

**MEETING OF THE
STATE BOARD FOR FINANCING WATER PROJECTS
Summary Minutes**

**Wednesday, July 27, 2011
9:30 AM
901 S. Stewart St., 2nd Floor Tahoe Room
Carson City, NV 89701**

Members Present:

Bruce Scott, Chairman
Lori Williams
Andrew Belanger **
Steve Walker
Jennifer Carr, Ex-officio Member

Staff Attending:

Katie Armstrong, DAG
Adele Basham
Michelle Stamates
Daralyn Dobson
Kathy Rebert

Members Absent:

Brad Goetsch, Vice-Chairman

**Mr. Belanger was not in attendance at the beginning of the meeting but joined during the presentation of agenda item D.2c.

THE FOLLOWING MINUTES OF THE MEETING ARE SUMMARIZED. TO HEAR DETAILS, DISCUSSION AND BOARD OR PUBLIC COMMENTS ON INDIVIDUAL AGENDA ITEMS OR THE FULL MEETING GO TO:

<http://ndep.nv.gov/bffwp/audio711/indexlan.html>

A. INTRODUCTION AND ROLL CALL (Non Action)

At the invitation of Chairman Scott, Board members and others present introduced themselves.

B. APPROVAL OF MINUTES - January 25th, 2011 - (Action)

Chairman Scott noted a correction to be made on page 3, first paragraph: “rates” should be “rights.”

Motion: Mr. Walker moved to accept the minutes with the noted correction. The motion was seconded by Ms. Williams and passed.

C. APPROVAL OF MINUTES - May 19th, 2011 - (Action)

Motion: Mr. Walker moved to approve the minutes as written, Ms. Williams seconded and motion passed.

D. DRINKING WATER STATE REVOLVING FUND PROGRAM

1. Discussion & Possible Approval of the 2012 Priority List - (Action)

Ms. Michelle Stamates presented the proposed 2012 Priority List and discussed state requirements for developing a list, the ranking process, development process, and public participation. A copy of the list may be found in ATTACHMENT 1.

Motion: Ms. Williams moved to adopt the Draft 2012 Priority List for the Drinking Water State Revolving Fund as presented by staff. Mr. Walker seconded and the motion passed.

2. Discussion & Possible Approval of Loan Commitments

Chairman Scott announced a change in the order of the next agenda items in an effort to give Board-member Belanger as chance to arrive.

Ms. Stamates presented the information on all of the loan commitments proposals as well as staff recommendation for approval. For details of each, see ATTACHMENTS 2-4.

2. b. Sage Valley Mobile Home Park - (Action)

Recommendation: Approval of a \$40,000 increase in the loan commitment from the loan fund of the DWSRF ARRA funds to Sage Valley Mobile Home Park. The existing loan for \$94,800 plus the additional \$40,000 brings the total loan commitment to \$134,800. Since the project is eligible for additional subsidy, 100% of the principal will be forgiven. See ATTACHMENT 2.

Paul Strasdin, Sage Valley MHP, and Martin Ugalde, Day Engineering, spoke to the Board and answered questions.

Motion: Mr. Walker moved to approve a Resolution designated the “American Recovery and Reinvestment Act 07-2011 Sage Valley Mobile Home Park Project Loan Commitment Resolution” and to approve the addition of \$40,000 and that it be principal forgiveness. Ms. Williams seconded and the motion passed.

Board-member Belanger arrived during the following presentation.

2. c. Tonopah Public Utilities - (Action)

Recommendation: Approval of a loan commitment from the loan fund of the DWSRF in the amount of \$1,060,780 to the Town of Tonopah for improvements to the Tonopah Public Utilities water system to attain compliance with the arsenic MCL.

Paul Winkelman, James Eason, Joe Westerland, and Dwight Smith were in attendance and provided information or answered questions for the Board. Also, Cheryl Couch from the USDA-Rural Development made a statement on USDA’s intent on funding for this project.

Motion: Ms. Williams moved to approve funding for the Tonopah project as stated in Resolution designated the “7-2011 Town of Tonopah Project Loan Commitment Resolution” to approve a loan commitment for the purpose of their water project in the amount of \$1,060,780 to be a 100% principal forgiveness loan. Mr. Walker seconded and the motion passed.

2. a. Incline Village General Improvement District - (Action)

Mr. Walker recused himself from participation in this agenda item since his business represents the Incline Village GID as a lobbyist in the Legislature. Mr. Walker moved to the audience.

Chairman Scott disclosed he had performed water rights work with Incline Village however did not see it as a conflict in this agenda item as he does not have any involvement in the financial end nor water treatment, water quality or construction of capital improvements. Mr. Scott stated he will participate in the conversation and the vote on this item.

Recommendation: Approval of a loan commitment from the loan fund of the DWSRF in the amount of \$3,000,000 to the Incline Village General Improvement District (IVGID) for improvement to the existing Burnt Cedar Water Disinfection Plant to attain LT2 compliance.

Joe Pomroy, Director of Public Works IVGID, and Ramona Cruz, Director of Finance, Accounting & Information Technology IVGID, were present to comment and answer questions on the project.

Motion: Mr. Bellanger moved to adopt Resolution designated the “7-2011 Incline Village General Improvement District Project Loan Commitment Resolution” to approve a loan commitment in the amount of \$3,000,000 for the purpose of financing certain projects with the terms and conditions worked out between the Division and the GID. Seconded by Ms. Williams. Motion passed with Mr. Walker abstaining.

E. BSDW Update on the Tolas Waterworks Arsenic Treatment System - (Non-Action)

Mr. Bert Bellows, Engineer with the Bureau of Safe Drinking Water, Nevada Division of Environmental Protection, addressed Board questions arising from the May 19, 2011 Board meeting. Mr. Bellows provided a brief background on Tolas Waterworks and spoke on 12 issues. A written document of the issues covered may be found in ATTACHMENT 5. Also included in that document is the relay of an email from Mr. Kirk Swanson, Farr West Engineering, as follow-up to the statement Mr. Swanson made at the Board meeting.

F. BOARD COMMENTS - (Non Action)

None.

G. PUBLIC COMMENTS - (Non Action)

None.

Meeting was adjourned at 11:37 a.m.

ATTACHMENTS

- ATTACHMENT 1: Draft 2012 Priority List
- ATTACHMENT 2: Sage Valley Loan Commitment and Resolution
- ATTACHMENT 3: Tonopah Public Utilities Loan Commitment and Resolution
- ATTACHMENT 4: Incline Village GID Loan Commitment and Resolution
- ATTACHMENT 5: Statement on Tolas Waterworks by Bert Bellows

ATTACHMENT 1: Draft 2012 Priority List

Year 2012 Priority List

Board for Financing Water Projects Summary Drinking Water State Revolving Fund July 2011

GENERAL

The Nevada Division of Environmental Protection administers the Drinking Water State Revolving Loan Fund (DWSRF) under the Nevada Revised Statutes (NRS) 445A.200 to 445A.295, inclusive. The development of the Priority List of projects is an integral part of the DWSRF program and is required by both federal and state regulation. Only those projects on the Priority List will be considered for possible funding. NRS 445A.265, subsection 3, requires the Board for Financing Water Projects approve the Priority List.

RANKING PROCESS

Nevada uses a ranking system to prioritize the order in which eligible projects will be financed (NAC 445A.67566 to NAC 445A.67574, inclusive). In general, priority is given to projects that facilitate compliance with national primary drinking water regulations applicable to the public water system under Section 1412 of the SDWA. The priority ranking system, described generally below, is described in detail in NAC 445A.67569. Projects are ranked into the following four classes, listed in order of priority.

1. Significant health risks;
2. Primary and secondary drinking water standards;
3. Infrastructure replacement; and
4. Refinance of existing debt.

Points assigned, as specified in NAC 445A.67569, to address different problems within a class are additive. The initial ranking number is multiplied by the ratio of the State median household income to the public water system median household income. Within each of the above categories, the projects are ranked by type of public water system in the following order:

1. Community public water systems;
2. Non-profit, non-transient, non-community water systems;
3. Non-profit transient, non-community water system.

The NAC that governs the Drinking Water State Revolving Fund allow NDEP to consider any other factor as provided in the Intended Use Plan established for the year in which the priority list is developed. In the 2010 Intended Use Plan, NDEP identified additional prioritization for arsenic projects. Water systems under an Administrative Order for violations of the primary drinking water standard for arsenic have been given a higher priority than those water systems that have received an exemption for arsenic. For those systems eligible for an exemption, ranking of projects was adjusted based on the arsenic concentration, with higher arsenic concentrations ranking higher based on exemption eligibility criteria in the following order:

1. Arsenic concentration between 26 ppb and 30 ppb
2. Arsenic concentration between 21 ppb and 25 ppb
3. Arsenic concentration between 16 ppb and 20 ppb
4. Arsenic concentration between 11 ppb and 15 ppb

NAC 445A.67569 does not include criteria for green infrastructure, water or energy efficiency projects. The 2011 Intended Use Plan specified that green infrastructure, water or energy efficiency projects will be ranked in Class III system rehabilitation and given a score of 10 points. If only a portion of the project is green, the green score will be multiplied by the percentage of the project that is green.

If two or more water projects within the same class have the same final rank number, the water project that is associated with the service area with the highest population is ranked higher.

Eligible projects on the priority list may be bypassed if the applicant withdraws a project, requests that action be deferred, fails to meet submittal deadlines, or is not ready to proceed as determined by the Division. The projects that are bypassed will be provided notice by the Division and have an opportunity for objection.

2012 PRIORITY LIST DEVELOPMENT

In late December 2010, NDEP sent a solicitation to all community and non-transient non-community water systems for proposed water projects. The following new projects have submitted Pre-applications to be added to the 2012 Priority List.

