

CARSON WATER SUBCONSERVANCY DISTRICT FINANCE COMMITTEE

NOTICE OF PUBLIC MEETING

DATE: February 21, 2020
TIME: 8:30am – 1pm
LOCATION: CWSD Conference Room
777 E. William Street
Carson City, NV 89701

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 (catrina@cwsd.org), at least two business days in advance so that arrangements can be made.

1. Call to Order the CWSD Finance Committee
2. 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.
3. For Possible Action: Approval of the Finance Committee Meeting Minutes of February 28, 2019
4. For Discussion Only: Review the Tentative General Fund FY 2020-21 Budget and hear presentations for proposed projects; review the Tentative Acquisition/Construction Fund FY 2020-21 Budget; and review the Tentative Floodplain Management Fund FY 2020-21 Budget
5. For Possible Action: Make recommendations for the Tentative General Fund, Acquisition/Construction Fund, and Floodplain Management Fund FY 2020-21 Budgets
6. 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.
7. For Possible Action: Adjournment

Supporting material for this meeting may be requested from Catrina Schambra at 775-887-7450 (catrina@cwsd.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.cwsd.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.cwsd.org -State public meetings website: http://notice.nv.gov

AFFIDAVIT OF POSTING

The undersigned affirms that on or before 9am on February 13, 2020, he/she posted a copy of the *Notice of Public Meeting and Agenda* for the February 21, 2020, 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: _____ Title: _____ Date & Time of Posting: _____

CARSON WATER SUBCONSERVANCY DISTRICT
FINANCE COMMITTEE MEETING
February 28, 2019, 8:30 – 2pm
DRAFT Meeting Minutes

Committee Members Present:

Brad Bonkowski, Carson City
David Griffith, Alpine County (for Don Jardine)
Barry Penzel, Douglas County
Ernie Schank, Churchill County
Mike Workman, Lyon County

Committee Members Not Present:

Don Jardine, Alpine County

Staff Present:

Edwin James, General Manager
Catrina Schambra, Secretary to the Board

Others Present:

Gregg Berggren, Carson City Open Space (CCOS)
Steve Berris, United States Geological Studies (USGS)
Ann Bollinger, CCOS
Daniel Bright, USGS
Julie Fair, American Rivers (via teleconference)
Marcia Gipson, USGS
Joan Grover, Sierra Nevada Journeys (SNJ)
Mike Hayes, Carson Valley Conservation District (CVCD)
Sean Hill, SNJ
Rob Holley, Dayton Valley Conservation District (DVCD)
Andy Hummel, Carson City Public Works
Chris Mahannah, Churchill County
Kimra McAfee, Alpine Watershed Group
Angela Paul, USGS
Darcy Phillips, River Wranglers
Christy Sullivan, Lahontan Conservation District (LCD)
Rich Wilkinson, CVCD

The meeting was called to order at 8:30 a.m. by Committee Member Bonkowski, 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 #3 - Public comment: None

Item #4 - Discussion for possible action regarding approval of the minutes from the Finance Committee meeting on March 5, 2018: *Committee Member Penzel made the motion to approve the minutes of the Finance Committee meeting on March 5, 2018. The motion was seconded by Treasurer Bonkowski and approved unanimously.*

Item #5 - Discussion regarding 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:

Mr. James explained the General Fund Budget spreadsheet and the committee process as he noted that Director Workman is new this year. The committee will reach consensus on budget recommendations to be brought to full Board for action at the March 20, 2019 meeting.

Starting in the income section he explained that the proposed county taxes are based on a conservative 3% increase over last year, but the official numbers from the state will not be available until March 25. The increase may be as high as 5.5%, but we will base our proposed tentative budget at 3%. He further explained grant income and interest income on the spreadsheet. On the expense side, he noted an increase in salary based the assumption of a 2% cost of living and merit increase, benefit cost increases due to health insurance changes with staff, and increase in PERS contribution. There was a discussion regarding reimbursing all Directors for mileage. (This would require a policy change and is planned for the to be discussed at a future Administrative Committee meeting.)

Mr. James reviewed all the grant expenses that are offset by the grant income. He also noted that it is required by law that there be a minimum 4% of expenses in our ending balance.

Presentations of Proposed Projects

Carson River Projects:

Carson Valley Conservation District - Bioengineering, Maintenance and Debris Removal

Mike Hayes, CVCD Coordinator

Project to stabilize vertical cutbanks throughout Carson Valley as well as stabilize soil, improve water quality, reestablish vegetation and removal of woody debris. Asking \$60,000. Pictures showing extent of erosion of rivers banks over a ten-year period (2007-17) were distributed and it was also reported that this is a priority for landowners who are willing to put money into this project as well.

Carson Valley Conservation District - Genoa Bank Stabilization

Rich Wilkinson, CVCD Coordinator

Project to restore vertical cutbanks along a ¾ mile long and 12 to 15 feet high. Asking for \$100,000. Goal to also stabilize soil, improve water quality and reestablish vegetation for wildlife. CVCD considers this a high priority project since this area was severely impacted by the recent flooding events in 2017.

Carson Valley Conservation District - Time Extension Cradlebaugh Stabilization

Rich Wilkinson, CVCD Coordinator

Mr. James explained this is a carryover from last fiscal year (2018-19) because of some permit issue. Director Penzel questioned carry-over funds and how we account for them in budget. Mr. James explains how the carryovers are tracked but agrees there needs to be a better process.

River Wranglers- Carson River Work Days

Darcy Phillips, Executive Director

Conserve Carson River Work Days and Vegetation Management. This is educational outreach program serving students in six watershed counties. Asking \$26,000. Would like to expand program to get to more schools and also work with at-risk kids, too. Is partnering with parks and recreation to start middle school pilot program. Program had participation of over 1400 students this year. Mr. James explains money is used to match another grant.

Alpine County Watershed Group- Upper Carson River Watershed Programs

Kimra McAfee, Executive Director

This is a community outreach program to restore and monitor the Alpine County watershed. Asking \$25,000. Treasurer Bonkowski asked about funding and Ms. McAfee explained the timeline of funding approvals. Alpine County is fully grant dependent. Director Workman asked how community outreach is done with only 30 students in Alpine County. Ms. McAfee described Adopt-a-Highway, Willow Planting, Family Projects, etc. as well as Sorenson and Bentley being supporters and donors.

Dayton Valley Conservation District – Bank Stabilization/Channel Restoration Upstream from Dayton Bridge

Rob Holley, District Manager

Project to remove cottonwood trees that pose a threat to irrigation diversions and to the Dayton Bridge. Asking \$100,000. In addition this project addresses the 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.

Dayton Valley Conservation District – Fort Churchill Project – Time Extension

Rob Holley, District Manager

Mr. Holley asked that the unused funds for FY2018-19 be carried over to FY 2019-20. The Fort Churchill Project had to be delayed because the contractor backed out.

Lahontan Conservation District – Carson River Channel Clearing

Christy Sullivan, LCD District Manager

Project to prevent and minimize property loss and other damage during flood condition. Also to maintain a clear channel to enable citizens to utilize the river for recreation and maintaining river flow velocity to prevent stagnant pools that pose health risks. Asking \$35,000.

Community Projects:

Churchill County - Dixie Valley Water Level Measurement & Precipitation Gage Monitoring

Chris Mahannah for Jim Barbee, County Manager

Project continues long-term gauging of precipitation and water levels that is important for water to the Lahontan Valley. Asking \$65,000. Director Penzel wondered aloud why BOR is not contributing and why Churchill is contributing so little. Director Schank believes this is a watershed issue with regional benefit to everyone and noted that BOR was the original funder for this project. Director Bonkowski asks about the water quality. Mr. Mahannah says it will need to be treated. Director Bonkowski thinks quality and quantity are important and wants to make sure that this is part of the project study.

Truckee-Carson Irrigation District - Carson Diversion Dam Repairs

Rusty Jardine, General Manager (No representative present.)

Carson City - Carson City Reclaimed Master Plan (Update)

Andrew Hummel, Wastewater Utility Manager, CCPW

Project to update Reuse Master Plan to understand the current and long-term issues related to reclaimed water reuse as Carson City continues to grow. Asking \$50,000 (50% Match)

Carson City - Mexican Dam Ditch Intake Structure Improvement (Mexican Ditch Bridge)

Gregg Berggen, Trails Coordinator

Project to make structural improvements to the Mexican Ditch intake that would construct a 7 ½ foot wide bridge to permit safe passage of small watercraft around the Mexican Dam as well as being equestrian, bicycle and pedestrian friendly. This would eliminate the current public safety issues and allow for the Carson River Aquatic Trail to extend into the Carson Valley. Asking for \$25,000. Bridge would provide safe passage for people to get around dam without going on private property. Project is shovel ready and the plan is to be done by December 2019. Presentation included four letters of support for this project: Douglas County Community Services, Carson Valley Trails Association, Muscle Powered, and Resource Concepts, Inc.

USGS:

USGS Monitoring Hg, Ar, Ld & Sediment in Carson River

Angie Paul, Hydrologist, USGS Nevada Water Science Center

This project is a continuation of 2017-18 Mercury Monitoring Program. Asking \$3,000 (Matching funds)

7500-00 USGS Stream Gage Contract

Steven Berris, Nevada Networks Chief

This project is a continuation of the cooperative monitoring program. Asking \$78,405 for FY 2019-20 and \$78,405 for FY 2020-21.

7508-00 USGS Douglas & Lyon Counties Co GW Collection Data

Steven Berris, Nevada Networks Chief

This project is a continuation of the cooperative monitoring program. Asking \$16,890 for FY 2019-20 and \$16,890 for FY 2020-21

New Projects:

Sierra Nevada Journeys – Family Watershed Nights & Watershed Map Project

Joan Grover, Grants Manager

This Watershed Education project is for Douglas County and Carson City. The events have great participation that are targeted to elementary school kids and their parents. Asking for \$2,976.48 to conduct 2 events in Carson City and 2 events in Douglas County. They are also asking for \$1,500 to help CWSD identify education standards so teachers can use CWSD website and watershed map for class assignments.

American Rivers - Faith Valley Meadow Restoration Planning

Julie Fair, Associate Director, California Restoration (via phone conference)

Project to restore hydrological and ecosystems processes. Asking for \$10,500.

During lunch Mr. James reviewed the Acquisition/Construction and Floodplain Management Funds.

Item #6 - Make recommendations for the Tentative General Fund, Acquisition/Construction Fund, and Floodplain Management Fund FY 2019-20 budgets.

Mr. James mentioned that the committee needs to cut \$195,000 from the funding requests. Based on further discussion the committee proposed the following cuts:

\$13,000 from CVCD genoa Bank Stabilization Project
\$10,000 from DVCD Bank Stabilization Project
\$10,000 from LCD Channel Clearing Project
\$3,000 from USGS Hg Monitoring
\$50,000 from TCID Carson Diversion Dam Repairs
\$50,000 from Transfer to Floodplain Management Account
\$50,000 from Transfer to Acquisition/Construction Account
\$10,500 from American River Meadow Restoration

Treasurer Bonkowski 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 Schank seconded the motion which was unanimously approved by the Finance Committee. Mr. James was directed to send a clean copy to committee members before sending to the entire Board for review.

Item #7 - Public comment: None

There being no further business to come before the Finance Committee, Treasurer Bonkowski moved and Committee Member Schank seconded motion to adjourn which passed unanimously. Treasurer Bonkowski declared the meeting adjourned at 1:17p.m.

Respectfully submitted,

Catrina Schambra
Secretary to the Board

CWSD FINANCE COMMITTEE MEETING

February 21, 2020
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 2020-21 (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)
7126-00 NDEP CR UAS Monitoring
7404-00 Noxious Weeds Control
7437-00 FEMA Floodplain Mapping Program MAS # 9 (Grant)
7438-01 USBR WaterSmart Study (Grant)
7439-00 FEMA Floodplain Mapping Program MAS # 10 (Grant)
7500-00 USGS Stream Gage
7508-03 USGS Do Co & Ly Co GW Collection
7524-01 USGS Churchill Co. GW Collection
7526-01 USGS Eagle/Dayton/Churchill GW Collection
7600-09 Alpine County- CASGEM (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
7640-18 Dixie Valley Water Collection
- 9:30 a.m.** Carson River Projects and Outreach
River Wranglers - Carson River Workdays (1)
Sierra Nevada Journeys Family Nights (2)
Alpine County Watershed Group - (3)
Carson Valley Conservation District/ Bioengineering (4)
Carson Valley Conservation District/ Westwood Channel (5)
Dayton Valley Conservation District FT Churchill Project (6)
Lahontan Conservation District Clearing & Snagging (7)
- 10:40 to 10:55 am** Break
- 10:55 am** County Projects
TCID Diversion Dam Repairs (8)
Churchill County Park (9)
Lyon County Right-a-Way project (10)
Carson City Carson City Kings & Ash Canyon Watershed Control Plan (11)
- 11:35 am** USGS
Middle Carson Groundwater Monitoring (12)
Carson Valley Groundwater Study (13)

- 12:00 p.m.** New Projects
 DRI Stream Flow Analysis (14)
- 12:15 p.m.** Acquisition/Construction Budget for FY 2020-2021
 Floodplain Management Budget for FY 2020-2021
- 12:30 p.m.** Lunch/Review Projects
- 12:50 p.m.** Review Budgets and Make Recommendations to the Board

**CARSON WATER SUBCONSERVANCY DISTRICT
CARSON RIVER WATERSHED COMMITTEE**

TO: COMMITTEE MEMBERS

FROM: EDWIN D. JAMES

DATE: FEBRUARY 21, 2020

SUBJECT: Agenda Item #4 – For Discussion Only: Review the Tentative General Fund FY 2020-21 Budget and hear presentations for proposed projects; review the Tentative Acquisition/Construction Fund FY 2020-21 Budget; and review the Tentative Floodplain Management Fund FY 2020-21 Budget

DISCUSSION: Attached are the Tentative FY 20-21 budgets for the General Fund, Acquisition/Construction Fund, Floodplain Management Fund, and the proposed funding requests. For the Tentative General Fund, the total grant requests add up to \$678,147.50 and CWSD only has approximately \$410,000 available to grant out. The committee will have to cut approximately \$269,000 to balance the budget.

