

OREGON



WATER RESOURCES
DEPARTMENT

2019 SOLICITATION

WATER PROJECT GRANTS AND LOANS

GRANT APPLICATION

APPLICATION DEADLINE: BY 5:00PM ON APRIL 26, 2019

Application must be received by this date and time

Send application electronically to: WRD_DL_waterprojects@oregon.gov

Mail application to:

**OREGON WATER RESOURCES DEPARTMENT
Attention: Grant Program Coordinator
725 Summer Street NE, Suite A
Salem, OR 97301**

APPLICATION SUBMISSION INSTRUCTIONS

1. Complete Sections I through X in the spaces provided. **Use the grant application instructions and Guidance on the Evaluation of Public Benefits when completing your application.** All resources are available at the [Water Project Grants and Loans webpage](#).
2. Taking part in a Pre-Application Conference prior to applying is **highly** recommended. The pre-application conference request form is available at the Water Project Grants and Loans, Applications, Forms and Guidance webpage. To learn more contact the Department.
3. Complete and sign the application checklist.
4. An application must be submitted on the attached form provided by the Department and may not be altered for the purpose of formatting or changing the document structure.
5. Please ensure that the Certification portion of Section II is signed with a live signature by the Applicant and, if applicable, the Co-Applicant.
6. Electronic application submission is the preferred method. You may scan a copy of the signed signature page and submit it with your application as long as both documents are included in the same email.
7. If application is submitted in hard copy - use 8 ½" x 11" single sided, unstapled pages. Provide any attachments to the application on 8 ½" x 11" single-sided, unstapled pages.
8. Contact the Department 503.986.0869 or WRD_DL_waterprojects@oregon.gov if you have any questions.

WATER PROJECT GRANTS AND LOANS APPLICATION CHECKLIST

Instructions: Use this checklist to ensure that your application is complete. An incomplete application may be deemed ineligible for further review and consideration. Checklist sections A and B must be completed and the checklist signed in order for your application to be considered complete.

Application Checklist Must Be Completed and Signed

SECTION A - Application

I. Project Information

- Project name and type(s) is complete and correct.
- The requested grant amount does not exceed 75% of the total cost of the project.

II. Applicant Information

- All applicant and co-applicant name(s) and contact information is complete and correct.
- Application is signed by Applicant/Authorized Person.
- Application is signed by Co-Applicant/Authorized Person *OR* there is no co-applicant.

Note: *If the project is awarded funding the co-applicant will be required to sign and be party to the grant agreement.*

III. Eligibility

- All questions have been addressed.
- The project addresses and instream and/or out-of-stream need.

IV. Project Summary

- Project summary does not exceed 5 sentences.

V. Project Location

- All questions have been addressed.

VI. Project Specifics

- All questions have been addressed.
- Each project task is identified and includes task schedule, description of task activities, and permits/regulatory approvals needed for the task.

VII. Public Benefits

- All questions have been addressed.
- Public benefit is identified in each of the three public benefit categories.

VIII. Project Budget

- All budget items are allowable costs as identified in the Department's Grant Budget Procedures and Allowable Cost document the OWRD Funding Opportunities Forms webpage.
- All budget task totals and addition of totals is correct.
- Key tasks listed in Project Budget (VIII) match those identified in Questions 9 & 10.

IX. Match Funding Information

- Match funding table is complete.

X. Storage-Specific Project Requirements (if applicable)

- All questions have been addressed *OR* the application is not for a storage project.

• **SECTION B - Application Attachments**

- **Instructions: Use this checklist to ensure required attachments are included with your application. All attachments to the application must be numbered as well as included in this list.** For all attachments ensure documentation meets any criteria identified in the application instructions or Guidance on Budget Procedures and Allowable Costs. For “other” optional attachments in excess of the three spaces provided, include a supplemental list.

Required Attachments:

- Attachment 1 – Site map (Question 2)
- Attachment 2 – Property access authorization (Question 4) includes the following:
 - a) Evidence addresses all the requirements of Question 4 including awareness that monitoring information is public record for private lands.
 - b) If evidence includes landowner awareness and agreement to the proposal, documentation is from the landowner and includes current contact information.
- Attachment 3 – Documentation of matching funds (Section IX) includes the following:
 - a) Match documentation for all match fund sources listed in the match fund table.
 - b) Match fund documentation that clearly identifies the dollar amount and describes the work to be accomplished with the match.

Optional Attachments:

- Project feasibility documentation (Question 6): Attachment # 4
- Letters of support (Question 8): Attachment # 5
- Plans, designs, and/or engineering specifications: Attachment #
- Secured permits and regulatory approvals needed to implement the project (Question 15): Attachment # 6
- Other: Attachment #
- Other: Attachment #
- Other: Attachment #

All required items within Section A and B of the application checklist are completed and all identified criteria are addressed to the best of my knowledge.

Signature of Applicant/Authorized Person: Eric Klann Date: 4/26/17

Print Name: Eric Klann Title: City Engineer



WATER PROJECT GRANTS AND LOANS
GRANT APPLICATION

I. Project Information

Project Name: Prineville Airport Area Aquifer – ASR Project – Dedicated ASR Well #1

Project Type: Conservation Reuse Flow Restoration and Protection
 Above-Ground Storage Below-Ground Storage
 Water Infrastructure Other: _____

Grant Funding Requested (must be no more than 75% of Total Cost of Project): \$ 1,800,000

Match Funding (must be no less than 25% of Total Project Cost): \$ 10,435,572

Total Cost of Project: \$ 12,235,572

II. Applicant Information

Applicant Name: <u>City of Prineville</u>	Co-Applicant Name:
Address: <u>387 NE 3rd St</u> <u>Prineville, OR, 97754</u>	Address:
Phone: <u>541-447-2357</u>	Phone:
Fax: <u>541-447-5628</u>	Fax:
Email: <u>eklann@cityofprineville.com</u>	Email:

Principle Contact: <u>Eric Klann</u>	Fiscal Officer: <u>Lizbeth Schuette</u>
Address: <u>387 NE 3rd St</u> <u>Prineville, OR, 97754</u>	Address: <u>387 NE 3rd St</u> <u>Prineville, OR, 97754</u>
Phone: <u>541-447-2357</u>	Phone: <u>541-447-2362</u>
Fax: <u>541-447-5628</u>	Fax: <u>541-447-5628</u>
Email: <u>eklann@cityofprineville.com</u>	Email: <u>lizbeth@cityofprineville.com</u>

Certification: I certify that this application is a true and accurate representation of the proposed work and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant and Co-Applicant (if applicable) certify that they are aware of the requirements of an Oregon Water Resources Department funding award, have read and are aware of conditions within the example grant agreement and are prepared to implement the project, if awarded.

Signature of Applicant/Authorized Person:  Date: 4/26/19

Print Name: Eric Klann Title: City Engineer

Signature of Co-Applicant/Authorized Person: _____ Date: _____

Print Name: _____ Title: _____

III. Eligibility

Select applicant entity type for both applicant and co-applicant (if applicable).

<input checked="" type="checkbox"/>	City	<input type="checkbox"/>	Oregon County
<input type="checkbox"/>	Port	<input type="checkbox"/>	Irrigation District
<input type="checkbox"/>	Drainage District	<input type="checkbox"/>	Water Improvement District
<input type="checkbox"/>	Water Control District	<input type="checkbox"/>	Non-Profit Organization
<input type="checkbox"/>	Soil and Water Conservation District	<input type="checkbox"/>	Corporation
<input type="checkbox"/>	Partnership	<input type="checkbox"/>	Sole Proprietorship
<input type="checkbox"/>	Cooperative	<input type="checkbox"/>	Indian tribe
<input type="checkbox"/>	State of Oregon Agency	<input type="checkbox"/>	Individual
<input type="checkbox"/>	Federal Agency	<input type="checkbox"/>	Other:

To be eligible for funding a project must address an instream and/or out-of-stream water supply need and result in project implementation. Does the project address an instream and/or out-of-stream water supply need and result in project implementation? Yes No

Provide a brief, one to two paragraph description of the water supply need that the project intends to address. Please reference (and attach) supporting data or reports that document the need.

