Liberty Pipeline Company

BUREAU OF RECLAMATION

Liberty Pipeline Company Drought Resiliency Project

WaterSMART: Drought Resiliency Projects -
NOFO No. R23AS00005

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Table of Contents

Technical Proposal and Evaluation Criteria

Executive Summary

Date: June 15, 2022

Applicant Name: Liberty Pipeline Company

City, County, State: Liberty, Weber County, UT

Applicant Category: Category A

Project Funding Request: $1,547,700

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, recent drought conditions in your project area. Describe how this project is expected to help alleviate impacts of those conditions, and identify any drought plans or other planning documents that support the project. This information will be used to create a summary of your project for our website if the project is selected for funding.

Liberty Pipeline Company (LPC), located in Liberty, Utah, will construct a booster pump station and transmission line that will provide an additional 80 acre-feet of water per year to the north end (North Zone) of their service district where supply has been extremely limited. As unprecedented drought conditions continue throughout Utah, the two springs that provide water supply to the North Zone have been significantly impacted, resulting in insufficient water supply for hundreds of households. According to state requirements, the North Zone is 24,209 gallons-per-day deficient for source! Due to the lack of adequate infrastructure and the mountainous terrain within LPC's service area, water sources and storage in the North Zone are available to both the North and South Zones, but storage and sources in the South Zone are only available in the South Zone. Because of this, LPC storage tanks in the North Zone have come close to running dry several times over the last few years and LPC has had to implement strict water use restrictions and even consider extreme actions such as trucking water from Bona Vista Water Improvement District or implementing an emergency connection to Cole Canyon, a neighboring water district. The proposed booster pump station and transmission line will provide a way to more equally distribute the total available water supply, significantly improve the water reliability and drought resiliency of LPC and benefit over 680 stakeholders. LPC has prioritized this project within the Drought Resiliency Plan (DRP) of their 2021 Culinary Water Master Plan Update.

State the length of time and estimated completion date for the proposed project including the construction start date (mm/yr) (if applicable) ***Note: proposed projects should not have an estimated construction start date that is prior to March 2023****.*

It is anticipated that the NEPA process will take up to 12 months to complete and will begin as soon as a contract is in place with Reclamation. Assuming a contract is in place by Spring/Summer 2023, The 30 percent design of the project is complete, final design will occur between Winter 2023 and Spring 2024, bidding/contracting in Summer 2024, and construction will occur between Fall 2024 and Spring 2026.

Whether or not the proposed project is located on a Federal facility.

The project is not located on a federal facility.

Project Location

Provide specific information on the proposed project location or project area including a map showing the geographic location. For example, [project name] is located in [county and state] approximately [distance] miles [direction, e.g., northeast] of [nearest town]. The project latitude is {##°##'N} and longitude is {###°##'W}.

The Liberty Pipeline Company Drought Resiliency Project is located in the Ogden Valley, a high mountain valley and ski resort community in Weber County, Utah. Liberty is a Census Designated Place approximately 2 miles northwest of Eden. The Ogden Valley is a popular vacation and tourism destination with three ski resorts, Pineview Reservoir, Causey Reservoir and national forest lands. The project latitude is {41°21'20" N} and longitude is {111°52'13" W}. See Attachment A – Project Location and Project Detail Maps.

Figure 1 Eden, UT

Technical Project Description

Provide a more comprehensive description of the technical aspects of your project, including the work to be accomplished and the approach to complete 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. This section provides an opportunity for the applicant to provide a clear description of the technical nature of the project and to address any aspect of the project that reviewers may need additional information to understand.

This project consists of a 20-horsepower booster pump station located on existing property owned by LPC, with a transmission line (approximately 14,500 linear feet of 8-inch C900 PVC pipe) that connects the pressure zones in the South Zone (Liberty) to pressure zones in the North Zone (Cutler Flat). In order to offset any potential impacts to the water supply in the South Zone

from sending water to the North Zone, LPC has decided to rehabilitate the Willow Creek Well which has been out of service for over 20 years and when fully equipped, will add an additional 80 acre-feet of water supply to LPC's system. The Willow Creek Well is located in the South Zone and will be pumped into the South Zone which can then be boosted into the North Zone. LPC has decided to move forward with the Willow Creek Well rehabilitation portion of the project on their own, in order to expedite the completion which is anticipated for summer 2023. All equipment has been purchased and LPC is waiting for a contractor to clean the well screen.

The Cutler Spring and Durfee Well, which are the two water sources in the North Zone, have been significantly impacted during recent drought years, and LPC has had to use restrictions to manage the water use. The Cutler Spring experienced a 66 percent decrease in flow from 248 acre-feet in 2017 to 84 acre-feet in 2021. See Figure 2. Had it not been for severe water restrictions in Summer 2021, the North Zone would have literally run out of water. The State of Utah requires that the North Zone have 162,449 GPD for source, but the North Zone only has 138,240 GPD from the existing sources. The North Zone is deficient for source by 24,209 GPD.

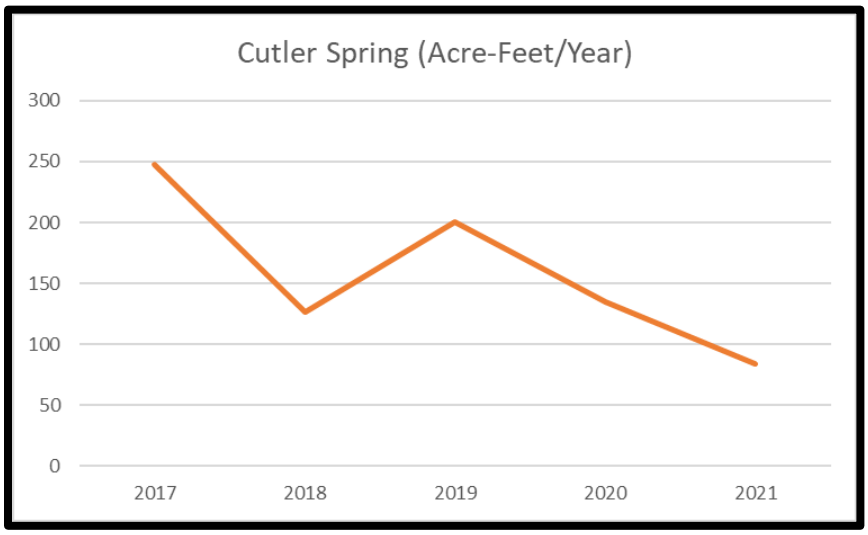


Figure 2 Cutler Spring Decrease in Production Due to Drought

The Smith Well is the largest producing water source but is in one of the lowest pressure zones in the system, which is the Liberty Zone (In this application, the Liberty Zone and Lower Zone are referred to jointly as the South Zone). The Cutler Zone is the second-highest zone in the system and contains Cutler Spring, which is the primary source for the Cutler Zone, Lomondi Zone, South Gate Zone, and Durfee Zone (In this application, these higher zones are referred to jointly as the North Zone).