Included in the General Fund Tentative Budget is \$75,000 to be transferred to the Acquisition/Construction Fund. This amount may change based on the direction given at the February CWSD Board Meeting.

Attached is a pie chart that shows the percentage of expenses in the General Fund by categories of Administration, Projects, Studies, Programs, Projects Funded by Grants, Programs Funded by Grants, and Studies Funded by Grants.

The projected income from Ad Valorem taxes is staff's best guess. The actual projected tax figures from the State will not be available until March 25.

STAFF RECOMMENDATION: Provide direction to staff to submit balance budgets for FY 2020-21 Tentative General Fund, Tentative Acquisition/Construction Fund, and Tentative Floodplain Management Fund to CWSD March Board meeting.

CARSON WATER SUBCONSERVANCY DISTRICT

General Fund

	Proposed Final Budget	Approved Final Budget	Projected Actual Budget	Notes
	Jul '20 - Jun '21	Jul '19 - Jun '20	Jul '19 - Jun '20	
Income				
5008-00 . Alpine County	10,764.00	10,400.00	10,400.00	3.5 % increase
5009-00 . Churchill County Ad Valorem	221,300.60	213,817.00	213,817.00	3.5 % increase
5010-00 . Lyon County Ad Valorem	182,456.01	176,286.00	176,286.00	3.5 % increase
5011-00 . Douglas County Ad Valorem	609,062.31	588,466.00	588,466.00	3.5 % increase
5012-00 . Carson City Ad Valorem	449,576.06	434,373.00	434,373.00	3.5 % increase
5022-00 . Mud Lake Water Lease	51,765.00	51,000.00	52,000.00	1.5 % increase
5023-00 . Lost Lake Water Lease	0.00	0.00	804.00	
5031-00 . Interest Income - St Pool Reg	8,165.74	14,984.70	9,775.00	1.5 Percent
5050-12 . Watershed Coord Grant III 18-20	0.00	48,037.00	48,250.34	Grant
5050-13 . Watershed Coord Grant IV 19-22	128,090.00	50,000.00	60,550.00	Grant
5050-13 . NDEP Watershed Drone Work	20,315.00	0.00	17,710.00	Grant
5050-07 .CRC Donation	0.00	0.00	0.00	
5058-04 .208 Water Quality LID	0.00	24,478.00	25,315.00	Grant
5060-00 . Misc. Income / Watershed Tour	6,000.00	6,000.00	6,000.00	
5082-00 . CASGEM	400.00	1,000.00	700.00	Grant
5083-00 . Alpine Co Mesa GW Study	0.00	0.00	215.00	Grant
5096-00 . NFWF Weed Grant	0.00	19,963.00	47,768.00	Grant
5099-00 . Watershed Literacy Imp III revised	0.00	23,310.00	45,797.52	Grant
6000-00 . FEMA - MAS # 8	0.00	34,101.00	64,814.00	Grant
6003-00 . FEMA - MAS # 9	11,375.00	393,170.00	430,395.00	Grant
6004-00 . USBR - water Market Study	44,798.00	50,000.00	55,202.00	Grant
6005-00 . FEMA - MAS # 10	259,219.00	0.00	301,531.00	Grant
Total Income	2,003,286.71	2,139,385.70	2,590,168.86	
				Federal Funds
				FY 19-20 \$1,097,333
				FY 20-21 \$ 463,797
Expense				
ADMINISTRATIVE EXPENSES:				Notes
7015-00 . Salaries & Wages	413,300.00	396,400.00	390,000.00	
7020-00 . Employee Benefits	172,217.00	159,000.00	155,000.00	
7021-00 . Workers Comp Ins.	1,800.00	1,400.00	1,600.00	
7101-00 . Director's Fees	16,000.00	16,000.00	13,600.00	
7102-00 . Insurance	5,100.00	5,100.00	4,985.00	
7103-00 . Office Supplies	2,100.00	3,000.00	2,050.00	
7104-00 . Postage	1,050.00	850.00	1,030.00	
7105-00 . Rent	37,752.00	36,648.00	36,648.00	
7106-00 . Telephone	5,000.00	4,000.00	5,200.00	
7107-00 . Travel-transport/meals/lodging	16,000.00	20,400.00	14,700.00	
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	1,500.00	3,000.00	1,000.00	
7111-00 . Office Equipment	3,000.00	3,000.00	3,000.00	
7112-00 . Bank Charges	50.00	50.00	0.00	
7115-00 . Accounting	16800	16,000.00	11,000.00	\$800 for actuary
7116-00 . Legal	32,000.00	36,000.00	30,000.00	
Subtotal-Administrative Expenses	725,769.00	702,948.00	671,913.00	

CARSON WATER SUBCONSERVANCY DISTRICT

General Fund

Multi Year, Studies, and Grants	Proposed	Revised	Projected	Notes
	Final Budget	Final Budget	Actual Budget	
PROJECTS:	Jul '20 - Jun '21	Jul '19 - Jun '20	Jul '19 - Jun '20	
7114-00 · Professional Outside Services	30,000.00	10,000.00	10,000.00	
7117-00 · Lost Lakes Expenses	13,500.00	12,700.00	12,700.00	
7118-00 · Mud Lake O & M	1,200.00	1,000.00	1,100.00	
7120-00 · Integrated Watershed Plan			0.00	
7120-07 · Watershed Tour	6,000.00	6,000.00	6,000.00	
7120-31 · Watershed Coord Expenses 17-19	0.00	2,100.00	633.00	Grant
7120-33 Watershed Coord Grant IV 19-21	18,800.00	9,500.00	15,750.00	Grant
7120-33 Watershed Coord Match IV 19-21	11,475.00	0.00	300.00	Grant
7126-00 · NDEP CR UAS Monitoring	350.00	0.00	2,510.00	Grant
7404-00 · Noxious Weeds Control	75,000.00	75,000.00	75,000.00	
7406-00 · 208 Planning - LID	0.00	18,367.00	18,818.00	Grant
7430-00 · NFWF Weed Grant	0.00	17,452.00	45,768.00	Grant
7433-00 · Watershed Literacy # 3	0.00	23,310.00	\$41,579	Grant
7433-10 · Watershed Literacy # 3 Match	0.00	0.00	\$20,002	Grant
7434-00 · FEMA MAS #8	0.00	22,993.00	53,421.00	Grant
7437-00 · FEMA MAS #9	8,000.00	359,553.00	394,278.00	Grant
7437-00 · FEMA MAS #10	237,268.00	0.00	275,372.00	Grant
7438-01 · USBR WaterSmart Reimbursed	44,798.00	50,000.00	55,202.00	Grant
7438-02 · USBR WaterSmart Match	0.00	0.00	0.00	AcquConst Fund
7500-00 · USGS Stream Gage Contracts	78,405.00	78,405.00	78,405.00	
7508-03 · USGS Do. Co. & Lyon Co GW Collection	16,890.00	16,890.00	16,890.00	
7524-01 · USGS GW level & WQ Churchill Co.	5,680.00	5,800.00	5,800.00	
7526-01 · USGS Middle Carson Groundwater	0.00	3,225.00	15,969.00	
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	
Subtotal Multi Year & On-going Projects	797,366.00	962,295.00	1,395,497.00	

Counties and River Projects

	Notes		
7215-00 · Sierra NV Journeys - Family Night		4,477.00	4,477.00
7332-00 · Carson River Work Days	0.00	26,000.00	26,000.00
7337-00 · Carson River Restoration			
7337-20 · CVCD Genoa Bank Stabilize	0	87,000.00	87,000.00
7337-91 · CVCD Streambank Projects 18-19	0	10,000.00	84,111.00
7337-19 · CVCD Bioengineering 18-20	0	0.00	43,511.22
7337-24 · CVCD Bioengineering 19-20	0	60,000.00	60,000.00
7337-31 · Dayton Valley Conservation	0.00	90,000.00	90,000.00
7337-33 · DVCD river restoration & carryover	0.00	66,600.00	50,000.00
7337-04 · LCD Clearing & Sand Bar Removal	0.00	25,000.00	25,000.00
7600-05 · Alpine Co. Watershed Group.	0.00	25,000.00	25,000.00
7600-09 · CASGEM	5.00	10.00	5.00
7600-10 · Mesa GW Measurement Project	0.00	0.00	40.00
7620-16 CC Reuse Master Plan 2019-20 .	0.00	50,000.00	50,000.00
7620-17 Mexican Dam Portage 2019-20	0.00	25,000.00	25,000.00
7640-09 · Lahontan Valley WTR Level Program	20,000.00	18,000.00	18,000.00
7640-17 TCID Carson Diversion Dam 19-20	0.00	50,000.00	50,000.00
7640-18 · Dixie Valley WTR Lvl measurement	21,000.00	28,000.00	21,000.00
Subtotal Carson River Projects	41,005.00	565,087.00	659,144.22

+

CARSON WATER SUBCONSERVANCY DISTRICT General Fund

New Projects

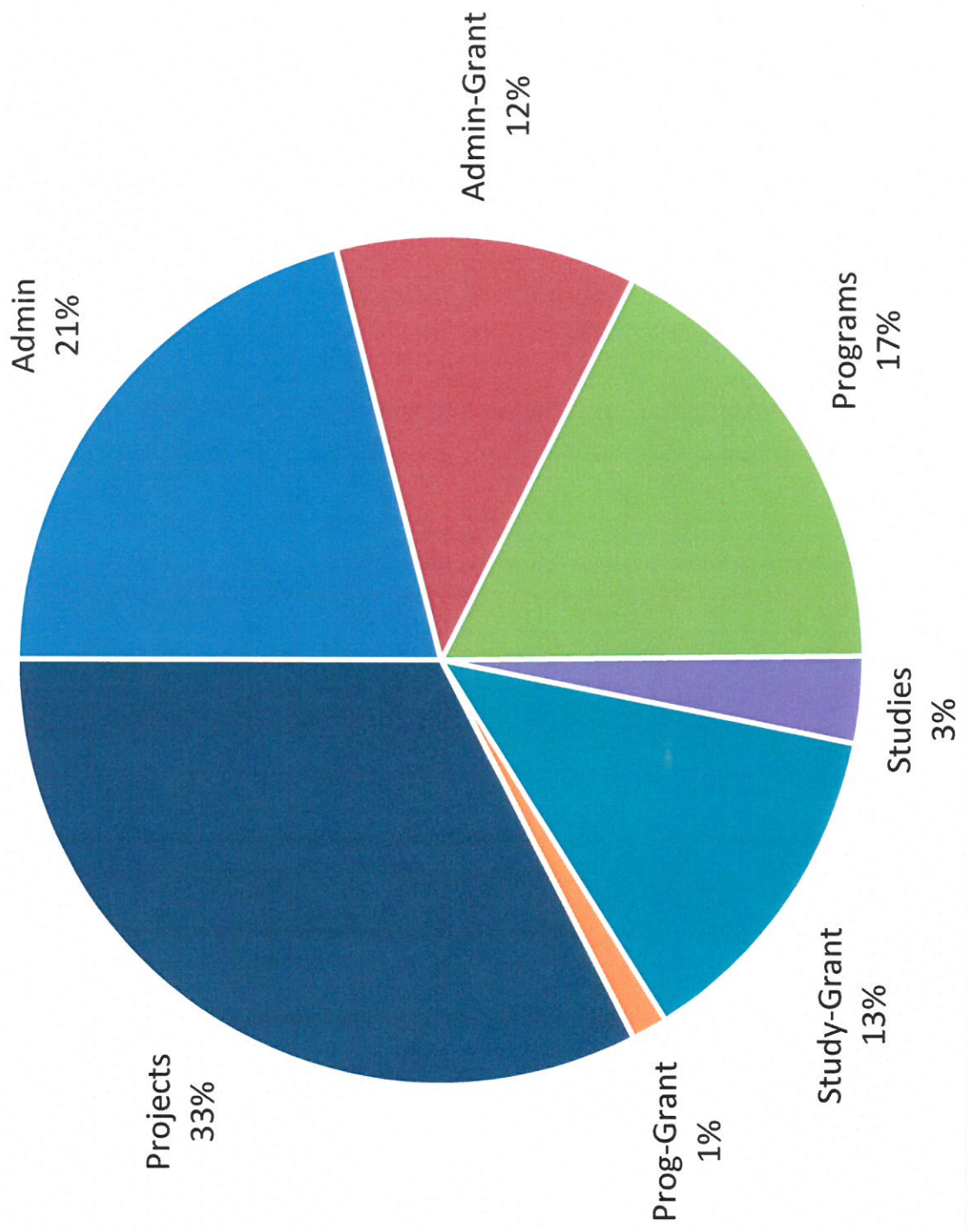
	Jul '20 - Jun '21	Notes	
7332-00 - Carson River Work Days	\$ 26,000	Proposal (1)	
Sierra NV Journey	\$ 3,279	Proposal (2)	
7600-05 - Alpine Co. Watershed Group.	\$ 25,000	Proposal (3)	
CVCD Bioengineering 20-21	\$ 100,000	Proposal (4)	
CVCD Westwood Channel 20-21	\$ 85,000	Proposal (5)	
DVCD Ft Churchill Project	\$ 90,000	Proposal (6)	
LCD Clearing & Snagging	\$ 20,000	Proposal (7)	
TCID Diversion Dam River Gates	\$ 100,000	Proposal (8)	
Churchill County Park	\$ 10,538	Proposal (9)	
Right-a -way in Lyon County	\$ 129,000	Proposal (10)	
Carson City Ash/Kings Watershed Control	\$ 25,000	Proposal (11)	
7526-01 - USGS Middle Carson Groundwater	\$ 15,250.0	Proposal (12)	
USGS Carson Valley GW Water Study	\$ 31,150	Proposal (13)	
DRI Stream Flow Analysis	\$ 17,931	Proposal (14)	
Total Expenses for New Projects	678,147.50	0.00	0.00
Total Expenditures	2,242,287.50	2,230,330.00	2,726,554.22
Net Ordinary Income	-239,000.79	-90,944.30	-136,385.36
Other Income/ Other Income			
Beginning Equity	544,382.64	599,388.00	680,768.00
Transfer from Acqu./Const. Fd to Gen Fd.	0.00	0.00	0.00
	544,382.64	599,388.00	680,768.00
Total Other Inc Other Expenses			
8008-00 - Preliminary Planning	390,000.00	392,000.00	0.00
Transfer from Gen. Fd. to Floodplain Fd.	0.00	0.00	0.00
Transfer from Gen. Fd. to Acqu./Const. Fd.	75,000.00	0.00	0.00
Total Other Expenses	465,000.00	392,000.00	0.00
Net Other Income	79,382.64	207,388.00	680,768.00
ENDING BALANCE	-159,618.15	116,443.70	544,382.64

