

**CARSON WATER SUBCONSERVANCY DISTRICT
FINANCE COMMITTEE**

NOTICE OF PUBLIC MEETING

DATE: February 28, 2019
TIME: 8:30 A.M.
LOCATION: Carson Water Subconservancy District
Conference Room
777 E. William St., #110
Carson City, NV 89703

AGENDA

Please Note: Reasonable efforts will be made to assist and accommodate individuals with disabilities who wish to attend the meeting. Please contact Catrina Schambra at (775)887-7450 (<mailto:catrina@cwdsd.org>), at least a week in advance so that arrangements can be made.

1. Call to Order
2. Roll Call
3. **For Discussion Only:** Public Comment - Action may not be taken on any matter brought up under public comment until scheduled on an agenda for action at a later meeting.
4. **For Possible Action:** Approval of the minutes from the Finance Committee meeting on March 5, 2018.
5. **For Discussion Only:** Review the Tentative General Fund FY 2019-20 budget and hear presentations for proposed projects; review the Tentative Acquisition/Construction Fund FY 2019-20 budget; and review the Tentative Floodplain Management Fund FY 2019-20 budget.
6. **For Possible Action:** Make recommendations for the Tentative General Fund, Acquisition/Construction Fund, and Floodplain Management Fund FY 2019-20 budgets.
7. **For Discussion Only:** Public Comment - Action may not be taken on any matter brought up under public comment until scheduled on an agenda for action at a later meeting.
8. Adjournment

Supporting material for this meeting may be requested from Catrina Schambra at 775-887-7450 (<mailto:catrina@cwdsd.org>) and is available at the CWSD offices at 777 E. William St., #110A, Carson City, NV 89701 and on the CWSD website at www.cwdsd.org.

In accordance with NRS 241.020, this notice and agenda has been posted at the following locations

-Dayton Utilities Complex
34 Lakes Blvd
Dayton, NV

-Minden Inn Office Complex
1594 Esmeralda Avenue
Minden, NV

-Lyon County Administrative Building
27 S. Main St.
Yerington, NV

-Churchill County Administrative Complex
155 N Taylor St.
Fallon, NV

-Carson City Hall
201 N. Carson St.
Carson City, NV

-Carson Water Subconservancy District Office
777 E. William St., #110A
Carson City, NV

-Alpine County Administrative Building
99 Water St.
Markleeville, CA

-CWSD website:
<http://www.cwdsd.org>

-State public meetings website:
<http://notice.nv.gov>

AFFIDAVIT OF POSTING

The undersigned affirms that on or before 9:00 A.M. on February 22, 2019, he/she posted a copy of the Notice of Public Meeting and Agenda for the February 28, 2019, meeting of the Carson Water Subconservancy District Finance Committee in accordance with NRS 241.020; said agenda was posted at the following location:

SIGNATURE

Name: _____

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Date & Time of Posting: _____

**CARSON WATER SUBCONSERVANCY DISTRICT
FINANCE COMMITTEE MEETING
March 5, 2018, 8:30 A.M.**

DRAFT Meeting Minutes

Committee Members Present:

Brad Bonkowski, Carson City
Don Jardine, Alpine County
Barry Penzel, Douglas County
Chuck Roberts, Lyon County
Ernie Schank, Churchill County

Committee Members Not Present:

Ken Gray, Lyon County

Staff Present:

Edwin James, General Manager
Toni Leffler, Secretary

Others Present:

Daniel Bright, USGS
David Bruketta, Carson City Public Works
Craig Burnside, Carson Valley Conservation District (CVCD)
Linda Conlin, River Wranglers
Julie Fair, American Rivers (by teleconference)
Sarah Green, Alpine Watershed Group
Tom Grundy, Carson City Public Works
Mike Hayes, CVCD
Sean Hill, Sierra Nevada Journeys
Rob Holley, Dayton Valley Conservation District (DVCD)
Eleanor Lockwood, Churchill County
Chris Mahannah, for Churchill County
Darcy Phillips, River Wranglers
David Smith, USGS
Christy Sullivan, Lahontan Conservation District (LCD)
Rich Wilkinson, CVCD

The meeting was called to order at 8:30 a.m. by Committee Member Penzel, CWSD Treasurer. The meeting was held in the Conference Room of the Carson Water Subconservancy District, 777 E. William St., #110, Carson City, Nevada. A quorum of the Finance Committee was present.

Item #2 - Public comment. None

Item #3 - Discussion for possible action regarding approval of the minutes from the Finance Committee meeting on August 23, 2017. *It was determined that Committee Member Schank was the only person at this meeting who was present at the August 23, 2017, Finance Committee meeting, so he made the motion to approve the minutes of the Finance Committee meeting on August 23, 2017. The motion was seconded by Committee Member Roberts and approved by Committee Member Schank.*

Item #3 - Discussion regarding the tentative General Fund FY 2018-19 budget and presentations for proposed projects; the tentative Acquisition/Construction Fund budget; and tentative Floodplain Management Fund FY 2018-19 budget. Ed James explained that the grant requests are greater than the funds available. We also have not been able to put any funds into the Acquisition/Construction Fund for the past three years. He explained that the proposed tentative FY 2018-19 budget is shown in the left column, the FY 2017-18 final budget is the middle column, and the right column reflects the projected actual FY 2017-18 income and expenses. Mr. Penzel requested that the budgets be included with the minutes of this meeting.

GENERAL FUND Income: Mr. James explained that on the budget, the items in blue are grant funding and the items in red are items that may be altered to balance the budget. A pie chart regarding expense allocation was also provided. Mr. James explained that Preliminary Planning serves as a contingency account.

Mr. Bonkowski asked if the budget for legal expenses is going to change with George Benesch's retirement. Mr. James noted that would be discussed later in the meeting; however, it is uncertain at this time, so the legal expense has not been changed.

There is a possibility that the tax amount could change if any one of the counties choose to reallocate the ad valorem tax.

The Investment Pool is currently paying the best interest rate for CWSD investments. Mr. Schank asked about other investment options. Mr. Penzel suggested that Mr. James call Kathy Lewis, Douglas County Treasurer, about the investment advisor they use. Mr. James noted that CWSD needs to maintain the liquidity of its funds.

Mud Lake Water Lease (#5022-00) and Lost Lake Water Lease (#5023) - Carson City is expected to use all of the Mud Lake water lease. No one used the Lost Lakes water last year, so Mr. James didn't include anything in the budget. Lyon County may want to lease it to use in their induction well in the future.

Watershed Coordinator (#5050-12) – The Watershed Coordinator grant covers most of Brenda Hunt's and Shane Fryer's salaries.

The various grants are pass through. River Wranglers will be contracting directly with NDEP in FY 2018-19.

Alpine County Mesa Groundwater Study (#5083-00) - Debbie Neddenriep takes water measurements from several wells in the Mesa area of Alpine County for which Alpine County reimburses CWSD.

FEMA MAS #7 and #8 (#5098-00 and #6000-00) are in progress. Staff has been gathering information about potential projects for *FEMA MAS #9*, but this program is not included in the budget since CWSD does not have an agreement.

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Watershed Literacy Implementation/Phase 2 (#7429-00) and Phase 3 (#7433-00) will be finishing up.

Nevada Dept. of Agriculture (NDA) Weed Management grant (#7436-00) is a new grant to treat Starthistle in Lyon County and Carson City.

National Fish and Wildlife Foundation (NFWF) Weed Management Grant (#7430-00) is taking longer to collect because NFWF is requiring a National Environmental Policy Act (NEPA) study before making payments. NFWF has now agreed to pay for the NEPA study so that we can use all the grant money for weed treatment.

Expenses:

Administrative budget: Mr. James explained that the increase in *Salaries (#7015-00)* and *Benefits (#7020-00)* are based on the action taken by the Board to allow for merit and COLA increases for employees who qualify. Also, the plan is for the Admin. Position to go from 40 to 35 hrs./wk. on January 1, 2019. We also budget for possible changes to insurance participation. Mr. Penzel asked whether CWSD has health insurance under Carson City, to which Mr. James responded that we do. Mr. Penzel asked if there is a policy about budgeting administrative expenses as a percentage of total income. Mr. James responded that there is not policy, but we try to keep administrative costs under 35%.

Mr. Roberts noted that CWSD needs to have policies for succession planning for the General Manager position. He asked whether the grants are only reimbursable or provide a revenue stream. Mr. James reminded the committee that in the 2017 Strategic Planning Session he went over administrative expenses with and without grants. Mr. James explained that the grants cover staff salaries and indirect cost for federal grants but not for the state. If CWSD loses the grant funding, the number of employees would most likely be reduced by one. Mr. James was asked if CWSD falls under Carson City's policies. He explained that CWSD has its own policies separate from Carson City and that Carson City only handles CWSD's payroll and insurance which is reimbursed by CWSD. Mr. Schank asked Mr. James how much longer he plans to work, to which Mr. James responded he would like to work five to seven more years. Mr. Schank pointed out that succession planning could be grooming someone under Mr. James to move into his position. Mr. Penzel suggested that in three years CWSD might want to hire an assistant who could grow into the General Manager's position.

Workers Comp Insurance (#7021-00) has been going down a little each year.

Postage (#7104-00) has increased a little primarily due to mailing Board packages. It was discussed that Directors might receive their Board packages electronically, but not everyone uses a laptop which they bring to meetings. Currently, only David Griffith receives the Board package only electronically. Mr. Roberts noted that he would be happy to receive the Board package electronically and have a hard copy available at the meeting, which would eliminate postage. It was suggested that the topic of how the Board wants to receive the Board package be put on the March Board meeting agenda.

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Dues & Publications (#7108-00) covers memberships and publication of notices and the budget as required by the Tax Department.

Accounting (#7115-00) – Mr. James mentioned that CWSD may have to do a single audit if federal grants total over \$750,000.

Legal (#7116) – The budget was drafted based on George Benesch continuing to serve as legal counsel. Now that we know he plans to retire soon, we don't know what we want to do for the future. We may do interviews at the April Board meeting. Mr. Schank noted that the legal retainer is kind of high for our needs. Mr. James suggested that CWSD wants an attorney who will help avoid litigation. Mr. Penzel mentioned that most of state offices have an attorney from Attorney General's (AG) office. The counties have their District Attorneys (DA). Each of the General Improvement Districts (GIDs) have their own legal counsel, but if they are sued, the county DA would be involved. If CWSD were sued, wouldn't the State AG's office offer support. Maybe we should petition the AG's office to provide an attorney to attend CWSD meetings once a month.

Mr. James explained that there is not enough income to fund all the project requests this year. He is proposing a transfer \$50,000 to the *Floodplain Fund (#8009-00)* to replenish the fund after what was spent on 2017 flood repairs. No transfer is proposed to the Acquisition/Construction Fund for FY 2018-19. Mr. James has already notified the groups making project requests that there is a shortfall in the CWSD budget this year and urged the group to consider what the minimum amount would be with which they could still conduct their projects.

Multi-Year and Ongoing Projects:

Professional Outside Services (#7114-00) – This account covers CWSD web and internet services and other unknown projects that may come up over the next fiscal year. The FY 2018-19 budget for this account is flexible at a proposed \$20,000. If we do utilize those funds, staff must bring the expenditure before the Board before it is made.

Lost Lakes and Mud Lake Expenses (#7117-00 & #7118-00) – Lost Lakes expenses are increased for anticipated dam fees. Mud Lake always provides an income source with few expenses.

Integrated Watershed Projects (#7120-00, -07, -25) - Most of these projects are pass-through grants. The watershed bus tour expense is covered by the fee and sponsors.

Environmental Education Coordinator Program (#7125-00) - Mr. James explained that River Wranglers has applied directly to NDEP for this grant for FY 2018-19. River Wranglers has requested a grant from CWSD, and Linda Conlin will give a presentation on it later in the meeting.

Noxious Weeds Control (#7404-00) - Mr. James pointed out that budgeting \$75,000 would give each county \$15,000 for noxious weed control. There is some flexibility in the budgeted amount for this account, but CWSD money is used as match for federal grants.

NV Dept. of Agriculture Weed Grant (#7436-00, -01, and -02) – This new one-year pass-through grant from NDA is to treat Starthistle in Carson City and Lyon County. The FY 2018-19 budget is \$11,500.

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FEMA MAS #7 (#7432-00, -01, -02, 03, and -04) – This round of approved FEMA-funded projects include Voltaire Canyon, Johnson Lane ADMP, Flood Awareness Week public outreach, and Discovery/Floodplain Management Plan Update. In FY 2018-19, \$70,693 has been budgeted for this a pass-through grant.

FEMA MAS #8 (#7434-00, -01, -02, -03, and -04) - The newest FEMA-funded projects include the Dayton Valley ADMP, updating Floodplain Ordinances with the counties, Flood Awareness Week public outreach, and school outreach by the River Wranglers. The FY 2018-19 budget is \$226,162 for this pass-through grant.

MAS #9 – CWSD is planning on submitting a funding request for the next round of Cooperative Technical Partner (CTP) funding. This is not included in the budget since there is no guarantee we will get the grant.

Watershed Literacy Implementation – Phase II (#7429-00) – A continuation of the Watershed Literacy Program, this phase refined the survey results, created a Spanish version of the printed Watershed Map, and will reconfigure the online interactive Watershed Map. It is anticipated that only \$1,465.59 will remain in FY 2018-19 to complete this grant.

Watershed Literacy Implementation-Phase III (#7433-00) – This third phase of the Watershed Literacy grant which includes funding for Neon Agency to complete the Healthy Watershed Campaign. There will also be components for putting an interactive version of the Spanish Watershed Map on the CWSD website and hiring a consultant to create a Geomorphology 101 class for county staff and elected officials.

Alpine County CASGEM (#7600-09) - The California Statewide Groundwater Elevation Monitoring (CASGEM) is a program that California has initiated to monitor groundwater levels. Staff gathers and prepares the data and Alpine County reimburses CWSD for its time.

Mesa Groundwater Measurement Project (#7600-10) – CWSD staff has been taking groundwater measurements in the Mesa area of Alpine County. CWSD's costs are just for copies.

Regional Pipeline Payment to Douglas County (#7610-10) - Mr. James explained that CWSD committed \$125,000/yr. for 20 years to both Douglas County and Carson City toward the debt service on the Douglas County/Carson City Regional Pipeline Intertie. CWSD paid for upsizing the system. Public entities may use the additional capacity without cost, but if a private entity wants to use it, CWSD would recuparate its investment.

Regional Pipeline Payment to Carson City (#7620-11) – This is the on-going debt service payment to Carson City for the Douglas County/Carson City pipeline intertie.

Dixie Valley Water Level Measurement Program (#7640-16) – Project Proposal #1 – This is an agreement CWSD entered with Churchill County in July of 2016. The agreement ends June 30, 2019.

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USGS Stream Gages (#7500-00) – Project Proposal #2 – David Smith and Daniel Bright explained that the USGS surface water monitoring program consists of ten gaging stations in the Carson Basin, including the Dayton gage. In FY 2018-19, \$78,405 is budgeted. This is the second year of a two-year contract.

USGS – Douglas County Groundwater Collection Data (#7508-00) – Project Proposal #3 – Mr. Smith noted that the USGS measures 100 groundwater wells quarterly and 10 annually to determine many factors, such as nitrates and water level. In FY 2018-19, \$16,890 is budgeted.

USGS – Eagle/Dayton/Churchill Basins (#7526-00) – Project Proposal #4 - \$27,600 – This is a multi-year contract with USGS to collect water level data in the middle Carson River watershed.

Carson River Projects:

Carson Valley Conservation District (CVCD) - Carson Valley Streambank Bioengineering and Erosion Control Project (#7337-15) - Project Proposal #7 - Mike Hayes explained that CVCD is active in river restoration and repairs. The flooding caused a lot of damage and producers need to repair their structures. The bioengineering he does helps him go up and down the river from Ruhenstroth Dam to Cradlebaugh. Both the East and West Forks took a lot of damage and capacity. The work he does helps producers get their structures fixed and hold the streambank back. It also helps him know what's going on in the river. His crew harvests willows locally. He reported that the existing willow plantings held up in the flooding and provides habitat for the birds and shade for the water. A request of \$50,000 is the lowest he can go to accomplish what is needed. It's difficult to keep a crew together if he can't keep them working year-round. This year there is a carryover because of a paperwork snafu. Rich Wilkinson noted there are two months outstanding to submit to CWSD for payment, so there is less to carry over. There have been some permitting problems. Mr. Roberts asked whether the project will be killed if all the five income sources that CVCD anticipates don't come through. Mr. Hayes said he will do as much work as he can do with whatever money they receive. He stressed that the projects they do are in the river with direct benefit. Mr. Wilkinson mentioned that CWSD's money is used as match money for getting the other grants. Mr. Penzel noted that Douglas County really needs these projects which will affect everyone downstream.

River Wranglers - Carson River Work Days & Vegetation Management (#7332-00) - Project Proposal #5 – Linda Conlin introduced Darcy Phillips, the new Executive Director for River Wranglers. Ms. Conlin explained that River Wranglers work with the conservation districts, county departments, and private contributors to conduct the Carson River Work Days. The program pairs two-to-five fourth and fifth grade elementary school students with a high school student. The grant request would allow for \$2,500 per county for Work Days, and the remaining money is spent on conservation district needs that don't easily get covered in typical conservation group grants. Ms. Conlin requested that the program be granted at least as much as the \$26,000 they received last year.

Alpine Watershed Group – Upper Carson River Watershed Programs (#7600-05) – Project Proposal #6 – Sarah Green requested \$25,000 and explained that funding from CWSD is at the core of the Alpine Watershed Group (AWG) program and used as leverage for bigger grants. AWG's four primary programs are water monitoring, water quality, youth education, and community

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outreach, mostly focused in the Carson River watershed. Markleeville Creek Day is the largest work day and has received an outpouring of volunteer support. The Hope Valley Restoration Project is completing this year, but another reach has been identified for work between two restored areas. AWG is working with a broad spectrum of partnerships. CWSD's grant funding is critical to their program infrastructure/general program management. When asked their minimum amount to function, Sarah responded that they needed at least the same \$22,000 as this year. In 2017, AWG had 150 volunteers participate in 40 monitoring and restoration projects, contributing over 780 volunteer hours on 130 acres of land in Alpine County. Projects included clean up at Grover Hot Springs, partnering with the Forest Service for an ADA accessible path, and Markleevillage Fuels Project.

Carson Valley Conservation District (CVCD) – Cradlebaugh Bank Stabilization Phase #1 (#7337-17) – Project Proposal #8 - Mr. Wilkinson explained that the project is east of Cradlebaugh Bridge and is identified as a Suggested Action in the Stewardship Plan. This is a heavy construction project on 550' of bank with an average bank height of 20'. The goal for the project has changed. Mr. Wilkinson asked for \$175,000 in funding from NDEP and only received \$85,500, so CVCD had to cut their scope of work. If CWSD gives less than the funds requested, CVCD will have to cut further. The project will re-establish vegetation, trap sediment, and improve wildlife. Mr. Roberts asked if this is independent of the previous application, to which Mr. Wilkinson responded that it is stand alone. Mr. Penzel asked if CVCD is asking for any money from Douglas County. Mr. Wilkinson responded that they didn't plan to but will need to now. The permitting process has not started yet. CVCD does have right of entry permits from the state. Mr. Penzel asked how much they would need from the county. Mr. Wilkinson responded that it will depend on how much CWSD funds. CVCD would probably need about \$30,000-50,000 for this project. This project effects more than the inconvenience of a lot of people but also emergency service and commerce.

Dayton Valley Conservation District – Post-flood repairs MCR 002, 030, 046, 111C, and 010C (#7337-33) – Project Proposal #9 – Rob Holley explained that Dayton Valley Conservation District (DVCD) was requesting \$75,000 for three bank stabilization projects which sustained significant damage during the 2017 floods and subsequent spring runoff. The areas include the Empey (Casey) Ranch, Barnes, Morse, and Lehman properties. Last year's flooding changed their project focus. The Minors put in a temporary diversion to get their water. DVCD wants to re-establish the original channel to restore the streamflow and keep flow to the Minor Ranch, as well as sequester mercury-laden soil. Lyon County withdrew the county's request to CWSD for the Cardelli Ranch, but DVCD will coordinate with the county on that project.

Lahontan Conservation District – Lower Carson River Clearing and Snagging (#7337-04) - Project Proposal #10 – Christy Sullivan asked for \$20,000 for Clearing and Snagging projects in the lower Carson River from below the Diversion Dam to Pioneer Way. The fund request already takes into consideration the minimum LCD needs to complete their project. Mr. Schank asked if there was any money left over from last year. Christy responded that there was some but she still has to bill CWSD for Snapshot Day.

A short break was taken at 10:35 a.m. The meeting resumed at 10:40 a.m.

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USGS and County Projects

Carson City – Reclaimed Water Project (new project) – Project Proposal #13 – David Bruketta, Utility Manager, explained that Brunswick Reservoir is where Carson City stores reclaimed water when it is not being used for irrigation. The reservoir is unlined, so Carson City loses 500 AF to 2,500 AF each year. There are three springs which are permitted. Some of the water ends up in the Carson River through groundwater. Carson City wants to help quantify how much of the loss is going to various places for current and future flows of the river. Also, the information would be used in a higher-level planning document for future use. The value of water and quality can be different depending on where the water comes out. Mr. James noted the water lost from the reservoir could be a potential source of water, possibly by drawing through an induction well on the other side of the river to tie into the Carson City water system and for Lyon County. The total capacity of the reservoir is 3,500 AF, but it reaches about 60% capacity annually. The water is reused on the golf courses from reservoir through a purple pipeline. Mr. Roberts suggested that this is Carson City operations issue which should be paid for by the rate payers. Mr. Bruketta noted that it does benefit the river. Mr. James pointed out that it is a benefit to water supply and this study could help determine how much water is physically there which could be utilized in the Lyon County area in the future. If you can tie an induction well to the springs, it can be used for water downstream. Mr. James noted that part of what CWSD does is identify potential water sources upstream, and we have funded other studies. Mr. Schank asked what has changed from the past. Mr. James responded that Carson City has a discharge permit into the river because it is unlined. Mr. Schank agreed with Mr. Roberts that this is Carson City's responsibility. Mr. Roberts asked if there are environmental issues. Mr. Bruketta responded that Carson City is trying to quantify the benefits to the river.

Churchill County - Lahontan Valley Water Level Measurement Program (#7640-09) – Project Proposal #11 – and *USGS Water Level and Water Quality in Churchill County (#7524-02)* – Project Proposal #12 – Since there is a commonality between this study and Churchill County's Lahontan Valley Water Level Measurement Program, elements of both were discussed together. David Smith from USGS explained the differences between what the USGS measures and Churchill County measures. The USGS has 67 monitoring wells, 42 in shallow aquifers and 12 in intermediate aquifer near Rattlesnake Hill which is a fractured aquifer that provides a lot of water to the city. There are also 14 wells in the basalt aquifer. Chris Mahannah explained that Churchill County's network of 30 wells are in the intermediate aquifer and are Churchill County's municipal wells. Mr. Smith explained that the USGS wells are for measurements, not pumping, so they can show more seasonal changes. He discussed some information about recharge and reduced pumping. The USGS also collects water quality information. Mr. Penzel noted that the USGS is funded by the federal government with our tax dollars, so why does CWSD have to contribute. Daniel Bright responded that federal government contributes, but they are required to get at least a 50% match with reimbursable partnerships. Most of the funding in Nevada comes from funding from partnerships. Mr. Penzel noted that we are making a four-year commitment on this project. Mr. Schank asked for a list of the locations of the wells. Mr. Smith pointed out the map included in the proposal and noted that some of the wells are nested to monitor different depth wells. The USGS is asking for \$56,030 and Churchill County is asking for \$18,000.

USGS – Arsenic Study in Carson Valley (New Project) – Project Proposal #14 – Daniel Bright, Deputy Director for USGS in Nevada, gave an overview of the arsenic study in Carson Valley.

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USGS compiled existing information on arsenic last year which showed that the deeper the wells, the increase in arsenic. When Douglas County wells are turn on and there is increased pumping, the arsenic increases. When the pumping is level, the arsenic remains level. Different forms of arsenic needs to be studied to figure out why arsenic concentrations are increasing in a well when pumping increases. USGS is working with Douglas County to choose three observation wells in different directions from a county well and at different depths which should tell about aquifer conditions to answer why the arsenic increases. This will be a one-year study starting in the fall of 2018. The total cost to CWSD is \$29,000 and to USGS is \$16,000. Letters of support were sent to CWSD for this study. Mr. Bright explained the importance of understanding the process to determine why the increase is occurring. Utilities need to know to determine their pumping and what the options are. The concern of the communities is how they can do a treatment in the future if the water is above arsenic standard. Mr. Schank pointed out that this study is for the use of the utilities.

USGS – Monitoring Mercury, Arsenic, Lead, and Suspended Sediment in the Carson River (new project) – Project Proposal #15 – Mr. Bright explained that the USGS and EPA had monitoring sites established above and below Lahontan which were discontinued in 2013 when EPA quit their investigation. They are now working on feasibility report and mitigation report. USGS would like to resume monitoring at the existing sites. They plan to do monitoring annually, during weather events, and during irrigation season. USGS has analyzed the EPA datasets and reported to Churchill County over the last year. Mr. Schank suggested that EPA, NDEP, and BOR should be participating in the funding of this project and not so much CWSD. Mr. Bright reported that he received a call that on 3/23/18, EPA will be able to contribute \$15,000. The other partnerships are starting to get developed. Mr. Schank ask whether USGS could work with CWSD funding a portion of what was requested, pending USGS getting commitment from other sources. Mr. Bright responded that seed money from CWSD is important, and USGS will continue to seek out other partnerships for funding.

New Projects

Sierra Nevada Journeys (SNJ) Family Night (#7404-00) - Project proposal #16 – Sean Hill presented Sierra Nevada Journey's (SNJ) funding request and explained that he oversees the educational programs to teach kids about outdoor sciences. Also, their mission is to get kids to think critically--how to think, not what to think. They conduct family science nights with stations for stormwater and groundwater models. Regarding funding and sustainability, they charge a small program fee to the schools, but this funding request is for background support for five family nights. The request is for \$3,800, but they could do four events for \$3,000. Last year's four events had 575 participants (students and families).

American Rivers – Beaver Education in the Carson River Watershed (new project) – Project Proposal #17 - \$10,000 – Julie Fair went over American Rivers' goals and purpose for their Beaver Education in the Carson River Watershed project. She said it is to provide education about beavers in the watershed. Perceptions about beavers are changing in California and in the Sierra. The goal is for education with landowners and downstream water users that beavers can be beneficial. Another audience is agencies, like USFS, to present new state-of-the-science research on the benefits of improved beaver management, greater support working with beaver in the upper watershed, and engage some regional and national experts from NOAA and University of Utah to integrate knowledge.

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CWSD – Upstream Storage Evaluation (new project) – Project Proposal #18 – Mr. James explained that staff had submitted a \$50,000 request to do an upstream storage evaluation. Mr. Schank mentioned that even though this was a Strategic Planning topic, funding the projects should come first. Mr. Penzel asked if it is possible to evaluate upstream storage that already has a permit. Mr. Schank asked whether funding upstream storage evaluation would be worth the litigation on water rights that it could cause. Mr. James responded that we are talking about small reservoirs and groundwater storage sites.

The Committee continued the discussion during lunch at 12:27 p.m.

Acquisition/Construction Budget for FY 2018-19 – Mr. James explained that the Acquisition/Construction Fund is for regional projects. There is not a lot of activity in this fund; it is more for identifying and holding funds for projects. There are no expenses today, but a regional pipeline to Dayton could be an expense in the future. In the past, \$1.5 million in projects have been identified.

Floodplain Management Funds Budget for FY 2018-19. Mr. James explained that with all the flood damage that has occurred, it is anticipated there will be requests for funding assistance from the Floodplain Management Fund. He proposed transferring \$50,000 to help replenish the fund. Mr. Schank asked whether it will be more helpful to move funding to prepare for flood repair requests or leave funding in the General Fund for current project requests. He proposed that if income is more than anticipated, the extra could be moved to the Floodplain Management Fund. Mr. Penzel suggested getting through the other items first.

Item #6 - Discussion for possible action regarding recommendations for the tentative General Fund, Acquisition/Construction Fund, and Floodplain Management Fund FY 2018-19 budgets. Needing to cut the proposed budget by at least \$141,000, the Finance Committee agreed to the following changes to the proposed General Fund budget:

Reductions:

- Outside Professional Services (#7114-00) –from \$20,000 to \$10,000 = (\$10,000)
- Sierra Nevada Journeys-Family Nights (#7215-00) –from \$3,800 to \$3,000 = (\$800)
- USGS-Mercury Study –from \$53,210 to \$15,000 = (\$38,210)
- USGS-Water Level & Quality-Churchill County – from \$24,000 to \$5,630 = (\$18,370)

Eliminations:

- CWSD-Upstream Storage Evaluation – from \$50,000 to \$0 = (\$50,000)
- CC-Brunswick Reservoir – from \$50,000 to \$0 = (\$50,000)
- American Rivers-Beavers – from \$10,000 to \$0 = (\$10,000)

It was proposed that \$35,000 be transferred to the Acquisition/Construction Fund and that the Upstream Storage Evaluation could come out of this fund.

The net reduction in the General Fund is \$142,380.00.

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Committee Member Schank made the motion that the Finance Committee recommend that the tentative budgets for the General Fund, the Acquisition/Construction Fund, and Flood Management Fund be approved as adjusted above. Committee Member Jardine seconded the motion which was unanimously approved by the Finance Committee.

No public comment. There being no further business to come before the Finance Committee, Committee Member Penzel declared the meeting adjourned at 12:55 p.m.

