

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
ENVIRONMENTAL INFORMATION DOCUMENT**

PROJECT IDENTIFICATION

Applicant: City of Spillville
County: Winneshiek
State: Iowa

SRF Number: FS-96-23-DWSRF-007
Iowa DNR Project Number: W2022-0329

Other Funding: Applying for CDBG

COMMUNITY DESCRIPTION

Location: The City of Spillville is located in Winneshiek County, Iowa approximately 65 miles northeast of Waterloo, Iowa and 70 miles east of Mason City, Iowa.

Population: The population of Spillville according to the 2020 US Census was 385. The design population equivalent for the year 2040 is 443.

Current Source of Water and Treatment: The City of Spillville is currently served by two wells. The first well (Well #2) was constructed in 1960 and is located on Oak Street. This well is 364 feet deep and is cased and grouted to a depth of 150 feet. The capacity of Well #2 is 150 gpm. The well pump has recently been replaced with a new submersible well pump and motor. Well 1 was constructed in 1979 and is located adjacent to the water tower at Mill Street and Pleasant View Drive. This well is 545 feet deep and is cased and grouted to a depth of 485 feet. The capacity of Well 1 is 195 gpm. Treatment consists of sodium hypochlorite being fed at both well houses. The well house buildings are the only buildings in the system. Both buildings will require renovation in the future. In particular the chemical feed systems, ventilation, etc. will need to be brought up to applicable codes, both from Ten States Standards and the governing Plumbing, Electrical and Ventilation codes. System pressure controls pump operation. The sensors are located at the well. The sensor is in need of replacement. The chlorine feed system is tied to pump start up. The chlorine feed begins prior to the start of flow. Flow is measured via a Sparling propeller meter.

Current Storage: Water storage for Spillville is provided by a 40,000 gallon elevated storage tank. The exact date of construction is unknown. The tank is located on Pleasant View Drive.

The tank overflow is located 97 feet above the footings. The existing high water level (HWL) for the Spillville water tower is at elevation 1,192 MSL. The existing average pressure citywide is 49 pounds per square inch (psi). The range of operating pressures within the City of Spillville is 35 psi to 61 psi with the tower water level at the HWL. The tank interior was coated with Polibrid approximately 16 years ago. A second manway was added at that time. The exterior of the tank was cleaned and coated approximately 13 years ago. The original paint is believed to contain lead. Other aspects of the tank that may not be up to code include the handrail and the ladder. If the City intends to keep this tank in service, it will be necessary to bring the tank up to code as necessary. A cellular phone antenna has been mounted on the top of the tank.

Current Distribution: The existing water distribution system consists mainly of 4-inch and 6-inch mains. Some mains date back prior to 1930. An 8-inch main was installed in the late 1990s that loops the north end of town. It extends from the Novak Subdivision to Main Street along County Road 52. In addition to looping the system, a portion of 4-inch main along County Road 52 was replaced. With the addition of the 8-inch loop on the north side of town, the distribution system is fairly well looped. However, the mains that serve the southern portion of town are both inadequately looped and undersized. The City has replaced existing water main on Pleasant View and Oak Street in recent years. In order to improve the firefighting capabilities of the system, all 4-inch mains must be replaced in the future with minimum 6-inch diameter mains. The IDNR requires that all fire hydrants be placed on mains no smaller than 6 inches in diameter. Water main replacement would include both new valves and new hydrants.

PROJECT DESCRIPTION

Purpose: The purpose of this project is to make improvements to the drinking water storage and distribution infrastructure to enhance their reliability, increase capacity, and to replace obsolete system to safely and reliably operate the City of Spillville's water system for the next 20 years.

Proposed Improvements: The proposed improvements consist of a new 100,000 ground water storage tank, pumping station, and 3400 linear feet of water main. The main will be constructed using standard trench methods. The dimensions of the trench will be approximately 10' x 6' for the length of the replacement. The water services will be replaced to the curb stops along the route of the proposed water main replacement. The proposed ground storage reservoir will have an approximate diameter of 25' to 30'. It is anticipated that the foundation will require an excavation that is approximately 45' to 50' diameter and to a depth of approximately 6'. The City will be hiring a geotechnical consultant to do a soils evaluation to determine what type of foundation will be required. The extent of the excavation for the foundation may differ depending on the results of the soils investigation. The proposed work at the existing well sites will be installation of proposed radio antenna on top of polls. These will most likely consist of wood poles similar to power poles. The excavation will be approximately 3' in diameter to a depth of 6' and some underground communication wiring between the existing well buildings and the proposed communication poles. The poles will be located relatively close to the existing well buildings, within 20'. The first well is located adjacent to the existing water tower. The

second well is located at the end of Sunset Drive and is located within the platted ROW of Sunset Drive.