The City of Prineville is developing an Aquifer Storage and Recovery (ASR) Program to create a resilient, sustainable, and cost-effective water source to meet growing water supply demands. The City’s ASR program will inject water into the aquifer during periods of cooler temperatures, higher streamflow and low demand and store the water for use during periods of high demand, thereby reducing stress on existing water sources. Water availability is a limiting factor in promoting economic growth in economically distressed Crook County. By investing in an additional water source to meet current and future demands, the City will be better positioned to encourage new economic development in the region. The City’s ASR Program, which will take advantage of the natural storage capability within an aquifer, is an affordable, scalable water management tool that will allow the City to meet summer peak demands for about half the cost of more complex solutions, while stabilizing aquifer water levels and allow additional development to be met with ASR water available at critical peak periods of the Prineville area.

The City’s entire ASR Program (adopted in the City’s 2018 Water Master Plan to meet future water demands) consists of:

- Completing an ASR work plan and limited license permitting (complete)
- Developing a new wellfield for the recharge source water (funded and under construction)
- Building a water treatment plant for the new wellfield water (funded and under construction)
- Installing conveyance piping (complete)
- Installing up to 4 Dedicated ASR Wells (with the capability of storing a total of up to 434 million gallons [MG]) per year at project build out). (funds from this grant would construct the first Dedicated ASR Well)

Funding from the OWRD Water Project Grant would be used for the installation of a Dedicated ASR injection and recovery Well #1 at the Crook County Airport and the conveyance piping to tie into the City’s existing system. The development of the Dedicated ASR Well #1 is a critical piece of the City’s Water Master Plan and will result in an additional 801 acre-feet per year (AFY) (261 MG) available to the City to meet peak summertime demands. This is an approximately 41.3 percent increase to the City’s existing 600 MG per year water production capacity. This will help the City accomplish its goal of attracting key employers to the region, including additional data centers, and will provide an environmentally sustainable and scalable solution to address the impacts of climate change and extended drought conditions.

Is either the Applicant or Co-Applicant required to have a Water Management and Conservation Plan?

Yes No

If yes, has the plan been submitted to the Water Resources Department and received approval?

Yes No

[OWRD Final Order approving the City of Prineville's WMCP was issued on 1/23/2017](#)

Note: Pursuant to ORS 541.659 if an applicant is required to have a water management and conservation plan, the plan must be submitted to the Water Resources Department and receive approval prior to department acceptance of an application for a loan or grant from the account.

IV. Project Summary

Provide a brief, 4-5 sentence summary of the proposed project. This summary should include a brief description of the goal and scope of the project as well as summarize project implementation (i.e., planned infrastructure or activity). Please refer to the Water Project Grants and Loans Application Instructions for additional information on what to include in your project summary.

The proposed grant application project is to construct the City's dedicated ASR injection and recovery Well #1 and 2,500 feet of conveyance piping to connect the well to the City's system which is part of the City's larger overall ASR Program. The City's dedicated ASR Well #1 is located near the Crook County Airport within the Lower Crooked River Basin, and if funded is scheduled to be constructed in 2020 and be the culmination of several years of extensive efforts by the City to implement the ASR feasibility and implementation planning. This dedicated ASR well will play a key role in the City's overall ASR Program by allowing the annual storage of an additional 261 MG of water (801 AFY) that will be used to meet the City's growing peak summertime water demands, and in turn encourage economic development in the region and ease peak demand stress on existing water sources.

V. Project Location

Instructions: Please answer the following questions about the location of the proposed project.

1. Please provide the following information about the project location.
 - a. Latitude/Longitude (in decimal degrees): [44.281055](#) / [-120.905436](#)
 - b. County: [Crook](#)
 - c. Watershed/Basin: [USGS Hydrologic Unit Code \(HUD\) 1707030510 / Lower Crooked Valley-Crooked River](#)

2. Please attach and label, Attachment #1, a site plan map showing the following: [See Attachment 1.](#)
 - a. Project area boundaries
 - b. True north arrow
 - c. Map title and legend
 - d. Latitude and longitude of project location
 - e. Property boundaries
 - f. Tax Map and Lot numbers of each property in project area boundary and listed in Question #3
 - g. Surface water bodies
 - h. Location of involved structures (existing or proposed)
 - i. Proposed measurement locations (if applicable)

3. In the table below, identify any properties on which the project would occur and/or that would be impacted or accessed by project implementation. *Add rows as needed.*

Tax Lot ID	Ownership Type (✓ One)	Property Owner of Record	Will ground disturbing activity occur on this land? (✓ One)	Identify the type and extent of ground disturbing activity (e.g. borings, test pits, excavation, new road construction etc.)
151500000300	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	Crook County Prineville Airport	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Installation of a dedicated ASR Well #1 and associated equipment and water distribution piping, modify Heliport well
1516080000201	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	Crook County Park & Recreation New City Production Wellfield	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Installation of new City wellfield production wells and conveyance
1516080000203	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	Crook County New City Water Treatment Plan	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Construction of new City water treatment plant
141632CB00300	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	City of Prineville Existing Ochoco Heights Well	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Well rehabilitation
141632CB00300	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	City of Prineville New Ochoco Heights Well	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Future City Production Well: well drilling activities.

141525D001404	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	City of Prineville Industrial Site Well	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	City Production Well: well drilling activities.
141632CD10400	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	City of Prineville Railway (City Owned) New Juniper Well	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Future City Production Well: well drilling, well house, new conveyance lines
151605BB00600	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	City of Prineville New Stryker Park Well	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Future City Production Well: well drilling, well house, new conveyance lines

4. For each property listed in Question #3, attach a [Landowner Agreement form](#). Attach Landowner Agreement form(s) and label Attachment #2. [See Attachment 2.](#)
 - a. Where a single landowner entity is the owner of record for multiple properties, one form may list the multiple properties owned by that entity.
 - b. For *public* lands attach the landowner form or other documented authorization from the federal or state government property owner allowing project implementation or documentation that demonstrates such authorization is being pursued.

VI. Project Specifics

Instructions: Please answer the following questions.

Project Description, Needs, and Goals

5. Provide additional information (building on the project summary) to further describe the proposed project and the project goal.

The City began exploring ASR as a concept for meeting its future water demands in early 2017 and completed an ASR Feasibility Study and Groundwater Source Investigation for the proposed new wellfield (ASR recharge source water) in March 2018. The study found that implementation of an ASR Program is feasible in the target aquifer, the alluvial deposits of the Crooked River ancestral channel (the airport area aquifer) located beneath the plateau just west of Prineville near the Crook County Airport.

City’s Dedicated ASR Well #1 – Proposed Project. The City’s proposed project is for funding of the construction of the City’s first Dedicated ASR injection and recovery Well #1 and associated piping system to connect the well to the City’s existing water distribution system. This new Dedicated ASR Well #1 will allow the ability to provide additional annual storage of 261 MG of water (a 41.3 percent increase to the City’s 600 MG water production capacity) that will be used to meet the City’s growing peak summertime water demands, easing peak demand stress on existing water sources, and enabling the City to attract key employers that support economic development in the region, including additional data centers. The construction of the Dedicated ASR Well #1 will allow the City to introduce additional ASR water to the aquifer, while also providing for additional groundwater production of stored ASR water that would not otherwise have been possible with the only retrofitting the existing City Wells in the airport area.