<u>Applicant</u>	<u>Project</u>
Kingsbury GID	LT2E Surface water treatment
Incline Village GID	LT2E Surface water treatment
Henderson	Townsite cast iron transmission and distribution replacement (U0026)
Henderson	North Green Valley Parkway transmission and distribution improvements (U0027)
Henderson	Pittman/Boulder Highway waterline replacement (U0033)
Henderson	Victory Road cast iron main replacement (U0034)
Henderson	Townsite cast iron transmission and distribution replacement phase 2 (U0072)
Stagecoach GID	Intertie Stagecoach GID with Lyon County Utilities
Indian Hills GID	Replace "Valley Vista" storage tank
Sage Valley Mobile Home Park	Replace existing water services

Forty-nine projects that either have been funded or no longer wish to be on the Priority List were removed.

Public Participation

Federal regulations require that the priority ranking process go through a public review process. State regulations require that NDEP hold a public workshop which was held in Carson City on June 7, 2011. The proposed revised list and notice of the workshop was sent to all systems with projects on the list. A public notice of the workshop was published in newspapers in Reno,

Las Vegas, Carson City and Elko.

Recommendation

It is recommended that the Board for Financing Water Projects approve the Year 2012 Priority List. A resolution to that effect is attached.

RESOLUTION

A RESOLUTION DESIGNATED THE “YEAR 2012 PROJECT PRIORITY LIST, DRINKING WATER STATE REVOLVING FUND” TO APPROVE THE PRIORITIES FOR DETERMINING WHICH WATER SYSTEMS WILL RECEIVE MONEY FROM THE ACCOUNT OF THE REVOLVING FUND AS REQUIRED IN NEVADA REVISED STATUTES 445A.265(3).

WHEREAS, the Nevada Division of Environmental Protection is authorized pursuant to NRS 445A.200 to 445A.295, inclusive, to establish procedures for the administration of the Drinking Water State Revolving Fund; and

WHEREAS, the Drinking Water State Revolving Fund Program Guidelines promulgated by the United States Environmental Protection Agency require that the State establish a priority list of public water system projects eligible for funding from the Drinking Water State Revolving Fund and seek public review and comment on the priority list; and

WHEREAS, NRS 445A.265(3) requires that the Division of Environmental Protection shall not establish the priorities for determining which public water systems will receive money from the account for the revolving fund without obtaining the prior approval of the Board for Financing Water Projects; and

WHEREAS, the Nevada Division of Environmental Protection may at any time after receiving approval from the Board for Financing Water Projects revise the ranking of a water project in accordance with NAC 445A.67567; and

WHEREAS, the Nevada Division of Environmental Protection has provided notice and has held a workshop for public comments on its proposed priority system on June 7, 2011 in Carson City; and

WHEREAS, no substantive comments, suggestions or recommendations were received at the workshops from the public;

**NOW, THEREFORE, BE IT RESOLVED, BY THE BOARD FOR FINANCING WATER
PROJECTS OF THE STATE OF NEVADA:**

Section 1. This Resolution shall be known as and may be cited by the short title of the “Year 2012 Priority List Resolution.”

Section 2. Based on its review of the information and recommendation submitted to the Board concerning the Year 2012 Priority List, the Board hereby makes the following findings of fact in support of its determination to approve the revised priority list:

(a) The Nevada Division of Environmental Protection has provided public notice of the Year 2012 Priority List;

(b) The Nevada Division of Environmental Protection has held a workshop for public review and comment of the priority list;

(c) The Nevada Division of Environmental Protection has received no substantive comments from the public.

Section 3. In connection with its findings of fact set forth in Section 2 of this Resolution, the Board has determined, and does hereby declare, that it approves the Year 2012 Priority List of public water system projects eligible for funding by the Drinking Water State Revolving Fund.

Section 4. The Year 2012 Priority List included as Attachment A to this resolution and by reference incorporated herein is a true and correct copy filed with the Board for Financing Water Projects by the Nevada Division of Environmental Protection.

Section 5. This resolution shall be effective on its passage and approval.

PASSED, ADOPTED AND SIGNED July 27, 2011.

Chairman
Board for Financing Water Projects

Attest:

Advisor
Board for Financing Water Projects

Attachment A
2012 Priority List

Draft Year 2012 Priority List--Drinking Water State Revolving Fund

Rank	Water System	Total Points	Arsenic Factor	Adjst. Total	State MHI/ PWS MHI	Revised Points	Ownership of System	County	ID#	Pop. Served	Number of Svc. Conn.	Project Description	Amount
Class I--Acute Health Risks													
1	Kingsbury GID	3	NA	3	0.87	2.61	Public	DO	NV0000004	3,839	2,450	LT2E Surface water treatment	\$8,000,000
2	Douglas County - Zephyr WUD	3	NA	3	0.74	2.23	Public	DO	NV0000258	1,193	477	LT2E surface water treatment , distribution (GREEN)	\$3,300,000
3	Incline Village GID	3	NA	3	0.67	2.01	Public	WA	NV0000158	9,313	4,400	LT2E Surface water treatment (GREEN)	\$5,400,000

Total Class I **\$16,700,000**

**Class II--Chronic Health Risks
Community Water Systems**

4	McDermitt	10	0.5	5	5.77	28.87	Public	HU	NV0000162	200	100	Arsenic compliance	\$478,000
5	Alamo Sewer & Water GID	10	1.0	10	1.69	16.92	Public	LI	NV0000005	900	275	Arsenic compliance, new well, storage, distrib.	\$2,087,380
6	Carson City Utilities	10	1.0	10	1.07	10.66	Public	CC	NV0000015	56,000	16,447	Uranium compliance (pipeline to Douglas Co and transmission within Carson City)	\$18,000,000
7	Churchill Co (Moody Ln Treatment)	10	0.8	8	1.05	8.36	Public	CH	NV0000406	503	183	Arsenic compliance	\$2,000,000
8	Old River	10	0.8	8	1.05	8.36	Private	CH	NV0000303	300	110	Arsenic compliance	\$1,451,835
9	Wildes Manor	10	0.5	5	1.58	7.90	Private	CH	NV0000058	70	20	Arsenic compliance	\$375,000
10	Tonopah	10	0.4	4	1.59	6.35	Public	NY	NV0000237	2,600	1,500	Arsenic compliance	\$1,000,000
11	Douglas County -Sunrise Estates	10	0.8	8	0.78	6.20	Public	DO	NV0002540	150	46	Arsenic compliance	\$2,619,000
12	Lander Co. - Austin	10	0.4	4	1.38	5.53	Public	LA	NV0000006	350	164	Arsenic compliance	\$5,000,000
13	Battle Mountain Water & Sewer	10	0.5	5	1.06	5.31	Public	LA	NV0000008	4,600	1,145	Water treatment (arsenic), transmission, distribution, storage	\$11,510,910
14	Spring Creek (Washoe Co.)	10	0.5	5	0.99	4.93	Public	WA	NV0004082	1,850	743	Arsenic compliance	\$3,516,613
15	Shoshone Estates	10	0.7	7	0.68	4.77	Private	NY	NV0005028	240	76	Arsenic compliance	\$1,660,000
16	Desert Springs	10	0.4	4	0.99	3.94	Public	WA	NV0001085	7,629	3,869	Arsenic compliance	\$3,859,680
17	Gabbs	1	NA	1	1.67	1.67	Public	NY	NV0000063	411	160	Fluoride compliance	\$300,000

**Class II--Chronic Health Risks
Non Community Water Systems**

18	Verdi Business Park	10	0.8	8	1.11	11.13	Private	WA	NV0005061	225	16	Arsenic compliance through consolidation with TMWA	\$739,760
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Total Class II **\$54,598,178**

**Class III--Rehabilitation
Community Public Water Systems**

19	Lovelock Meadows	43	NA	43	1.62	69.78	Public	PE	NV0000161	5,278	1,409	New well, transmission, storage, treatment	\$7,478,000
20	Dayton Utilities	39	NA	24	1.15	44.66	Public	LY	NV0000838	1,578	895	New well storage, upgrade transmission & distribution	\$1,720,000
21	Orvada	19	NA	19	2.28	43.25	Public	HU	NV0003022	200	50	Storage, distribution, meters	\$700,000
22	Reno Sahara MHP	25	NA	25	1.42	35.40	Private	WA	NV0000701	90	30	Consolidation with TMWA	\$175,000
23	Foothill MHP	25	NA	25	1.42	35.40	Private	WA	NV0000200	35	17	Consolidation with TMWA	\$100,000
24	Wendover	24	NA	24	1.52	36.54	Public	EL	NV0000246	4,990	1,103	Transmission, distribution, storage	\$982,000
25	Lamoille Water Users, Inc	39	NA	39	0.66	25.81	Private	EL	NV0000273	200	71	New well, storage, transmission, distribution	\$1,200,000
26	Truckee Meadows Water Authority	23	NA	23	1.11	25.59	Public	WA	NV0000190	325,000	90,000	Glendale treatment plant operations building	\$2,000,000
27	Storey County (Virginia City)	24	NA	19	0.84	20.27	Public	ST	NV0000240	2,517	694	Tank, transmission	\$15,337,905
28	Walker Lake GID	11	NA	11	1.84	20.22	Public	MI	NV0000268	400	160	Distribution rehab - part GREEN some pipes leak 50%	\$1,000,000
29	Ruth	18	NA	18	1.05	18.81	Public	WP	NV0000164	700	320	Pipe, pump water from existing Steptoe Valley wells in	\$7,000,000
30	LVVWD - Blue Diamond	24	NA	24	0.70	16.85	Public	WA	NV0000010	282	125	New wells, replace distribution	\$4,173,693
31	Washoe Co DWR (Lemmon Valley)	18	NA	18	0.84	15.07	Public	WA	NV0000202	8,000	7,500	Transmission, storage	\$13,000,000
32	Douglas County (West Valley)	15	NA	15	0.87	13.12	Public	DO	NV0002054	980	980	New well	\$1,900,000
33	Washoe Co DWR (Desert Springs)	18	NA	18	0.69	12.44	Public	WA	NV0001085	11,980	5,800	Tank relocation, transmission	\$2,898,300
34	Henderson	14	NA	14	0.82	11.47	Public	CL	NV0000076	246,000	77,889	Townsite cast iron transmission and distribution replacement (U0026)	\$2,300,000
35	Henderson	14	NA	14	0.82	11.47	Public	CL	NV0000076	246,000	77,889	North Green Valley Parkway transmission and distribution improvements (U0027)	\$1,200,000
36	Henderson	14	NA	14	0.82	11.47	Public	CL	NV0000076	246,000	77,889	Pittman/Boulder Highway waterline replacement (U0033)	\$5,400,000