ALTERNATIVES CONSIDERED

Alternatives Considered:

Proposed Storage Alternative 1- New Elevated Storage Tank: In order to achieve higher system pressure and increased volume for fire flow, an elevated water tower could be constructed at a higher water elevation. The main advantage of an elevated tower is that it does not require power to provide water to the system while maintaining system pressure. The disadvantages are the initial construction cost and the cost of future repainting of the tower. To minimize the overall height of the tower, it is recommended that the tank be constructed near the highest elevation in the City. One possible location is just east of the Novak Subdivision. In addition to being one of the highest locations in the City, an 8-inch water main was installed to loop the system in this area. This will provide for better distribution of water throughout the system. Improvements to the water system controls will be required with this option. The controls improvements will improve monitoring of the existing wells, water elevation in the proposed storage facility. The controls upgrades would allow for monitoring of the well pumps, chemical feed equipment and water storage elevations.

For this alternative, the existing water tower will be taken out of service for the following reasons: The overflow height of the existing tank is lower than the proposed height of the new tower, therefore, when the new tower is filled to its operating level, the existing tower will overflow. This could be handled using an altitude valve but then the water in the existing tower would only be used under extremely high water demand conditions, therefore water quality in the existing tower would be a concern.

Proposed Storage Alternative 2 - Booster Pump Station/New Ground Level Storage Tank While Utilizing the Existing Water Tower: In this alternative, a booster pump station will be constructed in the northwest portion of the City on a property located east of the Novak Subdivision. Along with the water booster station construction a 60,000 gallon ground level storage tank is to be constructed on the same property of the booster pump station. The booster pump station will be used to increase the City distribution system pressure to the desired level. The new ground storage reservoir would normally provide storage along with the existing water tower. An altitude valve would be installed on the inlet for the ground storage reservoir and the inlet side of the existing water tower. The existing water tower would remain in place and operational and would provide storage for Well #1. A dedicated water main would be installed from the existing water tower to the booster pumping station. With this option the total effective storage provided by this option is 100,000 gallons provided by the new ground storage reservoir and the existing water tower. The booster pumping station will consist of four 300 gpm booster pumps. Having four pumps will allow for three pumps to operate simultaneously during a fire event to provide 900 gpm. The 900 gpm is derived from the 650 gpm fire flow requirement and 215 gpm which is the calculated peak instantaneous future flow for the City. A permanent standby generator would be installed at the booster station to provide a secondary power source if the station were to lose power.

The dedicated water line from Well #1 and the existing water tower would consist of an 8-inch diameter PVC water main, and would possibly be installed utilizing trenchless methods. The booster pumps would either boost water from the new ground storage reservoir or the existing water tower and boosting to the new higher pressure in the City's distribution system (approximately 12 psi higher than existing pressures). Also included in the booster station would be approximately five 119 gallon hydropneumatic pressure tanks that would provide the required amount of storage on the discharge side of the booster pumps. This will allow the pumps to not be required to run constantly to maintain system pressure. The operating pressure range of the water distribution system will operate over an approximate 10 to 15 psi operating range. This alternative will allow the City to modify the operating pressure range of the booster pump station to their liking.

Improvements to the water system controls will be required with this option. The controls improvements will improve monitoring of the existing wells, water elevation in the proposed storage facility. The controls upgrades would allow for monitoring of the well pumps, chemical feed equipment, proposed booster station and water storage elevations. Well #2 will pump directly into the distribution system and will fill the proposed 60,000 gallon ground storage reservoir through an altitude valve.

Proposed Storage Alternative 3 - Booster Pump Station with New Ground Level Storage Tank: In this alternative, a booster pump station will be constructed at the City shop alongside Main Street just north of Dvorak Drive. Along with the water booster station construction a 100,000 gallon ground level storage tank is to be constructed on the same property of the booster pump station. The booster pump station will be used to draw water out of the ground storage reservoir and City distribution system to the desired pressure level. The treated water from each of the wells will be pumped directly to City distribution system. The new ground storage reservoir will provide all the storage for the entire community. The booster pumping station will consist of four 300 gpm booster pumps. Having four pumps will allow for three pumps to operate simultaneously during a fire event to provide 900 gpm. The 900 gpm is derived from the 650 gpm fire flow requirement and 215 gpm which is the calculated peak instantaneous future flow for the City. A permanent standby generator would be installed at the booster station to provide a secondary power source if the station were to lose power.