Four % of all Expenditures

\$108,291.50

* Based on the 2018-19 Audit

Draft FY 2020-21 General Budget



**CARSON WATER SUBCONSERVANCY DISTRICT
ACQUISITION/CONSTRUCTION FUND
2020-21 Tentative Budget**

ACQUISITION/CONSTRUCTION FUND	Proposed Tentative Budget	Approved Final Budget	Projected Actual Budget
	Jul '20 - Jun '21	Jul '19 - Jun '20	Jul '19 - Jun '20
Ordinary Income/Expense			
Income			
5032-01 · Interest Inc - Inv. Pool	15,378.90	15,285.06	11,600.00
Total Income	15,378.90	15,285.06	11,600.00
Expense			
Upstream Storage Evaluation	39,495.00	22,000.00	10,505.00
Upsizing the Lyon County to Stagecoach pipeline	0.00	250,000.00	0.00
Construction Projects	785,000.00	475,000.00	0.00
Total Expense	824,495.00	747,000.00	10,505.00
Net Ordinary Income	-809,116.10	-731,714.94	1,095.00
Other Income/Expense			
Other Income			
8000-01 · Beginning Equity	768,945.00	764,253.00	767,850.00 *
8001-01 · Transfer In-General Fund	75,000.00	0.00	0.00
Total Other Income	843,945.00	764,253.00	767,850.00
* Based on 2018-19 Audit			
Ending Equity	34,828.90	32,538.06	768,945.00

**CARSON WATER SUBCONSERVANCY DISTRICT
FLOODPLAIN MANAGEMENT FUND
FY 2020-21 tentative Budget**

FLOODPLAIN MANAGEMENT FUND	Proposed	Adopted	Projected	Notes
	Final	Final	Actual	
	Budget	Budget	Budget	
	Jul '20 - Jun '21	Jul '19 - Jun '20	Jul '19 - Jun '20	
Ordinary Income/Expense				
Income				
5032-01 - Interest Inc - Inv. Pool	6,050.12	7,759.44	5,300.00	Based on 1.5%
Total Income	6,050.12	7,759.44	5,300.00	
Expense				
7203-03 Floodplain Planning	385,000.00	300,000.00	0.00	
CVCD Working on Flood Repairs and permits	0.00	0.00	0.00	
DVCD Working on Flood Repairs and permits	0.00	0.00	0.00	
Churchill County Floodplain Evaluation	0.00	35,000.00	0.00	
7206-03 Flood Project along SR 88 in Minden	0.00	40,000.00	0.00	
Total Expense	385,000.00	375,000.00	0.00	
Net Ordinary Income	-378,949.89	-367,240.56	5,300.00	
Other Income/Expense				
Other Income				
8000-01 - Beginning Equity	403,341.00	382,074.00	398,041.00 *	
8001-01 - Transfer In-General Fund	0.00	0.00	0.00	
Total Other Income	403,341.00	382,074.00	398,041.00	
Ending Equity	24,391.11	14,833.44	403,341.00	

* Based on the 2018-19 Audit

CARSON WATER SUBCONSERVANCY DISTRICT FY 2020-21 REQUEST FOR FUNDING APPLICATION

APPLICANT: River Wranglers
 Name
POB 1612
 Address
Dayton Lyon NV 89403
 City County State Zip Code
rw@riverwranglers.org 775.386.2743
 Email Telephone #

APPLICANT'S AGENT (if different from Applicant):

Darcy Phillips
 Name
 Address
 City County State Zip Code
 Email Telephone #

PROJECT NAME: Conserve the Carson River Workdays

PROJECT LOCATION/ADDRESS: Multiple locations in the Carson River Watershed

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

River Wranglers continues the Conserve the Carson River Workdays (CCRWD) throughout the watershed. In the 2019 year, we worked with 15 elementary schools (an increase of 3 schools) and 8 high schools in the watershed. We worked with 6,655 people in the watershed, approximately 6,000 of which were students (as opposed to adults). Of these contacts, approximately 2,275 are unique individuals. Bringing these students to the river is an important part of our work - approximately 50% of the students we work with have never seen the river.

We plan to continue the good work of prior years with tree wrapping, water quality testing, marking storm drains, cleaning up trash, and working on stream bank stabilization. We are requesting \$6,000 per county for these projects. We use local conservation district employees to supervise and prep for these river projects. In addition, we work with city, state, federal, and county partners. The remaining \$2,000 would cover administration and travel costs related to the grant.

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 goal is to reach every school in the watershed communities that want our programming. We have a few elementary schools in Carson City that we would like to add, and two in Douglas County. There is an alternative high school in Douglas County we are working to add. We work with the rest of the elementary and high schools in the region. Ultimately, our large goal is to bring awareness to non-point source pollution issues in our watershed. By working off the issues the CWSD watershed survey brought forward, we are able to increase knowledge of people's relationship to the watershed and the river. By reaching the children, our hope is to make them aware for life, and if they bring their parents along in their awareness, all the better.

Our work links all the communities in the watershed while providing hands-on conservation activities for the students. By educating them about the water cycle, the geography of the watershed, the importance of conservation work and their role in non-point source pollution, the students connect themselves to the watershed itself, allowing for lifelong stewardship.

As always, we thank CWSD for your continued support at all levels of our work – through lending us staff, providing us office space, and supporting us financially, you make our work possible.

TOTAL ESTIMATED PROJECT COST: \$100,000

AMOUNT REQUESTED FROM CWSD: \$26,000

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.

Funds from the CWSD grant are used as a cash match for the 319h grant from the Nevada Division of Environmental Protection. The NDEP grant covers the cost of salary and mileage associated with this grant.

ESTIMATED DATE PROJECT TO BEGIN: July 1, 2020

ESTIMATED TIME TO COMPLETE PROJECT: June 30, 2021

(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.

Signature: Darcy Phillips

Name (please print): Darcy Phillips

Title: Executive Director

Date: 1/28/2020

Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD reserves the right to deny any and/or all applications for funding.

**CARSON WATER SUBCONSERVANCY DISTRICT
FY 2020-21 REQUEST FOR FUNDING APPLICATION**

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

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 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 in the classroom. Through hands-on activities, participants will gain a sense of ownership and stewardship for the health of their community watershed.

Please see attached for further information.

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 assistance of our volunteer program, we will be successful in 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. Collaborate with partners and local experts, such as CWSD staff and NDEP professionals to lead watershed activities at these events.
3. Engage 500 individuals (students, parents and siblings) in hands-on watershed-themed activities.
4. 100% of participants will gain hands-on experience with: a. Various watershed models; b. Defining current issues impacting the Carson River Watershed, c. Identifying solutions and ideas for helping to protect local watersheds
5. This year SNJ would like to suggest a pre-planning meeting with the SNJ education team and CWSD staff members before Family Watershed Events (late summer/early fall, 2020) to collaborate on the planning and coordination of the events, and to maximize CWSD's programmatic and sponsorship goals for the events.

TOTAL ESTIMATED PROJECT COST: \$4,250.40

AMOUNT REQUESTED FROM CWSD: \$3,278.88

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.

Microsoft Corporation: \$971

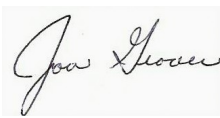
ESTIMATED DATE PROJECT TO BEGIN: August 2020

ESTIMATED TIME TO COMPLETE PROJECT: June 2021
(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.

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 will promote the event using 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.

Signature:  _____
Name (please print): Joan Grover
Title: Grants Manager
Date: January 28, 2020

Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD 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 three 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 10 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 2019 CWSD Funding

Thanks to funding from CWSD, SNJ has completed all three of the Family Watershed Nights for the 2019-2020 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 12, 2019 at Gardnerville Elementary, 131 participants (40.43% of students are eligible for NSLP)
- November 14, 2019 at Fremont Elementary, 230 participants (70.06% of students are eligible for NSLP)
- November 21, 2019 at Seeliger Elementary, 100 participants (44.14% of students are eligible for NSLP)

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. In total, 461 total participants were impacted during the three completed Family Watershed Nights! This included students, their parents, and any siblings that came along.



**CARSON WATER SUBCONSERVANCY DISTRICT
FY 2020-21 REQUEST FOR FUNDING APPLICATION**

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.

Alpine Watershed Group (AWG) seeks funding for the fiscal year 2020-2021 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 nearly 20 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
- Improve the administration and management of river and stream systems
- Assist water users and the general public in understanding current water issues

We are excited to have added capacity to make progress on our goals in the coming year. With the addition of a third permanent staff member in January 2020, we are poised to expand our reach. Outreach and Volunteer Coordinator Helen Fillmore is the perfect person to help. She is a member of the Washoe Tribe and grew up next to the Carson River. She has work experience with forest health management and conducting community climate resilience research and outreach to indigenous communities, and she has a Masters in hydrology. Adding a third staff member was a great leap for our small organization. This funding will help support Helen in communicating with local residents and visitors, growing our volunteer base, leading our river monitor program, and expanding our environmental education program with Alpine County youth.

In the coming year, with Helen's help, we will continue our planning and partnership development under our US Bureau of Reclamation (USBR) WaterSMART Cooperative Watershed Management Program grant. This grant serves as a significant match for our CWSD request. 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 on the West Fork Carson River Multiple Pollutants Vision Project
- 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

- Continuing our long-standing river monitor program, collecting data at eight sites in the Carson River watershed four times/year
- Conducting Year 2 of harmful algal bloom (HAB) monitoring in Alpine County, in partnership with the Lahtontan Regional Water Quality Control Board
- Conducting Year 3 of monitoring the South Lake Tahoe Public Utility District treated effluent for Contaminants of Emerging Concern including Pharmaceuticals and Personal Care Products; testing for the presence of micro-plastics will be added in Year 3
- Entering data from monitoring into the California Environmental Data Exchange Network (CEDEN), creating data summaries and reports for the public and Alpine County, and analyzing data trends over time to identify priority projects
- Ongoing recruitment of new volunteers for the river monitor and HAB monitoring programs
- Collaborating with other groups on equipment intercalibration to add quality assurance, train monitors, and connect with groups doing similar monitoring
- Developing our GIS database for the county's watersheds

Restoration

Hope Valley Restoration & Aquatic Habitat Enhancement Project – 11/2016 to 12/2024

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 funded by the State Water Board as part of a settlement of a Water Board enforcement action for Squaw Valley Resort is complete. Project implementation funding has been procured from CDFW via the National Fish & Wildlife Foundation funded by the State Water Board as part of a settlement of a Water Board enforcement action for Kirkwood Resort. We are currently working on securing permits. Construction is anticipated in summer 2020. Funding will cover monitoring and adaptive management through 2024.*

Grover Hot Springs Meadow Restoration Project – 1/2016 to 12/2020

The purpose of this 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: *This project funded by the California Department of Water Resources will wrap up in 2020 with installation of seven interpretive signs along the completed ADA trail; AWG will continue to support State Parks staff with weed management.*

Faith Valley Project – American Rivers lead, 6/2017 to 5/2020

The overarching goal of this project is to improve hydrologic and ecosystem processes in Faith Valley meadow located in the headwaters of the West Fork Carson River. AWG's involvement includes monitoring and community outreach.

Update: *Currently in the planning phase, American Rivers is seeking funding for project implementation.*

Education and Community Outreach

- Ongoing education of community members about water quality to encourage stewardship, working especially closely with Alpine County Health & Human Services to communicate about harmful algal blooms
- 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 High School
- Build a stronger partnership with the Hung-A-Lel-Ti (Woodfords) community of the federally-recognized Washoe Tribe of NV and CA
- Expanding watershed awareness by ongoing tabling presence at events throughout the region

TOTAL ESTIMATED PROJECT COST: \$379,768

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:

Alpine County from South Tahoe Public Utility District	
– committed	\$ 21,002
American Rivers – committed	\$ 6,166
California Department of Fish & Wildlife Kirkwood Settlement	
– committed	\$229,190*
California Resilience Challenge – projected	\$ 18,000
California Department of Water Resources through Tahoe	
Resource Conservation District – committed	\$ 31,410*
Clif Bar Family Foundation – projected	\$ 5,000
Trout Unlimited Sagebrush Chapter Grant – committed	\$ 6,000
US Bureau of Reclamation WaterSMART grant – committed	\$ 32,000
Individual contributions – projected	\$ 6,000

**Majority of funding is for sub-contractors. Amount listed is from AWG's budget for 10-1-2019 to 9-30-2020.*

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 18, 2020.

