

**Why You Should Read This:** The document below reviews the environmental impact likely from a project. This project is planned to be federally funded through your tax dollars; therefore, you are entitled to take part in its review. If you have concerns about the environmental impact of this project, raise them now. We encourage public input in this decision making process.



**IOWA STATE REVOLVING FUND**  
**FINDING OF NO SIGNIFICANT IMPACT**

August 11, 2020

**To: All Interested Citizens, Government Agencies, and Public Groups**

An environmental review has been performed based on the procedures for implementing the National Environmental Policy Act (NEPA), for the proposed agency action below:

**Applicant:** City of Dayton  
**County:** Webster  
**State:** Iowa

**SRF Number:** FS-94-20-DWSRF-031  
**Iowa DNR Project Number:** W2020-0125

Other Federal Funding: CDBG (\$300,000)

The City of Dayton, Iowa is planning an upgrade to their water supply system. The City has applied for financial assistance through the State Revolving Fund (SRF) loan program to build the project. The State Revolving Loan Program is a program authorized by the Environmental Protection Agency (EPA) and administered by the Iowa Department of Natural Resources (DNR) in partnership with the Iowa Finance Authority.

The City of Dayton is located in Webster County, Iowa approximately 70 northwest miles of Des Moines, Iowa and 23 miles southeast of Fort Dodge, Iowa. The population of Dayton according to the 2010 US Census was 837. The design population equivalent for the year 2030 is 888.

Currently, the city's water supply is owned and operated by the City of Dayton. The facilities include a water treatment plant, elevated storage tank, distribution mains, and two wells currently in use. Flow data from the most recent sanitary survey dated February 28, 2019 shows an average daily water use of approximately 89,000 gallons per day and a peak demand of about 219,000 gallons per day.

Current water treatment is completed in the City of Dayton's relatively new facility that was constructed in 2005. Equipment included an iron removal filter, two softeners, above-ground salt/brine tank, chemical feed equipment, and two high service pumps. The filter unit is an Aeralater Type II with an allowable flow capacity of 160 to 190 gpm. The unit is equipped with an induced draft aerator to oxidize dissolved iron and has a four-cell gravity filter.

Currently, the City of Dayton has two municipal wells in operation and two wells no longer in service that have been abandoned. Well #1 was drilled in 1895 and has been abandoned. Well #2, also known as the south well, was drilled in 1931 and has a total depth of 1,240 feet. This well is still in use as the city's backup well. Well #3 was drilled in 1952 and was abandoned in 2007 after a blockage occurred. Well #4 was drilled in 2009 as a replacement for Well #3. This well is currently serving as the City's primary well and has a capacity of 150 gallons per minute.

In the summer of 2018, the City noted Well #4 was pumping a large amount of iron bacteria. The City hired a contractor to clean and televise the well in an attempt to mitigate the problem. During the cleaning, an obstruction was found at a depth of approximately 669 feet. Work on the well was put on hold until a price could be submitted to the city to attempt to remove the obstruction. Yield from this well was substantially limited upon discovery of the obstruction. In the meantime, the City has been utilizing Well #2 as their sole, primary source of water.

In the fall of 2019, Well #2 also began showing signs of iron bacteria. With this well also exhibiting problems, the City elected to pursue repairs for Well #4. The hired contractor was successful in clearing the debris and is in the process of returning this well to usable condition. Review of the televised footage has revealed what is thought to be the source of the blockage. It appears where the well transitions from a cased portion to an uncased portion, grout and material around the bottom of the casing is degrading and falling into the open well column. It is believed that the degradation of the rock formation and grout will only continue to worsen and likely lead to more blockages in the future.

The presence of degrading rock formation and grout increases the risk of continued blockage and a decrease in yield from both wells. It is also thought that the iron bacteria may be originating in this area as this problem was not apparent until the blockage was discovered. Further assessment of Well #2 has determined that the well has likely reached a point beyond feasible repair and will need to be plugged and abandoned. Abandonment of Well #2 would leave Well #4 as the sole source of water for the City of Dayton. If anything were to happen to Well #4, the City would be without water. It is evident that an alternate source of water is urgently needed.

