

WaterSMART Grants

Water and Energy Efficiency Grants for Fiscal Year FY 2025

Notice of Funding Opportunity No. R24AS00052

**Funding Group II
Category A**

Strawberry High Line Lateral 34 Piping Project

Genola, Utah

Strawberry High Line Canal Company

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November 13, 2024

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Technical Proposal and Evaluation Criteria

Executive Summary

The executive summary should include:

- *The date, applicant name, city, county, and state*
- *Please indicate whether you are a Category A applicant or a Category B applicant.*
- *A one paragraph project summary that provides the location of the project, a brief description of the work that will be carried out, any partners involved, expected benefits and how those benefits relate to the water management issues you plan to address.*
- *State the length of time and estimated completion date for the proposed project (month/year).*
- *Whether or not the project is located on a Federal facility*

Date: Wednesday, November 13, 2024

Applicant: Strawberry High Line Canal Company (SHLCC)
Payson, Utah County, Utah

Category: Category A

Project Title: Strawberry High Line Lateral 34 Piping Project

Project Summary:

The Strawberry High Line Canal Company would replace approximately 20,000 feet of concrete-lined irrigation ditch with HDPE pipe to address seepage and evaporation losses. The project, located near Genola, Utah, is expected to result in annual water savings of about 2,250 acre-feet annually, which would be used to increase water delivery efficiency and improve agricultural productivity throughout their service area.

Approximate Length: Project construction would take place during two consecutive non-irrigation seasons.

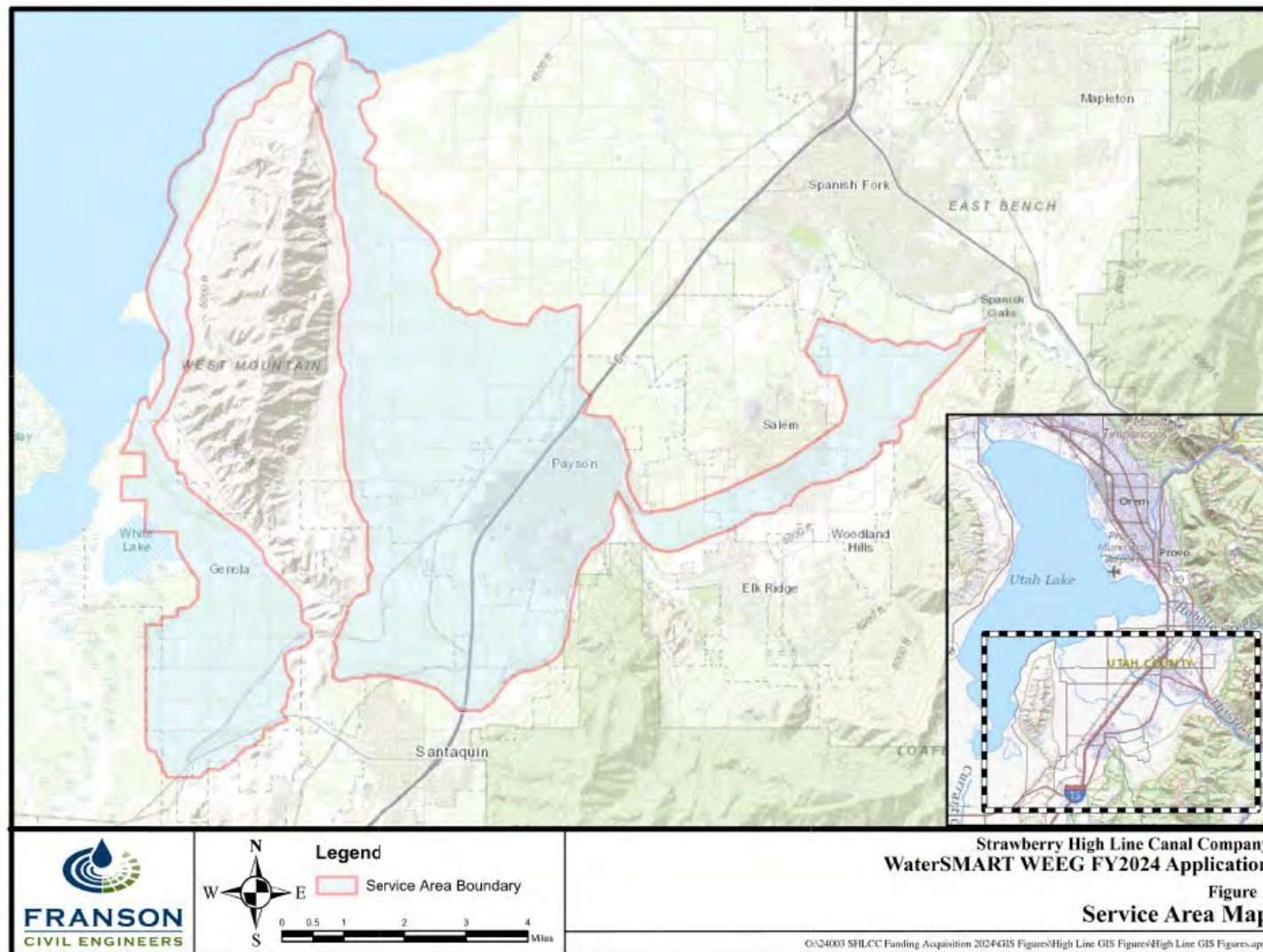
Completion Date: The project would be completed before June 30, 2028.

