

TOTAL ESTIMATED PROJECT COST: \$246,262
AMOUNT REQUESTED FROM CWSD: \$140,464

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 availability of funds from the Cooperative Water Program, U.S. Geological Survey will provide \$105,798 toward this program.

ESTIMATED DATE PROJECT TO BEGIN: July 1, 2015

ESTIMATED TIME TO COMPLETE PROJECT: Two years ending on June 30, 2017

For FY16 (July 1, 2015 – June 30, 2016), amount requested from CWSD is \$70,232. (USGS will provide \$52,899.

For FY17 (July 1, 2016 – June 30, 2017), amount requested from CWSD is \$70,232 (USGS will provide \$52,899.

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 permit needed to proceed.

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

SIGNED: 

NAME: Steven N. Berris

TITLE: Nevada Networks Chief

DATE: February 4, 2015

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

FY2016-2017 Carson Water Subconservancy District/U.S. Geological Survey Cooperative Water-Resources Monitoring Program

Station Number	Location	FY2016 (July 1, 2015 - June 30, 2016)			FY2017 (July 1, 2016 - June 30, 2017)			Total JFA	
		CWSD	USGS ¹	Total FY14	CWSD	USGS ¹	Total FY15	USGS ¹	Total JFA
10308200	East Fork Carson River below Markleville Creek nr Markleville, Ca (Daily streamflow & DCP) ¹	5,400	4,067	9,467	5,400	4,067	9,467	8,134	18,934
10310000	West Fork Carson River at Woodfords, CA (Daily Streamflow & DCP) ²	6,847	5,157	12,004	6,847	5,157	12,004	10,314	24,008
	Additional measurements during summer at West Fork Carson - Woodfords and Carson River nr Carson City (12 additional discharge measurements)	2,250	1,695	3,945	2,250	1,695	3,945	3,390	7,890
10310405	Carson River near Genoa, NV (Daily Streamflow)	9,850	7,419	17,269	9,850	7,419	17,269	14,838	34,538
10310400	Daggett Creek near Genoa, NV (Daily Streamflow)	9,850	7,419	17,269	9,850	7,419	17,269	14,838	34,538
10310500	Clear Creek nr Carson City, NV (Daily Streamflow)	10,800	8,135	18,935	10,800	8,135	18,935	16,270	37,870
10311000	Carson River at Carson City, NV (Daily Streamflow) ^{2,4}	3,635	2,738	6,373	3,635	2,738	6,373	5,476	12,746
10311000	Carson River at Deer Run Road, NV (DCP)	10,800	8,135	18,935	10,800	8,135	18,935	16,270	37,870
10312000	Carson River at Fort Churchill, NV (Daily Streamflow & DCP) ³	5,400	4,067	9,467	5,400	4,067	9,467	8,134	18,934
10348460	Franktown Creek nr Carson City, NV (Daily Streamflow and DCP, May - Oct.)	5,400	4,067	9,467	5,400	4,067	9,467	8,134	18,934
Total		70,232	52,899	123,131	70,232	52,899	123,131	105,798	246,262

¹USGS contributions are subject to availability of Federal Matching Funds.

²Bureau of Reclamation provides a portion of the funding.

³Carson-Truckee Water Conservancy District provides a portion of the funding.

⁴Nevada Department of Environmental Protection provides a portion of the funding.

⁵USGS National Streamflow Information Program (NSIP) provides a portion of the funding.

JFA: Joint-Funding Agreement

DCP: Data Collection Platform

**CARSON WATER SUBCONSERVANCY DISTRICT
REQUEST FOR FUNDING**

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

snberris@usgs.gov 775-887-7693

APPLICANT'S AGENT (if different from Applicant):

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

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

PROJECT LOCATION/ADDRESS: West-Central Nevada

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

This funding request is for the continuation of the cooperative monitoring program between Carson Water Subconservancy District (CWSD) and the U.S. Geological Survey (USGS) for groundwater and water-quality monitoring program activities in Douglas and Lyon Counties, NV, for fiscal years (FY) 2016-2017 (July 1, 2015 – June 30, 2017). Groundwater monitoring includes water-level data collection, data entry, quality assurance, and data publication and archive in NWIS (National Water Information System) database. Monitoring includes a quarterly network of 20 wells. This request proposes to expand the groundwater network by adding 10 additional wells to be monitored on an annual basis that will be located in areas that may be subject to water-level changes. These areas are expected to be in the vicinity of Silver Springs, Fish Springs, and perhaps Dayton Valley. If the request is approved, the wells will be selected by the USGS in consultation with CWSD prior to the expiration of the current agreement between the two agencies on June 30, 2015. Permissions to access the selected wells will be obtained prior to the June 30 agreement expiration.

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

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

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

It is proposed to add an additional annual groundwater network in the Silver Springs and perhaps Dayton areas of Lyon County, and the Fish Springs area of Douglas County. This additional network of 10 wells will provide long-term data to document water levels in areas that may be subject to water-level changes due to recharge and pumping changes, or other conditions. These data can be used to better define water-level trends or to define that no trends are occurring.

TOTAL ESTIMATED PROJECT COST: \$54,352
AMOUNT REQUESTED FROM CWSD: \$31,000

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.

Pending availability of funds from the Cooperative Water Program, U.S. Geological Survey will provide \$23,352 toward this program.

ESTIMATED DATE PROJECT TO BEGIN: July 1, 2015

ESTIMATED TIME TO COMPLETE PROJECT: Two years ending on June 30, 2017

For FY16 (July 1, 2015 – June 30, 2016), amount requested from CWSD is \$15,500. (USGS will provide \$11,676)

For FY17 (July 1, 2016 – June 30, 2017), amount requested from CWSD is \$15,500 (USGS will provide \$11,676).

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.

Permissions from landowners to access the ten wells in the proposed annual groundwater network will be required prior to data collection. It is expected that the selection of the wells and landowner approvals will be obtained prior to June 30, 2015, the expiration date of the current joint-funding agreement between CWSD and USGS.

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

SIGNED:

A handwritten signature in black ink, appearing to read "S. N. Berris", written over a horizontal line.