City ASR Program – Overview and Status. The proposed project is a part of the City’s larger ASR Program that was identified in the City’s 2018 Water Master Plan to meet the City’s growing future water demands. The overall ASR Program consists of the 5 major tasks (listed in Section III: Eligibility) and at full buildout could include up to 4 dedicated ASR injection and recovery wells and storage of up to 434 MG of water annually.

In May 2018, following the conclusion of the feasibility study, the City completed an ASR Program Implementation Plan, which summarizes the steps required to develop the ASR system, and established a timeline for properly sequencing the complex series of project tasks to successfully implement the overall ASR Program. An ASR Pilot Testing Limited License Application and Work Plan documents were completed in October 2018 and submitted to OWRD to obtain the necessary permits for the project. As the permitting work has been moving through the regulatory process, the City hired a design-build team to begin implementing the initial tasks in the ASR Program, including:

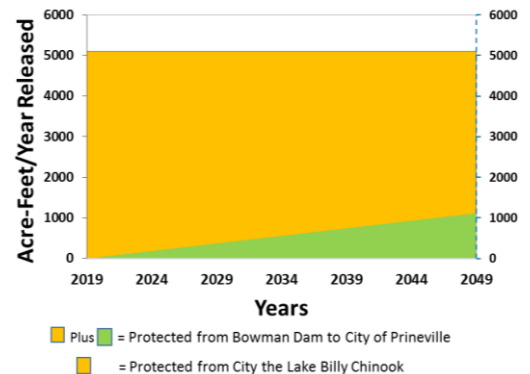
- Constructing the new Valley Floor Well Field, which will serve as the primary source water for the ASR program
- Designing the new Valley Floor Well Field water treatment plant (nearing 90% design)
- Retrofitting the existing City Heliport production well in the airport area to test ASR in the target aquifer and refine the ASR operating parameters
- Beginning the conceptual design of the City’s dedicated ASR Well #1 and associated conveyance systems that will be constructed by the project described in this grant application

Funding for these past and ongoing efforts has been secured through City system development charges (SDCs) and user rates, however, funding shortfalls limit the City’s ability to develop additional dedicated ASR wells that would allow increased aquifer storage and additional groundwater development potential during peak water use periods of the year.

City ASR Program’s Streamflow Enhancement Program. The City’s ASR Program is being developed in conjunction with protecting streamflow in the Crooked River. The City involvement with the multi-stakeholder group resulted in the passage of the Crooked River Collaborative Water Security and Jobs Act of 2014 (2014 Act), which dedicates 5,100 AFY of stored water in Prineville Reservoir to the City for mitigating future groundwater pumping to meet the City’s growing water demands.

This new annual release of stored water is legally protected instream from the Bowman Dam to Lake Billy Chinook. As required under the Deschutes Basin Groundwater Mitigation Rules, 1,292 AFY of the 5,100 AFY of protected flow will be used to offset the pumping from the City’s new well field (City Permit G-18154). This permit is anticipated to meet the City’s future water demands for the next 20 to 30 years (based on City’s 2018 Water Master Plan data). Therefore, 5,100 AFY will be protected instream from Bowman Dam to Lake Billy Chinook with an instream benefit of 5,100 AFY between Bowman Dam and the City and at least 3,808 AFY ($5,100 - 1,292 = 3,808$ AFY) from the City to Lake Billy Chinook.

The adjacent graph approximates the annual volume of instream benefit over the next 30 years as the City’s water demand gradually increases. In addition, the City recommended and supported, the 2014 Act also requires the Bureau of Reclamation to release the 5,100 acre-feet of stored water, in consultation with federal and state fishery agencies, in a fashion that maximizes benefits to downstream fish and wildlife (refer to Question 17a for further discussions).



6. Provide evidence to demonstrate project feasibility. This may include the results of a feasibility study. Attach the results of the study or other evidence, as necessary.

In March 2018, the City completed an ASR Feasibility Study for this project, which evaluated the hydrogeology of the target aquifer for storage, the ASR recharge water source, compatibility of the source water and target aquifer, recharge rates and storage volumes, and permitting requirements. The ASR Feasibility Study concluded that implementation of an ASR Program is feasible in the target aquifer. The complete feasibility study is presented in Attachment 4. The following is a summary of key findings:

- The aquifer characteristics of the alluvial deposits of the airport area aquifer (target aquifer) indicate that the highly productive aquifer, with its deep water table, will allow for high rates

of recharge and recovery and a large capacity of ASR storage.

- The new Valley Floor Well Field is capable of providing recharge for the ASR Program but will require treatment to meet drinking water standards and ASR recharge permit requirements. The study report summarizes the treatment systems options and recommended next steps.
 - The comparison of the native groundwater in the target aquifer to the source water from the new well field indicated that the waters were relatively similar in composition, and water quality modeling predicted no detrimental impact would result from mixing these waters.
 - The target aquifer has the capacity to store the water at the rate of greater than 2,000 gpm (the capacity of the Valley Floor Well Field) equating to storage volume of more than 434 MG annually.
 - No fatal flaws were identified in the permitting process for implementing an ASR Program.
7. Describe partnerships and collaborative efforts associated with the planning or implementation of this project. Include a description of how parties of diverse interests worked, or will work together to achieve a common goal.

The City has developed the feasibility study, implementation plan, conceptual design report, and ASR Pilot Testing Work Plan for the ASR program. The development of these documents included collaboration with the Crooked River Watershed Council, Ochoco Irrigation District, Deschutes River Conservancy, OWRD, the Oregon Department of Environmental Quality, Oregon Health Authority, and the Oregon Department of Human Services.

8. List letters of support (name and/or affiliation of sender is sufficient). Attach copies of the letters to your application.

The following letters of support has been provided for the project and is provided in Attachment 3.

Central Oregon Regional Solutions Committee	Coalition for the Deschutes
Central Oregon Cities Organization	Sunriver Anglers
Deschutes River Conservancy	Crook County Natural Resource Policy
Crooked River Watershed Council	Crook County Health Department
Brooks Resources Corporation	Trout Unlimited

Project Tasks

9. Identify tasks necessary for the proposed project using the following format and including as many tasks as necessary to implement the project. In the event that your proposed project receives grant funding, the tasks identified will be incorporated into your grant agreement as the “Project Description.”

Note: Project management and administration are common functions within specified project tasks and not a separate project task. All cost match and grant budget funds must apply to the tasks identified below. See the Budget Procedures and Allowable Costs document for more.

For each Task Address the Following:

Task number. Key Task Title

- Task schedule: The approximate dates during which the key task will be completed.
- Description of key task activities: Include specific details of the task such as task purpose, planned approach, and proposed methods.

- Permits/Regulatory Approvals Required: List any permits or regulatory approvals required to conduct the task. All permits/regulatory approvals identified must also be listed in question 15 of this application.