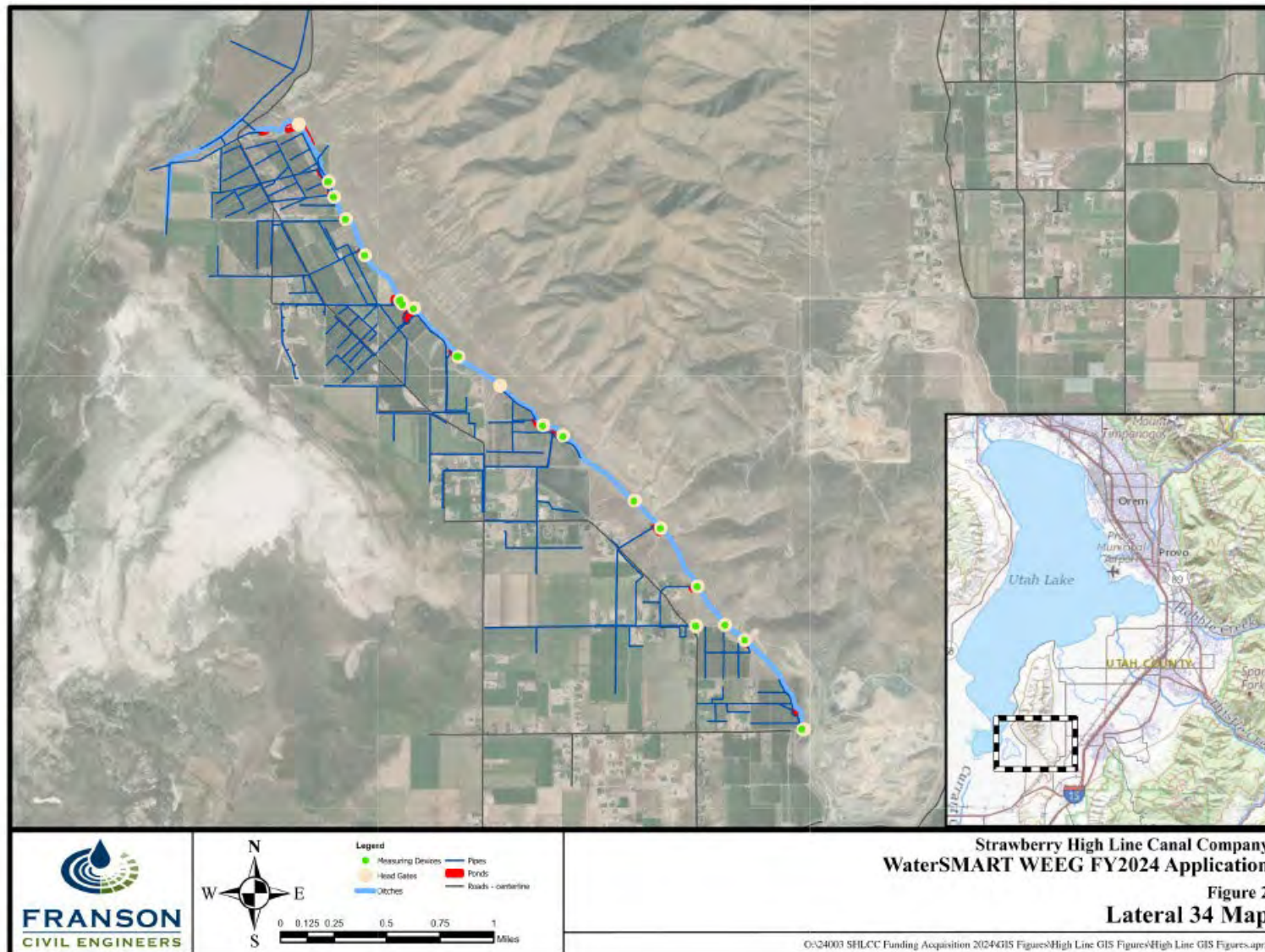
Federal Facility: The Strawberry High Line Canal is a facility of Reclamation's Strawberry Valley Project.

Project Location

Provide specific information on the geographic location of the proposed planning area (e.g., watershed, basin, county) or location of the project being designed, including a map showing the specific geographic location.

The Strawberry High Line Lateral 34 Piping Project is located in the Town of Genola, Utah County, Utah, approximately 5 miles northwest of Santaquin. The project latitude is 40°0'N and longitude is 111°48'. Maps of the SHLCC service area and of the project area in detail are included on the following pages. The service area map shows SHLCC's service area in relation to Utah County and the project map shows the ponds and turnouts of Lateral 34 in detail.





Project Description

Provide a more comprehensive description of the technical aspects of your project, including the work to be accomplished and the approach to completing the work. This description should provide detailed information about the project including materials and equipment and the work to be conducted to complete the project.

The Strawberry High Line Canal Company (SHLCC) delivers water from the Strawberry Valley Project (SVP) and the Central Utah Project (CUP). SHLCC entered into an agreement with Reclamation and has received water since 1916 to deliver an average annual supply of 39,500 ac-ft of SVP water to 17,500 acres of land in southern Utah County. SHLCC also receives 6,500 ac-ft of water from the CUP, another Reclamation project, and has contracts with Reclamation for operation. SHLCC services Salem, Payson, Spring Lake, West Mountain, and Genola.

The SHLCC system is made up of 18 miles of main canal and 60 miles of laterals. There are several ponds along the laterals that are used to manage the delivery of water. SHLCC tracks the amount of water that is delivered to these ponds before it is distributed to the irrigators. Shareholders order water based on how many shares they hold. SHLCC has found that in order to deliver the ordered quantity of water to the users, more water needs to be delivered to the ponds. SHLCC attributes this to water loss in the canals and ponds from evaporation and seepage, as well as to over usage either by theft or inefficient application.

Lateral 34 of the Strawberry High Line Canal (Main Canal) provides water delivery service to the northern section of Genola Town. The lateral is 4 miles long and has approximately 20 turnouts serving a total of approximately 1,650 acres of agricultural land. At each turnout, water is diverted into a regulation pond that provides pressure to the end water users through a series of distribution pipelines. Water diverted into the ponds is currently regulated using Cipoletti weirs or Parshall flumes. The existing lateral loses a significant portion of its annual water supply to seepage and evaporation.

The proposed project would convert the existing open-channel, concrete-lined Lateral 34 to a pressurized high-density polyethylene (HDPE) pipeline. The project would not remove the turnout ponds along the length of the lateral but would add new turnout gates and meters. Should the Main Canal be piped in the future, the turnout ponds could be entirely eliminated because the system itself would provide the necessary pressure to the end user. Additionally, this project would open up the possibility of automating the turnout gates by hooking them and the proposed meters up to the SHLCC's SCADA system.

SHLCC is planning to perform the construction of the proposed project themselves as their in-kind contribution to project costs. They would purchase all necessary materials including pipe, concrete, turnout saddles, gates, meters, and pipe bedding. They would use their own equipment—including a backhoe, track hoe, dump truck, loader, grader, and fusing machine for up to 36-inch diameter HDPE pipe—to perform a majority of the construction. The only exception would be the need to rent HDPE pipe fusing machines for the saddles.

Reconstruction of the existing headgate of Lateral 34 would not be included in this proposed project, as it would need to be modified when the Main Canal is piped. As part of this project, a concrete inlet structure would be built just downstream of the existing headgate structure. The new concrete inlet would divert the water into the new HDPE pipe. The work would be completed during the non-irrigation season, so that the existing concrete liner can be removed, and the new pipe placed within the current alignment. It is expected that approximately half of the lateral along with any turnouts within that stretch would be replaced during each of two consecutive non-irrigation seasons.