The booster pump station will have the ability to pull from the Liberty/Sheep Creek tanks (which are fed by the Smith well and will be by the Willow Creek Well) and pump that water into the Cutler Flat Tank in order to provide greater water source equalization across the entire system. The project will implement SCADA to measure tank level in the Cutler Flat Tank and signal the booster to supplement water to the North Zone when required. The booster pump station will only be able to boost the amount of water that is produced by the Willow Creek well so that the South Zone is not impacted negatively.

The booster pump station will have capacity to provide 100 gallons per minute (gpm) at 355 feet of total dynamic head. The booster station will be designed to be able to be expanded to 200gpm for future demands. The pumping capacity of the Smith Well will also grow with future growth

as additional users will bring water rights to be used at the Smith Well. The Cutler Spring and Durfee Well sources in North Zone can produce approximately 100 gpm during a typical year. This project will double the capacity of the North Zone by connecting it to the largest sources in the system and will add 80 acre-feet of water per year into those upper zones. This project will result in the better management of LPC's total water supply by connecting the largest sources in the system with all of the pressure zones in order to ease strain on Cutler Spring and the Durfee Well, which have historically been more susceptible to drought.

The project will include environmental review, design, and construction management. LPC recently completed a Water Master Plan that included hydraulic modeling to evaluate the existing system and prepare a list of prioritized projects, including the proposed project. LPC has proceeded with the construction of the Willow Creek Well due to the emergency of the situation in Liberty. The Willow Creek Well is shown as a project being completed by LPC and will be paid for 100 percent by LPC.

Performance Measures

All applicants are required to propose a method (performance measure) of quantifying the benefits of their proposed project once it is implemented. Quantifying project benefits is an important means to determine the relative effectiveness of various water management efforts, as well as the overall effectiveness of the project

The existing North Zone sources, which consist of the Liberty/Durfee Spring and the Cutler Flat Spring, can supply roughly 85 percent of the projected water use for the North Zone. The proposed booster pump station and transmission line will provide the remaining 15 percent of the supply needed to meet the demands of the North Zone as well as provide source redundancy for drought resilince. LPC will be able to monitor and compare water supply records after completion of the project to records from previous years to verify the effectiveness of the project. It is anticipated that upon completion of the project, 100 percent of the water source needs for the North Zone will be met through the year 2040.

Evaluation Criteria

E.1.1. Evaluation Criterion A – Project Benefits (30 Points)

How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?

The proposed project will build long-term resilience to drought by providing a way for LPC to send available water supply in the South Zone to the water-deficient North Zone. Currently, the North Zone is connected to the South Zone, but the source and storage in the South Zone cannot serve the North Zone. The North Zone is supplied by two springs that are significantly impacted by drought. Cutler Springs experienced a 66 percent decrease in flow from 248 acre-feet in 2017 to 84 acre-feet in 2021. The North Zone is currently 24,209 gallons-per-day deficient for source according to state requirements.

The largest LPC water source is the Smith Well which produces roughly 80 percent of LPC's total water supply but is located in the South Zone (lowest pressure zone). The completion of the Willow Creek Well rehabilitation project (underway with an anticipated completion date of July 2023, and is a project LPC is completing with its own funding) and the proposed booster pump

station and transmission line will enable LPC to distribute the surplus supply that is available in the South Zone, to the North Zone. This project will reduce the North Zone's reliance on the springs, which have been more susceptible to drought and provide an **additional 80 acre-feet of drought resilient water per year** for the entire useful life of the transmission line, which is **50 to 100 years,** assuming replacement of the booster pump is necessary.

Will the project make additional water supplies available?

- *If so, what is the estimated quantity of additional supply the project will provide and how was this estimate calculated? Provide this quantity in acre-feet per year as the average annual benefit over ten years (e.g., if the project captures flood flows in wet years, provide the average benefit over ten years including dry years).*

  The addition of the Willow Creek Well (being rehabilitated by LPC) will make an additional 80 acre-feet of average annual water supply available to the system, and the booster pump station and transmission line will provide a way to send the **additional 80 acre-feet of average annual water supply** to the North Zone. This project will provide a link between the South Zone to the North Zone, which **currently does not exist,** and will enable LPC to distribute available water supply in the South Zone to the North Zone.

  The Willow Creek Well will be able to produce 80 acre-feet of water into the system.

  (50 gpm X 1,440 minutes/day X 365 days/year = 26,280,000 gallons/year ÷ 7.48 gallons/cubic feet ÷ 43,560 square feet/acre = 80 acre-feet

  The booster pump station will add 100 gallons per minute (gpm) of source during summer months into the North Zone.

  (100gpm X 1,440 minutes/day X 182 days/year = 262,080,000 gallons/year ÷ 325,851 gallons/acre-foot = 80 acre-feet/year)

  (80 acre-feet/year X 10 years = 800 acre-feet of water)

- *What percentage of the total water supply does the additional water supply represent? How was this estimate calculated?*

  This project will increase the total water supply in the North Zone by roughly 51 percent. The North Zone sources currently produce 96 gpm during summer demands and the new booster pump station will provide an additional 100 gpm. The North Zone sources produce on average 155 acre-feet per year. The new booster pump station will provide an additional 80 acre-feet of water to the North Zone.

  (80 acre-feet/year additional supply ÷ 155 acre-feet/year existing supply = **51 percent increase in total available supply in the North Zone**).

- *Provide a qualitative description of the degree/significance of the benefits associated with the additional water supplies.*

  The booster pump station provides a 51 percent increase of source to the North Zone. The booster pump station and transmission line will allow the North Zone to tap into the largest sources in the system located in the South Zone. During drought, LPC has come close to having to truck in water to provide the North Zone with enough water supply. By

completing this project, LPC will be able to distribute the total supply more equally throughout the system. All of the water boosted to the North Zone will then be available to all of the pressure zones in the system, thus benefitting every user on the system.

Will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water marketing (e.g., improve the ability to deliver water during drought or access other sources of supply)? If so:

- *How will the project increase efficiency or operational flexibility?*

  The largest sources in LPC's system are located in the lowest pressure zone, which significantly hinders operational flexibility. The proposed booster pump station and transmission line will connect the largest sources with all the pressure zones in the system, enabling LPC to distribute their total available water supply to all of the pressure zones and all of the users in the system. The water storage tanks located in the North Zone and are connected to all of the pressure zones in the system, so the proposed project will benefit all users in the system.

  In addition, the Willow Creek Well and the booster pump station will be tied to LPC's SCADA system and will be used only during times of drought. If the North Zone sources are struggling to keep up with demand and the Cutler Spring tank drops to unsafe levels, the Willow Creek Well and the booster pump station will supplement the flow to fill the Cutler Spring tank. Operating the system in this way will save money on pumping the Willow Creek well and will leave as much water in the aquifer as possible.

