

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

March 26, 2024

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 Montezuma

County: Poweshiek

State: Iowa

SRF Number: FS-79-23-DWSRF-017

Iowa DNR Project Number: W2022-0529

Other Federal Funding: CDBG (\$500,000)

The Montezuma Municipal Water Works (MMWW) of Montezuma, Iowa is planning an upgrade to their drinking water infrastructure. The MMWW 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 Montezuma is located in Poweshiek County approximately 54 miles east of Des Moines, Iowa and 50 miles west of Iowa City, Iowa. The City of Montezuma Water Department supplies water within city limits as well as water to residents of nearby Lake Ponderosa. The population of Montezuma according to the 2020 US Census was 1,442. The design for this project is based on the current peak day demand.

The Montezuma Water Department obtains its source water from nearby Diamond Lake. Diamond Lake is a manmade impoundment constructed by Montezuma in the early 1950s for use as a drinking water source. The lake is located within Diamond Lake Park which is owned and maintained by Poweshiek County. While the primary use of the lake is for supplying the city with a drinking water source. The lake and surrounding park are open to the public for recreational purposes such as hiking, camping and fishing.

Based on recent records, Diamond Lake has a surface area of approximately 98.7 acres and an average and maximum depth of approximately 7.2 feet and 19.8 feet, respectively. The total volume of the lake is currently estimated at approximately 710 acre-ft, or approximately 232 million gallons. Past records indicate the volume of the lake to be slightly higher with an average depth of 9 feet and volume of approximately 832 acre-ft. The

drainage area that replenishes water in the lake covers approximately 2,800 acres and consists primarily of Diamond Lake Park and surrounding agricultural land.

The Montezuma Water Department has been notified by the Iowa Department of Natural Resources that a lake restoration project is being developed for Diamond Lake that would necessitate draining the lake for an extended period of time. Since the lake is the sole source of water for the City, water will need to be obtained from an alternate source for the duration of the restoration project and time required to refill the lake.

The city's water production data for the past 5 years was reviewed to determine the estimated average and peak day demands that could be experienced during the lake restoration project. Based on a review of this data, the current average day demand is around 0.266 MGD with the highest peak day demand during the last 5 years being approximately 0.489 MGD. The current average and maximum day water demands are below the 0.55 MGD rated capacity of the existing water treatment facility. For purposes of this study, it was assumed that any alternate source water would need to be capable of meeting the current peak day demand.

The purpose of this project is to make improvements to the water system to enhance reliability to safely and reliably operate the City of Montezuma's water system for the next 20 years.

The proposed project includes construction of a new Jordan aquifer well to provide a backup water supply and improvements to the existing water treatment plant. The well would include a new pump and motor, pitless adapter, valve/meter vault, flushing hydrant, raw water main connected to the existing main, and power supply from the existing intake structure. Improvements at the treatment plant would include modifications to the carbon dioxide feed system (within the treatment plant).

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 provided that any tree cutting is conducted between October 1 and March 31 to avoid impacting endangered bats. 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. 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. 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.

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. Your comments can be sent to SRF-PC@dnr.iowa.gov or directly to me at hailey.andersen@dnr.iowa.gov or (515) 321-7385.

Sincerely,

Hailey Andersen
Environmental Specialist
502 E 9th St
Des Moines, IA 50319-0034

Enclosures: Environmental Assessment
Project Map

Distribution

List (email): Strand Associates, Inc.
Winnebago Tribe
Edward Boling, Council on Environmental Quality
Jake Hansen, Iowa Department of Agriculture and Land Stewardship
Ken Sharp, Iowa Department of Public Health
Mindy Wells, Iowa Department of Public Health
Dan Narber, Iowa Economic Development Authority
Alicia Vasto, Iowa Environmental Council
Michael Schmidt, Iowa Environmental Council
Tracy Scebold, Iowa Finance Authority
Tony Toigo, Iowa Finance Authority
Lee Wagner, Iowa Finance Authority
Rick Andriano, Iowa Finance Authority
Mickey Shields, Iowa League of Cities
Jane Clark, Sierra Club
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