Respectfully submitted,

Toni Leffler
Secretary

FINANCE COMMITTEE

February 28, 2019
Approximate Time Schedule

8:30 a.m. **Budget Overview**

8:40 a.m. **Income Sources (CWSD staff)**

8:55 a.m. **Administrative budget for FY 2019-20 (CWSD staff)**

9:05 a.m. **Multi-Year, On-going Projects, or Grant (CWSD staff)**
7114 -00 Professional Outside Services
7117 & 7118 Lost and Mud Lake Expenses
7120-00 Integrated Watershed Projects
-07 Watershed Tour
-25 Watershed Coordination Program 2017-19 & 2019-21 (Grants)
7404-00 Noxious Weeds Control
7406-00 208 Planning – LID (Grant)
7432-00 FEMA Floodplain Mapping Program MAS # 8 (Grant)
7433-00 Watershed literacy Phase 3 (Grant)
7437-00 FEMA Floodplain Mapping Program MAS # 9 (Grant)
7600-09 Alpine County- CASGEM & Mesa Study (Grant)
7610-10 Regional Pipeline Payment to Douglas County
7620-11 Regional Pipeline Payment to Carson City
7640-09 Churchill County Lahontan Valley Water Level (1a)
7524-02 USGS Churchill Co. GW Collection (1b)
7526-00 USGS Eagle/Dayton/Churchill Basins (1c)

9:30 a.m. **Carson River Projects**
River Wranglers - Carson River Work Days (2)
Alpine County Watershed Group - (3)
Carson Valley Conservation District/ Bioengineering (4)
Carson Valley Conservation District/ Genoa Bank Stabilization (5)
Carson Valley Conservation District/ Time Extension Cradlebaugh Stabilization (6)
Dayton Valley Conservation District River Project (7)
Lahontan Conservation District (8)

10:30 to 10:45 am **Break**

10:45 am **County Projects**
Dixie Valley WTR Level (9)
TCID Diversion Dam Repairs (10)
Carson City Reclaimed Master Plan (11)
Mexican Dam Portage (12)

11:25 am **USGS**
USGS Monitoring Hg, Ar, Ld & Sediment in Carson River (13)
7500-00 USGS Stream Gage Contract (14)
7508-00 USGS Do. Co. & Ly Co. GW Collection Data (15)

- 11:45 a.m.** New Projects
 Sierra Nevada Journeys (16)
 American Rivers Faith Valley Meadow (17)
- 12:15 p.m.** Acquisition/Construction Budget for FY 2019-2020
 Floodplain Management Budget for FY 2019-2020
- 12:30 p.m.** Lunch/Review Projects
- 12:50 p.m.** Review Budgets and Make Recommendations to the Board

CARSON WATER SUBCONSERVANCY DISTRICT

General Fund

	Proposed Tentative Budget	Final Budget	Projected Actual Budget	
	Jul '19 - Jun '20	Jul '18 - Jun '19	Jul '18 - Jun '19	Notes
Income				
5008-00 · Alpine County	10,100.00	9,800.00	9,800.00	3 % increase
5009-00 · Churchill County Ad Valorem	207,096.95	201,065.00	201,065.00	3 % Increase
5010-00 · Lyon County Ad Valorem	171,451.74	166,458.00	166,458.00	3 % increase
5011-00 · Douglas County Ad Valorem	568,472.45	551,915.00	551,915.00	3 % increase
5012-00 · Carson City Ad Valorem	424,969.76	412,592.00	412,592.00	3 % increase
5022-00 · Mud Lake Water Lease	51,000.00	55,000.00	50,000.00	
5023-00 · Lost Lake Water Lease	0.00	0.00	0.00	
5031-00 · Interest Income - St Pool Reg	10,218.98	9,500.00	15,800.00	2.5 % Int rate
5045-00 · Interest Income - BOA Savings	0.00	6.00	0.00	
5050-00 · Watershed Coordinator Grant	25,598.00	121,400.00	93,202.00	Grant
New Watershed Grant 2019-2021	90,000.00	0.00	0.00	Grant
5050-07 · CRC Donation	0.00	17,850.00	0.00	
5058-04 · 208 Water Quality LID	16,752.00	6,000.00	20,813.00	Grant
5060-00 · Misc. Income / Watershed Tour	6,000.00	5,100.00	5,755.00	
5063-06 · NDEP Grant-Watershed Education	0.00	300.00	6,977.00	Grant
5082-00 · CASGEM	1,000.00	300.00	1,000.00	Grant
5083-00 · Alpine Co Mesa GW Study	0.00	750.00	1,050.00	Grant
5087-00 · BLM Weed Grant	0.00	17,240.00	1,209.00	Grant
5096-00 · NFWF Weed Grant	19,063.00	82,650.00	32,520.00	Grant
5098-00 · FEMA - MAS # 7	0.00	43,970.00	87,292.00	Grant
5099-00 · Watershed Literacy Imp III revised	3,667.00	247,890.00	67,353.00	Grant
6000-00 · FEMA - MAS # 8	42,738.00	2,050.00	304,530.00	Grant
6002-00 · NDA Weed Mgmt-Starthistle	0.00	0.00	15,487.00	Grant
6003-00 · FEMA - MAS # 9	504,853.00	0.00	142,793.00	Grant
6004-00 · USBR - water Market Study	50,000.00	0.00	4,000.00	Grant
6003-00 · FEMA - MAS # 10	0.00	0.00	0.00	Grant
Total Income	2,208,980.88	1,951,836.00	2,191,611.00	
Expense				
ADMINISTRATIVE EXPENSES:				Notes
7015-00 · Salaries & Wages	390,000.00	385,000.00	380,500.00	
7020-00 · Employee Benefits	159,000.00	145,500.00	151,800.00	
7021-00 · Workers Comp Ins.	1,100.00	1,100.00	1,100.00	
7101-00 · Director's Fees	16,000.00	14,500.00	12,500.00	
7102-00 · Insurance	5,100.00	6,000.00	4,960.00	
7103-00 · Office Supplies	2,500.00	2,500.00	2,600.00	
7104-00 · Postage	850.00	850.00	850.00	
7105-00 · Rent	36,648.00	26,555.00	35,580.00	
7106-00 · Telephone	4,000.00	3,800.00	3,800.00	
7107-00 · Travel-transport/meals/lodging	15,000.00	14,000.00	13,000.00	
7108-00 · Dues & Publications	1,100.00	1,100.00	1,100.00	
7109-00 · Miscellaneous Expense	1,000.00	1,000.00	1,000.00	
7110-00 · Seminars & Education	3,000.00	3,000.00	2,500.00	
7111-00 · Office Equipment	3,000.00	3,000.00	2,500.00	
7112-00 · Bank Charges	50.00	100.00	10.00	
7115-00 · Accounting	16,000.00	16,000.00	10,000.00	
7116-00 · Legal	36,000.00	40,700.00	38,000.00	
Subtotal-Administrative Expenses	690,348.00	664,705.00	661,800.00	

CARSON WATER SUBCONSERVANCY DISTRICT

General Fund

Multi Year, Studies, and Grants	Proposed	Revised	Projected	Notes
	Tentative	Final	Actual	
	Budget	Budget	Budget	
PROJECTS:	Jul '19 - Jun '20	Jul '18 - Jun '19	Jul '18 - Jun '19	
7114-00 · Professional Outside Services	15,000.00	10,000.00	11,000.00	
7117-00 · Lost Lakes Expenses	12,000.00	11,500.00	11,500.00	
7118-00 · Mud Lake O & M	1,000.00	1,000.00	1,000.00	
7120-00 · Integrated Watershed Plan				
7120-07 · Watershed Tour	6,000.00	6,000.00	1,702.00	
7120-31 · Watershed Coord Expenses 17-19	4,000.00	9,850.00	3,400.00	Grant
7125-00 · Environ. Educ. Coord. Program 17-18	0.00	4,800.00	6,627.00	Grant
7215-00 · Sierra NV Journeys - Family Night	4,477.00	3,000.00	3,000.00	New Request (16)
7404-00 · Noxious Weeds Control	75,000.00	75,000.00	75,000.00	
7406-00 · 208 Planning - LID	12,878.00	30,080.00	17,461.00	Grant
7429-00 · Watershed Literacy Implementation #2	0.00	25,510.00	0.00	Grant
7430-00 · NFWF Weed Grant	16,550.00	15,240.00	30,010.00	Grant
7436-00 · NDA Weed Grant - Yellow Star Thistle	0.00	1,000.00	12,366.00	Grant
7432-00 · FEMA MAS #7	0.00	75,800.00	79,765.00	Grant
7432-00 · FEMA MAS #8	38,212.00	225,160.00	275,014.00	Grant
7437-00 · FEMA MAS #9	471,236.00	0.00	127,874.00	Grant
7437-00 · FEMA MAS #10	0.00	0.00	0.00	Grant
7477-00 · BOR WaterSmart Grant	50,000.00	0.00	4,000.00	Grant
7433-00 · Watershed Literacy # 3	1,200.00	25,260.00	67,353.00	Grant
7500-00 · USGS Stream Gage Contracts	78,405.00	78,405.00	78,405.00	New Request (14)
7508-00 · USGS Do. Co. GW Collection Data	16,890.00	16,890.00	16,890.00	New Request (15)
7524-01 · USGS GW level & WQ Churchill Co.	5,800.00	5,630.00	5,630.00	(1b)
7526-01 · USGS GW Eagle, Dayton & Churchill	3,225.00	27,680.00	27,680.00	(1c)
7527-01 · USGS GW Study Arsenic Study	0.00	28,055.00	28,055.00	
7528-01 · USGS Mercury CR	3,000.00	15,000.00	15,000.00	New Request (13)
Subtotal Multi Year & On-going Projects	814,873.00	690,860.00	898,732.00	

Counties and River Projects

	Notes		
7332-00 · Carson River Work Days	26,000.00	26,000.00	26,000.00 New Request (2)
7337-00 · Carson River Restoration			
7337-91 · CVCD Clearing & Snagging 18-19	100,000.00	100,000.00	100,000.00 New Request (5)(6)
7337-19 · CVCD Bioengineering 18-20	60,000.00	50,000.00	50,000.00 New Request (4)
7337-31 · Dayton Valley Conservation	100,000.00	75,000.00	75,000.00 New Request (7)
7337-04 · LCD Clearing & Sand Bar Removal	35,000.00	20,000.00	20,000.00 New Request (8)
7600-05 · Alpine Co. Watershed Group.	25,000.00	25,000.00	25,000.00 New Request(3)
7600-09 · CASGEM	10.00	10.00	10.00
7600-10 · Mesa GW Measurement Project	10.00	10.00	10.00
7610-10 · Douglas Co Regional Pipeline	125,000.00	125,000.00	125,000.00
7620-11 · Regional Pipeline Payment to CC	125,000.00	125,000.00	125,000.00
7640-09 · Lahontan Valley WTR Level Program	18,000.00	18,000.00	18,000.00 (1a)
7640-16 · Dixie Valley WTR Lvl. measurement	28,000.00	24,400.00	24,400.00 New Request (9)
Subtotal Request to carry over funds	642,020.00	588,420.00	588,420.00

CARSON WATER SUBCONSERVANCY DISTRICT

General Fund

New Projects

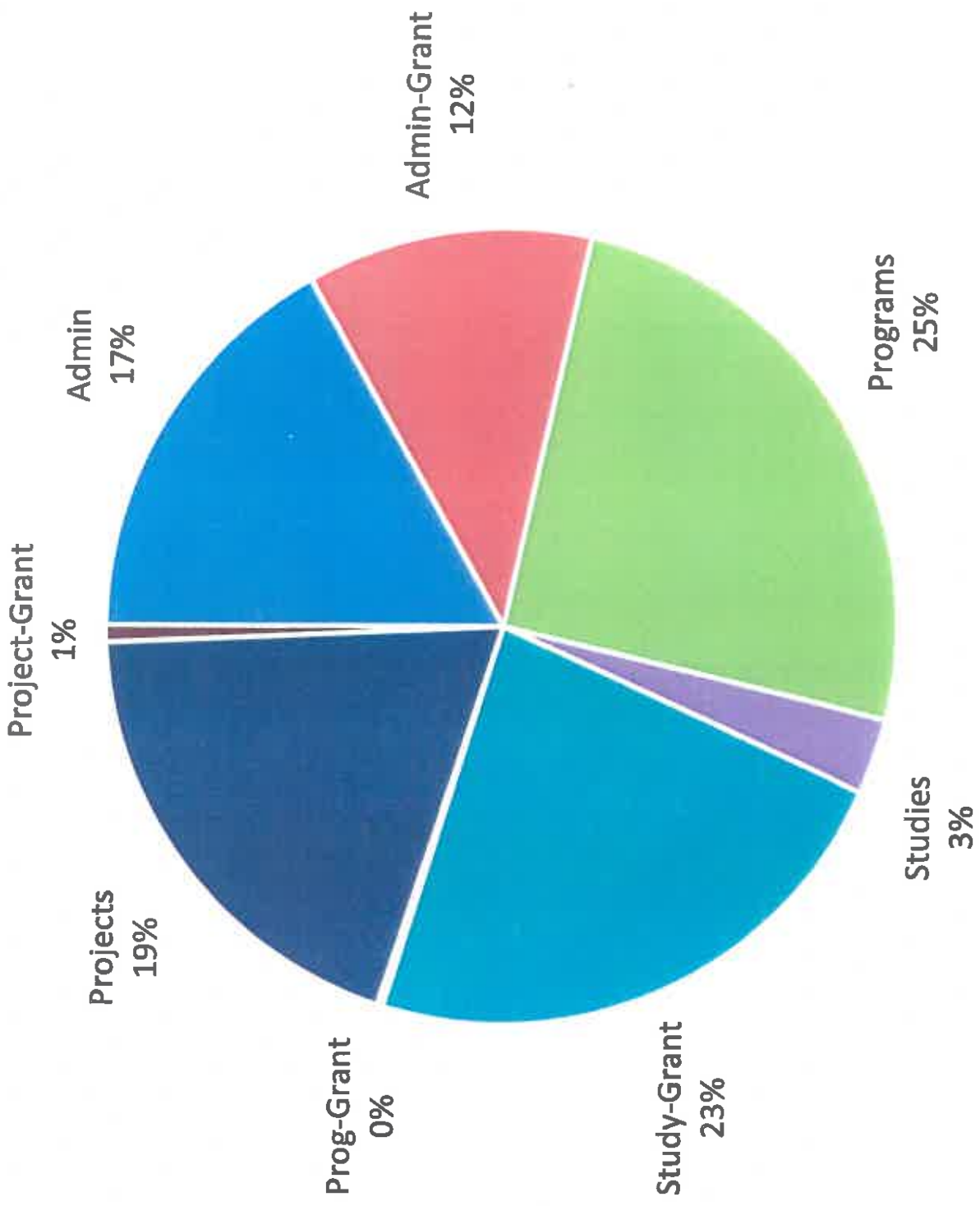
Recommended Tentative Budget

	Jul '19 - Jun '20	Notes	
TCID Carson Diversion Dam	100,000.00	(10)	
Carson City Reuse Master Plan	50,000.00	(11)	
Mexican Dam Portage site	25,000.00	(12)	
Faith Valley Meadows	10,500.00	(17)	
Total Expenses for New Projects	185,500.00		
Total Expenditures	2,332,741.00	1,943,985.00	2,148,952.00
Net Ordinary Income	-123,760.13	7,851.00	42,659.00
Other Income/ Other Income			
Beginning Equity	648,759.00	593,258.00	706,100.00 *
Transfer In	0.00	0.00	0.00
	648,759.00	593,258.00	706,100.00
Total Other Income/ Other Expenses			
8008-00 - Preliminary Planning	405,000.00	405,000.00	0.00
Transfer from Gen. Fd. to Floodplain Fd.	50,000.00	50,000.00	50,000.00
Transfer from Gen. Fd. to Acqu./Const. Fd.	50,000.00	50,000.00	50,000.00
	505,000.00	505,000.00	100,000.00
Total Other Expenses	143,759.00	88,258.00	606,100.00
Net Other Income	19,998.88	96,109.00	648,759.00
ENDING BALANCE			

\$75,000.00 Over Budget

* Based on the 2017-18 Audit

Tentative FY 2019-20 General Budget



new contract #2018-13

*7640-09

①a

*18K

**CARSON WATER SUBCONSERVANCY DISTRICT
REQUEST FOR FUNDING**

APPLICANT: Churchill County, c/o Eleanor Lockwood, County Manager
Name
155 N. Taylor St., Ste 153
Address
Fallon Churchill NV 89406
City County State Zip Code
countymanager@churchillcounty.org (775) 423-5136
Email Telephone #

APPLICANT'S AGENT (if different from Applicant):
Chris Mahannah, P.E., Mahannah & Associates, LLC
Name
P.O. Box 2494
Address
Reno Washoe NV 89505
City County State Zip Code
chris@mah2o.com (775) 323-1804
Email Telephone #

PROJECT NAME: Lahontan Valley Water Level Measurement Program

PROJECT LOCATION/ADDRESS: Lahontan Valley -- Churchill County

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

See attached Exhibit 'A' and copy of Power Point dated 2/1/18, which was presented to Churchill County Commissioners.

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

See attached Exhibit 'A' and copy of Power Point dated 2/1/18, which was presented to Churchill County Commissioners.

TOTAL ESTIMATED PROJECT COST: \$66,000.00
AMOUNT REQUESTED FROM CWSD: \$66,000.00

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

Churchill County: In-Kind contribution up to \$10,000 over project term.

ESTIMATED DATE PROJECT TO BEGIN: 7/1/18

ESTIMATED TIME TO COMPLETE PROJECT: 6/30/21

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.) FY18/19: \$18,000; FY19/20: \$18,000; FY20/21: \$20,000

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

N/A

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

See attached Exhibit 'A' and copy of Power Point dated 2/1/18, which was presented to Churchill County Commissioners.

SIGNED: Eleanor Lockwood
NAME: Eleanor Lockwood
TITLE: County Manager
DATE: 2-1-2018

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Nevada Water Science Center
2730 N Deer Run Rd.
Carson City, NV 89701

#7524-02
(16)
June 28, 2018

Mr. Edwin James
General Manager
Carson Water Subconservancy District
777 East William Street, Suite 110-A
Carson City, NV 89701

Dear Mr. James: 

Attached is a joint funding agreement for the Water-level and water-quality monitoring in the Newlands Project Area, Churchill County, NV during the period July 1, 2018 through June 30, 2022 in the amount of \$23,220 from your agency. U.S. Geological Survey contributions for this agreement are \$23,220 for a combined total of \$46,440.

Federal law requires that we have a signed agreement before we start or continue work. Please return the signed agreement by July 1, 2018. If, for any reason, the agreement cannot be signed and returned by the date shown above, please contact David Smith by phone number (775) 887-7616 or email dwsmith@usgs.gov to make alternative arrangements. If you approve of this work and the funding required, please sign and return the agreement to NVFinance@usgs.gov. A signed agreement is not a bill, only an agreement to pay for the work that will be done.

The results of all work performed under this agreement will be available for publication by the U.S. Geological Survey. We look forward to continuing this and future cooperative efforts in these mutually beneficial water resources studies.

Sincerely,



David Berger, Director
Nevada Water Science Center

TOTAL ESTIMATED PROJECT COST: \$99,060
AMOUNT REQUESTED FROM CWSD \$5,630 in FY19 and \$23,220 over 4 years.

SOURCE OF OTHER FUNDS:

Total cost for the project is \$99,060 for four years of monitoring, with \$23,220 requested from Carson Water Subconservancy District over the duration of the project. Potential funding will be augmented with an agreement from Churchill County, approved February 1st, 2018, to achieve the stated objectives. Pending the availability of federal matching funds, it is anticipated that funds provided by the CWSD and Churchill County will be matched by the USGS (table 1).

Table 1. Total costs for proposed work.

Cooperator	State Fiscal Year				Cooperator Total
	2019	2020	2021	2022	
CWSD	\$ 5,630	\$ 5,800	\$ 5,860	\$ 5,930	\$ 23,220
Churchill County	\$ 5,630	\$ 5,800	\$ 5,860	\$ 5,930	\$ 23,220
NAS Fallon	\$ 1,480	\$ 1,500	\$ 1,560	\$ 1,630	\$ 6,170
USGS	\$ 11,260	\$ 11,600	\$ 11,720	\$ 11,870	\$ 46,450
Total	\$ 24,000	\$ 24,700	\$ 25,000	\$ 25,360	\$ 99,060

ESTIMATED DATE PROJECT TO BEGIN: July 1st, 2018

ESTIMATED TIME TO COMPLETE PROJECT: 4 years, project end date is June 30th, 2022

PERMIT REQUIREMENTS: Approvals for monitoring and sampling of non-USGS groundwater wells will follow USGS protocol.

SIGNED: David Smith
NAME: David Smith
TITLE: Hydrologist - USGS
DATE: 2/1/2018

**CARSON WATER SUBCONSERVANCY DISTRICT
REQUEST FOR FUNDING**

APPLICANT: Name: David Smith - U.S. Geological Survey Hydrologist
Address: 2730 North Deer Run Road
City: Carson City County: Carson State: NV Zip: 89701
Email: dwsmith@usgs.gov Telephone #: 775-887-7616

APPLICANT'S AGENT (If different from Applicant):

Name _____
Address _____
City _____ County _____ State _____ Zip Code _____
Email _____ Telephone # _____

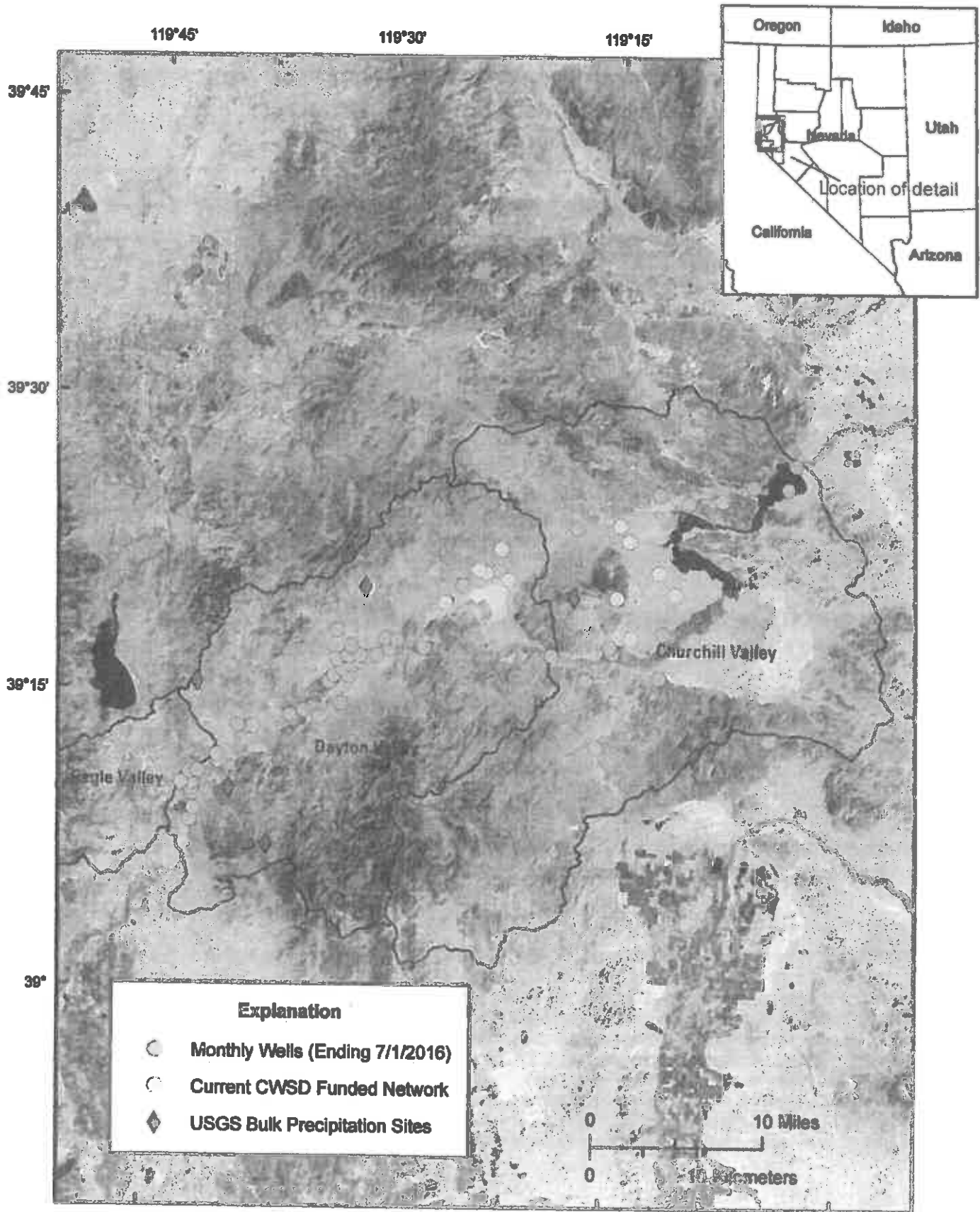
PROJECT NAME: Middle Carson River Groundwater Monitoring

PROJECT LOCATION/ADDRESS: Carson City, Mound House, Dayton, Carson Plains,
Stagecoach and Silver Springs
Eagle Valley, Dayton Valley, and Churchill Valley

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

Problem Statement

Residents in the middle Carson River area, which includes Eagle, Dayton and Churchill Valleys, depend on groundwater for domestic supply. Since the 1970's the U.S. Geological Survey (USGS) has monitored groundwater levels and water quality in these basins (Glancy and Katzer, 1976; Arteaga and Durbin, 1979; Berger, 1987; Harrill and Preissler, 1994; Jeton and Maurer, 2007; Maurer and others, 2009). Currently, monitoring objectives are to collect water-level measurements at spatial locations required to reliably calibrate a groundwater-model in development. This project also includes the monitoring of quarterly bulk-precipitation measurements for model inputs and annual groundwater quality in areas where there is high-density septic systems. Prior to model development, groundwater-levels were lacking in areas close to the Carson River, thus current monitoring is focused on wells near the river, and at high (monthly) frequencies to gain a better understanding of surface water and groundwater interactions.



Hydrography modified from 1:24,000-scale U.S. Geological Survey (USGS) National Hydrography Dataset, 2014. Drainage basin boundaries from 1:24,000-scale Watershed Boundary Dataset, 2013. Universal Transverse Mercator, Zone 11N, North American Datum of 1983.

Groundwater monitoring in the Eagle, Dayton, and Churchill Valleys is scheduled to end in of June, 2016, leaving a potential gap in data collection. However, the frequency and spatial distribution of current monitoring wells does not include many subdivisions that rely on groundwater from domestic wells as the only drinking water source. In subdivisions, groundwater-levels and long-term trend analysis may be helpful in future water-resource management decisions. For example, residents in the Mark Twain Estates have recently cited declining groundwater levels as a cause for deepening wells and concern over long-term water supply (Woodmansee, 2015). The current monitoring network (figure 1) spatially is about 1 mile away from the Mark Twain Estates, missing the potential declining water-table. New monitoring wells have been added in the Mark Twain Estates area, however more are needed to gain an understanding of groundwater-levels and pumping trends in the subdivision area.

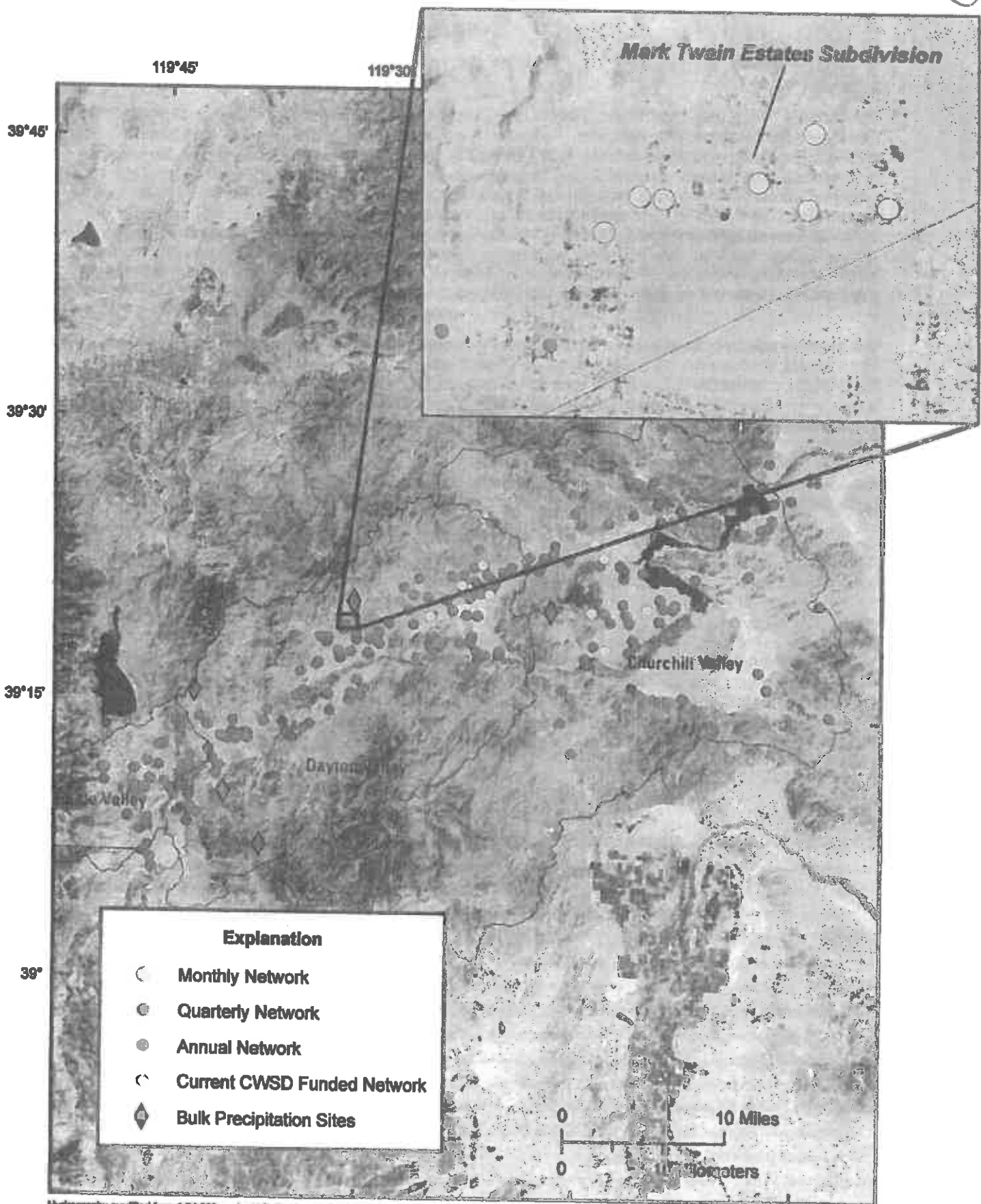
We propose adjusting the objectives of the current groundwater monitoring network in the middle Carson River area to (1) increase the spatial density of groundwater-level monitoring along the middle Carson River basin, in particular in areas with high densities of domestic wells, (2) measure monthly groundwater-levels in the Mark Twain Estates, with the installation of a pressure transducer to collect continuous groundwater-levels data (fig. 2), (3) collect an annual water-quality sample from the Mark Twain Community Center, a well with nitrate levels exceeding the U.S. Environmental Protection Agency's limit of 10 parts per million, (4) continue measurement of quarterly bulk precipitation throughout the middle Carson River area for future model use and scenario development, and (5) enter water-levels currently collected by local municipalities Dayton and Silver Springs Utilities into the NWIS database.

Approach

The redesigned network will be monitored at a monthly (6–8 wells in Mark Twain Estates Subdivision), quarterly (44 wells), and annual (154 wells) frequency throughout Eagle, Dayton, and Churchill Valleys (fig. 2). Additionally, one water-level recorder will be deployed in the Mark Twain Estates Subdivision for continuous water-level collection. Annual water-quality samples will be collected from the Mark Twain Community center and the addition of a onetime sample analyzed for waste-water indicators. Bulk precipitation gauges will be measured at a quarterly frequency. Data collection is planned to begin in the Nevada State fiscal year 2017 (October 1, 2016), and continue for a period of at least three years (table 1). No formal USGS reports are currently planned with this monitoring effort. All data collected will be quality assured using standard USGS methods and made available online to the public through NWISWeb. Groundwater-level data will be available online within 2 weeks after the completion of well runs.

References

- Artesaga, F.E., and Durbin, T.J., 1979, Development of a relation for steady-state pumping rate for Eagle Valley ground-water basin, Nevada: U.S. Geological Survey Open-File Report 79-281, 44 p.
- Berger, D.L., 1987, Ground-water levels in water years 1984–85 and estimated ground-water pumpage in water years 1984–85, Carson Valley, Douglas County, Nevada: U.S. Geological Survey Open-File Report 86-539, 16 p.
- Glancy, P.A., and Katzer, T.L., 1976, Water-Resources Appraisal of the Carson River basin, Western Nevada: Nevada Division of Water Resources, Reconnaissance Report 59, 128 p.
- Harrill, J.R., and Preissler, A.M., 1984, Ground-water flow and simulated effects of development in Stagecoach Valley, a small, partly drained basin in Lyon and Storey Counties, western Nevada: U.S. Geological Survey Professional Paper 1409-H, 74 p.
- Jeton, A.E., and Maurer, D.K., 2007, Precipitation and streamflow simulations of the Carson Range and Pine Nut Mountains, and updated estimates of ground-water inflow and the ground-water budget for basin-fill aquifers of Carson Valley, Douglas County, and Alpine County, California: U.S. Geological Survey Scientific Investigations Report 2007-5205, 56 p.
- Maurer, D.K., Paul, A.P., Berger, D.L., and Mayers, C.J., 2009, Analysis of streamflow trends, ground-water and surface-water interactions, and water quality in the upper Carson River basin, Nevada and California: U.S. Geological Survey Scientific Investigations Report 2008-5238, 192 p.
- Woodmansee, K, 2015, "Study Sought to Find Causes of Water Woes In Mark Twain Estates." Virginia City News [Virginia City] 20 Nov. 2015, Vol. 7 No. 47 ed.