Note that permits specific to the Hope Valley Restoration & Aquatic Habitat Enhancement Project are not itemized in this Request for Funding as that project is completely covered by another funding source. It is shown here to give CWSD an overall view of AWG's work plan for 2020.

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

In 2019, AWG led a total of 214 volunteers who participated in 20 different restoration and monitoring activities, contributing approximately 983 volunteer hours. This included the 20th Annual Markleeville Creek Day on September 21, 2019; the 56 volunteers helped to plant 606 willow stakes, remove 19 bags of invasive weeds, and remove 11 bags of trash. We also led the 4th annual Earth Day event at Grover Hot Springs State Park on April 20, 2019; the 68 volunteers removed 23 bags of invasive weeds and collected four bags of garbage. Our volunteer base grew for our monitoring program, and we continued to conduct water quality monitoring at eight sites in the Carson River watershed.

Our team, now complete with Outreach and Volunteer Coordinator Helen Fillmore, is excited to continue to grow and strengthen our monitoring program and to tackle larger and much needed restoration projects. One of our reasons for adding a third permanent staff member was to have the bandwidth to make progress on our goal of making our nonprofit organization more sustainable. As new priority projects are identified from data collected and through community forums, Helen will help with grant writing to fund project implementation. Her role will also be critical in achieving our goal of growing our donor base.

Alpine County is truly unique with its 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 build the capacity of Alpine County to address the most critical environmental concerns by utilizing local expertise to monitor changes, lead projects to improve water quality, and educate residents and visitors on water issues. Thank you for considering this grant application.

Signature: 

Name (please print): Kimra D. McAfee

Title: Executive Director

Date: February 3, 2020

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 cut banks as needed throughout the Carson Valley. These cut banks 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 2021.

Please see attached Location Map
 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. 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: \$135,000.00
AMOUNT REQUESTED FROM CWSD: \$85,000.00

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>\$85,000.00 Pending</u>
<u>Nevada Department of Wildlife</u>	<u>\$10,000.00 Approved</u>
<u>CVCD Landowners (In-kind) Supplies</u>	<u>\$25,000.00 Approved</u>
<u>Totals: \$135,000.00</u>	

ESTIMATED DATE PROJECT TO BEGIN: Construction to begin in the late summer or early fall of 2020

ESTIMATED TIME TO COMPLETE PROJECT: Final reporting will be by the early spring of 2021

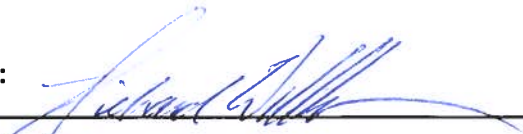
(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year)

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:

Richard Wilkinson

TITLE:

Grant Manager / River Coordinator

DATE:

2-2-20

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.

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: 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: Westwood Channel Clearing, Snagging, Maintenance and Bioengineering

PROJECT LOCATION/ADDRESS: Latitude: 38°57'11.38"N
Longitude: 119°47'0.98"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 river function along a 1.25 miles section of the East Fork of the Carson River. The overall goal of this project would be to use bio-engineering techniques to stabilize the soil, improve water quality and re-establish desirable vegetation for wildlife. In addition to bioengineering we will perform channel clearing, snagging and maintenance work in this area which was impacted by recent flooding events. The district considers this project a high priority since this area was severely impacted in 2017 and is close to the Westwood subdivision. The district would like to partner with CWSD, CTWCD, NDOW, USFWS, Douglas County and NDEP to complete this river maintenance project by the winter of 2021.

- Generate right of entry for landowner access
- Complete formal survey of site
- Develop engineered and stamped plan set
- Apply for permits
- Channel Clearing, Snagging and Maintenance
- Place vertical willow bundles, willow mattress, COIR fabric and plants
- Reshape banks to a 3 to 1 slope as needed
- Re-seed disturbed areas

Please see attached location 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.

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: \$650,000.00
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>\$100,000 Pending Fall</u>
<u>Nevada Division of Water Resources</u>	<u>\$250,000 Pending Fall</u>
<u>Douglas County</u>	<u>\$100,000.00 Approved</u>
<u>CVCD Landowners (In-kind & Cash) Supplies</u>	<u>\$75.000 Approved</u>
<u>Totals: \$650,000.00</u>	

ESTIMATED DATE PROJECT TO BEGIN: Engineering, Design to begin in the late summer or early fall of 2020 Please see the attached project timeline.

ESTIMATED TIME TO COMPLETE PROJECT: Final reporting will be by the winter of 2021
 (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.

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: _____

TITLE: _____

DATE: _____

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

Channel Maintenance and Bioengineering

Flood damage repairs and maintenance



6

**CARSON WATER SUBCONSERVANCY DISTRICT
FY 2020-21 REQUEST FOR FUNDING APPLICATION**

APPLICANT: Dayton Valley Conservation District

Name _____
34 Lakes Blvd PO Box 1807 _____

Address _____
Dayton _____ Lyon _____ NV _____ 89403 _____

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 _____
34 Lakes Blvd PO Box 1807 _____

Address _____
Dayton _____ Lyon _____ NV _____ 89403 _____

City _____ County _____ State _____ Zip Code _____
rholley.dvcd@yahoo.com _____ 775-246-1999 _____

Email _____ Telephone # _____

PROJECT NAME: Middle Carson River (MCR) 049, Fort Churchill Bank Stabilization _____

PROJECT LOCATION/ADDRESS: Fort Churchill State Historic Park, Fort Churchill Road _____

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

MCR 049 is a streambank stabilization in the area of Fort Churchill State Historic Park, and in close proximity to the Buckland Ditch and Fort Churchill Road. The stabilization project is approximately 1,100 linear feet, to a height of 12', with two rock refusal trenches (at the up and downstream ends), nine stream barbs approx. 50' long by 8.5' tall, and erosion matting over 6,000 sq. ft. Additionally, 225 willow/cottonwood pole plantings will be utilized, along with reseeding of the bank and upland portions of the project.

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

Immediately adjacent to the Buckland Ditch and Fort Churchill Roads, MCR 049 is vitally important in the protection of this critical pieces of infrastructure. In addition to infrastructure protection, MCR 049 will reduce and trap sediment, increase native vegetation, and promote improved water quality and wildlife habitat along this stretch of river.

TOTAL ESTIMATED PROJECT COST: \$632,750.00 _____

AMOUNT REQUESTED FROM CWSD: \$90,000.00 _____

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)	\$361,620.00 - funding committed
Lyon County	\$50,000.00 - funding committed
Nevada State Engineer (049)	\$55,000.00 - funding committed
Nevada State Engineer (savings)	\$25,130.00 - funding committed
Plant Materials Donations	\$51,000.00 - funding committed

ESTIMATED DATE PROJECT TO BEGIN: August 1, 2020

ESTIMATED TIME TO COMPLETE PROJECT: March 30, 2021

(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 - current
NDEP Temporary Discharge - pending
NDEP 401 certification - current
State Lands Right of Entry - pending

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

Additional information will be provided prior to the CWSD Finance Committee Meeting

Signature: 

Name (please print): Robert L. Holley

Title: District Manager

Date: February 1, 2020

Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD reserves the right to deny any and/or all applications for funding.

**CARSON WATER SUBCONSERVANCY DISTRICT
FY 2020-21 REQUEST FOR FUNDING APPLICATION**

7

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

APPLICANT'S AGENT (if different from Applicant):

Bill Washburn - Chairman
Name
111 Sheckler Road
Address
Fallon Churchill NV 89406
City County State Zip Code
Christy.sullivan@nv.nacdnet.net (775) 423-5124 ext 101
Email Telephone #

PROJECT NAME: Lower Carson River Clearing and Snagging

PROJECT LOCATION/ADDRESS: Lower Carson River below Diversion Dam

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

- Continue with a long-term monitoring program on the lower Carson River.
- Remove dead vegetation and debris restricting channel capacity.
- Beaver and beaver dam removal to improve water flow in the channel.
- Clear brush and sediment back to original riverbank starting at Diversion Dam and continuing downstream.
- Remove sediment build-up above and below Sheckler Bridge.
- Remove sediment build-up above and below McLean Bridge.
- Remove sediment build-up above and below Highway 50 Bridge.
- Remove sediment build-up above and below Highway 95 Bridge.
- Remove sediment build-up above and below Bafford Bridge.
- Repair eroded embankments along the Carson River.

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

Create a river channel that is clear of obstruction and provides free flow at natural choke points. It takes a combination of debris, foliage, beaver dam and sediment removal to maintain a clear channel. Having a steady stream flow will reduce erosion and will help reduce the change of the water system caused by obstruction in the river. It will reduce the potential of flood, improve channel capacity, provide safety to the community in the flood zone, and improve the functionality and management of the lower Carson River. Removal of sediment will help structures to operate within their design parameters.

TOTAL ESTIMATED PROJECT COST: \$40,000.00

AMOUNT REQUESTED FROM CWSD: \$20,000.00

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 Grant Funding \$ 6,000.00

In-kind Match:

Lahontan Conservation District \$ 6,000.00

Administration and Equipment

Landowners Equipment and \$ 8,000.00

Labor

Total \$20,000.00

ESTIMATED DATE PROJECT TO BEGIN: November 1, 2020

ESTIMATED TIME TO COMPLETE PROJECT: March 15, 2021

(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, 2020 to June 30, 2021

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

This project will prevent and minimize property loss and other damage during flood conditions. Riverbank stabilization after sediment removal will minimize erosion, improve water quality and re-establish native vegetation. Also, maintaining an adequate velocity of river flow prevents stagnate pools from developing where mosquitoes can propagate and create health issues for residents along the Carson River.

Signature: 

Name (please print): Bill Washburn

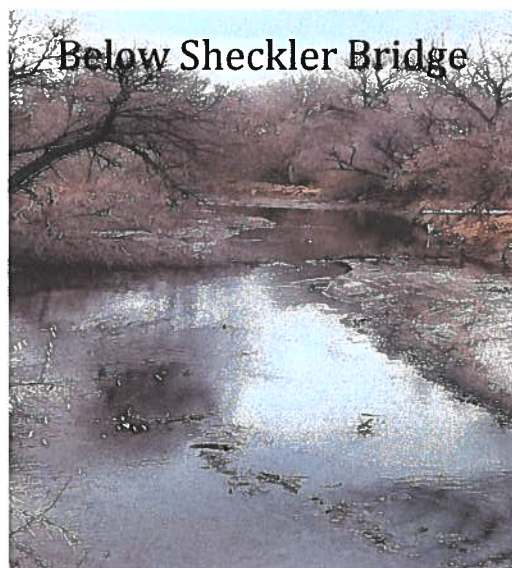
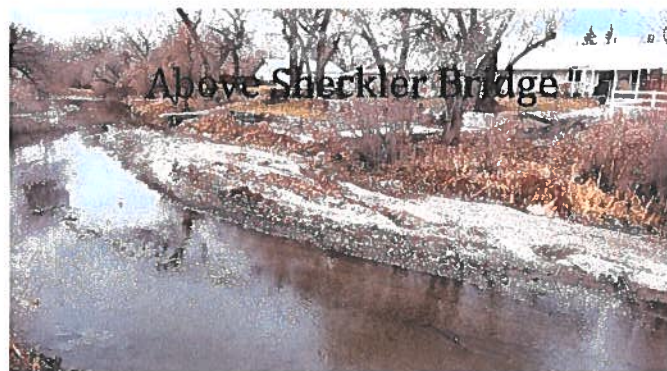
Title: Chairman

Date: January 23, 2020

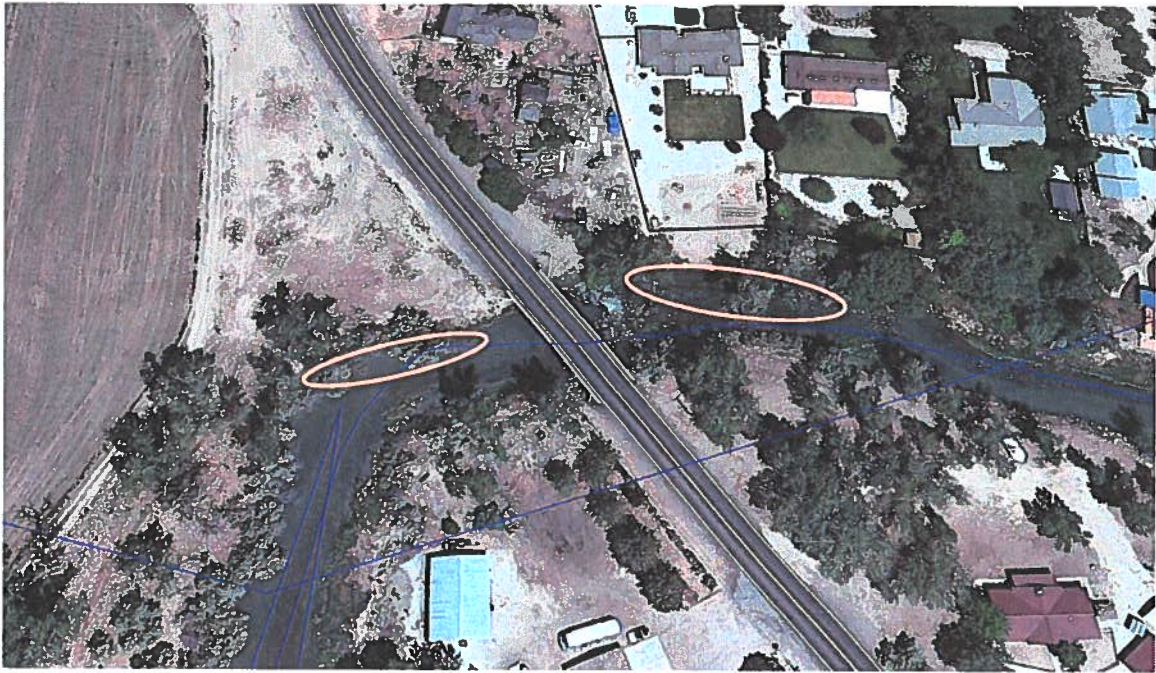
Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD reserves the right to deny any and/or all applications for funding.