The booster pumps would boost water from the new ground storage reservoir to the new higher pressure in the City's distribution system (approximately 12 psi higher than existing pressures). Also included in the booster station would be approximately five 119 gallon hydropneumatic pressure tanks that would provide a small amount of storage on the discharge side of the booster pumps. This will allow the pumps to not be required to run constantly to maintain system pressure. The operating pressure range of the water distribution system will operate over an approximate 10 to 15 psi operating range. This alternative will allow the City to modify the operating pressure range of the booster pump station to their liking.

Improvements to the water system controls will be required with this option. The controls improvements will improve monitoring of the existing wells, water elevation in the

proposed storage facility. The controls upgrades would allow for monitoring of the well pumps, chemical feed equipment, proposed booster station and water storage elevations.

Reasons for Selection of Proposed Alternative: The City of Spillville plans add enough additional storage to meet the storage requirements that have been calculated considerations given to existing demand and reasonable growth. A minimum operating range of 100,000 gallons is recommended. All three alternatives identified meet the minimum calculated storage requirements and will also increase the operating pressure throughout the entire City's water distribution system. In addition to the water booster station, new water main along Main Street from the booster station to Bridge Street will be required. Additionally, the remainder of the Main Street Water Main from Bridge Street to the north end of the City will be replaced. Due to the similar costs for all three alternatives it the City selected the 100,000 gallon operating range ground storage reservoir and water booster station alternative. The project site was selected for the availability of land (it is already City-owned) as well as minimization of the impacts to the environment.

MEASURES TAKEN TO ASSESS IMPACT

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 Flood Plain Management 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
Winneshiek County Historical Preservation Commission

No adverse comments have been 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. The proposed project will disturb soils over an area greater than one acre; therefore, the applicant is required to obtain an NPDES General Permit Number 2 (for storm water discharge associated with construction activities) and abide by its terms. Provided that this permit is obtained and the terms of which are abided by, no significant impact to surface water quality, fish, shellfish, wildlife, or their natural habitats is expected.

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: Various Native American tribes with an interest in the area and the Certified Local Government were provided information regarding the project. . A Phase I Archeological investigation of the proposed project area was completed and submitted to the State Historical Preservation Office (SHPO) for review. The project will only proceed as planned if a determination of either “no historic properties affected” or “no adverse affect on historic properties” can be appropriately reached with or without mitigation. 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: 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 Flood Plain Management Section, this project will not impact the 100-year floodplain. 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, fish, 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 Spillville in areas zoned residential, commercial, or industrial. No significant farmlands will be impacted. This project should not impact population trends as the presence or absence of existing water/sewer 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.

Nondiscrimination: All programs, projects, and activities undertaken by DNR in the SRF programs are subject to federal anti-discrimination laws, including the Civil Rights Act of 1964, section 504 of the Rehabilitation Act of 1973, and section 13 of the Federal Water Pollution Control Amendments of 1972. These laws prohibit discrimination on the basis of race, color, national origin, sex, disability, or age.

POSITIVE ENVIRONMENTAL EFFECTS TO BE REALIZED FROM THE PROPOSED PROJECT

Positive environmental effects will be improved water quality and storage on Spillville. The new elevated storage tank will bring the City of Spillville will better assist in the prevention of water supply contamination associated with inadequate pressures within the distribution system. 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, 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 necessary floodplain.
- The project will not have effect on parklands, preserves, other public lands, or areas of recognized scenic or recreational value.
- A Phase I Archeological investigation of the proposed project area was completed and submitted to the State Historical Preservation Office for review. The project will only proceed as planned if a determination of either “no historic properties affected” or “no adverse affect on historic properties” can be appropriately reached with or without mitigation.
- 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.
- No significant impact to surface water quality, fish, shellfish, wildlife, or their natural habitats is expected provided that an NPDES General Permit Number 2 (for storm water discharge associated with construction activities) is obtained and the terms of which are abided by.

