



**OREGON WATER RESOURCES DEPARTMENT  
WATER SUPPLY DEVELOPMENT ACCOUNT  
LOAN AND GRANT APPLICATION**

**I. Project Information**

Project Name: Water storage of up to 3 acre-feet for irrigation at La Creole Orchards, near Dallas, Oregon (Polk County)

Type of Project: New water storage  Check box if project type includes storage

Funding Request Type: Loan  Grant

Funding Amount Requested: \$96,910 Total cost of project: \$139,461

*Note: Grant funding requests must demonstrate cost match of at least 25% of total project cost. This may include in-kind.*

**II. Applicant Information**

<b>Principal Contact: Bogdan Caceu</b>	<b>Fiscal Officer:</b>
Address: 6722 SE Reed College Place, Portland, OR 97202	Address:
Phone: 503-929-3460 Fax:	Phone: Fax:
Email: bcaceu@gmail.com	Email:

<b>Involved Landowner 1: Bogdan Caceu Living Trust</b>	<b>Involved Landowner 2:</b>
Address: 6722 SE Reed College Place, Portland, OR 97202	Address:
Phone: 503-929-3460 Fax:	Phone: Fax:
Email: bcaceu@gmail.com	Email:

*\*Please include a supplementary document that lists all additional involved landowners if applicable.*

**Certification:**

I certify that this application is a true and accurate representation of the proposed project work and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant certifies that they are aware of the requirements of an Oregon Water Resources Department funding award and are prepared to implement the project if awarded.

Applicant Signature:  Date: 1/7/2016

Print Name: Bogdan Caceu Title/Organization: Landowner/sole proprietor

### III. Project Summary

Please provide a description of the need, purpose and nature of the project. Include what the applicant intends to complete and how the applicant intends to proceed.

La Creole Orchards is located on 45 acres south of Dallas, Oregon, in Polk County. The North Fork Ash Creek bisects the property. Applicant, who is also the landowner and sole proprietor of La Creole Orchards, started farming in 2009. Applicant has planted the first phase of the orchard on 10 acres. The bulk of the orchard's production will be in oil olives, which will be pressed into premium Extra Virgin Olive Oil. A state-of-the-art olive milling facility is located nearby in Dayton, Oregon; further down the road, Applicant anticipates to invest in a smaller, high-end olive mill to be able to independently produce premium Extra Virgin Olive Oil at La Creole Orchards. The Willamette Valley is thought to have excellent potential for high-quality oils, and Applicant believes that his site is particularly well-suited for growing some of the hardier olive varieties that give premium-quality oils (see photos of the first crop of olives from November 2015). Secondary crops of French and Italian black truffles will also be produced in the orchard.

One of the first improvements Applicant made in 2009 was a well: it yielded only 1-2 GPM, so a second well was drilled. It also yielded 1-2 GPM. Later, a sump-well was located (see attached photos). It yields 3-4 GPM. To temporarily alleviate the lack of water, an above-ground, lined, water storage tank was installed (with assistance from USDA/NRCS). The tank has a capacity of 35,000 gallons. It shipped as a kit from the Netherlands and was assembled in one day by a small crew (see attached photos and brochure). It is covered with an innovative floating cover (see attached brochure) from a Danish company with manufacturing facilities in North America. The cover virtually eliminates evaporation and prevents algae growth in the stored groundwater. Solar-powered pumps slowly pump groundwater into the 35,000 gallon tank. From the tank, water is distributed into a highly-efficient drip and micro-jet irrigation system in the orchard. While this system has worked to get young trees established on 10 acres, it cannot sustain those trees as they mature and as their water needs increase. Nor can it sustain an expansion of orchard acreage.

Adequate irrigation is needed in order to take the current trees (approximately 1,750) to commercial production. There is a significant body of research out of the University of California that shows that olive trees respond amazingly well to adequate irrigation. They produce good growth, large fruit size, annual bearing, and much better yields than inadequately watered or water-stressed trees. In order to reach its full potential, the orchard needs to be expanded from the current 10 acres to 30 acres (with up to 3,500 more olive trees planted). The irrigation season is also getting longer in the current multi-year drought and the impacts of climate change are becoming more pronounced. Adequate irrigation will be needed. That adequate irrigation can only come with significant water storage.

The purpose of the proposed project is to secure adequate water storage. Applicant proposes to install two above-ground, lined water storage tanks from the same manufacturer and with the same innovative floating cover. These tanks will each hold 470,000 gallons, for a combined capacity of 940,000 gallons. Applicant has a water rights permit from OWRD (permit # G-17147, see attached) that allows him to store up to 3 acre-feet of groundwater harvested from the two wells and the sump-well. The proposed storage project can be implemented in a phased approach, with one tank installed in 2016 and the second tank in 2017 or a later year, depending on OWRD's funding decisions.