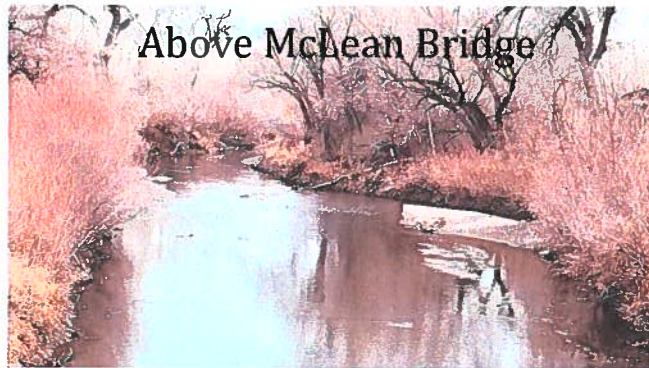
Sheckler Bridge



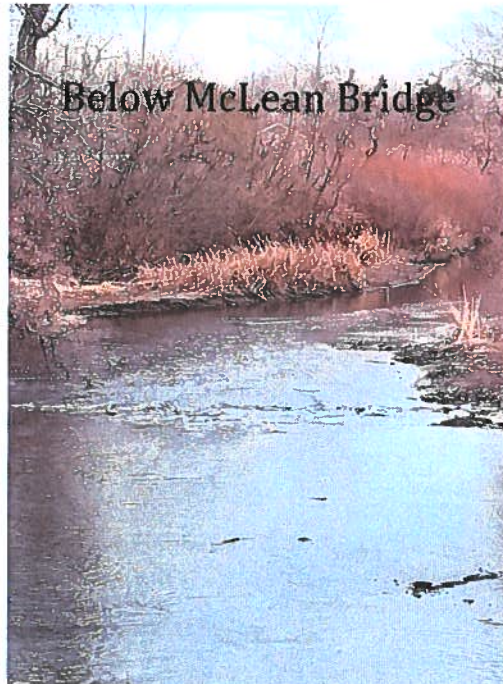
McLean Bridge



Above McLean Bridge



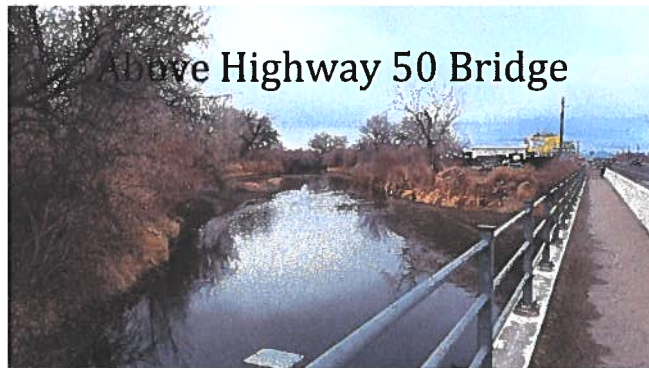
Below McLean Bridge



Highway 50 Bridge



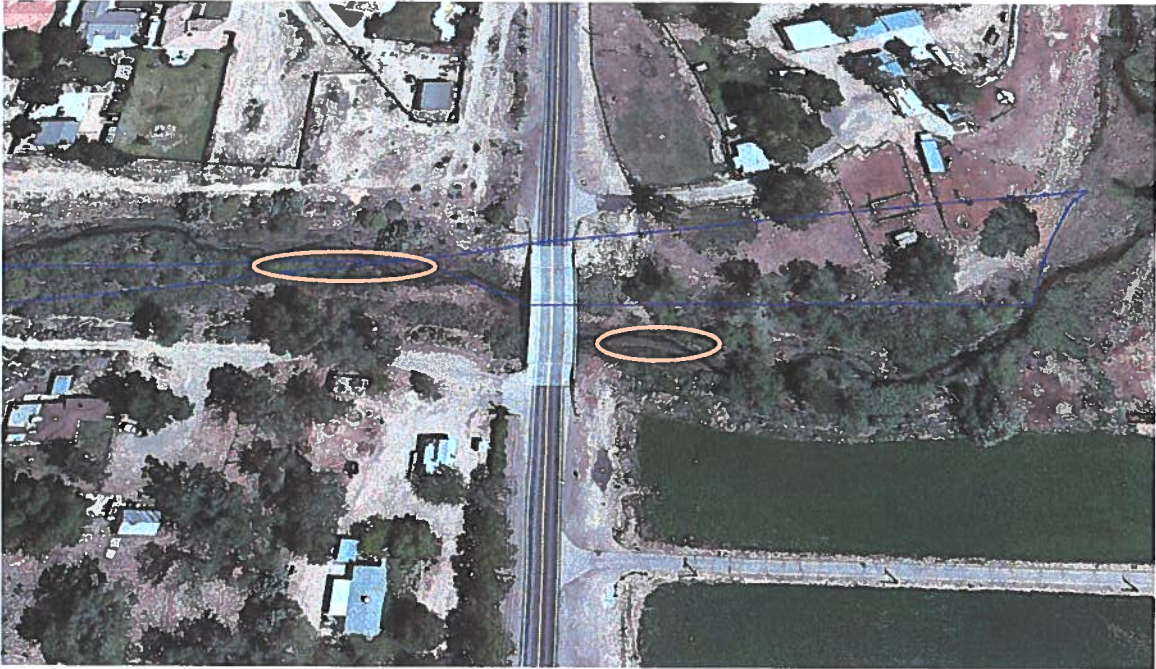
Above Highway 50 Bridge



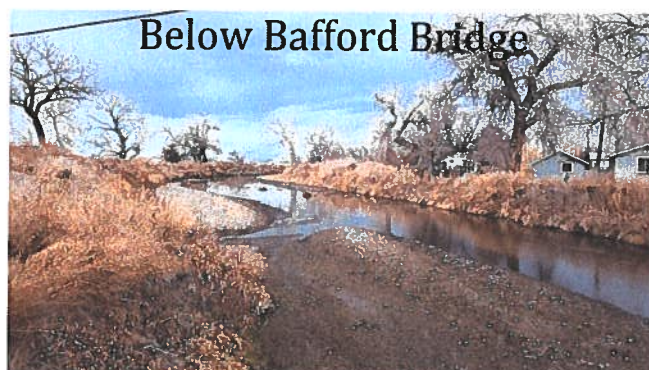
Below Highway 50 Bridge



95NBridge



Bafford Lane Bridge



CARSON WATER SUBCONSERVANCY DISTRICT FY 2020-21 REQUEST FOR FUNDING APPLICATION

APPLICANT:

Truckee-Carson Irrigation District
 Name
 P.O. Box 1356
 Address
 Fallon Churchill Nevada 89407
 City County State Zip Code
 rusty@tcid.org 775-423-2141
 Email Telephone #

APPLICANT'S AGENT (if different from Applicant):

Rusty D. Jardine, Esq.
 Name
 P.O. Box 1356
 Address
 Fallon Churchill Nevada 89407
 City County State Zip Code
 rusty@tcid.org 775-423-2141
 Email Telephone #

PROJECT NAME: Improvement/Repair to Carson River Gates at the Carson River Diversion Dam in Churchill County, Nevada.

PROJECT LOCATION/ADDRESS: Approximately 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/Repair to four(4) Carson River gates, at Carson River Diversion Dam, consisting of refurbishing the slide gates to original dimensions, replacing deteriorated wooden gate seats, and cleaning/recoating slide gates. (See Attached).

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

1. Enhance the operational ability of designated river gates at the Carson River Diversion Dam to safely convey as much as 2,000 ft³ of water during flood operations as declared for the Newlands Federal Reclamation Project by the United States Bureau of Reclamation; and,
2. Reduce spillage from, and possible damage to, those river gates not in actual flood operation use during an event hereinabove described -as occurred in 2017.

TOTAL ESTIMATED PROJECT COST: \$500,000.00

AMOUNT REQUESTED FROM CWSD: \$100,000

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.

General and regular assessments provided by water users in the Newlands Federal Reclamation Project with which to sustain all project staffing and equipment requirements. All work will be performed by District staff -constituting a like match to any grant funds provided by CWSD.

ESTIMATED DATE PROJECT TO BEGIN: 07-01-2021

ESTIMATED TIME TO COMPLETE PROJECT: 12-31-2021
(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 Carson River Diversion Dam is a feature of the Newlands Federal Reclamation Project, Nevada. The District operates and maintains the dam under agreement with the United States (Bureau of Reclamation) pursuant to Contract No. 7-07-20-X0348 dated November 26, 1996.

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

Upon risk analysis performed by the United States, the Carson River Diversion Dam has been classified as a "low risk" facility. Accordingly, the facility is exempt from consideration for funding under the federal Safety of Dams Act.

Signature: 

Name (please print): Rusty D. Jardine, Esq.

Title: General Manager

Date: 1/30/2020

Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD reserves the right to deny any and/or all applications for funding.



Truckee-Carson Irrigation District

Newlands Project

January 27, 2020

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

BOARD OF DIRECTORS

Eric Olsen, President
David Stix, Jr., Vice-President
Bob Oakden, Secretary
Lester deBraga, Treasurer
Abraham Schank, Director
Joseph Gomes, Director
Wade Workman, Director

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

**Re: Request for Grant Funding for Carson Diversion Dam in Churchill County, Nevada
(Flood Protection and Improved Management and Control of Carson River Flow)**

Dear Ed:

On behalf of the Truckee-Carson Irrigation District (District) we express anew our appreciation to the Carson Water Subconservancy District for financial assistance extended us for the V-Line Emergency Weir and for gates and gate controls for head-works of the V-Line and T-Line Canals at the Carson River Diversion Dam. Both of these structures are pivotal in our management of Carson River flows during flood events.

You will recall that in December of 2018 we provided you with a letter requesting grant funding for the Carson Diversion Dam. (A copy of the letter is attached hereto for your reference). We reported that "[c]onstruction techniques associated with the Dam in 1906 included placement of wood pilings, driven deeply into the riverbed, as a foundation for the laying of a concrete structure." *Id.* We emphasized the fact that this Dam is well over 100 years in age; and, that the useful life of the facility has long since been exceeded. *Id.* While at least for now, the probability of conditions existing as they did in 2017 seems remote, owing to the importance of the Dam in all flood operations, we must continue to make improvements now for events to come.

Accordingly, we here seek consideration for the next cycle of grant funding (year 2020-21) with which to improve/repair the Carson River gates at the Carson Diversion Dam. Specifically, we will refurbish the river slide gates to their original dimensions, replace deteriorated wooden gate seats, and clean/recoat the slide gates. While a total of twenty-two (22) river gates exist, including a flood gate, our approach will be to provide improvement/repair by phases –commencing with the gates that were utilized in the 2017 flood operations (four (4) in number). We respectfully request the sum of One Hundred Thousand Dollars to be granted for the purposes herein stated.

Respectfully,

TRUCKEE-CARSON IRRIGATION DISTRICT

By: 