Hydrography modified from 1:24,000-scale U.S. Geological Survey (USGS) National Hydrography Dataset, 2014. Universal Transverse Mercator, Zone 11N, North American Datum of 1983.

PROJECT GOALS AND BENEFITS: The proposed study is aligned with the USGS science strategy goal of informing the public and decision makers about the status of freshwater resources across America, and is consistent with the goal of the USGS Strategic Plan of providing water-resource managers with accurate, reliable, and impartial scientific information. The data will provide an increased understanding of groundwater levels in Eagle, Dayton, and Churchill Valleys and provide water managers with information on how water resources may be affected by increased development.

Project benefits include:

1. Groundwater level observations in approximately 208 wells. Additional monitoring wells will be included near areas of proposed expansion with the USA Parkway Highway, near Silver Springs, and near the Iron Mountain Subdivision near Stagecoach, NV.
2. Monthly groundwater-level monitoring of the Mark Twain Estates and a continuous water-level data recorder at one well to assist managers in determining water-table declines.
3. The continued collection of bulk precipitation on McClellan Peak, Brunswick Canyon, Churchill Butte, and in the Virginia Range, for future use in potential groundwater model scenario development (figure 2).
4. Entry of Dayton and Silver Springs Utilities groundwater levels into the USGS online database.
5. The annual monitoring of water-quality from the Mark Twain Community Center well and analysis for waste-water compounds.
6. Publish and maintain data online for public use in the USGS National Water Inventory System database.

Table 1. Project Timeline

[Quarters represent NV State Fiscal Quarters, State fiscal year is July 1 to June 30.
The monthly run will be collected each month of the fiscal year.]

NV State Fiscal Year	FY2017				FY2018				FY2019				FY2020
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Monthly Well Run	X	X	X	X	X	X	X	X	X	X	X	X	X
Quarterly Precip	X	X	X	X	X	X	X	X	X	X	X	X	X
Quarterly Well Run	X	X	X	X	X	X	X	X	X	X	X	X	X
Annual Well Run	X				X				X				X
Data processing/Review	X			X			X				X		X

TOTAL ESTIMATED PROJECT COST: \$135,470

AMOUNT REQUESTED FROM CWSD: \$67,735

SOURCE OF OTHER FUNDS:

Pending the availability of federal matching funds, it is anticipated that funds provided by the Carson Water Subconservancy District will be matched by the USGS. This proposal will be presented at a Carson Water Purveyors meeting, with the intention of gaining support from Storey County for monitoring in the Mark Twain Estate Subdivision.

ESTIMATED DATE PROJECT TO BEGIN: October 1st, 2016

ESTIMATED TIME TO COMPLETE PROJECT: 3 years, ending September 29th, 2019

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

Table 2. Funding Distributed per Fiscal Year


[Fiscal Year (FY) represents the Nevada State fiscal years from July 1 to June 30.]

	FY16	FY17	FY18	FY19	Total
USGS CWP Funds	\$16,000	\$19,195	\$19,640	\$12,900	\$67,735
Request from CWSD	\$16,000	\$19,195	\$19,640	\$12,900	\$67,735
Total	\$32,000	\$38,390	\$39,280	\$25,800	\$135,470

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

No permits are anticipated to complete the project. However, owner information and verbal permission to measure groundwater wells will be collected.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: 
NAME: David Smith
TITLE: USGS Hydrologist
DATE: 2/9/16

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: River Wranglers

Name

PO Box 1612

Address

Dayton

City

Lyon

County

NV

State

89403

Zip Code

APPLICANT'S AGENT:

Darcy Phillips, Executive Director

Name

PO Box 1612

Address

Dayton

City

Lyon

County

NV

State

89403

Zip Code

PROJECT NAME: Conserve Carson River Work Days and Vegetation Management

PROJECT LOCATION: The Carson River watershed including but not limited to Douglas, Carson, Lyon, Storey and Churchill counties in Nevada and Alpine County, CA

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

River Wranglers continues to expand Conserve Carson River Work Days throughout the watershed. In 2018 there were 12 elementary schools (44 classes) and 9 high schools (21 classes) involved in work days throughout the watershed. We worked with 1,423 students, an increase of nearly 400 students from the year before, and we added two new high school (Pioneer High School and Sierra Lutheran High School) and one elementary school (Bethlehem Lutheran Elementary School) to the events. Students were involved in conservation and vegetation management projects along the Carson River or one of its tributaries: marking storm drains for pollution awareness, wrapping trees to protect them from beaver damage, and cleaning up trash. Along the Carson River, from the Nevada State line in Douglas County to the Carson Sink, we connected elementary and high school students to the Carson River.

The current grant allocates \$6,000 per county for Conserve Carson River Workdays events and vegetation projects. These projects typically involve local conservation district employees to supervise and prep for construction projects along the Carson River and/or tributaries. In addition, state, federal, and county partners work on these projects. These projects utilize local labor crews and conservation crews to cut and plant willows for workdays and habitat restoration, weed control, seeding and projects to reduce potential flood hazards in the river and tributaries. The remaining \$2000 covers administration costs and travel related to the grant.

PROJECT BENEFITS: Briefly describe the benefits to be realized if the project is implemented. Additional sheets may be attached.

The benefits of Conserve Carson River Workdays are numerous. The events link all of the communities in the watershed and provide hands-on conservation activities for volunteers. Participants understand they are part of a larger, watershed wide community and that efforts made at one location benefit residents as well as downstream neighbors.

We focus on stabilizing river banks, providing habitat for nesting birds and bats, and protecting the cottonwood gallery forest (one of the largest and most beautiful in our state). River Wranglers organizes Conserve Carson River Work Days and arranges for elementary and high school students to work on the riverbanks with the conservation district employees. This educational day, focusing on projects and watershed education, has a ripple effect as it educates the teachers, their students and students' families. As a result, Carson River issues often become a part of dinner time conversation. In our wrap-up events this past fall, many elementary school students told us they talked to their parents about what they learned and family changes they could make in order to mitigate pollution.

In summary, this grant proposal meets several criteria for funding established by the CWSD; it provides regional benefit and improves water quality by preventing stream bank erosion. The vegetation projects also reduce flooding. By involving the public in the projects, we increase their understanding of watersheds, nonpoint source pollution and current water issues. The Conserve Carson River Work Days and Vegetation Management grant is consistent with the Stewardship Plan for the Carson River.

As always, we thank CWSD for your continued partnership with River Wranglers. We could not do our work without your support.

AL ESTIMATED PROJECT COST:

AMOUNT REQUESTED FROM CWSD: \$26,000.00

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider. Funds requested from the Carson Water Subconservancy District are used as a cash match for a 319h grant with Nevada Division of Environmental Protection. The NDEP covers the cost of salary and mileage associated with this grant.

ESTIMATED DATE PROJECT TO BEGIN: July 1, 2019

ESTIMATED TIME TO COMPLETE PROJECT: June 30, 2020

REQUIRED APPROVALS: List all permits, licenses and approvals, if any that are required to complete the project. Provide the current status of each approval required. If approval has not been requested or is in progress, provide the estimated date on which approval can be expected. Additional sheets may be attached.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: Darcy Phillips

NAME: Darcy Phillips

TITLE: Executive Director, River Wranglers

DATE: January 30, 2019

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.



Top to Bottom:

Rob Holley works with Silver Stage students to wrap trees at Fort Churchill State Park.

Carson Montessori and Carson HS FFA students learn about non-point source pollution by categorizing different materials into their pollution types.

Minden Elementary and Douglas HS FFA students learn about the water cycle as groundwork preparation for the reasoning behind marking neighborhood storm drains.



③

APPLICANT: Alpine Watershed Group Contact: Kimra McAfee
Name

P.O. Box 296
Address

Markleeville Alpine CA 96120
City County State Zip Code

awg.kimra@gmail.com 530-694-2327
Email Telephone #

APPLICANT'S AGENT (if different from Applicant): N/A

Name _____

Address _____

City _____ County _____ State _____ Zip Code _____

Email _____ Telephone # _____

PROJECT NAME: Upper Carson River Watershed Programs

PROJECT LOCATION/ADDRESS: Service area - Alpine County
AWG office - 50 Diamond Valley Road in Woodfords

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

The Alpine Watershed Group (AWG) is seeking funds for the fiscal year 2019-2020 from the Carson Water Subconservancy District for the coordination of its upper Carson River watershed programs. AWG's mission is to preserve and enhance the natural system functions of Alpine County's watersheds for future generations. For over fifteen years, AWG has organized volunteers and inspired community participation to address water quality monitoring and restoration needs in Alpine County. To further the stewardship of our county's natural resources, our organization has developed diverse partnerships around watershed issues.

Through this project, AWG will staff: 1) involve local citizens in watershed stewardship; 2) plan and implement watershed monitoring and restoration activities; 3) recruit diverse stakeholders and strengthen community partnerships; and 4) support local watershed education and community outreach.

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

Our organization's goals are to:

- Monitor and restore Alpine County watersheds
- Inspire community involvement and build public awareness around watershed issues
- Build organizational capacity for a sustainable future

Our monitoring, restoration, and education programs benefit the watershed not only in Alpine County, where the Carson River headwaters are located, but also have positive impacts downstream. Our programs are consistent with the *Carson River Watershed Adaptive Stewardship Plan* and meet the following funding criteria:

- Provide regional benefits within the Carson River watershed
- Improve water quality
- Prevent further stream bank erosion in the long term
- Assist the general public in understanding current water issues

The next two years are an exciting time for our watershed group thanks to having procured a U.S. Bureau of Reclamation (USBR) WaterSMART Cooperative Watershed Management Program grant for planning and partnership development. The scope of work for this grant has been expanded to include all five watersheds in Alpine County. This is wonderful news for our watershed group to better serve the entire county, and it allows us to work more efficiently by collecting data for the entire county as part of this project. This grant serves as a significant match for our CWSD request. However, the expanded scope also makes continued CWSD support critical so that we can continue and grow our existing programs in the upper Carson River watershed. Activities under this grant fall under three tasks: 1) community outreach and partnership development; 2) information gathering and data collection; and 3) watershed restoration planning. Specific activities that funding from USBR and CWSD will support include:

- Working to achieve *Carson River Watershed Adaptive Stewardship Plan* adoption by the State of California
- Supporting the Lahontan Regional Water Quality Control Board in developing a Vision Plan for the West Fork Carson River watershed
- East Fork Carson watershed plan development, in particular gap analysis to help bring the East Fork to the same level of watershed planning as the West Fork Carson River

This WaterSMART planning effort will lay the groundwork for determining priority restoration projects in Alpine County's watersheds and support AWG in finding funding for project design and implementation. The work specific to the Carson River watershed will integrate with the *Carson River Watershed Adaptive Stewardship Plan*.

Following is a summary of our monitoring, restoration, and education program plans and projects in the coming year.

Monitoring

- Upgrading our equipment
- Collaborating with other groups on equipment intercalibration to add quality assurance, train monitors, and connect with groups doing similar monitoring
- Continuing the discussion with our Restoration and Monitoring Committee about increasing the frequency of our monitoring events and expanding our monitoring locations to establish baseline data in new areas
- Conducting Year 2 of monitoring the South Lake Tahoe Public Utility District treated effluent for Contaminants of Emerging Concern (CECs) including Pharmaceutical and Personal Care Products (PPCPs)
- Developing our GIS database for the county's watersheds

Restoration

Hope Valley Restoration Project - 11/2016 to 12/2020

This project will stabilize approximately 450 feet of eroding banks along the West Fork Carson River just downstream of the Highway 88 bridge on California Department of Fish & Wildlife (CDFW) land. The first site is a new project on the first meander downstream of the bridge; the second site is the 2015 American Rivers project site downstream of the first site, where adjustments will be implemented to increase bank stability.

***Update:** The planning phase has been funded by the State Water Board; CDFW will provide implementation funding under the Kirkwood Settlement. We are currently working through the permitting process.*

Markleeville Creek Restoration Project - 2005 to Current

The purpose is to re-establish the natural form and function of Markleeville Creek through the site of the former U.S. Forest Service Guard Station. The project will re-create the streamside habitat by removing the floodwall and re-vegetating the floodplain. It will also provide various community benefits including utility improvements and public access for recreation.

***Update:** We have a 95% plan set; implementation funding is being pursued for Phase 1 - sewer replacement.*

Grover Meadow Restoration & ADA Access Project - 1/2016 to 12/2019

The purpose of the Grover Hot Springs Meadow Restoration Project is to reduce user impacts throughout the meadow and to rehabilitate the existing impacted areas. By decommissioning user-created trails and stabilizing banks along Hot Springs Creek, the project will reestablish the continuity of flow through the meadow. The project will also develop interpretive signage along an elevated ADA trail in order to educate visitors about the local ecology and sensitivity of the wetland area.

***Update:** Pre-construction weed management started in 2017; project implementation continues in 2018-2019.*

Faith and Forestdale Project - American Rivers lead, 6/2017 to 12/2019

The overarching goal of this project is to improve hydrologic and ecosystem processes in these two meadows located in the headwaters of the West Fork Carson River. Currently in the planning stage, American Rivers will continue to assess the degraded acres and prepare the restoration project. AWG's involvement includes outreach, education, and monitoring of the sites.

Update: Project kickoff in fall 2017; planning continues and outreach begins in 2019.

Education and Community Outreach

- Engaging community members and visitors through our annual Earth Day and Creek Day workdays, and expanding volunteer opportunities through other events such as Adopt A Highway cleanups, Grover State Park workdays in collaboration with California State Parks Foundation's Park Champions program, and tool maintenance events
- Continuing to expand our programs with Diamond Valley School and working to reach Alpine County youth when they move on to Douglas County High School
- Continuing to build our relationship with the Woodfords Washoe community
- Expanding watershed awareness by ongoing tabling presence at events throughout the region
- Increasing watershed awareness by drawing visitors to Alpine County through the Alpine Aspen Festival

TOTAL ESTIMATED PROJECT COST: \$146,500
AMOUNT REQUESTED FROM CWSD: \$25,000

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

The committed and projected matching funds are as follows:

Bureau of Reclamation WaterSMART grant – committed	\$50,000
California Department of Fish & Wildlife Kirkwood Settlement – projected	\$30,000
Alpine County from South Tahoe Public Utility District – projected	\$15,000
Department of Water Resources through Tahoe Resource Conservation District – committed	\$10,000
Trout Unlimited Sagebrush Chapter Grant – committed	\$ 6,500
American Rivers – committed	\$ 5,000
Individual contributions – projected	\$ 5,000

ESTIMATED DATE PROJECT TO BEGIN: July 1, 2019

ESTIMATED TIME TO COMPLETE PROJECT: June 30, 2020
(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

We are working to schedule this item for approval by the Alpine County Board of Supervisors on February 19, 2019.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

In 2018, AWG led a total of 261 volunteers who participated in 22 different restoration and monitoring activities, contributing approximately 950 volunteer hours. This included our 19th Annual Markleeville Creek Day on September 8, 2018; the 41 volunteers helped to plant 250 willow stakes, remove 20 bags of bull thistle rosettes, mow cheat grass, and build a brush box to stabilize the banks of Hot Springs Creek. We also led our 3rd annual Earth Day event at Grover Hot Springs State Park on April 21, 2018; the 86 volunteers worked to remove 35 cubic yards of invasive weeds, collect four bags of garbage, and construct 75 feet of fence to protect the native plant demonstration garden. Our volunteer base grew for our monitoring program, and we continued to conduct ambient monitoring at eight sites in the Carson River watershed.

Our new staff is excited to continue to grow and strengthen our monitoring program and to tackle larger and much needed restoration projects. Alpine County is truly unique with low population, abundant wildlife habitat, and high quality recreational resources. We greatly appreciate the longtime support of CWSD to help our small, community-based organization enhance the health of our water resources through our research and our steadfast work to inspire stewardship by community members and visitors. Thank you for considering this grant application.

SIGNED: *Kimra D. McAfee*

NAME: Kimra D. McAfee

TITLE: Executive Director

DATE: February 1, 2019

THE CARSON WATER SUBCONSERANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: Carson Valley Conservation District
 Name
1702 County Road Suite A
 Address
Gardnerville Douglas Nevada 89423
 City County State Zip Code
richard.wilkinson@nv.nacdnet.net (775)782-3661
 Email Telephone #

APPLICANT'S AGENT (If different from Applicant):

Mike Hayes
 Name
1702 County Road Suite A
 Address
Minden Douglas Nevada 89423
 City County State Zip Code
mike.hayes@nv.nacdnet.net (775)782-3661 Extension 3820
 Email Telephone #

PROJECT NAME: Carson River Bioengineering, Maintenance and Debris Removal

PROJECT LOCATION/ADDRESS: Carson River from the Powerdam to the Cradlebaugh Bridge to include the East and West Forks and Sloughs (Surface Water Conveyance System)

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

The Carson Valley Conservation District will try to stabilize vertical cutbanks as needed throughout the Carson Valley. These cutbanks have migrated faster than usual because of the two flooding incidents that we experienced in 2017. The goal would be to use bio-engineering techniques to stabilize the soil, improve water quality and re-establish desirable vegetation. The district would like to continue our work on channel maintenance and woody debris removal throughout the Carson River. The district would like to partner with CWSD, CTWCD, NDWR and Douglas County to complete this river work by the summer of 2020.

Please see attached Location Map
 Please see attached pictures

EQUIPMENT. WE WILL BE ABLE TO GENERATE MAPS AND PHOTOS WHEN THE IT DEPARTMENT IS BACK AT WORK AND CAN RESOLVE THE PRINTING ISSUES.

PROJECT GOALS AND BENEFITS: The goal is to continue to provide a properly working surface water conveyance system so that water delivered by the Alpine Decree gets to the correct location at the correct time and in the correct amount and quality. By using bioengineering on prioritized project sites, we are able to slow or stop erosion, develop wildlife habitat and improve water quality by reducing the amount of sediment released into the system. Also, studies have found that viable bio-buffer strips can capture and sequester pollutants. In addition to the water quality benefits it allows for the establishment of riparian habitat for wildlife and can crowd out noxious weeds that populate areas of disturbed earth along waterways where the seeds spread infestations throughout the watershed.

TOTAL ESTIMATED PROJECT COST: \$120,000 to \$150,000
AMOUNT REQUESTED FROM CWSD: \$60,000

SOURCE OF OTHER FUNDS: CTWCD, NDEP, Division of Water Resources, Douglas County and property owners.

List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

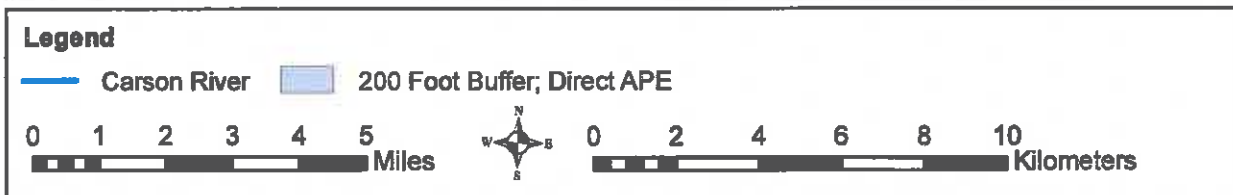
ESTIMATED DATE PROJECT TO BEGIN: September 16th 2019

ESTIMATED TIME TO COMPLETE PROJECT: September 16th 2020

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: Property owners approvals are in place and no other permitting is required for hand crew work.

If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.



OTHER INFORMATION: These photos show how badly the banks have eroded and you can imagine how much sediment they will deposit into the Carson River. Also notice the absence of any willows for the riparian wildlife habitat.:





Notice the Yellow Star Thistle in the foreground of this picture. The whole stretch of the river from Genoa Lane north suffered heavy damage in the two 2017 flood events. NRCS is working with us and we are trying to get a buy in from the property owners in the area. Some bioengineering has been done on private property down stream from where these photos were taken.

SIGNED:

NAME: Mike Hayes

TITLE: CVCD Coordinator

DATE: 1-10-2019

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

The project will help minimize erosion, improve water quality, re-establish desirable vegetation improve river function within the project reach. The project will help trap sediment and provide for natural recruitment of vegetation along the riverbank. The willow plantings will help hold the soil and provide a head start on the re-establishment of vegetation of the riverbank. The removal of large woody debris will allow for improved conveyance of river flows and reduce the negative impacts to infrastructure downstream.

TOTAL ESTIMATED PROJECT COST: \$115,000.00
AMOUNT REQUESTED FROM CWSD: \$60,000.00

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

PROJECT PARTNERS:

<u>Carson Truckee Water Conservancy District</u>	<u>\$15,000.00 Pending</u>
<u>Carson Water Subconservancy District</u>	<u>\$60,000.00 Pending</u>
<u>Nevada Department of Wildlife</u>	<u>\$15,000.00 Approved</u>
<u>CVCD Landowners (In-kind) Supplies</u>	<u>\$25,000.00 Approved</u>
<u>Totals: \$115,000.00</u>	

ESTIMATED DATE PROJECT TO BEGIN: Construction to begin in the late summer or early fall of 2019

ESTIMATED TIME TO COMPLETE PROJECT: Final reporting will be by the early spring of 2020

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year)
PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

No permits will need to be applied for since we will be doing all of our work by hand without the need of any large equipment.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: _____
NAME: _____
TITLE: _____
DATE: _____

CARSON WATER SUBCONSERVANCY DISTRICT

777 E. William St., #110A
Carson City, NV 89701
775/887-7450, fax 775/887-7457

SCHEDULE AND CRITERIA FOR FUNDING REQUESTS

SCHEDULE:

The completed application must be submitted to Carson Water Subconservancy District (CWSD) by February 1, 2018. In late February CWSD Finance Committee will review all funding requests. From that meeting a proposed tentative budget will be sent to the full board for consideration at the March meeting. In May, the Board will review any changes to the tentative budget and adopt a final budget.

Funding for projects that are approved by the CWSD Board will become available on July 1, 2018. Please complete the attached application and Project Work Sheet.

CRITERIA FOR EVALUATING FUNDING REQUESTS:

A. All funding requests shall meet all the following criteria:

1. CWSD can legally participate in the funding of the project.
2. CWSD finds the project to be technically and environmentally sound.
3. CWSD finds that the project can be permitted within a reasonable period.

B. All funding requests should be consistent with the Carson River Stewardship Plan ([Link to Draft Stewardship Plan Update 2017](#)) and meet one or more of the following criteria:

1. The project will provide regional benefits within the Carson River Watershed.
2. The project will improve water quality.
3. The project will in the long term prevent further stream bank erosion.
4. The project will reduce flooding along the Carson River.
5. The project will improve the administration and management of river and stream systems.
6. The project will assist water users and/or the public in understanding current water issues.

CWSD's goal is to leverage our funding as much as possible. Although matching funds for projects are not required, those projects that can provide match will be given greater consideration.

CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: Carson Valley Conservation District
 Name
1702 County Road Suite A
 Address
Gardnerville Douglas Nevada 89423
 City County State Zip Code
richard.wilkinson@nv.nacdnet.net (775)782-3661
 Email Telephone #

APPLICANT'S AGENT (if different from Applicant):
Richard Wilkinson
 Name
1702 County Road Suite A
 Address
Minden Douglas Nevada 89423
 City County State Zip Code
richard.wilkinson@nv.nacdnet.net (775)782-3661 Extension 3830
 Email Telephone #

PROJECT NAME: Genoa West Fork Carson River Bank Stabilization Phase 1

PROJECT LOCATION/ADDRESS: Latitude: 39° 1'47.11"N
Longitude: 119°49'1.70"W

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

The Carson Valley Conservation District will attempt to restore vertical cutbanks that are approximately $\frac{3}{4}$ of a mile long and 12 to 15 feet high. This unstable section of river has migrated into local agricultural fields causing impacts to local producers. The overall goal of this project would be to use a combination of traditional rip-rap and bio-engineering techniques to stabilize the soil, improve water quality and re-establish desirable vegetation for wildlife. The district considers this project a high priority since this area was severely impacted by recent flooding events in 2017. The district would like to partner with CWSD, CTWCD, NDOW, USFWS, Douglas County and NDEP to complete this river restoration project by the spring of 2020.

- Generate right of entry for landowner access
- Complete formal survey of site
- Develop engineered and stamped plan set
- Apply for permits
- Install rock key trench
- Place vertical willow bundles, willow mattress, COIR fabric and plants
- Place rock rip-rap along toe of bank
- Re-seed disturbed areas

Please see attached location map

Please see attached conceptual design

Please see attached pictures

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

The project will help minimize erosion, improve water quality, re-establish desirable vegetation, and improve river function within the project reach. The project will help trap sediment and provide for natural recruitment of vegetation along the riverbank. The willow plantings will help hold the soil and provide a head start on the re-establishment of vegetation of the riverbank.

TOTAL ESTIMATED PROJECT COST: \$615,000.00
AMOUNT REQUESTED FROM CWSD: \$100,000.00

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

PROJECT PARTNERS:

<u>Carson Truckee Water Conservancy District</u>	<u>\$25,000.00 Pending Fall</u>
<u>Carson Water Subconservancy District</u>	<u>\$100,000.00 Pending</u>
<u>Nevada Department of Environmental Protection</u>	<u>\$75,000 Pending Fall</u>
<u>Nevada Division of Water Resources</u>	<u>\$250,000 Pending</u>
<u>Douglas County</u>	<u>\$100,000.00 Approved</u>
<u>Nevada Department of Wildlife</u>	<u>\$15,000.00 Approved</u>
<u>CVCD Landowners (In-kind & Cash) Supplies</u>	<u>\$50,000 Approved</u>
<u>Totals: \$615,000.00</u>	

ESTIMATED DATE PROJECT TO BEGIN: Engineering, Design to begin in the late summer or early fall of 2019 Please see the attached project timeline.

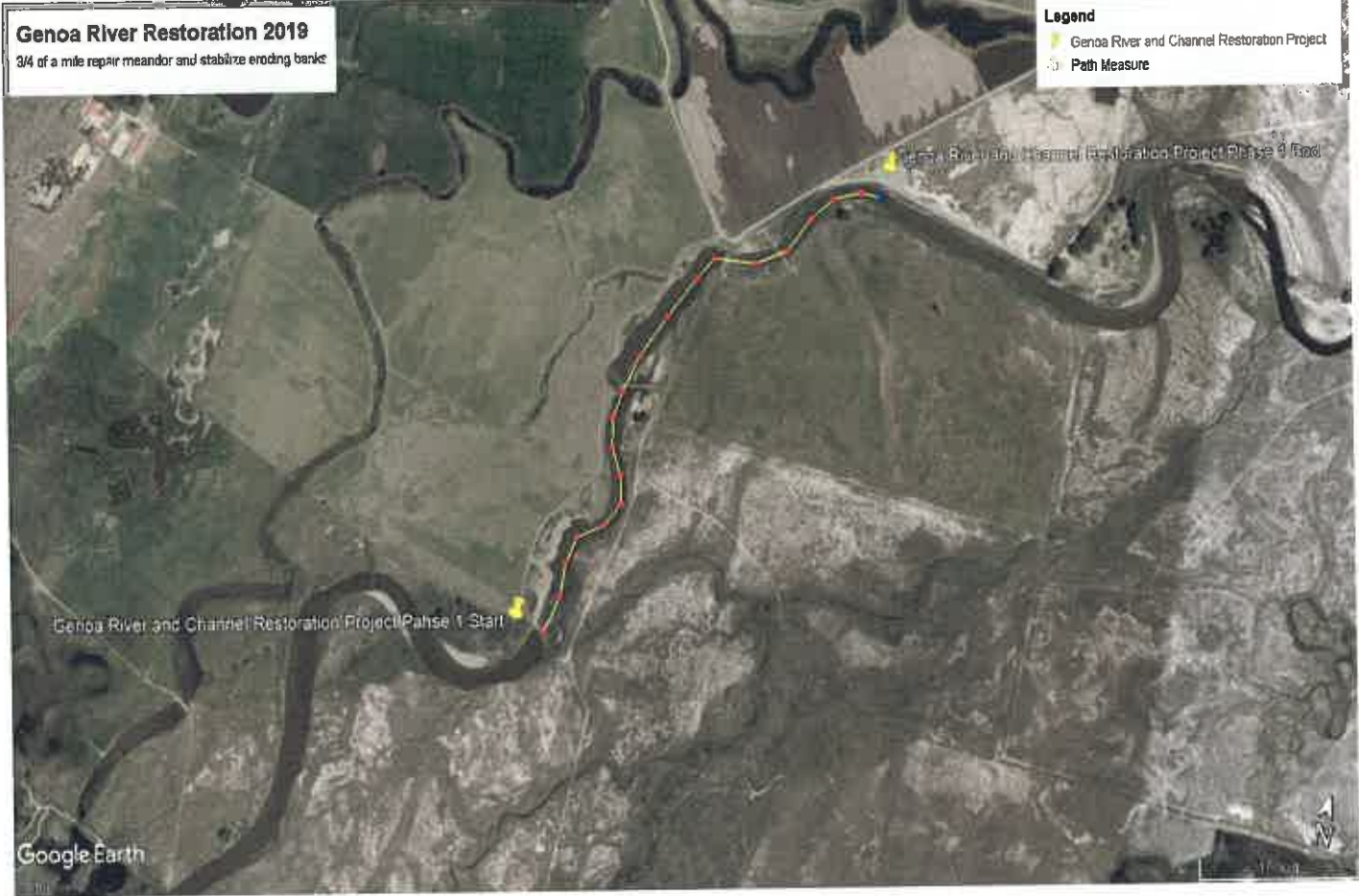
ESTIMATED TIME TO COMPLETE PROJECT: Final reporting will be by the winter of 2020

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

2019 West Fork Genoa River Restoration and Flood Damage recovery Project

a. i. Site map and photos



2019 West Fork Genoa River Restoration and Flood Damage recovery Project

- ii. Beginning of the project area Lat 39 1'35.04" N Long 119 49'3.41" W End of Project area Lat 39 2'5.64" N Long 119 48'44.22" W
- iii. Engineered stamped plans Not applicable, this is the beginning phase of this project so the formal survey, design and layout will be done once enough funding is received or awarded. We anticipate on using a variety of bioengineering and rock rip rap installation designs to stabilization the eroding riverbanks. Pending the final design, we may try and incorporate adding or modifying meander bends to dissipate energy through the reach. They will be some dredging however the exact numbers will be determined with a formal survey of the project reach. We do not anticipate removing any materials however we may utilize some existing materials onsite to shape the banks to a 3 to 1 slope prior to our installation of bank protection structures. We will have official quantities once the formal survey, design and layout of the project has occurred. This will require receiving funds first to allow the work to proceed. If any material does need to be removed it will be taken out of the 100-year floodplain as required by the U.S. Army Corp of Engineers.
- iv. CVCD is the lead sponsor however we will be working with many project stakeholders including agencies and private landowners
- v. In-kind funding match may be provided by local landowners who may provide willows for transplanting on the bioengineering sites. Status of all match funding is 165,000 already approved and 200,000 still being requested and considered pending.
- vi. Cradelbaugh Slough Channel Clearing, Lutheran Bridge Channel Clearing and Highway 88 Bridge Channel Clearing projects completed in 2018.
- vii. CVCD staff will focus on establishing project stakeholders, project grant administration and project implantation. Our estimated amount of time would approximately 10% of the overall budget for the project management of the proposed river restoration work. We always solicit volunteers for many of our projects, however until this solicitation can be completed we will not know our number of volunteers.
- viii. Project timeline/Budget:

<u>PROJECT TIMELINE</u>							
<u>Effective Date: August 2018</u>							
<u>Task</u>	<u>Winter 2018</u>	<u>Spring 2019</u>	<u>Summer 2019</u>	<u>Fall 2019</u>	<u>Winter 2019</u>	<u>Spring 2020</u>	<u>Summer 2020</u>
Start Stakeholder Process	XXX	XXX				XXX	XXX
Landowner Notification and gaining right of entry access	XXX	XXX				XXX	XXX
Permitting	XXX	XXX					
Pre-bidding/Contracts	XXX	XXX					
Photo Monitoring establish waypoints	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Engineering Designs	XXX	XXX	XXX				
Contractor Work and Crew Bio-engineering			XXX	XXX	XXX	XXX	
Project Management and Administration	XXX	XXX	XXX	XXX	XXX	XXX	
Quarterly Reports and invoicing	XXX	XXX	XXX	XXX	XXX	XXX	
Final Report						XXX	XXX
Final Site Visit all Stakeholders						XXX	XXX

2019 West Fork Genoa River Restoration and Flood Damage recovery Project

MATCH REQUIREMENTS 2019 River Restoration							
RIVER FUNDING 2019							
DOUGLAS COUNTY						\$100,000.00	Approved
CARSON TRUCKEE WATER SUBCONSERVANCY						\$25,000.00	Pending
CARSON WATER SUBCONSERVANCY						\$100,000.00	Pending
NEVADA DIVISION OF WILDLIFE						\$15,000.00	Approved
NDEP 319 PROGRAM						\$75,000.00	Pending
PRIVATE LANDOWNER CONTRIBUTION						\$50,000.00	Approved
NEVADA DIVISION OF WATER RESOURCES						\$250,000.00	Pending
					TOTAL	\$615,000.00	

- ix. The project design will not be able to withstand large scale flooding however the designs utilized all over the Carson River in the past have held up to seasonal flows including some larger events. Typically, our projects are designed to handle a 2.5 to 3-year event for the Carson River. Each project site is evaluated and designed based on hydraulic energy, site and soil types, existing land use. The Carson Valley Conservation District is a political Subdivision of the State of Nevada. This means we do not get any dedicated funding through the state's general fund and we operate solely on grant funds for any work we perform. If a maintenance issue arises we would work directly with all project stakeholders to remedy the issue. Since these river conditions are currently impacting private property we are working directly with them on mitigation. Although the Nevada Division of State lands owns the bed and banks of the Carson River they do not have dedicated funding in place to maintain those lands, so we have always worked to solicit funds to help with maintenance issues.