Evaluation Criteria

<i>Evaluation Criteria: Scoring Summary</i>	<i>Points:</i>
<i>A. Quantifiable Water Savings</i>	<i>25</i>
<i>B. Renewable Energy</i>	<i>20</i>
<i>C. Other Project Benefits</i>	<i>15</i>
<i>D. Disadvantaged Communities and Tribal Benefits</i>	<i>15</i>
<i>E. Complementing On-Farm Irrigation Improvements</i>	<i>8</i>
<i>F. Readiness to Proceed</i>	<i>8</i>
<i>G. Collaboration</i>	<i>5</i>
<i>H. Nexus to Reclamation</i>	<i>4</i>
<i>Total</i>	<i>100</i>

E.1.1 Evaluation Criterion A: Quantifiable Water Savings (25 points)

Up to 25 points may be awarded for this criterion. This criterion prioritizes projects that will conserve water and improve water use efficiency supporting the goals of E.O. 14008

Water Savings

Describe the amount of estimated water savings. For projects that conserve water, please state the estimated amount of water expected to be conserved (in acre-feet per year) as a direct result of this project.

It is expected that the SHLCC would save approximately 2,250 acre-feet of water annually as a direct result of this project. The water savings generated if the project were implemented would improve agricultural conditions for the SHLCC, allowing Reclamation to support the objective of E.O. 14008 to empower “workers by advancing conservation, agriculture, and reforestation”. Project implementation would provide USBR with a metric to show (A) conservation (of water), and (B) advancement of agriculture (saved water for irrigation), directly supporting a goal of E.O. 14008.

Current Water Losses

Describe current losses: Please explain where the water that will be conserved is currently going and how it is being used.

The current water losses along Lateral 34 are primarily a result of seepage into the ground, evaporation, and inaccurate measurement at weirs and Parshall flumes. There are no known benefits

associated with where the current losses are going. Any water that is lost to seepage is lost through the terrain's porous, rocky soil. Additionally, inaccurate measurements at the weirs and Parshall flumes located at turnouts along the lateral are also believed to contribute to some of the "loss". No current losses are entering an impaired groundwater table or supporting fish or wildlife habitat. Implementation of the project would not adversely impact any ecological resources as a result of the water loss reduction but would provide benefits to the human environment by giving SHLCC access to irrigation water later into the growing season and increasing opportunities to implement sustainable solutions and build climate resiliency.

Support/Documentation of Water Savings

Describe the support/documentation of estimated water savings: Please provide sufficient detail supporting how the estimate was determined, including all supporting calculations.

Water diversion records and water loss calculations for Lateral 34 from the 2024 irrigation season can be found in Appendix C.

Project Types

Please address the following questions regarding the type of infrastructure improvement you are proposing for funding.

- (1) **Canal Lining/Piping:** *Canal lining/piping projects can provide water savings when irrigation delivery systems experience significant losses due to canal seepage. Applicants proposing lining/piping projects should address:*
 - a. *How has the estimated average annual water savings that will result from the project been determined?*

Irrigation water is diverted into Lateral 34 based on calls for water from the water users. Once water is diverted into Lateral 34, SHLCC operators use the weirs and flumes to measure the amount of water delivered to a regulating pond at each turnout. The operators check the pond turnouts two or three times daily to ensure the right amount of water is being delivered. Comparing the measurements at the ponds to the measured amount at the head of Lateral 34 has shown that additional water needs to be diverted into Lateral 34 in order to deliver the requested amount at the turnout ponds.

The measurement device at the head of Lateral 34 is connected to the SHLCC SCADA system. However, the weirs and flumes at the ponds are not connected. Those are read manually to facilitate operation. Up until the 2024 irrigation season, the measurements at the turnouts have not been recorded. SHLCC operators knew from practice that water was being lost but did not have recorded data to back up what they were seeing.

In 2024, operators recorded the measurements at the turnouts twice a day. These readings of weir and Parshall flume staff gages were converted into flow rates using conversion charts based on the size of the weir or flume. The total diversions were then compared to the hourly average diversion at the head of Lateral 34 recorded by the SCADA system. The measurements included the weir at the end of the canal that measured any tailwater not diverted to users.

Turnouts readings were recorded 109 times on 61 different days between May 26, 2024 and October 1, 2024. The average loss estimated by comparing the turnout flow to the flow at the headgate was 36%. This percentage was then multiplied by the average annual diversion for Lateral 34 of 6,250 acre-feet to calculate the average annual water savings of 2,250 acre-feet.

b. How have average annual canal seepage losses been determined?

The estimated 36% water loss includes seepage, evaporation, and operational losses at the turnouts. No tests have been conducted to differentiate between seepage, evaporation, and operational losses.

c. What is the expected post-project seepage/leakage losses and how were these estimates determined?

It is expected that the proposed piping of the lateral would eliminate seepage and evaporation. The post-project losses from the head of Lateral 34 to the ponds is expected to be zero. This project would consist of installing HDPE pipe. Due to sections of HDPE being fused together during installation, the joints are leak-free. It is also expected that the proposed meters at the turnouts would eliminate loss due to inaccurate flow measurement.

d. What are the anticipated annual transit loss reductions in terms of acre-feet per mile for the overall project and for each section of canal included in the project?

Lateral 34 is approximately 4 miles long. With an annual loss of approximately 2,250 acre-feet, the average annual transit loss reductions would be about 560 acre-feet per mile.

e. How will actual canal loss seepage reductions be verified?

As part of the proposed project, new meters would be installed at each turnout. These meters would have the ability to measure instantaneous flow as well as total volume. The measurements would be recorded by SHLCC operators every time they adjust the turnout gates, which would be at least once a day. The meters would also have the capability to be linked to SHLCC's SCADA system and read remotely in the future. SHLCC plans to install Seametric Mag Meters, which have a manufacturer's expected accuracy of +/- 2%.

f. Include a detailed description of the materials being used.

As stated above, the project would include installing HDPE pipe, turnouts saddles that would be fused in place to prevent leaks, gate valves to control water deliveries, and water meters to measure flow and volume of water delivered through Lateral 34.

E.1.2 Evaluation Criterion B: Renewable Energy (20 Points)

Up to 20 points may be awarded based on the extent to which the project increases the use of renewable energy or otherwise results in increased energy efficiency and reduced greenhouse gas emissions.

E.1.2.1 Subcriterion B.1: Implementing Renewable Energy Projects Related to Water Management and Delivery

Not applicable to this project.

E.1.2.2 Subcriterion B.2: Increasing Energy Efficiency in Water Management

Up to 6 points may be awarded for projects that address energy demands and reduce greenhouse gas emissions by retrofitting equipment to increase energy efficiency and/or through water conservation improvements that result in reduced pumping or diversions.

Describe any energy efficiencies that are expected to result from implementation of the water conservation or water efficiency project.

The maintenance road that runs the length of the lateral is currently used heavily by SHLCC to adjust the turnout gates and read the measurement gages at the weirs and flumes. This project would open up the opportunity to automate the gates and proposed meters by linking them to the SCADA system thereby reducing the number of vehicle miles driven (and in turn greenhouse gas emissions) in the project area. So, while the project would not directly reduce the number of vehicle miles driven, it would create an opportunity for future improvements that would include the reduction of vehicle miles driven in the area. Even so, the implementation of this project would get SHLCC one critical step closer to being able to implement more sustainable solutions, like a SCADA system, helping them better meet the goals of E.O. 14008 “Empowering workers through rebuilding our infrastructure for a sustainable economy” and “Empowering workers by advancing conservation, agriculture, and reforestation”.