The purpose of this project is to make improvements to the drinking water system to enhance their reliability, provide redundancy, increase capacity and to replace aging infrastructure to safely and reliably operate the City of Dayton's drinking water supply for at least the next 20 years.

The water supply improvement project consists of the relining of Well #4 and the construction of one new water supply well for the City of Dayton. The project involves the construction of a new water supply well near the current location of Well #2 or in the City Park north of the school in the same general area as Well #4. The new water supply well will be drilled down to approximately 1,250 feet. This new well will include 8-inch to 20-inch diameter borehole, 10-inch and 12-inch PVC casing with neat cement grout and installation of new well pump. This new well will connect to the existing raw water main. Rehabilitation of Well #4 will include drill and clean well to 1,250-feet, install and grout new inner PVC casing, installation of a new well pump, disinfection, and site restoration and seeding. Once the new well is operational, Well #2 will be plugged and abandoned.

Positive environmental effects will be maintained water quality and quantity for the citizens of Dayton. A catastrophic loss of water supply could result in City-wide health impacts due to a lack of sanitation and the use of other water sources that may not meet Federal drinking water standards. The project will not significantly affect the pattern and type of land use (industrial, commercial, agricultural, recreational, and residential) or growth and distribution of population. The project will not conflict with local, regional or State land use plans or policies. The project will not impact wetlands

The project will not affect threatened and endangered species or their habitats. If any State- or Federally-listed threatened or endangered species or communities are found during the planning or construction phases, additional studies and/or mitigation may be required. The project will not displace population, alter the character of existing residential areas, or convert significant farmlands to non-agricultural purposes. The project will not affect the 100-year flood plain provided all the terms of the flood plain permit are abided by. The project will not have effect on parklands, preserves, other public lands, or areas of recognized scenic or recreational value.

No Historic Properties will be adversely affected by the proposed project. However, if project activities uncover any item(s) that might be of archaeological, historical, or architectural interest, or if important new archaeological, historical, or architectural data should be encountered in the project APE, the applicant should make reasonable efforts to avoid further impacts to the property until an assessment can be made by an individual meeting the Secretary of the Interior's professional qualifications standards (36 CFR Part 61).

The project will not have a significant adverse effect upon local ambient air quality provided the applicant takes reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property during the proposed project (567 IAC 23.3(2)"c"). The project will not have a significant adverse effect upon local ambient noise levels, surface water quantity, groundwater quality or quantity, or water supply. The project will not have a significant impact to surface water quality, shellfish, wildlife, or their natural habitats.

Minimum separation distances will be maintained. Noise during construction will be maintained at tolerable levels through controls on construction activities. Any construction debris will be

removed from the site for proper disposal. Adverse environmental effects from construction activities will be minimized with proper construction practices, inspection, prompt clean up and other appropriate measures. Areas temporarily disturbed by the construction will be restored.

It has been determined that the proposed action will result in no significant impacts to the surrounding environment. This determination is based on a careful review of the engineering report, the environmental assessment and other supporting data which are on file at the Department of Natural Resources' office in Des Moines, Iowa. These are available for public review upon request. A copy of the environmental assessment is attached. This Department will not take any administrative action on the project for at least thirty (30) calendar days from the above date. Persons disagreeing with the above environmental decision may submit comments to the department during this period. Please direct your comments to me at [casey.laskowski@dnr.iowa.gov](mailto:casey.laskowski@dnr.iowa.gov) or 515-725-0261.

Sincerely,



Casey Laskowski  
Environmental Specialist  
502 E. 9<sup>th</sup> Street  
Des Moines, IA 50319-0034

Enclosures: Environmental Assessment  
Project Map

Distribution

List (email): Toni Tabbert, MER Engineering, Inc.  
Shirley Helgevold, Midas Council of Governments  
Michael Drummond, Council on Environmental Quality  
Jake Hansen, Iowa Department of Agriculture and Land Stewardship  
Ken Sharp, Iowa Department of Public Health  
Sara Carmichael-Stanley, Iowa Department of Public Health  
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Tracy Scebold, Iowa Finance Authority  
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Josh Mandelbaum, Environmental Law and Policy Center  
Kate Sand, USDA Rural Development  
Tokey Boswell, USDO, National Park Service, Midwest Region  
Kraig McPeck, Fish and Wildlife Service, Rock Island Field Office  
Christopher Simmons, USEPA Region VII