2019 West Fork Genoa River Restoration and Flood Damage recovery Project

Project Need for funding:

- Severe flood damage resulting from past flooding events and historic channel straightening in the 1950's.
- Lack of native or desirable vegetation on the banks
- Vertical cut banks which continue to erode even in normal flow conditions
- Negative impacts on water quality
- Contributes to excessive amounts of sediment deposition
- Poorly functioning wildlife conditions due to lack of wildlife habitat
- Major impacts to local agricultural producers in Carson Valley
 - Impacts to irrigation infrastructures
 - Loss of agriculture production grounds
 - Financial impacts from inability to grow food and fiber
- Severe sediment deposition leading to shallow riverbed which forces more water out of the banks

Project benefits:

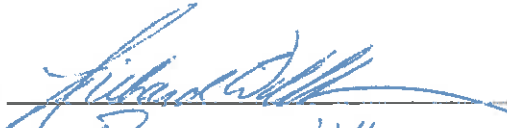
- Improve water quality stabilize the project reach
- Stabilize eroding banks
- Establish native or desirable vegetation
- Improve wildlife habitat
- Establish meander bends to dissipate hydraulic energy
- Help protect ranch irrigation infrastructure
- Assist local agricultural producers with ability to grow food and fiber
- Keep riverbanks intact minimizing sediment deposition and impacts downstream
- Multi agency input and contribution coordinated effort to improve river conditions

United States Army Corp. of Engineers
Nevada Department of Environmental Protection
Nevada Division of State Lands
State Historic Preservation Office
CVCD Landowner Access

Nationwide Permit
Working Waterways Permit
Right of Entry Permit
Archeological Section 106
Owners Right of Entry Permit

All these permits will start once the district receives adequate funding for the bank stabilization project. Since the CVCD only operates on soft funds we cannot justify starting the permit request process until we know that we have the project funded.

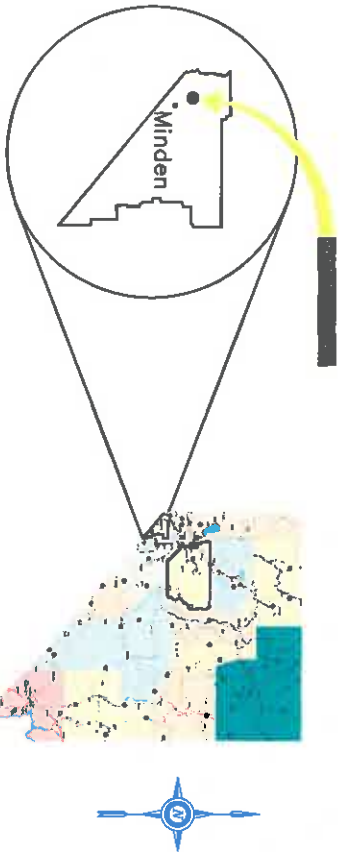
OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: 
NAME: Richard Wilkinson
TITLE: Grant Manager & River Coordinator
DATE: 01-15-19

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.



VICINITY MAP
NEVADA - DOUGLAS COUNTY
Not to Scale



PROJECT LOCATION MAP
T14N, R19E, SECTIONS 35 & 36

PLANS FOR THE CONSTRUCTION OF A
STREAMBANK STABILIZATION PROJECT
IN COORDINATION WITH THE
CARSON VALLEY CONSERVATION DISTRICT
PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
JANUARY, 2019

LOCATION OF UTILITIES:
The project installer is responsible for the notification of all utility companies affected by this project. The project installer is also responsible for determining the exact physical location of all utilities. No representation is made as to the existence or non-existence of any utilities, public or private. Absence of utilities on these drawings is NOT an assurance that utilities are not present.

PERMITS:
The project installer is responsible for acquiring all necessary approvals, permits, and easements in regards to the installation of this project. The project installer is also responsible for compliance with all ordinances and laws pertaining to the installation of this project.

SURVEY:
Elevations shown on the drawings are with specific datum and will be stated in the field by a NRCS Engineer/Technician. All staking and distances are measured horizontal distance and are approximate. The project installer is responsible for determining the exact physical location of all utilities. No representation is made as to the existence or non-existence of any utilities, public or private. Absence of utilities on these drawings is NOT an assurance that utilities are not present.

These plans are intended to express the minimum requirements for the project. Any changes from the details shown in these plans must have concurrence of both the landowner and the NRCS Engineer/Technician prior to installation. Refer to the Special Provisions for additional requirements.

INDEX OF DRAWINGS

Sheet Number	Description	Sheet No.	Description
1	Cover Sheet	NV-08	General Requirements
2	Site Plan	NV-09	General Clearing and Staking
3	Structural Substation Alternatives	NV-10	Removal and Control of Weeds
4	J-Hook Barb Detail	NV-11	Excavation
5	Vortex Weir Detail	NV-23	Earthfill
6	Willow Planting/S&I Fence	NV-81	Loose Rock Riprap
7	Brush Planting/Willow Bundles	NV-85	Geotextiles
8		NV-102	Live Stakes
		NV-103	Use Brush Mats and Layers

Finals Standard 650, Streambank Protection - Low Class IV

GENERAL NOTES

The attached NRCS Construction and Material Specifications are part of this plan and shall govern the installation. The installation shall be constructed to the line and grades as shown on the drawings and detailed in the construction specifications. Construction activities will be conducted in a manner consistent with all active regulations for work activities necessary for this installation. Point of exposed new PVC pipe for UV-light protection. Speeds are active protection can be taken when working in the vicinity of gas, oil and/or electrical lines. All elevations are given in feet above sea level. The Engineer/Technician will stake the proposed project location in the field. Call NRCS at least 7 days prior to construction at (775) 782-3581, Extension 3523.

PERMIT AND ACCEPTANCE

The drawings and construction specifications for this project have been prepared with me and are accepted for installation. I also acknowledge that any modifications prior to review by NRCS prior to implementation may result in NRCS disapproval of the installation. I hereby acknowledge receiving copies of this plan.

OWNER/OPERATOR _____

DATE _____



GENOA STREAMBANK STABILIZATION PROJECTS

Coversheet

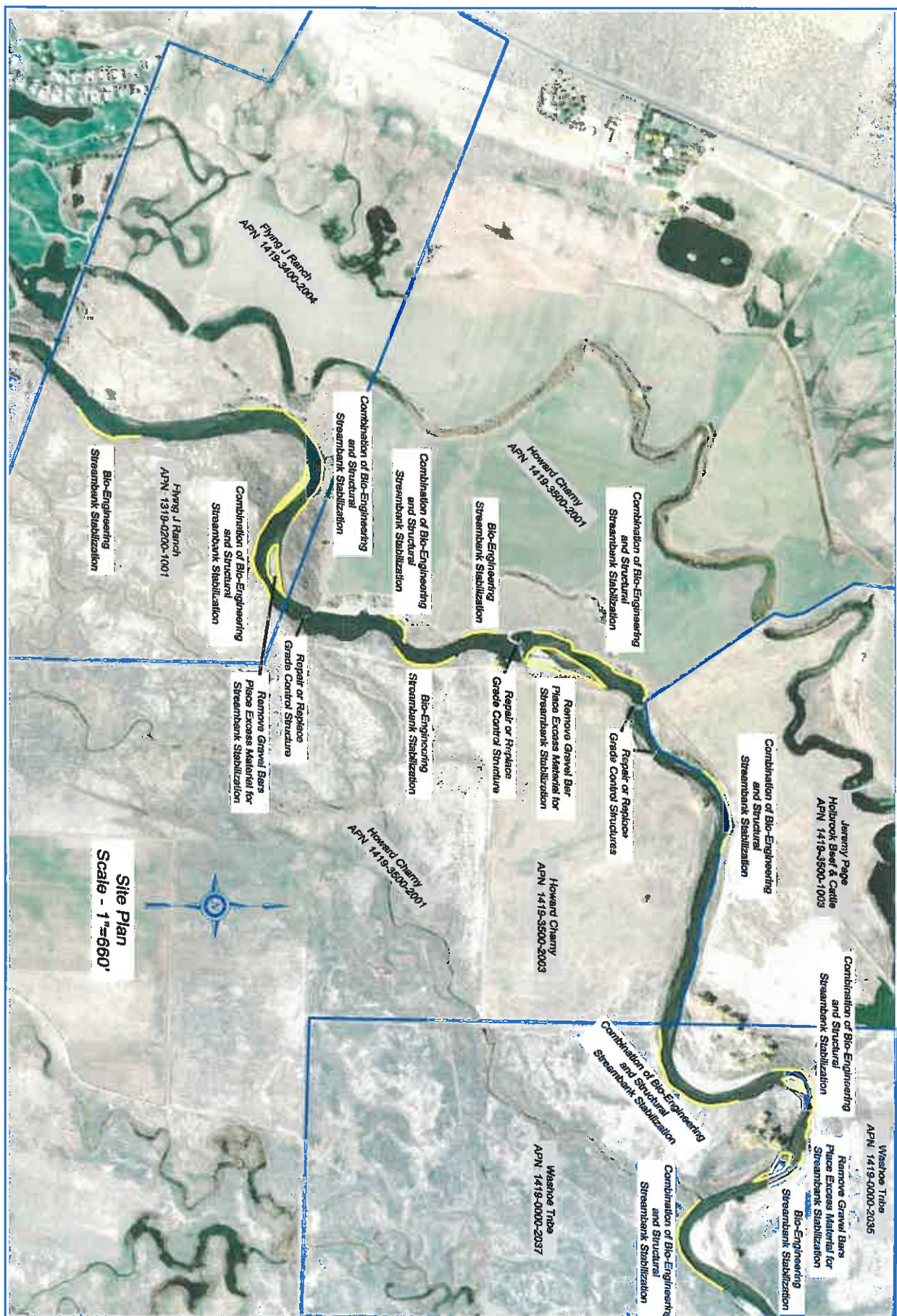
Minden Field Office

Douglas County, NV

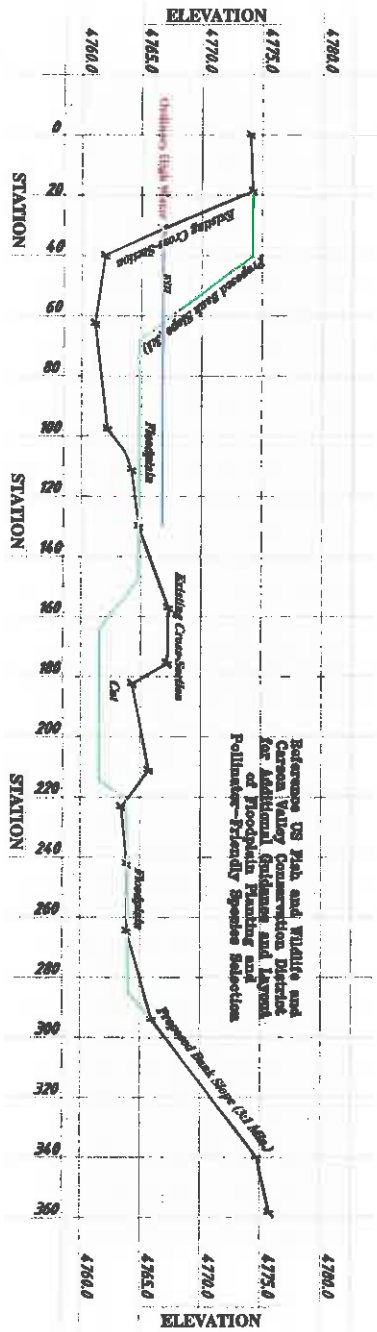
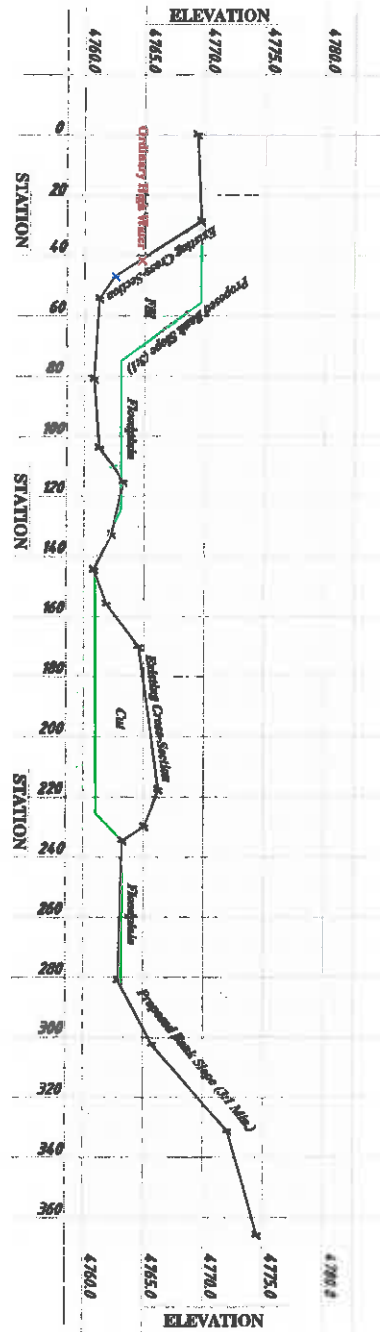
Designed	David J. Doughty	Date	1/20/19
Drawn	David J. Doughty	1/20/19	
Checked			
Approved			

USDA NRCS Natural Resources Conservation Service

File Name: Genoa Bank 2018.dwg
Drawing No.: NV-0006-AS-2018-285
Sheet 1 of 8



Carson River



Note: Actual cross-section configurations will be updated pending obtaining survey information

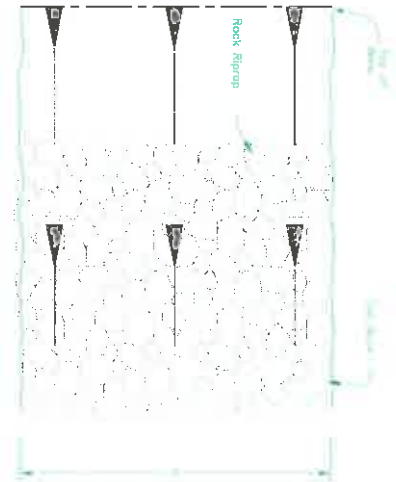
TYPICAL CROSS-SECTIONS
Horizontal Scale - 1"=40'
Vertical Scale - 1"=10'

Note: Ordinary High Water according to USGS gage readings over the last 94 years is approximately 1250cfs. Design channel capacity for this reach is estimated to be approximately 1000cfs



SECTION VIEW
Not to Scale

ROCK RIP-RAP

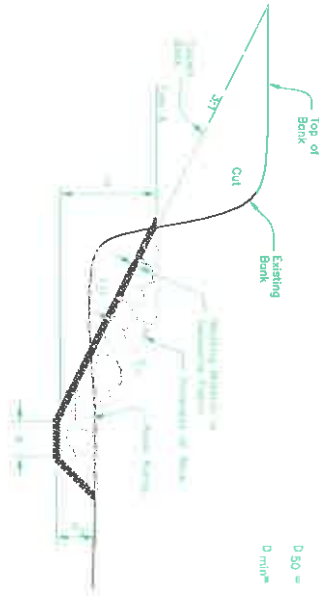


PLAN VIEW
Not to Scale

DIMENSIONS

D =	4'-5"	(ft)
D E =	3'	(ft)
T =	3'	(ft)

D 100#	34"	min	30"	max
D 75#	20"	min	18"	max
D 50#	14"	min	12"	max
D min#	12"	min	10"	max



SECTION VIEW
Not to Scale

TOE ROCK

DIMENSIONS

Vane Angle (\angle) = 30° (deg)

J-Hook Length (L) = 89" (ft)

Bankfull Width (W) = 71' (ft)

Bankfull Depth (D) = 3.5' (ft)

Key Length (K_L) = 10' (ft)

Key Width (K_W) = 10' (ft)

Key Depth (K_D) = 5' (ft)

Hook Rock Spacing (S) = 1' (ft)

ROCK KEY GRADATION

$D_{100} = 42"$ min (in) $48"$ max (in)

$D_{75} = 30"$ min (in) $36"$ max (in)

$D_{50} = 21"$ min (in) $24"$ max (in)

$D_{25} = 15"$ min (in) $18"$ max (in)

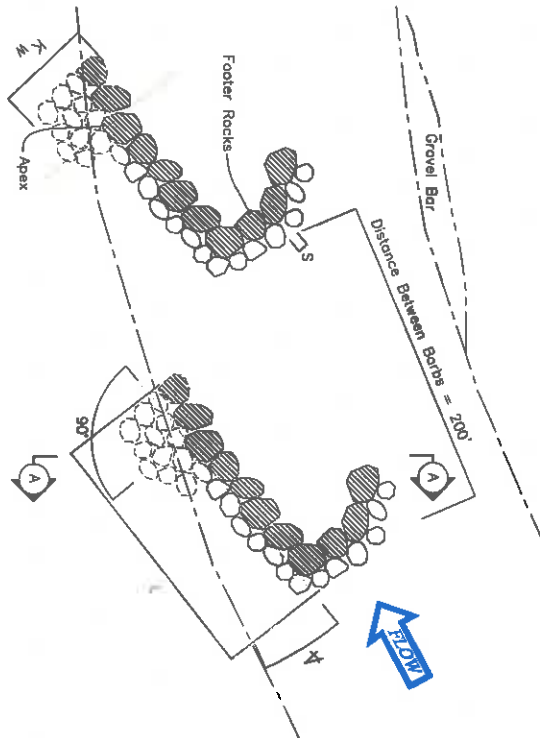
ROCK VANE DIAMETERS

HEADER ROCK:

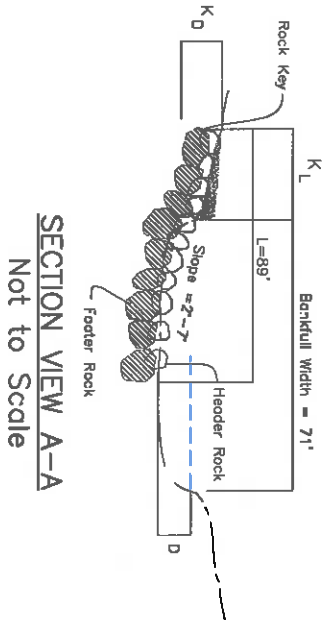
Dia = 15" min (in) 24" max (in)

FOOTER ROCK:

Dia = 30" min (in) 48" max (in)



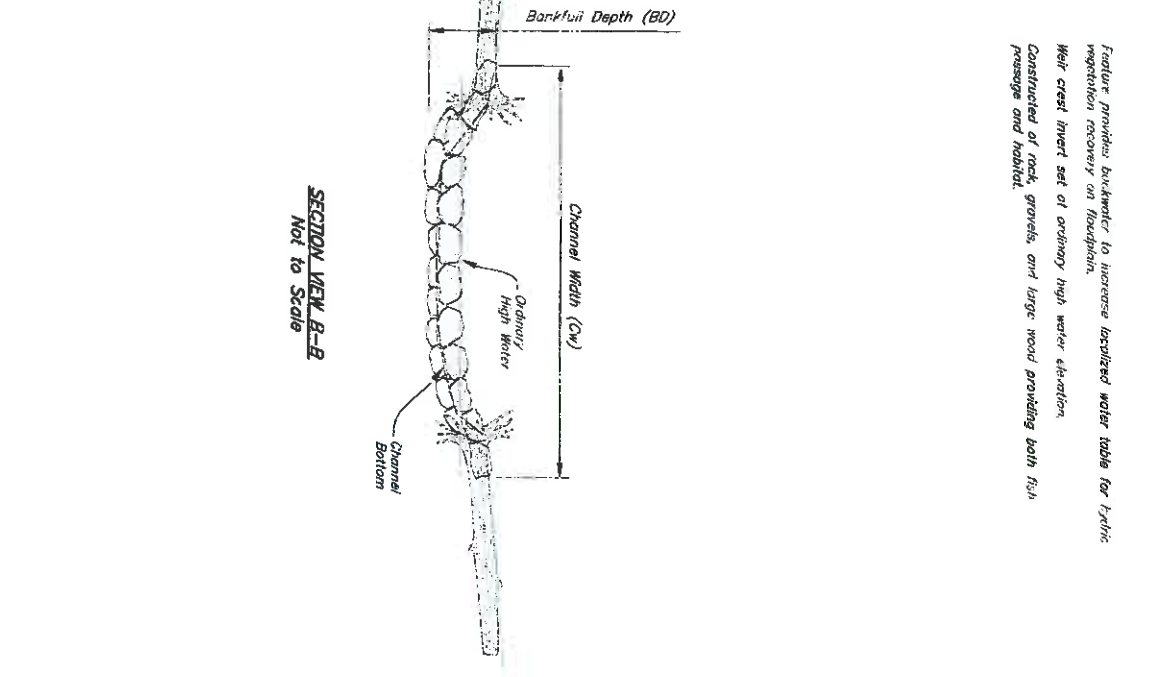
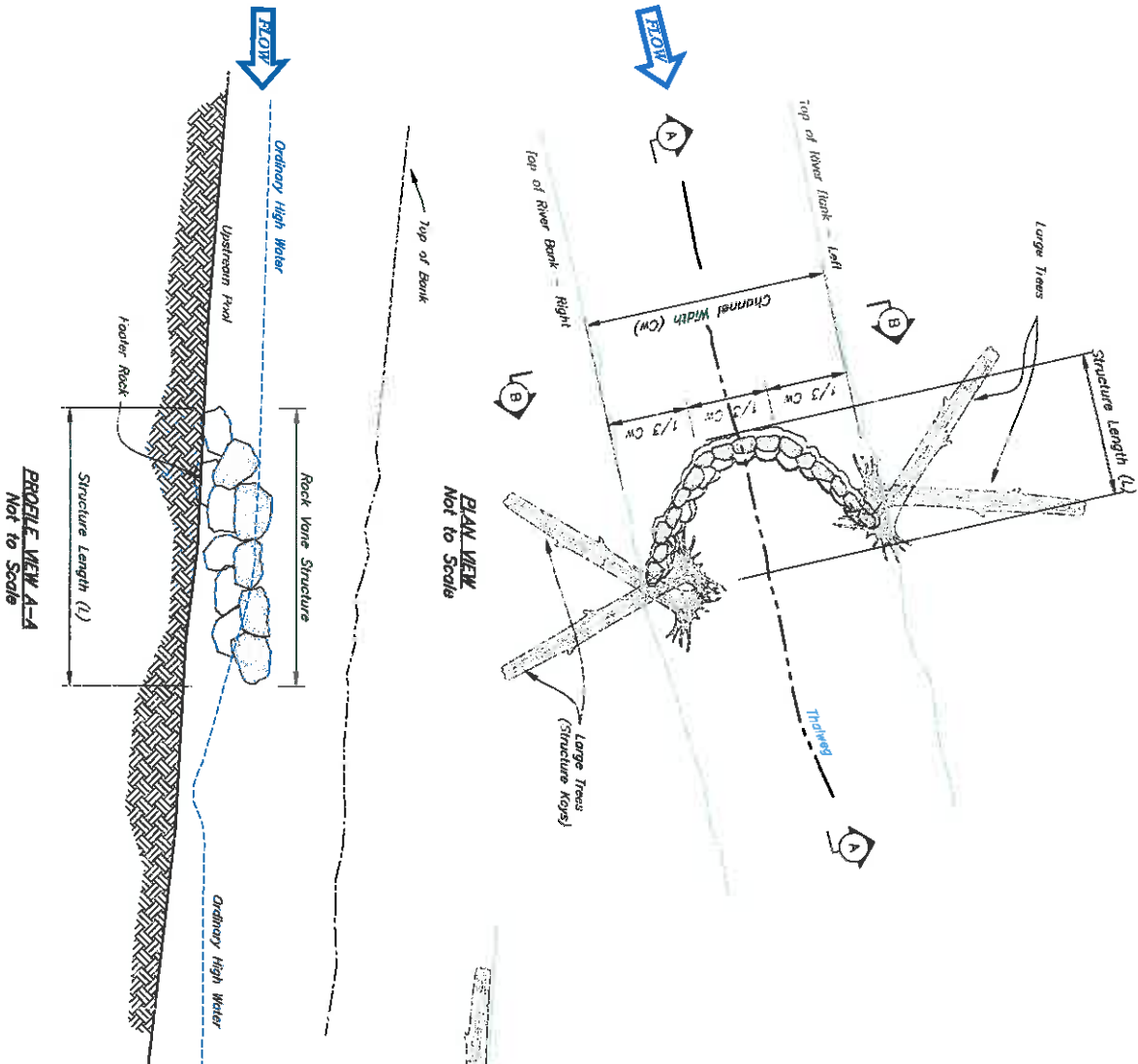
PLAN VIEW
Not to Scale



SECTION VIEW A-A
Not to Scale

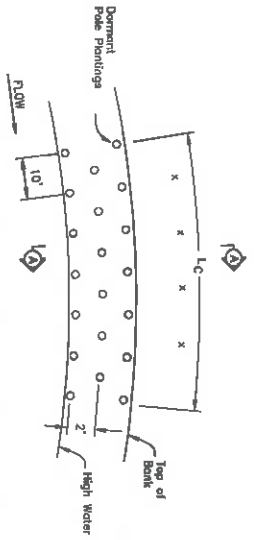
GENERAL NOTES:

1. The Vane will extend into the channel a total of $\frac{1}{3}$ of the bankfull width flow and will be angled from the streambank between 20° to 30°.
2. The J-Hook will occupy the center $\frac{1}{3}$ of the bankfull width.
3. The top of the vane shall have a slope between 2° to 7°.
4. See design report and engineering calculations for supporting technical documentation completed specifically for this site.



Feature provides backwater to increase localized water table for Lyth's vegetation recovery on floodplain.
Weir crest invert set at ordinary high water elevation.
Constructed of rock, gravel, and large wood providing both fish passage and habitat.

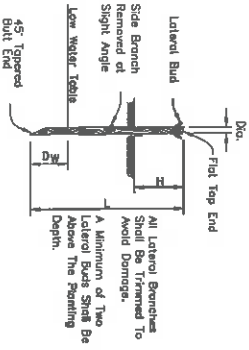
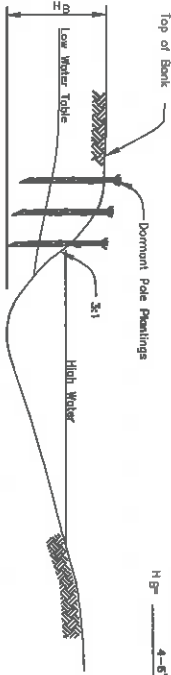
WILLOW POLE PLANTINGS



PLAN VIEW
Not to Scale

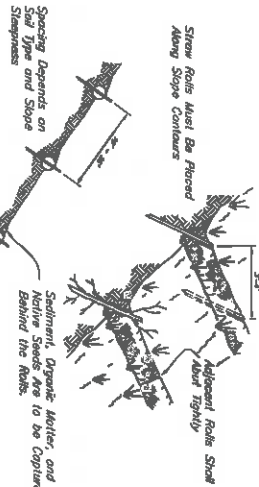
BANK DIMENSIONS	
Lc =	400'
H =	4'-6'
	(ft)

SECTION A-A
Not to Scale

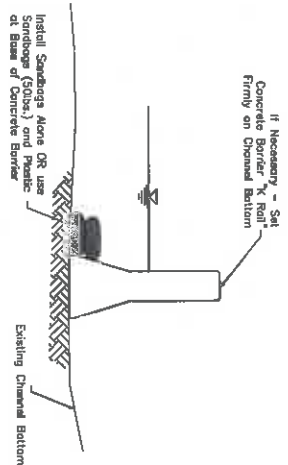
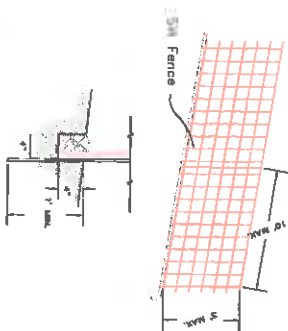
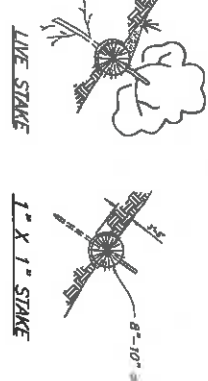


PLANTING DETAIL
Not to Scale

PLANT DIMENSIONS	
Species	Asplenella Willow
Dia. =	1/2" min (in) 3" max (in)
OW =	6" min (in) 8" max (in)
H =	1' min (in) 5' max (in)
L =	4' min (ft) 6' max (ft)
SR (row spacing) =	2' (ft)
Number of rows =	3



NOTE:
Straw roll installation requires the placement and secure staking of the roll in a trench, 3"-5" deep, dug on contour. Runoff must not be allowed to run under or around the straw roll.