NAME: Steven N. Berris

TITLE: Nevada Networks Chief

DATE: February 4, 2015

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

**FY2016-2017 Carson Water Subconservancy District/U.S. Geological Survey Cooperative Water-Resources
Groundwater and Water-Quality Monitoring Program**

<i>Funding Summary</i>			
July 1, 2015 – June 30, 2016			
Task	CWSD	USGS*	Total Task Funding
Groundwater levels (20 wells quarterly)	4,000	3,013	7,013
Groundwater levels (10 wells annually)	500	377	877
Water-quality sampling (sample six wells annually and 5 wells two times per year)	8,000	6,026	14,026
Program support (supplies and materials, data entry and quality assurance, landowner communications, and monitoring network evaluation/review)	3,000	2,260	5,260
CWSD FY16 Total	15,500	11,676	27,176
July 1, 2016 – June 30, 2017			
Task	CWSD	USGS*	Total Task Funding
Groundwater levels (20 wells quarterly)	4,000	3,013	7,013
Groundwater levels (10 wells annually)	500	377	877
Water-quality sampling (sample six wells annually and 5 wells two times per year)	8,000	6,026	14,026
Program support (supplies and materials, data entry and quality assurance, landowner communications, and monitoring network evaluation/review)	3,000	2,260	5,260
CWSD FY17 Total	15,500	11,676	27,176
Agency Total Funding	31,000	23,352	54,352

*USGS contributions are subject to availability of Federal Matching Funds

**PUBLIC WORKS**

1120 Airport Rd., Bldg. F-2, Minden, Nevada 89423

Carl Ruschmeyer, P.E.
DIRECTOR

775-783-6480

775-782-6266

website: www.douglascountynv.govWater/Sewer Utility
Road Maintenance
Bldg. & Fleet Services

February 9, 2015

Edwin James
Carson Water Subconservancy District
777 East William St., Suite 110A
Carson City, NV 89701**RE: Funding Request for Fiscal Year 2015-16**
Sierra Country Estates – Douglas County, Nevada

Dear Mr. James:

Attached you will find a an application requesting funding to upsize the proposed regional potable water pipeline between the Job's Peak and Sierra Country Estates water systems in the Carson Valley. This project is being completed to address water quality problems in the Foothill area of Carson Valley but will also provide regional benefits. Current demands require a 6-inch water transmission main be installed to connect the water systems, however, we believe that upsizing this transmission main to an 8-inch main will provide long-term benefits.

To supplement the application we have attached an electronic copy of the Preliminary Engineering Report that identified this pipeline as part of the preferred alternative to address issues in Sierra Country Estates. If you need additional information please contact Public Works at 775-782-6274 or ncharles@co.douglas.nv.us.

Sincerely,

Nicholas Charles, PE
Douglas County Public Works

Cc: File (electronic)

Enclosure

CARSON WATER SUBCONSERVANCY DISTRICT

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

SCHEDULE AND CRITERIA FOR FUNDING REQUESTS

SCHEDULE:

The completed application must be submitted to Carson Water Subconservancy District (CWSD) by February 13, 2015. In late February CWSD Finance Committee will review all funding requests. From that meeting a proposed tentative budget will be sent to the full board for consideration at the March meeting. In May, the Board will review any changes to the tentative budget and adopt a final budget.

Funding for projects that are approved by the CWSD Board will become available on July 1, 2015. A summary report is due to CWSD within 30 days of project completion.

CRITERIA FOR EVALUATING FUNDING REQUESTS:

- A. All funding requests shall meet all of the following criteria:
1. CWSD can legally participate in the funding of the project.
 2. CWSD finds the project to be technically and environmentally sound.
 3. CWSD finds that the project can be permitted within a reasonable period of time.
- B. All funding requests should be consistent with the Carson River Stewardship Plan (copy of the plan can be found on CWSD web site) and meet one or more of the following criteria:
1. The project will provide regional benefits within the Carson River Watershed.
 2. The project will improve water quality.
 3. The project will in the long term prevent further stream bank erosion.
 4. The project will reduce flooding along the Carson River.
 5. The project will improve the administration and management of river and stream systems.
 6. The project will assist water users and/or the general public in understanding current water issues.

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

CARSON WATER SUBCONSERVANCY DISTRICT REQUEST FOR FUNDING

APPLICANT: Douglas County (Public Works)
Name
1120 Airport Rd. #F-2, PO Box 218
Address
Minden Douglas Nevada 89423
City County State Zip Code
ncharles@co.douglas.nv.us 775-782-6274
Email Telephone #

APPLICANT'S AGENT (if different from Applicant):

Name

Address

City County State Zip Code

Email Telephone #

PROJECT NAME: Sierra Country Estates Water System Improvements

PROJECT LOCATION/ADDRESS: Foothill/Sierra Country Estates Water Systems

Sierra Country Cir., Gardnerville, NV

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

The Sierra Country Estates PWS (NV0000931) is located on the west side of Carson Valley in Douglas County. The system has a history of violations from the BSDW (including violation of the Lead and Copper Rule) and the Nevada Division of Water Resources (NDWR). As a result, in 2013 BSDW declared the system a failed water system. In September 2013, Douglas County took ownership of the water system from the private owner.

Douglas County completed a Preliminary Engineering Report (PER) evaluating the condition of the system and alternatives to address system deficiencies. The preferred alternative identified in the PER (alternative 5a) is to construct a water line from the Job's Peak portion of the Foothill water system and upgrade the existing Sierra Country Estates Well 1.

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

This project will bring the Sierra Country Estates water system into compliance with drinking water regulations. It will also connect the Sierra Country Estates water system to the Foothill water system, providing regional benefits to both systems.

TOTAL ESTIMATED PROJECT COST: \$1,142,000

AMOUNT REQUESTED FROM CWSD: \$24,500

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

State Revolving Loan Funds

ESTIMATED DATE PROJECT TO BEGIN: March 2016

ESTIMATED TIME TO COMPLETE PROJECT: December 2016

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

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

NDEP-Bureau of Safe Drinking Water – Application will be submitted after design completion (October 2015)

Douglas County Site Improvement Permit – Application will be submitted after design completion (October 2015)

Douglas County Building Permit – Application will be submitted after design completion (October 2015)

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

Douglas County is requesting funding to pay to upsize the piping size on the Job's Peak to Sierra Country Estates regional pipeline from the required 6-inch to an 8-inch pipe. This project is consistent with the Comprehensive Regional Master Plan through the installation of the proposed regional pipeline.

SIGNED:

Carl Ruschmeyer

NAME:

Carl Ruschmeyer

TITLE:

Public Works Director

DATE:

2/6/15

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

TOTAL ESTIMATED PROJECT COST: \$6,760
AMOUNT REQUESTED FROM CWSD: \$4,550

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.

Stillwater Foundation: \$2,210

ESTIMATED DATE PROJECT TO BEGIN: August 2015

ESTIMATED TIME TO COMPLETE PROJECT: June 2016


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

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

N/A

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

If funded, the CWSD will be highlighted as the sole sponsor of the five Family Watershed Nights. The sponsorship attribution will read: "Family Watershed Night sponsored by the Carson Water Subconservancy District". SNJ and participating schools promote the event utilizing flyers and social media channels; the CWSD will be recognized by thousands of school and community members. If interested, CWSD volunteers are needed and welcome to assist at the various activity stations during the evening. CWSD will be thanked publically 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 have a designated table and offer their own activity during the event.


