-water works article suggested that any objections to the measure ranged from "sublime" to "ridiculous" (*Journal* 05/07/1913:1a, 05/07/1913:1b, 05/07/1913c:4).

The referendum passed by a margin of almost 4-to-1, and the importance of women voters was highlighted by the local newspaper. The tallied votes included 217 yesses, of which 95 were women, and 69 nays, of which 14 were women. In congratulating the city on joining the "wet column" of cities, the article noted that the Des Moines Bridge and Iron Co., the firm likely to be contracted for the work, had done about 75% of extant water systems within the state. It also touted the benefits that system would have for purposes of firefighting. The article concluded by stating that any property tax increase would be very light, not enough to harm any individual, and that its overall value would become clear very quickly. The result of this referendum was so successful and seen so positively that at least one local merchant, Floyd R. Gambell, ran an ad for his dry goods store that likened the apparent popularity of his store to the popularity of the water works. "Most everybody voted yes on the water works question," his ad touted, "and if you were to ask them to vote on whether or not our's was a good place to trade, most of them would vote yes" (*Journal* 05/14/1913a:1, 05/14/1913b:4).

Construction and Maintenance of Hedrick Water Tower
A 1913 notice to contractors in the *Des Moines Register* requested bids on a water works system and elevated water tank:

> Sealed bids for the construction of a water works system, as per plans and specifications on file with the town clerk, will be received by the town council of Hedrick, Ia., at their council room until 8p.m., Sept. 15, 1913. A certified check for 10 per cent of the amount of bid, drawn on local bank and made payable to town treasurer, must accompany each bid as evidence of good faith. The council reserved the right to accept or reject any or all bids. –J.J. Jennings, Town Clerk (*Register* 09/12/1913:11).

Work began on the overall water works system in early June 1913, before the construction of the tower itself. The old jail building on the property was sold off, and C.W. Daniels built the new building that housed the jail and hose/pump house adjacent to the tower site. The newspaper advertised on November 19 in a want ad for 15 to 20 men "at once" to help build the new water works, which included construction and connection of the associated water main lines. The article instructed them to apply with the Superintendent of the Des Moines Bridge and Iron Company in Hedrick. Water mains were delivered to the city in early November, and the Des Moines Bridge and Iron Company soon began the installation of them (*Journal* 06/04/1913:3, 10/29/1913:6, 11/12/1913:1, 11/19/1913a:1, 11/19/1913b:1). Work began on the tower at about that same time. By December 31 of that year, the newspaper reported that "the mains were all laid for Hedrick's new water works system, and that the tower is raised and the tank is partially completed. It will take about three more weeks to complete the work." Of the new pump house and jail, it stated that it was "also practically finished. This is a neat concrete building, located over the first well." Final construction costs were about $16,000 (*Journal* 12/31/1913:5).

In March 1914, the first customer was connected to the system. It was reported: "G.W. Storey is the first costumer of the new city water works, having connected his residence last week. The water is clear and good tasting, and the big tank is full to the top." Storey also happened to be one of the three councilpersons on the water works committee appointed by the mayor earlier that year (*Journal* 03/18/1914:2).

The Des Moines Bridge and Iron Company thanked the city with a gift of two drinking fountains, "one for humans and the other for beasts." The announcement did not give a location fort the drinking fountains (*Journal* 03/25/1914:1).

The 1916 Sanborn fire insurance map for Hedrick showed the new system. It marked the 50,000-gallon elevated water tank at this position as well as the building used for the new jail and hose house/pump. It remained very much the same in the 1933 edition of the Sanborn maps.

Through the 1930s, the City of Hedrick took measures to maintain the tank and care for its appearance. The city council voted in May 1935 to "let the job of refinishing and painting the tower tank to Des Moines men" (*Courier* 05/15/1935:7), and the city had it repainted again in 1939. A photograph, printed in December 1939 and titled "Tower Perks Up" describes the next paint work to be done: "besides rebuilding the town equipment building this fall and gravelling some of the streets, Hedrick's city council has had the water tower given a new coat of aluminum paint with the letters done in black paint" (*Courier* 12/12/1939:7).