Rusty D. Jardine, Esq.
General Manager and District Counsel

RDJ:dd

Enclosures

EXHIBIT 10

Note:
View of
Gates Guides
to be
refurbished

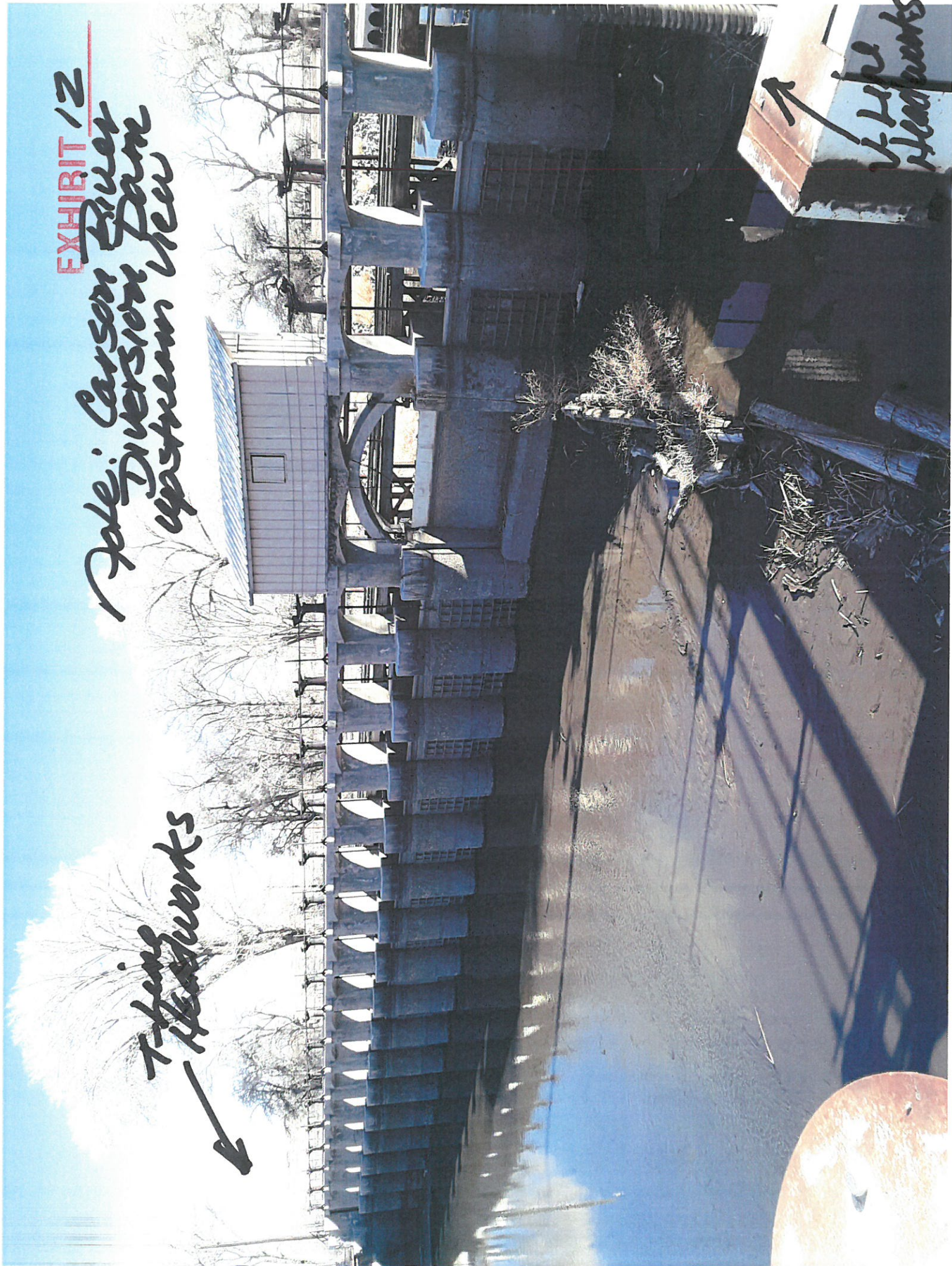


EXHIBIT 12

File: Carson River
Diversion Dam
upstream view

Thurs
Headquarters

Thurs
Headquarters



CARSON WATER SUBCONSERVANCY DISTRICT FY 2020-21 REQUEST FOR FUNDING APPLICATION

APPLICANT: Churchill County Parks and Recreation

Name _____
 325 Sheckler Road _____

Address _____
 Fallon _____ Churchill _____ NV _____ 89406 _____
 City _____ County _____ State _____ Zip Code _____
 jguerrero@churchillcounty.org _____ Office - 775-423-7733, Cell - 775-427-6644 _____
 Email _____ Telephone # _____

APPLICANT'S AGENT (if different from Applicant):

Name _____

Address _____

City _____ County _____ State _____ Zip Code _____

Email _____ Telephone # _____

PROJECT NAME: Carson River Park Phase I _____

PROJECT LOCATION/ADDRESS: 491 Sheckler Cut Off _____

Fallon, Nevada 89406 _____

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

Churchill County Parks and Recreation Department acquire a 2.26 acre property at the intersection of Sheckler Cut Off and the Carson River approximately 5 miles west of Fallon. This purchase was made possible using Question 1 Funds in 2005. In 2011, funds were awarded through the Carson Water Subconservancy District for a preliminary plan. In 2012 a plan was developed, attached are updated engineer estimate and a map. The parcel includes approximately 420 feet of river frontage with another 140 feet possible. Funds being requested would be used to carry out the 1st phase of the overall project. The 1st phase would include demolish of the current house on the property.

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 parcel would lend itself well to a day use picnic area use, interpretive site potential and river access for recreational use of the river. The number one goal is to provide the community the ability to access the Carson River.

TOTAL ESTIMATED PROJECT COST: \$15,537.50 _____

AMOUNT REQUESTED FROM CWSD: \$10,537.50 _____

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's Residential Construction Tax Fund in the amount of \$5,000.

ESTIMATED DATE PROJECT TO BEGIN: September 2020

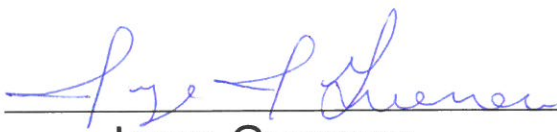
ESTIMATED TIME TO COMPLETE PROJECT: May 2021

(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 only permit required at this time will be issued by the local county building department. The permit will be acquired upon moving forward with the project and fees will be waived.

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

Signature: 
Name (please print): Jorge Guerrero
Title: Director
Date: 02/04/2020

Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD reserves the right to deny any and/or all applications for funding.

CARSON WATER SUBCONSERVANCY DISTRICT FY 2020-21 REQUEST FOR FUNDING APPLICATION

APPLICANT: Lyon County Utilities
 Name _____
34 Lakes Blvd # 103,
 Address _____
Dayton Lyon NV 89403
 City County State Zip Code
dbruketta@lyon-county.org
 Email _____
(775) 246-6220
 Telephone # _____

APPLICANT'S AGENT (if different from Applicant):

Vidler Water Company
 Name _____
3480 GS Richards Blvd Ste 101
 Address _____
Carson City NV 89703
 City County State Zip Code
dmerrill@vidlerwater.com
 Email _____
775-885-5000 x 102
 Telephone # _____

PROJECT NAME: Highway 50 Right-Of-Way Acquisition Project

PROJECT LOCATION/ADDRESS: Highway 50 between Dayton (Lyon County Utilities Eastern Boundary)
to Silver Springs (Ramsey-Weeks Cutoff)

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

The proposed project is to obtain the requisite right-of-way along the Highway 50 corridor for a future utility/water pipeline between Dayton and Silver Springs. The work would involve researching and identifying existing easements and utilities. Determining the best route that benefits the most amount of people, the most cost effective and least disruptive. Obtain approvals from the affected governmental entities such as the Bureau of Land Management and the Nevada Department of Transportation.

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 right-of-way and future pipeline would further the connectivity between the two communities and allow for the modernization of water service. Once completed, the future pipeline could serve the daily needs of the communities as well as assist in times of water shortage and emergencies.

TOTAL ESTIMATED PROJECT COST: \$217,000

AMOUNT REQUESTED FROM CWSD: \$129,000

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.

Vidler Water Company in kind services.

ESTIMATED DATE PROJECT TO BEGIN: March 2020

ESTIMATED TIME TO COMPLETE PROJECT: 2-3 years (depends on governmental agency approval process)
(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.

Bureau of Land Management, Nevada Department of Transportation and Lyon County. We have been in contact with the BLM, however, this was in June 2018. The BLM could take 2-3 years to complete depending on staffing issues. NDOT requires an encroachment permit that could take up to a year for approval.

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

Lyon County Utilities as signatory, would like to respond to the Sub-Conservancy District request with the assistance of Vidler Water Company. This would be a no cost project to Lyon County. Vidler would undertake the necessary initial engineering and routing with Lyon County Utilities as well as the initial permitting checklist and related groundwork. This initial scope of work will then allow the Sub-Conservancy District to evaluate and provide funding for hard costs and Lyon County Utilities would provide support in the form of signatory, right-of-way approvals and ownership and maintenance.

Signature: 

Name (please print): David Bruketta

Title: Utilities Director

Date: 1 / 30 / 2020

Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD reserves the right to deny any and/or all applications for funding.

Highway 50 Right-of-way Acquisition Cost Estimate

1/30/2020

<u>Item</u>	<u>Who does the Work</u>	<u>Who Pays</u>	<u>Hours</u>	<u>\$/Hour</u>	<u>Vidler in-kind</u>	<u>CWSD</u>
Rough Waterline layout	Vidler		40	\$ 200	\$ 8,000	
Existing Right-Of-Way/Easement/Property Ownership Map	Vidler		40	\$ 200	\$ 8,000	
Preliminary Design	Vidler		80	\$ 200	\$ 16,000	
Lyon County Engineering Review	FarrWest Engineering	CWSD	40	\$ 180		\$ 7,200
Drafting/R/W Map	Consultant	CWSD	50	\$ 200		\$ 10,000
BLM Application /POD	Vidler		160	\$ 200	\$ 32,000	
NDOT Application /Maps	Vidler		40	\$ 200	\$ 8,000	
Lyon County Application	Vidler		40	\$ 200	\$ 8,000	
NDOT Application Fees (10 miles)*	Vidler	CWSD				\$ 30,000
Cultural and Biological Studies (2 Parcels)	Consultant	CWSD				\$ 40,000
BLM Cost Recovery		CWSD				\$ 30,000
					\$ 80,000	\$ 117,200
		Contingency	10%	\$	8,000	\$ 11,720
			Total	\$	88,000	\$ 128,920
			Grand Total			\$ 216,920
			Say			\$ 217,000

*NDOT Publication "Terms and Conditions Relating to Right-of-Way Occupancy Permits" 2018 Edition, Rev. 02-2019

II,1, IC. Greater than 5 miles.

The Department will charge and collect a fee in an amount equal to the cost incurred by the

Department to review an application for an occupancy permit and inspect the installation of

Underground and Aerial facilities. NDOT Publication "Terms and Conditions Relating to Right-of-Way Occupancy Permits" 2018 Edition, Rev. 02-2019

**CARSON WATER SUBCONSERVANCY DISTRICT
FY 2020-21 REQUEST FOR FUNDING APPLICATION**

11

APPLICANT: _____ Eddy Quaglieri, Water Utility Manager, Carson City Public Works _____
Name
_____ 3505 Butti Way _____
Address
_____ Carson City _____ NV _____ 898701 _____
City County State Zip Code
_____ equaglieri@carson.org _____ 775-283-7395 _____
Email Telephone #

APPLICANT'S AGENT (if different from Applicant):

Name

Address

City County State Zip Code

Email Telephone #

PROJECT NAME: _____ Kings and Ash Canyon Watershed Control Plan _____

PROJECT LOCATION/ADDRESS: _____ Kings/Ash Canyons _____

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

The Quill Ranch Water Treatment Facility (Quill WTP) was completed and commissioned in 1991. The plant is supplied by three surface water sources when available; Ash Creek, King's Creek and springs, and the Marlette Hobart Water System owned and operated by the State of Nevada (See Attachment 1, Quill Treatment Plant Source Schematic).

The beautiful Kings and Ash Canyons are becoming more and more popular amongst the public. These two Canyons provide Carson City clean and sustainable drinking water within the Carson River Watershed as well as recreation opportunities for the public. There are now world renown mountain biking and hiking trails in the two canyons as well as increasingly amount public use. The purpose of this project is to develop a Watershed Control Plan to help keep the City's drinking water supplies safe and sustainable, while still allowing the public to enjoy the open spaces.

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 goal of the project is to create a living document that outlines the many different uses and stakeholders of Kings and Ash Creeks as well as the certain safeguards needed in keeping the watersheds healthy. Other benefits of this plan is compliance with the Nevada Division of Environmental Protection's Long Term 2 Treatment Rule that monitors for Cryptosporidium in source waters. The requirements to meet this compliance are included in the EPA's LT2 Enhanced Surface Water Treatment Rule Toolbox Guidance Manual which can be found at <https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1009JLI.txt>. This guidance manual is also included with this submittal.

TOTAL ESTIMATED PROJECT COST: _____ \$50,000 _____

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.

Matching funds will be from the Water Division budget for Professional Services.

ESTIMATED DATE PROJECT TO BEGIN: June 2020

ESTIMATED TIME TO COMPLETE PROJECT: 6 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.

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

Signature: Edmund Quaglieri

Name (please print): Eddy Quaglieri

Title: Water Utility Manager

Date: 1/28/20

Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD reserves the right to deny any and/or all applications for funding.