SIGNED: _____

NAME: Fayth Ross

TITLE: Associate Director of Development

DATE: Feb. 13th, 2015

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

Providing “Family Watershed Nights” for Carson River Watershed Communities

A Proposal to the Carson Water Subconservancy District

Project Description, Continued

Recent studies show that American children are only spending 30 minutes of unstructured time outdoors each week¹. The lack of exposure to the natural world negatively impacts our local environment. In fact, although Nevada has one of the largest public land systems in the nation, it also has the 4th most urban population base. Unfortunately, children’s experiences with nature have been radically reduced, decreasing the understanding of an individual’s role and impact in their environment. While people are more likely to care for the environment if they are exposed to it as children, youth exposure to the outdoors has decreased in recent years².

In our own pre-assessments, we have found that only 20% of students could list one way to protect their own watershed and describe why it would be helpful. This illustrates that children are not learning about local issues facing their local watersheds and what they can do to prevent further degradation of the river ecosystem.

Sierra Nevada Journeys’ “Family Watershed Nights” provide a unique family-based watershed education program. 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. Unfortunately, many schools and teachers have not had much progress in reaching out to families. This is where Sierra Nevada Journeys can help bridge the gap.

Sierra Nevada Journeys (SNJ) respectfully requests funding from the Carson Water Subconservancy District in support of five “Family Watershed Nights” to select schools. Through these SNJ events, K-8 students and their siblings will participate in a two-hour family environment that fosters engagement, curiosity, innovation, competitive skills, and teamwork, all focused on the STEM fields and Watershed Education. Students and their parents and siblings are encouraged to attend this event at no charge and participate in mini-challenges, family-based team projects, and enjoy dinner together.

Drawing from Sierra Nevada Journeys’ deep experience in Watershed Education (having served over 25,000 students and more than 330 educators in the last five years directly with Watershed Education based initiatives), particular emphasis will be given to the concept of a watershed system by offering 3-4 watershed-focused mini-challenges and

¹ Oliver R. W. Pergams and Patricia A. Zaradic. “Videophilia: Implications for Childhood Development and Conservation”, *The Journal of Developmental Processes* 2:1, 2007.

² Chawla, L. Cushing, D.F. “Education for strategic environmental behavior”, *Environmental Education Research*, 13:1. 2007.

ensuring the family-based team projects includes the topic of watersheds. The remaining activities will be STEM-focused.

A brief video – showcasing a local Rotary club as Family STEM Night volunteers at a 100% Free and Reduced Lunch low-income Washoe County school – can be found online at: <http://youtu.be/UIUekYap6Rk>

Project Benefits, Continued

SNJ's Watershed Family 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 Watershed Family Nights also:

- Involve parents in their child's education, regardless of their own education level, ethnicity, and socio-economic status;
- Use science as the vehicle for exploration, which is an ideal language-neutral tool;
- 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 be more 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.

We 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. The wide range of ages of participants makes pre and post assessments a challenge, but students are evaluated by the worksheets they complete with their family during the event, often for extra credit by their teacher.

In addition to our qualified staff with a combined teaching experience of over 23 years, we have a volunteer model in place in which we can seamlessly integrate volunteers into our Family Watershed Night. A rich experience for the volunteers, assisting at an SNJ Family Night provides another interaction point between the community and the school.

SNJ Family Nights are an established program offering. We have successfully conducted over 35 Family Nights over the last five 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.

**CARSON WATER SUBCONSERVANCY DISTRICT
REQUEST FOR FUNDING**

APPLICANT: Lyon County Utilities/Public Works – Mike Workman
Name

PO Box 1699
Address

Dayton
City

Lyon
County

NV
State

89403
Zip Code

mworkman@lyon-county.org
Email

246-6220 x3
Telephone #

APPLICANT'S AGENT (if different from Applicant):

N/A
Name

Address

City County State Zip Code

Email Telephone #

PROJECT NAME: Middle Carson Corridor High Resolution Imagery Project

PROJECT LOCATION/ADDRESS: Mound House to Lahontan Lake – Hwy 50 Corridor

PROJECT DESCRIPTION: The project includes High Resolution Overhead Imagery from the Lyon County line in Mound House along Hwy 50 over to the Western edge of Lake Lahontan in Silver Springs. The Pictrometry will have an extremely high resolution of 3" – 4" and will include 125 square miles including the Carson River from Mound House to Stagecoach and will be integrated into our GIS.

The imagery will be used by Lyon County Utilities/Public Works for water, sewer and storm drainage planning, design and NDEP permitting, by Lyon County Community Development for subdivision storm water planning & review and all other County Departments for their specialized needs. The Lyon County Utilities staff relies heavily on accurate mapping for everything from emergency response on water, sewer or storm drain issues to performing line locations when customers or contractors call for marking utility lines. This high resolution imagery will make it possible for staff to identify water valves, manholes, water meters and drainage structures. This is absolutely critical during emergency response.

The imagery will be used as a component of the Water & Sewer Facilities Master Plan updates that are currently under way. This grant will help offset the \$125,000 cost of upgrading the master plans and will be a major component of the Master Plans.

PROJECT GOALS AND BENEFITS: In the past, it was not uncommon for the Lyon County Utilities Dept.,

Assessor, Sheriff and Planning Departments to order separate GIS image layers on a project specific basis. Often times, the same images were ordered by multiple departments for their independent needs.

The Utilities Department is currently in the process of revising their water and wastewater facilities master plans now that strong development potential is on the horizon. Developers are gearing up for new subdivisions which requires significant review and planning by the Utilities Department. With the recent reclassification of the Dayton area as a Small Urban Area combined with changes in Storm Water Regulations, having current, high resolution imagery is a critical tool for County staff and consultants to have access to in order to make sound decisions.

TOTAL ESTIMATED PROJECT COST: \$55,288

AMOUNT REQUESTED FROM CWSD: \$45,000

SOURCE OF OTHER FUNDS: \$10,000 from Lyon County Public Works Department (storm water, water, sewer) plus the estimated \$125,000 for the master plan updates)

ESTIMATED DATE PROJECT TO BEGIN: November 2015

ESTIMATED TIME TO COMPLETE PROJECT: December 2015

PERMIT REQUIREMENTS: N/A

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

SIGNED: Mike Workman
NAME: Mike Workman
TITLE: Public Works Director
DATE: 2/6/15

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: Storey County
 Name
26 B Street, P.O. Box 176
 Address
Virginia City Storey NV 89440
 City County State Zip Code
dredmond@storeycounty.org 775-847-1144
 Email Telephone #

APPLICANT'S AGENT (if different from Applicant):

same
 Name
 Address
City County State Zip Code
 Email Telephone #

PROJECT NAME: 2015 Storey County Noxious Weed Abatement Program

PROJECT LOCATION/ADDRESS: Comstock Location: Six, Seven and Gold Canyons (Gold Hill)
(see attached maps)

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

The purpose of this project is to continue efforts that lead to the direct removal of invasive plant species and noxious weeds within Storey County and within the Carson River Watershed at the above referenced project locations.