- *What is the estimated quantity of water that will be better managed as a result of this project? How was this estimate calculated? Provide this quantity in acre-feet per year as the average annual benefit over ten years (e.g., if the project captures flood flows in wet years, provide the average benefit over ten years including dry years).*

  The booster pump station will have capacity for 100 gpm at 355 feet of total dynamic head. The existing North Zone sources provide approximately 100gpm. This project will double the capacity of the North Zone by connecting the largest sources in the system with the North Zone. This project has the capacity to add **80 acre-feet of water per year** into the North Zone or **800 acre-feet of water** over a 10-year period.

- *What percentage of the total water supply does the water better managed represent? How was this estimate calculated?*

  The amount of water that the completion of this project will better manage represents roughly 20 percent of LPC's total water supply. This estimate was calculated by dividing 100 gpm (capacity of the booster pump station) by 496 gpm (total peak-day source numbers from LPC's Water Master Plan).

- *Provide a qualitative description of the degree/significance of anticipated water management benefits.*

  This project will optimize water management by connecting the lowest pressure zone, the Smith Well, with all the other zones within the system. This project will help reduce the reliance on the North Zone sources (Cutler Spring and Durfee Well), which have historically been more susceptible to drought.

- *Will the project make new information available to water managers? If so, what is that information and how will it improve water management?*

  This project includes a SCADA connection to the system, which allows the water manager to collect, analyze, and monitor data throughout the entire system. It will enable the water manager to move water from the low-pressure zone to the North Zone when it is needed. The system will be managed in real-time to reduce overflows and pumping costs at the wells.

E.1.2. Evaluation Criterion B – Drought Planning and Preparedness (20 Points)

Provide a link to the applicable drought plan, and only attach relevant sections of the plan that are referenced in the application, as an appendix to your application. These pages will be included in the total page count for the application.

See Attachment B – LPC Drought Resiliency Plan.

Explain how the applicable plan addresses drought. Proposals that reference plans clearly intended to prepare for and address drought will receive more points under this criterion.

- *Does the drought plan contain drought focused elements including a system for drought monitoring, sector vulnerability assessments related to drought, prioritized mitigation actions, and response actions that correlate to different stages of drought?*

  Yes. The Liberty Pipeline Company Drought Resiliency Plan (DCP) includes a system for monitoring drought, vulnerabilities by sector, and a list of prioritized mitigation and response actions.

- *Explain whether the drought plan was developed with input from multiple stakeholders. Was the drought plan developed through a collaborative process?*

  The LPC Drought Resiliency Plan (DRP) was developed through a collaborative process, including input from a consulting team, members of the LPC board, and a public comment period. The LPC DRP serves as a guiding document with a prioritized list of mitigation measures that help manage water supply and delivery in the event of severe or prolonged drought. It addresses drought vulnerabilities by prioritizing identified projects for drought mitigation.

  LPC worked with a consulting team and evaluated ways to increase drought resiliency. The DRP documents the process used to determine drought monitoring, identify vulnerabilities, risks, mitigation actions/priority projects, and recommendations to improve long-term drought resiliency. This was accomplished through a multi-step process, which included:

  1. Documenting a drought monitoring process
  2. Evaluating potential drought vulnerabilities and associated risks
  3. Identifying key mitigation objectives to address the vulnerabilities
  4. Assessing and prioritizing potential mitigation actions from the 2021 master plan
  5. Presenting the plan to the LPC Board for comment and adoption

- *Does the drought plan include consideration of climate change impacts to water resources or drought?*

  Yes, climate change impacts on water resources were considered as part of the vulnerabilities and risks evaluation and can be found on page 3.

- *Describe how your proposed drought resiliency project is supported by an existing drought plan.*

  The proposed drought resiliency project is listed as the number one priority project within LPC's Drought Resiliency Plan and is listed on page 6, table 3.

- *Does the drought plan identify the proposed project as a potential mitigation or response action?*

  Yes, the proposed project is listed as a potential mitigation action within LPC's Drought Resiliency Plan on page 5, table 2. This priority project surfaced as the highest priority project based on defined objective criteria found on pages 4 and 5.

- *Does the proposed project implement a goal or need identified in the drought plan?*

  Yes, the vulnerabilities identified were used to help develop the objective criteria that was used to evaluate the water master plan projects and determine which projects would provide the highest drought resiliency benefit. Each objective has a corresponding metric used to measure how well the goal of the objective was met. See pages 4 and 5, and Table 2 of the plan.

- *Describe how the proposed project is prioritized in the referenced drought plan?*

  Potential mitigation actions were evaluated based on objectives to determine which actions would best address the identified vulnerabilities. The actions were scored according to how well they met the identified objectives as defined by the metrics. The estimated costs to complete actions were not part of the evaluation. On page 5 of the plan, a table indicates the prioritized drought mitigation actions. This project rose to the top based on defined objective criteria found on page 4.

E.1.3. Evaluation Criterion C – Sustainability and Supplemental Benefits (15 points)

1. Climate Change: *E.O. 14008 emphasizes the need to prioritize and take robust actions to reduce climate pollution, increase resilience to the impacts of climate change, protect public health, and conserve our lands, waters, oceans, and biodiversity. Examples in which proposed projects may contribute to climate change adaptation and resiliency, may include but are not limited to the following:*

- *In addition to drought resiliency measures, does the proposed project include other natural hazard risk reductions for hazards such as wildfires or floods?*

Yes, the proposed project will improve LPC's ability to manage their overall water supply and storage, which will help in the event of a wildfire within LPC's service area, located in the Ogden Valley which consists of a very mountainous region with limited evacuation routes. See Figure 3. The valley is a popular vacation and tourism destination with three ski resorts, and thousands of acres of national forest. Wildfire in Utah is quite common. The state averages about 1,300 wildfires each year with annual average acreage burned at over 170,000 acres. Total burned acreage can vary widely from year to year. In just the past decade, total wildfire acreage has ranged from a relatively paltry 10,200 acres (in 2015) to well over 600,000 acres (in 2007).

Figure 3 Liberty Utah, Located in the Ogden Valley

In 2018, and again in 2021, LPC was facing severe water shortages in the North Zone and was forced to implement strict use limitations because their water tanks were projected to run dry. There was a major concern that there would be no culinary water supply for residents and to provide fire protection for homes and fight wildfires in the mountainous area. The limited amount of storage and the reduction in water production within their spring and well nearly required LPC to either purchase and truck-in water from Bona Vista Water Improvement District or exercise an emergency connection to the neighboring Cole Canyon water system. This project will help LPC build climate resilience by developing the infrastructure necessary to increase water efficiency and water movement within its water system to avoid potential water-related conflicts in the future.

- *Does the proposed project include green or sustainable infrastructure to improve community climate resilience such as, but not limited to, reducing the urban heat island effect, lowering building energy demands, or reducing the energy needed to manage water? Does this infrastructure complement other green solutions being implemented throughout the region or watershed?*

The Willow Creek Well and the booster pump station will be tied to LPC's SCADA system and will be used only during times of drought. If the North Zone sources are

struggling to keep up with demand and the Cutler Spring tank drops to unsafe levels, the Willow Creek Well and the booster pump station will supplement the flow to fill the Cutler Spring tank. Operating the system in this way will save money on pumping, but also leaves as much water in the aquifer as possible.