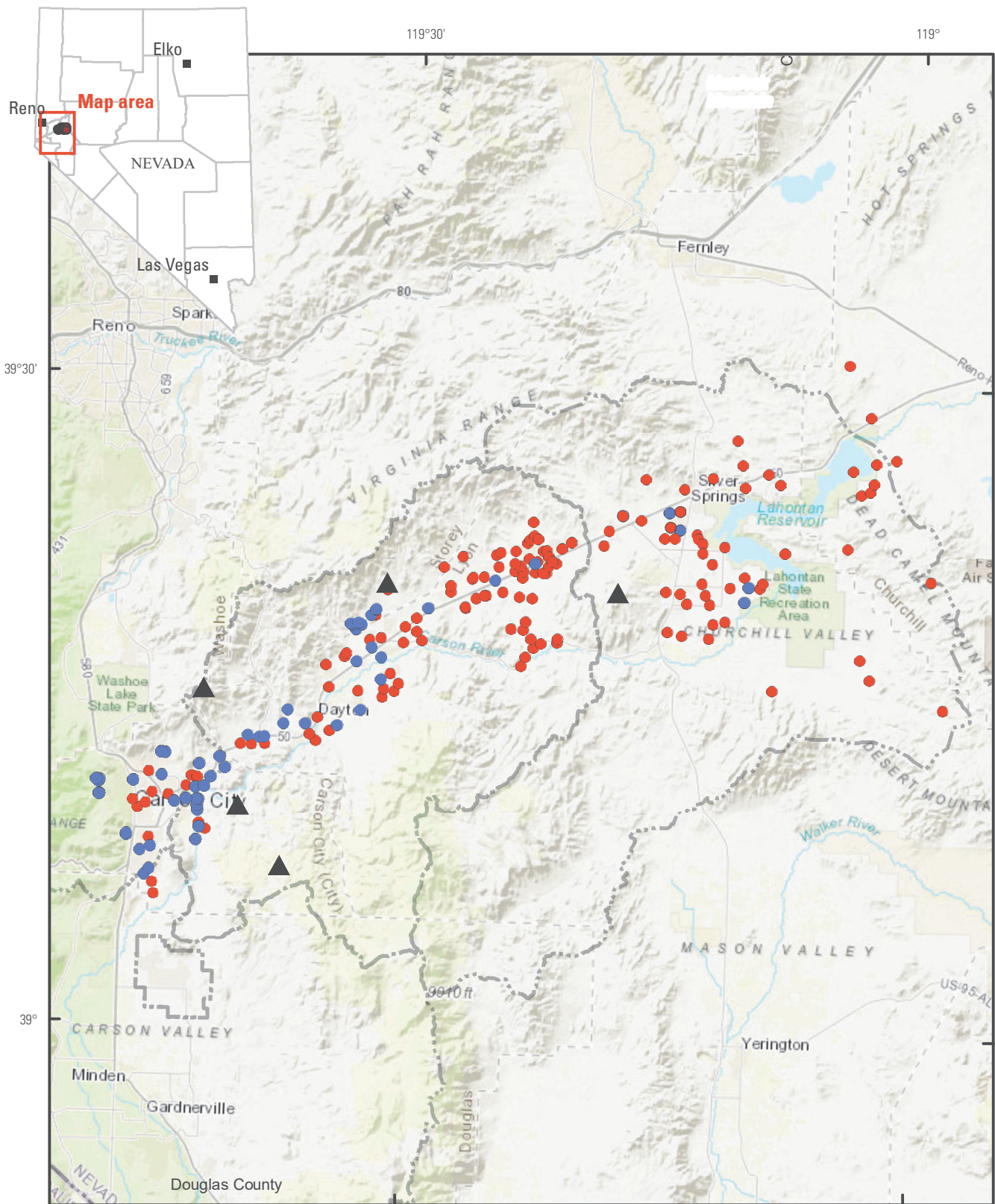
12

APPLICANT'S AGENT (if different from Applicant):

PROJECT NAME: USGS Middle Carson Groundwater Monitoring

PROJECT LOCATION/ADDRESS: Eagle Valley, Dayton Valley, and Churchill Valley

The middle Carson River monitoring network measures and informs the public on changing groundwater resources. The network is designed to collect quarterly water-level measurements nested near locations of annual measurements (figure 1). This design captures inter-annual groundwater-level trends quarterly, while expanding spatial coverage of Eagle, Dayton and Churchill Valleys to identify areas of groundwater change. For example, during a multiyear drought in 2016, the network added monitoring locations in Dayton, NV in the Mark Twain Estates area (figure 2a) to help address local rumors of wells going dry. The network expansion helped to identify two domestic wells, completed in a bedrock aquifer, that periodically go dry during summer months (figure 2b). However, domestic wells completed in the nearby valley-fill aquifer have experienced water-level increases during the same period (figure 2c). The network also captures the response of groundwater to large annual variation in precipitation over the last few decades (figure 3a). Future monitoring will be expanded in areas near USA Parkway and Highway 50, where current monitoring shows a small but steady decline (figure 3b).



Drainage basin boundaries from 1:24,000-scale Watershed Boundary Dataset, 2013.
 Universal Transverse Mercator, Zone 11N, North American Datum of 1983.



EXPLANATION

- Annual wells
- Quarterly wells
- ▲ Bulk-precipitation sites

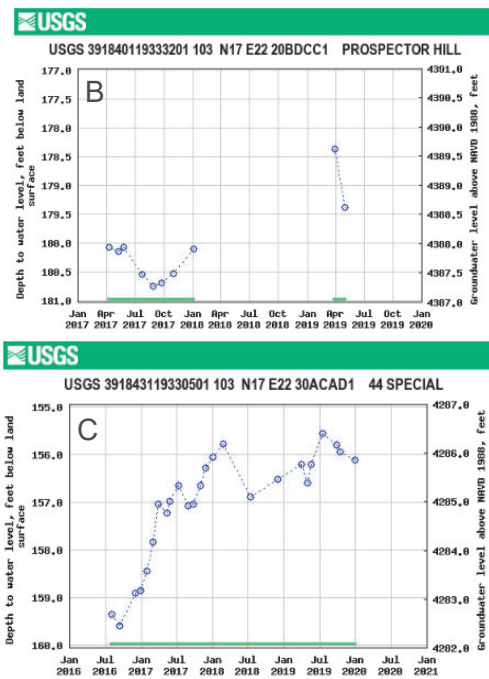
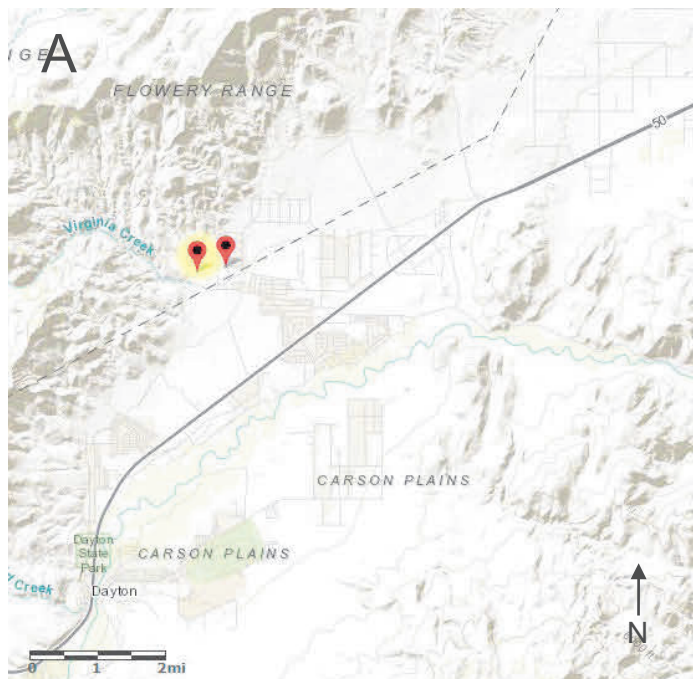


Figure 2. Map of monitoring locations in Dayton, NV (A), groundwater-level graph showing well in bedrock that periodically goes dry (B), and groundwater-level graph showing the nearby valley-fill aquifer trends (C).

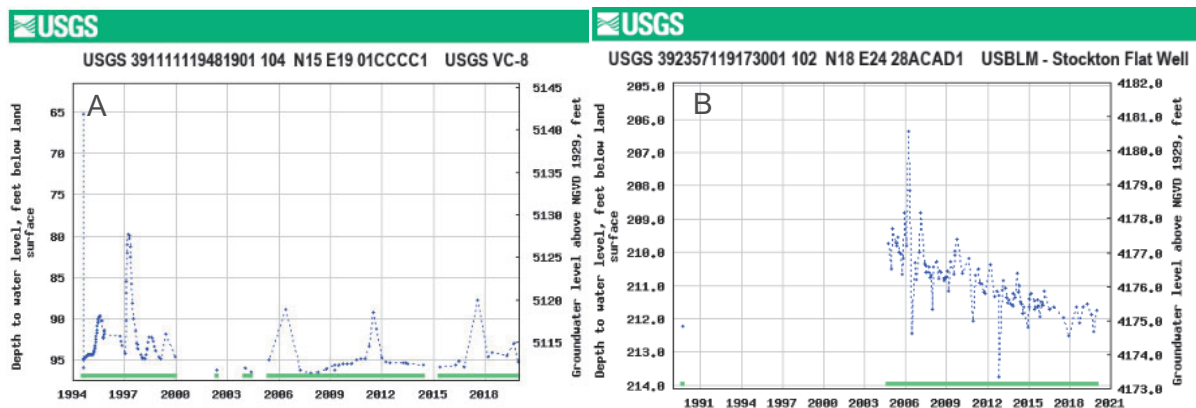


Figure 3. Groundwater-level graphs showing (A) Carson Valley aquifer response to annual precipitation events and (B) aquifer water-level trends near the Highway 50 and USA Parkway intersection, an area of anticipated development in the middle Carson River basin.

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 proposed study is aligned with the USGS science strategy goal of informing the public and decision makers about the status of freshwater resources across the US 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 are affected by increased development.

Project benefits include:

1. Groundwater-level observations in approximately 220 wells. Additional monitoring wells will be included near areas of proposed expansion with the USA Parkway Highway with the addition of at least 3 monitoring wells. Sites will be monitored at quarterly (61 wells) and annual (159 wells) frequency. The network will be dynamic and adjust to best monitor issues reported to the USGS during the project timeline (table 1).
2. 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.
3. 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 1st to June 30th.]

Nevada state fiscal year	FY 2021				FY 2022				FY 2023				FY 2024			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Quarterly well run	x	x	x	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	x	x	x
Annual well run	x				x				x				x			
Data review				x				x				x				x

TOTAL ESTIMATED PROJECT COST: \$122,000 (4 year project cost)

AMOUNT REQUESTED FROM CWSD: \$61,000 (average cost ~\$15,250 per year)

References

- Arteaga, 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 79-261, 44 p.
- Berger, D.L., 1987, Ground-water levels in water years 1984–86 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, 126 p.
- Harrill, J.R., and Preissler, A.M., 1994, 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.

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.

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 at 50/50 match.

ESTIMATED DATE PROJECT TO BEGIN: July 1st, 2020

ESTIMATED TIME TO COMPLETE PROJECT: 4 years, June 30th, 2024
(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.]

Cooperator	FY 2021	FY 2022	FY 2023	FY 2024	Total
USGS Matching Funds	\$15,250	\$15,250	\$15,250	\$15,250	\$61,000
Request from CWSD	\$15,250	\$15,250	\$15,250	\$15,250	\$61,000
Total	\$30,500	\$30,500	\$30,500	\$30,500	\$122,000

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.

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

Signature: Ron Kauble

Name (please print): Ron Kauble

Title: USGS Hydrologic Technician

Date: 02/03/2020

Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD reserves the right to deny any and/or all applications for funding.

CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT:

Name Ramon Naranjo

Address 2730 N. Deer Run Road NV 89701

City Carson City County 775-887-7659 State Zip Code

Email rnaranjo@usgs.gov Telephone #

APPLICANT'S AGENT (if different from Applicant):

Name

Address

City County State Zip Code

Email Telephone #

PROJECT NAME: Status of Water levels, Arsenic, and Nitrate in the Douglas County Alluvial Aquifer and the Development of an Interactive Web based Tool for Visualization of Hydrologic Data

PROJECT LOCATION/ADDRESS: Carson Valley, Douglas County, Nevada

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

This proposed work documents 1) the status of water levels, arsenic and nitrate in groundwater, 2) evaluates the current well network efficacy for monitoring arsenic and nitrate in the Carson Valley, and 3) development of a web-based tool for tracking changes in hydrologic data collected in the Carson River watershed. The project description is discussed in more detail in the attachment.

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 study will analyze seasonal and annual trends in water levels, nitrates and arsenic in the alluvial aquifer to provide an up to date assessment of water quantity and quality. This study also proposes to develop a web-based application to allow water managers and the public to get near-real time information on the status and trends of data as it is being collected for the Carson Basin. Goals and Benefits are discussed further in attachment.

TOTAL ESTIMATED PROJECT COST: \$158,758
AMOUNT REQUESTED FROM CWSD: \$103,192

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 USGS is contributing to this study an estimate of \$55,565 (35%).

ESTIMATED DATE PROJECT TO BEGIN: July 2020

ESTIMATED TIME TO COMPLETE PROJECT: June 2022
(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.) Funding request is summarized in Budget Summary of attachment

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.

Not applicable

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

SIGNED: RAMON NARANJO
Digitally signed by RAMON NARANJO
Date: 2020.02.03 14:22:39 -08'00'

NAME: Ramon Naranjo, PhD

TITLE: Research Hydrologist

DATE: February 3, 2020

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

Status of Water levels, Arsenic, and Nitrate in the Douglas County Alluvial Aquifer and the Development of an Interactive Web based Tool for Visualization of Hydrologic Data

Ramon Naranjo, Angela Paul, Toby Welborn
U.S. Geological Survey

BACKGROUND

Evaluation of trends in water levels and arsenic and nitrate concentrations in the Carson Valley alluvial aquifer Douglas County, Nevada is needed to assess changes aquifer conditions and the vulnerability of domestic and municipal supply wells to these contaminants. Arsenic concentrations in groundwater exceeding the current U.S. Environmental Protection Agency (USEPA) drinking-water criterion of 10 micrograms per liter ($\mu\text{g/L}$) have been associated with volcanic terrain, long groundwater flow paths, and redox conditions (Anning and others, 2012). Groundwater nitrate concentrations exceeding the USEPA drinking-water criterion of 10 milligrams per liter (mg/L) have been found in areas with high septic tank densities (Naranjo and others, 2013). Groundwater containing concentrations of arsenic and nitrate concentrations in excess of their respective drinking-water criteria are of concern in the Carson River Watershed in areas reliant on groundwater as a source of potable supply. Over time, exposure to elevated concentrations of arsenic has been associated with increased risk to some cancers (*e.g.* skin); exposure to elevated nitrate concentrations has been correlated to increased incidences of methemoglobinemia in infants and other adverse health outcomes (Ward and others, 2018; World Health Organization, 2018, 2020). Ecologically, elevated nitrate concentrations in surface waters have been associated with harmful algal blooms, low dissolved oxygen levels, and in some cases amphibian and fish kills (Hamer and others, 2004; USEPA, 2019). Assessing water level responses to recharge from the Carson River and groundwater pumping can also provide insight to improved management of water resources.

