

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

**Summary Minutes**

Thursday, March 20, 2008

9:00 AM

The Bryan Building

901 S. Stewart Street - 2<sup>nd</sup> floor Tahoe Hearing Room

Carson City, Nevada 89701

**Members Present:**

Bruce Scott, Chairman

Brad Goetsch, Vice Chairman

Bob Firth

Don Ahern

Steve Walker

Jennifer Carr (Ex-officio member)

**A. INTRODUCTION AND ROLL CALL (Non Action)**

Chairman Scott called the meeting to order at 9:00 a.m. At the Chairman's invitation, Board members and individuals in the audience introduced themselves. (Mr. Walker arrived before the beginning of agenda item D).

Others present associated with the Board included Nhu Nguyen, Deputy Attorney General and Counsel to the Board, Dave Emme, Adele Basham, Dana Tuttle, Michelle Stamates and Marcy McDermott (NDEP), and Robert Pearson (NDEP), Recording Secretary.

**B. APPROVAL OF MINUTES - DECEMBER 13, 2007 MEETING (Action)**

There were no suggested changes or additions to the minutes of the previous meeting. Chairman Scott asked that the name of the person who transcribed the minutes be included in the text.

**Motion:** Mr. Goetsch moved to accept the minutes as presented, was seconded by Mr. Ahern, and the vote was unanimous in favor.

(After Mr. Walker arrived, he had a correction for the minutes of the December meeting. On page 17, Mr. Walker's comment was "the source for 70 percent of the groundwater pumping is *from* the Carson river." The correction was noted and made).

**C. SET A DATE FOR THE NEXT BOARD MEETING IN JUNE (Action)**

After discussion, it was agreed that the next meeting of the Board would be June 19, 2008, at 9:00 am, and that date and time was adopted by unanimous consent.

**D. DRINKING WATER STATE REVOLVING FUND (DWSRF) PROGRAM**

**1. Discussion & possible approval of 2008 Project Priority List (Action)**

## \* Summary - Adele Basham

(Ms. Basham's presentation on the Project Priority List is contained in **Appendix 1**)

During the presentation, Mr. Firth inquired if systems that did not respond to the solicitation letter to remain on the list were dropped from the list. Ms. Basham said systems that had recently submitted a pre-application remained on the priority list, but systems that did not respond to the solicitation letter were dropped; these included Gabbs, Lovelock, Imlay, Topaz Ranch Estates, Kingsbury, Montello, Steamboat Springs and Verdi Business Water Co-op.

Mr. Walker asked if a system was above the TDS standard was that considered a secondary standard. The answer was yes, the secondary standard for TDS is 1000 mg/L. Mr. Firth asked how systems that were dropped from the list could get back on the list. Ms. Basham said that if requested, the system could go through the process and be added back by the Board at a regular Board meeting.

Ms. Basham outlined general use of the list, the requirements of the federal and state grant programs, the fact that the system must be on the list to apply for a grant and the mechanism of the Median Household Income scoring adjustments for Mr. Ahern.

Mr. Goetsch talked about failing private systems and the need for some way to work with counties and private systems to give some sort of guarantee of funding to counties thinking of taking over failing private systems. Ms. Basham noted that the state grant program, by regulation, cannot give grants to private systems, but there were examples such as Sheraton Acres in Douglas County and the Crystal Clear Water System in Lyon County, which were taken over by the counties and became eligible, though with no guarantees of funding. Chairman Scott said that, if a county took over a system, they could ask if they would be eligible. Mr. Goetsch wondered if there could be a more formal step to give assurance to the county that if they took on a failing system they could get funding. Mr. Walker noted that some counties no longer allow private systems, avoiding these problems in the future, but there are still legacy systems.

**Motion:** Mr. Firth moved that Board approve the Resolution designated Year 2008 Project Priority List Drinking water State Revolving Fund, was seconded by Mr. Goetsch, and the vote was unanimous in favor.

## E. CAPITAL IMPROVEMENT GRANT PROGRAM

### 1. Financial Report \* Summary - Dana Tuttle (Non Action)

(Ms. Tuttle's narrative was taken from the spreadsheet contained in **Appendix 2**)

Ms. Tuttle summed up her narrative by saying that there will be an additional \$17 million in bond sales scheduled for April 2008. At the end of this budget cycle, the Board will have obligated \$8.2 million that will have to be paid from the next biennium budget cycle's bond sales or other special allocations from the Treasurer's Office. For the 2010-11 biennium, the Treasurer's Office has tentative budget numbers for this program of \$11.4 million in 2010 and 9.4 million in 2011. If the Board obligates more today and going forward, they will, in essence, be tapping into the 2010 money. In response to a question from Mr. Goetsch, she said it meant that that they might have to request more from the Treasurer than originally planned. Mr. Goetsch asked if that meant the Board should go ahead and approve worthy projects now or was the Board at a funding point they could not go over?

Chairman Scott understood it to mean that certain projects at certain project construction amounts might not have cash available for reimbursement on demand, the project might have to wait to begin construction, and asked Ms. Stamates if that seemed correct. She agreed.

Mr. Emme added that what Ms. Tuttle was pointing out was that they were relying on the next biennium's allocation from the Treasurer's Office, which was not actually approved by the Legislature, yet. This is a long-term program with statutory authority up to \$125 million, so it is not a big risk, but the program was close to using money from bond sales in the next biennium. The current work with the Treasurer's Office was to provide for existing obligation through this biennium plus cash to fund high-priority arsenic projects. Ms. Tuttle's report is a caution, but as far as cash flow the program should be okay.

Mr. Firth asked how approval of projects today could be affected by cash flow shortages. For instance, if we do not have the cash, how do the grantees meet their arsenic compliance deadlines? He felt the problem was the expiration of arsenic exemptions early next year.

Ms. Tuttle replied that arsenic projects might be a "spike" in how much need was out there and the timing of that need. The Treasurer's Office might be able to accommodate the "spike." Chairman Scott noted that the Board might have to ask some projects to delay starting because of cash flow. Mr. Goetsch asked if systems that had been slow to initiate their funded projects were moving faster, and Ms. Stamates said they were. Mr. Goetsch added that he did not want to promise funding and then leave them hanging after construction had begun.