The proposed project meets broad public benefits across all three categories (see next section). Applicant has received nine letters of support for the proposed water storage project (see attached). Polk SWCD has awarded Applicant the Innovative Conservation Award for 2015, "for his conservation-minded decisions concerning water quantity." He is a guest speaker at the Oregon Small Farms Conference at Oregon State University (Feb. 20, 2016) at a workshop on Innovative Approaches to Catching and Storing Water. As part of his overall plan to combine farming and good stewardship of resources, Applicant has begun the process to place 4.1 acres of his property in the CREP program (see attached correspondence with the Resource Conservationist in charge), thereby creating a significant new riparian buffer alongside the North Fork Ash Creek. This buffer will help improve the quality of the water supply in the creek.

## IV. Project Specifics

**Instructions:** Answer all questions in this section by typing the answer below the question, using additional space as needed.

1. **Describe how the project will provide public benefits in each of the three public benefit categories.** Project applications will be scored and ranked based on the economic, environmental and social/cultural public benefits identified below. Describe the conditions prior to and after project implementation to demonstrate changes resulting from the project. Descriptions should be quantitative when possible. Information provided must be sufficient to allow evaluation of the public benefits of the project. **Please see the Public Benefit and Evaluation Guidance document for a description of how 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 categories that are not applicable to project.

### *Economic Benefits ORS 541.673(2)*

(a) Job creation or retention:

- Applicant anticipates one to two *permanent* full-time jobs to be created directly at La Creole Orchards once olive trees reach commercial-crop production (expected in 2018-2019) thanks to adequate irrigation made possible by the proposed water storage project;
- the proposed project will also create eight to ten *temporary* jobs for the crew that will undertake site preparation and will construct the two water storage tanks;
- in addition, the proposed project will create *indirect* jobs, as La Creole Orchards' increased economic activity will support local suppliers of equipment (e.g., for harvesting), materials (e.g., lime, fertilizer) and services (e.g., olive milling at Oregon Olive Mill in Dayton, Oregon);
- the majority of the jobs created by the proposed project will be in Polk County, which ranks #11 among Oregon counties in terms of per capita income (\$24,345 as of the 2010 U.S. Census data), significantly under the average for Oregon (\$26,171) and the U.S. (\$27,334).

(b) Increases in economic activity:

- The proposed project, by giving Applicant the ability to store 3 acre-feet of water, will *exceptionally* increase the farming activity at La Creole Orchards for 5+ years:
  - it will enable the expansion of the olive orchard (up to 3,500 additional olive trees):
    - although they are drought-resistant, olive trees require adequate irrigation for commercial production — according to research from the University of California, poor irrigation reduces an olive crop from 3 tons/acre to 1 ton/acre (see attached excerpt from “Olive Production Manual”);
    - since one ton of olives produces on average 55 gallons of Extra Virgin Olive Oil, and since that premium product retails at an average price of \$100/gallon, the gain of up to 2 tons of olives per acre thanks to adequate irrigation would represent as much as \$11,000/acre in extra revenues.
  - In addition to olives, Applicant anticipates to grow seasonal crops with more irrigation water available:
    - at least 5 extra acres could be farmed, including areas in between the orchard rows, at an average of \$1,000/acre in extra revenues.
  - In addition to farming, Applicant anticipates that an adequate supply of water will make it possible to process crops at the farm:
    - for olives, this would save \$500/ton in processing costs.
- The exceptional increase in economic activity at La Creole Orchards will contribute to increased economic activity at local suppliers of materials and services, primarily in Polk, Yamhill and Marion counties, all of which have per capita income lower than the Oregon and U.S. averages.

(c) Increases in efficiency or innovation:

- The proposed water storage project stands out from typical ponds at farms, as it is *exceptionally* efficient and innovative:
  - it is lined (to eliminate seepage and maximize efficiency of water storage);
  - it features an innovative floating cover that reduces evaporation by an estimated 95%, controls algae, and — unlike conventional floating covers — is easy to install, allows rainwater to seep in, easily adapts to changes in water level, requires no repairs or maintenance, and has a life expectancy of 25 years (see attached brochure);
  - the irrigation system itself is also highly efficient, using only drip and micro-jet technology.

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

- The proposed water storage will be an *exceptional* enhancement to the infrastructure and to the farmland, increasing the value of the property:
  - discussions with local realtors indicate that anywhere between 90% and 125% of the cost of the proposed project will be added to the value of the property;
  - as previously shown above under point (b), there will be an exceptional increase in production per acre with an adequate supply of water for irrigation, which would also increase the value of the farmland;
  - in Polk County, farmland with no water sells for an average of \$5,000-\$6,000/acre, while farmland with an adequate supply of irrigation water sells for an average of \$10,000-\$12,000/acre.
- As part of his overall plan to combine farming and good stewardship of resources, Applicant has begun the process to place 4.1 acres of his property in the CREP program, thereby creating a significant new riparian buffer alongside the North Fork Ash Creek:
  - it will help improve the quality of the water supply in the creek;
  - it will create a stream of revenues in annual payments from FSA and OWEB over 15 years;
  - it will add overall value to the property by putting to good use 4.1 acres than can hardly be farmed.