E.1.3 Evaluation Criterion C: Sustainability Benefits (15 points)

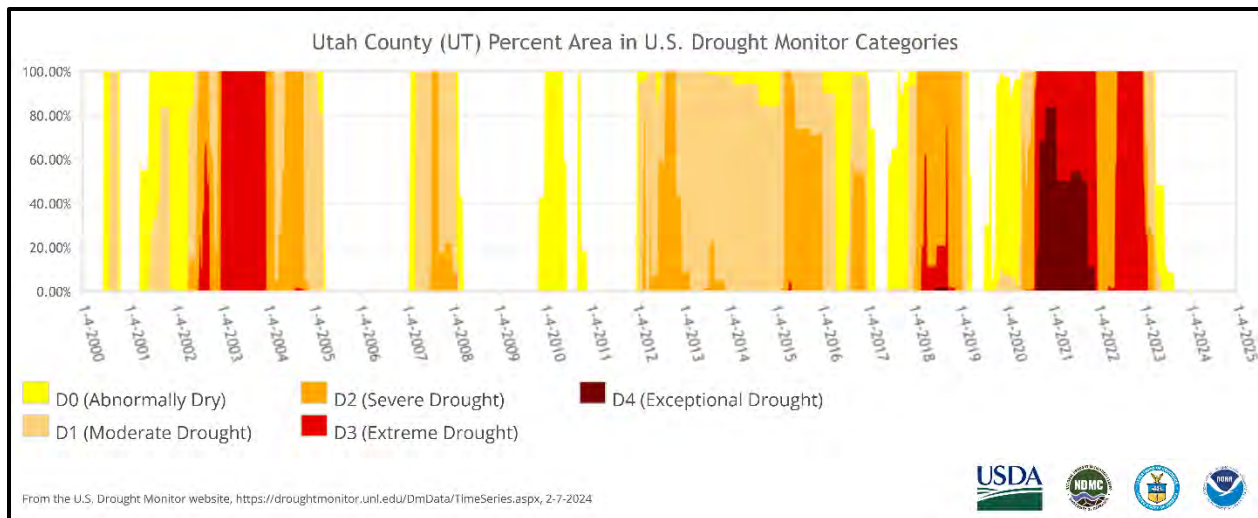
Up to 15 points may be awarded under this criterion. This criterion prioritizes projects that address a specific water and/or energy concern(s), including enhancing drought resilience and sustainability, addressing the current and future impacts of climate change, and providing ecological benefits.

Resilience and Sustainability Benefits. Will the project address a specific water and/or energy sustainability concern?

Explain and provide detail of the specific issue(s) in the area that is impacting water resilience and sustainability. Consider the following:

- o Describe recent, existing, or potential drought or water scarcity conditions in the project area.*

In recent years, Utah County has experienced multiple periods of severe, extreme, and even exceptional drought in the last 5 years as shown in the graph from the U.S. Drought Monitor Index below:



- *Is the project in an area that is experiencing, or recently experienced, drought or water scarcity?*

As can be seen in the graph above, Utah County is an area that has recently experienced exceptional drought severity and water scarcity. The figure shows that, throughout the county, a considerable percentage of the land area has fallen within one of the designated drought categories since 2000. It also shows the severity of the drought in recent years, which has been among the driest in the state since the Drought Monitor program began in 2000. The data supports the anticipated long-term climate trends described in the Utah State Hazard Mitigation Plan (SHMP), which predicts increased drought frequency, intensity, and water scarcity as a result of climate change.

- *Describe any projected increases to the severity or duration of drought or water scarcity in the project area. Provide support for your response (e.g., reference a recent climate informed analysis, if available).*

It is expected that drought frequency and severity will increase in the project area over time. Chapter 12 of the Utah SHMP discusses climate change and the forecasted impacts on the State of Utah as a result. The plan, which is a climate informed analysis, acknowledges the fact that Utah is the second driest state in the nation, making it one of the most vulnerable states to increased drought frequency and warranting the protection of important water resources for residents of the state so that they may be better equipped to deal with future conditions brought on by extreme weather events. The SHMP's summary of impacts to hazards in Utah states, "Climate change exacerbates hazards Utah already experiences. An increase in variability of climate translates and extreme events which are shown in severity, frequency, and location. We will and have already seen extreme rainfall, wind, wildfire, extreme heat and extended drought" (Utah SHMP, p. 290).

- *Explain and provide detail of the specific issue(s) in the area that is impacting energy sustainability, such as reliance on fossil fuels, pollution, or interruptions in service.*

The primary issue that impacts energy sustainability in the area is interruptions in service during the irrigation season when water is not as available and must be budgeted tightly to last as long as possible.

- *Please describe how the project will directly address the concern(s) stated above.*

The project would reduce the seepage and evaporation losses along the lateral by replacing the existing concrete-lined canal with HDPE pipe. This would greatly reduce water lost to seepage and evaporation and would allow more water to remain available longer into the year. This should reduce the likelihood of water service interruptions to a great extent.

As more development occurs in south Utah County and agriculture is converted to residential property, this project would allow for greater flexibility in the system during times of drought thereby improving the efficiency and reliability of the entire system.

- *Will the project directly result in more efficient management of the water supply?*

The project would result in more efficient management of the water supply. As a result of the saved water, the canal company would be able to provide water later into the growing season and would be able to implement a more reliable method of budgeting water throughout the year. This would allow farmers to grow crops later into the season and to have more reliability as to the times of the year at which they would be supplied with irrigation water. This could be measured by observing the increase in crop yields that should be associated with a longer irrigation season.

- *Please address where any conserved water as a result of the project will go and how it will be used, including whether the conserved water will be used to offset groundwater pumping, used to reduce diversions, used to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or used to meet another intended use.*
 - *Indicate the quantity of conserved water that will be used for the intended purpose(s).*

Approximately 2,250 acre-feet of conserved water would be used for irrigation and improved water budgeting throughout the entire system.

- *Provide a description of the mechanism that will be used, if necessary, to put the conserved water to the intended use.*

The mechanism that would put the conserved water to the intended use would be the improved management and water budgeting throughout SHLCC's service area.

- *Will the project assist States and water users in complying with interstate compacts?*

Not applicable to this project.

- *Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?*

The improved management of SHLCC's water delivery as a result of the project would indirectly benefit other water agencies in southern Utah County. Many of the other water authorities in Utah County work in tandem with each other to deliver water from various sources and purposes, with some even using the same water rights. This project would indirectly benefit these agencies and

reduce the likelihood of future conflict or crisis as the southern end of Utah County continues to grow.