Ms. Carr noted that if the Board referred to the December meeting minutes there was a table in Appendix 2 that showed systems that exceeded the arsenic standard and were eligible for state grants. She ran down the list and concluded that some systems were pursuing alternatives to asking the Board for funds while Moapa has already applied and three more systems are on the agenda today. Chairman Scott asked for an update of this list on a meeting-by-meeting basis. Mr. Goetsch asked for information on who is and is not eligible for extensions on the arsenic levels, and Ms. Carr noted that systems with populations above 3,300 are not eligible for any extensions.

Mr. Walker asked about obligated grant amounts and whether some of the \$36 million figure mentioned was obligated to a project that was not progressing. Chairman Scott explained some of the timing issues and that Ms. Stamates monitored this and included that information in funding projections. Mr. Goetsch added that there was a time limit for non-performance. He added that they were looking at potentially having to allocate cash flow based on immediate need if money was tied up in non-performing projects.

Ms. Tuttle continued, saying that it was projected that after the next biennium the Board would be hitting up against the ceiling of the \$125 million in legislative authority. Chairman Scott asked about paid off bonds being made available in the Board's authority, and Ms. Tuttle said about \$3.1 million would come into the fund from bond debt reduction in 2009.

There was no public comment.

Chairman Scott summed up by saying that he wanted to be able to deliver funds that the Board had promised, that there had been a cash-flow problem recently but in the future it would be the legislative ceiling.

There was a brief break.

## 2. Grant Application:

### a. Alamo Water and Sewer Arsenic Mitigation PER (Action)

\* Summary - Michelle Stamates

\* Testimony re: Project - Jim Poulsen (Alamo Water & Sewer), Angie Wright, Alamo Board, Brett Farr and Kirk Swanson (Farr West Engr)

(Ms. Stamates' prepared remarks are in **Appendix 3**)

Mr. Walker asked why the water usage figure was an estimate instead of a measurement. Ms. Stamates said she would defer the answer to some of these questions to the applicant.

Mr. Poulsen said they had three wells that pumped most of the time and were becoming somewhat stressed in the summer months, especially when the Forest Service fought fires in the area. He noted that if it seemed that they were slow in responding to the arsenic problem, it was because they had believed that an industrial park well would be available, but that was now a few years away.

Mr. Swanson added details on the various positive steps that Alamo had taken to move forward. They have an updated conservation plan as well. He did not believe point-of-use treatment was a viable option for this community.

Mr. Swanson provided a map showing the work that had already been done and what previous studies showed for water quality by location.

He believed a comprehensive study was needed to find new sources and reduce or eliminate the need for treatment, thus substantially cutting costs. He stated that the staff report recommendation for a smaller budget did not reflect the number that they felt was necessary. He spoke about the need to leave pilot testing in, in order to develop two potential solutions.

Mr. Walker asked what those two might be. Mr. Swanson said the possibilities included a new well or the industrial park well "packed off or horizoned" or possibly drilled deeper. They needed to study more options. Mr. Goetsch noted that the recommendation did not include the deeper drilling. Mr. Swanson said that testing at existing locations might obviate the need for additional drilling, and that was why he did not budget for additional drilling now. He said they would need to do pilot testing regardless and come back to the Board for the funds if further drilling was required. Chairman Scott noted that the conditions required that these sources be updated in the application.

Mr. Swanson argued for the total project cost to be set at \$124,000 and the eligible costs at \$105,000 as shown in their original application.

Mr. Goetsch asked if the project cost in the staff report was insufficient, and Mr. Swanson reiterated the perceived need for the full \$124,000 total project cost. Chairman Scott noted that the report said there were other sources of funding for pilot testing including the USDA and CDBG. Mr. Swanson said that his perception was that none of this money might be available and was questionable. Mr. Farr said the CDBG money was limited to once a year and \$15,000 and that he had never seen the USDA fund pilot testing. He felt the PER report costs were in line and that pilot testing should stay in and asked that the

Board fund the full request as originally submitted. Chairman Scott asked Ms. Stamates if she had any comments.

Ms. Stamates said that they had done the same as they had done with Gabbs; if a non-treatment option required exploratory drilling or the only option was treatment and required pilot testing, a second phase to the PER could be requested. Given the 2003 PER, the Arsenic Management report and the information supplied by the NDEP Bureau of Water Pollution Control, it appeared that an amendment to the PER would be acceptable to all of the funding agencies.

Chairman Scott then said that the recommendation was not that they would not fund these things but that they would be part of a second phase and should not be included in this one, and Ms. Stamates said that was correct.

Mr. Walker asked about the usage levels and why they were some of the highest he had seen. It was clarified by Mr. Farr that the figures were per connection, not per capita.

Mr. Walker asked if there were water rights issues. Mr. Swanson said that they did not have enough information and that was one area that needed study. They had adequate rights but they would have to be moved but not diverted from agriculture or other.

Mr. Firth asked about the possible depth of new wells, and it was noted that this proposal did not have any money for drilling but only preliminary work to identify promising locations and possible depths. Mr. Firth asked about fluorides in the carbonate material. Mr. Swanson noted that the well they were interested in had not been allowed to be sampled previously.

Ms. Carr noted that the system did not have the possibility for the two-year arsenic standard exemption and new sources or other fixes were probably not going to be ready by January 2009.

Mr. Swanson said that finding a source with a reduced arsenic concentration would result in lower long-term costs and again asked that the original request be funded. Mr. Farr said he did not believe you could really complete the PER without the pilot testing, though there are differences of opinion. If you took the pilot testing out, they would come back with more of a summary and recommendations for pilot testing, drilling or both.

There was further discussion of the option of using the agricultural well and/or the industrial well.

Mr. Goetsch asked Mr. Farr if approving the full request now, instead of in two phases, would help the system meet the arsenic deadline. Mr. Farr said it would definitely save some time; in essence one Board meeting. Mr. Goetsch noted that even with approval of the entire original request they would still need 15 percent and wondered where that money would come from. Mr. Farr said the District would cover the difference for this phase. For the final project, the USDA would probably be involved.

Mr. Firth commented that he did not see any way to meet the arsenic compliance deadline.

After further discussion, Chairman Scott noted that the staff recommendation allowed for partners in the pilot testing and drilling.

Chairman Scott now asked for public comment on this item. Steve Palmer from RCAC asked what technology Mr. Swanson was considering for pilot testing and how long it was likely to take. The answer was it would depend on the studies.