Des Moines Bridge and Iron Company
This firm and its agents, including contracting engineer Max Whittaker, were responsible for encouraging the local citizens toward favoring the new water system. The firm supplied plans, options, prices, a list of its many benefits, and testimonials from leaders in other Iowa towns. The company built the elevated water tank and tower and installed the initial water main lines that distributed its water to the community. The company thanked the community with a gift of two fountains after its completion. This firm and its successor company, the Pittsburgh-Des Moines Steel Company or Pitt-Des Moines Steel Company, were responsible for building very many such tanks throughout the state and went on to supply materials for such notable projects as the Gateway Arch in St. Louis and the World Trade Center's twin towers in New York City. Some of the company's projects are listed in the National Register of Historic Places.

Jones & Laughlin
The steel girder legs on this tower are marked with the name of this company. It is unknown if the company supplied just the steel legs or if they provided other materials as well. The company was a notable Pennsylvania-based steel company with significant operations and headquarters in Pittsburgh. The Jones & Laughlin company produced and supplied steel materials and construction services for many bridges, buildings, and water towers throughout the country, including some that are listed in the National Register of Historic Places. In the decades following the construction of this water tower, the company would expand, buying out steel works in Ohio and Illinois.

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1913 Another Waterworks Meeting. 26 February:4. Hedrick, Iowa.
1913 Will Vote on Water: Special Election to be Called for Waterworks Meeting. 12 March:7. Hedrick, Iowa.
1913 Mayor's Proclamation. 23 April:7. Hedrick, Iowa.
1913a Ladies Can Vote: Equal Suffrage May Be Enjoyed at Waterworks Election Monday. 7 May:1. Hedrick, Iowa.
1913b Waterworks Meeting. 7 May:1. Hedrick, Iowa.
1913c Should Vote Yes: Hedrick Citizens Should Carry Waterworks Election Unanimously. 7 May: 4. Hedrick, Iowa.
1913a Waterw'rks Carried: Proposition Carried by a Vote of Almost Four to One: Many Ladies Voted: One Hundred and Ten of the Fair Sex Cast Ballot. 14 May:1. Hedrick, Iowa.
1913b Advertisement for Gambell's dry goods store, eliciting waterworks victory. 14 May:4. Hedrick, Iowa.
1913 Work will commence. 4 June:3. Hedrick, Iowa.
1913 Notice to bidders. 29 October 1913. Hedrick, Iowa.
1913 Water Pipe Here. 12 November:1. Hedrick, Iowa.
1913 C.W. Daniels was awarded the contract. 19 November:1. Hedrick, Iowa.
1913 Wanted. 15 or 20 men at once. 19 November:1. Hedrick, Iowa.
1913 The Water Works. 31 December:5. Hedrick, Iowa.
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Hedrick Water Tower	Keokuk
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1939 Tower Perks Up. 12 December:7. Ottumwa, Iowa.