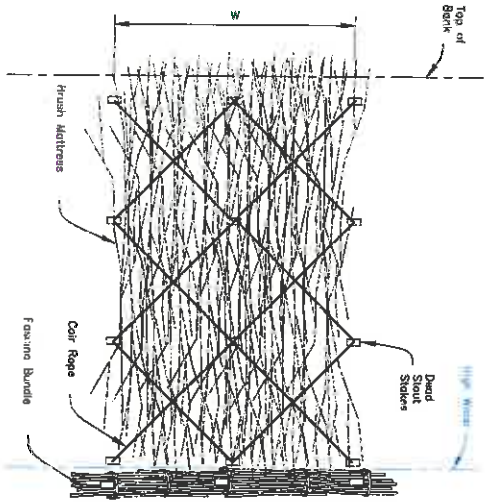
NOTE: Sand bag elevation to be 1 to 2 bags high as needed based on the river flow at the time of construction. Sandbags should be placed in an area where the sand will not be washed into the river. Sand bags shall be PVC.

DETAIL OF SILT FENCE
(NOT TO SCALE)

DETAIL OF K RAIL AND SANDBAGS
Scale 0' 1' 2' in Feet

Silt Fence / K-Rail / Straw Roll Details
Not to Scale

BRUSH MATTRESS



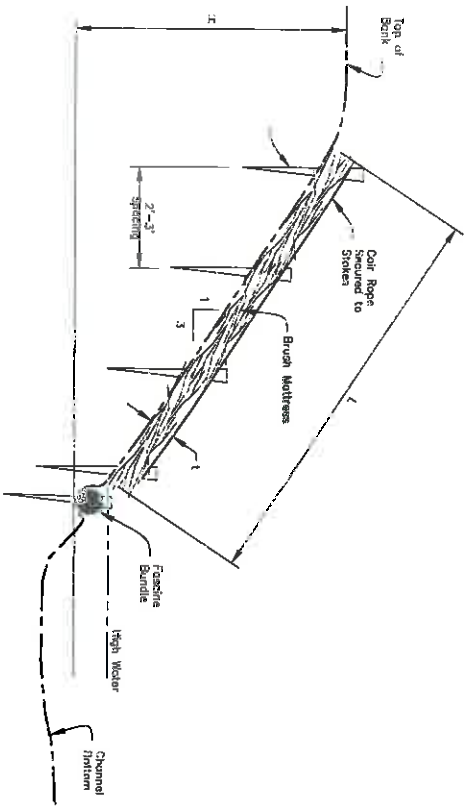
PLAN VIEW
Not to Scale

SLANT DIMENSIONS

Species	Arctostaphylos	Willow
Di. =	34" min (n)	36" max (n)
Length =	34" min (n)	36" max (n)
L =	34" min (n)	46" max (n)

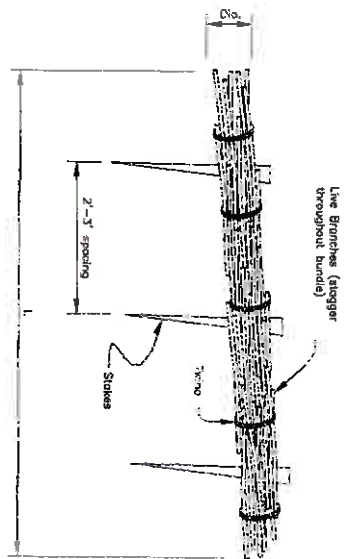
DIMENSIONS

L =	4-5'	(n)
W =	As Necessary	(n)
H =	Varies	(n)
T =	3-6"	(n)

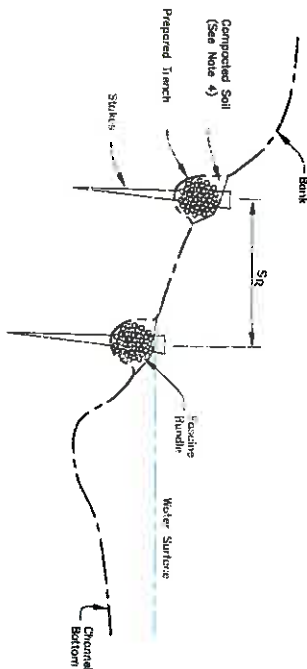


SECTION VIEW
Not to Scale

FASCINES (WILLOW BUNDLES)



FASCINE BUNDLE DETAIL
Not to Scale



SECTION VIEW
Not to Scale

GENERAL NOTES

1. Woody material shall be 1/2" to 2 inches in diameter and not less than 4 feet in length (L).
2. Fascine bundles shall be tied with untreated twine every 1 to 2 feet.
3. The plant material should be dormant, stripped of leaves, and placed and firmly compact soil over and around fascine leaving approximately 30% of upper branches exposed.
4. Stakes used to secure the live fascine should be 2.5" to 3" long, untreated, 2x4 lumber, split diagonally.

PLANT DIMENSIONS

Species	Arctostaphylos	Willows
Di. =	6" min (n)	12" max (n)
L =	4' min (n)	6' max (n)
S.R. (row spacing) =	2'	2'
Number of Rows =	2	2

2019 West Fork Genoa River Restoration and Flood Damage recovery Project



2019 West Fork Genoa River Restoration and Flood Damage recovery Project



2019 West Fork Genoa River Restoration and Flood Damage recovery Project



2019 West Fork Genoa River Restoration and Flood Damage recovery Project



2019 West Fork Genoa River Restoration and Flood Damage recovery Project



2019 West Fork Genoa River Restoration and Flood Damage recovery Project



2019 West Fork Genoa River Restoration and Flood Damage recovery Project





February 5, 2019

Mr. Ed James
District Manager
Carson Water Subconservancy District
777 East Williams Street Suite 110A
Carson City, Nevada 89701

Subject: Extension of Interlocal Contract #2018-11

Dear Ed,

Please accept this letter as our formal request to extend the current funding agreement #2018-11 for river restoration near the Cradelbaugh Bridge in Douglas County. I am hoping to extend this agreement until December 31, 2019 to allow for the completion of this necessary work.

We are asking for the extension because we have not received our submitted permits in time to complete the work during this year's low flow season. We are continuing to work with permitting agencies to complete some additional requirements so that we are ready for construction following this year's upcoming spring runoff.

If you have any questions or need additional clarification regarding this request, please contact me at your convenience. We thank you for your continued support of the Carson Valley Conservation District and we look forward to continuing to work with you in the future.

Respectfully,

Richard Wilkinson
Grant Manager/River Coordinator
Carson Valley Conservation District

CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: Dayton Valley Conservation District
 Name
P.O. Box 1807
 Address
Dayton Lyon NV 879403
 City County State Zip Code
rholley.dvcd@yahoo.com 775-246-1999
 Email Telephone #

APPLICANT'S AGENT (if different from Applicant):

Rob Holley, District Manager
 Name
same
 Address
 City County State Zip Code
 Email Telephone #

PROJECT NAME: Bank Stabilization/Channel Restoration Upstream from Dayton Bridge

PROJECT LOCATION/ADDRESS: Middle Carson River from Dayton Bridge Upstream to Santa Maria Ranch (Lyon County Open Space)

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

This project is intended to provide immediate removal of large woody debris (cottonwood trees) that pose a threat to irrigation diversions and to the Dayton Bridge. Additionally, this project is addressing the need for a comprehensive plan and design to address severe and ongoing bank erosion, loss of mature cottonwood trees (into the river), loss of private agricultural land, and the accumulation of cottonwood and willow growth within the river channel.

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

Using funding through the Nevada State Engineer's office, DVCD will immediately address large snags in the reach upstream from Dayton Bridge, and working with NDOT, will address the accumulation of tree and will growth at the Dayton Bridge. Funds obtained via NDEP 319(h) will address project engineering for two large sources of erosion – one on the Pradere property, and the other on the Ricci property. These sites are within the area of historic mill sites and add potentially contaminated soil to the waterway as they erode. Additionally, mature cottonwood trees at these sites continue to fall into the river, posing a significant danger to the Dayton Bridge and downstream diversions. Funding requested of CWSD will address engineering (surveying and plans) to address channel restoration and stabilization on those portions of the reach not covered under the 319(h) funding.

Through engineering work and coordination with effected landowners and agencies, this project provides the foundation for a much needed construction project that will address bridge safety, diversion protection, flood plain function, residential and agricultural property protection, water quality, and protection of the cottonwood gallery.

TOTAL ESTIMATED PROJECT COST: \$219,525.00

AMOUNT REQUESTED FROM CWSD: \$100,000.00

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

NDEP 319(h) - \$50,000.00 - approved
Division of Water Resources - \$69,525.00 - approved
NDOT - \$40,000.00 (in kind) - estimated and pending approval

ESTIMATED DATE PROJECT TO BEGIN: immediately (hazard removal)

ESTIMATED TIME TO COMPLETE PROJECT: Winter/Spring 2020

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

NDEP Working in Waterways - current
Presently, the snag removal falls within the parameters of NRS 322 and does not require further permitting, as the work does not involve working in, or altering the river bed.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: _____

NAME: _____

TITLE: _____

DATE: _____

Robert Holley
Robert Holley
District Manager
01/31/2019

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.



Bayton

© 2016 Google

Go

IMAGERY: 11/07/2017 23:18:15 N 107755300



CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: Lahontan Conservation District
Name
111 Sheckler Road
Address
Fallon Churchill Nevada 89406
City County State Zip Code
christy.sullivan@nv.nacdn.net (775) 423-5124 ext 101
Email Telephone #

APPLICANT'S AGENT (if different from Applicant):
Bill Washburn
Name
111 Sheckler Road
Address
Fallon Churchill Nevada 89406
City County State Zip Code
(775) 427-4728
Email Telephone #

PROJECT NAME: Carson River Channel Clearing

PROJECT LOCATION/ADDRESS: Carson River below Diversion
Carson River Sink

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

Create a river channel that is clear of abstraction and provides for free flow at natural choke points. Bridges has historically been clogged by debris during high water flooding events. Obstructions in these locations causes back up and over flow that moves into residential housing areas in both the county and City of Fallon. Locations where sediment caused islands changed the flow, eroded banks or blocked flows under bridge works. Removal of sediment will provide for structures to operate within their design parameters. (See attached Map)

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

This project will prevent and minimize property loss and other damage during flood conditions. Further maintaining a clear channel will enable the citizens to utilize the river for recreation. Creating a distinct path within the river channel will assist all recreational users. Maintaining an adequate velocity of the river flow prevents stagnant pools from developing where mosquitoes can propagate and create health issues for residents along the course of the Carson River.

TOTAL ESTIMATED PROJECT COST: \$52,800.00

AMOUNT REQUESTED FROM CWSD: \$35,000.00

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

<u>Grant Funding</u>	
Churchill Funding	\$ 7,400.00
State Funding	\$ 4,000.00
LCD Equipment and Labor	\$ 6,400.00
 TCID	
CWSD	\$ 35,000.00

ESTIMATED DATE PROJECT TO BEGIN: December 1, 2019

ESTIMATED TIME TO COMPLETE PROJECT: February 15, 2020

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

Permit with the Nevada Division of Environment Protection.

- Site/ID Invoice # GMNT-40165
- Permit type: Routine Maintenance Activities
- Valid from July 1, 2018 to June 30, 2019 Will renew permit

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

It takes a combination of debris, foliage, beaver dam and sediment removal to maintain a clear channel. Minimize stream bank erosion, improve water quality, and re-establish native vegetation. Reduce flooding risk along the Carson River. Improve the opportunities for citizens to use the river for recreational purposes. Maintaining a clean/clear river channel will improve water quality and aid the overall stewardship plan for the Carson River.

SIGNED: 

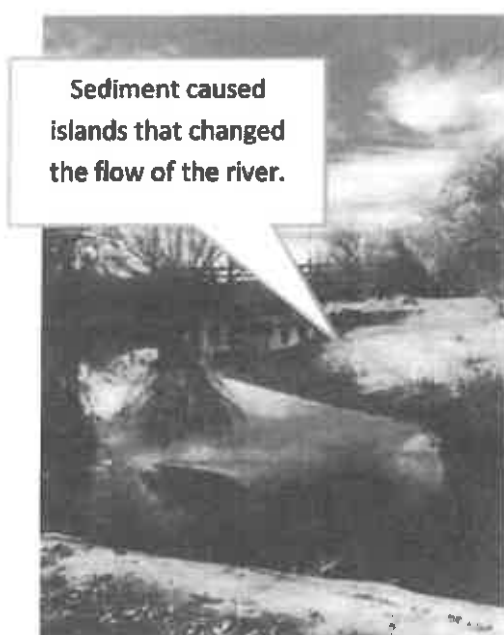
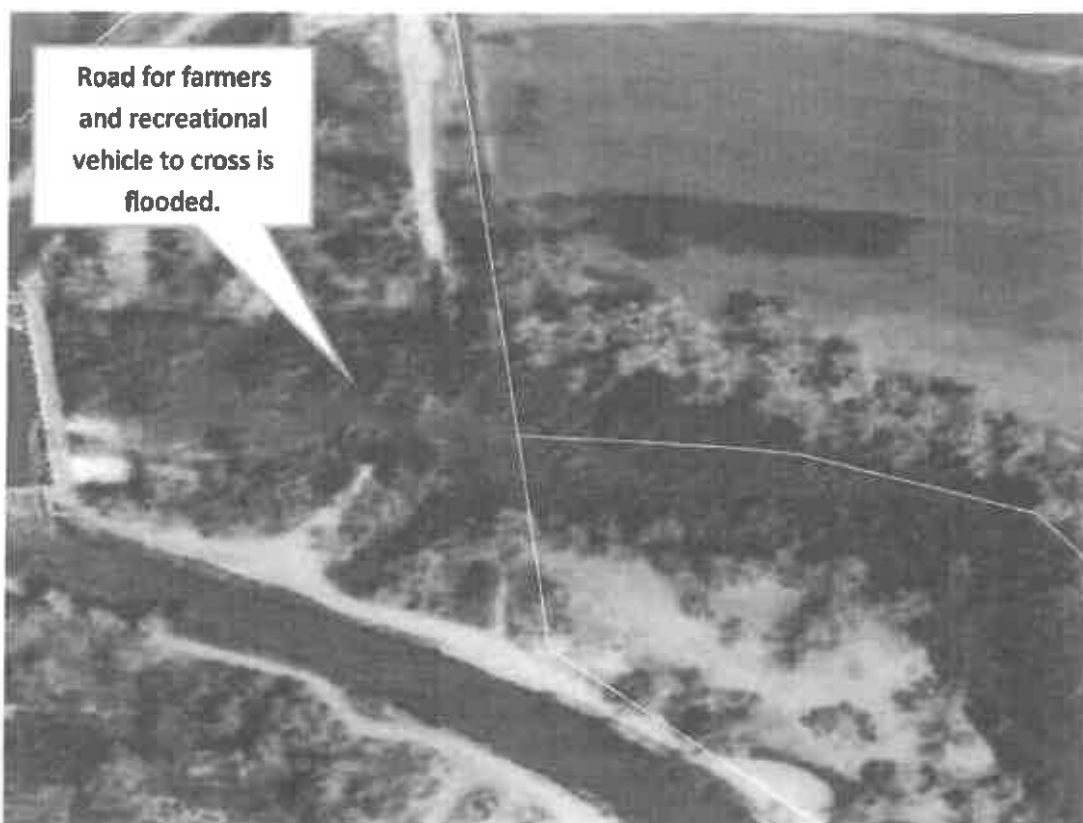
NAME:

Bill Washburn

TITLE: Chairman

DATE: 2/1/2019

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.





**Obstructions from debris causes
back up and over flow.**



**CARSON WATER SUBCONSERVANCY DISTRICT
REQUEST FOR FUNDING**

APPLICANT: Churchill County, c/o Jim R. Barbee, County Manager
Name
155 N. Taylor St., Ste 153
Address
Fallon Churchill NV 89406
City County State Zip Code
jbarbee@churchillcounty.org (775) 423-5136
Email Telephone #

APPLICANT'S AGENT (if different from Applicant):
Chris Mahannah, P.E. Mahannah & Associates, LLC
Name
P.O. Box 2494
Address
Reno Washoe NV 89505
City County State Zip Code
chris@mah2o.com (775) 323-1804
Email Telephone #

PROJECT NAME: Dixie Valley Water Level Measurement & Precipitation Gage Monitoring Program

PROJECT LOCATION/ADDRESS: Dixie Valley – Churchill County

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

See attached Exhibit A

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

See attached Exhibit A

A copy of Bureau of Reclamation Dixie Valley Plan of Study, dated May 2009 was provided with the original application in February 2016

TOTAL ESTIMATED PROJECT COST (3 years): \$86,000.00
AMOUNT REQUESTED FROM CWSD (3 years): \$65,000

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

Dr. Justin Huntington with the DRI is currently investigating other funding or grant sources which may be leveraged to assist with project funding. Additionally, in-kind DRI Graduate Student time is being provided to reduce project cost.

Churchill County will provide matching funds over the 3 year period in the amount of: \$21,000 or \$7,000 per year.

ESTIMATED DATE PROJECT TO BEGIN: 7/1/19

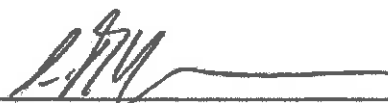
ESTIMATED TIME TO COMPLETE PROJECT: 6/30/22
(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)
FY19/20: \$28,000; FY20/21: \$28,000; FY21/22: \$30,000

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

N/A

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

See attached Exhibit A. Also refer to copy of Bureau of Reclamation Dixie Valley Plan of Study, dated May 2009 provided in February 2016.

SIGNED: 
NAME: / Jim R. Barbee
TITLE: County Manager
DATE: 2/1/2019

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

Exhibit A

Introduction: Churchill County's Water Resource Plans have identified Dixie Valley as a potential long-term underground supply for Quasi-municipal purposes in the Lahontan Valley. This would involve a groundwater importation project which would represent the only supply to Lahontan Valley totally independent of the highly litigated and contested waters of the Truckee and Carson River watersheds and associated underground aquifers. Churchill County currently has the senior most priority pending applications before the State Engineer dating from the mid-1980's to appropriate all remaining underground waters in Dixie Valley for export to the Lahontan Valley.

The natural recharge in to the Carson Desert Hydrographic Basin #101 has been estimated by the USGS at 1,300 afa from precipitation and 1,200 afa inflow from other basins for a total estimate of natural recharge of 2,500 afa. The committed underground water rights and domestic well use exceeds 21,000 afa, therefore the basin is over-appropriated without considering recharge from the Newlands Irrigation project. For this reason, the State Engineer issued Order# 1116 in 1995 limiting any new underground appropriations to 4,000 gallons per day (4.48 afa) or less. Additionally, the State Engineer has rejected recent proposals from developers seeking dedication rates less than 1.12 AF/EDU even when actual use is significantly less than the dedication rate due to the unique circumstances in Basin 101. There are significant losses from unlined canals/laterals and on-farm losses to deep percolation which recharge the shallow aquifer. The shallow aquifer recharges the intermediate aquifer in the western portion of the basin which is hydraulically connected to the Basalt aquifer in the central portion of the valley. During the drought and reduced Newlands Project allocations, many of the 5,000+ shallow aquifer domestic wells went dry or experiencing water level declines demonstrating the reliance of the valley on recharge from Newlands Project deliveries. CWSD and Churchill County are currently funding water level monitoring projects with the USGS and Churchill County to monitor water levels in the Shallow, Intermediate and Basalt Aquifers.

Recognizing the competing interests for Truckee and Carson River waters and potential for an independent supply, legislation was enacted, and funds allocated under Public Law 110-161 (Sec. 208) to conduct a study to update and quantify the perennial yield or groundwater discharge from the Dixie Valley Flow System (DVFS) shown in Figure 1. This study was a component of the Bureau of Reclamation's (BOR) Desert Terminal Lakes Program, which was authorized by Public Law 107-171 (Sec. 2507). A copy of this Dixie Valley Export Study dated May, 2009 was attached to the original application three years ago for reference which explains the study in detail. The detailed study was initiated in 2008 and was completed in 2016. The study team consisted of an interdisciplinary team of experts from the BOR, USGS, DRI, Churchill County, State Engineer, and several private consultants.

The study has identified a potential range of groundwater available for appropriation between 11,200 – 15,600 afa, which assumes a median estimate of groundwater discharge from the DVFS and a range of potentially committed existing underground water rights. Additional water could be available if existing water rights were acquired from unused rights or marginally economical agricultural operations currently pumping groundwater with diesel motors. A

calibrated groundwater flow model has been constructed using data collected during the study. This model was also used to test various pumping scenarios where rates and locations for withdrawal were analyzed.

Project Description /Benefits: The Dixie Valley study included a significant amount of instrumentation and site-specific data collection throughout the DVFS which was described in detail in the BOR plan of study. As part of this study (13) high altitude precipitation storage type gages were installed in watersheds surrounding the DVFS as shown in Figure 2. These gages were installed in 2008 and are monitored semi-annually to determine summer, winter and total water year precipitation volumes. It was always envisioned that maintenance and data collection from these gages would continue beyond the study period several decades to develop a long-term period of record. Additionally, a well inventory was conducted for the study and quarterly water level data collection is ongoing in approximately (25) wells shown in Figure 3. The water level data is important to continue to develop baseline data prior to a possible export project and to identify any current trends from anthropogenic stresses and/or natural climatic variability. There were approximately 20 temporary stream gages installed during the study to quantify ephemeral and perennial streamflow at the mountain fronts and run-on to the playa. Two of these sites are still maintained to continue to develop baseline data from perennial mountain front streams. A complete weather station to collect meteorological data within Dixie Valley was installed and continues to be maintained. The primary purpose of this project and funding request is to maintain the ongoing semi-annual precipitation gage data collection and maintenance and quarterly water level data collection. Secondary benefits which do not add significant cost to the project are continued maintenance of the weather station and the perennial stream gages.

Following are some of the regional and flow system benefits for maintaining the ongoing data collection and equipment maintenance. Precipitation models such as PRISM, developed at Oregon State University were used extensively on many components of this study provide predicted long-term average annual precipitation over the Great Basin and in Dixie Valley. The models have limited actual measurements sites to constrain and calibrate to, especially in central Nevada. If the Dixie Valley precipitation network can be maintained over the long-term (several decades) it will provide valuable information for refinement of long-term precipitation models or trends in a geographic region with sparse data. Ten years of precipitation data have been collected thus far which is statistically significant for analysis now however. High altitude precipitation measurements are even sparser in the Great Basin - almost all long-term precipitation stations are situated on low altitude valley floors. Most of the precipitation that becomes available to streams, springs and groundwater recharge to the Great Basin aquifers is actually derived from high altitude precipitation, not low-altitude (valley floor) precipitation. Maintaining the high-altitude precipitation network in Dixie Valley provides valuable information where data are limited, and ongoing data collection is even more limited. The lack of long-term high-altitude precipitation data collection in the Great Basin is even more concerning given the acknowledged change in climate.

There is considerable geographic and temporal variability in precipitation in the Great Basin. Having basin-specific precipitation and complimentary hydrologic data (water level and

stream/spring discharge) will provide needed data from which to define natural hydrologic responses to water resources. In Dixie Valley, a robust back-ground hydrologic baseline dataset will provide valuable information for long-term water resources management, and to identify current or future pumping effects, from potential fresh water development for export to Lahontan Valley and/or continued or expanded geothermal development within the basin. Use of long-term precipitation data from outside the near proximity of a basin, or from low altitudes within a basin, always presents complications and lowers confidence in estimating precipitation and groundwater recharge volumes, and when trying to differentiate natural climate responses from other potential causes to hydrologic changes such as pumping.

Baseline precipitation, groundwater level, and streamflow data collection will allow for refinements to groundwater flow simulations and improved estimates of groundwater recharge and discharge. Annual precipitation measurements are needed to compare, validate, and bias correct annual precipitation products such as PRISM, DAYMET, NLDAS and other gridded climate products that are commonly used as a starting point for estimating groundwater recharge and discharge. These products (including PRISM) are not just long-term average, they are daily, monthly, and annual. Because of this we can easily compare measured monthly and annual totals with the product totals. In addition, precipitation data can be integrated within the PRISM process developed and maintained by Oregon State University, which was done with all the USGS and State high elevation gauges, and now PRISM is using them. We plan on contacting the PRISM group to integrate the precipitation data collected in Dixie Valley into their mapping process. One aspect that is important to the PRISM group for integration into their mapping process is robust quality assurance and control, and the potential for continued operation and maintenance. Currently, we don't have any independent data to compare PRISM precipitation maps except this potential network, and all of Wynn Ross' network in Northern Washoe County.

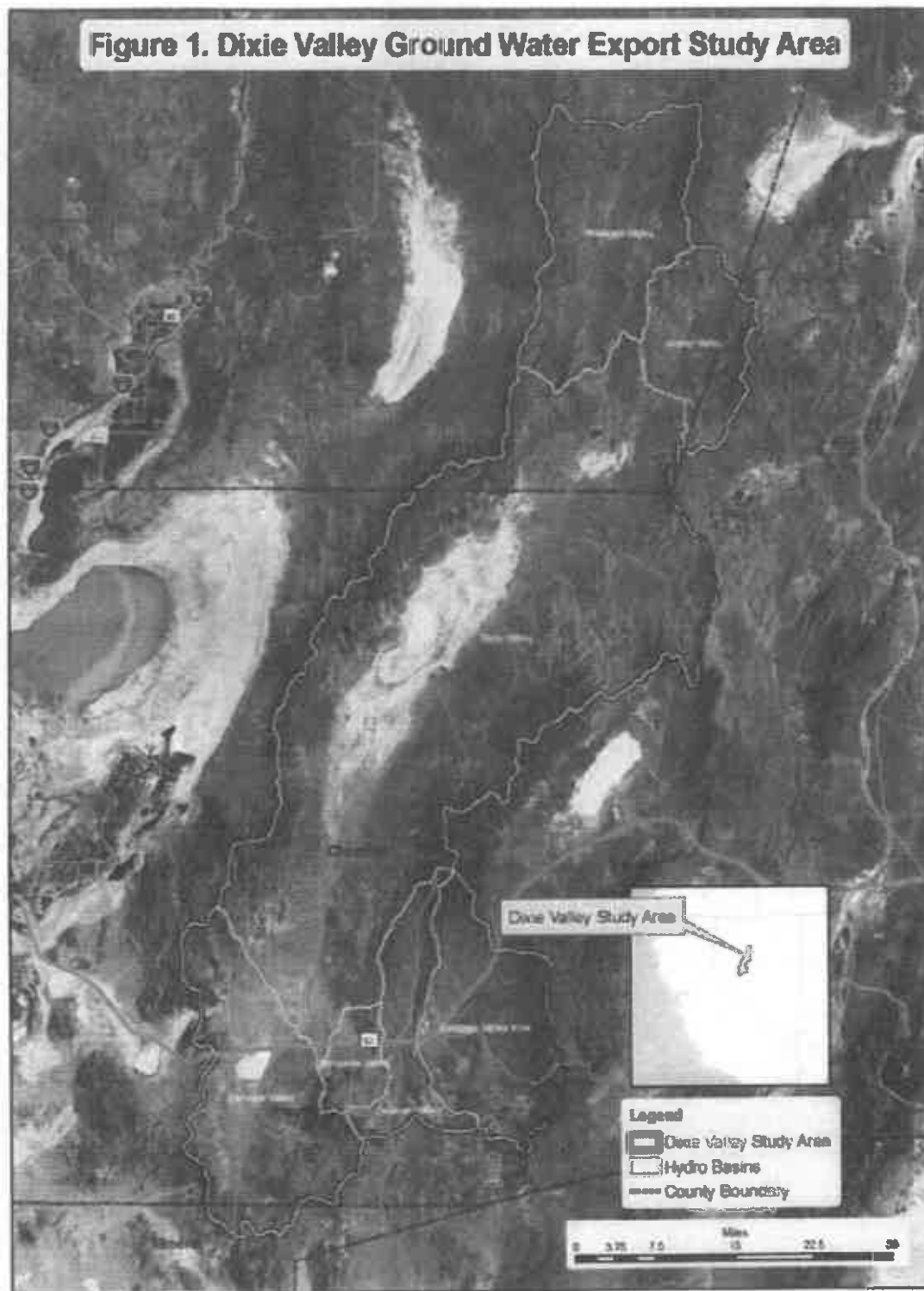
We are working with Dr. Justin Huntington at DRI who is also affiliated with the Western Regional Climate Center (WRCC) to host the data, so it is made publicly available. Hosting the data is not expensive, however efforts are being taken to set up the database, make all the linkages, and integrate the data within the mapping environment. Additionally, one of Dr. Huntington's graduate students is being made available for an in-kind contribution for their time to integrate and host the data at WRCC and make comparisons with PRISM, DAYMET and NLDAS which reduces the requested grant amount. Dr. Huntington will also investigate other possible grant sources that could possibly be leveraged to help assist with funding.

This project is technically and environmentally sound and will assist the water users, managers, hydrologists and general public in understanding climate, water issues and the status of their aquifers. It will help identify potential areas where discharge exceeds recharge and aquifer storage change. The project has regional benefits to the Carson River watershed in that it is supporting data collection efforts for an importation project, which if constructed, would lessen the demand on the over allocated and contested waters of the Truckee and Carson River watersheds. There also exists the possibility of resource trading in the Carson watershed if the importation project were implemented, however this would require additional consideration of feasibility and investigation of possible legal/physical constraints that would need to be overcome.

The project also has a larger regional benefit for the west-central portion of Nevada in helping define high altitude precipitation distributions with site specific data where virtually none exists now, and reliance is currently on models such as PRISM.

This funding request is for another three-year term, however it is anticipated for this program to provide continued value as a long-term data collection and management tool, it be continued as an ongoing effort.

Figure 1. Dixie Valley Ground Water Export Study Area



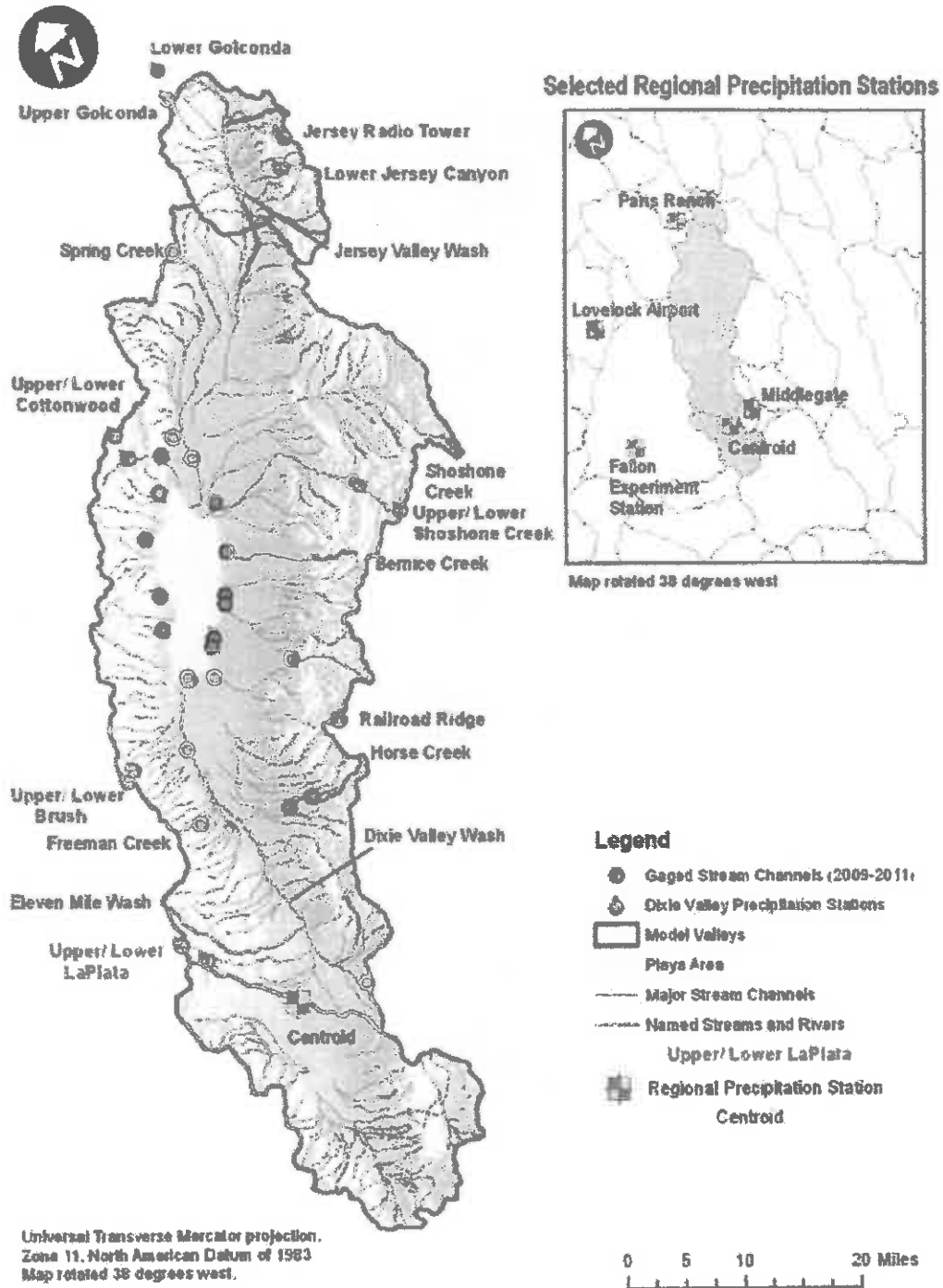


Figure 2. Stream flow and high-altitude precipitation networks within the study area.