City ASR PROGRAM Task Status – Color Coding Key

BLACK text - Completed task

BLUE text - Proposed Project under this grant application

GREEN text - Ongoing or Future task

Task 1. Prineville Airport Area Aquifer Initial Monitoring & Testing

- Task schedule:
 - Project Tasks began July 2018, will continue until July 2021
- Description of key task activities:
 - *Heliport Retrofit (Retrofit Existing City Well for ASR Testing)*
 - *Finalize Retrofit Design*
 - *Prepare equipment needs for long-acquisition materials*
 - *Construct Heliport Retrofit to allow ASR Testing April 2019*
 - *ASR Baseline Monitoring & Pilot Testing*
 - *New monitoring well siting and design*
 - *Install new monitoring well*
 - *Baseline aquifer monitoring for background information*
 - *Year 1 pilot testing*
 - *Year 1 ASR reporting*
 - *Year 2 pilot testing*
 - *Year 2 ASR reporting*
- Permits/Regulatory Approvals Required:
 - *ASR Permitting*
 - *Prepare ASR Pilot Test Work Plan*
 - *Prepare ASR Limited License Application*
 - *State review of ASR Limited License Application (ASR Limited License AL-26 issued)*
 - *Prepare OHA pre-construction Wellhead Retrofit (City existing Heliport Well)*
 - *OHA review of Heliport Well Retrofit pre-construction and final construction plans*

Task 2. Airport Area New Infrastructure – ASR Well #1 & Additional City Distribution System
(PROPOSED PROJECT UNDER THIS GRANT APPLICATION)

- Task schedule:
 - Project Tasks began July 2018, will continue under this funding until July 2021
- Description of key task activities:
 - Installation of New Dedicated ASR Well
 - Design New Dedicated ASR Well #1 with capacity target 3,000 gpm
 - Install and Test New Dedicated ASR Well #1
 - Design and Installation of new 16" City Service Pipeline for new ASR & Additional City Distribution System Improvement

Task 3. New City Source Wells, Treatment, and Distribution Upgrades for ASR Water Development

- Task schedule:
 - Project Tasks began July 2018 and will continue until approximately December 2021

- Description of key task activities:
 - *Improve existing Downtown City Well Infrastructure (Target 350 GPM)*
 - Rehabilitation of Existing City Ochoco Heights Well
 - Installation of New Wells (North Downtown- Industrial Site Well)
 - Install New City Source Well(s), Combined capacity of 350 GPM
 - *Crooked River Park – Downtown Prineville (ASR Source Water Wells)*
 - New Well Field located at Crooked River Park
 - New wellfield design
 - Drilling of New Wells
 - New Source Infrastructure and Treatment System
 - Infrastructure & treatment system design
 - Equipment procurement
 - Construction of System
- Permits/Regulatory Approvals Required:
 - Prepare and submit new water right permit(s) and limited license(s) as needed.
 - Prepare OHA new groundwater source requirements
 - Prepare OHA new treatment system design requirements

10. Project Task Scheduling – Estimated total project duration: 2 years/6 months (months/years)

Place an “X” in the appropriate column to indicate when each Project Task would take place. Note that successful projects generally do not receive their first reimbursement until late Q1 or early Q2 of the year after application submission. Project tasks listed must match the tasks identified in Question 9.

Key Tasks (Add additional rows as needed)	Grant year				Grant year				Grant year				Grant Year
	2018				2019				2020				2021
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Task 1. Airport Area Aquifer - Initial Monitoring & Testing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Task 2. Airport Area New Infrastructure- ASR Well #1 & Additional City Distribution System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Task 3. New City Source Wells, Treatment, and Distribution Upgrades for ASR Water Development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Q1 to Q4
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

11. Describe how you propose to measure and report the water diverted and used from the proposed project. Include a proposed method, timing, frequency, and location of measurement in your proposal. If you have questions please contact the Department for more information.

Note: Funded projects are required by statute to “regularly measure and report the water diverted and used from the project” [ORS 541.692(3)].” The Department makes the final determination on the method, timing, frequency, and location of measurement. Grant funds can be used to pay for measurement and reporting expenses. If neither the existing infrastructure nor the proposed project divert water this requirement may not apply. Grant/loan funds can be used to pay for measurement and reporting expenses during the life of the grant.

A significant amount of data will be collected during ASR recharge and recovery operations. These data will include:

- Groundwater level monitoring via pressure transducers in the ASR system wells and transducer or hand measurement in accordance with the ASR and City Airport Aquifer Groundwater Monitoring Plan
- ASR recharge and recovery flow rates and volume
- Water quality analysis of source water after the treatment plant and recovered water

Annual reporting will be prepared for the project as described by OWRD ASR limited license requirements, including a summary of data collected for the project and water level and water quality analysis. In addition, OWRD requires the City to report all water uses annually and this use data is also available to the public.

12. Provide suggestions for interim and long-term project performance benchmarks.

Project Tasks provide direction and benchmarks for the overall project performance.

Interim and long-term project performance benchmarks include:

- Task 1:
 - June 1, 2019, feasibility injection test of retrofitted Heliport Well-provides for the first test of water injection into the airport area aquifer, while monitored from the City’s Airport Well #2.
 - October 1, 2019, installation of ASR Monitoring Well #1 provides for a dedicated ASR monitoring well for ongoing data collection of short and long-term water injection into the airport area aquifer.
- Task 2:
 - October 1, 2019, complete design for Dedicated ASR Well #1 based on data collected from the initial feasibility of water injected in Heliport Well;
 - March 1, 2020, complete installation of Dedicated ASR Well #1, including pump test of well to confirm likely water production rate.
 - July 1, 2020, complete new pump station infrastructure piping from Dedicated ASR Well #1 to the City’s municipal distribution system;
 - June 1, 2021, complete aquifer injection testing of aquifer storage water.
- Task 3:
 - October 1, 2019, complete installation of New source wells at Crooked River Park;
 - March 1, 2020, installation of new source wells treatment plant adjacent to Crooked River Park to allow for treatment of New source wells and inclusion of new source water to City water distribution system.
 - OHA authorizations to be concurrent with installations of New source wells and treatment plant.

13. Describe any issues, unknowns, or conditions that may affect the completion of the key tasks or project. If applicable, describe any measures planned to mitigate them.

The City has spent a significant amount of time investigating this aquifer over the last 8 years to further understand the hydrogeologic setting and the possibility of expanding the City’s use of the aquifer for water supply purposes. Investigations include: a water level monitoring program (2012 – ongoing); defining the hydrostratigraphy in airport area (2015 Master thesis); ASR Feasibility Study and Implementation Plan (2018). With all this background knowledge the City has identified the project unknowns, or conditions that may cause delays in projected project timelines, including:

- Initial feasibility aquifer injection tests may expose limitations on aquifer injection rates-this could require planning and design changes to future well designs and placement.
- Installation of new ASR monitoring well #1 is intended to encounter the target airport area aquifer, however, based on the potential for geologic uncertainty, the potential exists that the initial location for this well may not encounter the target aquifer and require additional well installations.
- Delays from state agencies in processing of ASR authorizations, although it is unlikely the OWRD may restrict or limit permitting of the planned ASR project. Additional data may be required that may introduce time delays to collect additional data and accordingly respond to state agency questions or concerns.

Permits and Regulatory Approvals

14. List all water rights associated with the proposed project tasks. List permit/certificate/ transfer numbers, as applicable, current holder, and associated tax lot. *Note: For all existing water uses, include any and all water right authorizations that allow water use under the current project. Add rows as needed.*

Water rights are needed to allow the source water to be recharged and then recovered during the ASR process. The ASR recharge source water will be primarily from the City’s new Valley Floor Well Field that is currently under construction (Permit G-18154). However, because the water will be conveyed through the City’s distribution system, all of the City’s valley wells connected to the distribution system are included on the ASR Limited License application and are listed below.

Permit/Cert/Transfer Number	Current Holder/Patron	Tax Lot ID
G-18154 – Valley Floor Well Field	City of Prineville	0715.00S16.00E0800--000000201
G-506/86337 - Lamonta Well	City of Prineville	0714.00S16.00E31B0--000001200
U-215/22839 – Yancey Well	City of Prineville	0714.00S16.00E31DC--000006701
G-9154/83993 – Barney and Sterns #2 Wells	City of Prineville	Barney = 0715.00S16.00E04AA--000001100 Sterns= 0715.00S16.00E04AC--000001800
G-11993/87714 – Stadium Well	City of Prineville	0715.00S16.00E05DA--000000700
U-372/86889 – 4 th St Deep Well	City of Prineville	0715.00S16.00E05BC--000005500
U-140/86558/T-13030 – Ochoco Well	City of Prineville	0714.00S16.00E32CB--000000300
S-55091/94149	US Bureau of Reclamation *	Crooked River from Bowman Dam to Lake Billy Chinook

* This Certificate is held by the US Bureau of Reclamations for the benefit of the City of Prineville and is for flow augmentation in order to establish mitigation credits under the Deschutes Basin Groundwater Mitigation Program.