10. Additional Documentation

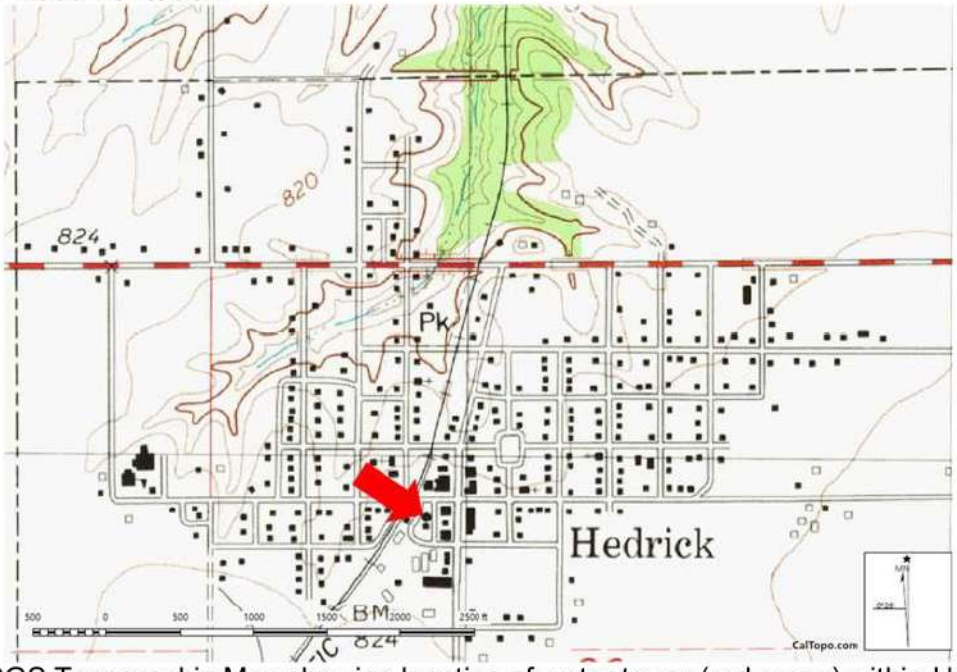

Figure 1. USGS Topographic Map showing location of water tower (red arrow) within Hedrick, Iowa. Base map: ExpertGPS mapping software, June 2022.

Figure 2. Current aerial photograph showing location of water tower (red circle) within Block 16 of Hedrick, Iowa Original Plat. Base map: ExpertGPS mapping software, June 2022.

Hedrick Water Tower	Keokuk
Name of Property	County
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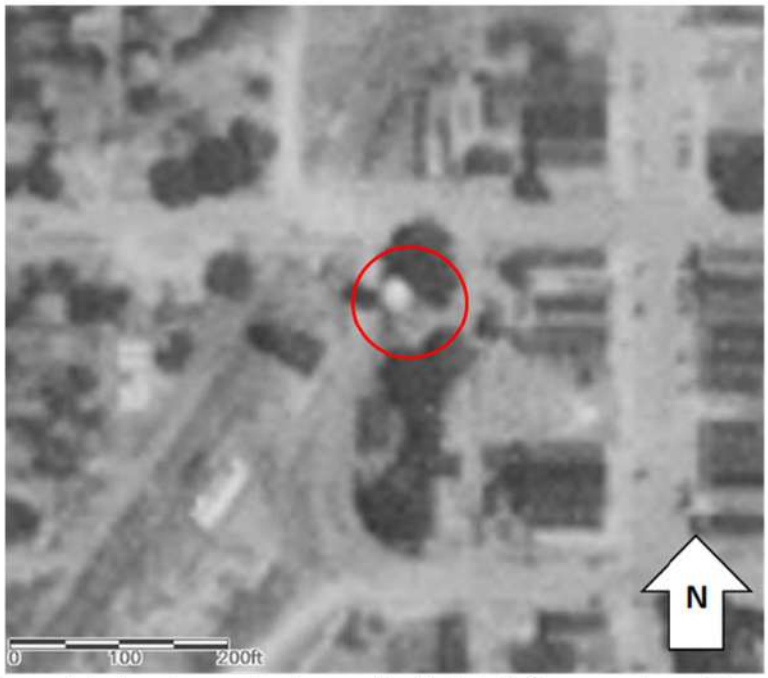

Figure 3. Late 1930s aerial showing water tower (red circle). Source: Iowa Geographic Map Server, accessed June 2022.

Figure 4. 1970s aerial showing location of water tower (red circle). Source: Iowa Geographic Map Server, accessed June 2022.