Kelly Beard-Tittone, USEPA Region VII  
The Dayton Leader

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**IOWA STATE REVOLVING FUND**  
**ENVIRONMENTAL ASSESSMENT DOCUMENT**

***PROJECT IDENTIFICATION***

**Applicant:** City of Dayton  
**County:** Webster  
**State:** Iowa

**SRF Number:** FS-94-20-DWSRF-031  
**Iowa DNR Project Number:** W2020-0125

Other Federal Funding: CDBG (\$300,000)

***COMMUNITY DESCRIPTION***

**Location:** The City of Dayton is located in Webster County, Iowa approximately 70 northwest miles of Des Moines, Iowa and 23 miles southeast of Fort Dodge, Iowa.

**Population:** The population of Dayton according to the 2010 US Census was 837. The design population equivalent for the year 2030 is 888.

**Current Source of Water:** Currently, the city's water supply is owned and operated by the City of Dayton. The facilities include a water treatment plant, elevated storage tank, distribution mains, and two wells currently in use. Flow data from the most recent sanitary survey dated February 28, 2019 shows an average daily water use of approximately 89,000 gallons per day and a peak demand of about 219,000 gallons per day.

**Current Water Treatment and Quality:** Current water treatment is completed in the City of Dayton's relatively new facility that was constructed in 2005. Equipment included an iron removal filter, two softeners, above-ground salt/brine tank, chemical feed equipment, and two high service pumps. The filter unit is an Aeralater Type II with an allowable flow capacity of 160 to 190 gpm. The unit is equipped with an induced draft aerator to oxidize dissolved iron and has a four-cell gravity filter.

**Current Well System:** Currently, the City of Dayton has two municipal wells in operation and two wells no longer in service that have been abandoned. Well #1 was drilled in 1895 and has been abandoned. Well #2, also known as the south well, was drilled in 1931 and has a total depth of 1,240 feet. This well is still in use as the city's backup well. Well #3 was drilled in 1952 and was abandoned in 2007 after a blockage occurred. Well #4 was drilled in 2009 as a replacement for Well #3. This well is currently serving as the City's primary well and has a capacity of 150 gallons per minute.

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The presence of degrading rock formation and grout increases the risk of continued blockage and a decrease in yield from both wells. It is also thought that the iron bacteria may be originating in this area as this problem was not apparent until the blockage was discovered. Further assessment of Well #2 has determined that the well has likely reached a point beyond feasible repair and will need to be plugged and abandoned. Abandonment of Well #2 would leave Well #4 as the sole source of water for the City of Dayton. If anything were to happen to Well #4, the City would be without water. It is evident that an alternate source of water is urgently needed.

## ***PROJECT DESCRIPTION***

**Purpose:** The purpose of this project is to make improvements to the drinking water system to enhance their reliability, provide redundancy, increase capacity and to replace aging infrastructure to safely and reliably operate the City of Dayton's drinking water supply for at least the next 20 years.

**Proposed Improvements:** The water supply improvement project consists of the relining of Well #4 and the construction of one new water supply well for the City of Dayton. The project involves the construction of a new water supply well near the

current location of Well #2 or in the City Park north of the school in the same general area as Well #4. The new water supply well will be drilled down to approximately 1,250 feet. This new well will include 8-inch to 20-inch diameter borehole, 10-inch and 12-inch PVC casing with neat cement grout and installation of new well pump. This new well will connect to the existing raw water main. Rehabilitation of Well #4 will include drill and clean well to 1,250-feet, install and grout new inner PVC casing, installation of a new well pump, disinfection, and site restoration and seeding. Once the new well is operational, Well #2 will be plugged and abandoned.

### ***ALTERNATIVES CONSIDERED***

**Alternatives Considered:** Two alternatives were evaluated for the purpose of increasing drinking water availability to the City of Dayton. One alternative would involve establishing an emergency water connection to Xenia Rural Water. Previous proposals provided by Xenia have included a connection fee of \$22,880 and a charge of \$2.67 per 1,000 gallons. Another alternative is to rehabilitate Well #4 with new lining, grout and well pressure pump. This alternative also includes the drilling of a new water supply well. The City reportedly can produce its own water for about \$1.00 per 1,000 gallons.