(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 proposed project will result in *significant to exceptional* increased value associated with tourism:
  - Applicant has had extended communications with Carole Astley, Senior Manager at Travel Oregon / Oregon Tourism Commission, with respect to opportunities for agri-tourism at La Creole Orchards:
    - she perceives a high interest from the public for a very unique orchard (olives, truffles);
    - she strongly recommended investigating ways to partner with other growers and with a Destination Marketing Organization (such as Travel Salem or the Dallas Area Chamber of Commerce) to apply for funds under the Oregon Wine Country Plates Grant Program;
  - Applicant has reached out to several growers of olives and truffles, and to Travel Salem and the Dallas Area Chamber of Commerce to discuss the possibilities for joint marketing.

(f) Increases in irrigated land for agriculture:

- The proposed water storage project will more than *triple* irrigated acres at La Creole Orchards:
  - Applicant anticipates being able to expand irrigated orchard acres from the current 10 acres to 30 acres (up to 3,500 additional olive trees will be planted).

***Environmental Benefits ORS 541.673(3)***

- (a) A measurable improvement in protected streamflows that accomplishes one or more of the following: N/A
- (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:
- (b) A measurable improvement in groundwater levels that enhances environmental conditions in groundwater restricted areas or other areas: N/A
- (c) A measurable improvement in the quality of surface water or groundwater:
- Applicant has already begun the process to place 4.1 acres along the North Fork Ash Creek into the CREP program (the plan has been drawn, the contract has been drafted and is expected to be signed in March 2016):
    - this project will involve the planting of 1,173 hardwoods, 615 conifers, and 615 shrubs, all native plants;
    - this will significantly increase the current buffer zone along the creek, further prevent erosion, improve the shading and decrease temperatures in the creek, leading to a *significant* improvement in water quality.
  - Applicant has already implemented several conservation practices that have significantly prevented erosion on the portion of the property that is gently sloping down toward the creek, thereby *significantly* improving the quality of the waters of the creek:
    - Applicant seeded a conservation cover and has maintained it by repeated mowing, without any spraying;
    - when the orchard trees were planted, only individual spots were disturbed to dig planting holes;
    - generally, a no-till approach has been used in the orchard, with only minimal cultivation around individual trees and a focus on mulching around trees as an alternative to cultivation;
    - soil amendments and fertilizers have been applied in liquid form without any soil disturbance.
- (d) Water conservation:
- The proposed water storage project includes an *exceptional* water conservation element:
    - it will feature an innovative floating cover from Hexa-Cover® (see [www.hexa-cover.dk/us/](http://www.hexa-cover.dk/us/)), a Danish company with manufacturing facilities in North America;
    - the cover reduces evaporation by an estimated 95%:
      - it is estimated that this cover will conserve over 400,000 gallons of water from the two proposed water storage tanks (based on pan evaporation data for the Willamette Valley region from the Western Regional Climate Center/NOAA).
  - Applicant has treated water conservation as the single most important challenge at La Creole Orchards:
    - Applicant analyzed this issue in an Irrigation Water Management plan (submitted to USDA/NRCS);
    - Applicant thought about standard irrigation methods but decided to go with a highly-efficient drip and micro-jet system from the get go;
      - drip and micro-jet irrigation is up to 50% more efficient than standard sprinkler irrigation (according to data on the U.S. EPA website);
      - as soil amendments and fertilizers have been applied in liquid form, those applications have each replaced a watering, resulting in a 10% reduction in water use;
      - trees in the orchard have been mulched, which has replaced at least one watering per season, resulting in a further 10% reduction in water use;
    - irrigation of olive trees has been scheduled according to research from University of California that recommends a controlled deficit strategy that applies about 45% of the total evapotranspiration demand of the olive tree without affecting yield.

(e) Increased ecosystem resiliency to climate change impacts:

- Applicant has begun the process to place 4.1 acres along the North Fork Ash Creek into the CREP program, which will involve the planting of 2,400 native trees and shrubs;
- this will significantly increase the current buffer zone along the creek, further prevent erosion, improve the shading and decrease the temperatures in the creek, thereby *significantly* improving the stream's ecosystem and alleviating one of the impacts of climate change (higher temperatures).