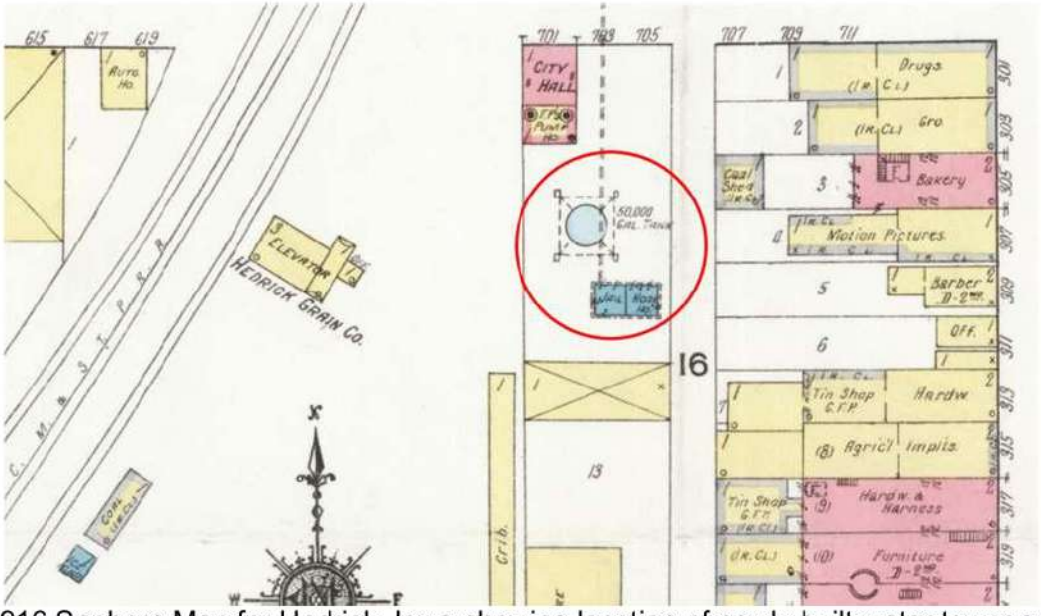

Figure 5. 1916 Sanborn Map for Hedrick, Iowa showing location of newly-built water tower and jail/hose house. Source: Sanborn 1916. Accessed from Library of Congress digital archives, May 2022.

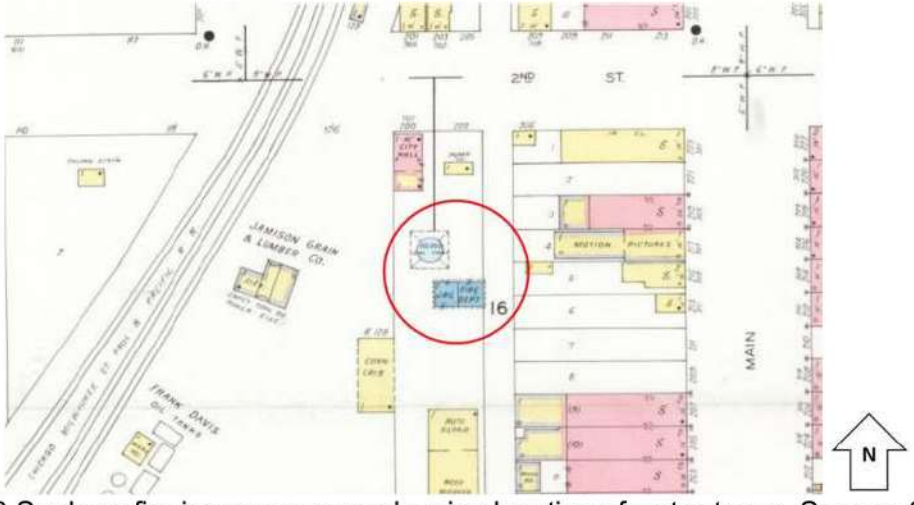

Figure 6. 1933 Sanborn fire insurance map showing location of water tower. Source: Sanborn 1933. Accessed from Library of Congress digital archives, May 2022.