LPC operates a water filtration system in order to operate the Durfee Creek Well. The Durfee treatment, well, and booster typically uses over 46,000 KWH of electricity each year. This electrical usage will be reduced with the addition of the booster pump station from the South Zone. Water from the Durfee Well requires treatment and needs to be filtered which requires a significant energy demand.

This project will also help offset energy demands by installing a solar system that will produce a renewable energy source at the booster pump station. The project will install a 12.3-kilowatt solar system consisting of thirty solar panels that will provide approximately 18,565 kilowatt-hours per year that will be used to offset their energy demands.

- *Will the proposed project establish and use a renewable energy source?*

  The proposed project includes a 12.3-kilowatt solar system that will be installed with the booster pump station.

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

  The proposed solar system is estimated to result in 374,074 pounds of coal saved and equates to:

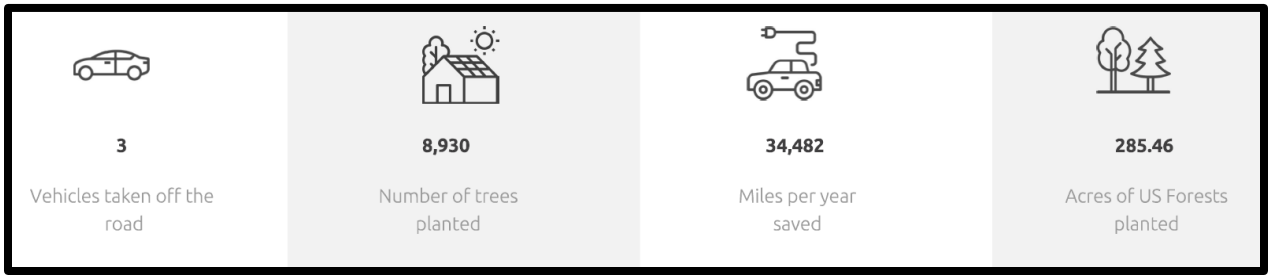


Figure 4 Environmental Benefits of Solar System

- *Will the proposed project reduce greenhouse gas emissions by sequestering carbon in soils, grasses, trees, and other vegetation?*

  Landscaping is planned for the pump station, but the vegetation planted will not be substantial.

- *Does the proposed project have a conservation or management component that will promote healthy lands and soils or serve to protect water supplies and its associated uses?*

  Yes, site landscaping will be designed to use local and xeric, drought-tolerant plants, and the proposed project has a water management component that will help protect water supplies.

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

  The proposed project will be connected with SCADA and will only be used during drought conditions. The proposed project will only be used when the existing North Zone Sources are not keeping up with demand. This will protect the Willow Creek Well from being overused by not operating when it is not needed.

2. Disadvantaged or Underserved Communities: E.O. 14008: Tackling the Climate Crisis at Home and Abroad directs Federal agencies to assess potential benefits to disadvantaged communities as part of funding allocation processes. E.O. 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government also includes consideration of investment in underserved communities, consistent with other program requirements. E.O. 13985 defines an underserved community to include populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, and provides examples of such communities. See each Executive Order for additional information.

Points will be awarded based on the extent to which your Project serves economically disadvantaged or underserved communities in rural or urban areas.

Please describe in detail how the community is disadvantaged or underserved based on a combination of variables that may include the following:

- *Low income, high and/or persistent poverty*
- *High unemployment and underemployment*
- *Racial and ethnic residential segregation, particularly where the segregation stems from discrimination by government entities*
- *Linguistic isolation*
- *High housing cost burden and substandard housing*
- *Distressed neighborhoods*
- *High transportation cost burden and/or low transportation access*
- *Disproportionate environmental stressor burden and high cumulative impacts*
- *Limited water and sanitation access and affordability*
- *Disproportionate impacts from climate change*
- *High energy cost burden and low energy access*
- *Jobs lost through energy transition*
- *Access to healthcare*

Liberty Pipeline Company is located in Liberty Utah in the Ogden Valley, which is a rural, high mountain valley and ski resort community in Weber County with a very high housing cost burden according to Census data. 10.7 percent of the population in Liberty is currently below the poverty line which is nearly 20 percent higher than the rate in Utah of 9.1 percent. Over 22 percent of the population in Liberty is aged 60 or older which is more than double the rate in Utah of 8 percent. Many of these individuals are veterans (7.5 percent) living on fixed incomes and unable to afford the high housing cost burden that the area has seen over the last several years.

Statewide, the average rent in Utah for a two-bedroom unit was $1,710 in February 2021, according to Rent.com's rent report released in May 2022. That's up over 44 percent from an average rent of $1,185 in 2020. There has also been a significant disparity between wage increases over the last several years and housing cost increases in Utah. Nearly 1 in 5 Utahns are spending half or more of their income on housing, according to federal data. Experts advise that

no one should pay more than 30 percent on housing costs. In the current market, though, paying 30 percent or less of income on housing is increasingly unattainable for the third of Utahns with leases as well as those aspiring to buy a home, especially in the Ogden Valley. Adjusted for inflation, Utah's median incomes have held all but flat since 2002.

Many new single-family residential homes are being built in the Ogden Valley. This reduces the number of affordable housing options for residents with lower annual incomes and pushes them further into poverty as they are forced to pay higher rental rates.

3. Tribal Benefits: The Department of the Interior is committed to strengthening tribal sovereignty and the fulfillment of Federal tribal trust responsibilities. The President's memorandum, "Tribal Consultation and Strengthening Nation-to-Nation Relationships," asserts the importance of honoring the Federal government's commitments to Tribal Nations.

The proposed project does not provide any tribal benefits.

4. Environmental Benefits: Drought resiliency projects often provide environmental benefits in addition to water supply reliability benefits for other users. Ecological resiliency is crucial to sustain ecosystems that can respond to and recover from external stressors resulting from climate change and drought.

The proposed project does not provide any additional environmental benefits.

5. Other Benefits: Will the project address water sustainability in other ways not described above? For example:

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

  No.

- *Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)?*

  Yes, the project will benefit municipal, industrial, and agricultural users by making more water available during drought and providing redundancy within the LPC system. It allows water to be moved from wells producing adequate source through the booster pump station to tanks located higher in the water system, which will benefit every user on the system. There are several agricultural water users within the LPC service area that are deeply concerned about the impacts that additional growth will have on the limited water supply in the area.

- *Will the project benefit a larger initiative to address sustainability of water supplies?*

  Yes. Weber Basin Water Conservancy District is currently conducting the Ogden Valley Water Supply and Master Plan Study. The purpose of that study is to catalog all the water systems and water suppliers in the Ogden Valley and consider how to use the water supply more efficiently in the Ogden Valley. Other projects like the one proposed in this application will likely result from that study.