Mr. Goetsch said he appreciated the staff recommendation but thought maybe it was tying the applicant's hands a bit too much given the time constraints. He felt that they should be allowed to do the pilot testing in this phase. If the pilot testing was, for some reason, discovered not to be necessary, he would expect them to bring that money back. With that in mind, he proposed to leave the \$49,000 in and to take out the \$3,800 as staff recommended. His total for the grant would then be \$102,217.

**Motion:** Mr. Goetsch made a motion that the Board for Financing Water Projects approve the Letter of Intent for Alamo Water and Sewer GID to pursue funding from the AB198 grant program for completion of an arsenic mitigation PER, which would include pilot testing if required. The total grant amount is not to exceed \$102,217 (85% of the eligible project costs estimated to be \$122,055). The project would be subject to the conditions provided in the staff report. Mr. Walker seconded.

Mr. Ahern asked that staff address again why they pulled some of the funds out originally. Ms. Stamates stated that according to the presentation made by Farr West to the Nevada Water & Wastewater Review Committee, pilot testing was not absolutely imminent and the USDA noted that they would be in a position to assist in funding pilot testing at the beginning of the next fiscal year. In addition, it was pointed out that many firms seem to be charging large sums of money for pilot testing and some of those never sell a system.

Mr. Goetsch said that they will have to find other funding sources for the construction project in any event, and if it was discovered that the pilot testing was not needed he would expect the money to be returned to the grant program. With the arsenic compliance deadline looming, the difference of \$50,000 was not worth adding a possible 6-9 months to the total project. Mr. Firth said that he believed that pilot testing would almost certainly be required.

Chairman Scott suggested approving the pilot testing but leaving its execution to the direction of staff. There may be an option that will not require treatment pilot testing.

Mr. Firth asked about the consequences of not meeting the arsenic standard in January 2009. Ms. Carr listed the following: They will be found "in violation" (official EPA term); triggers the potential for fines and penalties by the state; quarterly public notice to their consumers; and possible penalties of up to \$5,000 per day and an additional \$2,500 "administrative penalty." She added that they did take factors into account about the system's attempts to move toward compliance along with other factors.

Mr. Walker said that as far as the motion, he suspected the \$49,000 would have to be spent, and added that he thought Chairman Scott had suggested the right compromise. He had technical reasons that a new deeper well might meet standards and thought testing might not be necessary.

Mr. Goetsch said he would amend his motion to include the previous discussion, and Mr. Walker said he would second the amended motion. Mr. Firth summed up saying that it would give staff authorization to approve the \$49,000 (Chairman Scott said 85 percent of the \$49,000) if applicants can come back to staff with justification for the costs.

There were some questions on the numbers. Chairman Scott said that it could be said that Mr. Goetsch was adding in 85 percent of the staff's \$49,000. He had accepted the staff engineering estimate. After further discussion it was clarified that Mr. Goetsch was also restoring \$8,900 of the PER document cost.

Mr. Walker said that the \$8,900 had not been clearly discussed and asked Ms. Stamates about the rationale of the reduction of \$8,900. Ms. Stamates noted that the Nevada Water & Wastewater Review Committee observed that a PER, completed in 2003 (funded free of charge to the applicant by the USDA), and an Arsenic Management report completed in 2005 (funded free of charge to the applicant by the SRF technical assistance program) and the information supplied by the NDEP Bureau of Water Pollution Control (again no charge to the applicant) provided a significant amount of information on the water system and arsenic treatment options. Given these information sources, the funders agreed that an amendment (and not a completely new document) to the PER would be acceptable for Alamo to seek funding for an arsenic mitigation construction project in the future. Pilot testing and exploratory drilling were not included in this basic PER. If pilot testing or exploratory drilling became necessary as a result of the PER research, the USDA stated that both CDBG and USDA-RD should also be in a position to assist in funding this work in fiscal year 2009.

Mr. Walker said that he agreed with that rationale and wanted to withdraw his second since this was included in the motion. He said he would second only the \$49,000 increase. Counsel advised voting on the motion on the floor.

Mr. Goetsch asked Mr. Farr speak to the PER cost question, and Mr. Farr replied that the cost in the request was the cost they were going to charge the client, and it would include a new environmental report as well. Mr. Swanson added that the existing report did not talk much about arsenic issues and there were so many options that needed to be brought together that this was not just amending the previous report.

Mr. Firth called for the question. Chairman Scott reiterated the parts of the motion: Change the staff recommendation to add \$49,000 for pilot testing, with the understanding that staff would have the ability to independently allocate those funds (the money would be approved by the Board but not allocated), and to change the PER cost from the recommended \$15,000 to \$23,900 with the grant paying up to 85 percent.

Counsel stated that this would be a total of \$102,217 or approximately 85 percent of the total eligible project cost of \$120,255.

The vote was: Mr. Ahern, Firth and Goetsch, "aye." Mr. Walker and Chairman Scott voted "no." The Chairman explained his vote, stating that he felt there had been a lot invested preliminary engineering already, and the reduction was reasonable. He would look for a little more financial input from the District. The vote was 3 to 2; therefore, the motion passed and the Letter of Intent was approved at the Board's proposed funding level.

Motion: Mr. Goetsch moved to approve the grant under the same conditions and based on the resolution in the Board binder: A resolution designated the "03-08-E2a Alamo Arsenic PER"; pertaining to the determination by the Board for Financing Water Projects of the State of Nevada to provide a grant for the purpose of financing certain projects; making certain findings of fact and providing other details in connection therewith and incorporating the new grant amount determined during the Letter of Intent discussion. Mr. Firth seconded, and the vote was unanimous in favor.

Chairman Scott now moved down the agenda to:

**b. Battle Mountain Arsenic Mitigation PER (Action)**

\* Summary - Michelle Stamates

\* Testimony re: Project - Roger Sutton (Battle Mt. Water & Sewer), Steve Brigman & Dora Wren (Shaw Engr), Jay Fischer (Newmont Mining), Bryan Sparks (Lander Co. Comm.)

(Ms. Stamates' prepared remarks on this item are in **Appendix 4**)

Mr. Goetsch asked for an explanation on the chart on page 5. He asked if the staff report allowed for an exploratory well as an eligible cost. Ms. Stamates said it was \$111,000 and shown in the fourth column. Battle Mountain had come in with new information late in the process of preparing the Board books, and some of their originally proposed options were no longer viable. The final column of the chart is now the staff suggested eligible costs. The hydrogeologist, well testing report and water rights research will be funded by Newmont.