**Reasons for Selection of Proposed Alternative:** The No-Action alternative is not viable due to the need for additional capacity, especially during the high demand summer months, and required redundancy. Establishing an emergency water connection to Xenia Rural Water was deemed too expensive and could only provide a temporary solution. The rehabilitation of Well #4 and the construction of a new water supply well are both cost effective and would provide a longer term solution for the City of Dayton.

The project site was selected for the availability of land (it is already City-owned), engineering criteria, proximity to existing infrastructure, and appropriate separation distances as well as minimization of the impacts to the environment.

### ***MEASURES TAKEN TO ASSESS IMPACT***

**Public Involvement:** A public hearing was held on July 22, 2020 at 7:00PM at the City's regular council meeting. The public notice of this hearing was published in The Dayton Leader on June 16, 2020. The purpose of this hearing was to present the environmental and financial impacts of the proposed improvement project. No written or oral comments were received.

**Coordination and Documentation with Other Agencies and Special Interest Groups:** The following Federal, state and local agencies were asked to comment on the proposed project to better assess the potential impact to the environment:

U.S. Army Corps of Engineers

U.S. Fish and Wildlife Service

State Historical Society of Iowa (State Historical Preservation Office)

Iowa DNR Conservation and Recreation Division  
Iowa DNR Water Resources Section  
Citizen Band Potawatomi Indian Tribe  
Flandreau Santee Sioux  
Ho-Chunk Nation  
Iowa Tribe of Kansas and Nebraska  
Iowa Tribe of Oklahoma  
Kickapoo Tribe in Kansas  
Kickapoo Tribe of Oklahoma  
Lower Sioux Indian Community Council  
Miami Tribe of Oklahoma  
Omaha Tribal Council  
Osage Tribal Council  
Otoe-Missouria Tribe  
Pawnee Nation of Oklahoma  
Peoria Tribe of Indians of Oklahoma  
Ponca Tribe of Indians of Oklahoma  
Ponca Tribe of Nebraska  
Prairie Band Potawatomi Nation  
Prairie Island Indian Community  
Sac & Fox Nation of Mississippi in Iowa  
Sac & Fox Nation of Missouri  
Sac & Fox Nation of Oklahoma  
Santee Sioux Nation  
Shakopee Mdewakanton Sioux Community  
Sisseton-Wahpeton Oyate  
Spirit Lake Tribal Council  
Three Affiliated Tribes Mandan, Hidatsa & Arikara Nations  
Upper Sioux Tribe  
Winnebago Tribal Council  
Yankton Sioux Tribal Business and Claims Committee

No adverse comments were received from any agencies or general public. Conditions placed on the applicant by the above agencies in order to assure no significant impact are included in the Summary of Reasons for Concluding No Significant Impact section.

### ***ENVIRONMENTAL IMPACT SUMMARY***

**Construction:** Traffic patterns within the community may be disrupted and above normal noise levels in the vicinity of the construction equipment can be anticipated during construction and should be a temporary problem. Adverse environmental impacts on noise quality will be handled by limited hours of contractor work time during the day. Other adverse environmental effects from construction activities will be minimized by proper construction practices, inspection, prompt cleanup, and other

appropriate measures. Areas temporarily disturbed by the construction will be restored. Solid wastes resulting from the construction project will be regularly cleared away with substantial efforts made to minimize inconvenience to area residents.

Care will be taken to maintain dirt to avoid erosion and runoff. Temporary air quality degradation may occur due to dust and fumes from construction equipment. The applicant shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property during the proposed project (567 Iowa Administrative Code IAC 23.3(2)“c”).