E.1.4. Evaluation Criterion D – Severity of Actual or Potential Drought Impacts to be Addressed by the Project (15 Points)

What are the ongoing or potential drought impacts to specific sectors in the project area if no action is taken (e.g., impacts to agriculture, environment, hydropower, recreation and tourism, forestry), and how severe are those impacts? Impacts should be quantified and documented to the extent possible. For example, impacts could include, but are not limited to:

- *Whether there are public health concerns or social concerns associated with current or potential drought conditions (e.g., water quality concerns including past or potential violations of drinking water standards, increased risk of wildfire, or past or potential shortages of drinking water supplies? Does the community have another water source available to them if their water service is interrupted?).*

  As extreme drought conditions continue to plague Utah, LPC and its service district have seen significant water shortages in the North Zone of their service area that have nearly resulted in their water supply running out completely! LPC has considered drastic measures such as trucking water from outside sources or executing an emergency connection with neighboring Cole Canyon's water system. The public health and safety of 147 residential connections or an estimated 411 people in the North Zone would be at risk if such an event were to happen in the future for multiple reasons, including reduced ability to fight wildfires in the mountainous terrain that makes up LPC's service area.

  This project will provide culinary water security and water sustainability. It will provide a way for LPC to distribute its available water supplies across the entirety of its service district. This will substantially decrease the likelihood of a public health and safety crisis resulting from a water shortage and provide peace of mind to residents dealing with the stresses of knowing that a lack of culinary water is a real possibility.

- *Whether there are ongoing or potential environmental impacts (e.g., impacts to endangered, threatened or candidate species or habitat).*

  N/A.

- *Whether there are local or economic losses associated with current drought conditions that are ongoing, occurred in the past, or could occur in the future (e.g., business, agriculture, reduced real estate values).*

  Agricultural production within the project area has been significantly affected by the ongoing drought conditions and lack of water available. Many of the farmers in the area have had to fallow fields and sell cows because feed has become too expensive. The loss of livestock and income from crops has and will continue to impact these farmers' ability to continue farming in the area.

  Dee Staples, president of the Wolf Creek Irrigation Company in Eden, raises about 40 head of steer that he sells as naturally fed beef. He said, "Most of our irrigation comes from early snow runoff." This satisfies his 1861 senior water rights through April and May, then it dwindles. In unusually wet years, conservation helps the water stretch, but this year, dry conditions ushered in harsh restrictions. Staples said, "I buy 600-pound steers in the fall, feed them hay through the winter, put them on grass in the summer, then butcher them the next fall." "This is the first year in about 15 that I haven't bought calves in the fall."

Dave Brown moved to the upper Ogden Valley in 1989, where he's farmed up to 300 acres at times. But in 2021, he only worked his own 17-acre farm growing alfalfa hay that helped feed Staples' steers. Brown said he had a good season – due mostly to prayer and loss of sleep. Brown continued to say, "I had to set alarms that would go off at two o'clock or three o'clock in the morning to (go out and) cut the water off. Most people aren't going to do that, it messes up your whole night." But new development and skyrocketing property taxes convinced Brown to move on. "I bought a farm back home in Virginia…I wish I was there now," Brown said, but he still has loose ends to tie up.

- *Whether there are other drought-related impacts not identified above (e.g., tensions over water that could result in a water-related crisis or conflict).*

There has always been tension over the water within the Ogden Valley, especially as the ski resorts have planned to expand residential and commercial development and build multiple golf courses; all of which need more water. Over the past ten years, lawsuits to try and stop the ski resorts from drilling more wells and impacting those who live in the Valley below them have occurred. A group called Valley Citizens for Responsible Development (VCRD) has gone on record in opposition to the new wells and the development.

There are several agricultural water users within the LPC service area that are deeply concerned about the impacts that additional growth will have on the limited water supply in the area. By August 2021, Pineview Reservoir has shrunk to 24 percent of its normal size. The Wolf Creek Water & Sewer Improvement District imposed a moratorium on new water connections, halting service to new home construction until another water source is found. However, new homebuyers keep arriving, some who discovered during the COVID-19 pandemic that their jobs could be done remotely; but preliminary data from a Bowen Collins & Associates study projected the valley would reach buildout years sooner than previously anticipated. Their final report is due in February 2023.

Describe existing or potential drought conditions in the project area.

- *Is the project in an area that is currently suffering from drought or which has recently suffered from drought? Please describe existing or recent drought conditions, including when and the period of time that the area has experienced drought conditions (please provide supporting documentation, [e.g., Drought Monitor, droughtmonitor.unl.edu]).*

According to the National Integrated Drought Information System (NIDIS), as of June 14, 2022, 100 percent of Weber County is in Severe Drought conditions or worse. Figure 5 shows the current drought conditions for Weber County, obtained from the Utah Department of Natural Resources and the National Drought Mitigation Center at the University of Nebraska-Lincoln.

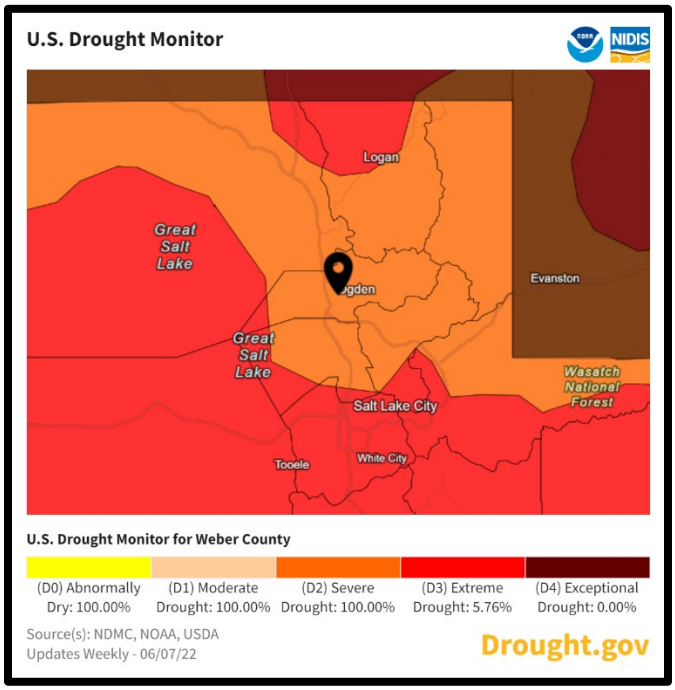


Figure 5 Weber County Drought Conditions

On April 21, 2022, Governor Spencer J. Cox declared a state of emergency due to the dire drought conditions affecting the entire state. According to the Utah Department of Natural Resources, as of April 2022, 99.39 percent of the state is in severe drought or worse, with 43.46 percent of Utah in extreme drought and snowpack only at 75 percent of normal. Nineteen of Utah's largest 45 reservoirs are below 55 percent of available capacity. Overall statewide storage is 59 percent of capacity. Of the 94 measured streams, 59 were flowing below normal despite spring runoff. Two streams were flowing at record low conditions.