Ms. Carr expanded on the arsenic exemption for this system. With an arsenic concentration of 31 ppb, they are near the threshold where the NDEP would not recommend an extension to the exemption.

Steve Brigman made a presentation for the system. This project is essentially a combination of what was formerly Phase II and III of an arsenic abatement project. Previously the focus was on arsenic treatment, but research led to the possibility of using Newmont mining information. Newmont is now a partner in the project, sharing data that lead to the examination of water samples from three wells in Basin 059 that show arsenic concentrations well below the new standard.

After examination of some existing wells, the best alternative seems to be a new well(s) closer to town but in Basin 059. Newmont will be providing water rights and hydrogeologist services for the project at no direct cost.

Mr. Brigman said the strategy of the PER is to consider the exploratory drilling as a preliminary planning phase of the work so that they can make a solid recommendation and develop sound cost estimates. They are here today to seek money for that exploratory well.

Mr. Sparks pointed out the cost benefits if the well works out, versus implementing arsenic treatment of the existing wells.

Mr. Walker asked about metered and unmetered connections and was told that all connections were metered. He also asked about groundwater flow between the two hydrographic basins and was told that, yes, some flow between basins was present. He followed up asking about conversations with the State Engineer on basin groundwater availability. Mr. Brigman said his understanding was that Basin 059 was not over-allocated, and they should be able to get water rights.

There was further discussion about well siting with regard to BLM lands and other easement requirements.

Mr. Firth expressed that he was not as optimistic about project time constraints and the time it would take to work with both the BLM and State Engineer's office. He did not necessarily believe that the January 2009 arsenic deadline could be met.

Mr. Firth noted that the arsenic problem had been known for many years but at this point, less than 12 months before the deadline, no final option for meeting those requirements had been decided upon. Mr. Sutton stated that repair of the leaking cast iron water mains that were leaking up to 500,000 gal/day was considered the first priority. When that project was completed they moved on to the arsenic mitigation issue. He added that he understood the system was eligible for another 2-year extension.

Mr. Goetsch pointed out that the state had only been considering funding of arsenic projects for a relatively short time, a year or two. Mr. Sutton pointed out that they were instructed not to consider their application an "arsenic project" during earlier appearances before this Board.

Mr. Firth asked about match funding. Mr. Sutton replied that the system had put money away for additional match. The future rate increases required for funding the projects was discussed. Mr. Sutton noted that the required \$20.00/month increase was hard on a community. Mr. Firth said there would even be another one after that. Mr. Sutton commented that the median household income survey was skewed by some perceived response bias; higher income people sending the surveys back at a higher rate. He acknowledged that the figures available would have to be used. He stated that if the system came back for construction funding, he would consider asking the Board to implement increases over a longer time frame. Mr. Goetsch and Chairman Scott advised that the increases should start as soon as possible in order to allow them to be spread out over time and smaller in increment.

Mr. Walker spoke briefly about alternate sources for construction funds.

Mr. Fischer added that the original possibility of using the well owned by Newmont had been shelved due to the possibility that the older mine(s) might be commercially viable again.

Chairman Scott commended Newmont for their assistance and the County for supplying some funds.

Mr. Brigman added that they probably needed two or even three wells, and they might want to do them cost effectively together when they have the driller there. Mr. Goetsch asked if that could not be part of the project rather than the PER? Mr. Walker added that adding a second test well at this point would circumvent the staff review process, and he was not comfortable with that.

**Motion:** Mr. Goetsch moved that the Board approve the Letter of Intent from Lander County for the Battle Mountain Water System, to pursue funding from the AB198 Grant Program, total grant amount not to exceed \$117,000 (66.86 percent of the eligible project cost of \$175,000.00), subject to conditions provided in the staff report. Mr. Walker seconded, and the vote was unanimous in favor.

**Motion:** Mr. Walker moved to approve the accompanying resolution in the Board binder: A resolution designated the "03-08-E2b Battle Mountain Arsenic PER"; pertaining to the determination by the Board for Financing Water Projects of the State of Nevada to provide a grant for the purpose of financing certain projects; making certain findings of fact and providing other details in connection therewith and incorporating the grant amount discussed during the Letter of Intent discussion. Mr. Goetsch seconded and the vote was unanimous in favor.

Chairman Scott now moved down the agenda to:

3. Letter of Intent:

a. Goldfield Arsenic Treatment (Action)

\* Summary - Michelle Stamates

\* Financial Summary - Dana Tuttle

\* Recommendation - Adele Basham

\* Testimony re: Project - Harriet Ealey & Mike Anderson (Goldfield Utilities), Mike Hardy (Lumos & Assoc)

Ms. Basham told the Board that staff would do this presentation in a somewhat different format; Ms. Stamates would give a technical evaluation, Ms. Tuttle a financial evaluation, and Ms. Basham would give a recommendation.

(Ms. Stamates' summary presentation on this item is **Appendix 5**)

(Ms. Tuttle's financial evaluation is **Appendix 6**)

Ms. Basham passed out a modified Letter of Intent to the Board and said she would bring together an overall recommendation from the staff. She noted that Esmeralda County had submitted a pre-application to the Nevada Water & Wastewater Review Committee, and the USDA determined that the County could afford 25 percent of the project costs. The recommended AB198 grant is 75 percent. The grant scale calculation for Goldfield worked out to 76.1 percent. There is a technical correction, the total project cost removed \$50,000 for engineering that will be paid by CDBG, but later that was reconsidered. To be consistent with previous grants the \$50,000 was restored to equal 75 percent of the whole project cost, or \$842,718 rather than the \$805,218. Because of public health considerations to meet the arsenic standard, staff is recommending approval of the project.

Since the report went out there was a change in the conditions for the project. The following is from the handout to Board:

Staff is recommending that the following condition replace condition #3 in the Board binder.

3. *Prior to applying for a grant, the County must develop a rate structure to cover the cost of O & M (including new costs for the arsenic treatment project), capital replacement (both 2001 grant and new arsenic treatment grant), and USDA RD debt service and reserve. The rate structure will be developed with the assistance of the Board for Financing Water Projects' staff and USDA-RD.*

Conditions 1 and 2 in the staff report are no longer necessary, so the above condition 3 will become condition 1.