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 goals and benefits will lead to seed load reduction and riparian zone improvements to provide habitat for native species and filter stormwater runoff. The project will be technically and environmentally sound and provide regional benefits within the Carson River Watershed.

TOTAL ESTIMATED PROJECT COST: \$27,000

AMOUNT REQUESTED FROM CWSD: \$5,000

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.

Carson Truckee Conservancy District: \$27,000 (pending)
Dayton Valley Conservation District In-Kind: \$4,000 (pending)
Storey County In-Kind: \$5,000

ESTIMATED DATE PROJECT TO BEGIN: April 2015

ESTIMATED TIME TO COMPLETE PROJECT: June 30, 2015

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

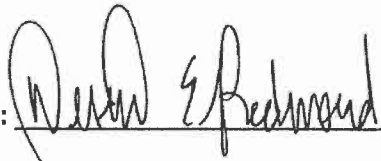
PERMIT REQUIREMENTS: If your project requires a permit, license and/or approval from a governmental agency to proceed, please provide the current status of each requirement. If approval has not been requested or is in progress, please provide the estimated date on which approval can be expected. Additional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

There are no County permits required for this project. The crew members performing the weed abatement have certification and training for applying chemical herbicides.

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

The County will monitor and assess invasive plant species and noxious weeds during quarterly site visits to the project areas. The County is dedicated to the environmental health of our water resources, plant habitats and improving stream bank erosion.

SIGNED:

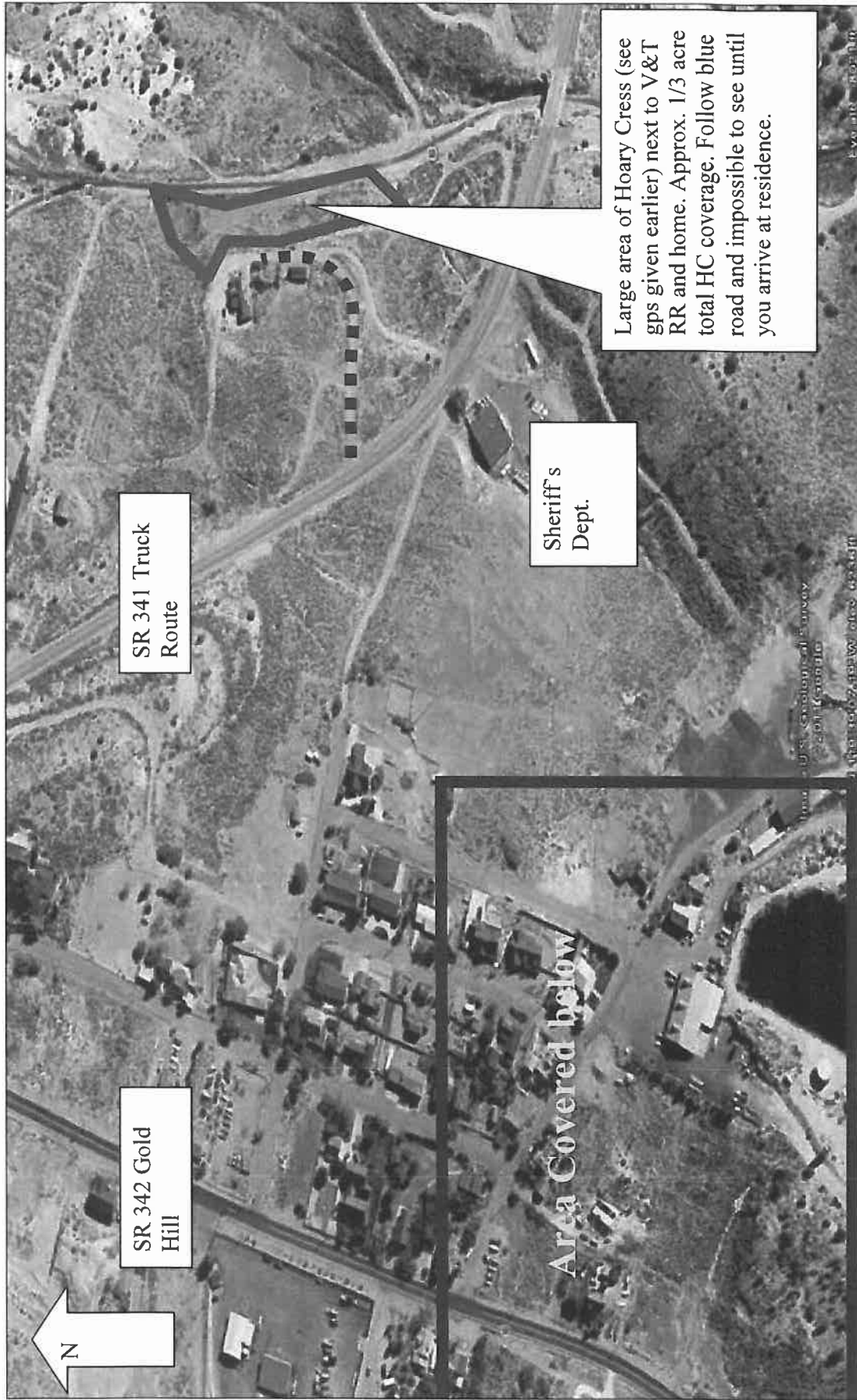


NAME: Dessie E. Redmond

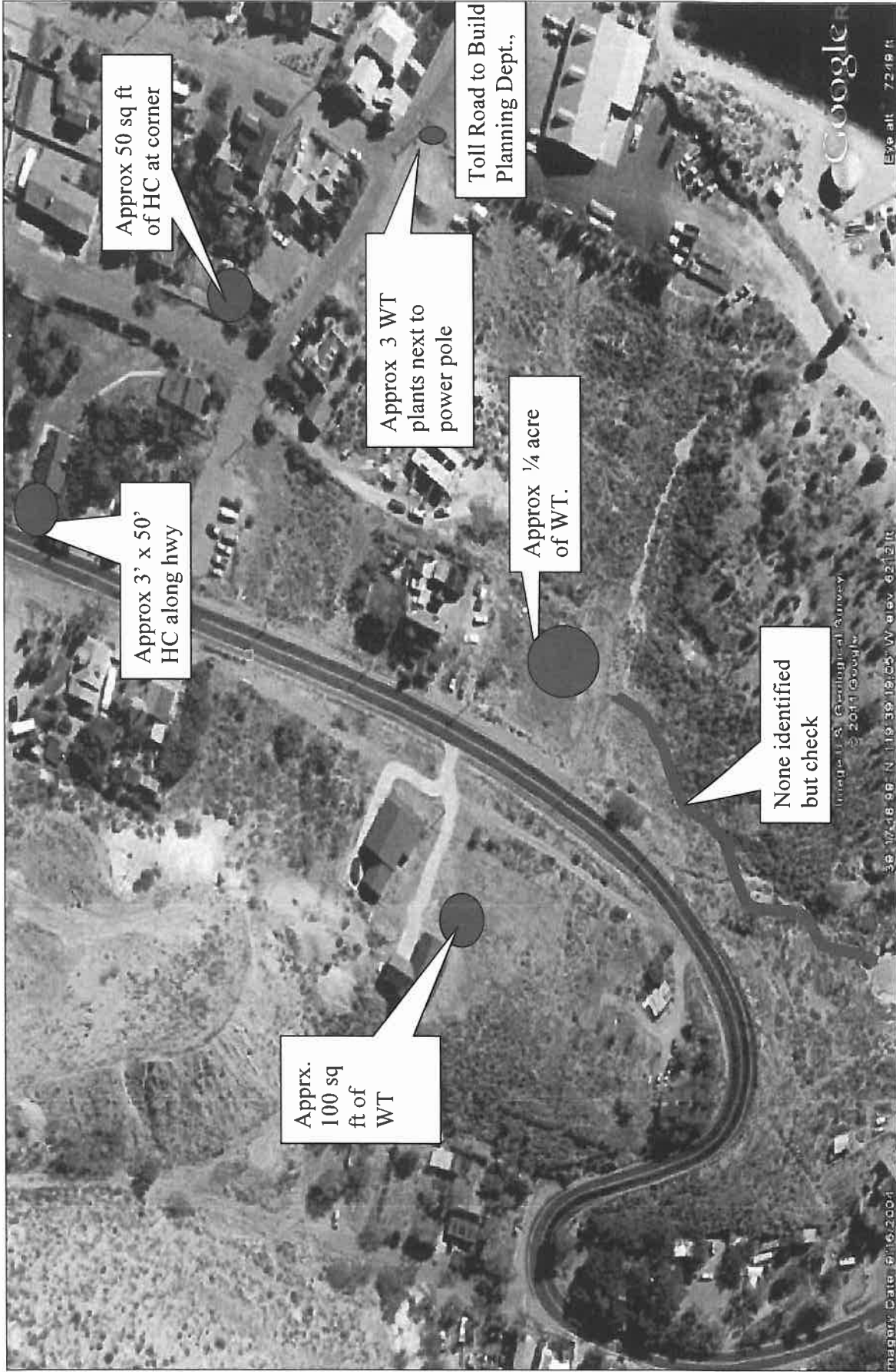
TITLE: Planner

DATE: February 11, 2015

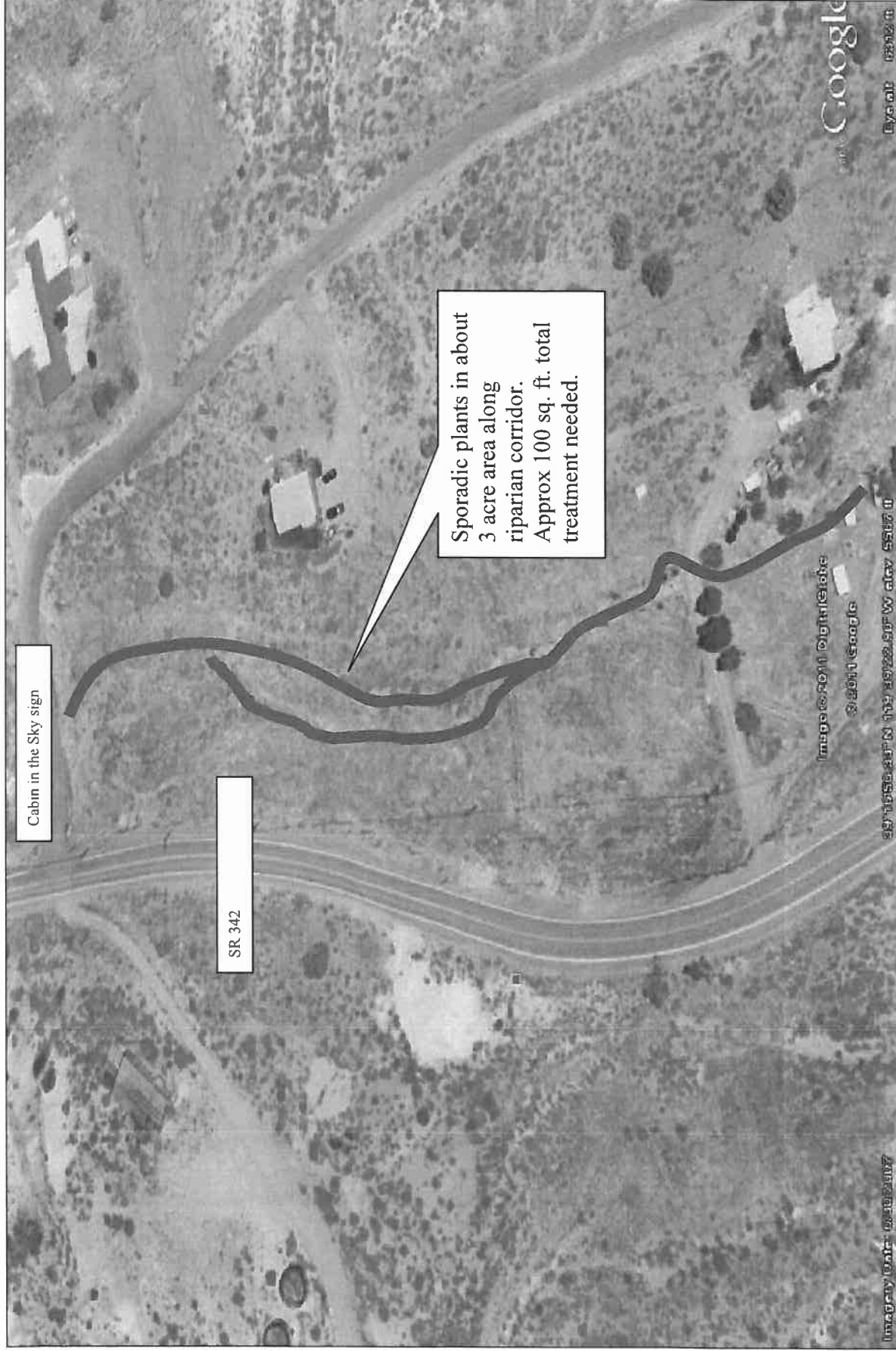
THE CARSON WATER SUBCONSERVANCY DISTRICT RESERVES THE RIGHT TO DENY ANY AND/OR ALL APPLICATIONS FOR FUNDING.