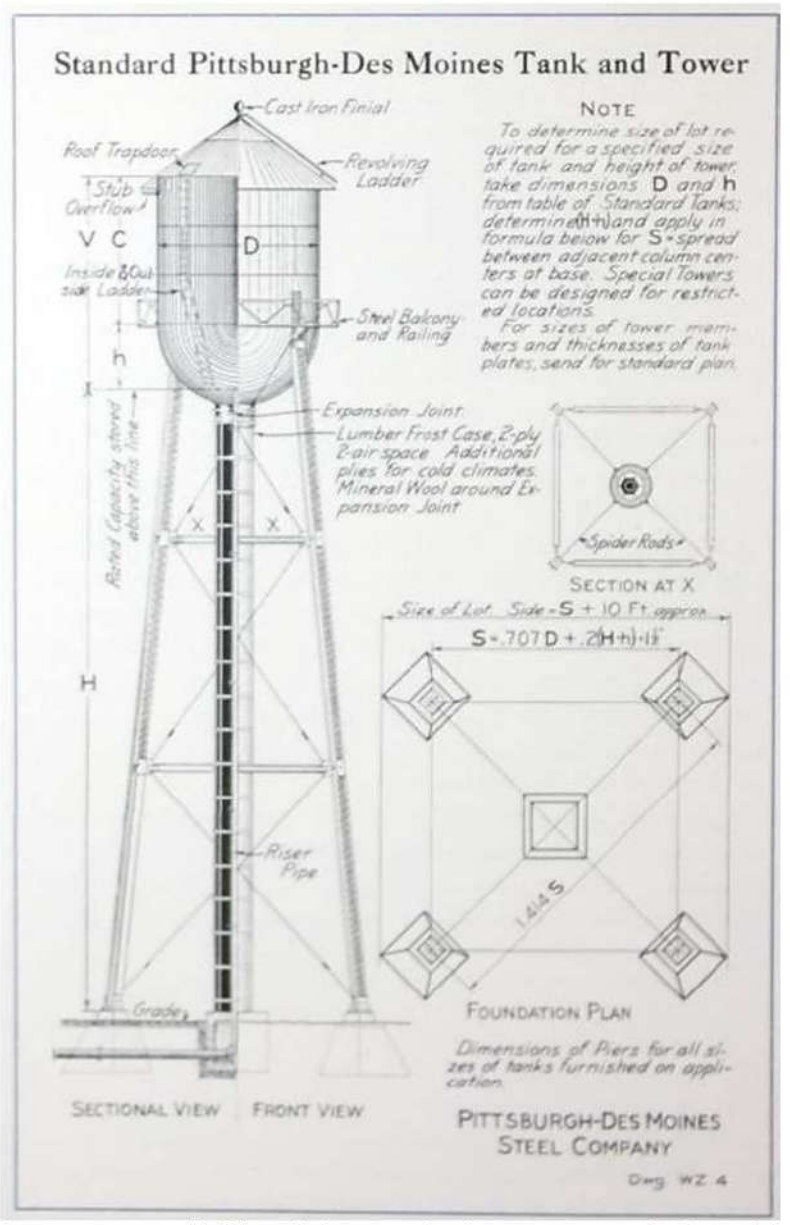

Figure 7. 1939 photograph of the Hedrick water tower (left) and the standard water tower design of the Pittsburgh-Des Moines Steel Co., circa 1924 (right). Note that the standard design of the 1920s had remained the same since the 1910s when the Hedrick tower was built.
Sources: *Courier* 12/12/1939:7; Pittsburgh-Des Moines Steel Co. circa 1924.

Hedrick Water Tower	Keokuk
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Figure 8. Facing south towards water tower and surrounding area including the grain elevator to the right and the commercial area to the left.
Field date of photograph: May 4, 2022.

Figure 9. Facing NW towards water tower. Hedrick elevator on left of frame.
Field date of photograph: May 4, 2022.

Hedrick Water Tower	Keokuk
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Figure 10. Facing north towards water tower and surrounding buildings.
Field date of photograph: May 4, 2022.