The project description, scope, and anticipated environmental impacts detailed above are accurate and complete to the best to my knowledge.

Signature of the Mayor, City of Spillville

Date

Printed Name of the Mayor, City of Spillville

USGS 7.5 Minute Quadrangle: Fort Atkinson
Section: 19, Township: 97 N, Range: 09 W
Date: 1981
Scale: 1 Inch = 2,000 Feet



North

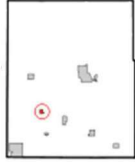
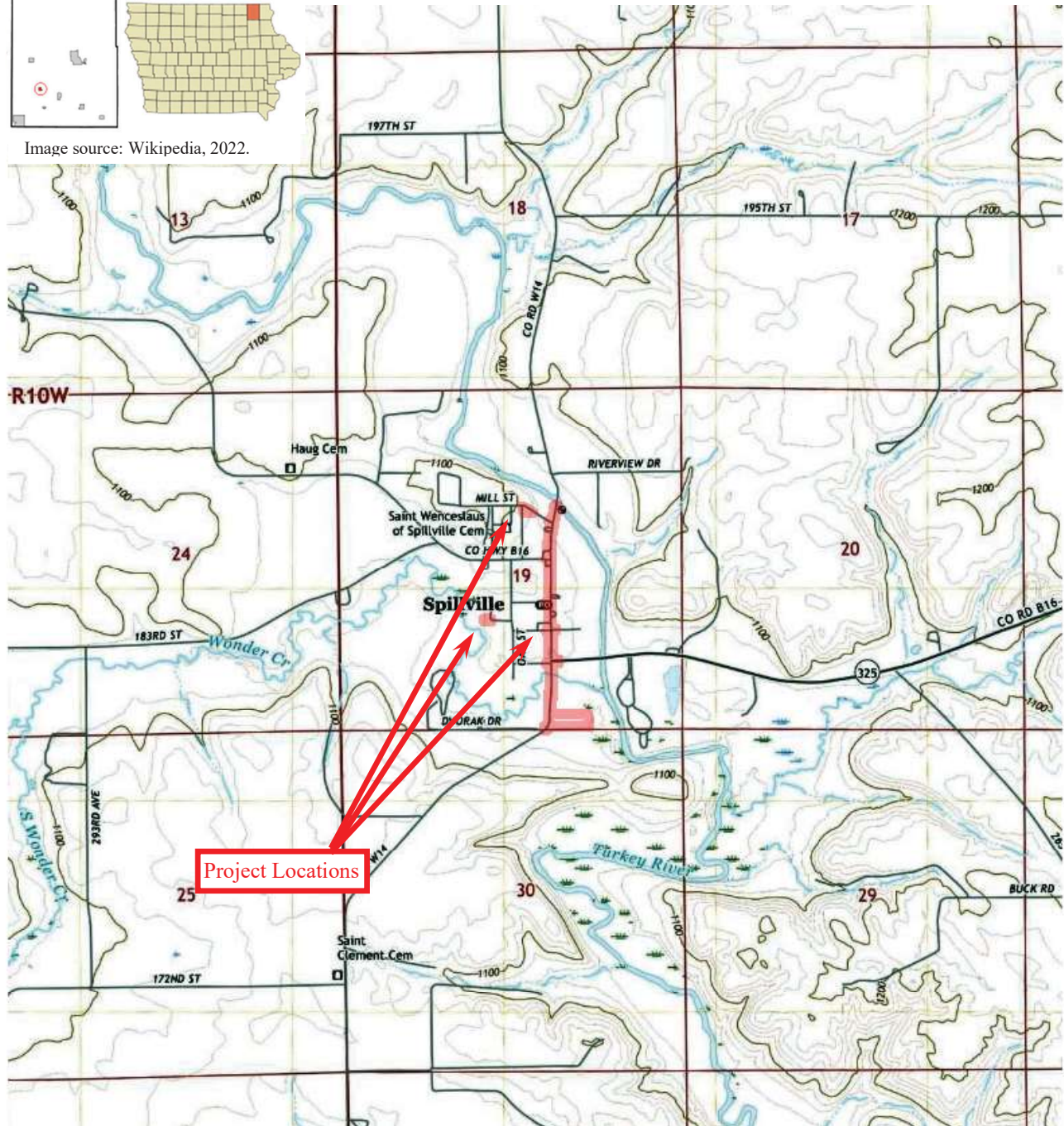


Image source: Wikipedia, 2022.