Rank	Water System	Total Points	Arsenic Factor	Adjust. Total	State MHI/ PWS MHI	Revised Points	Ownership of System	County	ID#	Pop. Served	Number of Svc. Conn.	Project Description	
37	Henderson	14	NA	14	0.82	11.47	Public	CL	NV0000076	246,000	77,889	Victory Road cast iron main replacement (U0034)	\$2,900,000
38	Henderson	14	NA	14	0.82	11.47	Public	CL	NV0000076	246,000	77,889	Townsite cast iron transmission and distribution replacement phase 2 (U0072)	\$4,300,000
39	Washoe Co DWR (Double Diamond)	15	NA	15	0.75	11.21	Public	WA	NV0000832	15,800	6,240	Equip (pumps, house, piping) new wells, disinfection	\$2,437,000
40	Stagecoach GID	8	NA	8	1.30	10.37	Public	LY	NV0000224	1,411	580	Intertie Stagecoach GID with Lyon County Utilities	\$1,280,000
41	Indian Hills GID	10	NA	10	0.92	9.18	Public	DO	NV0000355	5800	1,810	Replace "Valley Vista" storage tank	\$280,000
42	Henderson	10	NA	10	0.82	8.19	Public	CL	NV0000076	246,000	77,889	Reconstruct/retrofit existing transmission to include installation of an in-pipe hydroturbine (GREEN)	\$1,100,000
43	Henderson	10	NA	10	0.82	8.19	Public	CL	NV0000076	246,000	77,889	Reservoir Overflow Upgrades P1 R-11, R-17a and R-	\$2,150,000
44	Ely	6	NA	6	1.22	7.31	Public	WP	NV0000038	5,500	2,200	Distribution	\$6,420,000
45	Sun Valley GID	6	NA	6	1.12	6.70	Public	WA	NV0000211	19,461	5,963	Distribution to eliminate dead ends, PRV	\$450,300
46	Henderson	8	NA	8	0.82	6.55	Public	CL	NV0000076	246,000	77,889	2007 Pressure zone (east) Water Main Phase II -	\$1,100,000
47	Henderson	8	NA	8	0.82	6.55	Public	CL	NV0000076	246,000	77,889	P17/P18 Upgrades , 36-inch Transmission Main W0307/U0007	\$16,000,000
48	Sage Valley Mobile Home Park	6	NA	6	1.05	6.27	Private	CH	NV0002023	188	147	Replace existing water services	\$75,000
49	Henderson	6	NA	6	0.82	4.91	Public	CL	NV0000076	246,000	77,889	Tropicana Square Townhomes Pressure Zone Conversion - W0308/U0006	\$1,800,000
50	Lyon County - Dayton	3	NA	3	1.04	3.12	Public	DO	NV0000032	11,000	5,200	Meters, isolation valves (GREEN)	\$1,150,000

Class III--Rehabilitation

Non Community Public Water Systems
None

Total Class III

\$110,007,198

Class IV--Refinance

None

2010 Census did not collect MHI data.

State MHI (Median Household Income) is \$55,585 based on 2005-2009 American Community Survey conducted by US Census.

PWS MHI is based on 2005-2009 American Community Survey conducted by US Census where data is available for the community.

If data not available for community in the 2005-2009 Survey, 2000 Census or individual income survey used.

Green project

ATTACHMENT 2: Sage Valley Loan Commitment and Resolution

**Sage Valley Mobile Home Park
Loan Commitment**

**Board for Financing Water Projects Summary
Drinking Water State Revolving Fund
July 2011**

Applicant: Sage Valley Mobile Home Park
Project: Manganese Removal Treatment
ARRA Funds: \$94,800
Additional Amount of ARRA Funds: \$40,000

REQUEST FOR ADDITIONAL FUNDS

Sage Valley Mobile Home Park is located on US Highway 50 in Churchill County. The water exceeds the drinking water standard for manganese which when chlorinated causes the water to turn black and creates deposits in the distribution system. Sage Valley Mobile Home Park has 47 residential connections which serve an estimated population of 188. The original proposed project was to install manganese removal treatment.

In October 2009, the Board for Financing Water Projects approved a loan commitment for a Sage Valley Mobile Home Park manganese treatment project utilizing American Recovery and Reinvestment Act (ARRA) funds. The approved loan amount was \$94,800.

The original project constructed a manganese removal system. The project also included the addition of a new compressor on the pressure tank to allow the water system to operate at a constant pressure. The treatment system and new pressure tank were housed in an existing building. The treatment system consists of oxidation of the manganese with sodium hypochlorite and adsorption of the manganese via three filters that utilize Greensand Plus media. During the March 2011 start-up, sample analyses indicated that the manganese levels were reduced from 1.1 ppm to 0.34 ppm; however, the maximum removal achieved by the existing treatment system does not meet the standard for manganese (Maximum Contaminant Level [MCL] of 0.1 parts per million).

Day Engineering and Water-Tek (treatment vendor) tried several different solutions to the manganese removal issue including: 1) increasing the oxidant contact time, 2) using a different oxidant – potassium permanganate, and 3) re-analysis of the water quality to determine if the manganese was bound to organics/tannins and adding another pre-filter. These experiments did not change the original result, so a pilot test was set up to test three different media (Greensand, Greensand Plus, & Berm). The three types of media performed equally well and removed the manganese to concentrations below the MCL. The pilot test also provided a constant flow through the treatment vessels by placing a contact vessel between the well and

the filters. Treated water then flowed from the filters to the system's pressure tank. The original process layout had the well pumping to the pressure tank and treatment after the pressure tank. This allowed variable flow through the filter vessels as a function of the system demand and may have caused preferential channeling of the media allowing some volume of water to by-pass treatment.

PROPOSED WATER TREATMENT PLANT MODIFICATIONS:

1. Add a 12'x 18' pre-fab metal, shed-type building to the existing wood frame building to house the three existing filter vessels and three additional filter vessels and a 563-gallon contact chamber. The purpose of having 6 filter vessels is to maintain uninterrupted flow to the system while three filter vessels are being backwashed. The maximum day demand of 50 gpm requires three vessels on line in parallel. The new building will be attached to the east side of the existing building and include a concrete floor, 4'x 7' roll up door and insulation. The existing heater is sufficient to heat the new building and the power and lighting will be extended from the existing building. There is adequate space on site for the extended building.
2. Replace the filter piping to accommodate flow from the well through a contact tank and then directly to the filters instead of flow from the well to the pressure tank. This will eliminate sediment build-up in the pressure tank and in the existing water distribution mains and allow a constant flow through the filters. Flow control valves will be added to ensure balanced flow across the filters. Also a timer will be added for the backwash sequence such that no more than one filter is off-line at a time and no more than three filters in one day.

The existing well pump, flow meter, pressure tank, chemical feed system, compressor unit and well building will remain in service.

The existing 2" PVC backwash line to the holding tank, holding tank and sprinkler system will remain in service. The total backwash cycle will include one filter at a time and no more than three filters in one day or 1,200 gallons (400 gallons X 3 filters). The holding tank is a 2,000-gallon buried tank with a 12 gpm submersible pump that discharges to three sprinklers. The 12 gpm pump and sprinkler system will discharge for approximately 1 ½ hours (100 minutes) each day that a backwash event occurs.

Two additional requests for improvements to the park water system have stemmed from numerous site visits made by Day Engineering and the Contractor to the treatment plant while pursuing alternatives to resolve the treatment issue. One item includes an inspection of the existing well pump and drop pipe. It appears that air is being introduced to the well discharge line when the pressure tank is off-line, and the source of the air may be the drop pipe on the well pump. The second item includes the installation of flush assemblies on the existing distribution system in order to flush out all of the sediment that has been collecting in the distribution mains for years. This build-up of sediment in the water distribution mains is the cause of clogging services, water heaters and faucets. Four assemblies are recommended.

FINANCIAL EVALUATION:

In order to receive the ARRA grant award from United States Environmental Protection Agency, the State of Nevada agreed to use at least 50% of its grant to provide additional subsidy to eligible recipients in the form of forgiveness of principal, negative interest loans, or grants or any combination of these. Nevada specified in the ARRA Intended Use Plan that additional subsidy will be offered to communities that meet the definition of disadvantaged community. The Nevada Administrative Code defines a disadvantaged community as an area served by a public water system in which the median household income is less than 80 percent of the median household income (MHI) of the state. Based on the 2000 census 80 percent of Nevada’s MHI is \$35,668.

There is no 2000 Census Block Group that covers just Sage Valley Mobile Home Park; however, Churchill County conducted an income survey of the Park and determined the median household income is approximately \$23,000. Therefore, Sage Valley not only meets, but far exceeds the requirements for additional subsidies, making a principal forgiveness loan to the Sage Valley Mobile Home Park appropriate.