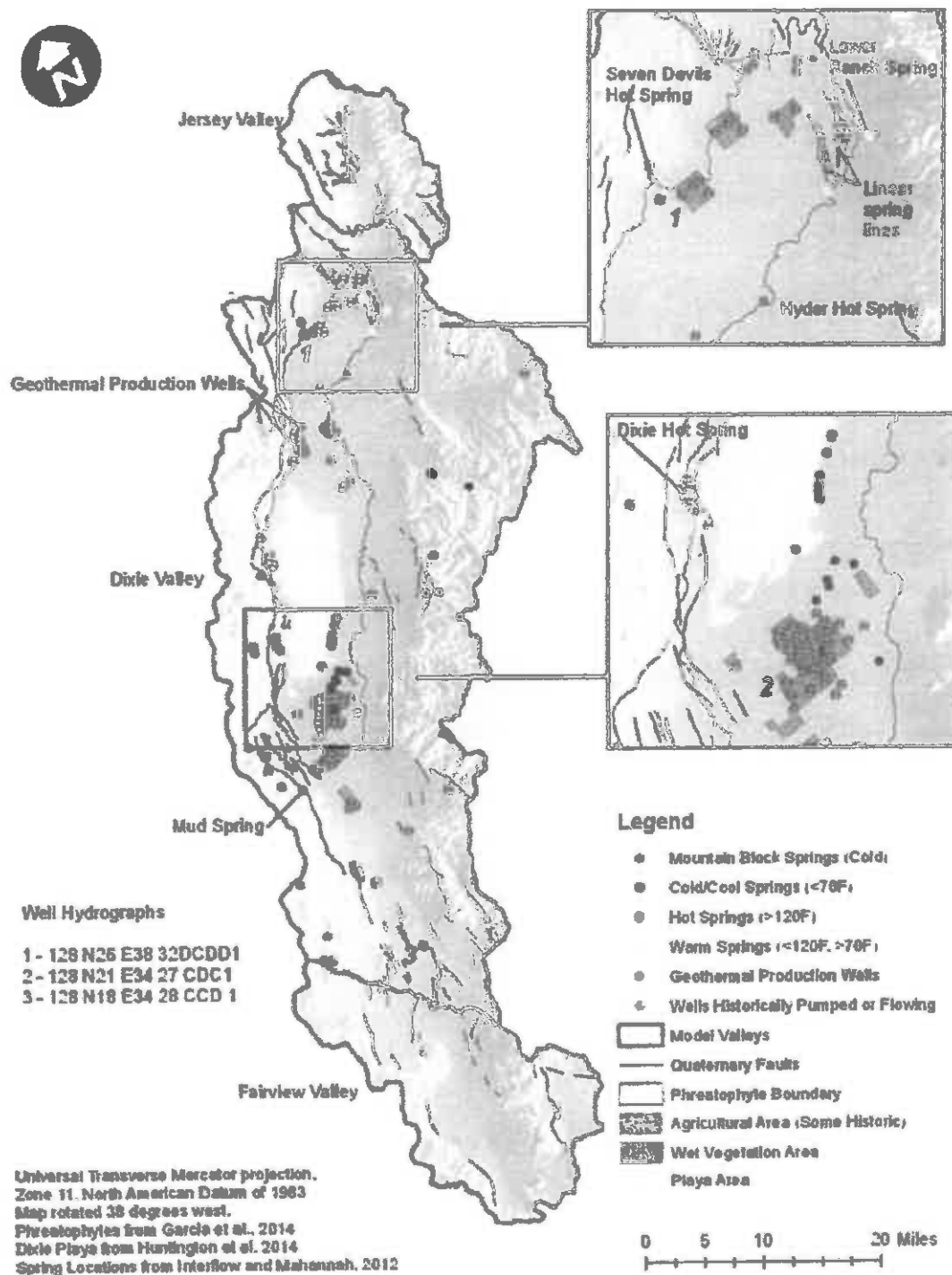


Figure 3. Springs and wells in Dixie Valley.



Truckee-Carson Irrigation District

Newlands Project

December 21, 2018

Ed James
Carson Water Subconservancy District
777 E. William Street, Suite 110A
Carson City, NV 89701

BOARD OF DIRECTORS

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Joe Gomes, Director
Wade Workman, Director

Rusty D. Jardine, Esq., General Manager &
General Counsel

Re: **Request for Grant Funding for Carson Diversion Dam in
Churchill County, Nevada (Flood Protection)**

Dear Ed:

In the aftermath of the water supply year of 2017, the largest of record, we continue our efforts in the District to prepare for excess flows in the Carson River. Past efforts included, among other things, improvement to the outlet works at Lahontan Dam, Carson River channel clearing, the design and construction of an emergency weir, or "VW" –made possible in part through a grant of funds by the Subconservancy District, the placement of oversized culverts on U.S. Highways 50 and 95, and the creation of seventeen (17) miles of new channel –what is now called the "Big Dig." Through all these efforts, made possible by participation with so many entities and the personal sacrifice of so many people, we were able to spare our community from the disaster. We are all very proud of that achievement.

Of critical importance during the all the events of 2017 was the use of the Carson Diversion Dam (Dam), a key structure of the Newlands Federal Reclamation Project. Located approximately 6.14 miles downstream of Lahontan Dam on the Carson River, this facility dates back to the beginning years of the Project (1906). This dam was created to apportion and regulate flow in the River between the channel, and the headworks of the V-Line and T-Line Canals. Initially, the Dam was intended to pass as much as 10,000 cfs. However, owing to its location, its operation must be limited to no more than 2,000 cfs. (See Emergency Action Plan, Carson Diversion Dam, V-Line Canal (2013)). River flows as low as 500 cfs, as measured at the Bafford Lane Bridge on the Carson River, resulted historically in flooding to properties in that area.

Construction techniques applied to the Dam in 1906 included placement of wood pilings, driven deeply into the riverbed, as a foundation for the laying of a concrete structure. The Dam is now well over 100 years in age. Its useful life was long ago exceeded; and, its value as a management tool in flood operations cannot be understated. It is in need of replacement.

Notwithstanding the Dam's value as both an important structure of the Project and for flood control, the United States Bureau of Reclamation has classified the Dam as *not* being "high risk" within the meaning of the Federal Safety of Dams Act. This means that the funding for all maintenance duties associated with the Dam must devolve upon the District. Replacement of the Dam would be would likely cost several million dollars –the funding for which is far beyond the financial ability of the District.

What can be done to improve the Dam now? Upgrades are needed for gates and controls for both the V-Line and T-Line Headworks. Improvement is also needed for controls on the gate-works for the Carson River. Positive control on all these points serves both the Project and the interest of flood protection. Channel Clearing is also necessary above the dam as a part of this project –necessitating the use of specialized equipment (heavy duty shovels). Accordingly, we here request the sum of One Hundred Thousand Dollars to be applied for these purposes at the Dam.

Thank you for your consideration in this matter. Please let me know if you have any questions.

Best Regards.

TRUCKEE-CARSON IRRIGATION DISTRICT

By: 

Rusty D. Jardine, Esq.
General Manager

RDJ:pkbu

Enclosures (6)

cc: Board of Directors

**CARSON WATER SUBCONSERVANCY DISTRICT
REQUEST FOR FUNDING**

APPLICANT: Truckee-Carson Irrigation District

Name
Rusty D. Jardine, Esq.

Address
PO Box 1356 Churchill Nevada 89407-1356

City **County** **State** **Zip Code**
Fallon 775-423-2141

Email **Telephone #**

APPLICANT'S AGENT (if different from Applicant):

Rusty D. Jardine, Esq.

Name
PO Box 1356

Address
Fallon Churchill Nevada 89406-1356

City **County** **State** **Zip Code**
rusty@tcid.org 775-423-2141

Email **Telephone #**

PROJECT NAME: Carson Diversion Dam

PROJECT LOCATION/ADDRESS: 6.14 Miles Downstream of Lahontan Dam In Churchill County, Nevada

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

Improvement to gates and gate controls at the headworks of the V-Line and T-Line Canals and the gates and gate controls for the Carson River at Carson Diversion Dam approximately 6.14 miles downstream of Lahontan Dam on the Carson River in Churchill County, Nevada.

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

This project will provide downstream protection for residents below the Carson Diversion Dam in both Churchill County, Nevada and the City of Fallon, Nevada in the event of flood conditions on the Carson River.

TOTAL ESTIMATED PROJECT COST: \$200,000.00

AMOUNT REQUESTED FROM CWSD: \$100,000.00

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

Matching sources of funds for this project will be provided by the District in the form of manpower, other materials, and equipment as needed for installation of gates and controls at the Carson Diversion Dam.

ESTIMATED DATE PROJECT TO BEGIN: Upon receipt of funding

ESTIMATED TIME TO COMPLETE PROJECT: Six months

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

The District currently possess active permits issued by the Nevada Division of State Lands and the Nevada Division of Environmental Protection for entry into the Carson River Channel. Additional permitting will be sought from the State of Nevada as needed.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

Other information to be provided as needed including photographs, diagrams, etc.

SIGNED: 

NAME: Rusty D. Jardine, Esq.

TITLE: General Manager/Council

DATE: December 21, 2018

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

Diversion Dam

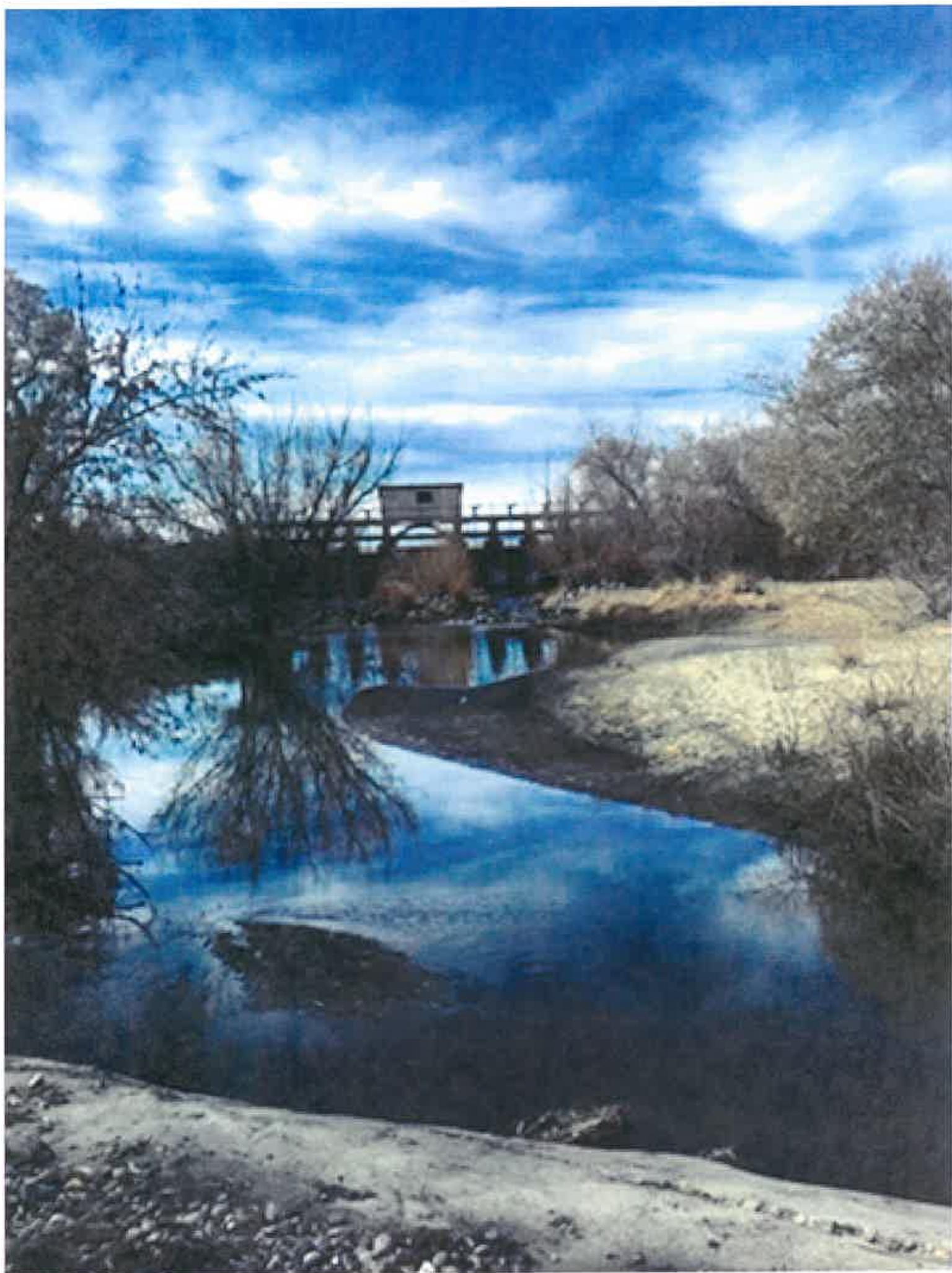
Google Earth

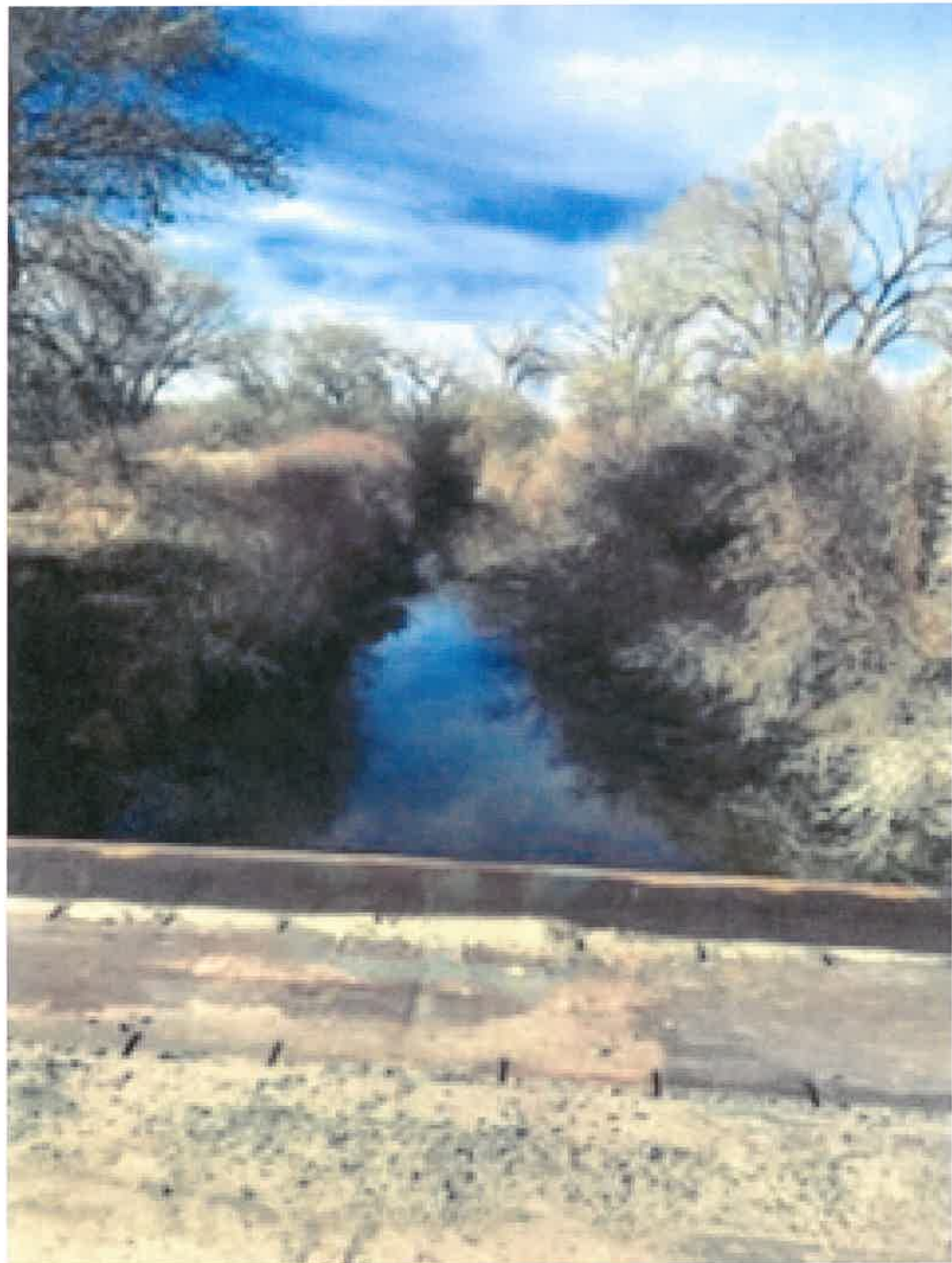
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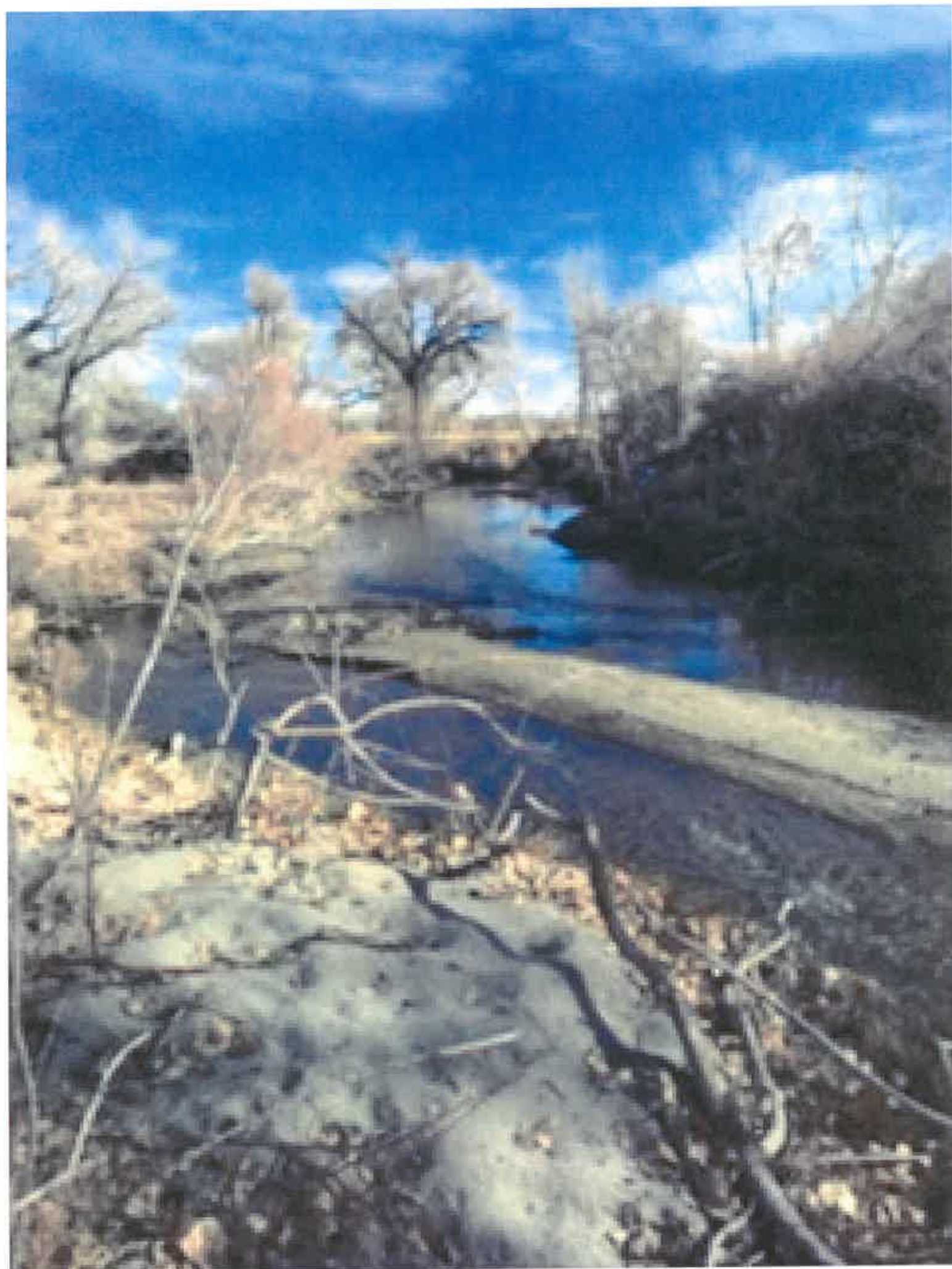


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CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: Andrew Hummel, P.E., Wastewater Utility Manager for Carson City Public Works
3505 Butti Way
Carson City NV 89701
City County State Zip Code
ahummel@carson.org 775-283-7357
Email Telephone #

APPLICANT'S AGENT (if different from Applicant):

Name

Address

City County State Zip Code

Email Telephone #

PROJECT NAME: Carson City Reuse Master Plan

PROJECT LOCATION/ADDRESS: Carson City

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

Carson City last prepared a Reuse Master Plan Update in 2006. At that time, the City reclaimed approximately 5,800 acre-feet of wastewater annually for reuse at thirteen reuse sites in Eagle Valley. Of the water reclaimed, approximately 2,000 acre-feet per year was lost through seepage at the City's storage facility, Brunswick Reservoir. A portion of this seepage discharges to the Carson River.

Over the past decade plus, wastewater flows to the City's Water Resource Recovery Facility (WRRF) have actually reduced, a result of water conservation, reduction in inflow and infiltration, and the recession, resulting in less reclaimed water to provide to the reuse sites. City-owned smaller reuse sites were converted back to domestic water in 2014 and domestic water was used to supplement the reuse system to help meet the remaining demands during the drought years.

Carson City currently utilizes effluent reuse at four large sites (three golf courses and the State of Nevada prison farm) to dispose of all effluent produced by the WRRF. Direct discharge to the Carson River is not a current option, making balancing reuse availability against demand a struggle in northern

Nevada's variable hydrologic cycle. To prepare for the future, Carson City needs to update the Reuse Master Plan with today's information and current disposal options.

The scope of work for this planning effort will include establishing current and projected effluent production and demand, identification and evaluation of local and regional reuse opportunities, and development of short and long-term strategies. Current treatment practices at the City's WRRF will be evaluated to determine if upgrades are necessary to support future reuse. Brunswick Reservoir sealing will be revisited to update costs and methods. Hydraulic modeling of the reuse system will be updated to evaluate system capacity. Preliminary cost estimates will be prepared to support the strategies developed.

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

The main goal of the Reuse Master Plan Update (Update) is to understand the current and long-term issues related to reclaimed water reuse as Carson City continues to grow.

This update will re-examine the water-balance based on current parameters and 20-year growth projections. Potential reuse sites and disposal methods including regional opportunities will be identified and analyzed for planning level costs. Data from recent sewer and water master planning efforts will be incorporated.

TOTAL ESTIMATED PROJECT COST: \$125,000
AMOUNT REQUESTED FROM CWSD: \$50,000 (50% Match)

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

Carson City Public Works Sewer Utility Revenues.


ESTIMATED DATE PROJECT TO BEGIN: May 2019

ESTIMATED TIME TO COMPLETE PROJECT: December 2019
(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

The Reuse Master Plan will require Carson City Board of Supervisor approval. Approval will be needed for contract initiation to begin the effort (anticipate May of 2019) and acceptance of the final plan.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: 
NAME: Andrew Hummel, P.E.
TITLE: Wastewater Utility Manager
DATE: 1/30/2019

**THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY
AND/OR ALL APPLICATIONS FOR FUNDING.**

Attachment A



Truckee-Carson Irrigation District

Newlands Project

December 21, 2018

Ed James
Carson Water Subconservancy District
777 E. William Street, Suite 110A
Carson City, NV 89701

BOARD OF DIRECTORS

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Robert Oakden, Director/Secretary
Lester deBraga, Director/Treasurer
Abraham Schank, Director
Joe Gomes, Director
Wade Workman, Director

Rusty D. Jardine, Esq., General Manager &
General Counsel

Re: **Request for Grant Funding for Carson Diversion Dam in
Churchill County, Nevada (Flood Protection)**

Dear Ed:

In the aftermath of the water supply year of 2017, the largest of record, we continue our efforts in the District to prepare for excess flows in the Carson River. Past efforts included, among other things, improvement to the outlet works at Lahontan Dam, Carson River channel clearing, the design and construction of an emergency weir, or "VW" –made possible in part through a grant of funds by the Subconservancy District, the placement of oversized culverts on U.S. Highways 50 and 95, and the creation of seventeen (17) miles of new channel –what is now called the "Big Dig." Through all these efforts, made possible by participation with so many entities and the personal sacrifice of so many people, we were able to spare our community from the disaster. We are all very proud of that achievement.

Of critical importance during the all the events of 2017 was the use of the Carson Diversion Dam (Dam), a key structure of the Newlands Federal Reclamation Project. Located approximately 6.14 miles downstream of Lahontan Dam on the Carson River, this facility dates back to the beginning years of the Project (1906). This dam was created to apportion and regulate flow in the River between the channel, and the headworks of the V-Line and T-Line Canals. Initially, the Dam was intended to pass as much as 10,000 cfs. However, owing to its location, its operation must be limited to no more than 2,000 cfs. (See Emergency Action Plan, Carson Diversion Dam, V-Line Canal (2013)). River flows as low as 500 cfs, as measured at the Bafford Lane Bridge on the Carson River, resulted historically in flooding to properties in that area.

Construction techniques applied to the Dam in 1906 included placement of wood pilings, driven deeply into the riverbed, as a foundation for the laying of a concrete structure. The Dam is now well over 100 years in age. Its useful life was long ago exceeded; and, its value as a management tool in flood operations cannot be understated. It is in need of replacement.

Notwithstanding the Dam's value as both an important structure of the Project and for flood control, the United States Bureau of Reclamation has classified the Dam as *not* being "high risk" within the meaning of the Federal Safety of Dams Act. This means that the funding for all maintenance duties associated with the Dam must devolve upon the District. Replacement of the Dam would be would likely cost several million dollars –the funding for which is far beyond the financial ability of the District.

What can be done to improve the Dam now? Upgrades are needed for gates and controls for both the V-Line and T-Line Headworks. Improvement is also needed for controls on the gate-works for the Carson River. Positive control on all these points serves both the Project and the interest of flood protection. Channel Clearing is also necessary above the dam as a part of this project –necessitating the use of specialized equipment (heavy duty shovels). Accordingly, we here request the sum of One Hundred Thousand Dollars to be applied for these purposes at the Dam.

Thank you for your consideration in this matter. Please let me know if you have any questions.

Best Regards.

TRUCKEE-CARSON IRRIGATION DISTRICT

By: 

Rusty D. Jardine, Esq.
General Manager

RDJ:pkbu

Enclosures (6)

cc: Board of Directors

CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: Truckee-Carson Irrigation District

Name
Rusty D. Jardine, Esq.

Address
PO Box 1356 Churchill Nevada 89407-1356

City **County** **State** **Zip Code**
Fallon 775-423-2141

Email **Telephone #**

APPLICANT'S AGENT (If different from Applicant):
Rusty D. Jardine, Esq.

Name
PO Box 1356

Address
Fallon Churchill Nevada 89406-1356

City **County** **State** **Zip Code**
rusty@tcid.org 775-423-2141

Email **Telephone #**

PROJECT NAME: Carson Diversion Dam

PROJECT LOCATION/ADDRESS: 6.14 Miles Downstream of Lahontan Dam in Churchill County, Nevada

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

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PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

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AMOUNT REQUESTED FROM CWSD: \$100,000.00

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ESTIMATED DATE PROJECT TO BEGIN: Upon receipt of funding

ESTIMATED TIME TO COMPLETE PROJECT: Six months

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OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

Other information to be provided as needed including photographs, diagrams, etc.

SIGNED: 

NAME:

Rusty D. Jardine, Esq.