SHLCC is currently working with Reclamation and the Central Utah Water Conservancy District on plans to pipe the main High Line Canal. Part of those plans may affect the delivery of the CUP water which SHLCC currently manages. Having a more efficient system through which to deliver the SVP water would be critical to SHLCC.

As mentioned earlier, there are currently local problems with overuse of system water whether by inefficient use or theft. The implementation of the project would provide more accurate water usage tracking from meters and may reduce inaccurate measurement or over usage. These effects of the project would separate SHLCC from ongoing overuse and reduce the likelihood of future conflicts with shareholders.

Ecological Benefits. Please provide information regarding how the project will provide ecosystem benefits, including the following:

- *Will the project benefit species? Please describe the relationship of the species to the water supply, and whether the species is adversely affected by a Reclamation project or is subject to a recovery plan or conservation plan under the Endangered Species Act (ESA).*

An official species list was generated using the USFWS's ECOS IPaC system on 11/05/2024 which listed the Yellow-billed Cuckoo (*Coccyzus americanus*), June Sucker (*Chasmistes liorus*), and Monarch Butterfly (*Danaus plexippus*) as potentially having habitat in the project area. The project is not anticipated to have any effect on Federally listed species. The IPaC Report also showed that there is no critical habitat overlap in the area for the Yellow-billed Cuckoo and the June Sucker. The Monarch Butterfly is a candidate species, and no critical habitat has been designated. This information would be verified during the environmental compliance process, which would include consultation to comply with Section 7 of the Endangered Species Act (ESA).

- *Will water remain in the system for longer periods of time? If so, provide details on current/future durations and any expected resulting benefits*

This project would keep water in systems for longer periods of time. By piping Lateral 34, irrigation water which would normally be lost to seepage and evaporation would be saved and be made available for use later into the agricultural growing season. While the exact additional length of time that water would be available later into the season would vary from year to year, the general increase in irrigation water supply would result in increased crop yields and higher agricultural productivity.

- *Will the proposed project reduce the likelihood of a species listing or otherwise improve the species status?*

No, this project would not reduce the likelihood of a species listing or otherwise improve the species status.

- *Please describe any other ecosystem benefits as a direct result of the project.*

Implementation of the project would protect the SHLCC water in Lateral 34 from sedimentation and nutrient loading as a result of erosion/runoff during storm events. Sediments/runoff can contain

harmful chemicals from pesticides used for noxious weed control or can load the water with excess nutrients, degrading the agricultural water quality. In 2022, for example, one of the northern portions of the lateral was nearly washed out as a result of heavy drainage off of the nearby mountains. By piping the lateral, the possibility of water quality impairment would be eliminated in the lateral itself.

***Climate Change:** Describe how the project addresses climate change and increases resiliency. For example, does the project help communities adapt to bolster drought resilience?*

The project would increase resilience to climate change by conserving agricultural water for use throughout the growing season. Simply having more water to manage allows farmers and water managers to make more climate-informed decisions during the irrigation season. For example, in years of severe drought, water managers would be able to better allocate water throughout the entirety of the growing season rather than having their supply be nearly depleted by the end of the season. Additionally, the pipeline would ensure that most of the water that is distributed to water users is not lost in transmission and is utilized for its intended purpose. Because of these things, the project would increase local drought resiliency, water budgeting, and would provide local residents with an adaptable lateral canal to combat the impacts of climate change. The goal of E.O. 14008 to advance conservation and agriculture would be supported by this project. Additionally, the goals of the Utah SHMP, which supports the development of projects that improve drought and climate resiliency in Utah, would be supported by implementation as well.

- *Does the proposed project seek to reduce or mitigate climate pollution such as air or water pollution?*

The proposed project would reduce agricultural water pollution by eliminating the possibility of erosion, sedimentation, and nutrient loading into the lateral by piping it. The current system is susceptible to pollution as a result of erosion during storm events, including the potential to have pesticides added to the water used for noxious weed control, which could have an adverse effect on crop yields.

- *Does the proposed project contribute to climate change resiliency in other ways not described above?*

As described above, one of the northern portions of the lateral was nearly washed out as a result of heavy drainage off of the nearby mountains. The piping of the lateral would greatly reduce the susceptibility of the canal to flooding or high flows and would also protect the nearby residential properties and agricultural fields from damage. Because natural disasters, like flooding, are expected to increase in the Western United States as a result of climate change (Utah SHMP), the project measures would build resilience to climate change by being carried out. Additionally, agriculture may improve for SHLCC shareholders as there would be a potential improvement to agricultural water quality because sediments and nutrients wouldn't be able to load into the lateral if it were piped.

This aspect of damage prevention and climate resiliency becomes particularly pertinent when one realizes that, according to the CEQ's Climate and Economic Justice Screening Tool (CEJST), the area is in the 98th percentile for expected building and population rate loss as a result of natural

hazards. This was evidenced by the near-wash out that occurred last year along the northern end of Lateral 34 as a result of heavy drainage off the nearby mountains.

E.1.4 Evaluation Criterion D: Disadvantaged Communities, Insular Areas, and Tribal Benefits (15 points)

Up to 15 points may be awarded based on the extent that the project demonstrates support for the Biden-Harris Administration's priorities, including E.O. 14008.

E.1.4.1 Subcriterion D.1: Disadvantaged Communities

- *Please use the White House Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool (CEJST) to identify any disadvantaged communities that will benefit from your project.*
- *If applicable, describe how the proposed project will serve or benefit a disadvantaged community, identified using the tool.*

The Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool (CEJST) was accessed on 02/08/2024. The tract containing the project area (number 49049010600) was not identified as being disadvantaged. However, it is worth noting that the tract is in the 98th percentile for expected building rate loss resulting from natural hazards each year and also in the 98th percentile for expected population loss rate resulting from natural hazards each year. That being said, the project would not benefit any disadvantaged communities in the area because there are no areas classified as being disadvantaged by the CEJST.

However, the project would directly benefit the surrounding communities by increasing the irrigation water available to the farmers throughout the year thereby generally increasing crop yields and bolstering the local economy.

E.1.4.1 Subcriterion D.1: Tribal Benefits

Address the following, if applicable:

- *Does the proposed project directly serve and/or benefit a Tribe?*
- *Does the proposed project support Tribal led conservation and restoration priorities, and/or incorporate or benefit indigenous traditional knowledge and practices?*
- *Does the proposed project directly support tribal resilience to climate change and drought impacts or provide other tribal benefits? Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?*

There are no Tribal benefits associated with this project.