Figure 11. Facing NNE towards water tower and surrounding buildings.
Field date of photograph: May 4, 2022.

Hedrick Water Tower	Keokuk
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Figure 12. Facing SW towards proposed water tower location, gabled building within project area.
Field date of photograph: May 4, 2022.

Figure 13. Facing NW towards building near proposed water tower area.
Field date of photograph: May 4, 2022.

Hedrick Water Tower	Keokuk
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Figure 14. Facing SE on 1st Street towards buildings along south end of road, east of proposed water tower area. Field date of photograph: May 4, 2022.

Figure 15. Facing NW towards Hedrick elevator. Field date of photograph: May 4, 2022.

Figure 16. Facing SW towards Hedrick elevator. Field date of photograph: May 4, 2022.

Figure 17. View of water tower behind (west of) the commercial area at the intersection of W 2nd Street and North Main Street. Note that 2nd street also has exposed brick pavement as well as Main Street and 1st Street to the south. Source: Pete Zarria, flickr, accessed at flicker.com and https://www.pinterest.com/pin/369084131936382176/, accessed June 2022.

Hedrick Water Tower	Keokuk
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Figure 18. Facing ESE towards water tower. Field date of photograph: May 4, 2022.

Figure 19. Facing SE towards base of current water tower. Field date of photograph: May 4, 2022.

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Figure 20. Close up on base of water tower leg. Field date of photograph: May 4, 2022.

Figure 21. Close up towards lettering on water tower leg. Field date of photograph: May 4, 2022.

Figure 22. Close up on water tower details. Field date of photograph: May 4, 2022.

Figure 23. Close-up on base of water tower leg. Field date of photograph: May 4, 2022.

Figure 24. Close-up towards lettering on water tower leg. Field date of photograph: May 4, 2022.

Figure 25. Close up on water tower details. Field date of photograph: May 4, 2022.

Figure 26. General view of water tower foundation details. Field date of photograph: May 4, 2022.

Figure 27. General view of water tower foundation details. Field date of photograph: May 4, 2022.

Figure 28. General view of water tower joint details and city siren. Field date of photograph: May 4, 2022.

Figure 29. Close up on base of water tank showing general condition. Field date of photograph: May 4, 2022.

Figure 30. Close up on cement foundation at center of water tower and brick embedded within. Field date of photograph: May 4, 2022.