15. In the table below, provide a list of any permits and regulatory approvals needed to implement the project and indicate the status of each in the table below. Please submit copies of any secured permits/approvals or describe efforts in securing necessary permits/approvals, including current status. If no permits or regulatory approvals are required, please provide an explanation. *Add rows as needed.*

Permit/ Regulatory Approval	Status and Efforts To Date
ASR Limited License; AL-26	ASR Limited License AL-26 issued in April 2019.
DEQ Underground Injection Control Authorization	Received authorization October 25, 2018
OHA Approval of Well and Water System Design Components	To be initiated under Task 2
FAA Concurrence of the Proposed ASR Well Locations	FAA staff is completing the final review of the proposed ASR well locations.

VII. Public Benefits

Instructions: Describe how the project would provide public benefits in each of the three public benefit categories identified below. In your responses, describe current conditions and anticipated project outcomes and benefits. Describe how the project outcomes will contribute to each anticipated public benefit. Descriptions should be quantitative when possible. Applications will be scored and ranked solely based on the descriptions of the economic, environmental, and social/cultural public benefits and the likelihood of the project achieving the claimed benefits. More specifically, the evaluation will be based on the change in conditions expected to result from the project as demonstrated in the application.

Please see the Guidance on the Evaluation of Public Benefits document, on the OWRD Funding Opportunities Forms webpage, for definitions of each public benefit and a description of how the public benefits will be evaluated. Applications that do not demonstrate public benefit in each of the three categories (economic, environmental, social/cultural) will be deemed incomplete.

Leave blank any public benefits that are not applicable to the proposed project.

16. Economic Benefits – ORS 541.673(2)

a. Job creation or retention:

The construction of the dedicated ASR Well #1 will supply the water to meet the additional summer peak water demands for future data center and other industrial investment in the area. It is anticipated that this project’s ability to continue attracting new data centers will not only retain the existing 436 current jobs but also lead to an estimated 450 new full-time jobs in the area and continue to support the current 1,500 construction jobs associated with ongoing data center construction. To put this into perspective, the 450 jobs this project would create in our community’s workforce would be the equivalent of 4,239 permanent jobs added in Salem and 19,097 jobs in Portland. The type of permanent jobs directly created by additional data center growth include management, administrative, network specialist, facilities, engineering, logistics, installation, security, apprentice, material handling, culinary, and communication roles. In addition, this additional development will also create construction-related jobs.

The value of the retention and likely increase in the local jobs on the City of Prineville associated with implementation of this project is enormous. For example, without Facebook and Apple’s data center projects in Prineville, the city would see a decrease of 5.1 percent

permanent jobs (equivalent to 18,517 permanent jobs lost in Portland). This amount does not even factor in the construction workers and secondhand industries that have expanded to support these operations. Therefore, the continued growth of the data center industry and the jobs it brings to the local economy is one of the City's primary focus.

A reliable water supply is of critical importance to data center operations. Water serves as the primary method for cooling in these facilities, keeping server rooms at appropriate temperatures to maintain safe operation. With anticipated data center growth, future summertime peak demands will exceed supply. Therefore it is critical the City constructs the dedicated ASR Well #1 to store additional water to meet these demands, or the City risks losing out on future data center growth and the resulting jobs these facilities will create.

b. Increases in economic activity:

Prineville and Crook County are located in an economically depressed region of the State within the Prineville/Crook County Rural Enterprise Zone. At the height of the Great Recession in 2008, Prineville faced the highest unemployment rate in the entire state at nearly 20 percent. The market crash resulted in a distressed local economy that severely impacted major employers and job availability. This included the wood products industry and many self-employed contractors. The community began declining quickly and residents feared that Prineville's economy would die out altogether. Relief finally came when information technology and social networking giant Facebook selected Prineville as the home of its new data center. After Facebook's decision to locate here in 2009, Apple followed close behind three years later.

The recent emergence of data centers in the Prineville area has been critical to the economic growth of in the region. Facebook, Apple, and other stakeholders in the City's industrial zone on the airport area plateau have created 436 full time jobs in our community of 9,000 residents (according to the State of Oregon Department of Labor) and more than 1,500 contract positions dedicated to these construction projects. Although contract positions are typically shorter term, these jobs have also remained stable for nearly a decade, due to the companies' continued desire to expand. These new jobs have an average compensation of \$73,000 a year, which is approximately 178 percent of the Crook County median income (\$41,000).

As of the end of 2018, Facebook and Apple had collectively invested billions of dollars at their Prineville data centers; this investment has in turn resulted in many new industries in the area. The Bureau of Economic Analysis's recent addition of County data depicts Crook County's compensation growth over time by industry. The information industry itself has grown exponentially since location of the data centers in Prineville, based on the massive jump in total compensation from \$1.6M in 2009 to \$34M today. The presence of these high-tech companies in has had positive impacts on many unrelated industries in this struggling rural town.

Construction compensation has more than doubled since the Great Recession, jumping from \$9.2M to \$22M in 2017. Compensation in the hospitality and food services industry has also more than doubled since 2009, increasing 225 percent. Other industries such as health care, finance, insurance, and retail have reaped the benefits of population and business growth through diversified business recruitment and expansion. Today, total annual payroll for industrial zone companies that would benefit from the ASR project is currently at \$45,887,143, according to the State of Oregon Labor Department.

The construction of the City's Dedicated ASR Well #1 will enable the City water system to meet the additional summer peak water demands allowing for additional data center investment in the area, which will continue to fuel the regional economic activities in the City and surrounding areas at a rate similar to that observed in the past few years (described above).

There continues to be a strong incentive for the data center industry to continue to expand in Prineville, in part because of tax incentives available through the Prineville/Crook County Rural Enterprise Zone, and also because Prineville's high desert climate is optimal for data centers, allowing for more energy and water efficient operations. For example, a data center located in Prineville is 52 percent more energy efficient and 80 percent more water efficient (Facebook Sustainability Case Study, Facebook Newsroom on Prineville Data Center found at sustainability.fb.com) than the average data center. Without this water supply, the data centers will be unable to operate in our region and we would lose out on the potential economic growth they would otherwise bring.

c. Increases in efficiency or innovation:

While traditional water storage methods (such as aboveground storage tanks) are prohibitively expensive and there are limited options for obtaining new water sources, ASR takes advantage of the natural storage capacity within an aquifer to store millions of gallons of water that can then be used as needed. The City's ASR system captures, conveys, and stores water during winter or low water and energy demand periods, and then recovers the stored water during the summer peak demand periods, thereby easing peak demand stress on existing water sources. ASR technology is an innovative and proven water management tool that will allow the City to use its existing water sources more efficiently and effectively to meet its growing peak demands as opposed to developing new water sources only to be used during the 2 to 3 month peak summertime demand period.

d. Enhancement of infrastructure, farmland, public resource lands, industrial lands, commercial lands or lands having other key uses:

Without a secure source of new water supply industrial development in Prineville will be unable to continue. The construction of the City's Dedicated ASR Well #1 will allow the City to supply water to the surrounding 500 plus acres of undeveloped industrial lands, which will in turn raise the value of land and attract industry (such as additional data centers). This will also have a positive effect on the value and development of the commercial lands at the adjacent Crook County Airport.