Status of Drinking Water State Revolving Loan Fund ARRA Funds

NDEP is proposing to redirect \$40,000 of unspent ARRA funds to Sage Valley Mobile Home Park. The current balance of deobligated ARRA grant funds is \$69,000.

Estimated Additional Costs:

Item	Units	Quantity	Unit Cost	Total Cost
Pre-Fab Metal Building and Conc. Floor	LS	1	\$5,000	\$5,000
Water Treatment Plant Modifications	LS	1	\$20,000	\$20,000
Electrical	LS	1	\$2,000	\$2,000
Well Inspection and Repair	LS	1	\$4,000	\$4,000
Flush Assemblies	EA	4	\$1,000	\$4,000
Construction Sub-Total				\$35,000
Contingency (5%)				\$1,750
Construction Total				\$36,750
Permitting				\$500
Engineering (7.5%)				\$2,756
Administrative Total				\$3,256
TOTAL PROJECT COST				\$40,006

<i>Cost Estimate – ARRA Funding</i>	
Original ARRA Loan	\$94,800
Sage Valley MHP contribution	\$3,500
Additional ARRA Loan	\$40,000
Total Project Cost	\$138,300

DIVISION RECOMMENDATION

The Division recommends that the Board for Financing Water Projects approve a \$40,000 increase in the loan commitment from the loan fund of the DWSRF ARRA funds to Sage Valley Mobile Home Park. The existing loan for \$94,800 plus the additional \$40,000 brings the total loan commitment to \$134,800. Since the project is eligible for additional subsidy as specified in Nevada’s Intended Use Plan for ARRA, 100% of the principal will be forgiven. The Division and the Sage Valley Mobile Home Park will negotiate the terms and conditions of a loan agreement.

ATTACHMENT 1

Resolution of the Board for Financing Water Projects

Commitment of Funds from the

Account for the Revolving Fund

RESOLUTION

A RESOLUTION DESIGNATED THE "AMERICAN RECOVERY AND REINVESTMENT ACT 07-2011 SAGE VALLEY MOBILE HOME PARK PROJECT LOAN COMMITMENT RESOLUTION" TO APPROVE A LOAN COMMITMENT FOR THE PURPOSE OF FINANCING CERTAIN PROJECTS.

WHEREAS, the Board for Financing Water Projects (the "Board") of the State of Nevada (the "State") is authorized by Nevada Revised Statutes ("NRS") Chapter 445A.265 to approve the Division of Environmental Protection ("Division") prioritized lists of water projects and to approve the commitment of funds from the account for the revolving fund for loans to community water systems and non-transient water systems for costs of capital improvements required and made necessary pursuant to NRS 445A.800 to 445A.955, inclusive, by the Safe Drinking Water Act (42 U.S.C. §§ 300f *et seq.*) and by the regulations adopted pursuant thereto; and

WHEREAS, the Division has the responsibility of administering the Drinking Water State Revolving Fund program; and

WHEREAS, on February 17, 2009, President Obama signed the American Recovery and Reinvestment Act (ARRA) which allocated additional funds to the Drinking Water State Revolving Fund; and

WHEREAS, on April 20, 2009 the Board, pursuant to NRS 445A.265, approved the ARRA Funds 2009 Priority List of water projects eligible for loans from the account for the revolving fund under the Drinking Water State Revolving Fund; and

WHEREAS, the Sage Valley Mobile Home Park owns and operates the public water system in Fallon, Nevada; and

WHEREAS, Sage Valley Mobile Home Park submitted a pre-application to the Division for funding a project to make improvements to the water system, which is hereinafter referred to as the "Project"; and

WHEREAS, the Division ranked the Project as #28 on the ARRA Funds Year 2009 Priority List of water projects, which was approved by the Board on April 20, 2009; and

WHEREAS, the Sage Valley Mobile Home Park submitted to the Division a Letter of Intent to proceed with the Project; and

WHEREAS, the Sage Valley Mobile Home Park project is ready to proceed; and

WHEREAS, in connection with seeking a loan, the Applicant has submitted a written application (“Application”) pursuant to NAC 445A.67613 to the Division; and

WHEREAS, the Division has reviewed the Letter of Intent and the Application including supporting material thereof, and has determined that the Sage Valley Mobile Home Park has the technical, managerial and financial capability to manage the Project; and

WHEREAS, the Sage Valley Mobile Home Park is eligible to receive additional subsidy; and

WHEREAS, the Division has taken all necessary and proper actions with respect to the Application as required pursuant to the regulations adopted by the State Environmental Commission (NAC 445A.6751 to 445A.67644, inclusive) pertaining to loan applications; and

WHEREAS, the Board must give prior approval before the Division may commit any money in the account for the revolving fund for expenditure for the purposes set forth in NRS 445A.275;

NOW, THEREFORE, BE IT RESOLVED, BY THE BOARD FOR FINANCING WATER PROJECTS OF THE STATE OF NEVADA:

Section 1. This Resolution shall be known as the “American Recovery and Reinvestment Act 7-2011 Sage Valley Mobile Home Park Project Loan Commitment Resolution.”

Section 2. The terms and conditions for providing a loan to the Applicant shall be negotiated between the Sage Valley Mobile Home Park and the Division. These terms will include 100% Principal Forgiveness.

Section 3. Based on the review of the Application by the Division and based on the recommendation submitted by the Division to the Board concerning the Project, and subject to the provisions of Section 2 and 4 of this Resolution, the Board hereby approves a commitment of additional

funds in the amount not to exceed \$40,000 from the account for the revolving fund in accordance with NRS 445A.265, bringing the total loan commitment to \$134,800.

Section 4. The Board further recommends that the Division take all other necessary and appropriate actions to effectuate the provisions of this Resolution in accordance with NRS 445A.200 to 445A.295, inclusive, and the Regulations adopted pursuant thereto.

Section 5. This resolution shall be effective on its passage and approval.

PASSED, ADOPTED AND SIGNED July 27, 2011

Chairman
Board for Financing Water Projects

Attest:

Advisor
Board for Financing Water Projects

ATTACHMENT 3: Tonopah Public Utilities Loan Commitment and Resolution

Tonopah Public Utilities Loan Commitment

Board for Financing Water Projects Summary Drinking Water State Revolving Fund July 2011

Applicant: Tonopah Public Utilities
Project: Water System Improvements for Arsenic Compliance
Total Cost: \$7,611,825

GENERAL

The Nevada Division of Environmental Protection (Division) administers the DWSRF under the Nevada Revised Statutes (NRS) 445A.200 to 445A.295, inclusive. One of the requirements of the NRS pertaining to the DWSRF is that the Division shall not “commit any money in the account for the revolving fund for expenditure...without obtaining the prior approval of the board for financing water projects” (NRS 445A.265, subsection 3).

The Town of Tonopah is located approximately midway between Reno and Las Vegas on US Highway 95. Tonopah Public Utilities (TPU) needs to come into compliance with the new State and Federal arsenic standard.

CURRENT SYSTEM

The groundwater supply supporting the Town of Tonopah comes from eight groundwater wells situated in the Rye Patch area of the Ralston Valley Hydrographic Basin. The water is conveyed through approximately 14 miles of transmission main to the Town and is boosted with two pump stations. The water supply has an average arsenic concentration of 12 ppb, just over the new arsenic maximum contaminant level (MCL) of 10 ppb.

Customers, Population and Growth

According to the Nye County Planning Department, the current population of Tonopah is 2,896. Tonopah has experienced growth and decline of its population. In 1980 the population was 1,952 and by 1990 it had increased to 4,107 where it appears to have peaked. The boom and bust economy makes it difficult to arrive at any conclusions on population projection; however, based on a long term linear regression analysis, the population trend in Tonopah is a positive 0.5% per year. Given this trend, the population is projected to be approximately 3,300 by the year 2030. Other factors that may influence growth included mining operations in the area and development of alternative energy.

PROPOSED PROJECT

TPU proposes to construct two new wells approximately 4 miles northeast of the existing Rye Patch well field in Ralston Valley, rehabilitate four existing wells – Wells 5 - 8, and install a new 14-inch transmission line from the new wells to the existing Booster Station #1. The TPU also intends to remove Booster Station #1 and make improvements on its transmission main between Booster Station #1 and Booster Station #2 to maintain system flows and to replace 60+ year old steel pipeline (See Figure 6.1 in Attachment 1).

Alternatives to Project

Preliminary investigations and a preliminary engineering report (PER) by Lumos & Associates looked at alternatives to achieving compliance with the arsenic standard. The alternatives investigated included: doing nothing, blending, running annual average, connection to other existing water systems, rehabilitating the existing sources, a new water source and treatment.

The no action alternative would prevent TPU from coming into compliance with the arsenic rule. Blending was not considered a suitable alternative due to the lack of an existing blending water source with adequate production quantity below the new arsenic MCL. The arsenic rule requires that the mathematical average of any four consecutive quarterly samples be less than 10 ppb of total arsenic. Because most to all of the existing water sources either are just over or just under the arsenic MCL, mathematically, this is not a suitable option for the TPU.

A connection with the Town of Goldfield was previously investigated and eliminated due to cost and distance between the two water systems. Additionally, Goldfield has recently installed arsenic treatment and does not have the capacity from either its wells or treatment system to supply the needs of the Town of Tonopah. Central treatment was investigated and pilot tested – both coagulation/filtration and adsorption – and proved to be a viable option for Tonopah to achieve compliance. At the time this PER was created, the Town of Tonopah and Midway Gold were discussing a potential collaborative effort in mitigating arsenic issues in their source waters. Timing of a mine start-up, however, appeared to be beyond the required compliance date for the TPU water system.