TITLE:

General Manager/Council

DATE:

December 21, 2018

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

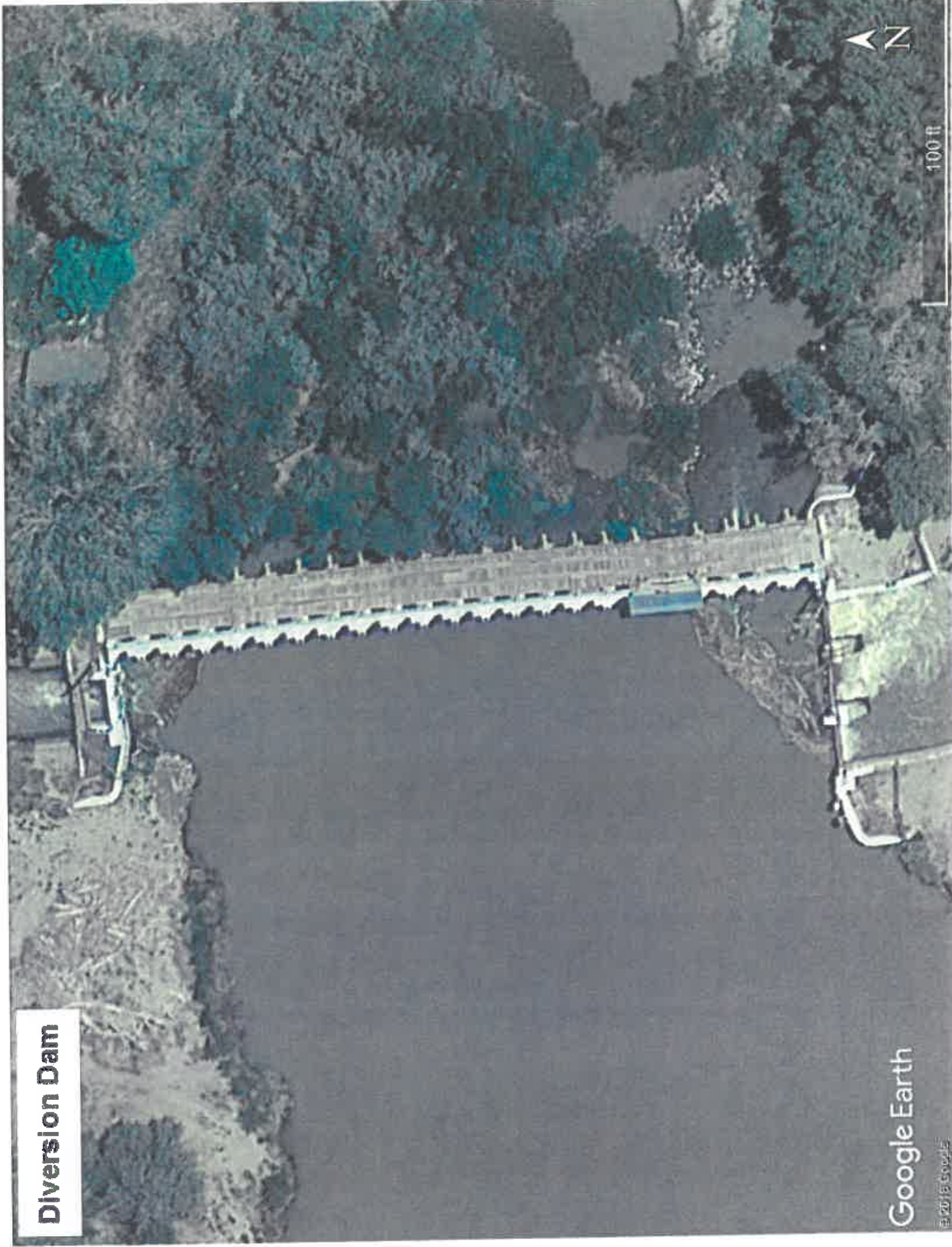
Diversion Dam

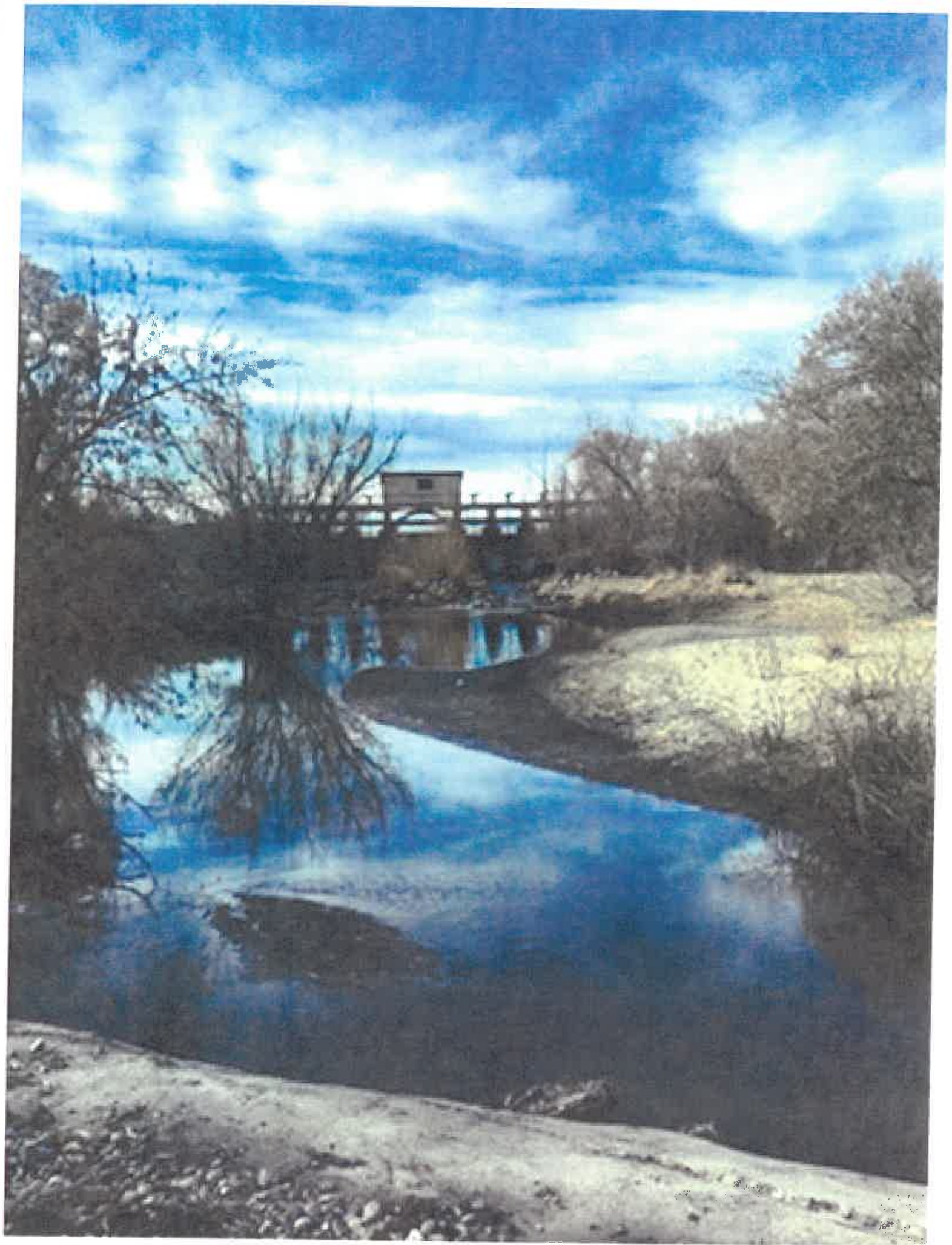
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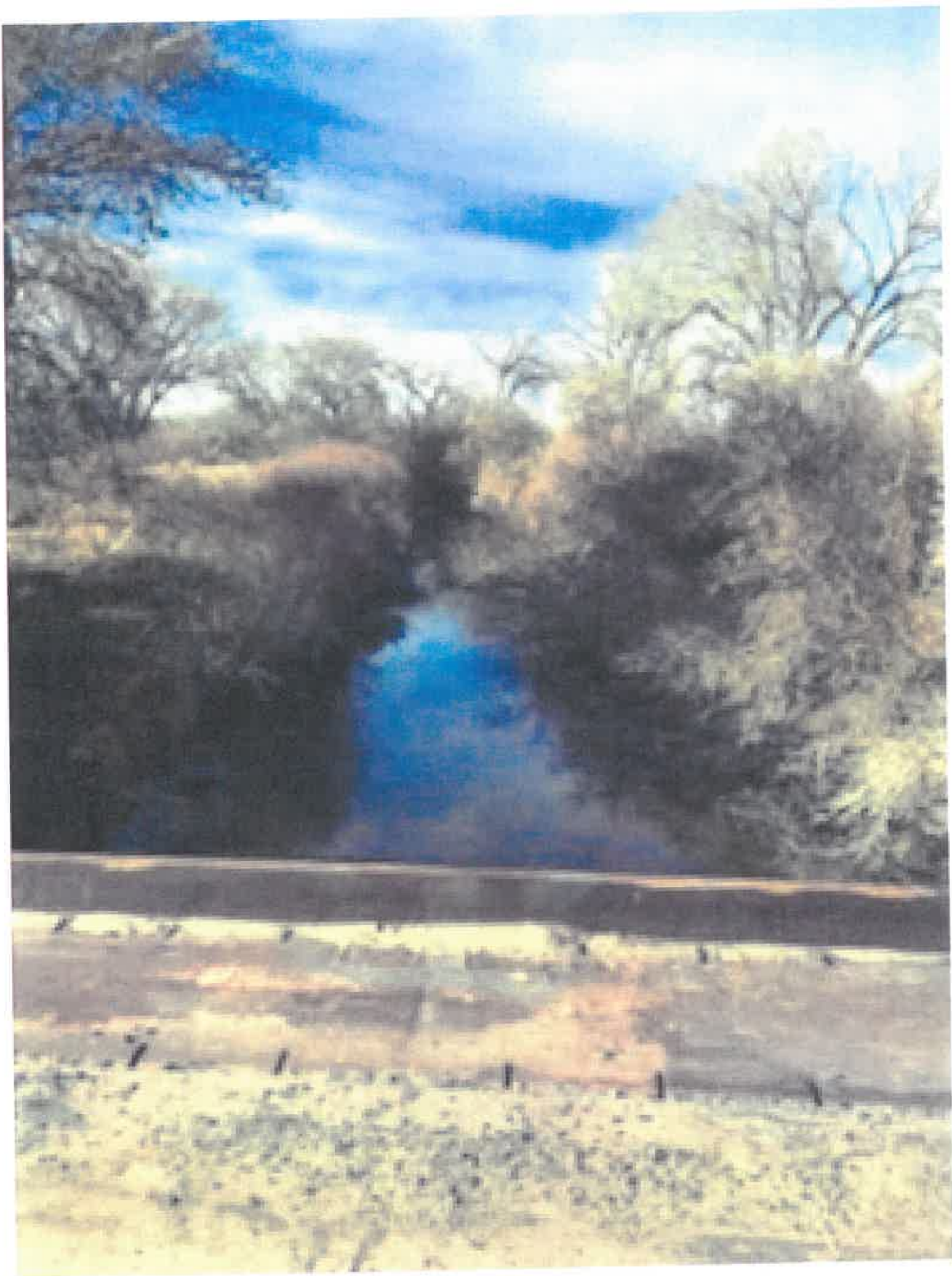
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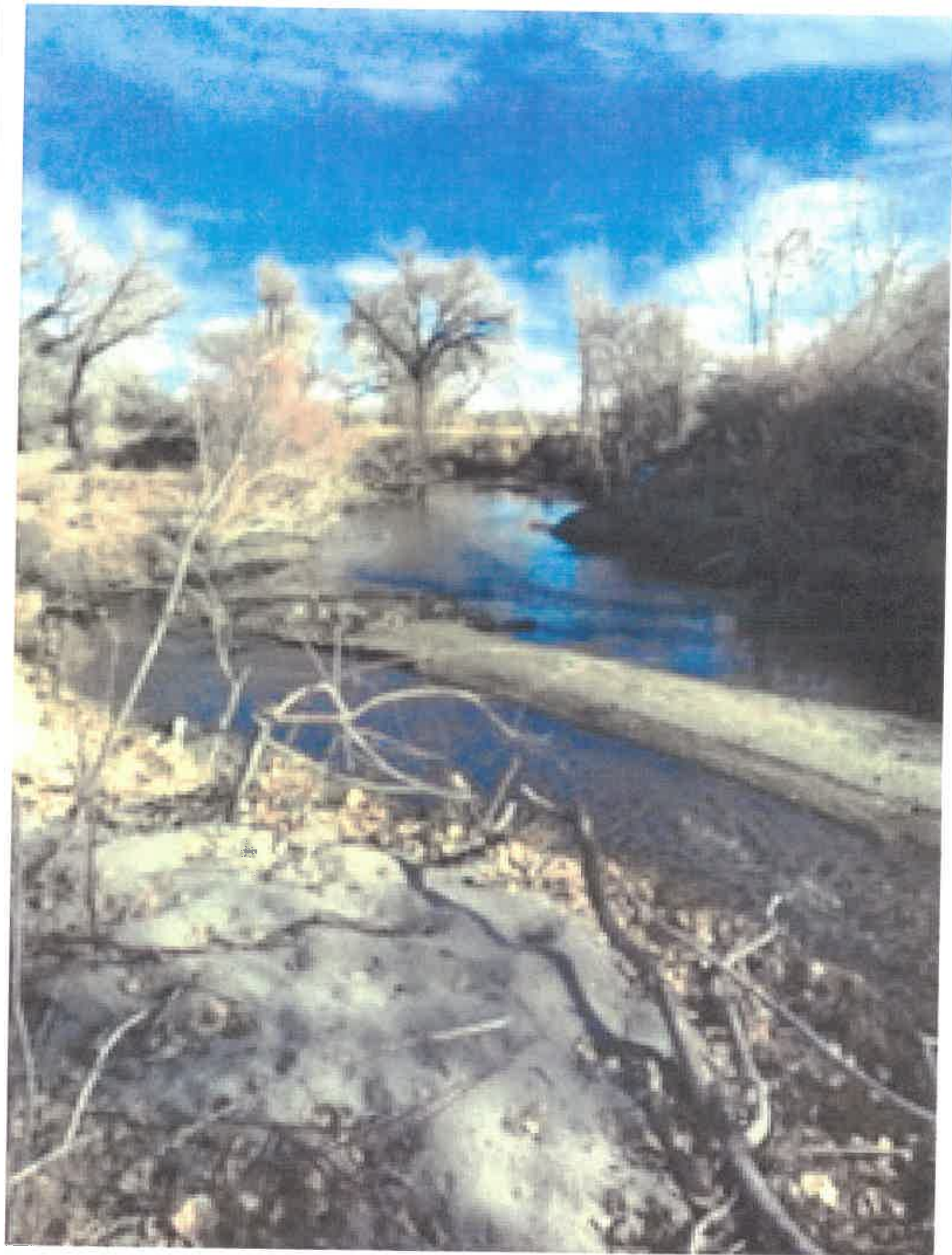


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APPLICANT'S AGENT (if different from Applicant):

Telephone #

PROJECT NAME: Carson City Reuse Master Plan

PROJECT LOCATION/ADDRESS: Carson City

Carson City currently utilizes effluent reuse at four large sites (three golf courses and the State of Nevada prison farm) to dispose of all effluent produced by the WRRF. Direct discharge to the Carson River is not a current option, making balancing reuse availability against demand a struggle in northern

Nevada's variable hydrologic cycle. To prepare for the future, Carson City needs to update the Reuse Master Plan with today's information and current disposal options.

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PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

The main goal of the Reuse Master Plan Update (Update) is to understand the current and long-term issues related to reclaimed water reuse as Carson City continues to grow.

This update will re-examine the water-balance based on current parameters and 20-year growth projections. Potential reuse sites and disposal methods including regional opportunities will be identified and analyzed for planning level costs. Data from recent sewer and water master planning efforts will be incorporated.

TOTAL ESTIMATED PROJECT COST: \$125,000
AMOUNT REQUESTED FROM CWSD: \$50,000 (50% Match)

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

Carson City Public Works Sewer Utility Revenues.

ESTIMATED DATE PROJECT TO BEGIN: May 2019

ESTIMATED TIME TO COMPLETE PROJECT: December 2019
(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

The Reuse Master Plan will require Carson City Board of Supervisor approval. Approval will be needed for contract initiation to begin the effort (anticipate May of 2019) and acceptance of the final plan.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: _____

NAME: _____

TITLE: _____

DATE: _____

g m

Andrew Hummel, P.E.

wastewater Utility Manager

1/30/2019

**THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY
AND/OR ALL APPLICATIONS FOR FUNDING.**

Attachment A



12

CARSON CITY, NEVADA
CONSOLIDATED MUNICIPALITY AND STATE CAPITOL

January 29, 2019

Carson Water Subconservancy District
Attn: Ed James
777 E. William St., #110A
Carson City, NV 89701

Re: Funding request for the Mexican Dam Ditch Intake Structure Improvement

Dear Mr. James and Carson Water Subconservancy District Finance Committee,

Attached you will find a funding request for **\$25,000** for a project that seeks to make improvements to the Mexican Dam ditch intake structure which will provide safe and easy access around the dam for all recreationists, including the portage of small watercraft. While this project is located within Carson City, it has support from Carson Valley Community Services and the Carson Valley Trails Association. It is also supported by Muscle Powered and long-time Carson River advocate Lynn Zonge.

We hope that this project will attract more residents and visitors to enjoy, appreciate, and learn about the Carson River and its watershed. We thank you for your consideration for this funding request. If you have any questions or comments regarding this request please contact Gregg Berggren, Trails Coordinator at (775) 283-7219 or gberggren@carson.org.

Sincerely,

Nancy Paulson
Carson City Manager



**CARSON WATER SUBCONSERVANCY DISTRICT
REQUEST FOR FUNDING**

APPLICANT: Carson City

3303 Butti Way, Building 9

Carson City, NV 89701

APPLICANT'S AGENT (if different from Applicant):

Gregg Berggren, Trails Coordinator

3303 Butti Way, Building 9

Carson City, NV 89701

gberggren@carson.org 775-283-7219

PROJECT NAME:

Mexican Dam Ditch Intake Structure Improvement (Mexican Ditch Bridge).

PROJECT LOCATION/ADDRESS:

Mexican Dam, at the intake to the Mexican Ditch, in Carson City.

1.7 river miles south of Lloyd's Bridge on Carson River Road.

Latitude 39.1188, Longitude -119.7071.

PROJECT DESCRIPTION:

Our project seeks to make structural improvements to the Mexican Ditch intake that would essentially construct a 7 ½ foot wide 'bridge' over the ditch at the intake structure. These improvements were designed by a structural engineer to permit safe portage of small watercraft around the Mexican Dam, as well as being equestrian, bicycle, and pedestrian friendly.

PROJECT GOALS AND BENEFITS:

Background

The current condition at the Mexican Dam and Mexican Ditch intake is a bit hazardous for Carson River recreationists. Access around the east bank of the dam is not reasonable due to private property issues and fencing. The west bank is public property (Carson City Open Space), but users must cross the ditch intake, and the existing structure is very old and very narrow. Boaters cannot easily utilize the existing structure for portage around the dam, and it is unsafe and insufficient for equestrian use. A very popular ten-foot wide trail, the Mexican Ditch Trail, parallels the historic ditch for almost four miles through Carson City Parks and Open Space, but ends at the intake.

Our Vision

This project would enhance recreational opportunities for a variety of non-motorized users including boaters, hikers, equestrians, and bicyclists. The “Carson River Aquatic Trail” could be extended into the Carson Valley, offering longer float trip opportunities. This project would also improve options for several proposed trail connections by facilitating an extension of the Mexican Ditch Trail around the dam. This would allow us to move forward with a planned multi-use loop trail around Prison Hill (Carson City Unified Pathways Master Plan) and enable a possible connection to Carson Valley at a proposed V&T Rail Trail. Additionally, in a future project we would like to create a small eddy on the west bank of the Carson River, just above the dam, which would further improve the landing for boaters.

Benefits and congruence with the Carson River Stewardship Plan

- Regional benefits (criteria #1) – This project would connect Carson Valley and Carson City by facilitating extended float trip possibilities and improved trail connections. We believe this would encourage more residents and visitors from both counties to enjoy the Carson River and learn about the watershed.
- Prevention of further stream bank erosion (criteria #3) – An unsustainable and erosive ‘use’ trail exists upstream of the ditch intake. Following completion of the intake structure improvements, we plan to make improvements to this ‘use’ trail, replacing it with a sustainable multi-use pathway that would protect the stream bank.
- Assist water users and/or the general public in understanding current water issues (criteria #6) –
 - One of the Carson River Watershed Guiding Principles in the Stewardship Plan is to “...support opportunities for public recreational access to natural areas throughout the watershed, including the river corridor...” This project augments that principle in a big way by extending float trip opportunities and facilitating trail connectivity along the river.
 - A second principle is to “Recognize and respect the interests of all stakeholders upstream and downstream by fostering collaborative and mutually respectful relationships.” We seek to work with partners in Douglas County in an effort to extend float trip opportunities and trail connections between Carson City and Carson Valley. Benefits will be realized by both counties.

- A third principle seeks to *"Promote understanding and awareness of watershed resources and issues through education."* Our department recently completed a new signage master plan which includes interpretive signage. We would like to place interpretive signage throughout what we anticipate will become a very popular trail system once connectivity is completed. Additionally, our department is creating interpretive programs and leading volunteer activities, many of which have been conducted at nearby Silver Saddle Ranch and the adjacent river. We envision more program possibilities at this venue, all of which will help to promote awareness and understanding of our river and watershed.
- A fourth principle recognizes *"...quality of life, and protection of private and public property rights."* Our project promotes the principle of 'quality of life' by enhancing recreational opportunities, while simultaneously protecting private property rights by encouraging people to utilize trails and a portage location on a side of the river that is public property (Carson City Open Space), and away from the private property on the opposite bank.

TOTAL ESTIMATED PROJECT COST: \$52,500
AMOUNT REQUESTED FROM CWSD: \$25,000

SOURCE OF OTHER FUNDS:

Project Cost Worksheet

<i>Item</i>	<i>Cost</i>	<i>CWSD Grant</i>	<i>Carson City</i>	<i>Comments</i>
Design and Permits	\$19,000	\$0	\$19,000	Completed / paid
Construction	\$33,500	\$25,000	\$8,500	
Total Cost	\$52,500	48%	52%	

ESTIMATED DATE PROJECT TO BEGIN: June, 2019

ESTIMATED TIME TO COMPLETE PROJECT: June, 2020

PERMIT REQUIREMENTS:

The Carson City Building Department has approved the design and will issue a permit to the selected contractor.

OTHER INFORMATION:

List of attachments:

- Attachment 1 – Location map.
- Attachment 2 – Photos of existing structure.
- Attachment 3 – Design for modifications.
- Attachment 4 – Letters of support.

SIGNED: _____



NAME: Gregg Berggren

TITLE: Trails Coordinator

DATE: 01/29/2019

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

Mexican Dam Ditch Intake Structure Improvement Project Area



Property Information

Property ID 00709178
Location SEC 03 15/19 N2 NE4
Owner CARSON CITY

**MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT**

Carson City, NV makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 11/17/2018
Data updated 11/17/2018

Attachment 2 - Photos

Existing structure at the Mexican Dam Ditch Intake:



[illegible]

TITLE SHEET	T10
STRUCTURAL NOTES	S01
CULTURAL, HISTORICAL AND SPECIAL INTERPRETATION REQUIREMENTS	S11
IN-PLACE STRUCTURE DEMOLITION PLAN	S10
IN-PLACE STRUCTURE IMPROVEMENT PLAN	S20
BRIDGE DECK SECTION AND DETAILS	S30
MOVABLE RAILING SECTION AND DETAILS	S40

Call before you Dig.
1-800-227-3610
2000-2001

CARSON CITY PARKS AND RECREATION
3303 BUTTE WAY #10
CARSON CITY, NEVADA



LUMOS & ASSOCIATES, INC.
ATTN: TERRENCER R. TOBEY, S.F.
9222 PROTOTYPE DRIVE
RENO, NV 88521
(775) 827-6111

ALL WORK SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (SPPWC) AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" (SDPMC) AS ADOPTED BY CARSON CITY. THE CONTRACTOR SHALL OBTAIN A PERMIT FOR PUBLIC WORKS CONSTRUCTION FROM THE CARSON CITY PERMIT CENTER PRIOR TO THE START OF CONSTRUCTION.

2. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE AGENCY (UT) AT 1-800-427-2600, AT LEAST TWO (2) WORKING DAYS PRIOR TO START OF CONSTRUCTION AND COMPLY WITH THE REQUIREMENTS OF NRS AND NAC AND 465 THRU 468.469, THE COURSE OF THE WORK.

3. THE CONTRACTOR SHALL COORDINATE SCHEDULES, WORK HOURS AND ACCESS WITH CARSON CITY PARKS AND RECREATION AND THE CARSON CITY ENGINEERING DIVISION.

4. THE CONTRACTOR SHALL CALL THE CARSON CITY ENGINEERING DIVISION (867-2300) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL ONE (1) WORKING DAY PRIOR TO REQUIRED INSPECTIONS AND TESTING. THE CONTRACTOR SHALL HAVE ALL INSPECTIONS LISTED ON THE INSPECTION RECORD ISSUED WITH EACH PERMIT. THE CONTRACTOR MUST HAVE THE PERMIT NUMBER AND THE DESCRIPTION LISTED ON THE INSPECTION RECORD TO SCHEDULE REQUIRED INSPECTIONS AND TESTING. FOR CITY CONTRACTED PROJECTS, THE CONTRACTOR SHALL SCHEDULE INSPECTIONS PER THE CONTRACT DOCUMENT.

FINAL INSPECTIONS WILL BE PERFORMED BY CARSON CITY ENGINEERING DIVISION ACCORDING TO THE CARSON CITY INSPECTIONS AND TESTING PROCEDURES. NOTE: THESE PROCEDURES REQUIRE SUBMITTAL OF RECORD DRAWING PRINTS BY THE CONTRACTOR AND 10 WORKING DAYS TO PREPARE A FINAL PUNCH LIST. ALL CONDITIONS OF THE FINAL INSPECTION MUST BE COMPLETED PRIOR TO FINAL ACCEPTANCE OR ANY APPROVAL OF A CERTIFICATE OF OCCUPANCY BY THE CARSON CITY ENGINEERING DIVISION.

MODIFICATIONS TO THE APPROVED PLANS REQUIRES REVIEW AND APPROVAL BY THE CARSON CITY ENGINEERING DIVISION. WORK PERFORMED WITHOUT WRITTEN APPROVAL BY CARSON CITY ENGINEERING WILL REQUIRE REMOVAL AT THE CONTRACTORS EXPENSE.

7. THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.

THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR ACQUIRING A STORMWATER DISCHARGE PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) INCLUDING DEVELOPING, SUBMITTING AND IMPLEMENTING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL DEVELOP, PLACE AND MAINTAIN STORM WATER PROTECTION DEVICES IN COMPLIANCE WITH THE NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (JUNE 2013). SEE BMP NOTES ON 801.1 FOR ADDITIONAL REQUIREMENTS.

THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR LOCATING EXISTING UTILITIES. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THESE LOCATIONS AT THE PROPOSED POINTS OF CONNECTIONS AND IN AREAS OF POSSIBLE CONFLICT WITH NEW UTILITY INSTALLATION. PRIOR TO BEGINNING CONSTRUCTION, POTHOLES IS REQUIRED. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THE CONSTRUCTION DRAWINGS, HE SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.

10. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF PROPER SHORING OF TREMIES IN ACCORDANCE WITH OCCUPATIONAL SAFETY LAWS. THE DUTIES OF THE ENGINEER DO NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, OR NEAR THE CONSTRUCTION SITE.

1. SHOULD IT APPEAR THAT THE WORK TO BE DONE, OR ANY MATTER RELATIVE THERETO, IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THE CONSTRUCTION PLANS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.

2. THE CONTRACTOR SHALL PROVIDE HIS OWN PORTABLE RESTROOM FACILITIES.

1. THE SITE SHALL BE CLEANED DAILY AND THE DERRIS REMOVED FROM THE SITE.

4. THE CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS, VEGETATION, PAVEMENT, ETC., WITHIN THE PROJECT AREA FROM DAMAGE. ANY DAMAGE CAUSED BY THE CONTRACTORS ACTIVITIES SHALL BE REPAIRED AS DIRECTED BY CARSON CITY PARKS AND RECREATION AND AT NO ADDITIONAL COST.

T1.0

DATE: JULY 14, 2018
 RAN BY: S.M.M.
 DESIGNED BY: J.A.R.
 CHECKED BY: T.R.T.
 JOB NO.: 50827000

ISSUED FOR PERMIT	

TITLE SHEET
 MEXICAN DAM DITCH INTAKE STRUCTURE
 IMPROVEMENTS
 PREPARED FOR
 CARSON CITY PARKS & RECREATION

LUMOS & ASSOCIATES

4922 PROTOTYPE DRIVE
SUITE 100
TEL (770) 527-1125
FAX (770) 527-9123
WWW.LUMOS.COM

MECHANICAL ENGINEERING
STRUCTURAL ENGINEERING
GEOTECHNICAL ENGINEERING
PLUMBING/LANDSCAPE
CONSTRUCTION SERVICES
MATERIALS TESTING

MEVADA

ALSO KNOWN AS

JULY 8, 2018

T1.0

DATE: JULY 14, 2018
 RAN BY: S.M.M.
 DESIGNED BY: J.A.R.
 CHECKED BY: T.R.T.
 JOB NO.: 50827000



Attachment 4 - Letters of Support



DIRECTOR: Scott Morgan

▲ Parks
1318 Waterloo Lane
Gardnerville, NV 89410
(775) 782-9835
FAX: (775) 782-5798

▲ Recreation/Douglas County
Community & Senior Center
1329 Waterloo Lane
Gardnerville, NV 89410
(775) 782-5500 ext. 1
FAX: (775) 782-9844

▲ Lake Tahoe
Kamie Community Center
236 Kingsbury Grade
Stateline, NV 89449
(775) 586-7271
FAX: (775) 586-7273

MAIL: P.O. Box 218, Minden, NV 89423

January 17, 2019

Carson Water Subconservancy District (CWSD)
777 East William Street, Suite 110A
Carson City, NV 89701

Subject: Support Letter for Carson City's grant application to the CWSD for the Mexican Ditch Bridge Project.

CWSD Grant Committee Members,

The Douglas County Community Services Department would like to go on record supporting Carson City's grant application for improvements to the Mexican Ditch Bridge Project.

The current antiquated facilities are narrow and do not support equestrian access or the portage of watercraft. The grant application will correct the current unwelcoming facility and create a new equestrian friendly, safer facility which allows for the safe portage of small watercraft.

This proposed enhancement supported by the grant will benefit all River users by extending float trip opportunities through Douglas County's Carson Valley and further downstream. Douglas County supports the improved options for safe trail connectivity. This project would support connections into the Carson Valley and the proposed V&T Rail Trail.

Sincerely,

Scott Morgan

Community Services Director

Cc;

Jenifer Davidson, Acting County Manager
Gregg Berggren, Carson City Trails Coordinator



Carson Water Subconservancy District (CWSD)
777 East William Street, Suite 110A
Carson City, NV 89701
775-887-7450

January 22, 2019

Subject: Support Letter for Carson City's grant application to the CWSD for the Mexican Ditch Bridge Project.

CWSD Grant Committee Members,

The Carson Valley Trails Association (CVTA) wishes to express our full support for Carson City's grant application to the CWSD for the Mexican Ditch Bridge Project. We see this as an important step in moving towards connectivity of a regional trail system that hikers and equestrians can safely access.

We appreciate your efforts on this project.

Sincerely,

Norah Gastelum
Carson Valley Trails Association, President
775-901-3039
norahgis@gmail.com



January 23, 2019

Carson Water Subconservancy District (CWSD)
777 East William Street, Suite 110A
Carson City, NV 89701
775-887-7450

Subject: Support Letter for Carson City's grant application to the CWSD for the Mexican Ditch Bridge Project.

CWSD Grant Committee Members,

Muscle Powered would like to offer our support for Carson City's grant application to the CWSD for the Mexican Ditch Bridge Project.

By providing a safe passage around the Mexican Dam, this project would enhance opportunities for a variety of users – hikers, bicyclists, equestrians, and boaters -- and open up endless options for trail connectivity. Some examples:

- Extend the Carson River Aquatic Trail to put-in locations up-stream throughout Carson Valley.
- Enable the construction of a multi-use Prison Hill Loop Trail.
- Improve options for a connection to the proposed V&T Rail Trail that will extend through Carson Valley.
- Enhance opportunities to highlight, showcase, and interpret the Carson River and watershed.

Muscle Powered stands ready to support the planning and construction of the many trail opportunities and connections that would be made possible following the completion of this bridge project.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Gaa", is located below the "Sincerely," text.

Randy Gaa
President, Muscle Powered



January 18, 2019

Via Email

Carson Water Subconservancy District (CWSD)
777 East William Street, Suite 110A
Carson City, Nevada 89701
775-887-7450

Subject: Support Letter for Carson City's grant application to the CWSD for the Mexican Ditch Bridge Project.

CWSD Grant Committee Members:

I am providing this letter in support for Carson City's grant application to the CWSD for the Mexican Ditch Bridge Project. This project would enhance opportunities for a variety of users – hikers, bicyclers, equestrians, and boaters – and move forward our community's goals for a regionally connected system of trails.

The situation at the dam currently is a bit hazardous. There are nice trails both downstream and upstream of the dam, but no sure safe way to get across the dam. Currently it is quite difficult to portage the dam in a kayak or canoe. The proposed project will allow our trail users to safely enjoy the beautiful riparian corridor.