E.1.5 Evaluation Criterion D: Complementing On-Farm Irrigation Improvements (8 points)

*Up to 8 points may be awarded for projects that describe in detail how they will **complement on-farm irrigation improvements** eligible for NRCS financial or technical assistance.*

- *Describe any planned or ongoing projects by farmers/ranchers that receive water from the applicant to improve on-farm efficiencies.*

Currently, there is very little potential for NRCS projects in the project area and there are no on-farm efficiency improvement projects ongoing in the area.

- *Describe how the proposed WaterSMART project would complement any ongoing or planned on-farm improvement.*
 - *Will the proposed WaterSMART project directly facilitate the on-farm improvement? If so, how? For example, installing a pressurized pipe through WaterSMART can help support efficient on-farm irrigation practices, such as drip-irrigation.*
 - OR*
 - *Will the proposed WaterSMART project complement the on-farm project by maximizing efficiency in the area? If so, how?*

The project would allow SHLCC to better manage the amount of water being delivered to the turnout ponds and would open up opportunities for future improvements to this aspect of the system as well. This, in turn, would complement on-farm improvement since there would be more reliability and assurance in the water being available when farmers call for it.

- *Describe the on-farm water conservation or water use efficiency benefits that are expected to result from any on-farm work.*

Not applicable to this project.

E.1.6 Evaluation Criterion F: Readiness to Proceed (8 points)

Up to 8 points may be awarded for this criterion. Points may be awarded based upon the extent to which the proposed project is capable of commencing upon entering into a financial assistance agreement.

- *Identify and provide a summary description of the major tasks necessary to complete the project.*

A summary of the project tasks and milestones is included in this section along with an estimated timeline of dates for each task to be completed within.

- *Describe any permits that will be required, along with the process for obtaining such permits.*

The following permits are expected:

- UPDES compliance with a Stormwater Pollution Prevention Plan (SWPPP), Notice of Intent (NOI), Notice of Termination (NOT), and inspections. This would take place during construction as part of SHLCC's compliance requirements.
- SHPO historical/cultural compliance. An MOU would be required during the environmental compliance process. It must be completed prior to construction. This process would include performing the necessary mitigation for any impacts to cultural/historic resources.

- Reclamation Construction Permit. As Lateral 34 is a Federal facility, the applicant would work directly with the Provo Area Office to ensure adequate reviews and approvals are obtained.
- *Identify and describe any engineering or design work performed specifically in support of the proposed project.*

A conceptual plan and project cost estimate was compiled for this application. Once the notice to proceed is given, the turnout locations and demands would need to be confirmed and the pipe sizing verified. Then, design drawings and specifications would be compiled. The engineer would also provide any required agency coordination including all aspects pertaining to environmental and/or cultural compliance requirements.

- *Describe any new policies or administrative actions required to implement the project.*

Not applicable to the project.

- *Describe the current design status of the project. If additional design work is required prior to construction, describe the planned process and timeline for completing the design work.*

After the project receives a notice to proceed, the following design work would need to be completed:

- 1) Confirmation of turnout locations and demands
 - 2) Verification of pipe sizing
 - 3) Compilation of design drawings and specs
 - 4) Agency coordination on environmental/cultural compliance
- *Please also include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates.*

See the table below for the estimated project schedule:

Milestone	Date
Selection/Award Process	May – October 2025
Design, Permitting, and Environmental Compliance	November 2025 – June 2026
Ordering Material and Renting Fusing Equipment	July – September 2026
Construction of Inlet Structure and First Half of Canal, including Turnouts	October 2026 – April 2027
Construction of Second Half of Canal, including Turnouts	October 2027 – April 2028
Construction Completion (if needed) and Project Closeout	April – June 2028

SHLCC would be amenable to starting construction during the non-irrigation season of 2025-2026 and constructing the project over three seasons rather than two. This would be dependent on how quickly the funding agreement and environmental compliance could be completed if this project is selected for funding.

E.1.7 Evaluation Criterion G: Collaboration (5 points)

Up to 5 points may be awarded for projects that promote and encourage collaboration among parties in a way that helps increase the sustainability of the water supply. Please describe how the project promotes and encourages collaboration.

- *Is there widespread support for the project?*
- *What is the significance of collaboration/support?*
- *Will this project increase the possibility/likelihood of future water conservation improvements by other water users?*
- *Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?*
- *Please attach any relevant supporting documents*

There is widespread support for the project. Supporters of the project include Genola Town, Utah County, the Central Utah Water Conservancy District (CUWCD), Strawberry Water Users Association, Mt. Nebo Water Agency, the Bureau of Reclamation, and of course, the Strawberry High Line Canal Company itself.

This project would help open an opportunity to pipe the entire main canal to improve water service to a large portion of Utah County residents. This project would benefit multiple sectors, with the primary beneficiary being the agricultural sector, which would benefit directly from the saved water. Other sectors that would benefit include the municipal sector as the project would make the area a more desirable place to live and the economic sector as crop yields are expected to increase from the saved water. SHLCC and their neighboring agencies listed above work in tandem to provide both municipal and agricultural water to the communities in the southern part of Utah County. They collectively support projects aimed at water conservation and more efficient water management.

Letters of Support are included in Appendix A.

E.1.8 Evaluation Criterion H: Nexus to Reclamation (4 points)

Up to 4 points may be awarded if the proposed project is connected to a Reclamation project or Reclamation activity. Describe the nexus between the proposed project and a Reclamation project or Reclamation activity.

The High Line Canal system is a Reclamation facility used to deliver municipal and irrigation water from both the Strawberry Valley Project and the Central Utah Project (CUP). SHLCC has an operation and maintenance contract with Reclamation to deliver water to the shareholders. They are responsible for all operation and maintenance of the High Line system. The Strawberry Water Users Association has a similar contract with Reclamation to deliver water from Strawberry Reservoir to the beginning of the High Line system at the mouth of Spanish Fork Canyon.

The main section of the concrete-lined High Line Canal diverts water out of the Spanish Fork River and travels approximately 18 miles to the southwest through the communities of Spanish Fork, Salem, Payson, Santaquin, and Genola. An additional 60 miles of laterals are used to convey water throughout the area. Over the years, SHLCC has worked with Reclamation to update and improve the management of the canal system. Several projects have been completed to pipe portions of the system for conservation and safety, as well as to enhance the measurement and efficient use of the water through SCADA equipment. The purpose of this project is to continue those objectives.

Furthermore, SHLCC is currently working with Reclamation and the CUWCD, who manages the CUP, to enclose the main canal. Design of this project to pipe Lateral 34 would be done in conjunction with the design to enclose the main canal facilitating the goal of a completely pressurized system. A support letter from CUWCD is included as an attachment to this technical proposal.