In addition, the additional Dedicated ASR well will expand the City's municipal water infrastructure (new wells) and increase the reliability of its water supply to all of its customers through maintaining a readily available underground reservoir of stored water that can be used in the event of drought or supply interruptions. This project will increase the City's capacity to deliver water in the summer by 1,600 gpm, by annually storing up to 261 MG of water (a 41.3 percent increase to the City's 600 MG water production capacity), easing peak summertime demands and stress on existing water sources, enhancing the City's infrastructure and enabling the City to attract new employers.

e. Enhanced economic value associated with tourism or recreational or commercial fishing, with fisheries involving native fish of cultural significance to Indian tribes or with other economic values resulting from restoring or protecting water instream:

The 5,100 AFY of stored water in Prineville Reservoir dedicated to the City and legally protected instream from Prineville Reservoir to Lake Billy Chinook, which has been established in conjunction with the City's ASR Program, will be released each year based on federal fishery agencies' recommendations to support streamflow and fish and wildlife habitat in the Crooked River (see question 17a for more details). The Crooked River is designated as a critical fish habitat for bull trout (from Lake Billy Chinook to Highway 97) and is home to multiple culturally and recreationally significant fish species including Redband trout, whitefish, potentially summer steelhead, and spring chinook, which are the object of an ongoing reintroduction effort by NMFS, ODFW and the Tribes.

Economic benefits related to tourism and fishing that would result from proposed project would likely be in the form of recreational angling licenses and side stream services/commercial transactions associated with recreational fishing on the Crooked River. According to data published by ODFW in 2015, the economic contribution associated with recreational inland salmon fishing was approximately 37 million dollars in 2014. The Crooked River below Bowman Dam has become one of Central Oregon’s premier fishing destinations with year-round fishing opportunities while other local streams are closed during the winter. While it is difficult to quantify the increased economic value that would result from this project, we believe that the project’s additional flow contribution to fish habitat will benefit recreational fishing in the Crooked River.

f. Increases in irrigated land for agriculture:

Historically, the City has purchased agricultural land and stripped the water rights to meet the growing water demands of the community. Through the construction of the City’s Dedicated ASR Well #1 and the City’s dedicated annual release of the stored water the City will no longer need to purchase irrigated agricultural land to meet its increasing water demands. This in turn will protect the availability of irrigated land for agriculture.

17. Environmental Benefits – ORS 541.673(3)

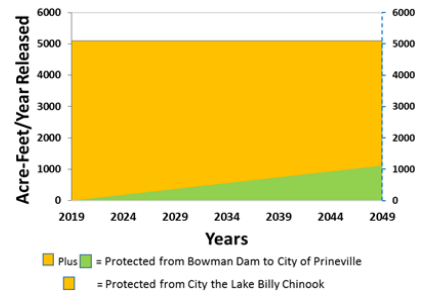
- a. A measurable improvement in protected streamflows. Describe the legal means by which the water will be permanently dedicated instream and protected by the Oregon Water Resources Department (e.g. Allocation of Conserved Water program). *This MUST be included to receive a score for this public benefit.*

Describe how the protected streamflows accomplish one or more of the following:

- (A) Supports the natural hydrograph;
- (B) Improves floodplain function;
- (C) Supports state- or federally-listed sensitive, threatened or endangered fish species;
- (D) Supports native fish species of cultural importance to Indian tribes; or
- (E) Supports riparian habitat important for wildlife:

The proposed project is being developed in conjunction with protecting streamflow in the Crooked River. The City’s involvement with the multi-stakeholder group resulted in the passage of the Crooked River Collaborative Water Security and Jobs Act of 2014 (2014 Act), which dedicates 5,100 AFY of stored water in Prineville Reservoir to the City for mitigating future groundwater pumping to meet the City’s growing water demands. This new annual release of stored water is protected instream from the Bowman Dam to Lake Billy Chinook under water right certificate 94149.

As required under the Deschutes Basin Groundwater Mitigation Rules, 1,292 AFY of the 5,100 AFY of protected flow will be used to offset the pumping from the City’s new well field (City Permit G-18154). This permit is anticipated to meet the City future water demands for the next 20 to 30 years (based on City’s Water Master Plan data, 2018). Therefore, 5,100 AFY will be protected instream from Bowman Dam to Lake Billy Chinook with an instream benefit of 5,100 AFY between Bowman Dam and the City and at least 3,808 AFY (5,100 – 1,292 = 3,808 AFY) from the City to Lake Billy Chinook. The adjacent graph approximates the annual volume of instream benefit over the next 30 years as the City’s water demand gradually increases.



If released evenly throughout the year the instream benefit would equate to 7.0 cfs (3,162 gpm) from the dam to the City (5,100 AFY) and a minimum of 5.26 cfs (2,360 gpm) from the City

to Lake Billy Chinook (3,808 AFY). However, at the urging of the City and other stakeholders, the 2014 Act also requires the Bureau of Reclamation release the 5,100 acre-feet of stored water, in consultation with federal fishery agencies, in a fashion that maximizes benefits to downstream fish and wildlife. ODFW is also involved with these consultations. Specifically, this would benefit the Middle Columbia River summer steelhead and spring chinook, which are the object of an ongoing reintroduction effort by NMFS, ODFW and the Tribes, as well as the abundant populations of native Redband Trout, Rainbow Trout, and Mountain Whitefish populations (Lower Crooked River Watershed Assessment, 2008).

- b. A measurable improvement in groundwater levels that enhances environmental conditions in groundwater restricted areas or other areas:

The proposed project (Dedicated ASR Well #1), and City's ASR program, will be taking advantage of the airport area aquifer's natural storage capacity within the unique geologic setting. The target aquifer is the alluvial deposits of the Crooked River ancestral channel.

The aquifer is highly productive (with wells producing up to 1,100 gpm) yet has a limited aerial extent, and is hydraulically isolated from the Prineville Valley aquifers and the nearby Crooked River. While these attributes contribute to the aquifer being a good desirable deposit for ASR, they also likely contribute to the susceptibility of the aquifer to long-term water level declines. The City's ongoing water level monitoring program that is collecting water levels in up to 16 wells across the airport area since 2013 has identified a 2 to 3 foot annual water level decline in the airport area aquifer (Groundwater Hydrology of the Airport Area Aquifer – 2016 Update).

The introduction 261 MG of water into this aquifer each year through the project's Dedicated ASR Well # 1 will assist in reversing this water level declining trend. In combination with the City's existing production well (Heliport Well) that, under this ASR project, is being retrofitted for ASR testing, the program is intending to inject 435 MG of water annually into the aquifer when fully operational. This total volume of water is double of the current production rates and will begin to restore the declining water levels measured within the airport area aquifer. The City's ongoing water level monitoring program and additional monitoring wells installed to support the ASR program will be used to track the stabilization and expected recovery of the water levels within the airport area aquifer. The program will continue to collect water levels on an hourly basis using transducers at many sites, or collect hand measurement either monthly or quarterly as prescribed in the monitoring program work plan. All data and reports from this ongoing work will continue to be provided to OWRD and the public on a regular basis.

- c. A measurable improvement in the quality of surface water or groundwater:

Water in the Lower Crooked River below Bowman Dam does not meet the state water quality standards for temperature, pH, dissolved gas, or bacteria. DEQ has developed a total maximum daily load (TMDL) for pH and bacteria, but not the other identified parameters. The proposed project and the associated annual release of water from Prineville Reservoir to the Crooked River (at the direction of the state and federal fishery agencies experts) will assist in improving several of these water quality limited parameters. Potential improvements to the surface water quality from this additional release of water will be captured through the continued monitoring program conducted by the Crooked River Watershed.