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

The recently completed Weber River and Bear River tree-ring stream flow reconstructive studies and Jordan Valley Water Conservancy District's *Preparing for Climate Change—A Management Plan* forecast the likelihood of much more severe and longer-term droughts in the future.

E.1.5. Evaluation Criterion E – Project Implementation (10 Points)

Describe the implementation plan of the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Milestones may include, but are not limited to, the following: design, environmental and cultural resources compliance, permitting, construction/installation.

Project Award – *End of 2022*

NEPA – *January 2023 – December 2023*

Booster Pump Station and transmission line 30% Design – *Complete*

Willow Creek Well Casing Cleaning – *Fall 2022 (By Liberty Pipeline)*

Willow Creek Well Equipping – *January 2023 (By Liberty Pipeline)*

Willow Creek Well Startup – *Summer 2023 (By Liberty Pipeline)*

Booster Pump Station Final Design – *October 2023 – April 2024*

Construction – *June 2024 – August 2024*

Utah Division of Drinking Water Review – *August 2024 – September 2024*

Startup – *October 2024*

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

Conditional use permits will be obtained from Weber County to construct the booster pump station and transmission line. Prior to startup, the Division of Drinking Water will review the plans and specs for plan approval. Once construction is complete, they will issue an operating permit. In addition, Weber County will require an excavation permit for construction within the County roads.

Identify and describe any engineering or design work performed specifically in support of the proposed project.

LPC has completed a hydraulic water model of the system to identify ways to improve the system overall, but also to identify projects to help with the current drought and the risks associated with the source production in the North Zone. A water masterplan of the system was completed in 2019, which outlined the capital facility projects needed for the system to meet the minimum sizing requirements outlined by the State of Utah. A 30 percent design of the booster pump station and transmission line have also been completed.

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

There are no required policies or administrative actions to implement the project. LPC has approved the Water Master Plan; and the Drought Reliance Plan prepared, modeled, and prioritized the projects under LPC's direction.

E.1.6. Evaluation Criterion F – Nexus to Reclamation (10 Points)

Describe the nexus between the proposed project and a Reclamation project or Reclamation activity. Please consider the following:

- *Does the applicant have a water service, repayment, or O&M contract with Reclamation?*

  No.

- *If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means?*

  Many of the water rights used in the system are exchange rights with Weber Basin Water Conservancy District (WBWCD), which is a Bureau of Reclamation project.

- *Will the proposed work benefit a Reclamation project area or activity?*

  All water users are within the WBWCD area and many pay annual assessments on their taxes. WBWCD is a Bureau of Reclamation project. Any new connections are required to bring a water right exchange from WBWCD to be able to connect to the system.

- *Is the applicant a Tribe?*

  No.

Project Budget

Funding Plan and Letters of Commitment

Describe how the non-Federal share of project costs will be obtained. Reclamation will use this information in making a determination of financial capability.

LPC will use its reserve account to fund as much of the project as possible and request a loan from the Division of Water Resources (DWRe) for any additional funds required.

Please identify the sources of the non-Federal cost share contribution for the project, including:

- *Any monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments).*

  LPC will use funds from their reserve account and obtain a loan from DWRe based on how much additional funds they will need for the project.

- *Any costs that will be contributed by the applicant.*

  N/A.

- *Any third-party in-kind costs (i.e., goods and services provided by a third party).*

  N/A.

- *Any cash requested or received from other non-Federal entities.*

  N/A.

- *Any pending funding requests (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied.*

  LPC will use funds from their reserve account and request a loan from DWRe for the additional needed amount. The Water Resources Board funds nearly 100 percent of the loans requested.

In addition, please identify whether the budget proposal includes any project costs that have been or may be incurred prior to award. For each cost, describe:

- *The project expenditure and amount.*

  N/A.

- *The date of cost incurrence.*

  N/A.

- *How the expenditure benefits the project.*

  N/A.

Budget Proposal

Table 1 – Total Project Cost Summary

Source	Amount
Costs to be reimbursed with the requested Federal funding	$1,547,700
Costs to be paid by the applicant	$1,547,700
Value of third-party contributions	$0
Total Project Cost	$3,095,400

Table 2 – Non-Federal and Federal Funding Sources Summary

Funding Sources	Amount
Non-Federal Entities	
1. LPC Reserve Account	$156,000
2. Loan from DWRe	$1,391,700
Non-Federal Subtotal	$1,547,700
Requested Reclamation Funding	$1,547,700

Table 3 – Budget Proposal

Budget Item Description	Computation		Quantity Type	Total Cost
	$/Unit	Quantity		
Salaries and Wages				**$0.00**
Fringe Benefits				**$0.00**
Travel				**$0.00**
Equipment				**$0.00**
Supplies and Materials				**$0.00**
Contractual/Construction				**$3,095,400.00**
Design	$206,400	1	EA	$206,400
Construction Engineering	$206,400	1	EA	$206,400
Mobilization	$122,800	1	EA	$122,800

20 HP Pump Station - Building	$475,000.00	1	EA	$475,000.00
Solenoid Valve & SCADA in Existing PRV	$30,000.00	1	EA	$30,000.00
8" C900 PVC Pipe	$88.00	14,500	LF	$1,276,000
Furnish, Place and Compact Imported Pipe Bedding	$19.00	4,900	TONS	$93,100
Furnish, Place and Compact Imported Final Backfill Material	$25.00	13,100	TONS	$327,500
UTBC – 12 inches	$25.00	5,400	TONS	$135,000
3" Asphalt Repair	$125.00	600	TONS	$75,000.00
12.3 KW Solar Array	$45,000.00	1	EA	$45,000
Other				
Environmental				$103,200
Total Direct Costs				$3,095,400.00
Indirect Costs				
Type of rate	Percentage	$base		$0.00
Total Estimated Project Costs				$3,095,400.00

Budget Narrative

Salaries and Wages

No LPC staff salaries or wages are included. All services will be contracted out and any LPC staff time will be above and beyond the project cost.

Fringe Benefits

No fringe benefits will be required.

Travel

No travel will be required.

Equipment

Equipment will be part of the contracted portion of the project.

Materials and Supplies

Materials and supplies will be part of the contracted portion of the project and will be documented as required.

Contractual

To determine unit costs included in the cost estimate for this project, LPC relied upon the Drought Resiliency Plan prepared in 2021. Contract unit prices from similar projects recently completed were used by the engineering firm to estimate those costs. LPC followed its

procurement process and procured consulting services before applying for these funds. They will bid the construction portion of the project to several prequalified construction companies. The contractual costs are estimates for each component to construct the booster pump station and transmission line. Generally, the low bidder will be selected based on a determination of acceptable qualifications.

Third-Party In-Kind Contributions

N/A.

Environmental and Regulatory Compliance Costs

$103,200 has been budgeted for the NEPA process, which includes the evaluation of the required information, report preparation, and any changes required by Reclamation. This is based on past projects and the cost for environmental reviews; however, if Reclamation considers this project possible for a categorical exclusion (CE), Reclamation could prepare the CE as they have in the past.