Performance Measures

Provide a brief summary describing the performance measure that will be used to quantify actual benefits upon completion of the project

The performance measure for quantifying the projected water conservation benefits would be a record of delivered flow (at the head of Lateral 34) and measured diversions (turned out at each pond). Currently, the seepage and evaporation loss has been estimated based on operational adjustments at the turnouts compared to the overall diversion at the head of the lateral. SHLCC would be recording the measurements at each turnout on a daily basis in addition to recording the total flow at the head of the lateral. The difference between these two amounts would quantify the total amount of conveyance losses. Once the project is implemented, the loss should be negligible as HDPE pipe is considered to be leak-free. New meters would be installed at each turnout to more accurately record how much water is being diverted into the ponds.

Budget Narrative

The Budget Narrative Attachment Form in Grants.gov has been used to upload the budget proposal.

Pre-Award Costs

The applicant does not intend to incur any pre-project costs prior to the effective date of a Federal award should their project be selected.

Project Cost Restrictions

The applicant acknowledges that proposal and monitoring costs are not eligible for inclusion in the funding opportunity.

Environmental and Regulatory Compliance Costs

The budget narrative includes 1% of the project costs for environmental and regulatory compliance. The estimate is intended to cover costs incurred by Reclamation, as well as costs for subconsultants to perform biological and/or cultural surveys if they are deemed necessary. The applicant expects the cultural survey will be required at a minimum.

Indirect Costs

No indirect costs have been included in the budget narrative.

Environmental and Cultural Resource Considerations

Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.

Construction of the proposed project would have a minimal impact on the surrounding environment. Soil disturbance would be limited to the current canal alignment. Air quality could be temporarily impacted due to construction machinery emissions and dust as a result of soil disturbance. Best practices will be implemented to reduce the impact on air quality. Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?

An official species list was generated using the USFWS's ECOS IPaC system on 11/05/2024 which listed the Yellow-billed Cuckoo (*Coccyzus americanus*), June Sucker (*Chasmistes liorus*), and Monarch Butterfly (*Danaus plexippus*) as potentially having habitat in the project area. The IPaC Report also showed that there is no critical habitat overlap in the area for the Yellow-billed Cuckoo and the June Sucker. The Monarch Butterfly is a candidate species, and no critical habitat has been designated. It is expected that the proposed project would have "no effect" on any of the potentially present and Federally listed species. This determination would be verified during the environmental compliance process as part of the consultation effort to maintain compliance with Section 7 of the Endangered Species Act.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.

Currently, it is not expected that there are any wetlands or surface waters that fall under the CWA inside the project boundaries. Before construction begins, a registered environmental consultant would perform all required surveys to ensure no protected aquatic resources are affected. The National Wetlands Inventory (NWI) would be consulted prior to any field determinations to gauge

where aquatic resources may be present. Additionally, exclusions for man-made ditches and irrigated areas under Section 404 of the Clean Water Act could apply if any wetlands were identified.

When was the water delivery system constructed?

According to Marty Larson, the General Manager of the SHLCC, Lateral 34 was constructed in 1920. Most of the lateral is original although approximately 20% has been patched or replaced.

Will the proposed project result in any modification of or effects on individual features of an irrigation system?

The existing lateral would be replaced with a pressurized system. The lateral was constructed in 1920, and individual turnouts and segments of the lateral have been modified and updated throughout the years. No records are available that detail when structures have been modified.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?

A cultural resources specialist at the local Reclamation office was consulted to answer this question. According to a brief USBR review, there are two known sites in the project area which are eligible for listing on the National Register of Historic Places, they are:

- 1) 42UT842 – Eligible under Criterion D (Prehistoric Site)
- 2) 42UT473 – This is the site number for the Strawberry High Line Canal which Lateral 34 is considered a part of. Consultation and recording would need to be performed on this segment of the canal prior to construction.

It is possible that this project would require mitigation. Discussions revolving around mitigation would be conducted and any necessary mitigation would be carried out during the compliance process.

Are there any known archeological sites in the proposed project area?

There are no known archeological sites in the project area with the exception of the prehistoric site (42UT842) which is listed as eligible for listing on the NRHP under criterion D (Prehistoric Site). Any archeological sites found during the cultural survey would be treated in compliance with State and Federal regulations.

Will the proposed project have a disproportionate and adverse effect on any communities with environmental justice concerns?

The project would not have a disproportionate or adverse effect on any communities with environmental justice (EJ) concerns because there were no EJ communities identified by the CEJST. The Council on Environmental Quality (CEQ) defines an EJ community as having 50% or greater minority population, which is a threshold the area does not come close to meeting.

Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?

The proposed project would not limit access to or ceremonial use of Indian sacred sites or result in other impacts on Tribal lands.

Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?

The proposed project would not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area. Best Management Practices such as the use of flagging construction limits, limiting ground disturbance to the extent practicable, and performing decontamination of equipment before/after construction would be implemented to prevent the spread or introduction of noxious weeds or invasive botanical species.

Required Permits or Approvals

You must state in the application whether any permits or approvals are necessary and explain the plan for obtaining such permits or approvals.

See response in section E.1.6 Readiness to Proceed for a list of permits and approvals.

Overlap or Duplication of Effort Statement

No overlap between the proposed project and other efforts exists.

Conflict of Interest Disclosure Statement

Applicability

No conflict of interest has been identified.

Notification

No conflict of interest has been identified. Any that arises would be communicated to the appropriate parties. The applicant has established internal controls related to conflict of interest which can be made available should the project be selected for funding.

Restrictions on Lobbying

No lobbying would take place.

Review Procedures

There are no conflicts of interest for this project.

Uniform Audit Reporting Statement

SHLCC has never been required to complete a single audit, as they have not expended \$750,000 or more of U.S. dollars or Federal award funds within their fiscal year.

Certification Regarding Lobbying

A lobbying certification letter is included in Appendix E.

Disclosure of Lobbying Activities (if applicable)

No lobbying activities need to be disclosed.

Letters of Support

Letters of Support are included in Appendix A.

Letter of Partnership

Not Applicable. Project is a Category A applicant.

Official Resolution

The Draft Official Resolution is shown in Appendix B. If the project is selected, the Resolution will be signed before the award of funding is made.

Letters of Funding Commitment

Third-party cost share is not expected to be necessary for this project as the applicant plans to cover the non-Federal cost share through in-kind contributions by installing project components with their own equipment and manpower. If the cost of materials exceeds the Federal cost share, the applicant would cover those costs using company assessments, reserve funds, or funding from the State of Utah's Agricultural Water Optimization Grant.