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

- Applicant's project to place 4.1 acres along the North Fork Ash Creek into the CREP program will make *significant* progress towards removing limiting ecological factors;
- Applicant has communicated with Nancy Gramlich (Basin Coordinator, Middle Willamette Subbasin, Oregon DEQ), Kristen Larson (Coordinator of the Luckiamute Watershed Council), and Karen Stutzman (District Manager at Polk SWCD) who identified the following limiting factors for North Fork Ash Creek:
  - impaired water quality (e.g., temperature and sedimentation, pesticides), including those factors associated with the loss of riparian and floodplain vegetation;
  - reduced water quantity (e.g., low streamflow and altered hydrology);
  - loss of habitat complexity (e.g., high-quality instream structure and spawning gravel, floodplain connectivity, connected off-channel habitat, presence of pools, and presence of large woody debris);
  - loss of habitat connectivity, including: floodplain connectivity, access to cold-water refugia, and fish-passage barriers that are identified as primary limiting factors for native fish species and as noted by Oregon Department of Fish and Wildlife's statewide fish passage priority list;
  - spread of invasive species.
- The three coordinators — Ms. Gramlich, Ms. Larson, and Ms. Stutzman — referred to the following reports and studies:
  - DEQ databases and/or documents that identify water quality standards not being met in the Middle Willamette Subbasin:
    - [www.deq.state.or.us/wq/assessment/assessment.htm](http://www.deq.state.or.us/wq/assessment/assessment.htm)
    - [www.deq.state.or.us/lab/wqm/assessment.htm](http://www.deq.state.or.us/lab/wqm/assessment.htm)
  - DEQ Chapter 14 "Water Quality Management Plan" and Chapter 7 on "Middle Willamette Subbasin TMDL" (Total Maximum Daily Loads) and DEQ's Nonpoint Source Program identify the limiting factors listed above and strategies for improving water quality:
    - [www.deq.state.or.us/wq/tmdls/willamette.htm#mid](http://www.deq.state.or.us/wq/tmdls/willamette.htm#mid)
    - [www.oregon.gov/deq/WQ/Pages/nonpoint.aspx](http://www.oregon.gov/deq/WQ/Pages/nonpoint.aspx)
  - ODA is responsible for developing plans to prevent and control water pollution from agricultural activities and soil erosion on rural lands and is also responsible for ensuring that farmers and ranchers help achieve water quality standards and meet the agricultural pollutant load allocations assigned by DEQ in their TMDLs — the links below are to the Middle Willamette Agricultural Water Quality Management Area Plan developed by ODA and the Middle Willamette Local Advisory Committee (which identified significant limiting factors for North Fork Ash Creek) and to a page for landowners:
    - [www.oregon.gov/ODA/shared/Documents/Publications/NaturalResources/WillametteMiddleAWQMAreaPlan.pdf](http://www.oregon.gov/ODA/shared/Documents/Publications/NaturalResources/WillametteMiddleAWQMAreaPlan.pdf)
    - [www.oregon.gov/ODA/programs/NaturalResources/Pages/AgWaterQuality.aspx](http://www.oregon.gov/ODA/programs/NaturalResources/Pages/AgWaterQuality.aspx)
- Applicant expects that his 4.1-acre riparian buffer project along North Fork Ash Creek will make significant progress towards addressing impaired water quality (primarily temperature and sedimentation) and the spread of invasive species.

***Social/Cultural Benefits ORS 541.673(4)***

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

- The proposed project will promote *exceptionally* increased local food production:
- Applicant's water storage project will enable him to become one of the leading growers of oil olives in Oregon and a producer of premium Extra Virgin Olive Oil;
- the small but growing community of olive growers in the Willamette Valley plans to put Oregon on the map for the premium quality of its cool-climate Extra Virgin Olive Oil (just as Pinot Noir has);
- with adequate irrigation, Applicant anticipates commercial production of olives in 2018-2019, at which point Applicant plans to invest in a small olive mill and to start producing up to 1,500 gallons of premium Extra Virgin Olive Oil — locally produced at La Creole Orchards;
- with adequate irrigation, Applicant also anticipates to produce small quantities of French black truffles, as well as other seasonal crops as will be grown in between the orchard rows.

(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:

- The proposed project will provide *moderate* benefits to local low-income and economically distressed rural communities:
- Applicant anticipates that spending on materials and services for the proposed project, and more generally all spending at La Creole Orchards will be concentrated locally, primarily in Polk, Yamhill, and Marion counties, which rank, in respective order, #11, #12, and #26 on the list of the 34 counties of Oregon in terms of income per capita, all under the Oregon and the U.S. averages;
- Applicant anticipates to participate in campaigns to raise awareness for the dietary and health benefits of olive oil and fresh produce, including to disadvantaged communities that need further outreach on this issue, because small improvements in their diets can lead to significant improvements in health;
- Applicant has already conducted extensive outreach to local citizen groups, to Polk County Commissioners, to ODA, and to tribal communities to inform them about the projects at La Creole Orchards.

(c) The promotion of recreation and scenic values:

- The proposed water storage project will be constructed in a very scenic location (see attached photos of the site at La Creole Orchards) and its immediate surroundings will be landscaped for scenic pleasure, therefore resulting in visits, sightseeing, and photography, and is likely to result in *moderate* to *significant* promotion of scenic values;
- the project site will be open for visits guided by Applicant:
  - already, officials from OWRD (Water Rights Program), ODA, OSU Extension, USDA/NRCS, Luckiamute Watershed Council, and Polk SWCD will visit the proposed project site in January 2016;
  - the ODA and OSU officials have indicated that they each have contacted farmers and landowners with interest in water storage and have numbered half a dozen of interested parties each;
  - the OWRD, ODA, OSU Extension, USDA/NRCS, Luckiamute Watershed Council, and Polk SWCD officials have also indicated their strong interest to visit the proposed project when completed;
  - Applicant has had discussions with Travel Oregon, Travel Salem, and Dallas Area Chamber of Commerce officials to explore joint marketing efforts that could showcase the proposed project's benefits and its place within a very scenic site;
  - Applicant has also leveraged his extensive contacts within the local wine industry and with olive and truffle growers in order to start attracting groups to this very scenic site at La Creole Orchards.