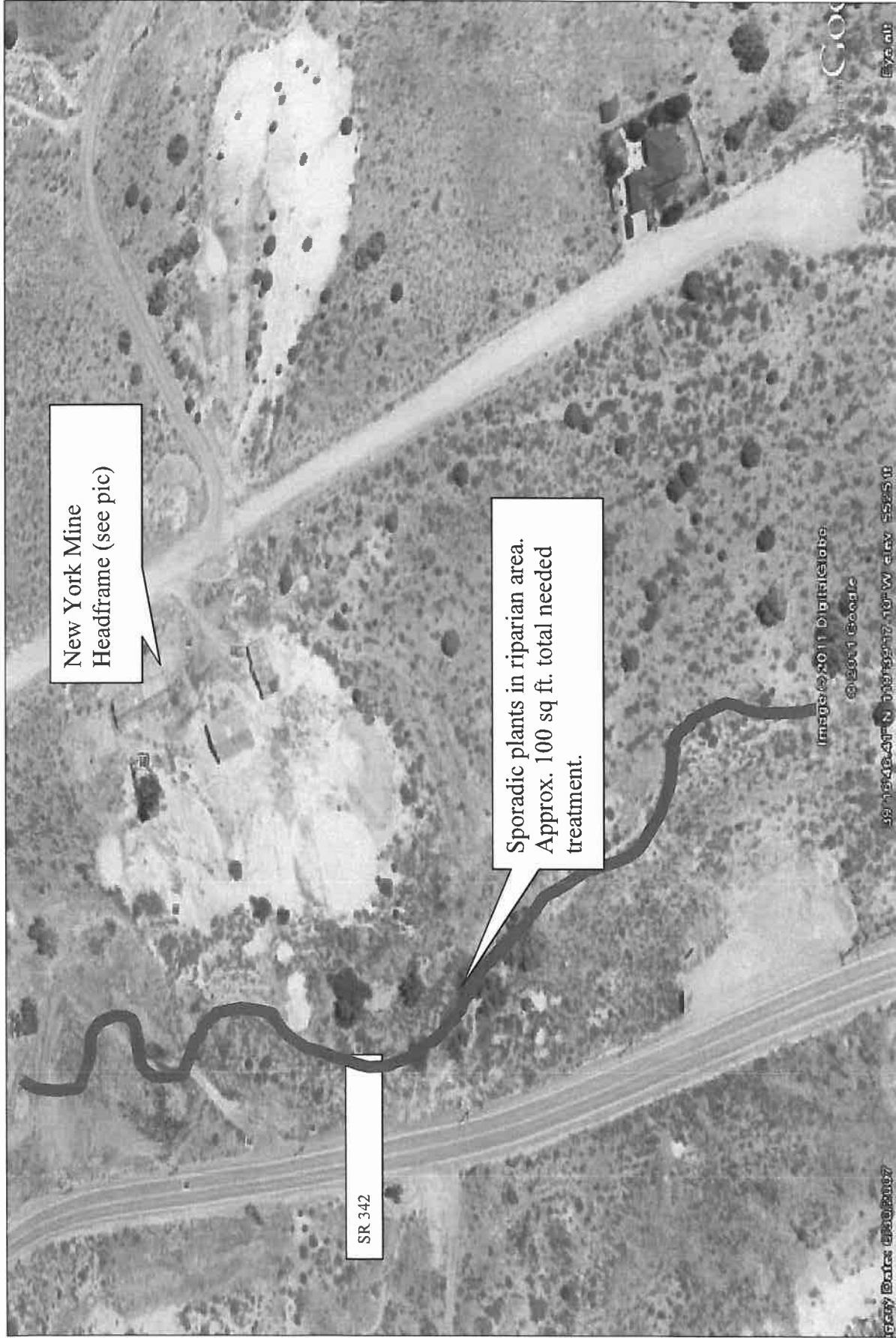
Upper Gold Hill Hoary Cress site.



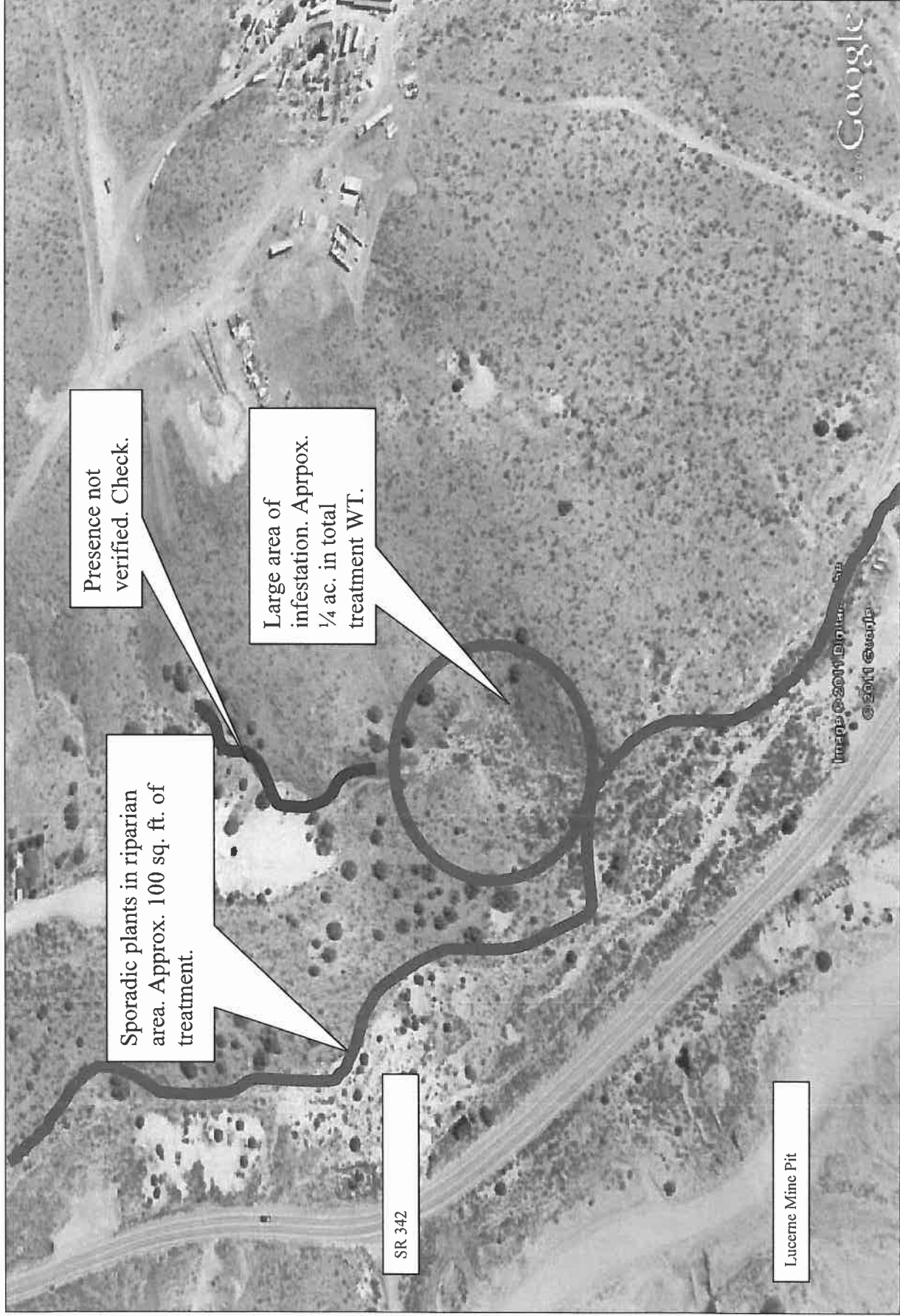
1. Upper Gold Hill - North of Gold Hill Hotel to crest of mountain. West from SR 342 to Building Department on Toll Road.