The proposed project will enhance safe access and would be a wonderful amenity to the community. The safe crossing has been discussed under several plans, most notably in the United Pathways Master Plan.

Thank you for your consideration of the Mexican Ditch Bridge Project.

Sincerely,

Lynn Zonge, PG ⁸⁹²⁴
Fluvial Geomorphologist
Resource Concepts, Inc.
lynn@rci-nv.com

LZ/jm

CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT:

United States Geological Survey
2730 North Deer Run Rd.
Carson City, Nevada 89701

APPLICANT'S AGENT (if different from Applicant):

Angela Paul
2730 North Deer Run Rd.
Carson City, Nevada 89701
appaul@usgs.gov
775-887-7697

PROJECT NAME:

Winter 2019-2020 sampling for mercury, suspended sediment, and supporting constituents in the Carson River, Nevada: Continuation of 2017-2018 mercury monitoring program

PROJECT LOCATION/ADDRESS:

Two legacy sampling locations on the Carson River:

1. Approximately 4-miles above Lahontan Reservoir on the Carson River at Weeks Bridge, near USGS gaging station at Fort Churchill (USGS gaging station 10312000)
2. Approximately 1-mile below Lahontan Reservoir on the Carson River at the USGS gaging station (USGS gaging station 10312150)

The proposed sampling locations are termed 'legacy sites' to reflect long-term sampling locations used by EPA and USGS for mercury sampling on the Carson River from 1997 to 2013.

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

This request for CWSD funds will support a one-time sampling effort at two legacy sites (specified above) on the Carson River. The request for additional mercury sampling is a continuation of the mercury monitoring program that began in July 2018, with planned sampling through September 2019 (through Federal fiscal year 2019). The Carson River mercury monitoring program is a joint cooperative effort with funding contributions from CWSD, BOR, BLM, EPA/NDEP, and USGS. The original proposal submitted and approved by CWSD in spring 2018 is attached to this request.

For current proposal, samples will be collected at both legacy sites in winter 2019-2020 for mercury and methylmercury species, suspended sediment, and standard constituents used to help understand stream water-quality processes that influence mercury concentrations, including nutrients (nitrogen and phosphorus species), organic carbon, chloride, and sulfate. All samples will be analyzed at the USGS National Water Quality Laboratory in Denver, CO. Analysis results will be quality assured and stored in the USGS National Water Information System publicly-accessible database.

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

Mercury data for the two legacy sampling sites are sparse for the Carson River during winter months. Samples were collected by the USGS at the two legacy sites in December 2018 as part of the mercury monitoring program; however, due to unusually long delays in USGS laboratory analyses caused by the recent government shutdown, a higher analysis uncertainty exists for some constituents. Additional mercury data for the Carson River are needed for a winter period to help confirm results of the December 2018 analyses. Confirmation of December 2018 results will provide a larger dataset of winter mercury concentrations on the Carson River and a better understanding of processing affecting seasonal change in mercury concentrations.

TOTAL ESTIMATED PROJECT COST: \$6,000

AMOUNT REQUESTED FROM CWSD: \$3,000 (matching funds)

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

1. USGS cooperative matching funds only; no other agency funding source

ESTIMATED DATE PROJECT TO BEGIN: December 1, 2019

ESTIMATED TIME TO COMPLETE PROJECT: January 31, 2020

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

1. No permits are required

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: _____

NAME: Angela Paul

TITLE: Hydrologist, USGS Nevada Water Science Center

DATE: 6 February 2019

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

**CARSON WATER SUBCONSERVANCY DISTRICT
REQUEST FOR FUNDING**

APPLICANT: Steven N. Berris
U.S. Geological Survey
2730 N. Deer Run Road
Carson City Carson City NV 89701

snberris@usgs.gov 775-887-7693

APPLICANT'S AGENT (if different from Applicant):

Name

Address

City

County

State

Zip Code

Email

Telephone #

PROJECT NAME: Surface-Water Monitoring Program in West-Central Nevada

PROJECT LOCATION/ADDRESS: West-Central Nevada

PROJECT DESCRIPTION:

This funding request is for the continuation of the cooperative monitoring program between Carson Water Subconservancy District and the U.S. Geological Survey for surface-water monitoring program activities in the Carson River Basin for CWSD fiscal years (FY) 2020-2021 (July 1, 2019 – June 30, 2021). Surface-water O&M costs include maintaining the streamgaging equipment at 10 gaging stations, real-time monitoring and display of water information, making streamflow measurements, computing streamflow, quality assurance, and data publication and archive in NWIS (National Water Information System) database.

PROJECT GOALS AND BENEFITS:

Streamflow information and flow measurements provided at real-time and non-real-time gages in the Carson River Basin define hydrologic conditions throughout the basin, such as sources, sinks, and fluxes of water. Accurate flow data from streamgages provide critical information for water accounting for legal agreements, river and project operations, hazard forecasts, water-quality assessments, and research (such as interaction of water systems; groundwater/surface-water interactions).

TOTAL ESTIMATED PROJECT COST: \$248,960
AMOUNT REQUESTED FROM CWSD: \$156,810

SOURCE OF OTHER FUNDS:

Pending availability of funds from the Cooperative Water Program, U.S. Geological Survey will provide \$92,150 toward this program.

ESTIMATED DATE PROJECT TO BEGIN: July 1, 2019

ESTIMATED TIME TO COMPLETE PROJECT: Two years ending on June 30, 2021

For CWSD FY20 (July 1, 2019 – June 30, 2020), amount requested from CWSD is \$78,405. (USGS will provide \$46,075.

For CWSD FY19 (July 1, 2020 – June 30, 2021), amount requested from CWSD is \$78,405 (USGS will provide \$46,075.

PERMIT REQUIREMENTS:

No permit required to proceed.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: STEVEN
BERRIS

Digitally signed by
STEVEN BERRIS
Date: 2018.12.21
09:28:47 -08'00'

NAME: Steven N. Berris

TITLE: Nevada Networks Chief

DATE: December 21, 2018

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

FY2020-2021 Carson Water Subconservancy District/U.S. Geological Survey Cooperative Water-Resources Monitoring Program

Station Number	Location	FY2020 (July 1, 2019 – June 30, 2020)			FY2021 (July 1, 2020 – June 30, 2021)			Total JFA		
		CWSD	USGS*	Total FY14	CWSD	USGS*	Total FY15	CWSD	USGS*	Total JFA
10308200	East Fork Carson River below Markleeville Creek nr Markleeville, Ca (Daily streamflow & DCP) ¹	5,890	3,460	9,350	5,890	3,460	9,350	11,780	6,920	18,700
10310000	West Fork Carson River at Woodfords, CA (Daily Streamflow & DCP) ²	7,460	4,380	11,840	7,460	4,380	11,840	14,920	8,760	23,680
	Additional measurements during summer at West Fork Carson – Woodfords and Carson River nr Carson City (12 additional discharge measurements)	2,450	1,440	3,890	2,450	1,440	3,890	4,900	2,880	7,780
10310405	Carson River near Genoa, NV (Daily Streamflow)	9,700	5,700	15,400	9,700	5,700	15,400	19,400	11,400	30,800
10310400	Daggett Creek near Genoa, NV (Daily Streamflow)	9,700	5,700	15,400	9,700	5,700	15,400	19,400	11,400	30,800
10310500	Clear Creek nr Carson City, NV (Daily Streamflow and DCP)	11,770	6,920	18,690	11,770	6,920	18,690	23,540	13,840	37,380
10311000	Carson River at Carson City, NV (Daily Streamflow) ^{3,4}	3,960	2,330	6,290	3,960	2,330	6,290	7,920	4,660	12,580
10311000	Carson River at Deer Run Road, NV (Daily streamflow and DCP)	11,770	6,920	18,690	11,770	6,920	18,690	23,540	13,840	37,380
10311700	Carson River at Dayton, NV (DCP, daily streamflow December through March)	3,925	2,305	6,230	3,925	2,305	6,230	7,850	4,610	12,460
10312000	Carson River at Fort Churchill, NV (Daily Streamflow & DCP) ³	5,890	3,460	9,350	5,890	3,460	9,350	11,780	6,920	18,700
10348460	Franktown Creek nr Carson City, NV (Daily Streamflow and DCP, May – Oct.)	5,890	3,460	9,350	5,890	3,460	9,350	11,780	6,920	18,700
Total		78,405	46,075	124,480	78,405	46,075	124,480	156,810	92,150	248,960

*USGS contributions are subject to availability of Federal Matching Funds.

¹Bureau of Reclamation provides a portion of the funding.

²Carson-Truckee Water Conservancy District provides a portion of the funding.

³Nevada Department of Environmental Protection provides a portion of the funding.

⁴USGS National Streamflow Information Program (NSIP) provides a portion of the funding.

DCP: Data Collection Platform

CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: Steven N. Berris
 U.S. Geological Survey
 2730 N. Deer Run Road
 Carson City Carson City NV 89701

snberris@usgs.gov 775-887-7693

APPLICANT'S AGENT (if different from Applicant):

 Name

 Address

 City County State Zip Code

 Email Telephone #

PROJECT NAME: Groundwater and Water-Quality Monitoring Program in West-Central Nevada

PROJECT LOCATION/ADDRESS: West-Central Nevada

PROJECT DESCRIPTION:

This funding request is for the continuation of the cooperative monitoring program between Carson Water Subconservancy District (CWSD) and the U.S. Geological Survey (USGS) for groundwater and water-quality monitoring program activities in Douglas and Lyon Counties, NV, for CWSD fiscal years (FY) 2020-2021 (July 1, 2019 – June 30, 2021). Groundwater monitoring includes water-level data collection, data entry, quality assurance, and data publication and archive in NWIS (National Water Information System) database. Monitoring includes a quarterly network of 20 wells in Carson Valley and Fish Springs, and an annual network of 10 wells in the Fish Springs and Silver Springs areas that may be subject to water-level changes.

Water-quality monitoring includes sample collection, chemical analyses for selected constituents and indicators, supplies, data entry, quality assurance, and data publication and archive in NWIS (National Water Information System) database. Monitoring includes an annual network of 6 domestic wells and a semi-annual network of 5 wells.

PROJECT GOALS AND BENEFITS:

Groundwater level and water-quality monitoring throughout the year provides information that defines hydrologic conditions throughout the Carson Valley and Fish Springs areas of Douglas County, and the Silver Springs area of Lyon County. Accurate data from these activities provide information for hydrologic accounting of the quantity and quality of groundwater resources, such as defining sources and sinks, water-level trends, fluxes (movement), chemical composition for drinking water and other uses, and

research (such as interaction of water systems; groundwater/surface-water interactions; geochemical interactions).

TOTAL ESTIMATED PROJECT COST: \$53,620

AMOUNT REQUESTED FROM CWSD: \$33,780

SOURCE OF OTHER FUNDS:

Pending availability of funds from the Cooperative Water Program, U.S. Geological Survey will provide \$19,840 toward this program.

ESTIMATED DATE PROJECT TO BEGIN: July 1, 2019

ESTIMATED TIME TO COMPLETE PROJECT: Two years ending on June 30, 2021

For CWSD FY20 (July 1, 2019 – June 30, 2020), amount requested from CWSD is \$16,890. (USGS will provide \$9,920.)

For CWSD FY21 (July 1, 2020 – June 30, 2021), amount requested from CWSD is \$16,890 (USGS will provide \$9,920.)

PERMIT REQUIREMENTS:

Permissions from landowners to access wells in the annual groundwater network have been obtained.

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

SIGNED: STEVEN
BERRIS

Digitally signed by
STEVEN BERRIS
Date: 2018.12.21
09:32:32 -08'00'

NAME: Steven N. Berris

TITLE: Nevada Networks Chief

DATE: December 21, 2018

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

**FY2020-2021 Carson Water Subconservancy District/U.S. Geological Survey Cooperative Water-Resources
Groundwater and Water-Quality Monitoring Program**

<i>Funding Summary</i>			
July 1, 2019 – June 30, 2020			
Task	CWSD	USGS	Total Task Funding
Groundwater levels (20 wells quarterly)	4,360	2,560	6,920
Groundwater levels ¹ (10 wells annually)	540	320	860
Water-quality sampling (sample six wells annually and 5 wells two times per year)	8,720	5,120	13,840
Program support (supplies and materials, laboratory costs, data entry and quality assurance, landowner communications, and monitoring network evaluation/review)	3,270	1,920	5,190
CWSD FY16 Total	16,890	9,920	26,810
July 1, 2020 – June 30, 2021			
Task	CWSD	USGS	Total Task Funding
Groundwater levels (20 wells quarterly)	4,360	2,560	6,920
Groundwater levels ¹ (10 wells annually)	540	320	860
Water-quality sampling ² (sample six wells annually and 5 wells two times per year)	8,720	5,120	13,840
Program support (supplies and materials, laboratory costs, data entry and quality assurance, landowner communications, and monitoring network evaluation/review)	3,270	1,920	5,190
CWSD FY17 Total	16,890	9,920	26,810
Agency Total Funding	33,780	19,840	53,620

¹ Annual groundwater level measurements at ten wells in Silver Springs and Fish Springs areas started in CWSD FY2015.

² Water-quality constituents and indicators include field values, major ions, trace elements, low-level nutrients, and physical properties.

APPLICANT: Sierra Nevada Journeys
Name
190 East Liberty Street
Address
Reno Washoe NV 89501
City County State Zip Code
joan@sierranevadajourneys.org 775-355-1688
Email Telephone #

APPLICANT'S AGENT (If different from Applicant):

Name _____

Address _____

City _____ County _____ State _____ Zip Code _____

Email _____ Telephone # _____

PROJECT NAME: Family Watershed Nights for Carson River Watershed Communities and Watershed Map Project

PROJECT LOCATION/ADDRESS: Four schools in Carson City and/or Douglas counties

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

Funding from the Carson Water Subconservancy District (CWSD) will serve over 500 children and their parents in communities within the Carson River Watershed with four community-building and educational events called Family Watershed Nights (FWN). FWNs invite K-8 students, their parents, and siblings to attend a fun, family-friendly evening which provides watershed education at the family level and reinforces STEM concepts learned in the classroom. Through hands-on activities, participants will gain a sense of ownership and stewardship for the health of their community watershed.

See attached for further information.

Funding will also provide consultation and support from the Sierra Nevada Journeys education team on the development of academic standards alignment for the physical and online Carson Watershed Map. This project will include:

- 1) Suggested Academic Standards to correlate with the Watershed Map for grades K-8
- 2) Suggested Academic Standards to correlate with the online Watershed Map for grades K-8
- 3) Suggested layout, design and organization for the Academic Standards on the website

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

Through programs led by SNJ's credentialed science teachers and with the assistance of our volunteer program, we will be successful in meeting the following goals:

1. Provide four watershed family events for four schools within the Carson River Watershed including Carson City, Minden or Gardnerville (i.e., Carson City and/or Douglas Counties)
2. Assess, evaluate, and refine watershed stations that are provided to all participants.
3. Engage 500 individuals (students, parents, and siblings) in hands-on watershed-themed activities; and,
4. 100% of participants will gain hands-on experience with:
 - a. Various watershed models;
 - b. Defining current issues impacting the Carson River Watershed; and,
 - c. Identifying solutions and ideas for helping to protect local watersheds.

See attached for project benefits.

TOTAL ESTIMATED PROJECT COST: \$3,858.40 for Family Watershed Nights,
\$1,500 for Watershed Map Project TOTAL - \$5,358.40

AMOUNT REQUESTED FROM CWSD: \$2,976.48 for Family Watershed Nights,
\$1,500 for Watershed Map Project TOTAL REQUEST - \$4,476.48

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

Dermody Properties Foundation: \$500

ESTIMATED DATE PROJECT TO BEGIN: August 2019

ESTIMATED TIME TO COMPLETE PROJECT: June 2020


(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

N/A

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

If funded, the CWSD will be highlighted as a sponsor of the four Family Watershed Nights. The sponsorship attribution will read: "Family Watershed Night sponsored by the Carson Water Subconservancy District." SNJ will also distribute the Carson River Watershed Map to all participating students and families. SNJ and participating schools promote the event utilizing flyers and social media channels; the CWSD will be recognized by thousands of school and community members. If interested, CWSD volunteers are needed and welcome to assist at the various activity stations during the evening. CWSD will be thanked publicly from the podium and if an official representative is present, can join SNJ staff at the podium in welcoming students and their families to the event. If desired, CWSD can once again have a designated table and offer their own activity during the event.

SIGNED: 

NAME: Joan Grover

TITLE: Grants Manager

DATE: January 29, 2019

**THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY
AND/OR ALL APPLICATIONS FOR FUNDING.**

Providing Family Watershed Nights for Carson River Watershed Communities

A Proposal to the Carson Water Subconservancy District

Project Description (continued)

Through funding from the Carson Water Subconservancy District (CWSD), Sierra Nevada Journeys (SNJ) will deliver four Family Watershed Nights (FWN) to schools located in Carson City, and/or Douglas counties. FWNs target K-8 students and their families, offering an exciting 1.5-hour event that fosters engagement, curiosity, innovation, and teamwork, all centered on the STEM fields and watershed education. Students, their parents, and siblings attend this family event at no charge and enjoy various activity stations that include mini-challenges and family-based team projects.



Most recently, CWSD funded the delivery of four FWNs featuring watershed-focused mini-challenges where participants also receive the Carson River Watershed Map. Area teachers, students and families have expressed gratitude for the CWSD's support of this program and SNJ hopes this partnership will continue. With funding from CWSD, SNJ will work to serve an increased number of schools as well as assess, evaluate, and refine current watershed-focused stations.

SNJ will measure the success of these Family Watershed Nights by the number of attendees, engagement of the participants, and feedback from the educators at the school sites. Students are evaluated by the worksheets they complete with their family during the event often for extra credit by their teacher.

SNJ Family Nights are an established program offering. We have successfully conducted several hundred Family Nights in northern Nevada over the last nine years with participation ranging between 50-250 attendees at each event. Our program consistently receives high marks from parents, students, teachers and principals for being fun, professional and informative.

Project Benefits (continued)

In our own pre-assessments, we have found that only 17% of students could 1) list one way to protect their own watershed, and 2) describe why it would be helpful. This illustrates that children are not learning about local issues facing their watersheds. A recent national study from The Nature Conservancy might reveal why. The report notes that students who have had a personal experience in nature are increasingly uncommon: "The vast majority of today's children use a computer, watch television or play video games on a daily basis, but only about 10 percent say they are spending time outdoors every day." However, students who have experienced nature are:

- Significantly more likely to express concern about water pollution, air pollution, global warming, and the condition of the environment;
- More than twice as likely to “strongly agree” that protecting the environment is “cool”;
- More than twice as likely to consider themselves a “strong environmentalist,”; and
- Substantially more likely to express interest in studying the environment in college, working in a job related to nature, or joining an environmental club at their school.¹



Through SNJ’s interactive programs we focus on teaching through nature and encourage local youth and their families to have meaningful experiences outdoors, thereby increasing their likelihood to value nature, engage with it and feel empowered to care for it. Moreover, FWNs successfully teach children and their families about specific local issues facing the Carson River Watershed and actions they can take to prevent further degradation of this river ecosystem.

We know that parent engagement is critical to student success, particularly in low-income homes. Children from diverse cultural backgrounds tend to do better when parents and professionals collaborate to bridge the gap between the culture at home and the learning institution. Schools and teachers need support in reaching out to the families of their students. This is where Sierra Nevada Journeys can help bridge the gap. Family Watershed Nights address a crucial concern and provide knowledge and awareness of water issues at the family level.

Our initiative helps engage students and their families by encouraging them to adopt environmental stewardship practices aimed at reducing point-source water pollution. Through fun and hands-on activities, students and their families learn more about their local watershed and become better stewards of the Carson River. Beyond the environmental impact, SNJ’s Family Watershed Nights also:

- ✦ Involve parents in their child’s education, regardless of their own education level, ethnicity, and socio-economic status;
- ✦ Use hands-on science as the vehicle for exploration, which provides a language-neutral context;
- ✦ Provide a meaningful family activity that is linked to learning, building on parent’s instinctual desire to help their child’s academic success;
- ✦ Help forge a sense of trust between the school and the families, encouraging families to become involved in their child’s school; and,
- ✦ Provide a means for the local community to engage in helping support low-income children and their success in learning.

In addition to our passionate and credentialed education team, we also have a volunteer model in place in which we can seamlessly integrate volunteers into our Family Watershed Night. A rich experience

¹ The Nature Conservancy, Connecting America’s Youth to Nature, 2012 Retrieved from: <http://www.nature.org/newsfeatures/kids-in-nature/youth-and-nature-poll-results.pdf>

for the volunteers, assisting at an SNJ Family Night provides another interaction point between the community and the school.

Accomplishments through 2018 CWSD Funding

Thanks to funding from CWSD, SNJ has completed two of four Family Watershed Nights for the 2018-2019 funded project. Information below includes income level at each school using statistics from the National School Lunch Program (NSLP), a federally funded program that provides free/reduced cost meals to low-income families.

The completed FWNs took place:

- September 27, 2018 at Gardnerville Elementary (35% of students are eligible for NSLP)
- November 18, 2018 at Seeliger Elementary (36% of students are eligible for NSLP)

The scheduled FWNs will take place:

- February 28, 2019 at Bordewich Bray Elementary (43% NSLP eligible), and
- April 9, 2019 at Mark Twain Elementary (100% NSLP eligible).

During the Family Watershed Night, students, their parents, and siblings participated in an interactive 1.5-hour event that included mini challenges (solved at family's own pace/interest level) and then a family-based competitive challenge. Attendees explored various watershed models and defined and discussed solutions for issues impacting the Carson River Watershed. So far, 270 total participants were affected during the two completed Family Watershed Nights! This included students, their parents, and any siblings that came along.



CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: Julie Fair
American Rivers
120 Union St
Nevada City, Nevada County, California, 95959
jfair@americanrivers.org (530) 478-0206 x206

APPLICANT'S AGENT (if different from Applicant):
N/A

PROJECT NAME: Faith Valley Meadow Restoration Planning

PROJECT LOCATION/ADDRESS: Faith Valley Meadow
Blue Lakes Rd, Alpine County, California

PROJECT DESCRIPTION: Briefly describe the project. Provide maps, drawings, photographs or other information. Additional sheets may be attached.

American Rivers is currently working with project partners including the Humboldt-Toiyabe National Forest (HTNF), California Department of Fish and Wildlife (CDFW) and Alpine Watershed Group (AWG), to restore Faith Valley Meadow. Faith Valley is a 200-acre meadow located on the HTNF along the West Fork Carson River near its headwaters. Faith Valley was selected as a priority site for restoration based on an assessment of all accessible Sierra meadows in the Carson watershed conducted by American Rivers in 2014. The selection of priority sites was vetted with numerous Upper Carson watershed stakeholders. Faith Valley emerged as a priority because of its impacted hydrologic condition and the potential benefits of restoration for special status species, including the California endangered Willow Flycatcher, Sierra Nevada Yellow-legged Frog and stocked Lahontan Cutthroat Trout.

While Faith Valley currently supports some healthy wet meadow and riparian habitat, impacts from historic land uses such as historic heavy grazing and road and trail construction, and more recent intensive recreational use, have impaired the meadow's hydrology. Specifically, the historic disturbance has caused the river channel to downcut and incise throughout portions of the meadow, lowering the water table and disconnecting it from the meadow surface, which in turn has caused the riverbanks to become unstable and erode. The site is currently dominated by wet meadow and riparian plants, however, conifers and upland shrubs are beginning to encroach. A number of unstable headcuts are eroding into the meadow, threatening to unravel intact habitat. In addition, the OHV route adjacent to the meadow tends to capture and divert flows from tributaries, degrading the road and impacting the natural flow paths on the meadow surface. These characteristics threaten the groundwater storage, streamflow, habitat benefits and recreational use of this Upper West Fork Carson site. Restoration is needed to improve the hydrologic conditions of the meadow and reverse the detrimental trends that are taking hold.

Faith Valley contains at least one active beaver colony, whose dams are serving to raise the water table and stabilize riverbanks in localized portions of the meadow; however, the effects of beaver dams are not currently widespread and can often be short-lived, as dams are sometimes damaged during high energy storm events, with greater potential to occur under climate change. The presence and influence of beaver in Faith Valley presents an opportunity to investigate and pilot innovative meadow restoration techniques that incorporate and imitate beaver, such as beaver dam analogs (BDAs) (Pollock et al. 2015). BDAs mimic natural beaver dams but can be placed more strategically and can be constructed to withstand higher flow events, and therefore persist longer to achieve specific restoration objectives. This technique has been piloted and well-studied in Oregon and the Northern California coast, and is gaining support from meadow restoration practitioners as a light handed, low-risk, low-cost option for floodplain restoration. But it has only been piloted in two Sierra meadows. Implementing this type of restoration in

Faith Valley has the potential to act as an important case study for meadows throughout the Carson watershed and the greater Sierra Region.

American Rivers has obtained funding from the National Fish and Wildlife Foundation (NFWF) and CDFW to pursue restoration planning for Faith Valley Meadow. This includes conducting a baseline conditions assessment, developing conceptual and technical designs and completing permits to make the project shovel ready. However, design bids were higher than anticipated, leaving less budget than anticipated to accomplish permitting and pre-project monitoring. We request funding from the Carson Water Subconservancy District to complete project permits and implement more robust hydrologic monitoring in Faith Valley Meadow. This funding would fill a critical gap to make the project shovel-ready for implementation funds. It will also allow us to implement more robust monitoring to quantify the water storage and streamflow benefits of an innovative meadow restoration technique so that it can act as a case study for future projects in the watershed and the region. Hydrologic monitoring would include groundwater and streamflow measurements to quantify the effects of restoration.

To date, we have completed the baseline conditions assessment (Baseline Conditions Technical Assessment and topographic base map included as attachments) and are nearing completion of draft conceptual designs. We plan to complete technical designs by June 2018, NEPA by early 2020 and CEQA/permits by spring of 2020.

PROJECT GOALS AND BENEFITS: Briefly describe the project goals and benefits to be realized if the project is implemented. Additional sheets may be attached.

The long-term goal of the project is to restore the hydrological and ecosystem processes in Faith Valley Meadow to enhance its ability to provide outstanding natural benefits including groundwater storage in a headwaters area, increased streamflows in the dry season, reduced downstream sedimentation, enhanced critical habitat for threatened and sensitive native species and resilience to climate change.

Near-term outcomes include:

- Fully assess the condition of Faith Valley and Forestdale Meadow
- Initiate monitoring to quantify benefits of meadow restoration
- Develop conceptual design alternatives and select preferred alternative
- Complete permit-ready restoration designs
- Engage agencies and local stakeholder groups in restoration process
- Increase the restoration and monitoring capacity of organizations and citizens in the Upper Carson watershed
- Build momentum to attract and leverage implementation funding
- Complete environmental compliance and obtain all permits necessary for implementation

Anticipated long-term benefits of this project include:

- Stream channel repaired, reducing stream bank erosion and sedimentation downstream
- Groundwater elevation raised, increasing natural water storage in Carson headwaters region
- Late-season streamflows prolonged and increased, for the benefit of species and downstream water users
- Downstream water quality improved, including water temperature and suspended sediment
- Downstream flood peaks reduced
- Extent of wet meadow and riparian vegetation and wetland increased
- Habitat for meadow focal bird species, including the endangered Willow Flycatcher, improved
- Habitat for fish and aquatic species, including the stocked threatened Lahontan Cutthroat Trout, improved
- Pace of meadow restoration within the Carson watershed and HTNF accelerated

TOTAL ESTIMATED PROJECT COST: \$268,500

AMOUNT REQUESTED FROM CWSD: \$10,500

SOURCE OF OTHER FUNDS: List all other sources of funds to be used to match funds requested from CWSD. List the provider of the matching funds and the amount requested from each provider.

National Fish and Wildlife Foundation: \$113,000

California Department of Fish and Wildlife: \$145,000

ESTIMATED DATE PROJECT TO BEGIN: July 1, 2019

ESTIMATED TIME TO COMPLETE PROJECT: July 1, 2019

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.)

PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional sheets may be attached.

US Army Corps of Engineers Section 404,

- Intend to apply fall 2019
- Anticipate approval June 2020

Lahontan Regional Water Quality Control Board Section 401

- Intend to apply fall 2019
- Anticipate approval June 2020

CDFW Section 1600:

- Intend to apply fall 2019
- Anticipate approval June 2020

NEPA

- Field surveys summer 2019
- Anticipate signed document winter 2020

CEQA

- Anticipate approval June 2020

OTHER INFORMATION: Provide any other information that may be important to the approval of this application.

American Rivers has been working in the Carson watershed since 2011 and has strong working relationships with local partners, the Alpine Watershed Group and the Humboldt-Toiyabe National Forest.

SIGNED: _____

Julie Fair

NAME: Julie Fair

TITLE: Associate Director, California Restoration

DATE: 1/31/19

THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.

**CARSON WATER SUBCONSERVANCY DISTRICT
ACQUISITION/CONSTRUCTION FUND
2019-20 Tentative Budget**

ACQUISITION/CONSTRUCTION FUND	Proposed Tentative Budget	Approved Final Budget	Projected Actual Budget
	Jul '19 - Jun '20	Jul '18 - Jun '19	Jul '18 - Jun '19
Ordinary Income/Expense			
Income			
5032-01 - Interest Inc - Inv. Pool	19,081.33	9,660.00	16,100.00
Total Income	19,081.33	9,660.00	16,100.00
Expense			
Upstream Storage Evaluation	25,000.00	70,000.00	2,000.00
Upsizing the Lyon County to Stagecoach pipeline	250,000.00	250,000.00	0.00
Construction Projects	520,000.00	400,000.00	0.00
Total Expense	795,000.00	720,000.00	2,000.00
Net Ordinary Income	-775,918.68	-710,340.00	14,100.00
Other Income/Expense			
Other Income			
8000-01 - Beginning Equity	763,253.00	689,849.00	699,153.00 *
8001-01 - Transfer In-General Fund	50,000.00	50,000.00	50,000.00
Total Other Income	813,253.00	739,849.00	749,153.00
* Based on 2017-18 Audit			
Ending Equity	37,334.33	29,509.00	763,253.00

Interest amount based on 2.5% rate

**CARSON WATER SUBCONSERVANCY DISTRICT
FLOODPLAIN MANAGEMENT FUND
FY 2019-20 Tentative Budget**

FLOODPLAIN MANAGEMENT FUND	Proposed	Adopted	Projected	Notes
	Tentative	Final	Actual	
	Budget	Budget	Budget	
	Jul '19 - Jun '20	Jul '18 - Jun '19	Jul '18 - Jun '19	
Ordinary Income/Expense				
Income				
5032-01 - Interest Inc - Inv. Pool	9,686.30	5,350.00	8,480.00	Based on 2.5%
Total Income	9,686.30	5,350.00	8,480.00	
Expense				
7203-03 Floodplain Planning	350,000.00	190,000.00	0.00	
CVCD Working on Flood Repairs and permits	0.00	70,000.00	15,000.00	
DVCD Working on Flood Repairs and permits	0.00	30,000.00	3,000.00	
Churchill County Floodplain Evaluation	35,000.00	40,000.00	5,475.00	
7206-03 Flood Project along SR 88 in Minden	40,000.00	40,000.00	0.00	
Total Expense	425,000.00	370,000.00	23,475.00	
Net Ordinary Income	-415,313.70	-364,650.00	-14,995.00	
Other Income/Expense				
Other Income				
8000-01 - Beginning Equity	387,452.00	382,074.00	352,447.00	*
8001-01 - Transfer In-General Fund	50,000.00	50,000.00	50,000.00	
Total Other Income	437,452.00	432,074.00	402,447.00	
Ending Equity	22,138.30	67,424.00	387,452.00	

* Based on the 2017-18 Audit