Other Expenses

No other expenses are included.

Indirect Costs

No indirect costs are included.

Total Costs

Applicant: $1,547,700	Reclamation: $1,547,700	Total: $3,095,400

Environmental and Cultural Resources Compliance

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.

Impacts will be those associated with constructing a booster pump station and transmission line. In the past, similar projects have had minimal impacts. The surface vegetation will be restored upon completion of the project.

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?

LPC is not aware of any threatened or endangered species or critical habitat within the project area.

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.

LPC is not aware of any impacts to wetlands in the project boundaries.

When was the water delivery system constructed?

The culinary water system was constructed in 1964.

Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.

N/A.

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 your local Reclamation office or the State Historic Preservation Office can assist in answering this question.

A cultural resource inventory will be completed as part of the submitted environmental document.

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

LPC is not aware of any archeological sites in the proposed project area.

Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?

No.

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

No.

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?

No.

Required Permits and Approvals

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

Conditional use permits will be obtained from Weber County to construct the booster pump station and transmission line. In addition, Weber County will require an excavation permit for construction within the County roads. The plans and specifications will be submitted to the Utah Division of Drinking Water (DDW) for review and plan approval. After plan approval, the DDW will issue an operation permit to LPC.

Existing Drought Contingency Plan

If there is an existing drought contingency plan addressing the relevant geographic area, please attach a copy (or relevant sections) of the existing plan. (Note, this will not count against the application page limit.)

See Attachment B – LPC Drought Resiliency Plan.

Letters of Project Support and Letters of Partnership

Please include letters from interested stakeholders supporting the proposed project. To ensure your proposal is accurately reviewed, please attach all letters of support/ partnership letters as an appendix. Letters of support received after the application deadline for this NOFO will not considered in the evaluation of the proposed project.

See Attachment C – Letters of Support.

Official Resolution

Include an official resolution adopted by the applicant's board of directors or governing body, or, for State government entities, an official authorized to commit the applicant to the financial and legal obligations associated with receipt of a financial assistance award under this NOFO

An Official Resolution for Liberty Pipeline Company will be submitted within 30 days of the application deadline.

Overlap or Duplication of Efforts Statement

There is no overlap or duplication of efforts for the proposed project.

Conflicts of Interest Disclosure

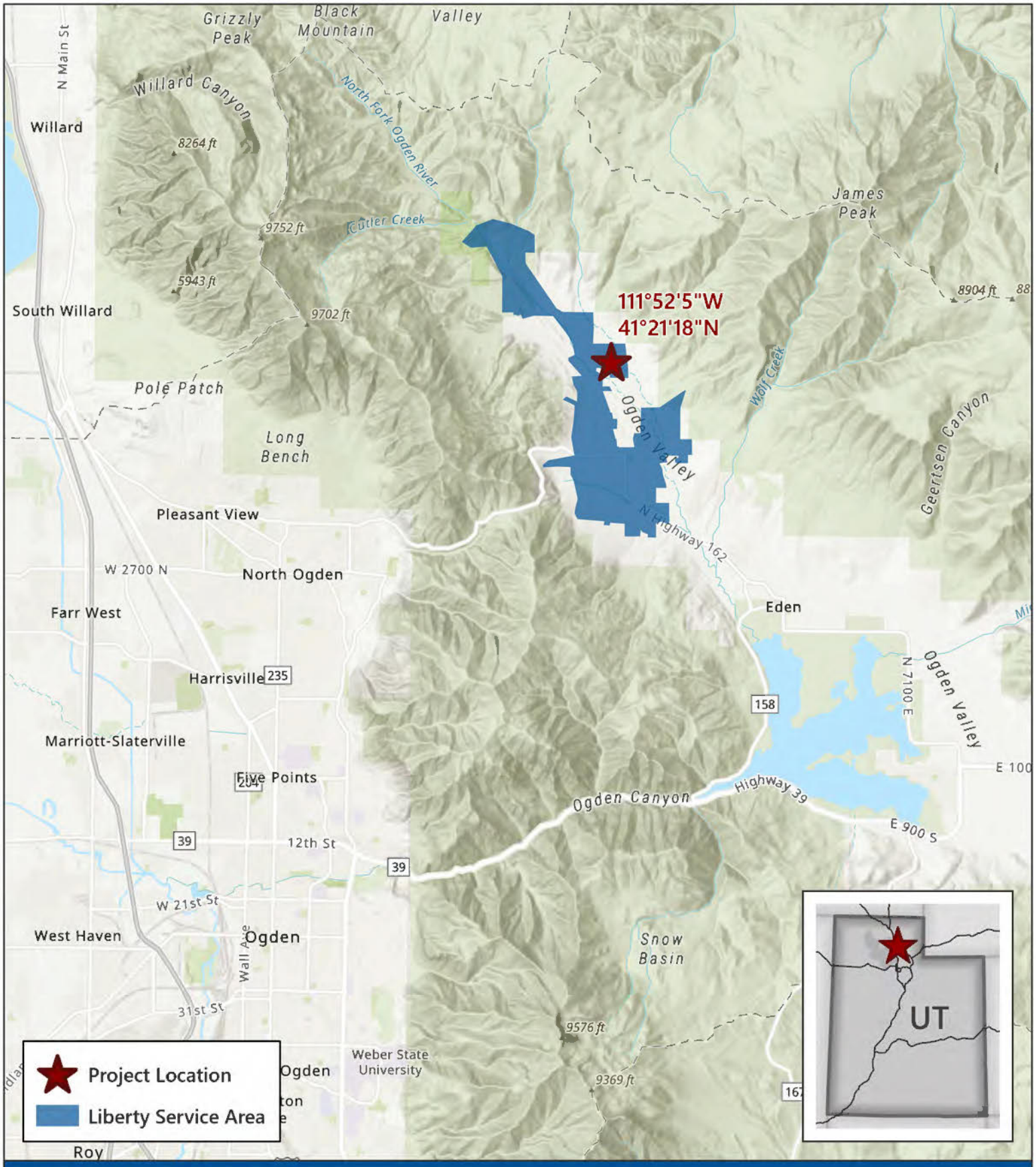
There are no actual or potential conflicts of interest.

Uniform Auditing Reporting Statement

LPC has not received or expended more than $750,000 in Federal awards in any fiscal year.

Certification Regarding Lobbying

Please see the attached signed Lobbying Form GG.