The proposed project will not likely have much of an effect on groundwater quality because the composition of ASR recharge water and the native groundwater are very similar, with all analyzed water quality constituents in both sources meeting drinking water standards and below regulatory standards for ASR. Modeling of geochemical mixing between ASR recharge water and native groundwater has indicated that ASR operations will not degrade the quality of native groundwater or result in adverse reactions/conditions such as mineral precipitation. A

comprehensive water quality monitoring plan has been developed (ASR Pilot Testing Work Plan, GSI 2018) to continually ensure that the quality of groundwater is protected.

d. Water conservation:

The City of Prineville is very conscious of water conservation, as evidenced by their recent OWRD Stewardship Award for their water conservation efforts described in their 2017 Water Management and Conservation Plan (WMCP). The City's ASR program is a resilient, sustainable, and cost-effective water management tool that will allow the City to meet its growing summertime peak day demands by taking advantage of the natural capacity within the airport area aquifer and ultimately more effectively manage and conserve their water sources and support future conservation efforts.

*Note: Any project that conserves water and permanently dedicates at least 25% of the conserved water quantity to instream use will automatically receive a scoring bump in the environmental public benefit category with the opportunity to demonstrate additional environmental benefit to increase the score. **If awarded funding, the percentage identified below will be a condition of funding.***

Identify the portion of conserved water that will be permanently dedicated instream and protected by the Oregon Water Resources Department: 0 %

Describe the legal means by which the water will be permanently dedicated instream and protected by the Oregon Water Resources Department (e.g. Allocation of Conserved Water program):

Not applicable.

e. Increased ecosystem resiliency to climate change impacts:

While the proposed construction of Dedicated ASR Well #1 increases the resiliency of the City's water supply system, the dedicated annual release of new water flows to the Crooked River (at the direction of the state and federal fishery agencies experts) supports the ecosystem's ability to adapt to climate change by increasing streamflow during critical months. (Releases are further described above in Question 17a.)

Prior to the 5,100 acre-feet of stored water being dedicated to the City in conjunction with their ASR Program and projects, it was not released from the reservoir, was not legally protected in the Crooked River, and did not provide this streamflow benefit. Because the fishery agencies can shape the release of this water for the benefit of the system, and also modify releases in the future, this water provides the fishery agencies a tool to improve the resiliency of the ecosystem to match future climate change impacts.

f. Improvements that address one or more limiting ecological factors in the project watershed:

The limiting ecological factors within the Lower Crooked River watershed include habitat for sensitive, threatened, and endangered species and streamflow (Effects of Modified Flow Regime on Fish Populations of the Crooked River below Bowman Dam, ODFW 2016). As previously detailed, one primary component related to the City's ASR project is the annual release of 5,100 acre-feet of stored water will benefit downstream flows and threatened and native fish species and their habitat. Specifically, this would benefit the Middle Columbia River summer steelhead and spring chinook, which are the object of an ongoing reintroduction effort by NMFS, ODFW and the Tribes, as well as the abundant populations of native Redband Trout, Rainbow Trout and Mountain Whitefish populations. Additionally, improved flow and riverine

conditions influenced by additional releases of stored water from Bowman Dam are identified to improve fish habitat in the “Conservation and Recovery Plan for Oregon Steelhead Populations in the Middle Columbia River Steelhead Distinct Population Segment” dated February 2010.

18. Social/Cultural Benefits – ORS 541.673(4)

a. The promotion of public health and safety and of local food systems:

The City’s new Dedicated ASR Well #1 promotes public health and safety by increasing the resiliency and redundancy of the City’s water supply system, which will ensure that safe drinking water is available during future emergency scenarios such as earthquakes, contamination events, droughts, or supply interruptions. In addition, proposed project’s increase in the City’s water system resiliency and redundancy will help the City to protect its water source from the impacts associated with of climate change.

b. A measurable improvement in conditions for members of minority or low-income communities, economically distressed rural communities, tribal communities or other communities traditionally underrepresented in public processes:

Prineville is identified as an economically distressed rural community that is struggling to reinvent itself and rebuild from the mill town it once was. According to Prineville’s Mosaic Population Summary, the local population is made up of about 50 percent working blue-collar jobs and living within modest mean and has a growing Hispanic population, projected to reach around 10 percent by 2023 according to DemographicsNow data. Facebook and Apple have marked the initiation of that process, rooting a growing tech industry and related services that come with the tech sector in the most unlikely of places. The proposed project will enable the City to support a broader portfolio of business, reduce economic volatility, and avoid future market hardship—in turn supporting vulnerable low-income and minority populations in this economically distressed rural community.

In addition, one of the Central Oregon Intergovernmental Council’s key initiatives, titled “Central Oregon Rural Community Equitable Economic Development Initiative,” targets working with and engaging under-served rural populations. The council wishes to provide support for projects that will “enhance local and regional capacity to provide sustainable, equitable economic development efforts for the benefit of under-served rural communities and target populations within those communities.” According to Economic Development for Central Oregon regional data, about 75 percent of capital investment in Central Oregon is happening in Crook County due to data center expansion projects and attraction of partnership organizations to the area as a result. This ASR project will allow more of these high-tech projects to locate to Oregon and assist the State and Central Oregon regional entities in serving the underserved rural communities and target populations within those communities.

c. The promotion of recreation and scenic values:

The Crooked River below Bowman Dam has become one of Central Oregon’s premier trout fishing destinations. This is due to abundant populations of native Redband Trout, a subspecies of Rainbow Trout, and Mountain Whitefish, in addition to year-round fishing opportunities when other local streams are closed during winter. In addition to resident trout and whitefish, steelhead (anadromous Rainbow Trout) and Chinook salmon have been reintroduced into the Crooked River with spawning adults returning near the base of Bowman Dam. This stretch of river below the dam is managed by the U.S. Bureau of Land Management (BLM) as a Wild and Scenic River and the fishery is identified as an Outstanding Remarkable Value with the Northwest Power Conservation Council’s Deschutes Sub-basin Plan specifically identifying the

Redband fishery as a “valued ecological and cultural resource” that “attracts anglers from around the world” (Effects of Modified Flow Regime on Fish Populations of the Crooked River below Bowman Dam, ODFW 2016).

The proposed project and the associated annual release of water to the Crooked River from Bowman dam to Lake Billy Chinook (at the direction of the state and federal fishery agencies experts) will add to the current streamflows which will improve the health of the fishery and improve the recreation and scenic values of the Crooked River below the Prineville Reservoir. It is likely this will bring more recreation users to this stretch of the river.

d. Contribution to the body of scientific data publicly available in this state:

The City intends to share findings with the public as well as with interested parties in the water resources industry. The following are examples of how we will share this information:

- Include information for the public about this project in the City’s annual Water Quality Report.
- Include promotional content about the project and our progress on the City’s website.
- Work with local environmental groups to share the project’s concept with other interested parties.
- Submit abstracts to publish articles about this project in various water industry journals.
- Periodically present the findings of the ASR project at City council meetings which are opened to the community.
- Annually report findings from testing conducted during the implementation of the project, which will be made publicly available via submittal to OWRD as a grant deliverable. The annual report will summarize a water quality analysis of native groundwater at the Dedicated ASR Well #1, recharge water, stored water, and recovered water, as well as aquifer parameters, and present a detailed evaluation of the groundwater levels from the City’s ongoing groundwater level monitoring program and ASR project, and aquifer response to full-scale injection and recovery.

e. The promotion of state or local priorities, including but not limited to the restoration and protection of native fish species of cultural significance to Indian tribes:

This proposed project promotes several local and state priorities:

- Improved Access to Built Storage (IWRS recommended action 10B). - The State’s Integrated Water Resources Strategy (IWRS) has developed a list of critical issues to meet the State’s water needs. Groundwater is one of the four cross-cutting issues of vital importance to Oregon’s water future. ASR in particular is identified in the IWRS as a critical tool for water management and development in the state. The City’s proposed ASR project will promote below ground storage, which is one of the State recommended water management tools (recommended action 10B).
- Central Oregon Regional Strategic Plan – This project supports initiatives from the Economic Development for Central Oregon (EDCO). EDCO employs a regional-local model, with strategic plans and key performance indicators to promote growth in each Central Oregon community. The most recent Central Oregon Regional Strategic Plan calls for collaboration with targeted industry leaders in order to continue to market and recruit similar data center and technology companies and companies to support these industries. Data centers and other advanced manufacturing operations that would be located in the

Prineville/Crook County Industrial Zone are two of Central Oregon's top ten industry focuses. One of the priorities for company recruitment within this plan is to "develop and execute focused marketing and recruitment campaign directed at high technology companies in California's Bay Area and, secondarily, southern California." This recruitment cannot happen without resources to support such heavy infrastructure users. Economic development initiatives look not only to recruit new business and create jobs, but also to retain the jobs that are already here and add value for the companies that have created these jobs and contributed to a more diversified local economy. This will also aid in the region's Business Climate Improvement objective 4.6, focused on assisting cities with efforts to increase water capacity in Prineville. Looking at the Economic Development SWOT Analysis for the region, one of the external threats that could critically impact business efforts, is resource availability and infrastructure, according to both EDCO staff and regional Board of Director's input.