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

- The proposed project is expected to contribute a *significant* amount of new data to the body of scientific data publicly available in the state:
  - the groundwater stored in the proposed project will be measured by flow meters and the data will be made available to OWRD and its stakeholders;
  - all three wells (two deep wells and the sump well) at La Creole Orchards will be closely monitored and the flow meters will be maintained in good working order;
  - the water quality in the proposed water storage tanks will be monitored and analysis of basic parameters will be conducted yearly by a professional lab and the data will be made available to OWRD and its stakeholders;
  - the water quality in the North Fork Ash Creek will be visually monitored inside the 4.1 acre buffer area and findings will be made available to OWRD and its stakeholders;
  - the project site will be open to OWRD officials and OWRD stakeholders for visits guided by Applicant, with proper advance notice;
  - the proposed water storage project is innovative and includes state-of-the-art elements such as a very innovative floating cover;
  - Applicant has already received strong interest from ODA officials, OSU academics, and private parties (farmers, viticulturists, orchardists, and landowners) to view the floating cover and to be kept informed of its evaporation efficiency.

(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:

- The proposed project is likely to play a *minor to moderate* role in promoting state and local priorities:
  - Applicant has consulted OWRD's Integrated Water Resources Strategy, which calls for increased support for tools such as built storage — while small (3 acre-feet) and benefitting only one farm, the proposed project will play its moderate role in pushing forward the Strategy;
  - the Strategy also calls for water conservation, for which the proposed project will play a minor role (as the innovative floating cover is expected to avoid the evaporation of up to 400,000 gallons);
  - the Strategy also points to healthy ecosystems as a critical issue and recommends improved watershed health, eradication of invasive species, and restoration of stream habitat, which Applicant's project to place 4.1 acres into the CREP program will address;
  - the Strategy mentions the need for a groundwater quality monitoring program, and the proposed project will play its minor part in that area by closely monitoring the quality of groundwater stored in the proposed water tanks.

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

- While the proposed project is not large in scope and impacts only one farm, Applicant has made and will continue to make *exceptional* attempts at a collaborative process with a variety of stakeholders:
  - as evidenced by points 8, 9 and 10 below, Applicant has contacted, briefed, and obtained support for the proposed project from officials with ODA, OSU, Polk County Board of Commissioners, Polk SWCD, Yamhill SWCD, Greater Yamhill Watershed Council, and Ash Creek Water Control District;
  - Applicant has also briefed the coordinators of the Luckiamute and Rickreall Watershed Councils, representatives of three tribal communities, and officials from ODF, Polk Rural FD, and City of Dallas;
  - Applicant has also contacted and received strong interest from private parties (farmers, viticulturists, orchardists, and landowners) from half a dozen counties throughout Oregon.

**2. Identify Project Location.**

(a) Attach map of project implementation area if appropriate. List map(s) in this space and attach to application.

(b) Township    Range    Section    Quarter-Quarter Section  
      8S            5W            6            NE/SE

(c) Tax Lot Number(s)  
      1800

(d) Latitude/Longitude  
      44.903 / -123.341

(e) County  
      Polk

(f) Watershed  
      Ash Creek

(g) River/Stream Mile (where applicable)

**3. (a) Will the project result in a physical change on private land?**     Yes     No

**If yes, attach evidence that landowners are aware of and agree to the proposal. List attachments below.**

Applicant and landowner are one and the same.

**(b) Will the project result in monitoring on private land?**     Yes     No

**If yes, attach evidence that landowners agree to the proposal and are aware that monitoring information is public record. List attachments below.**

**4. Provide a project schedule, including beginning and completion dates. Use the following table as a guide. Attach a separate sheet to application if needed.**

**Estimated Project Duration:** June 2016 to September 2017

Place an “X” in the appropriate column to indicate when each Key Task of the project will take place.