Limited geologic and hydrologic data suggested that there was a low probability of finding a low-arsenic aquifer within the Tonopah area. TPU was not satisfied that a thorough investigation into a new source was completed with the first PER and hired another firm to further investigate this option. Shaw Engineering (Shaw) believed that, due to the short and long term consequences of constructing and then forever maintaining a water treatment plant, it would be worth the effort (and small additional cost) to reconsider a new groundwater source as a possible alternative.

Shaw and its hydrogeologist, Interflow Hydrology Inc., reviewed the available hydrogeologic data for Ralston Valley, with particular attention given to the existing Rye Patch well field area and other locations in Ralston Valley that included the Midway monitoring wells north of TPU's existing well field. Five locations were selected for exploratory drilling (See Figures 3.1 & 3.2 in Attachment 2).

Results of the exploratory drilling demonstrated that the TPU could drill new source wells north of the existing well field and the proposed Midway Gold Mine. The 6-inch test well drilled at this site produced water very low in arsenic (2 ppb) and met other drinking water standards (primary, secondary, and radionuclide's). Aquifer testing indicates a very productive aquifer capable of supplying several thousand gallons per minute of water with low amounts of drawdown. This site would be capable of providing for the Town's needs well into the foreseeable future.

The total capital cost of an adsorption treatment project alternative (\$9,591,000) is \$1.1 million less than the groundwater alternative proposed (\$10,698,000). The present worth cost, however, which takes into consideration all of the life cycle costs, including operation, maintenance and replacement, is approximately \$0.9 million less for the groundwater alternative.

Environmental Review

Environmental review of water projects is conducted by NDEP pursuant to NAC 445A.6758 to 445A.67612. An environmental review of this project is in process by the USDA. The NACs allow NDEP to utilize an environmental review conducted by another agency as long as the review complies with NDEP's environmental requirements. NDEP will determine if the USDA's environmental review satisfies NDEP's requirements and if so will concur with the USDA's determination.

Permits

The following permits/easements are required for the project:

1. NDEP Bureau of Safe Drinking Water approval of Plans and Specifications
2. BLM ROW / Easement – EA will be required

Cost Estimate

Budget Item	DWSRF Funding	Local Funding	Other USDA	Totals by Use
Planning		\$415,000		\$ 415,000
Design & Engineering	\$ 502,743		\$ 473,925	\$ 976,668
Land Acquisition Permitting and Environmental			\$ 102,807	\$ 102,807
Equipment/Materials				
Construction/Improvements	\$ 558,037		\$5,353,376	\$5,911,413
Administrative			\$ 55,516	\$ 55,516
Financing Costs			\$ 150,421	\$ 150,421
Totals by Source	\$1,060,780	\$415,000	\$6,136,045	\$7,611,825

Project Schedule

Project Funding	July 2011
Design & Permitting	October 2011
Advertising Invitation to Bid	January 2013
Start of Construction	April 2013
Project Completion	November 2013

Financial Evaluation

In order to receive the Fiscal Year 10 & 11 grant award from United States Environmental Protection Agency, the State of Nevada must agree to use at least 30% of its grant to provide additional subsidization to eligible recipients in the form of forgiveness of principal, negative interest loans, or grants or any combination of these. Nevada specified in the Intended Use Plan that additional subsidy will be offered to communities that meet the definition of

disadvantaged community. The Nevada Administrative Code defines a disadvantaged community as an area served by a public water system in which the median income per household is less than 80 percent of the median household income (MHI) of the state. Based on the 2005-2009 Community Survey, 80 percent of Nevada's MHI is \$44,438.

According to a USDA certified income survey, the MHI for the Town of Tonopah is \$35,000. Therefore, Tonopah meets the requirements for additional subsidy, making a principal forgiveness loan appropriate for the Town of Tonopah.

The TPU is a fully metered system and currently charges a "reasonable" rate for water used. Residential and small commercial customers pay \$51.75 for 15,000 gallons of metered water consumed in a month ("1.5% of MHI" = \$43.75). An annual increase is built into the rate structure to allow the utility to fund their debt service and capital replacement and project reserves.

Technical, Managerial and Financial Capacity

A TMF Capacity Survey was conducted with TPU in 2011, and the resulting total capacity score was 85%. The water quality currently meets the MCLs with the exception of arsenic and all monitoring requirements have been met. The TPU employs certified operators who have the technical knowledge and ability to operate the system. The Town of Tonopah has the ability to conduct its administrative affairs in a manner that ensures compliance with all applicable standards and retains a certified public accountant and utilizes generally accepted accounting principles.

Compliance with Safe Drinking Water Act

The Town of Tonopah is in compliance with requirements of the Safe Drinking Water Act with the exception of the MCL for arsenic. The proposed project is intended to bring Tonopah into compliance with the arsenic MCL.

Status of Drinking Water State Revolving Loan Fund

Currently, there is approximately \$14.3 million available in the loan fund. This loan commitment along with other recommended projects before this Board will reduce the funds available for future loans to approximately \$10.2 million.

RECOMMENDATION

The Division recommends that the Board for Financing Water Projects approve a loan commitment from the loan fund of the DWSRF in the amount of \$1,060,780 to the Town of Tonopah for improvements to the Tonopah Public Utilities water system to attain compliance with the arsenic MCL. This loan will fund the design of the project and the drilling/equipping of the new wells to achieve arsenic compliance. Funding the design will prevent TPU from incurring interest on an interim loan for the first nine months of the project. Since the project is eligible for additional subsidy as specified in Nevada's Intended Use Plan, 100% of the principal will be forgiven. The Division and the Town of Tonopah will negotiate the terms and conditions of a loan agreement.