- Prineville/Crook County Economic Development 2019-2021 Strategic Plan - The Prineville/Crook County Economic Development 2019-2021 Strategic Plan identifies the ASR project as essential for keeping serving some of our county and region's largest expansions, as well as continuing to grow new business. One of the plan's objectives is to recruit three new companies to Crook County and grow three companies already located in the county. Facebook and Apple's data centers alone achieve these local expansion and community investment goals, as they have been continuously expanding operations since they began the process of locating here in 2009. The preferred outcome of this strategic plan implementation action has a goal of 100 well-paying jobs and \$100 million in capital investment, which is accomplished through just one of these projects.

In order to keep these companies here and allow them to further expand operations, the infrastructure and water capacity needs to be put in place to support local growth. Prineville's water system is almost at capacity already, so without added capacity and system innovation, there is the potential to lose these companies that have saved our suffering local economy, as well as fail to recruit new business and therefore new jobs.

- f. The promotion of collaborative basin planning efforts, including but not limited to efforts under Oregon's Integrated Water Resources Strategy:

This proposed project is one of the States IWRS recommended water management tools and has been in the City's ongoing planning process for about five years. The ASR project is consistently placed on public City Council agendas to keep the community, local government, and local business informed about what this will accomplish for current and future projects. These public council meetings encourage public questions and discourse, and the results of the meetings are also publicly available.

In addition, the City reached out during this past 2 years to key groups/entities users (DRC, OWRD, WaterWatch, USFWS, and Ochoco and North Unit Irrigation Districts) representing multiple types of local water that may have interest in the project. We discussed the proposed ASR program objectives and implementation approach to both inform these local groups and receive feedback regarding the project.

VIII. Project Budget

Instructions: Please answer the following questions about the proposed project budget using the tables provided. All Loan and Other Funds must be allowable costs as described in the Department’s Grant Budget Procedures and Allowable Costs document.

19. Please provide an estimated line item budget for the proposed project. Examples include: direct project specific costs, such as in-house staff salary, contractual services, travel and administrative costs. See the Department’s Budget Procedures and Allowable Costs on the OWRD Funding Opportunities Forms webpage for further guidance.

OVERALL PROJECT BUDGET Line Items	Number of Units* (e.g. # of Hours)	Unit Cost (e.g. hourly rate)	In-Kind Match	Cash Match Funds	OWRD Grant Funds	Total Cost
Materials						
Contractual/Consulting				\$10,435,572	\$1,800,000	\$12,235,572
Staff Salary/Benefits						
Equipment (must be approved)						
Supplies						
Other:						
Administrative Costs**						
Total				\$10,435,572	\$1,800,000	\$12,235,572

* The “Unit” should be per “hour” or “day” – not per “project” or “contract.” *Units x Unit Costs = Total Cost*
 ** Administrative Costs may not exceed 10% of the total funding requested from the Department

20. Identify the budget for each key task below. Key tasks identified below should be the same as the key tasks identified in Questions 9 and 10.

Key Tasks	In-Kind Match	Cash Match Funds	OWRD Loan Funds	Total Cost
Task 1. Prineville Airport Area Aquifer Initial Monitoring & Testing	\$0.00	\$500,000	\$0.00	\$500,000
Task 2. Airport Area New Infrastructure – Dedicated ASR Well #1 & Additional City Distribution System	\$0.00	\$850,000	\$1,800,000	\$2,650,000
Task 3. New City Source Wells, Treatment and Distribution Upgrades for ASR Development	\$0.00	\$9,085,572	\$0.00	\$9,085,572
Total		\$10,435,572	\$1,800,000	\$12,235,572

IX. Match Funding

Instructions: Fill out the table below and attach the appropriate documentation for both secured and pending match (add rows as needed). Label the documentation as Attachment #3. Applications requesting grant funds must demonstrate match that at a minimum equals 25% of total project cost.

For secured funding, you must attach a letter of support from the match funding source that specifically mentions the dollar amount identified for this project and as shown in the “Amount/Dollar Value” column in the table below and describes the work to be accomplished through the match.

For pending resources, you must attach other written documentation showing a request for the matching funds must accompany the application or documentation must identify the date on which a future funding application will be submitted, identify the funding program, and provide evidence that the project is eligible for the funding program identified.

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	Type (✓ only One)	Status (✓ only One)	Amount/ Dollar Value	Date Match Funds Available (Month/Year)
City of Prineville, System Development Charge Funds	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$500,000	July/2018
City of Prineville, System Development Charge Funds	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in-kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> pending	\$9,935,572	Feb/2019
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in-kind	<input type="checkbox"/> secured <input type="checkbox"/> pending		

X. Storage-Specific Project Requirements (if not a storage project skip this section)

Instructions: If your proposal is for a storage project that will divert water under an existing or new storage water right permit or limited license, answer questions 22 through 24 in this section. If your proposal is for above-ground storage, also answer question 25 and 26. All other projects can skip this section of the application.

21. Identify Storage Project Type: Above-Ground Below-Ground

22. Indicate the capacity of the storage project and any new-developed water below:

- a. What will be the *total* capacity of the storage project in acre-feet after project implementation? This is a subsurface storage project with an estimated maximum storage capacity. For this project, Dedicated ASR Well #1, the storage capacity is 261 MG/yr. The City’s ASR program potential storage estimate is up to 434 MG/yr using up to a total of 4 ASR wells.
- b. What will be the volume of the *newly-developed* water in acre-feet?
 Dedicated ASR Well # 1 = 801 acre-feet/year
 City Total ASR Program = up to 1,331 acre-feet/year

23. Answer the following “Yes/No” questions about the storage project.

- a. Will the project divert more than 500 acre-feet of surface water annually?
Yes No
- b. Will the project impound surface water on a perennial stream? Yes No
- c. Will the project divert water from a stream that supports sensitive, threatened or endangered species? Yes No

If you answered “yes” to **any** of the questions above, (a), (b), or (c), the project will need a *Seasonally Varying Flow (SVF) Prescription*, determining the duration, timing, frequency and volume of flows (including ecological base flow), necessary for protection and maintenance of biological, ecological, and physical functions outside of the official irrigation season. The Department will establish the SVF prescription after funding is awarded, for more information about what this requirement entails, please contact Water Development Coordinator, Rachel Lovell Ford at (503) 986-0941.

24. **For Above-Ground Storage Only:** If you answered “yes” to Question 23 (a), (b), or (c) above, your proposed project is above-ground storage, **and you are requesting grant funding then a minimum of 25% of the newly developed water must be dedicated to instream use. This is separate from the SVF Prescription.**

- Not Applicable

Please identify the percentage of stored water to be dedicated to instream use.

 %

*Note: Any storage project dedicating at least 25% of stored water to instream use will automatically receive a scoring bump in the environmental public benefit category. **If awarded funding, the percentage identified below will be a condition of funding.***