Ms. Basham said that, as presented by Ms. Tuttle, the Goldfield water utility fund is not financially viable, and staff is committed to work to bring them to a point that is considered financially viable.

Mr. Goetsch wondered if that meant that the viability would be achieved by a \$71 rate or through other possible means? Ms. Basham replied that Esmeralda County said there were some disagreements about the numbers used by Ms. Tuttle, and after the proper numbers were determined a rate increase amount could be determined. Esmeralda County does

recognize that rates need to rise even though they are already above the 1.5 percent of the median household income.

Mr. Firth asked when the utility would be coming back for the grant? Ms. Basham replied that it should be in June or September. Mr. Firth expressed concern over meeting the January arsenic compliance deadline.

Mr. Goetsch questioned the timing of this negotiation of utilities' rates and if staff was comfortable with it. Ms. Basham noted that this was a Letter of Intent, and given the circumstances, the utility and staff need to settle on the amount to make the utility "viable" so it was not included in the letter.

Chairman Scott asked about the impact of Rural Development money to changing project costs. Ms. Basham noted that a USDA letter had been forwarded just a couple of days earlier that had not been included in the calculations. Chairman Scott asked if it was correct then to summarize by saying the proposal is that the Board work with the utility to establish a rate that creates a viable utility, a rate that will be significantly larger than the 1.5 percent, but we need to work through the process to see how that will come together, including this recent information. Ms. Basham agreed.

Mr. Walker asked about the 2004 grant for the system rebuild and why the rates had not been looked at then for viability. Mr. Goetsch noted that, at that time, the Board was not enforcing these standards, but by 2006, it was realized that if systems were not properly funded they continued to come back to the Board for additional funds.

Ms. Ealey noted that the utility was collecting capital improvement funds right now in their rates, and that had not been properly or accurately noted in the audit. She added that there was a mix of "GASB 34" depreciation and capital improvement funds that had not been properly separated.

Ms. Tuttle noted that the reserve requirement and GASB depreciation are used in the determination of the "viability" of the system and there is a cash portion and a non-cash portion in the GASB depreciation and both are required in the determination of viability. Mr. Firth inquired if the utility will have established a rate that covers all O&M costs including the new treatment plant, adequate capital replacement and any debt service when it comes before the Board for a grant. Ms. Basham said, yes, they have committed to this.

Chairman Scott noted that monitoring financials was going to be a bigger part of the Board's oversight, and the presentation approach for this Letter of Intent worked well. He added that ultimately they would want more monitoring and information on past projects as well.

Mr. Ahern asked about growth opportunities in the town. When the project was through, how many additional customers could be served and might there be some future growth expected? Mr. Hardy noted that the population had been flat for the last eight years and the mining industry had not been active in the area lately. Mr. Walker asked if a doubling of the population could be served by the current system? Mr. Anderson said that the limitations now were based on the booster pumps. The wells do have additional capacity but there would have to be equipment upgrades.

There was some discussion of charges for non-residents, vacant lots, etc. It was clarified that there is a \$36 per parcel charge for vacant lots.

Ms. Ealey asked if the utility could use "replacement costs" as mentioned in a USDA letter. The NDEP staff had not seen the letter but said they would review the letter and reply.

**Motion**—Mr. Walker moved that the Board approve the Letter of Intent for Esmeralda County to pursue the funding from the AB 198 grant program for the arsenic treatment system for the Goldfield water utility (as modified), the amount not to exceed \$842,718 (75 percent of potential cost) subject to the conditions in the staff report (specifically, to figure out how to finance the remaining costs through the rate structure as discussed in condition #1). Mr. Firth seconded. Ms. Basham noted that the rate structure was the most likely method to finance all requirements from this new project, but there were other possible revenue sources. Mr. Goetsch added the total estimated project cost was \$1,123,624, to ensure that the new information was on record. The vote was unanimous in favor.

There was a break for lunch at this point.

After the break, Chairman Scott announced that he would move down the agenda to:

#### **G. INFORMATION ON BOLTED VS WELDED TANKS (Non Action)**

(George Georgeson of CSA Consulting and Joe Shields of Ferrari Shields & Associates gave a presentation, which is included as **Appendix 7**)

There were some technical questions from the Board on the Virginia City tank that has a bulge and was the catalyst for requesting this presentation. Mr. Shields concluded that the bulge was normal and not hazardous, but he noted a concern with snow load if this type of tank were empty.

Mr. Goetsch asked if bolted or welded tanks would show a difference in withstanding seismic activity. Mr. Shields thought either would stand up adequately.

Mr. Goetsch summed up by saying that, in terms of Board funding, there are no significant differences between bolted and welded tanks.

There were a few other technical questions about coatings, welding, bolts, inspectors, etc.

The conclusion of the Board was that there should be some examination of tank type if the cost is higher and performance is the same.

Ms. Stamates said that she would consider requiring a full-time inspector during tank construction as part of grant conditions if the Board desired, as is required with USDA projects. It is not required in the AB198 regulations. Mr. Goetsch noted that the inspectors ought to be completely unconnected to the contractor. Ms. Stamates noted that the USDA did not allow the engineer of record to be the inspector, but it was done on the Virgin Valley project. Chairman Scott summed up by saying that the Board perhaps ought to direct that an inspector be acceptable to staff or a replacement will be required.

Chairman Scott now moved back up the agenda to:

#### **E.4. Progress Report for Funded AB198/AB237 Projects (Non Action)**

\* Summary - Michelle Stamates

(Ms. Stamates' report is contained in **Appendix 8**) She noted some special points on certain of the listed projects:

Walker Lake—the well is still not complete 11 years after the grant award. She has had problems contacting them at times. If the well is not completed this summer, Ms. Stamates stated that the Board might consider de-obligating the remaining funds.

Chairman Scott asked if the Board would like staff to direct a letter to the system. Mr. Goetsch said that he would like to generally plan to have staff direct letters to any system identified as not performing. It was clarified for the Chairman that about \$200,000 of the grant has not been expended.

Ms. Stamates noted that there were three letters included in the Board packets for this item that were in response to inquiries made by the Board at the previous meeting.