2. Middle Gold Hill: South from Sky Lane (at 'Cabin in the Sky' turnoff) south approximately 1/8 mile.



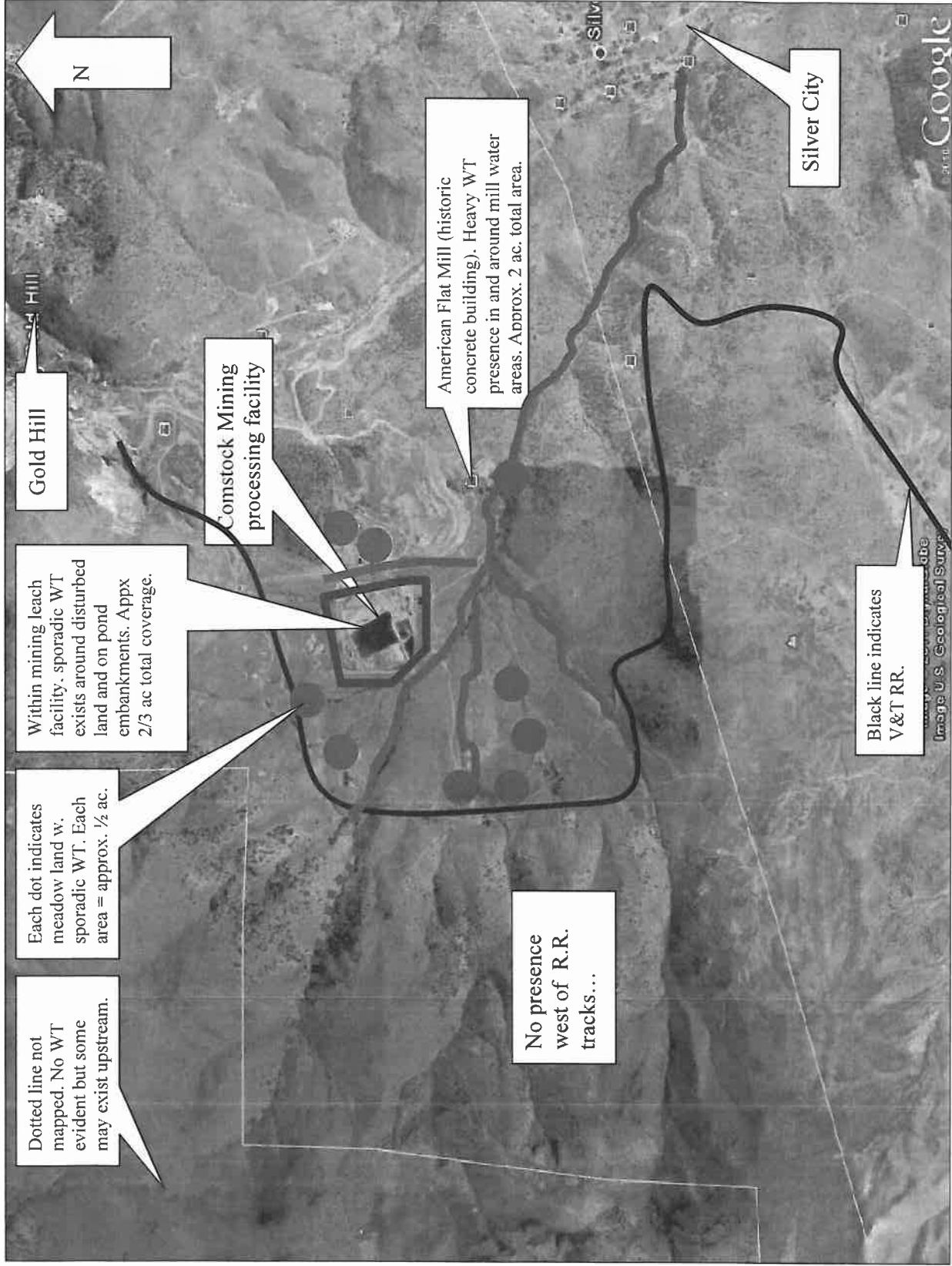
3. South of above image until the north edge of the large mine (Lucerne) pit.



4. South of above and northeast of the large (Lucerne) pit mine area.



5. South of above from the Lyon County line until approximately 1/8 mile.



6. American Flat Area.



7. 6 & 7 Mile Canyons can be accessed off Gieger Grade.

**CARSON WATER SUBCONSERVANCY DISTRICT
REQUEST FOR FUNDING**

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

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

PROJECT NAME: Lahontan Valley Water Level Measurement Program

PROJECT LOCATION/ADDRESS: Lahontan Valley – Churchill County

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

See attached Exhibit A and the attached PowerPoint presentation, dated 4/23/14, which was presented to Churchill County Commissioners, CWSD, and TCID.

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

See attached Exhibit A and the attached PowerPoint presentation, dated 4/23/14, which was presented to Churchill County Commissioners, CWSD and TCID.

TOTAL ESTIMATED PROJECT COST: \$80,000.00

AMOUNT REQUESTED FROM CWSD: \$60,000.00

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

Churchill County – In-Kind Contribution (\$20,000)

ESTIMATED DATE PROJECT TO BEGIN: 7/1/15

ESTIMATED TIME TO COMPLETE PROJECT: 6/30/18

(If completion date is greater than a year, please indicate how much funding is needed in each fiscal year.) FY15/16: \$19,000; FY16/17: \$19,000; FY17/18: \$22,000

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

N/A

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

See attached Exhibit A and attached PowerPoint presentation, dated 4/23/14, which was presented to Churchill County Commissioners, CWSD and TCID.

SIGNED: Eleanor Lockwood

NAME: Eleanor Lockwood

TITLE: County Manager

DATE: February 13, 2015

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

Exhibit A

Introduction:

The Lahontan Valley aquifers consist of four aquifers as defined by the USGS: shallow, intermediate, deep and basalt aquifers. The shallow aquifer extends from 0-50', intermediate from 50-500/1000', deep greater than 500-1000' and the volcanic basalt aquifer in the central portion of the valley. There are approximately 5,000 domestic wells which tap the shallow aquifer and most quasi-municipal or public water supply wells in the unincorporated portion of the County tap the intermediate aquifer. The City of Fallon, Fallon Naval Air Station and Fallon Paiute-Shoshone Tribe have wells completed in the Basalt aquifer. The deep aquifer is saline and is generally considered non-potable. The State Engineer requires any new permitted wells be completed in the intermediate aquifer and sealed in the top 100'.