LIBERTY PIPELINE PROJECT LOCATION

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Miles

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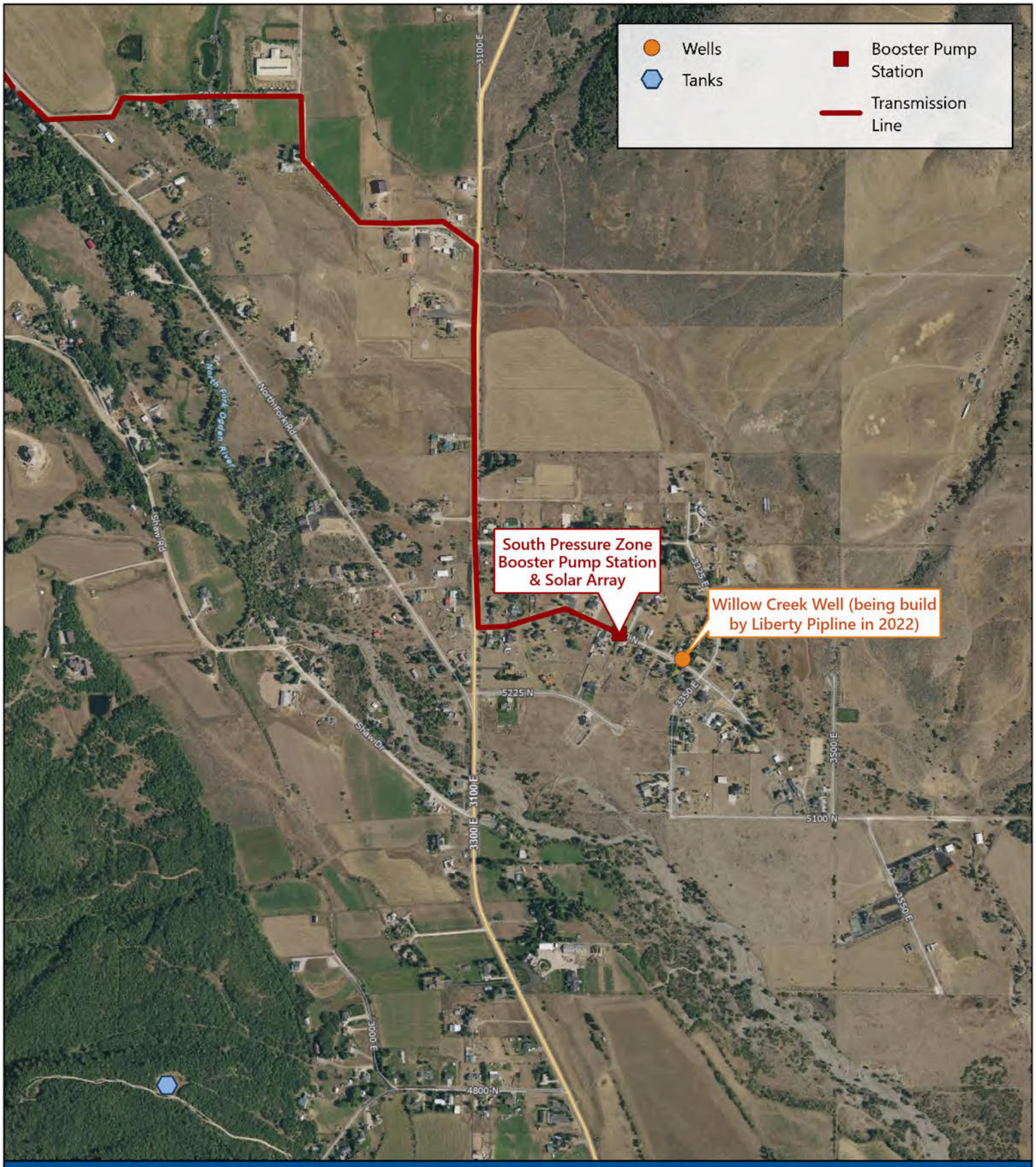
WaterSMART: Drought Resiliency Project Grant

June 2022



LIBERTY PIPELINE PROJECT DETAIL

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WaterSMART: Drought Resiliency Project Grant

June 2022

WEBER BASIN WATER CONSERVANCY DISTRICT

2837 EAST HIGHWAY 193 • LAYTON, UTAH • PHONE (801)771-1677 • SLC (801) 359-4494 • FAX (801) 544-0103

June 6, 2022

Mitch Holmes, President
Liberty Pipeline Company
3465 N Highway 162
Liberty, UT 84310

Dear Mr. Holmes:

Weber Basin Water Conservancy District is pleased to write in support of Liberty Pipeline Company's application being submitted to the Bureau of Reclamation for a WaterSMART Drought Resiliency Project. We applaud your efforts in wanting to plan for water conservation, drought, growth, and to collaborate with other water users in the area.

The District recognizes the importance of water preservation and reliability within our service area. This opportunity to collaborate and plan with other water users will help in your efforts to install infrastructure that will create a more efficient and reliable water delivery system that helps provide security to water rights.

We support your grant application and offer our support in the planning process as needed.

Sincerely,

Brad D. Nelson, PE
Assistant General Manager/CTO

Liberty Irrigation Association
PO Box 1003
Liberty, Utah 84310
Libertyirrigation.utah@gmail.com

Mitch Holmes President
Liberty Pipeline Company
3465 N Highway 162
Liberty, Utah 84310

June 2, 2022

Dear Mitch,

Liberty Irrigation Association is pleased to support your effort to develop a Dro t Resiliency Project under the Bureau of Reclamation's Water SMART Drought Resiliency Projects program. We appreciate the importance of constructi a booster pump station and transmission line in order to increase your system's r lience to the ongoing extreme drought conditions Utah is currently experiencing. We look forward to benefitting as a stakeholder in a more resilient system with increased water reliability. This type of system upgrade is important as it will provide LPCs North Zone access to sufficient source during time of drought.

Liberty Irrigation provides secondary water to shareholders residing in Liberty, Utah. We work together with Liberty Pipeline in delivering water to sustain ou griculture and community needs. We have felt the effects of the recent drought, and are looking for ways to improve and increase our resources and systems to help better serve the Ogden Valley.

We strongly support your grant application and appreciate the advancements it will make in drought resiliency and efficiencies for the Liberty Pipeline Company and the Ogden Valley.

Sincerely,

Neil Bailey
Board Member
Liberty Irrigation Association

WEBER COUNTY

PUBLIC WORKS /ENGINEERING
(801) 399-8374
FAX: (801) 399-8862
Gary Myers, P.E.
County Engineer

May 30, 2022

Mitch Holmes, President
Liberty Pipeline Company
3465 N Highway 162
Liberty, Utah 84310

Subject: Liberty Pipeline Funding Request

Dear Mitch,

Weber County is pleased to support your effort to develop a Drought Resiliency Project under the Bureau of Reclamation's WaterSMART Drought Resiliency Projects program. We appreciate the importance of constructing a booster pump station and transmission line in order to increase your system's resilience to the ongoing extreme drought conditions Utah is currently experiencing. We look forward to benefitting as a stakeholder in a more resilient system with increased water reliability. This type of system upgrade is important as it will provide LPC's North Zone access to sufficient source during times of drought.

Weber County is excited about the successful design and construction of the finished Liberty Pipeline Company's facility.

We strongly support your grant application and appreciate the advancement it will make in drought resiliency and efficiencies for the Liberty Pipeline Company and the Ogden Valley.

Respectfully,

Scott Jenkins
Weber County Commissioner

2380 Washington Blvd., Suite 240
Ogden, Utah 84401-1473