She noted that Caliente had not, yet, installed the well and is apparently still waiting for money from FEMA. However, they may obtain CDBG money to refurbish one of their existing wells. Also, she had concerns about the possibility of a request for computer drive-by meter readers. She added that at times it has been difficult to get in touch with Caliente. Billing based on metered rates has apparently been instituted. Their funding agreement period of five years has expired.

Chairman Scott said that this type of situation consumes a great deal of staff time and wondered if the Board should consider a position that informs the grantee that “your funding agreement has expired and if you wish to be considered for further funding you need to come back to the Board.” In response to a question from Mr. Goetsch, Ms. Stamates said she had not reached that point with Caliente, but was waiting for one more piece of information to make that decision. Chairman Scott wondered if the Board ought to authorize staff now, at this meeting, to notify the system to that effect.

Chairman Scott noted that in view of the financial picture presented earlier in the meeting he would prefer to de-obligate inactive grants rather than active ones, even if they were from the same entity.

There was agreement from all the Board members that staff should be given authority to notify the system, pending receipt of the required information.

Ms. Stamates said the Walker River Irrigation District project was almost complete (see appendix for photos). Final pay requests are pending. They will likely use the almost \$6.7 million in grant funds.

She moved on to Kingsbury. The Board had asked for a water rate and meter plan approximately 18 months ago. In the last quarter, she asked that Kingsbury deliver that plan. It is item 2 in the Board book. They are no longer on the priority list as they did not respond to Ms. Basham's solicitation letter. They have not moved forward with their new tank replacement. Ms. Stamates said that this would be one that she would highlight for funds that might be de-obligated if the tank project is not ready to proceed. Mr. Firth recalled site and easement problems with the tank from their Board site visit in September 2007.

Board members also noted that the metered rate implementation for Kingsbury was long overdue. Mr. Goetsch noted that in response to the metering plan requested in 2006, the utility has sent a letter about a public hearing this summer in 2008. He stated that this

plan should be beyond the public hearing stage and was supposed to be completed already. He said that they should be able deliver a plan within weeks. The plan does not meet the Board's requirements, and he asked how much of the grant remained. He said he would like to notify the utility that the Board will de-obligate funds if the plan is not delivered within a matter of weeks. It was noted that there are only a limited number of meters actually installed. Ms. Stamates pointed out that the original plan was that the metered rate would only be implemented when everyone was metered. Chairman Scott added that the Board then told them to implement a metered rate or get the meters installed over the whole system. Ms. Stamates said that this plan was in response to the Boards request at the last grant increase request from Kingsbury.

Mr. Goetsch read from the plan that "public opinion against the metered rate was expected to be a large obstacle to overcome." Chairman Scott wondered about their status since they are off the priority list. Mr. Firth questioned if funding for the project was de-obligated, would they be eligible to reapply? It was pointed out that the funding was being requested in five or more phases. It was clarified that the meters are planned to be installed in phases. These phases have been very slow. Mr. Walker said the letter said that by February 2008 they were supposed to have over 2,000 meters installed.

Mr. Walker summed up by saying his sense was that the Board was not satisfied with the response and progress on this issue, they would look to withhold future funds and this ought to be communicated to the system.

Chairman Scott said he wanted to disclose that he has done work for Kingsbury unrelated to these areas, and he felt he should avoid being part of any vote, but he certainly supported a common approach to the issue.

Mr. Goetsch read from the plan that the system seemed to be saying that it could take 10 more years to meter the entire system. Mr. Walker asked if they might ask representatives of the GID to speak to the Board at the next meeting. He felt that Mr. Firth's characterization of "being stonewalled" was appropriate. He asked what the normal procedure in response to non-performance was. Mr. Goetsch said that, at this point, a communication to the system should say: 1) The response plan was not satisfactory; 2) The Board is looking for a metering plan that will have meters installed and operating—this is the first part of the project that needs to be installed and operating, not the last part. Ms. Stamates noted that they might honestly not have the money for meters at this phase. Members wondered how much of the total funds expended have been for metering.

Mr. Goetsch added that the communication ought to say also that the Board does not accept metering cost estimates given, compared to other metering projects in the Tahoe area. Ms. Stamates said she would draft a letter and forward it to the vice-chairman (Counsel pointed out that the Chair had in effect recused himself). Counsel also proposed a deadline that if not met will result in the system coming back before the Board. Mr. Goetsch proposed including the information that due to current revenue and funding conditions the Board is beginning to de-obligate funding for non-performing systems. Chairman Scott suggested language that reallocates the funds, rather than leaving open the interpretation that more funds might be forthcoming.

Ms. Stamates moved on to a brief report in the Board book on the Wells earthquake damage to water system components. She will make sure the tank and transmission line the Board is funding is reviewed with consideration of the seismic conditions seen during the quake.

Manhattan will not be coming to the Board for arsenic assistance. The project will be funded through Nye County and the USDA.

Moapa received bids lower than the engineering estimate.

Virgin Valley had much higher costs than expected. Ms. Stamates described the work on the arsenic treatment plants. Four of the five treatment plants are under construction. She showed project photos of the construction process.

Metropolis—Ms. Stamates said she was having trouble getting information on how close they were to coming in for a construction grant. The dam was inspected by NDWR after the 6.0 earthquake and no damage to the structure was observed. They are having some problems with the BLM environmental assessment, access road locations, etc. The response to questions posed by the Board during their 2006 and 2007 site visits is included in the Board book.

Chairman Scott said he had some questions regarding the letter from the Metropolis District. He said that there might be some confusion on the part of the District from the tenor of the letter. He was clear that the Board had not committed to funding a dam, the commitment was in steps. He was also concerned that there was no intention of maintaining a fishery, and that was contrary to his previous understanding. Mr. Firth was also concerned about the “prior commitment” statement. Ms. Stamates also said that she has tried to make clear to Mr. Dalton that there is no commitment to fund the dam, but was not sure the message was understood. Mr. Goetsch was concerned about no storage for downstream users and wondered how to justify the large financial commitment for four or five beneficiaries. Chairman Scott said that the public and recreational benefits were what, in his mind, had made the preliminary expenditures worthwhile.