Appendices

Figure 6.1 – Proposed Project

Attachment 1

Figures 3.1 & 3.2 – Exploratory Drilling

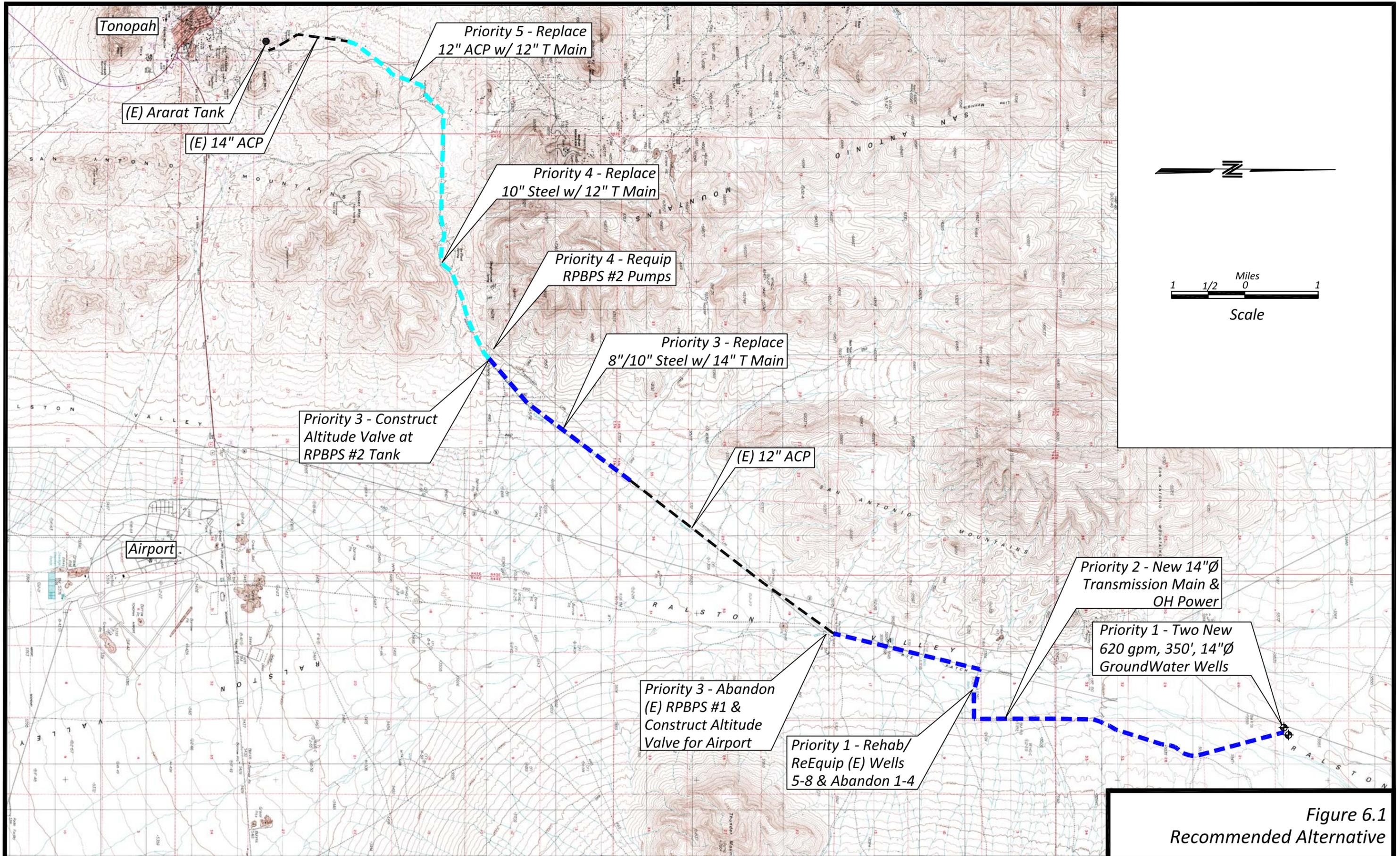
Attachment 2

Resolution

Attachment 3

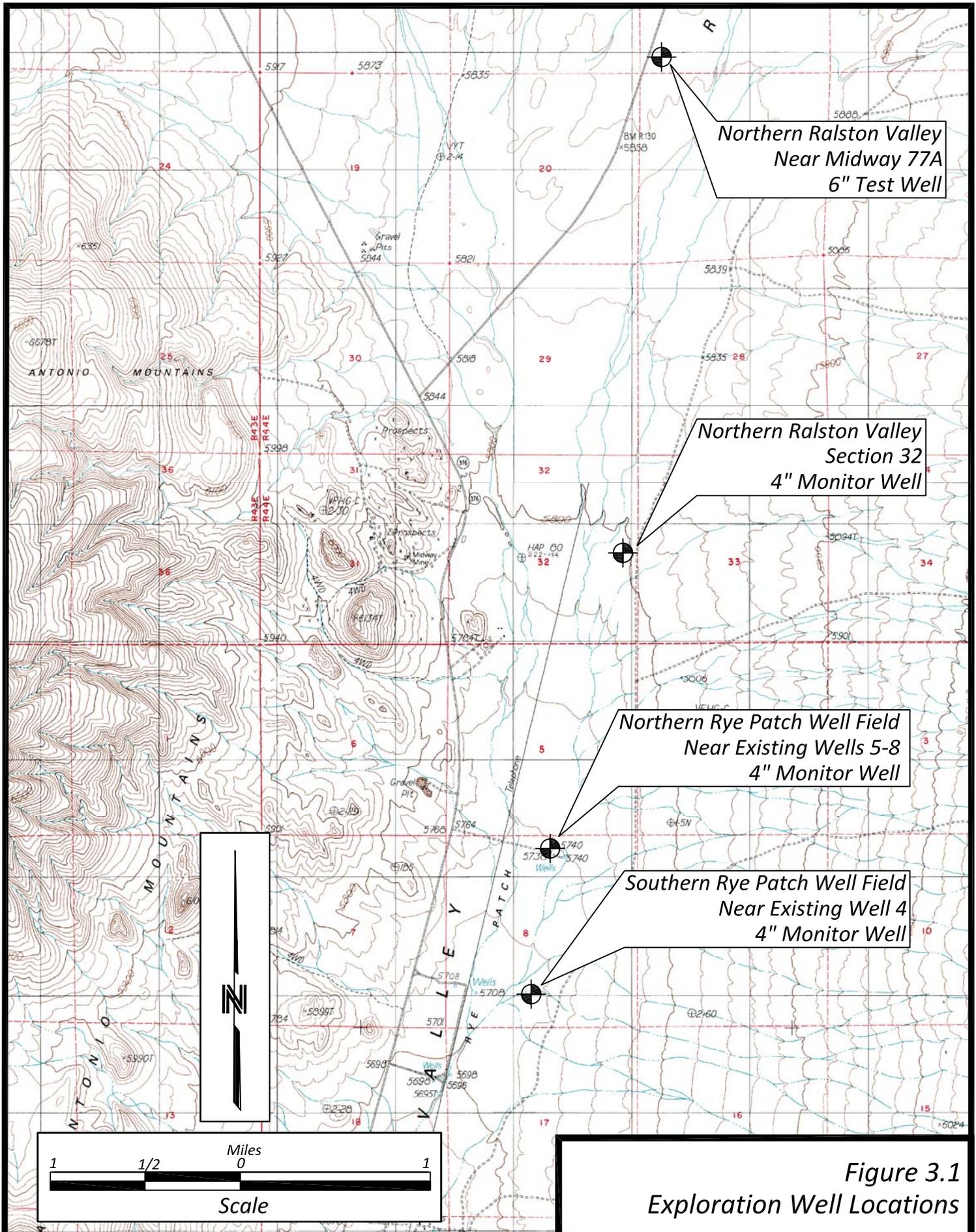
ATTACHMENT 1

FIGURE 6.1 – PROPOSED PROJECT



ATTACHMENT 2

FIGURE 3.1 & 3.2 – EXPLORATORY DRILLING



Northern Ralston Valley
Near Midway 77A
6" Test Well

Northern Ralston Valley
Section 32
4" Monitor Well

Northern Rye Patch Well Field
Near Existing Wells 5-8
4" Monitor Well

Southern Rye Patch Well Field
Near Existing Well 4
4" Monitor Well

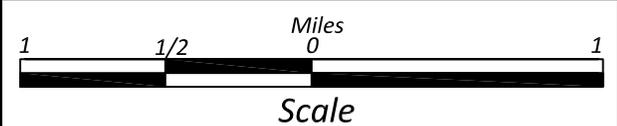


Figure 3.1
Exploration Well Locations

ATTACHMENT 3

Resolution of the Board for Financing Water Projects

Commitment of Funds from the

Account for the Revolving Fund

RESOLUTION

A RESOLUTION DESIGNATED THE "7-2011 TOWN OF TONOPAH PROJECT LOAN COMMITMENT RESOLUTION" TO APPROVE A LOAN COMMITMENT FOR THE PURPOSE OF FINANCING CERTAIN PROJECTS.

WHEREAS, the Board for Financing Water Projects (the "Board") of the State of Nevada (the "State") is authorized by Nevada Revised Statutes ("NRS") Chapter 445A.265 to approve the Division of Environmental Protection ("Division") prioritized lists of water projects and to approve the commitment of funds from the account for the revolving fund for loans to community water systems and non-transient water systems for costs of capital improvements required and made necessary pursuant to NRS 445A.800 to 445A.955, inclusive, by the Safe Drinking Water Act (42 U.S.C. §§ 300f *et seq.*) and by the regulations adopted pursuant thereto; and

WHEREAS, the Division has the responsibility of administering the Drinking Water State Revolving Fund program; and

WHEREAS, on July 27, 2011, the Board, pursuant to NRS 445A.265, approved the 2012 Priority List of water projects eligible for loans from the account for the revolving fund under the Drinking Water State Revolving Fund; and

WHEREAS, the Town of Tonopah owns and operates the public water systems located in Tonopah; and

WHEREAS, the Town of Tonopah submitted a pre-application to the Division for funding a project to make improvements to the water system, which is hereinafter referred to as the "Project"; and

WHEREAS, the Division ranked the Project as #10 on the 2012 Priority List of water projects, which was approved by the Board on July 27, 2011; and

WHEREAS, the Town of Tonopah submitted to the Division a Letter of Intent to proceed with the Project; and

WHEREAS, the Town of Tonopah project is ready to proceed; and

WHEREAS, in connection with seeking a loan, the Applicant has submitted a written application (“Application”) pursuant to NAC 445A.67613 to the Division; and

WHEREAS, the Division has reviewed the Letter of Intent and the Application including supporting material thereof, and has determined that the Town of Tonopah has the technical, managerial and financial capability to manage and repay a loan for the Project; and

WHEREAS, the Division has taken all necessary and proper actions with respect to the Application as required pursuant to the regulations adopted by the State Environmental Commission (NAC 445A.6751 to 445A.67644, inclusive) pertaining to loan applications; and

WHEREAS, the Board must give prior approval before the Division may commit any money in the account for the revolving fund for expenditure for the purposes set forth in NRS 445A.275;

NOW, THEREFORE, BE IT RESOLVED, BY THE BOARD FOR FINANCING WATER PROJECTS OF THE STATE OF NEVADA:

Section 1. This Resolution shall be known as the “7-2011 Town of Tonopah Project Loan Commitment Resolution.”

Section 2. The terms and conditions for providing a loan to the Applicant shall be negotiated between the Town of Tonopah and the Division.

Section 3. Based on the review of the Application by the Division and based on the recommendation submitted by the Division to the Board concerning the Project, and subject to the provisions of Section 2 and 4 of this Resolution, the Board hereby approves a commitment of funds in the amount not to exceed \$1,060,780.00 from the account for the revolving fund in accordance with NRS 445A.265.

Section 4. The Board further recommends that the Division take all other necessary and appropriate actions to effectuate the provisions of this Resolution in accordance with NRS 445A.200 to 445A.295, inclusive, and the Regulations adopted pursuant thereto.

Section 5. This resolution shall be effective on its passage and approval.

PASSED, ADOPTED AND SIGNED July 27, 2011

Chairman
Board for Financing Water Projects

Attest:

Advisor
Board for Financing Water Projects

ATTACHMENT 4: Incline Village GID Loan Commitment and Resolution

Incline Village General Improvement District Loan Commitment

Board for Financing Water Projects Summary Drinking Water State Revolving Fund July 2011

Applicant: Incline Village General Improvement District
Project: Water System Improvements
Total Cost: \$5,978,000

GENERAL

The Nevada Division of Environmental Protection (Division) administers the DWSRF under the Nevada Revised Statutes (NRS) 445A.200 to 445A.295, inclusive. One of the requirements of the NRS pertaining to the DWSRF is that the Division shall not “commit any money in the account for the revolving fund for expenditure...without obtaining the prior approval of the board for financing water projects” (NRS 445A.265, subsection 3).

The Incline Village General Improvement District is located on the northwest shores of Lake Tahoe in Washoe County. The IVGID is required to comply with the US Environmental Protection Long Term 2 Enhance Surface Water Treatment Rule (LT2ESWTR) by 2014. The purpose of the LT2ESWTR rule is to reduce illness linked with the contaminant *Cryptosporidium* and other disease-causing microorganisms in drinking water. The LT2ESWTR supplements existing regulations by targeting additional *Cryptosporidium* treatment requirements to higher risk systems. These higher risk systems include filtered water systems with high levels of *Cryptosporidium* in their water sources and all unfiltered water systems, which do not treat for *Cryptosporidium*.