OBJECTIVES

This proposed work documents 1) the status of water levels, arsenic and nitrate in groundwater, 2) evaluates the current well network efficacy for monitoring arsenic and nitrate in the Carson Valley, and 3) development of a web-based tool for tracking changes in hydrologic data collected in the Carson River watershed. Currently, water levels are being monitored by the USGS and by the Nevada Division of Water Resources (NDWR). Nitrate data that have been collected by the USGS since those reported by Naranjo and others (2013) will be compiled and evaluated for trends. Where possible, arsenic data compiled from previous investigations will be evaluated for trends following similar methods used for nitrate. The monitoring well network will be evaluated for effectiveness in eventually assessing transport and risk to domestic and municipal supply wells, and for critical data gaps (spatial, depth). The proposed Carson Basin Hydromapper (CBH) will provide real-time hydrologic data (*e.g.* precipitation, streamflow) and allow for the presentation of synoptic data (water levels and concentrations of arsenic and nitrate) using a web-based application. Groundwater levels will be displayed from USGS and the NDWR databases to provide access to the data and trends. The CBH will provide a

dashboard of hydrologic data in an easy to use format to inform the public and State and Local water agencies on the status of water resources and water quality within the Carson River basin.

RELEVANCE AND BENEFITS

This study will analyze seasonal and annual trends in water levels, nitrates and arsenic in the alluvial aquifer to provide an up to date assessment of water quantity and quality. This study also proposes to develop a web-based application to allow water managers and the public to get near-real time information on the status and trends of data as it is being collected. Overall, this study is consistent with the national USGS mission and goals and with water-resource issues identified in the USGS Water Science Strategy (Evenson and others, 2013), including:

Goal 1: Provide Society the Information It Needs Regarding the Amount and Quality of Water in All Components of the Water Cycle at High Temporal and Spatial Resolution.

Objective 2: Advancement of Monitoring networks and techniques for determining water quality.

Objective 3: Assessment of water resources and suitability to meet human and ecosystem needs.

Goal 3: Predict Changes in the Quantity and Quality of Water Resources in Response to Changing Climate, Population, Land Use, and Management Scenarios

Objective 1: Development and Application of Models to Predict Potential Effects of Changes in Population, Land Use, Climate, and Management Practices Upon Future Water Availability Considering Human and Ecological Needs.

Goal 5: Deliver Timely Hydrologic Data, Analyses, and Decision-Support Tools Seamlessly Across the Nation to Support Water-Resource Decisions

Objective: Development of New, Integrated Information Dissemination in Formats Appropriate for the 21st Century to Aid Scientists and Decisionmakers

Task 1: Status of Water Levels, Arsenic and Nitrate Data in Groundwater

This work proposes the compilation and analyses of water level data, updating information presented previously by the USGS (Maurer and Berger; 2007; Yager and others, 2012; Naranjo and others, 2013). The USGS has been collecting water levels from 20 wells in the Carson Valley area. Water levels in wells along the western side of the Carson River may fluctuate annually, being influenced by river discharge. Wells located on the eastern side of the river are not recharged by the river and therefore water levels are not affected by river discharge. Since the 1980s, residential areas in the valley have experienced 30 ft declines in water levels resulting in an increased burden on homeowners to deepen wells to maintain a reliable source of water. Given the current understanding of the arsenic distribution with depth, wells that are deepened in the alluvial aquifer may be susceptible to withdrawing water with relatively high arsenic concentrations. Thus, declining water levels and the exposure to arsenic will likely become an important issue for residences that rely on domestic wells for drinking water in Douglas County.

In 2016, the USGS in collaboration with the Carson Water Subconservancy District (CWSD) evaluated existing datasets for arsenic occurrence in Carson Valley. Data were compiled from

the USGS and the Douglas County Public Utility District, Gardnerville Water Company, Indian Hills General Improvement District, South Tahoe Public Utility District, and Town of Minden. Before the initiation of agricultural irrigation in the spring 2019, nine samples were collected from eight domestic wells and one municipal supply well in southern Carson Valley and analyzed for arsenic speciation and select geochemical parameters known to be important to the mobility of arsenic. Data collected as part of this collaborative effort will be presented.

The USGS previously evaluated trends and transport of nitrate in groundwater in the Ruhenstroth and Johnson Lane areas in Douglas County using data collected up to 2010 (Naranjo and others, 2013). Since then, data have continued to be collected from 5 wells in those areas. Trends in nitrate concentrations from those 5 domestic wells will be analyzed for temporal trends. Changes in nitrate concentrations over time will be analyzed using both graphical techniques and the nonparametric statistical test, Kendall's tau. The procedure adopted in this study is similar to data analyses used by others (Thodal, 1996; Rosen, 2003; and Naranjo and others, 2013).

Task 2: Monitoring Well Network Assessment

Currently, the USGS is collaborating with the CWSD monitoring groundwater levels and water chemistry from 30 and 11 wells, respectively. Groundwater characteristics being monitored on an annual (6 wells) and bi-annual (5 wells) basis include acid neutralizing capacity, dissolved oxygen, pH, specific conductance, temperature, dissolved solids, major ions, iron, and nutrients.

Well location and depths need to be evaluated to determine whether the current network is representative of nitrate and arsenic concentration distributions within the Carson Valley. Based on this evaluation, recommendations for changes to the well network will be made.

Task 3: Carson Basin HydroMapper

In addition to the current effort monitoring water levels and concentrations of nitrate in Carson Valley groundwater, other USGS projects in the Carson River Basin monitoring streamflow and groundwater levels and chemistries are ongoing in the lower Carson River basin (i.e. Lyon and Churchill county) that are also critically important to water resource managers. To improve the dissemination and presentation of scientific data relevant to the Carson River basin, a web-based application is proposed. The tool will provide a means by which State and local agencies and the public can readily access information regarding groundwater resources, streamflow, and other hydrological data. The proposed development of the Carson Basin Hydromapper (CBH) will allow agencies to evaluate near real-time climate (snow water equivalent, precipitation, soil moisture) and stream-flow data, providing a birds-eye view of current Carson River hydrologic conditions. The proposed CBH would be derived from the current USGS Walker Basin Hydro Mapper (WBH).

The CBH web application will provide a modern and easy-to-use interface to the USGS National Water Information System (NWIS); a one-stop location for visually descriptive summaries of

USGS, SNOTEL, National Weather Service, Advanced Hydrologic Prediction Service, and other local and regional hydrologic data with weather radar, watershed extents, and ancillary geospatial data, and real-time hydrologic conditions within the basin. The proposed tool will include an interactive map viewer showing real-time information on stream flow, stage, and groundwater-levels; available water-chemistry data for select constituents and/or sites will also be accessible. Assembling the integrated data into a single repository will allow for easier retrieval, analysis, and interpretation of data as it relates to important aspects of water resource management within the Carson River Watershed.

Task 4: Documentation

Arsenic and nitrate data will be compiled, statistically analyzed, and interpreted specifically for Carson Valley and documented in a USGS Scientific-Investigations Report. Near real-time data regarding climate, streamflow, and groundwater levels will be made available to government agencies and the public through the CBH web-based tool. The completion and availability of the CBH will be announced to the public by means of a press release. During the development of the CBH, the USGS will periodically meet with partners and other potential stakeholders to communicate the status and refine aspects of the final web-based tool.

PROJECT SCHEDULE

The period of performance for this work is 3 years from July 2020 (FY20) to June 2022 (FY22).

BUDGET SUMMARY

The overall cost of this project is estimated to be \$158,758 (Table 1). The USGS contribution through the Cooperative Federal Matching Funds program will be \$55,565 (35%), depending on available funds. The funding amount requested from the CWSD is \$103,192. The work is scheduled to begin at the end of July 2020 and continue through the end of June 2022. All funds will be paid toward salary for USGS staff.

Table 1. Proposed funding request.

Task	Description	Total	FY20	FY21	FY22
1	Status of Trends	\$ 31,124	\$15,562	\$15,562	
2	Monitoring Well Assessment	\$ 4,960	\$ 4,960		
3	Carson Basin Hydromapper	\$ 82,202	\$27,401	\$27,401	\$27,401
4	Documentation	\$ 40,472		\$20,236	\$20,236
Project Total		\$158,758	\$47,923	\$63,199	\$47,637
USGS Contribution 35 %		\$ 55,565	\$16,773	\$22,119	\$16,673
CVSD Contribution		\$103,192	\$31,150	\$41,079	\$30,964

References:

Anning, D.W., Paul, A.P., McKinney, T.S., Huntington, J.M., Bexfield, L.M., Thiros, S.A., 2012, Predicted nitrate and arsenic concentrations in basin-fill aquifers of the southwestern United States: U.S. Geological Survey Scientific Investigations Report 2012-5065, 78 p. and appendices.

Hamer, A.J., Makings, J.A., Lane, S.J., Mahony, M.J., 2004, Amphibian decline and fertilizers used on agricultural land in south-eastern Australia: Agriculture, Ecosystems and Environment vol. 102, pp. 299-305.

Maurer, D.K., and Berger, D.L., 2007, Water budgets and potential effects of land and water-use changes for Carson Valley, Douglas County, Nevada, and Alpine County, California: U.S. Geological Survey Scientific Investigations Report 2006-5305, 64 p.

Naranjo, R.C., Welborn, T.L., Rosen, M.R., 2013, The distribution and modeling of nitrate transport in the Carson Valley alluvial aquifer, Douglas County, Nevada: U.S. Geological Survey Scientific-Investigations Report 2013-5136, 51 p.

Rosen, M.R., 2003, Trends in nitrate and dissolved-solids concentrations in ground water, Carson Valley, Douglas County, Nevada, 1985–2001: U.S. Geological Survey Water Resources Investigations Report 03–4152, 6 p.

U.S. Environmental Protection Agency, 2019, Nutrient Pollution: The Issue, accessed January 13, 2020 at url,

<https://www.epa.gov/nutrientpollution/issue>

Ward, M.H., Jones, R.R., Brender, J.D., de Kok, T.M., Weyer, P.J., Nolan, B.T., Villanueva, C.M., van Breda, S.G., 2018, Drinking water nitrate and human health: an updated review. International Journal of Environmental Research and Public Health, vol. 15, no. 7:1557 accessed January 13, 2020 at url, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6068531/>

World Health Organization, 2018, Arsenic accessed January 13, 2020 at url, <https://www.who.int/news-room/fact-sheets/detail/arsenic>

World Health Organization, 2020, Chemical hazards in drinking-water: nitrate and nitrite. Accessed January 13, 2020 at url,

https://www.who.int/water_sanitation_health/water-quality/guidelines/chemicals/nitratesnitrite/en/

Yager, R.M., Maurer, D.K., and Mayers, C.J., 2012, Assessing potential effects of changes in water use with a numerical groundwater-flow model of Carson Valley, Douglas County, Nevada, and Alpine County, California: U.S. Geological Survey Scientific Investigations Report 2012–5262, 73 p.

**CARSON WATER SUBCONSERVANCY DISTRICT
FY 2020-21 REQUEST FOR FUNDING APPLICATION**

14

APPLICANT: Board of Regents, NSHE, obo the Desert Research Institute; PI:Alexandra Lutz

Name

2215 Raggio Parkway

Address

Reno

Washoe

NV

89512

City

County

State

Zip Code

Alexandra.Lutz@dri.edu

(775) 673-7418

Email

Telephone #

APPLICANT'S AGENT (if different from Applicant):

Name

Address

City

County

State

Zip Code

Email

Telephone #

PROJECT NAME: Review of Streamflow and Climate Records in the Carson System 1940 -2019

PROJECT LOCATION/ADDRESS:

Carson Watershed

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

See attached

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

TOTAL ESTIMATED PROJECT COST: \$17,931

AMOUNT REQUESTED FROM CWSD: \$17,931

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.

N/A

ESTIMATED DATE PROJECT TO BEGIN: July 1, 2020

ESTIMATED TIME TO COMPLETE PROJECT: December 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.

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

Signature: Yvonne Rumbaugh Digitally signed by Yvonne Rumbaugh
Date: 2020.01.27 16:20:50 -08'00'

Name (please print): Yvonne Rumbaugh

Title: Business Manager

Date: 1/27/2020

Please submit your application via US Mail to: CWSD, 777 E. William Street, Suite #110A, Carson City, NV 89701 or via email to edjames@cwsd.org. All submissions must be received no later than February 3, 2020 to be considered for FY 2020-21 funding.

CWSD reserves the right to deny any and/or all applications for funding.

Board of Regents, NSHE
obo the Desert Research Institute
PI: Alexandra Lutz

Review of Streamflow and Climate Records in the Carson System 1940-2019

Description

In 2009, DRI reviewed streamflow and climate records from 1940-2009 at locations in the Carson River system for CWSD. We propose revising the review up to include records from 2019. It has been an interesting ten years since the original review: the economy grew and population increased, the area experienced several years of below average precipitation, an above-average “pluvial” year, and some seemingly average years.

The 2009 review reported statistically significant trends with respect to spring runoff occurring earlier and increase of temperatures during winter and spring. There were visually discernible trends for snow water equivalent (SWE) that were just outside the statistically significance threshold. The revised review will re-test all trends and include locations that started recording SWE in the early 2000s. The revised review will try to determine if trends are steady or accelerating/decelerating over time.

Goals and Benefits

The goal of revising the review is to understand observational records to ultimately inform administration and management of water resources. Looking ahead, we expect changes in both climate and population. Climate projections suggest more extreme weather, such as droughts and pluvials, while economic projections show continued growth in the Carson City area. Information from the 2009 review was used in numerous reports and presentations. It is anticipated that information from a revised report be used in the same way. All information including plots, charts, and excel spreadsheets will be given to the CWSD for distribution to the general public. Alexandra Lutz will give presentations, especially after end date of the project.

Alexandra Lutz, PhD
Associate Research Professor
Division of Hydrologic Sciences
Alexandra.Lutz@dri.edu
www.dri.edu