**Historical/Archaeological:** The State Historical Preservation Office (SHPO) and various Native American tribes with an interest in the area were provided information regarding the project. The DNR has determined, and the SHPO has concurred (R&C#200494113) that this undertaking will result in “no historic properties affected” based on the scope of the project, the prior use of the project area, and the findings of the Phase I Archeological Survey conducted on the project property. However, if project activities uncover any item(s) that might be of archaeological, historical, or architectural interest, or if important new archaeological, historical, or architectural data should be encountered in the project APE, the applicant should make reasonable efforts to avoid further impacts to the property until an assessment can be made by an individual meeting the Secretary of the Interior’s professional qualifications standards (36 CFR Part 61).

**Environmental:** The project area is currently existing city-owned property. According to the Iowa DNR Conservation and Recreation Division, the proposed project will not interfere with any State-owned parks, recreational areas or open spaces. The U.S. Army Corps of Engineers concurs that the project will not impact wetlands. The project will not impact any wild and scenic rivers as none exist within the State of Iowa.

The U.S. Fish & Wildlife Service Section 7 Technical Assistance website consultation determined, and Iowa DNR Conservation and Recreation Division agree, that the project will not impact threatened or endangered species or their habitats. However, if any State- or Federally-listed threatened or endangered species or communities are found during the planning or construction phases, additional studies and/or mitigation may be required. According to the Iowa DNR Water Resources Section, this project will not impact the 100-year floodplain provided all necessary floodplain development permits, state and local, are obtained and the terms of which are abided by. No adverse impacts are expected to result from this project, such as those to surface water quantity, or groundwater quality or quantity. No significant impact to surface water quality, shellfish, wildlife, or their natural habitats is expected.

**Land Use and Trends:** The project will not displace population nor will it alter the character of existing residential areas. The proposed project is within the present corporate limits of Dayton. No significant farmlands will be impacted. This project

should not impact population trends as the presence or absence of existing water infrastructure is unlikely to induce significant alterations in the population growth or distribution given the myriad of factors that influence development in this region. Similarly, this project is unlikely to induce significant alterations in the pattern and type of land use.

**Irreversible and Irretrievable Commitment of Resources:** Fuels, materials, and various forms of energy will be utilized during construction.

### ***POSITIVE ENVIRONMENTAL EFFECTS TO BE REALIZED FROM THE PROPOSED PROJECT***

Positive environmental effects will be maintained water quality and quantity for the citizens of Dayton. A catastrophic loss of water supply could result in City-wide health impacts due to a lack of sanitation and the use of other water sources that may not meet Federal drinking water standards.

### ***SUMMARY OF REASONS FOR CONCLUDING NO SIGNIFICANT IMPACT***

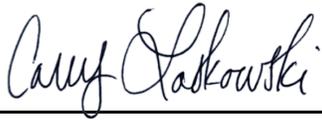
- The project will not significantly affect the pattern and type of land use (industrial, commercial, agricultural, recreational, and residential) or growth and distribution of population.
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- The project will not have effect on parklands, preserves, other public lands, or areas of recognized scenic or recreational value.
- No Historic Properties will be adversely affected by the proposed project. However, if project activities uncover any item(s) that might be of archaeological, historical, or architectural interest, or if important new archaeological, historical, or architectural data should be encountered in the project APE, the applicant should make reasonable efforts to avoid further impacts to the property until an assessment can be made by an individual meeting the Secretary of the Interior's professional qualifications standards (36 CFR Part 61).
- The project will not have a significant adverse effect upon local ambient air quality provided the applicant takes reasonable precautions to prevent the discharge of

visible emissions of fugitive dusts beyond the lot line of the property during the proposed project (567 IAC 23.3(2)“c”).

- The project will not have a significant adverse effect upon local ambient noise levels, surface water quantity, groundwater quality or quantity, or water supply.
- The project will not have a significant impact to surface water quality, shellfish, wildlife, or their natural habitats.

THEREFORE:

The above project conforms to the criteria in 567 Iowa Administrative Code 44.10(3) relating to compliance with the National Environmental Policy Act of 1969. No adverse effect or significant environmental impact is foreseen at this time.