Ann D'Alfonso, USEPA Region VII
Kelly Beard-Tittone, USEPA Region VII
The Montezuma Record

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IOWA STATE REVOLVING FUND
ENVIRONMENTAL ASSESSMENT DOCUMENT

PROJECT IDENTIFICATION

Applicant: City of Montezuma
County: Poweshiek
State: Iowa

SRF Number: FS-79-23-DWSRF-017
Iowa DNR Project Number: W2022-0529

Other Federal Funding: CDBG (\$500,000)

COMMUNITY DESCRIPTION

Location: The City of Montezuma is located in Poweshiek County approximately 54 miles east of Des Moines, Iowa and 50 miles west of Iowa City, Iowa.

Population: The City of Montezuma Water Department supplies water within city limits as well as water to residents of nearby Lake Ponderosa. The population of Montezuma according to the 2020 US Census was 1,442. The design for this project is based on the current peak day demand.

Current Source of Water: The Montezuma Water Department obtains its source water from nearby Diamond Lake. Diamond Lake is a manmade impoundment constructed by Montezuma in the early 1950s for use as a drinking water source. The lake is located within Diamond Lake Park which is owned and maintained by Poweshiek County. While the primary use of the lake is for supplying the city with a drinking water source. The lake and surrounding park are open to the public for recreational purposes such as hiking, camping and fishing.

Based on recent records, Diamond Lake has a surface area of approximately 98.7 acres and an average and maximum depth of approximately 7.2 feet and 19.8 feet, respectively. The total volume of the lake is currently estimated at approximately 710 acre-ft, or approximately 232 million gallons. Past records indicate the volume of the lake to be slightly higher with an average depth of 9 feet and volume of approximately 832 acre-ft. The drainage area that replenishes water in the lake covers approximately 2,800 acres and consists primarily of Diamond Lake Park and surrounding agricultural land.

The Montezuma Water Department has been notified by the Iowa Department of Natural Resources that a lake restoration project is being developed for Diamond Lake that would necessitate draining the lake for an extended period of time. Since the lake is the sole source of water for the City, water will need to be obtained from an alternate source for the duration of the restoration project and time required to refill the lake.

The city's water production data for the past 5 years was reviewed to determine the estimated average and peak day demands that could be experienced during the lake restoration project. Based on a review of this data, the current average day demand is around 0.266 MGD with the highest peak day demand during the last 5 years being approximately 0.489 MGD. The current average and maximum day water demands are below the 0.55 MGD rated capacity of the existing water treatment facility. For purposes of this study, it was assumed that any alternate source water would need to be capable of meeting the current peak day demand.

PROJECT DESCRIPTION

Purpose: The purpose of this project is to make improvements to the water system to enhance reliability to safely and reliably operate the City of Montezuma's water system for the next 20 years.

Proposed Improvements: The proposed project includes construction of a new Jordan aquifer well to provide a backup water supply and improvements to the existing water treatment plant. The well would include a new pump and motor, pitless adapter, valve/meter vault, flushing hydrant, raw water main connected to the existing main, and power supply from the existing intake structure. Improvements at the treatment plant would include modifications to the carbon dioxide feed system (within the treatment plant).

ALTERNATIVES CONSIDERED

Alternatives Considered: Three alternative sources were identified and evaluated. The alternatives included: 1) a deep (Jordan aquifer) well, 2) Mississippian wells, and 3) alternate surface water sources. Each option was evaluated based on the source's ability to meet the city's current peak water supply needs, modifications required to the water treatment facility to treat the source water to primary drinking water standards, and the ability of the alternate source to comply with all regulatory requirements including separation distances and source water protection requirements. A discussion of each of the alternatives evaluated is included below. Connection to Poweshiek Water Association (PWA) was not included in this evaluation. Past discussions with PWA have determined they do not have adequate capacity to meet the Montezuma Water Department's water supply needs.