Mr. Walker agreed that the cost/benefit ratio of building the dam just for alfalfa was questionable. Mr. Goetsch said that the history behind the original project made it questionable whether a new one would be viable. Mr. Walker pointed out that there were some other fishing locations in the area. Chairman Scott said he was not ready to give up on this project but the current letter was a clarification of what this reservoir might do, and it was tough to justify the grant funding on just an agricultural basis. The project would have to provide other important economic and recreational benefits.

Ms. Stamates added that Gary Back of SRK reported that they have done a biological baseline and partial cultural assessment of the road only, and they still needed to do a cultural assessment of the reservoir area, etc. The BLM will not run the recreation area. Dyer Engineering has not started the final design pending a release from Metropolis after getting approval of the environmental assessment with the BLM. She did not see them coming for funds in June, but perhaps they could come in and address some of the Board’s concerns. She reiterated that despite her communications, they do not seem to understand that their answers are not compelling with regard to spending possibly \$10 million or more on this project. Mr. Goetsch said that the questions about management and cost of the recreation area were problematic. Ms. Stamates noted that if they get approval for the road they are saying they will build it, despite her advice that they not build a road without being sure they will have a dam. A contractor is apparently making an in-kind contribution for the road.

Chairman Scott concluded that he would like to see a written response to the District regarding the Board’s concerns, as it appears the District may not explicitly understand them. Mr. Firth added that there seems to be gridlock with the BLM. It was agreed by

several members that it needs to be made clear that there are no commitments from the Board other than those already in place. Ms. Stamates said she would draft a letter addressing the commitment and fishery issues and forward it to Chairman Scott.

Ms. Stamates moved on to the Rogers Dam project, saying it was generally complete. She said it was a very successful project with no change orders or cost overruns. She proposed the Board make an inspection trip and said she would send out some possible dates.

Chairman Scott now moved down the agenda to:

#### **5. Progress and Financial Report for Funded SB62 Projects (Non Action)**

##### **\* Summary - Michelle Stamates**

(The report from Ms. Stamates is contained in **Appendix 9**) She said they should see finalization of most projects in the next three to four months. She said that she saw the Central Nevada Water Authority Mapping Project yesterday and it was a good project. Other water resource plans have also looked very good.

Mr. Firth noted that Topaz and Searchlight had not spent anything. Ms. Stamates said that Searchlight was going to put in their exploratory well this fall. They had to do Environmental Assessments for BLM approval. On Topaz, she expected a bill fairly soon, when they settle on the location of the well.

Chairman Scott now moved down the agenda to:

#### **F. REVIEW / DISCUSS NEW BOARD POLICY**

##### **2. Funding Level for Irrigation Projects (Action) \*Summary - Dave Emme (NDEP)**

(Mr. Emme's presentation of proposed policies is contained in **Appendix 10**)

He pointed out that in the presentation, under Board Policy 1 there had been some problems with the strict allocation formula, and the policy now said "preference." He went over some other changes (from the December 2007 presentation) which are contained in the appendix.

Chairman Scott asked, in regard to impact of conservation on groundwater recharge (Item I.c in the policy), what would you have to do to get the five points? Mr. Emme replied that, in the workshop, the idea was that, as part of the engineering analysis (or other means), some consideration and evaluation of the issue (e.g. lining a canal, effects on dependence of local users on recharge) be shown. Mr. Walker wondered about a statement to the effect that "there will be no effect" on groundwater recharge thereby forcing staff to make a judgment. He suggested adding the word "adequately" (evaluated) could be helpful. There needs to be some estimate provided. Mr. Emme said he had the word adequately in the original, and it will added back in.

Upper limits on storage capacity and irrigated acres have been lowered. This was in response to comments at the workshop. Mr. Goetsch mentioned that in response to a letter from Metropolis, he felt that it was important to emphasize that if large amounts of money were to be expended, there ought to be a large impact on numbers of people, wildlife, amount of water, etc. Mr. Firth pointed out that the Board had already granted funds to two of the three big districts.

Mr. Goetsch added that the Truckee Canal may need a \$40-60 million project. Summing up the discussion, he said he would be open to considering lower numbers to gain maximum points on items III. a, b and c, although it might not make much practical difference. He suggested for III.b, five points for more than 20,000 acres, three points for 5,000 to 20,000 acres and one point for less than 5,000 acres. For item III.a, five points for more than 200 users, three points for 70 to 200 users and less than 70 users would receive one point. Mr. Walker suggested storage capacity should remain the same. Chairman Scott wondered if the storage capacity could be in another state? Mr. Walker said yes, but not the irrigated acreage. Chairman Scott added that the storage capacity must be under the system's control/ownership.

Mr. Walker inquired about the Metropolis Letter of Intent, and it was clarified that this has been approved. Mr. Goetsch wondered if these new criteria applied to projects already in the pipeline. Chairman Scott said they could make a legitimate argument that they went ahead based on the original 85 percent.

Chairman Scott now brought up the issue of the maximum percentage of bonded indebtedness for this program that should be committed to irrigation projects. He felt that projects should be judged on their own merits, but that a standard of no more than 20 percent of the total would set the expectations for possible applicants and show that the program priority is on safe drinking water issues. Mr. Emme said that as bonding authority increased, the idea of a percentage of that authority made more sense than just a specific dollar figure committed to irrigation projects. Chairman Scott said the heart of the issue was that safe drinking water did have to have priority, and that if a large irrigation project came to the Board while there were no immediately competing drinking water projects, he wanted some specific numbers to guide the process. Mr. Emme said that budget projections for the next biennium were being worked on, and that they would project the projects coming online, including irrigation and the many arsenic projects, and it would be useful to have the statement of prioritization. Chairman Scott noted the looming arsenic deadlines and that the Board was the only obvious source of grant funds. He supported including the statement of preference for safe drinking water projects (policy number 1).

Mr. Emme identified other changes from the previous version: item III.d, Economic Benefit, gives additional points for a new water source, and item V. Board Evaluation, allows for some Board discretion.

Chairman Scott noted that he would like to see item IV.b (provides significant recreational opportunities) split with a new item IV.d (provides fisheries enhancement). Each would be worth 5 points.

Mr. Goetsch summed up the changes suggested, and Mr. Emme said he had noted them all.

**Motion:** Mr. Firth moved to accept the Board policy, with changes as suggested by the Board, Mr. Walker seconded and the vote was unanimous in favor.

Mr. Goetsch asked whether the policy would apply to the Metropolis project which already has an approved Letter of Intent.