Project Locations

USGS Topographic Map

Drinking Water Improvements Project
Spillville, IA

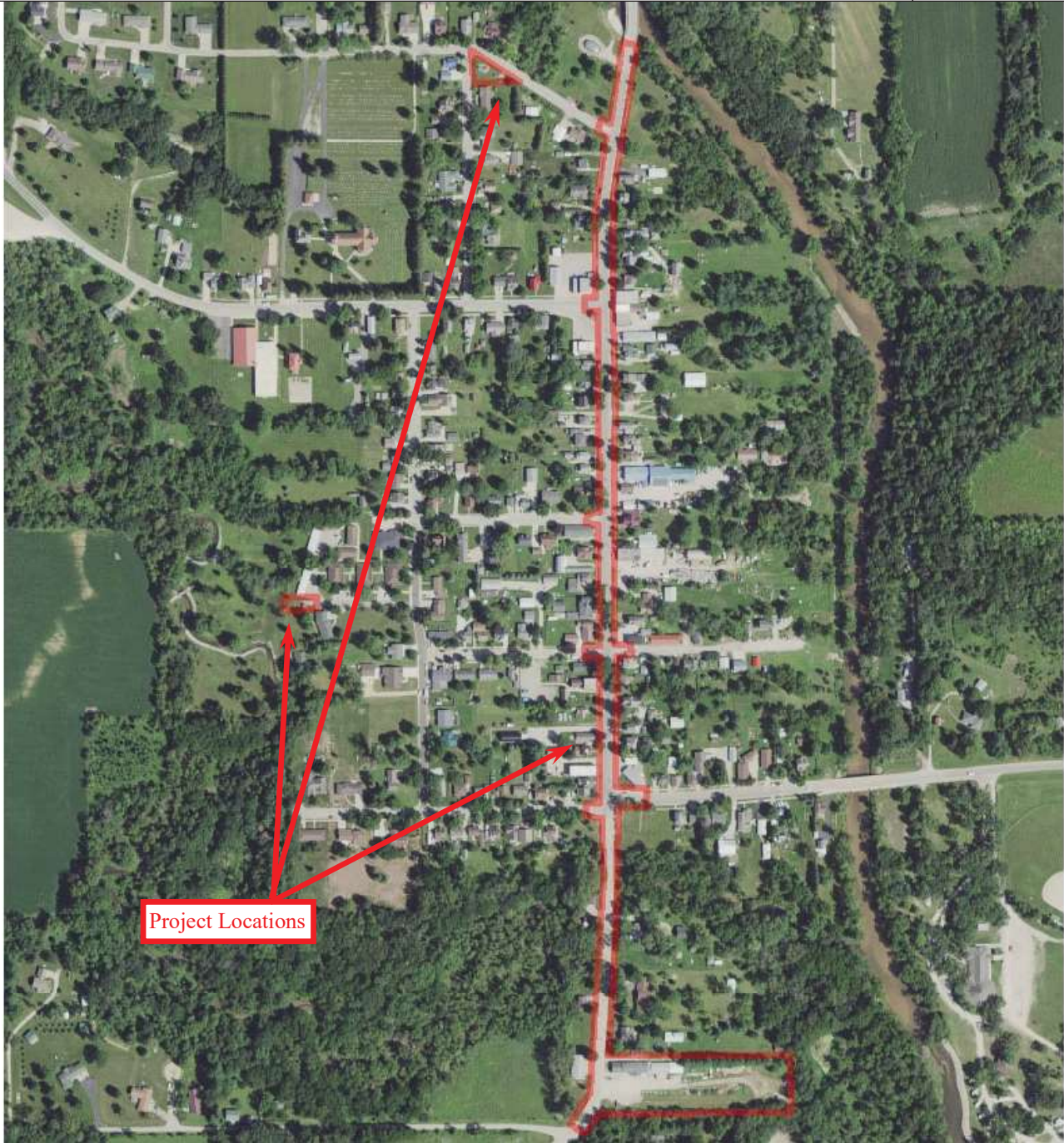


State Revolving Fund
502 East 9th Street
Des Moines, IA 50319-0034

Location information provided by Origin Design



North



Project Locations

Aerial Photograph

Drinking Water Improvements Project
Spillville, IA



State Revolving Fund
502 East 9th Street
Des Moines, IA 50319-0034