Project Key Tasks	2016				2017				2018
	1 Qtr	2 Qtr	3 Qtr	4 Qtr	1 Qtr	2 Qtr	3 Qtr	4 Qtr	& Beyond
Design project, gather data from manufacturers, interface with Polk County and Oregon Building Codes Division, engineering firm to perform slosh calculations & prepare drawings for Polk County, pay Polk County permit fees and secure building permit from Polk County		X							
Order water storage tank(s) and floating cover(s)		X							
Site preparation, including excavation, grading, compaction and sand base			X						
Shipping & delivery of tank(s) and floating cover(s)			X						
Installation of tank(s), floating cover(s), plumbing			X						
Installation of pump in sump-well to move water from sump-well to water storage tank(s)			X						
Inspection of tank(s) by Polk County official and beginning of water storage in tank(s)			X						
<i>If OWRD decides to fund project in a phased approach, all tasks (except the very first one) would be repeated in 2017 or whichever year OWRD decides to fund the second phase</i>						X	X		
Implementation of riparian buffer project on 4.1 acres along North Fork Ash Creek (below area of the water storage project) under the CREP program with cash cost-share from FSA & OWEB		X	X	X	X	X	X		

**5. Describe any conditions that may affect the completion of the project.**

- Delays due to Polk County building official schedule (to issue building permit and for inspections)
- Shipping delays (water storage tanks ship as kits from the Netherlands and floating covers ship from either Canada or California)

**6. Attach a completed feasibility analysis if one has been completed. N/A**

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

The project is expected to be implemented within a very condensed time-frame (see project schedule above).

**8. Provide letters of support for the proposed project (list in this space and attach to application).**

The following letters of support were received and are attached:

- Oregon Department of Agriculture, Water Resources Specialist, Margaret Matter
- Oregon Department of Agriculture, Regional Water Quality Program Specialist, Jo Morgan
- Oregon Department of Agriculture, Natural Resources Program Specialist, Ryan Beyer
- Oregon State University, Extension Service, Small Farms Program Instructor, Amy Garrett
- Polk County, Board of Commissioners, Commissioner Craig Pope
- Polk SWCD, District Manager, Karin Stutzman
- Yamhill SWCD, Executive Director, Larry Ojua
- Greater Yamhill Watershed Council, Executive Director, Luke Westphal
- Ash Creek Water Control District, Chair Dan Farnworth

**9. Describe partnerships and collaborative efforts associated with the project.**

- The 4.1-acre riparian buffer along the North Fork Ash Creek will be conducted in partnership with:
  - OWEB
  - FSA
  - Polk SWCD
- Collaborative efforts for public outreach to showcase the new water storage are planned with:
  - ODA
  - Polk SWCD
  - OSU Extension Small Farms Program
  - Travel Oregon, Travel Salem, Dallas Area Chamber of Commerce
  - Applicant is open to similar outreach in collaboration with OWRD (or any other interested agency).

**10. Consultations/communications with affected Indian tribes and with the Legislative Commission on Indian Services regarding the project.**

**Has the Legislative Commission on Indian Services been contacted to identify tribes affected by the project?**

Yes     No

**Please provide correspondence as an attachment to this application.**

- Applicant called Karen Quigley, Executive Director at the Legislative Commission on Indian Services (LCIS), as instructed in the OWRD Application Guidance document. Ms. Quigley's office referred Applicant to contact State Archeologist Dennis Griffin or Assistant State Archeologist John Pouley at the Oregon State Historic Preservation Office (SHPO).
- Applicant spoke with Mr. Pouley, who informed Applicant that the tribes whose traditional territories affected by the location of the project are the Confederated Tribes of Grand Ronde, the Confederated Tribes of Siletz Indians, and the Confederated Tribes of Warm Springs.

**Has there been consultation/communications with affected Indian tribes?**

Yes     No

**Please provide a description of consultation/communication that occurred and attach documents to this application if applicable.**

- A summary of the Project Concept of the proposed water storage project was sent to officials of the three Indian tribes via email and follow-up contact was made by phone — the following officials were contacted:
  - David Harrelson, Historic Preservation Department Manager, Confederated Tribes of Grand Ronde
  - Jan Reibach, Tribal Lands Department Manager, Confederated Tribes of Grand Ronde
  - Delores Pigsley, Tribal Chairman, Confederated Tribes of Siletz Indians
  - Robert Kentta, Treasurer and Member of the Tribal Council, Confederated Tribes of Siletz Indians
  - Kathleen Sloan, Archeological Program Manager, Confederated Tribes of Warm Springs
  - Robert Brunoe, Natural Resources Department Manager, Confederated Tribes of Warm Springs
- Applicant assured tribal officials that the proposed project would not jeopardize tribal cultural resources and that if site preparation uncovered any, excavation would immediately be stopped.
- The only reply received by Applicant was from Jordan Mercier, Cultural Protection Coordinator, Tribal Historic Preservation Department, Confederated Tribes of Grand Ronde (see attached communication).

**11. Provide a description of:**

**(a) Required local, state and/or federal [permits](#) and/or authorizations for project implementation that have been secured to date. Please attach secured permits/authorizations to the application.**

- A Permit to Appropriate the Public Waters has been secured from OWRD (permit # G-17147, see attached);
- the permit authorizes Applicant to store up to 3 acre-feet of groundwater for irrigation.