The Burnt Cedar Water Disinfection Plant (BCWDP) Improvements Project is a multi-year mandatory upgrade of the existing facility to attain LT2 compliance.

CURRENT SYSTEM

The IVGID water treatment system is an unfiltered system. Source water is pumped from Lake Tahoe to the treatment plant where the water receives ozonation for primary disinfection followed by free chlorine for distribution system residual. The system is operated to achieve 3-log (99.9%) *Giardia* inactivation and 4-log (99.99%) virus inactivation. The water system has 6.6 million gallons of storage capacity. Distribution lines are primarily Asbestos Cement, C900 PVC and Ductile Iron with a few older lines being thin-wall steel and scheduled for future replacement. There is a back-up power supply for the treatment plant and all customers are metered. All fire flow, water pressure and pipe size codes are met.

Customers, Population and Growth

The IVGID water system serves an estimated population of 9,000 through 3,777 residential connections and 416 commercial connections. IVGID has not identified any potential future growth scenarios.

PROPOSED PROJECT

Based on the alternatives analysis conducted, the selected treatment process consists of ozone, UV disinfection and residual chlorination. The project will install ultraviolet disinfection

for LT2 compliance and will replace the existing aging ozone disinfection equipment with upgraded and more efficient ozone equipment.

In addition, the IVGID is proposing to streamline the entire disinfection treatment process to provide a more reliable and easy to operate disinfection plant. The project will substantially utilize existing buildings and facilities and only one small new building for the Ozone Quench/Destruct (constructed in the footprint of an existing storage building) will be required.

IVGID's raw water has low mineral content, low solids content and minimal organic content. Low solids content (turbidity) is one of the reasons IVGID's water supply meets the filtration avoidance criteria. *Cryptosporidium* was not detected in any of the samples collected; however, as an unfiltered system, IVGID is required to achieve a 3-log *Cryptosporidium* and *Giardia* inactivation. The ozone system currently provides 3-log *Giardia* inactivation (and *Cryptosporidium* inactivation under low flow rate conditions and water temperatures greater than 16°C) as well as 4-log virus inactivation.

IVGID purchased a bench-top UV spectrophotometer and proceeded with a UV transmittance sampling program in September 2009. UV transmittance provides critical information for design of a UV disinfection system. Results of this program correlated well with the independent sample analyzed as part of the ozone treatability testing and showed that IVGID's water has an extremely high UV transmittance.

The design for the BCWDP improvements project is for 6,000 gpm (8.64 mgd) net production capacity. The capacity matches the influent pumping capacity and slightly exceeds the current BCWDP finished water production capacity. The facilities will not incorporate elements for future capacity increases.

The project will improve the reliability and redundancy of the BCWDP through:

- improved reliability of ozone equipment
- an additional treatment barrier for disinfection (UV disinfection), resulting in more robust treatment
- improving process control with better system response and less variability in chemical dosing
- better access to equipment for operations and maintenance to keep systems in service
- redundancy for major process equipment items

The IVGID, their design firm – CH2M-Hill, the NDEP Bureau of Safe Drinking Water and Washoe County Health Department worked closely during the design phase of the project. In May 2011, IVGID received a letter from the Washoe County Health Department approving the project and confirming its compliance with the Nevada Administrative Code.

Alternatives to Project

Nine different alternatives for the inactivation of *Cryptosporidium* by disinfection were identified with combinations of the following technologies:

Unfiltered alternatives:

Ozone disinfection
UV disinfection
UV advanced oxidation process

Filtration alternatives:

Direct granular media filtration
Direct membrane filtration

Contact time requirements for ozone inactivation of *Cryptosporidium* are significantly higher than contact time requirements for *Giardia* and virus disinfection, particularly at cold water temperatures. Consequently, ozone is rarely used for *Cryptosporidium* inactivation credit.

UV disinfection is a physical rather than a chemical disinfection process. The inactivation of microorganisms is based on the UV dose and can be affected by water quality (e.g., turbidity).

Some filtration processes that were eliminated early in the process tend to generate a significant waste stream and/or require significant land area due to low loading rate.

Each alternative was evaluated for its ability to achieve the treatment criteria. If an alternative was unable to satisfy the critical criteria, it was no longer considered a viable alternative. Alternatives were ultimately evaluated through a cost-benefit decision process. The selection process resulted in a combination of alternatives that bring the system into compliance the LT2ESWTR with the greatest benefit and lowest cost.

Business Case – Green Features of Project: Energy Efficiency for the new ozone generators

The new ozone generators by Ozonia are estimated to be 20% more efficient plus they make twice the concentration of ozone for the same amount of liquid oxygen.

The original ozone generators were designed for 6% ozone concentration. Ozonia has submitted on using a guaranteed minimum of 11% ozone concentration for the new generators. Assuming that the ozone dose was to stay the same, this would result in a 40-50% reduction in LOX consumption.

Regarding power consumption, the operating efficiency of the original generators is not known precisely, but units from of the 1990's were typically at least 6 kWhr/lb of ozone produced at the optimal design operation point. The Ozonia units being supplied are guaranteed to operate at 6.01 kWhr/lb at 5 ppd ozone production, 4.86 kWhr/lb at 38 ppd, and 4.98 kWhr/lb at 76 ppd. The efficiency is less at the extreme high and low ends of the unit's production capacity. Again assuming that the ozone dose stays roughly the same, the power required by the new generators could be as much as 19% less than the current operation. If the existing generators actually operate at higher than 6 kWhr/lb then the power reduction would be even greater.

Environmental Review

No known wildlife or endangered species, historic or archeological sites will be affected by the proposed project. There are no negative impacts to either commercial or residential land uses; however, the project will have a positive benefit of improved water quality to all commercial and residential users. Construction will be done entirely within the fenced boundaries of the Water Treatment Plant facility site, and sufficient application of water, by truck or fire hose, will be used to prevent dust.

Environmental review of water projects is conducted by the NDEP pursuant to NAC 445A.6758 to 445A.67612. Certain types of projects are eligible for a categorical exclusion from the environmental review process under NAC 445A.67583. The NDEP determined that the IVGID project is eligible for a categorical exclusion under NAC 445A.67583(2)(a), rehabilitation of an existing facility and NAC445A.67583(2)(b), replacement of equipment or structures and meets the required criteria for the categorical exclusion. The project is also eligible for a categorical exclusion under NAC 445A.67583(2)(e) because there is sufficient evidence that a significant effect on the quality of the environment is unlikely since construction will be permitted by Tahoe Regional Planning Agency (TRPA) and subject to strict environmental criteria and mitigation if necessary. A Best Management Plan (BMP) will be developed and followed for the entire

project area. Any barren areas and areas disturbed by construction will be revegetated in accordance with the TRPA Handbook of Best Management Plan Practices and Living with Fire, Second Edition, Lake Tahoe Basin.

The basis of this determination is that the project will substantially utilize existing buildings and facilities and only one small new building (constructed in the footprint of an existing storage building) will be required. Best management practices will be utilized during construction. The project may be exempted from further substantive environmental review requirements.

Notice of the proposed categorical exclusion determination by NDEP was published in the North Lake Tahoe Bonanza on or about June 25, 2011. It was also circulated through the Nevada State Clearinghouse. Consultation with the State Historic Preservation Office has been initiated. Compliance with section 106 of the National Historic Preservation Act will occur before construction begins.

Permits

The following permits are required for the project:

- Washoe County Health District Approval – the District received approval of the project and confirmation of its compliance with the Nevada Administrative Code (May 2011)
- Tahoe Regional Planning Agency Permit – the District received a Qualified Exempt Permit from TRPA for the majority of the work on site (February 2011) and a separate permit with TRPA for the demolition and reconstruction of a small operations building (June 2011)
- Washoe County Building Permit – the District received their building permit from Washoe County (April 2011)

Cost Estimate

Budget Item	DWSRF Funding	Local Funding	Totals by Use
Planning	\$ -	\$ 300,000.00	\$ 300,000.00
Design & Engineering	\$ -	\$ 908,000.00	\$ 908,000.00
Land Acquisition	\$ -	\$ -	\$ -
Equipment/Materials	\$1,000,000.00	\$ 500,000.00	\$ 1,500,000.00
Construction/Improvements	\$2,000,000.00	\$1,000,000.00	\$ 3,000,000.00
Administrative	\$ -	\$ 220,000.00	\$ 220,000.00
Financing Costs	\$ -	\$ 50,000.00	\$ 50,000.00
Project Total	\$3,000,000.00	\$2,978,000.00	\$ 5,978,000.00

Project Schedule

Advertising Invitation to Bid	January 27, 2011
Bid Opening	March 8, 2011
Award of Contract	March 30, 2011
Start of Construction	May 1, 2011
Completion of Construction	March 22, 2013
Start-up of Water Project	March 22, 2013

Financial Evaluation

The IVGID is a financially viable operation with the ability to meet costs of continuing operations and maintenance and has the financial capability to handle the loan. Indicators of the District's financial capability and other significant financial highlights include the following:

- A rate increase was implemented for the 2010-11 fiscal year. This increase was based on budgeted costs sufficient to fund operations, maintenance, and debt service of the enterprise fund through Fiscal Year 2011. Rate increases are reviewed annually in order to ensure sufficient funding.
- The District adopted "Stabilization" amount requirements for the Utility Fund intended to cover one year's debt service, capital expenditures, and 25% of operating expenses. At the end of Fiscal Year 10 the required Utility Fund Stabilization amount was approximately \$7 million. The actual unrestricted net assets were reported at \$9.4 million, a \$2.4 million difference, further indicating that IVGID has ample funds to more than cover obligations.

The DWSRF program will also rely upon the extensive credit history obtained by bond counsel during the process of issuing the required general obligation bonds.