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**Casey Laskowski**

Environmental Review Specialist

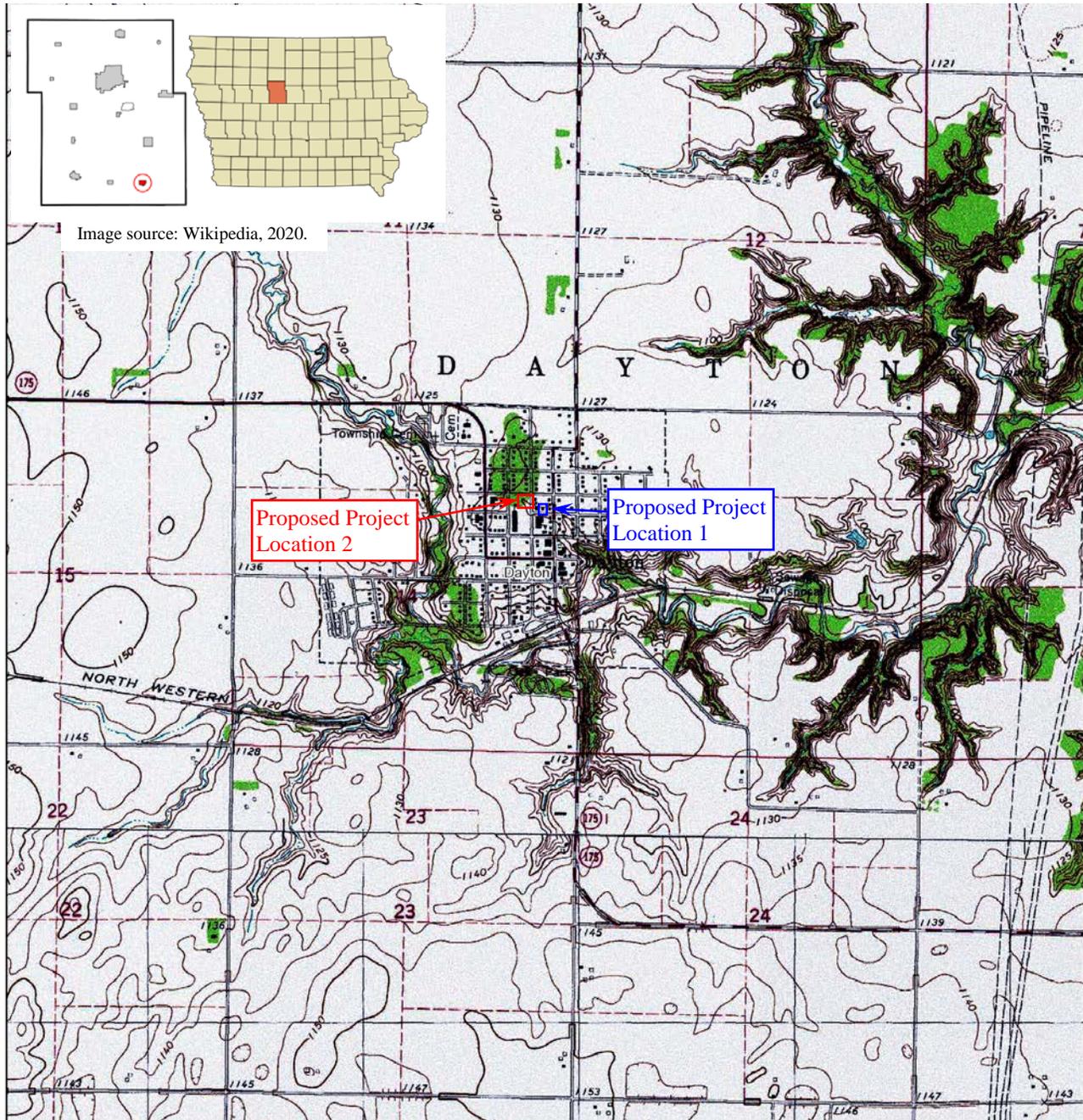
State Revolving Fund

Iowa Department of Natural Resources

**USGS 7.5 Minute Quadrangle: Lehigh**  
**Section: 14, Township: 86 N, Range: 28 W**  
**Date: 1965**  
**Scale: 1 Inch = 2,000 Feet**