**(b) Required local, state and/or federal permits and/or authorizations that will be secured in the future to implement the project. Describe efforts to date in securing these permits and/or authorizations.**

- A building permit is required by Polk County for the above-ground water storage tanks. Extensive communications have been conducted via phone and email with Mark Burrows, Polk County Building Official, and with Anthony Rocco, Building Code Specialist at the Oregon Building Codes Division. Mr. Rocco has outlined the requirements for drawings and calculations, which Mr. Burrows has confirmed.
- Applicant has forwarded these requirements for drawings and calculations to the manufacturer of the water storage tanks and has obtained a number of calculations from the manufacturer. Applicant has consulted Robert Henry, Principal Engineer at HBH Consulting Engineers of Newberg, Oregon. Full calculations and drawings will be prepared and will be submitted to Polk County, and the building permit will be secured.

**12. Provide any additional supplemental materials to demonstrate ability to implement the project. Examples include project plans and specifications, engineering details and [water availability analysis](#). List documents in this space and attach to application.**

- See attached project plans and specifications.
- Applicant has already installed a similar water tank (35,000 gallons) from the same manufacturer.
- Applicant has always performed as expected under previous state and federal grants.

**V. Storage Project Requirements (if not a storage project continue to Section VI)**

For any storage project please contact Water Resources Grant Administrator, Jon Unger, at (503) 986-0869 prior to completing the application.

13. Storage Project Type:     Above Ground    ~~Below Ground~~

14. If above-ground storage, would the proposed storage project be located in-channel?

~~Yes~~    No    N/A

15. Identify the capacity in acre-feet of the proposed storage project.

Up to 3 acre-feet.

16. Has a water right application been filed for the proposed storage project?

~~Application not yet made.~~

~~Water right application made; permit not yet issued~~

Permit issued.                                   Application # G-17626                                   Permit # G-17147 (see attached permit)

For Questions 17 & 18 answer the following:

(a) Does the proposed storage project impound surface water on a perennial stream?

Yes    No    Uncertain

(b) Does the proposed storage project divert water from a stream that supports state- or federally-listed sensitive, threatened or endangered fish species?

Yes    No    Uncertain

(c) Does the proposed storage project divert more than 500 acre-feet of water annually?

Yes    No

17. Water Dedicated Instream                                   N/A

**For above ground storage projects seeking grant funding:** If you answered “yes” to any of the questions posed in a-c above a minimum volume of water equal to at least 25% of the stored water must be dedicated to instream use.

Identify percentage of stored water to be dedicated to instream use.

%

*Note: Any storage project dedicating 25% of stored water to instream use will automatically receive a median score in the environmental public benefit category with the opportunity to demonstrate additional environmental benefit to increase the score.*

**18. Seasonally Varying Flow Prescription**      N/A

**For all storage projects:** If you answered “yes” to any of the questions posed in a-c above the project will need a **Seasonally Varying Flow (SVF) Prescription**, determining the duration, timing, frequency and volume of flows (including ecological baseflow), necessary for protection and maintenance of biological, ecological, and physical functions outside of the official irrigation season. The initial step in defining the SVF for the project is to schedule an SVF meeting with OWRD. For assistance and more information please contact Water Resources Grant Administrator Jon Unger at (503) 986-0869.

Identify whether the storage project will need a Seasonally Varying Flow Prescription.

Yes      No      Uncertain

**VI. Environmental Public Benefit for Conservation Projects Dedicating Water Instream (if not a conservation project continue to Section VII)**

**19. Identify percentage of conserved water to be dedicated to instream use.**      N/A

%

*Note: Any project that conserves water and dedicates at least 25% of the conserved water quantity to instream use will automatically receive a median score in the environmental public benefit category with the opportunity to demonstrate additional environmental benefit to increase the score. Water dedicated to instream use must be permanently placed instream and protected by the Oregon Water Resources Department.*

**VII. Financial Information**

**For Loan Applicants** – Since loan applications do not require cost match, loan applicants who do not offer a cost match need not complete Section A and can disregard the match funding columns in Sections B and C. Budget and costs of key tasks must be identified in sections B & C. Loan applicants will be required to provide additional financial information related to their ability to repay the loan. This request for information will take place after the scoring and ranking process for those projects that are recommended for funding.

**For Grant Applicants** – Complete Sections A, B and C.

**Section A – Cost Match Information**

Applicants must demonstrate a minimum 25% funding match based on the total project cost. The match may include: a) applicant funds or secured funding commitment from other sources; b) pending funding commitment from other sources; and/or c) the value of in-kind labor, equipment rental, and materials essential to the project. For secured funding, the applicant must attach a funding award letter from the match funding source that specifically mentions the dollar amount shown in the “Amount/Dollar Value” column. For pending resources, documentation showing a request for the matching funds must accompany the application. Funds expended prior to grant agreement are not reimbursable nor do they qualify for cost match without prior authorization by the Department.