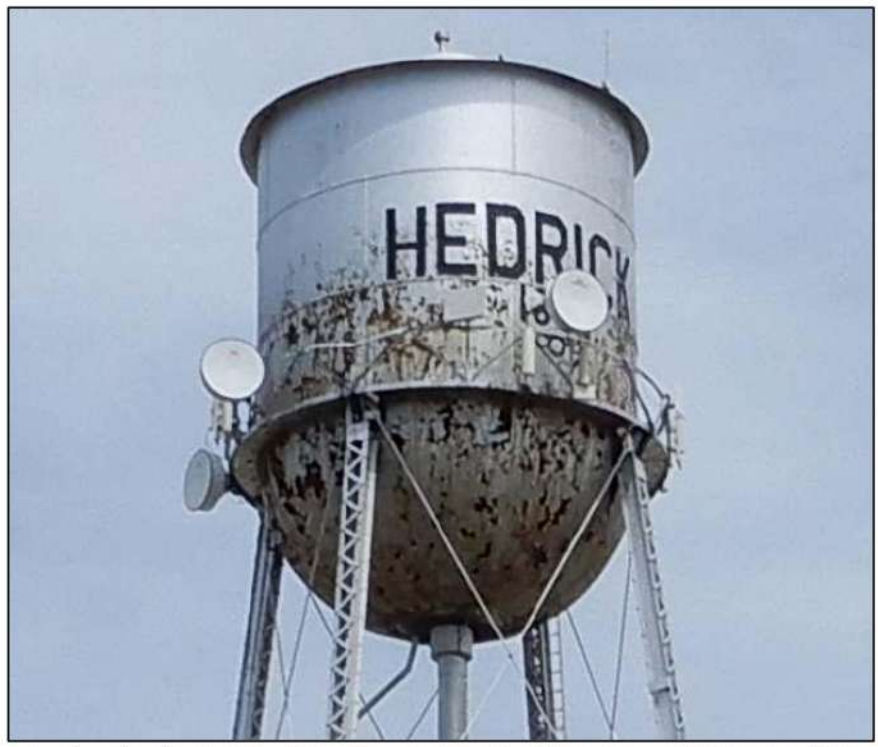

Figure 31. Close-up of water tank showing zig-zag hand railing around base and the cylindrical vent at the roof apex. Field date of photograph: May 4, 2022.