The natural recharge of the Carson Desert Hydrographic basin #101 has been estimated by the USGS at 1,300 afa from precipitation and 1,200 afa inflow from other basins for a total estimate of natural recharge of 2,500 afa. The committed underground water rights and domestic well use exceed 21,000 afa, therefore the basin is over-appropriated without considering recharge from the Newlands Irrigation Project. For this reason, the State Engineer issued Order# 1116 in 1995 limiting any new underground appropriations to 4,000 gallons per day (4.48 afa) or less. There are significant losses from unlined canals/laterals and on-farm losses to deep percolation which recharges the shallow aquifer. The shallow aquifer recharges the intermediate aquifer in the western portion of the basin which is hydraulically connected to the Basalt aquifer in the central portion of the valley.

The USGS has conducted two water level studies (WRIR 93-4118 & SIR 2004-5246) which focused on water level measurements primarily in the shallow aquifer and associated changes related to lands withdrawn from irrigation due to USFWS water right purchases and transfers to the Stillwater Wetlands. Some of the wells monitored in these studies are currently being monitored by the USGS and are shown on the map included in the attached PowerPoint presentation given to the CWSD and Churchill County Commissioners on 4/23/14. The USGS provides quarterly letter updates to Churchill County summarizing the measurements. Churchill County & CWSD entered into Interlocal Contract #2011-6 in July 2011 to coordinate with the USGS and add wells to monitor intermediate aquifer well water levels in the NW portion of the Valley where quasi-municipal growth has and will continue to occur. Given that all new permitted wells must be completed in the intermediate aquifer, basin over-appropriation, limited availability to appropriate new groundwater (Order# 1116), and potential additional domestic wells due to parcel splits, Churchill County and the State Engineer feel there is a need for an ongoing water level measurement program. Funding under #2011-6 was provided through 6/30/15 and a final report summarizing the data collected will be provided by that date. It was anticipated in the original contract that this would be an ongoing effort; therefore this request seeks additional funding to continue the program for three more fiscal years, through FY17/18.

Project Description /Benefits:

The existing project entailed a detailed review of the USGS reports and water level measurements to identify potential gaps in aerial and vertical (shallow vs. intermediate aquifers) extent to determine where additional water level measurement would be useful. This resulted in the completion of approximately 28 wells, predominately in the intermediate aquifer being selected for water level measurement. These wells have been measured monthly since ~January 2012 and preliminary results were presented to the Churchill County Commissioners and the CWSD on 4/23/14 in the attached presentation. In May 2014, approximately 7 more intermediate aquifer wells were added to the program to fill in identified gaps in the NW portion of the valley. All wells have been surveyed with the County's survey grade Leica GPS unit to obtain accurate coordinates and well-head elevations such that vertical and horizontal gradients may be determined.

In the April 2014 presentation, no significant water level declines were being observed to date in the intermediate aquifer, excepting some localized decline and subsequent recovery of wells as a result of the canal being dry and refilling adjacent to the Truckee Canal west of Hazen. Intermediate aquifer wells generally showed full recovery during winter months when pumping stresses were at a minimum, whereas shallow aquifer wells showed just the opposite, with full recovery during mid-summer when unlined irrigation laterals and canals were charged and recharging the shallow aquifer. Vertical gradient measurements showed downward gradients and recharge from the Shallow to Intermediate aquifer. Additionally, there was a correlation between the stage of the Carson River and adjacent shallow aquifer wells. As a result of the ongoing drought, the Carson Division only received a 40% allocation during the 2014 irrigation season and most Project canals and deliveries, excepting some wetland deliveries, were terminated on 7/30/14. Also, the Truckee Canal was dry from August – November 2014. *As a result of the drought and reduced allocations / early canal shut-off, intermediate aquifer water levels for both the summer 2014 minimums and winter 2015 to date (2/4/15), recovery levels have declined approximately 1 – 1.5 feet/year compared to prior year water levels. Some localized declines of 2-3 feet/year have been observed near areas of heavy pumping in the vicinity of the Sand Creek municipal and golf course wells. The most heavily pumped area around the Wildgoose farm for irrigation have only shown ~ 0.5 feet/year decline and this is most likely due to recharge from the adjacent V-Line and Carson river which were charged until late Fall 2014 for wetland deliveries. With the ongoing drought and likely reduced allocations / early termination of deliveries, it will be important to continue tracking water level responses proposed in this project. With shortened irrigation seasons, one farmer has acquired supplemental groundwater rights to continue irrigation after surface water deliveries have been shut-off. If additional farmers adopt this practice and the State Engineer grants supplemental groundwater pumping during drought, this may cause further water level decline.*

This project is technically and environmentally sound and will assist the water users/managers and general public in understanding water issues and the status of their aquifers. It will help identify potential areas where discharge exceeds recharge and aquifer storage change. If areas

are identified where there are continued steady water level declines, it could improve and/or trigger additional administration and management in those areas. Since the current and near term quasi-municipal supply is almost entirely dependent upon groundwater development in the intermediate aquifer, and the majority of the recharge is associated with Newlands Project losses, which are dynamic due to water right transfers and canal lining, it is recommended to pursue this monitoring program and adaptive resource management. Part of the justification for the State Engineer issuing Order# 1116 was: 'the present recharge experienced from surface water irrigation and delivery systems is declining due to more efficient irrigation practices and improvements in the delivery system'. See Chapter 9 of Churchill County Water Resource Plan Update, April 2007 for further discussion on this issue.

The project has regional benefits due to the fact that the majority of the surface supply for the Newlands project and hence recharge come from the Carson River which are augmented by the Truckee River. The Churchill County Water Resource Plan Update has identified the local intermediate aquifer as the near term quasi-municipal supply and the length of time it can sustain development is contingent upon recharge from the surface water system. At such time that the intermediate aquifer can no longer support the demand, other resources will need to be developed, which are identified in Chapter 12 of the Updated Water Resource Plan. Some of these alternatives such as Dixie Valley importation may be regional in nature and others involve conjunctive use and artificial recharge of surface waters. This program will provide an early warning as to when some of these other regional type alternatives will need to be pursued.

The ongoing funding request is for an additional three year term, however it is anticipated that in order for this program to be successful as a long-term management tool, it be continued as an ongoing effort. Another summary report will be prepared at the end of FY 17/18, including a map of wells monitored in the Churchill and USGS networks, key hydrographs, and discussion of the data or any trends observed.