Technical, Managerial and Financial Capacity

A TMF Capacity Survey was conducted with IVGID in 2008, and the resulting total capacity score exceeded 96%. The water quality currently meets the MCLs and all monitoring requirements have been met. The IVGID employs certified operators who have the technical knowledge and ability to operate the system. The IVGID has the ability to conduct its administrative affairs in a manner that ensures compliance with all applicable standards and retains a certified public accountant and utilizes generally accepted accounting principles.

Status of Drinking Water State Revolving Loan Fund

Currently, there is approximately \$14.3 million available in the loan fund. This loan commitment along with other recommended projects before this Board will reduce the funds available for future loans to approximately 10.2 million.

RECOMMENDATION

The Division recommends that the Board for Financing Water Projects approve a loan commitment from the loan fund of the DWSRF in the amount of \$3,000,000 to the Incline Village General Improvement District for improvements to the existing Burnt Cedar Water Disinfection Plant to attain LT2 compliance. The loan will be for a term of not to exceed 20 years and at an annual interest rate of 66% of the appropriate bond buyers index at the time the loan contract is signed. The Division and Incline Village General Improvement District will negotiate the terms and conditions of a loan agreement.

ATTACHMENT 1

Resolution of the Board for Financing Water Projects

Commitment of Funds from the

Account for the Revolving Fund

RESOLUTION

A RESOLUTION DESIGNATED THE "7-2011 INCLINE VILLAGE GENERAL IMPROVEMENT DISTRICT PROJECT LOAN COMMITMENT RESOLUTION" TO APPROVE A LOAN COMMITMENT FOR THE PURPOSE OF FINANCING CERTAIN PROJECTS.

WHEREAS, the Board for Financing Water Projects (the "Board") of the State of Nevada (the "State") is authorized by Nevada Revised Statutes ("NRS") Chapter 445A.265 to approve the Division of Environmental Protection ("Division") prioritized lists of water projects and to approve the commitment of funds from the account for the revolving fund for loans to community water systems and non-transient water systems for costs of capital improvements required and made necessary pursuant to NRS 445A.800 to 445A.955, inclusive, by the Safe Drinking Water Act (42 U.S.C. §§ 300f *et seq.*) and by the regulations adopted pursuant thereto; and

WHEREAS, the Division has the responsibility of administering the Drinking Water State Revolving Fund program; and

WHEREAS, on July 27, 2011, the Board, pursuant to NRS 445A.265, approved the 2012 Priority List of water projects eligible for loans from the account for the revolving fund under the Drinking Water State Revolving Fund; and

WHEREAS, Incline Village General Improvement District owns and operates the public water systems located at Lake Tahoe; and

WHEREAS, Incline Village General Improvement District submitted a pre-application to the Division for funding a project to make improvements to the water system, which is hereinafter referred to as the "Project"; and

WHEREAS, the Division ranked the Project as #3 on the 2012 Priority List of water projects, which was approved by the Board on July 27, 2011; and

WHEREAS, Incline Village General Improvement District submitted to the Division a Letter of Intent to proceed with the Project; and

WHEREAS, Incline Village General Improvement District project is ready to proceed; and

WHEREAS, in connection with seeking a loan, the Applicant has submitted a written application (“Application”) pursuant to NAC 445A.67613 to the Division; and

WHEREAS, the Division has reviewed the Letter of Intent and the Application including supporting material thereof, and has determined that Incline Village General Improvement District has the technical, managerial and financial capability to manage and repay a loan for the Project; and

WHEREAS, the Division has taken all necessary and proper actions with respect to the Application as required pursuant to the regulations adopted by the State Environmental Commission (NAC 445A.6751 to 445A.67644, inclusive) pertaining to loan applications; and

WHEREAS, the Board must give prior approval before the Division may commit any money in the account for the revolving fund for expenditure for the purposes set forth in NRS 445A.275;

NOW, THEREFORE, BE IT RESOLVED, BY THE BOARD FOR FINANCING WATER PROJECTS OF THE STATE OF NEVADA:

Section 1. This Resolution shall be known as the “7-2011 Incline Village General Improvement District Project Loan Commitment Resolution.”

Section 2. The terms and conditions for providing a loan to the Applicant shall be negotiated between Incline Village General Improvement District and the Division.

Section 3. Based on the review of the Application by the Division and based on the recommendation submitted by the Division to the Board concerning the Project, and subject to the provisions of Section 2 and 4 of this Resolution, the Board hereby approves a commitment of funds in the amount not to exceed \$3,000,000 from the account for the revolving fund in accordance with NRS 445A.265.

Section 4. The Board further recommends that the Division take all other necessary and appropriate actions to effectuate the provisions of this Resolution in accordance with NRS 445A.200 to 445A.295, inclusive, and the Regulations adopted pursuant thereto.

Section 5. This resolution shall be effective on its passage and approval.

PASSED, ADOPTED AND SIGNED July 27, 2011

Chairman
Board for Financing Water Projects

Attest:

Advisor
Board for Financing Water Projects

ATTACHMENT 5: Statement on Tolas Waterworks by Bert Bellows

“PROBLEMS AT TOLAS WATERWORKS”

1.) No backup generator

A backup generator was recently purchased and is on site. The generator has a 70 kw capacity.

2.) Arsenic removal from greensand filters: The raw water does not have enough iron in it to make the greensand filters remove some of the arsenic. By adding Ferric Chloride and possibly polymer we will make the greensand filters perform correctly and lengthen the life of the polishing filters.

I obtained the following response from Mr. Greg Gilles, a vice-president and principal with AdEdge Technologies, the manufacturer of the treatment plant at Tolas:
Correct, we've actually been asked to prepare a proposal to retrofit this to make the AD26 prefilter system a coagulation / filtration system by adding Ferric Chloride. Yes this can be done and would aid in arsenic removal. Iron would certainly be necessary to facilitate arsenic removal to a significant extent. The system would place less of a burden for arsenic removal on the adsorption polishing unit, which would also extend the run length and span out the media changeout frequency a bit. The system would remove the sulfide, manganese, and provide enhanced arsenic removal capabilities. We need to however look carefully at the backwash system and quantity of water since we would be backwashing at least twice as frequent to make sure the existing system can handle the wastewater recycle adequately. Matt Velker and Eric Nicol from my office are preparing a proposal for them now.

3.) “If the PLC controlled valves fail shut for some reason the well pump continues to run. Running the well pump in this condition will damage the pump and over-pressurize the piping.” [G.Gilles]

In the event of a power failure to the valves, those valves should remain in the OPEN position and not dead head the pump. They could also be operated in manual mode if necessary by physically moving the valve position. Of course running with no power to the valves would or should only be allowed for short periods since the system would be like flying a plane with no instruments.

4.) “The PLC needs a surge protector/APC to protect it during a power outage. A backup copy of the PLC program would also be helpful during emergencies.” [G.Gilles]

Surge protection is a great idea to protect this investment. The PLC and HMI can be damaged by large voltage swings. This is a good idea. A backup of the program could be made available on request. It can be uploaded with the correct password and instructions from AdEdge.

5.) Freeze protection for the reclaim tank: The tank we use to reclaim some of the backwash water is susceptible to freezing. This will stop us from backwashing the filters.

Piping to and from the reclaim tank to the treatment building has been heat-taped and wrapped. (See photo) It may be beneficial to insulate the bottom half of the tank for added protection from freezing.



6.) Chlorine room is open to the mechanical room what is against the AWWA & OSHA standards/requirements.

The chlorine room is contained in a separate structure within the treatment plant. See photo.





7.) Flow meter is missing for blending to preserve filter media.

As Tolas Waterworks employs a single source of groundwater, blending would consist of combining a flow of untreated raw water with treated water in an effort to reduce the amount of water treated and prolong the life of the treatment media. This is a process known as sidestream treatment. In the case of Tolas Waterworks, arsenic levels in the new source are about 35 ppb, and 90% of the well output must be treated to obtain a blended water with arsenic levels at 8 ppb.

8.) Building cannot meet OSHA working space requirement.

NAC 445A.6681 requires that treatment facilities be constructed according to the requirements of the Occupational Safety and Health Administration, the Division of Industrial Relations of the Nevada Department of Business and Industry, and the local fire authority. Any working space requirement should be addressed in the design of the facility. I am not sure what working space requirement is referred to here, and therefore, do not know how to respond.

9.) Ventilation of the mechanical room is not provided as per OSHA standards.

The mechanical room is ventilated, but I am not aware if it meets OSHA standards.

10.) Chlorine room is not climatized and will increase the degradation of the chlorine.

The chlorine room does not have the benefit of having any HVAC environmental controls and would likely benefit from the installation of rigid foam insulation, at least. For systems that do not have such amenities, it is beneficial to address these issues in the Emergency Response Plan (ERP) and Operations and Maintenance Manual (O&M).

11.) No call-up alarms or telephone lines for emergency.

An expensive option, likely not considered due to budget restrictions.

12.) Owner cannot meet financial capacity as per SDWA. Improvement or maintenance will be difficult.

I am not aware of the financial capacity of this system. Water system rates are hidden in the space rent charges and it is impossible to determine whether or not the system is self-sustainable.

The following is an e-mail correspondence received from Mr. Kirk Swanson from Farr West Engineering, adding to the comments he made at the Board meeting:

Bert,

Thanks for your clarification at the meeting today. I forgot to clarify what Daralyn said in that it's 110+ connections but the actual population is much greater. I would also state that since the system is contacting Adedge for optimizing the system the MHP should also pursue water conservation that will directly reduce operating costs. I tried several times to encourage water conservation but with inexpensive water prior to treatment the MHP owners had no incentive to conserve. Perhaps you can include these items in your written response that the board requested. Thanks again for your help.

Kirk