Hedrick Water Tower	Keokuk
Name of Property	County
	Hedrick
Address	City

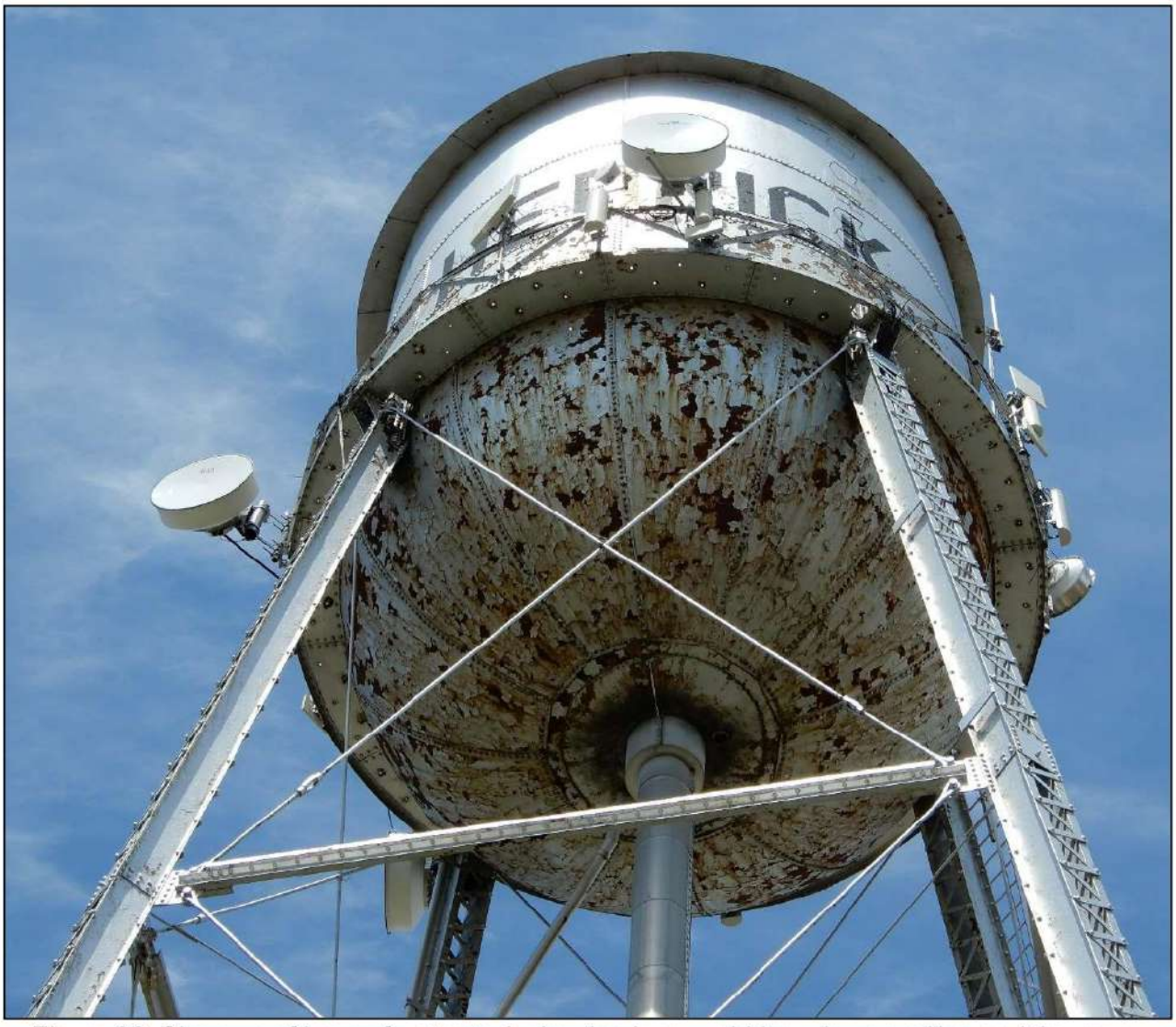

Figure 32. Close-up of base of water tank showing legs, webbing, zig-zag railing and the many communication devices since added to that railing.
Field date of photograph: May 4, 2022.

Hedrick Water Tower	Keokuk
Name of Property	County
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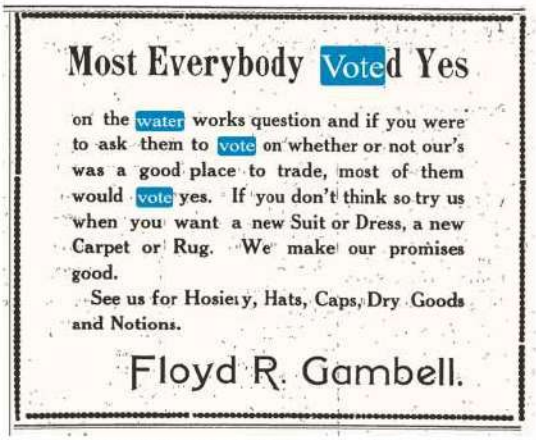
Figure 33. Four Views from inside tank. Top-left: hub and spider web. Top-right: showing 24” manway on roof, open. Source: Viking Industrial Painting 2020:10-12.

Figure 34. Northeast leg, looking south. Upper strut joint with angled rod and leg. Source: Viking Industrial Painting 2020:5.

Figure 35. Close-up view of belly and balcony with safety cable, looking west. Source: Viking Industrial Painting 2020:6.

Figure 36. Close-up view of cylindrical roof vent that may have replaced the original cast iron finial and the roof manway, looking west. Source: Viking Industrial Painting 2020:9-10.

Figure 37. Metal wrapping of insulation on vertical pipe. Source: Viking Industrial Painting 2020:E3.



Most Everybody Voted Yes

on the water works question and if you were to ask them to vote on whether or not our's was a good place to trade, most of them would vote yes. If you don't think so try us when you want a new Suit or Dress, a new Carpet or Rug. We make our promises good.

See us for Hosiery, Hats, Caps, Dry Goods and Notions.

Floyd R. Gambell.

Figure 38. 1913 advertisement for local dry goods store of Floyd R. Gambell using the water works referendum as an example of something popular. Source: *Journal* 05/14/1913:4).

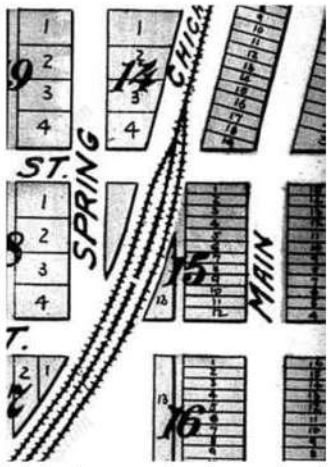


Figure 39. West part of Hedrick, Iowa prior to water tower. Source: Bishop 1895.

Figure 40. 1902 map of Iowa railroads, cropped to show area of Hedrick and intersection of three railroad lines. Source: Iowa Railroad Commission 1902.