**North**



## USGS Topographic Map

Dayton Drinking Water Infrastructure Upgrade  
Dayton, IA

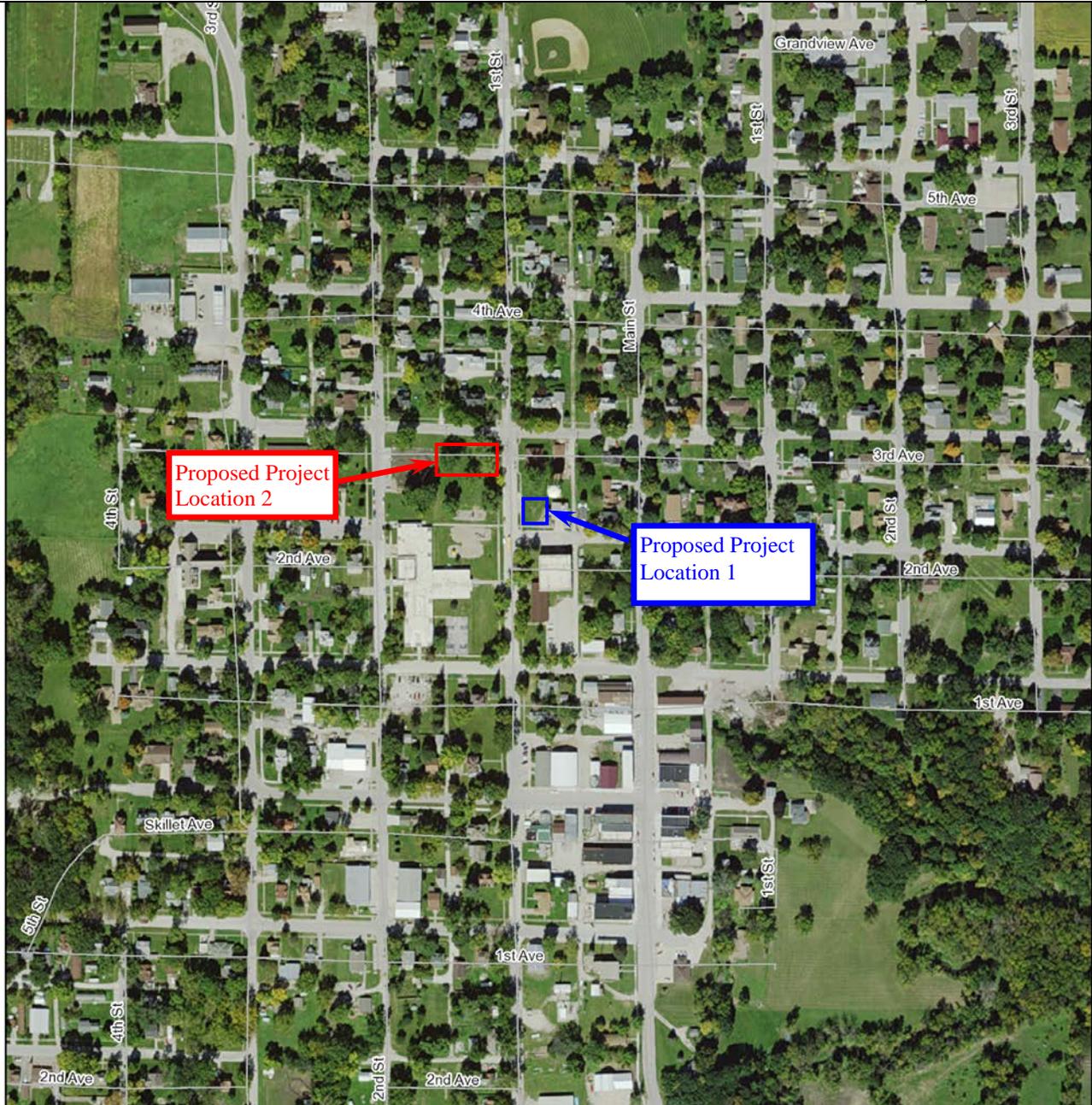


State Revolving Fund  
502 East 9<sup>th</sup> Street  
Des Moines, IA 50319-0034

Location information provided by MER Engineering, Inc.



North



## Aerial Photograph

Dayton Drinking Water Infrastructure Upgrade  
Dayton, IA



State Revolving Fund  
502 East 9<sup>th</sup> Street  
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