Reasons for Selection of Proposed Alternative: Alternative 1 – Jordan well is a viable alternative, which should provide adequate water supply and quality during the lake restoration project. Since there would be only one well, there would be some risk associated with a pump or motor failure and losing water supply until the equipment could be replaced. However, since the well would be the only source for a limited time period, while the lake is being restored, the risk would be somewhat limited. Assuming the lake restoration project would take one to two years, one would expect a new pump to not have operational issues in that time frame. Typical maintenance intervals for these types of pumps is around 4 years. Additional measures could also be taken, such as ensuring a spare pump is available. The capital cost opinion for this alternative is approximately \$2.72 million.

Alternative 2 – Mississippian wells would have much lower quality water and be significantly more costly than Alternative 1, with a capital cost opinion of approximately \$4.7 million. Due to the extremely poor water quality

and high capital investment the use of Mississippian wells would not be considered a viable source water alternative.

Alternative 3 – Alternate Surface Water Source was determined to not be viable due to several factors such as available volume, required drainage area, and source water protection.

Based on the evaluation present here, Alternative 1 would be the most viable option and the recommended alternative source water supply during the lake restoration project. It should be noted that the intent would be to use the well on a temporary basis while the lake is being restored. If it were to be used on a more permanent basis, additional improvements to the treatment plant would be recommended. While the well could serve as a backup to the surface water supply after the lake restoration is complete, switching between surface and ground water sources on an emergency basis would create very difficult operating issues. Successful emergency switchover to the lake water source could be highly unreliable in terms of producing finished water meeting state and federal standards. Furthermore, blending of two different source waters can create water stability problems as well as potential for taste and odor problems. Nonetheless, Alternative 1 is the most viable option for an alternative source water during the lake restoration project.

The No-Action alternative is not viable due to the need to supply safe drinking water to the customers of the City of Montezuma Water Department. The project site was selected for the availability of land, proximity to existing infrastructure, and minimization of the impacts to the environment.

MEASURES TAKEN TO ASSESS IMPACT

Public Involvement: A public hearing was held on September 20, 2023 at 8:00AM at the Water Board's regular meeting. The public notice of this hearing was published in The Montezuma Record on August 17, 2023. 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 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
Montezuma Historic Pres Commission

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. The proposed project will disturb one or more acres of soil; 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: The State Historical Preservation Office (SHPO), the Certified Local Government 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# 230879093), 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: 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 protected species or their habitats provided that any tree cutting is conducted between October 1 and March 31 to avoid impacting endangered bats. 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. Therefore, 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 Montezuma 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 maintained water quality for the citizens of Montezuma. 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 provided that any tree cutting is conducted between October 1 and March 31 to avoid impacting endangered bats. 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.
- 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.
- 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.

THEREFORE:

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

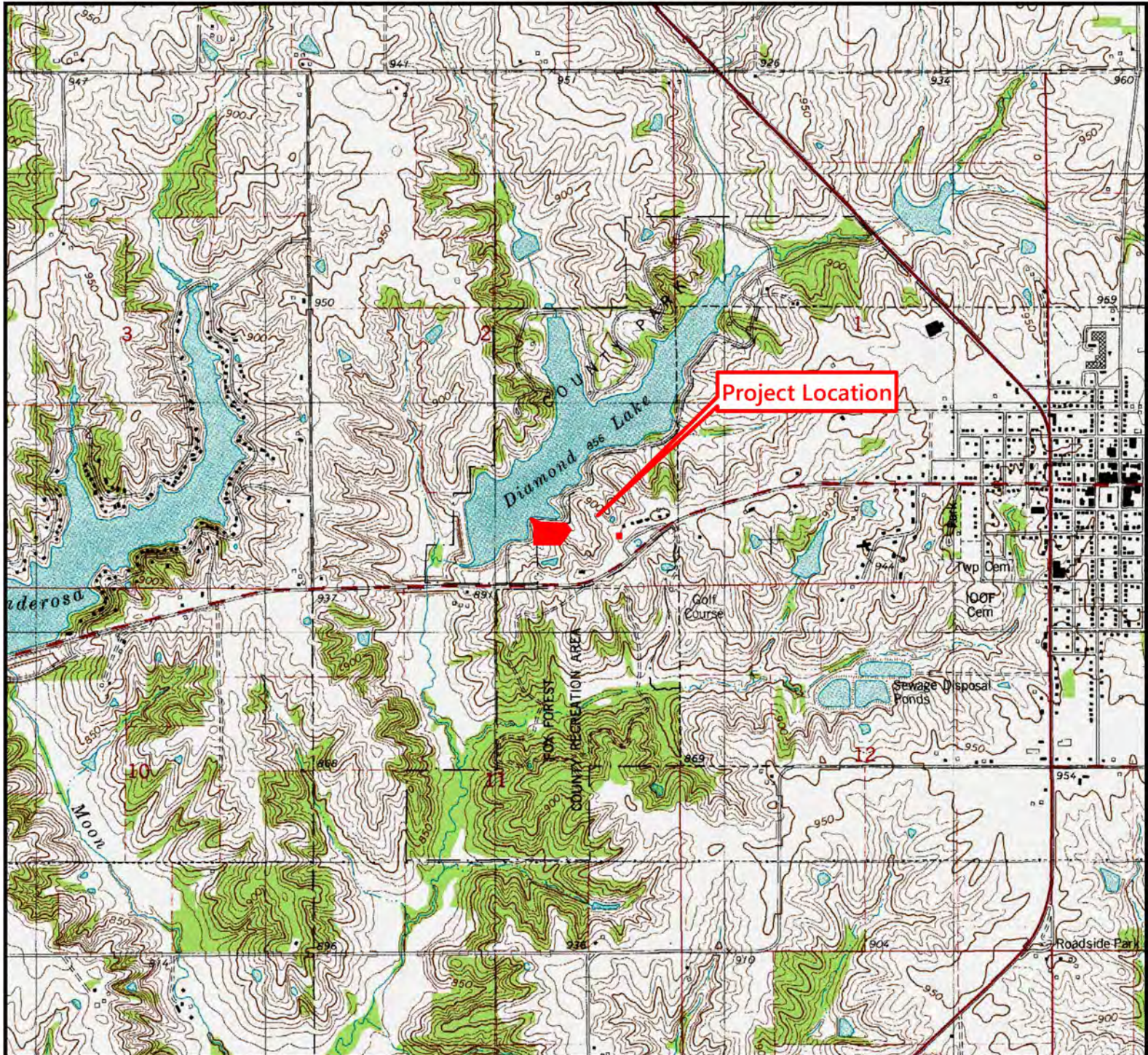
Hailey Andersen

Environmental Review Specialist

State Revolving Fund

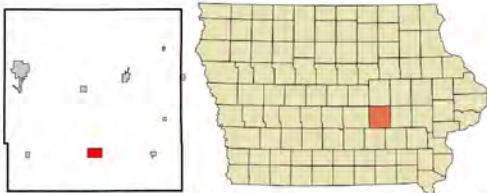
Iowa Department of Natural Resources

USGS Topographic Map



New Jordan Well Construction
Montezuma, Iowa

Scale: 1 inch = 2,000 feet
0 850 1,700 2,550 3,400 4,250 Feet



Poweshiek County. Image source: Wikipedia, 2024.

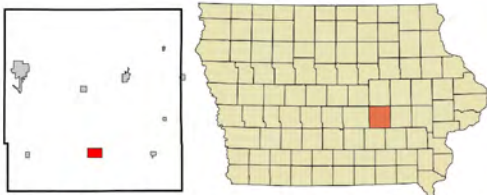
USGS 7.5 Minute Quadrangle: Montezuma
Section: 02; Township: 78 N; Range: 15 W
Date: 1979

Aerial Photograph



New Jordan Well Construction
Montezuma, Iowa

Scale: 1 inch = 200 feet
0 80 160 240 320 400 Feet



Poweshiek County. Image source: Wikipedia, 2024.

USGS 7.5 Minute Quadrangle: Montezuma
Section: 02; Township: 78 N; Range: 15 W
Date: 8.3.2021