<b>In the Type column below matching funds may include:</b>	<b>In the Status column below matching funds may have the following status:</b>
<ul style="list-style-type: none"> <li>• <b>Cash</b> - Cash is direct expenditures made in support of the feasibility study by the applicant or partner*.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Secured</b> - Funding commitments already secured from other sources.</li> </ul>
<ul style="list-style-type: none"> <li>• <b>In-Kind</b> - The value of in-kind labor, equipment rental and materials essential to the feasibility study provided by the applicant or partner.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Pending</b> - Pending commitments of funding from other sources. In such instances, Department funding will not be released prior to securing a commitment of the funds from other sources. Pending commitments of the funding must be secured within 12 months from the date of the award.</li> </ul>

\* “Partner” means a non-governmental or governmental person or entity that has committed funding, expertise, materials, labor, or other assistance to a proposed project planning study. OAR 690-600-0010.

<b>Match Funding Source</b> (if in-kind, briefly describe the nature of the contribution)	<b>Type</b> (✓ One)	<b>Status</b> (✓ One)	<b>Amount/ Dollar Value</b>	<b>Date Match Funds Available</b> (Month/Year)
Applicant cash	cash ✓ <del>in-kind</del>	secured ✓ <del>pending</del>	\$21,766	January 2016
Applicant labor	<del>cash</del> in-kind ✓	secured ✓ <del>pending</del>	\$5,957	January 2016
CREP program funds (from FSA and OWEB)	cash ✓ <del>in-kind</del>	<del>secured</del> pending ✓	\$14,828	March 2016
	cash in-kind	secured pending		

## Section B – Project Budget

Please provide a line item budget for the project; see example below. If significant additional detail is needed please complete separately and attach to completed application.

Line Items	Number of Units* (e.g. # of Hours)	Unit Cost (e.g. hourly rate)	In-Kind Match	Cash Match Funds	OWRD Funds	Total Cost
Polk County building permit	1	\$2,580		\$2,580		\$2,580
Contractual/Services (engineer) \$/hr	20	\$128		\$2,560		\$2,560
Contractual/Services (site prep) \$/hr	4	\$1,200		\$4,800		\$4,800
Materials (sand for site prep) \$/yard	200	\$18.5		\$3,700		\$3,700
Contractual/Services (electric) \$/hr	8	\$50		\$400		\$400
Water storage tank(s) \$/each	2	\$26,700			\$53,400	\$53,400
Floating cover(s) \$/SF	2 x 8,007 $\frac{1}{3}$	\$2.05			\$32,830	\$32,830
Shipping fees \$/each	2	\$5,340			\$10,680	\$10,680
Labor \$/hr	535	\$23	\$5,957	\$6,348		\$12,305
<i>Other:</i>						
Hardwood trees for CREP riparian buffer \$/tree	1,173	\$3		\$3,519		\$3,519
Confier trees for CREP riparian buffer \$/tree	615	\$1		\$615		\$615
Shrubs for CREP riparian buffer \$/shrub	615	\$4		\$2,460		\$2,460
Protection tubes for CREP riparian buffer \$/tube	2,403	\$2		\$4,806		\$4,806
Mulch mats for CREP riparian buffer \$/mat	2,403	\$2		\$4,806		\$4,806
<b>Total for Section B</b>			\$5,957	\$36,594	\$96,910	\$139,461
<b>Percentage for Section B</b>			4.3%	26.2%	69.5%	<b>100%</b>

\* Note: "Unit" should be per "hour" or "day" not per "project" or "contract."  $\text{Number of Units} \times \text{Unit Costs} = \text{Total Cost}$

## Section C – Key Task Cost

Complete Section C below. Key Tasks identified in Section C should be the same as the Key Tasks in Section IV(4) above.

Project Key Tasks	In-Kind Match	Cash Match Funds	OWRD Funds	Total Cost
Design project, gather data from manufacturers, interface with Polk County and Oregon Building Codes Division, engineering firm to perform slosh calculations & prepare drawings for Polk County, pay Polk County permit fees and secure building permit from Polk County	\$2,760	\$5,140		\$7,900
Order water storage tank(s) (2 x \$26,700) and floating cover(s) (2 x (\$2.05 x 8007½ SF))	\$184		\$86,230	\$86,414
Site preparation, including excavation, grading, compaction and sand base	\$736	\$8,500		\$9,236
Shipping & delivery of tank(s) and floating cover(s), including customs brokerage fees and duties	\$368		\$10,680	\$11,048
Installation of tank(s), floating cover(s), plumbing	\$736	\$3,680		\$4,416
Installation of pump in sump-well to move water from sump-well to water storage tank(s), including fee for electrician to wire pump to control boxes	\$184	\$400		\$584
Inspection of tank(s) by Polk County official and beginning of water storage in tank(s)	\$92			\$92
Implementation of riparian buffer project on 4.1 acres along North Fork Ash Creek (below area of the water storage project) under the CREP program with cash cost-share from FSA and OWEB	\$897	\$18,874		\$19,771
<b>Total for Section C</b>	\$5,957	\$36,594	\$96,910	\$139,461
	4.3%	26.2%	69.5%	100%