CENTRAL UTAH WATER
CONSERVANCY DISTRICT

Shelley Brennan *Chair of the Board*
G Wayne Andersen *Vice Chair of the Board*
Gene Shawcroft *General Manager / CEO*

G. Wayne Andersen
Shelley Brennan
Jon Bronson
Kirk L. Christensen
Steve Farrell
Wade E. Garner

Board of Trustees

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Al Mansell
Greg McPhie

Eldon A. Neves
Jim Riding
Jennifer Scott
Edwin Boyd Sunderland
Randy L. Vincent
Brad Wells

February 14, 2024

Marty Larson
General Manager
Strawberry High Line Canal Company
1608 American Way
Payson, Utah, 84651

Re: Strawberry High Line Lateral 34 Piping Project

Dear Mr. Larson:

The Central Utah Water Conservancy District (CUWCD) understands that the Strawberry High Line Canal Company is seeking Federal funds through Reclamation's WaterSMART grant program to pipe Lateral 34 of the Strawberry High Line Canal. The purpose of this letter is to express CUWCD's support for this project.

We are encouraged by Strawberry High Line Canal Company's desire to improve Lateral 34 which runs through Genola Town. We are currently working with Strawberry High Line Canal Company and the Bureau of Reclamation to enclose the main High Line Canal. The proposed improvements to Lateral 34 will enhance that project by moving toward a completely pressurized system.

Sincerely,

A handwritten signature in blue ink, appearing to read "Gene Shawcroft".

Gene Shawcroft
General Manager/CEO



PO Box 1126, Salem Utah 84653

February 14, 2024

Marty Larson
General Manager
Strawberry High Line Canal Company
1608 American Way
Payson, Utah, 84651

Re: Strawberry High Line Lateral 34 Piping Project

Dear Mr. Larson:

The Mt. Nebo Water Agency understands that the Strawberry High Line Canal Company is seeking Federal funds through Reclamation's WaterSMART grant program to pipe Lateral 34 of the Strawberry High Line Canal. The purpose of this letter is to express the Agency's support for this project.

As a water agency whose members consist of multiple entities in the south end of Utah County, we are encouraged by Strawberry High Line Canal Company's desire to improve Lateral 34 which runs through Genola Town. These improvements will enhance water conservation and improve water delivery efficiencies.

Sincerely,

Richard Nielsen
Board Chair
Mt. Nebo Water Agency



UTAH COUNTY
Utah County Public Works Director
County Engineer

Richard J. Nielson, P.E.

2855 South State Street
Provo, UT 84606
TEL: 801-851-8600
FAX: 801-851-8612

November 1, 2024

Mr. Marty Larson
Strawberry High Line Canal Company
1608 American Way
Payson, UT 84651

Dear Marty:

It is the understanding of Utah County that Strawberry High Line Canal Company is submitting an application to the Bureau of Reclamation for a WaterSMART Water and Energy Efficiency Grant for fiscal year 2025. We believe that the proposed enclosure project for Lateral 34 will improve water management, water conservation, and potentially provide additional water to be used by all stockholders throughout the irrigation season.

As many of the County's residents in the southern part of Utah County are shareholders, it is in the County's best interest to support any effort to improve the Company's water system. Let it be known that Utah County is in full support of the Company's application and proposed enclosure project.

Sincerely,

Richard J. Nielson, P.E.
Utah County Engineer
Public Works Director



October 30, 2024

Marty Larson
General Manager
Strawberry High Line Canal Company
1608 American Way
Payson, Utah, 84651

Re: Strawberry High Line Lateral 34 Piping Project

Dear Mr. Larson:

The Strawberry Water Users Association understands that the Strawberry High Line Canal Company is seeking Federal funds through Reclamation's WaterSMART grant program to pipe Lateral 34 of the Strawberry High Line Canal. The purpose of this letter is to express the Association's support for this project.

As deliverers of Strawberry Valley Project water to the High Line main canal, we are encouraged by Strawberry High Line Canal Company's desire to improve Lateral 34 which runs through Genola Town. These improvements will enhance water conservation and improve water delivery efficiencies.

Sincerely,

A handwritten signature in blue ink that reads "Sterling Brown". The signature is written in a cursive, flowing style.

Sterling Brown
General Manager



Town of Genola
74 West 800 South
Genola, UT 84655
801-754-5300

October 31, 2024

US Department of Interior
Bureau of Reclamation

Subject: **Support for efforts to enclose Lateral 34 in the High Line Canal system**

To whom it may concern,

The Town of Genola hereby expresses its full support for the efforts by the Strawberry High Line Canal Company to secure funding to enclose Lateral 34 in its irrigation distribution system.

The Town Council and its residents recognize Strawberry Highline Canal Company as a key player in the South Utah County water district and anticipate the opportunity to work with the High Line Canal Company to improve water management and the benefits of enclosed canals, which include safety and a measurable reduction of water loss through seepage and evaporation and help to secure our natural resources for future growth and development.

Please accept this letter of support for Strawberry High Line's Conservation piping of Lateral 34. We appreciate your careful consideration of the High Line Canal's grant application.

Sincerely,


Neil Brown
Mayor, Genola



STRAWBERRY HIGH LINE CANAL COMPANY

1608 American Way
Payson, UT 84651
(801) 465-4824
www.strawberryhighline.com

October 29, 2024

U.S. Bureau of Reclamation
WaterSMART Program
Water and Energy Efficiency Grants

Re: Strawberry High Line Lateral 34 Piping Project

To whom it may concern:

The Board of the Strawberry High Line Canal Company understands that the Strawberry High Line Canal Company is seeking Federal funds through Reclamation's WaterSMART grant program to pipe Lateral 34 of the Strawberry High Line Canal. The purpose of this letter is to express the board's support for this project.

As a board, we have voted to pursue funding to improve Lateral 34 which runs through Genola Town. These improvements will enhance water conservation and improve water delivery efficiencies. If selected, we will adopt the draft resolution included in the WaterSMART application.

Sincerely,

Douglas Rowley
Board Chair
Strawberry High Line Canal Company

Delivering Your Water since 1916

**OFFICIAL RESOLUTION
OF THE
Strawberry High Line Canal Company**

RESOLUTION NO. 2024 - 1

WHEREAS, the United States Department of the Interior, Bureau of Reclamation has announced the *WaterSMART Water and Energy Efficiency Grants* in order to prevent water supply crises and ease conflict in the western United States, and has requested proposals from eligible entities to be included in the WaterSMART Program, and

WHEREAS, the Strawberry High Line Canal Company (Applicant) has need for funding to complete the Strawberry High Line Lateral 34 Piping Project.

NOW, THEREFORE, BE IT RESOLVED that the **Strawberry High Line Canal Company Board of Directors** agrees and authorizes that

1. The Strawberry High Line Canal Company Board of Directors has reviewed and supports the application submitted;
2. The Applicant is capable of providing the amount of funding and/or in-kind contributions, specified in the funding plan; and
3. The Applicant will work with Reclamation to meet established deadlines for entering into a grant or cooperative agreement.

DATED: _____

Marty Larson, General Manager
Strawberry High Line Canal Company

ATTEST:

=====