Counsel Nhu said that there was a (dollar) figure in the Letter of Intent and that it implied that the party might reasonably expect that amount, knowing that it is not a grant amount but that it indicates the Board agrees with their planning. Mr. Walker proposed that with regard to Metropolis the Letter of Intent might be considered without regard to the new policy, but any additional funding application might be subject to the policy. He added

that he would like staff and counsel to look into the legalities. Members said they would like to see it on the agenda at the next meeting.

### **3. Alternative Funding Policy update (Action) \*Summary - Dave Emme (NDEP)**

(The revised policy is contained in **Appendix 11**)

Motion: Mr. Firth moved to approve the policy as presented, Mr. Walker seconded and the vote was unanimous in favor.

Chairman Scott moved down the agenda to:

#### **H. BOARD COMMENTS (Non Action)**

Chairman Scott said he had a couple: He appreciated the coordination and technical support Ms. Stamates had given to Wells after the earthquake.

Also, he referred to the next legislative session and the language that had been proposed in the last session giving more flexibility to the Board in the grant percentage figure it could fund for projects. He noted that Director Biaggi of DCNR had agreed to support it as an agency bill, and on a parallel track, he proposed to have it introduced as a committee bill. Other Board members thought this was a good idea, and there was no objection to proceeding.

Ms. Carr noted that her Bureau of Safe Drinking Water would be working on adopting regulations to seek primacy for three significant regulatory programs including the groundwater rule which has some potential to impact infrastructure. She said that at the June meeting she would brief the Board on progress on that regulation.

Chairman Scott mentioned one of the requirements they saw today was that the wellhead protection plan be part of the review (of projects). The Board needs to be aware of funding a well that might be "in the wrong place."

Mr. Goetsch noted that the Truckee Canal reconstruction (impermeable layer) might be requesting funds from the Board, and there would be interesting funding and engineering challenges. Chairman Scott said the ownership might affect the ability of the Board to fund anything.

Chairman Scott moved down the agenda to:

#### **I. PUBLIC COMMENTS (Non Action)**

There was no additional public comment.

#### **J. ADJOURN BOARD FOR FINANCING WATER PROJECTS PUBLIC MEETING**

Chairman Scott declared the meeting adjourned.

(Minutes prepared by Robert Pearson, Recording Secretary)

**Appendix 1: DRINKING WATER STATE REVOLVING FUND (DWSRF)  
PROGRAM; 2008 Project Priority List**

## Year 2008 Priority List

### Board for Financing Water Projects Summary Drinking Water State Revolving Fund

March 5, 2008

#### 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.

#### DISCUSSION

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 2007 Intended Use Plan, NDEP identified additional prioritization for arsenic projects. Water systems under a Bilateral Compliance Agreement for violations of the primary drinking water standard for arsenic have been given a higher priority than those water systems that have received or are eligible to receive 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 36 ppb and 50 ppb
2. Arsenic concentration between 31 ppb and 36 ppb
3. Arsenic concentration between 26 ppb and 30 ppb
4. Arsenic concentration between 21 ppb and 25 ppb
5. Arsenic concentration between 16 ppb and 20 ppb
6. Arsenic concentration between 11 ppb and 15 ppb

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. The Division will utilize the priority list to develop a separate priority list that identifies fundable projects considering readiness to proceed.

Late in 2007, NDEP sent a solicitation to all community and non-transient non-community water systems (NAC 445A.67566) for proposed water projects for the 2008 Priority List. This solicitation resulted in the projects listed below being added to the proposed 2008 Priority List. In addition, projects currently on the 2007 Priority List are required (NAC 445A.67566) to submit a written request if they wish to remain on the Priority List. If an applicant whose water project is currently on the 2007 Priority List failed to submit a written request, the water project is not be included on proposed 2008 Priority List. All applicants on the 2007 Priority List were notified in writing of this requirement to submit a written request.

<b>NEW PROJECTS</b>	<b>DESCRIPTION</b>
Silverpeak	Arsenic compliance
Truckee Meadows Water Authority	Groundwater treatment (arsenic, iron, manganese removal) for reliable source during drought
Silver Springs Mutual Water Company	Arsenic compliance
Cave Rock/Skyland (Douglas County)	Redundant microfiltration skid, modify treatment plant export pumps, transmission, distribution, intertie with Zephyr Water Utility District, new booster stations
Reno Sahara Mobile Home Park	Consolidation
Foothill Mobile Home Park	Consolidation

#### **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 March 18, 2008. 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 2008 Priority List. A resolution to that effect is attached.

**Draft Year 2008 Priority List--Drinking Water State Revolving Fund Loan Pre-Applications**

Rank	Water System	Total Points	Arsenic Factor	Adjust. Total	State MHI/ PWS MHI	Revised Points	Owner-ship of System	County	ID#	Pop. Served	Number of Svc. Conn.	Project Description	Amount
<b>Class I--Acute Health Risks</b>													
	none												
<b>Class II--Chronic Health Risks</b>													
1	Ember Mobile Manor	10	1.0	10	5.57	55.73	Private	CH	NV0004002	35	23	Consolidation, arsenic compliance	\$180,000
2	South Maine MHP	20	0.9	19	1.58	30.00	Private	CH	NV0000055	100	49	Arsenic & uranium compliance	\$331,238
3	Carson City Utilities	20	0.7	17	1.07	18.13	Public	CC	NV0000015	56,000	16,447	Arsenic & uranium compliance	\$6,000,000
4	Silverpeak	11	1.0	11	1.33	14.67	Public	ES	NV0000363	156	77	Uranium & fluoride compliance (new well)	\$315,370
5	Jackpot	10	1.0	10	1.46	14.62	Public	EL	NV0000088	1,240	456	new well, chlorination, storage, distribution, uranium compliance	\$3,405,000
6	Crystal Clear Water Company	10	0.9	9	1.38	12.45	Public	LY	NV0000361	170	90	Arsenic compliance, well, storage, distribution	\$1,170,000
7	Goldfield	10	0.9	9	1.35	12.17	Public	ES	NV0000072	500	217	Arsenic compliance	\$630,000
8	Truckee Meadows Water Authority	11	1	11	1.10	12.10	Public	WA	NV0000190	325,000	91,000	Groundwater treatment (arsenic, iron, manganese removal) for reliable source during	\$27,065,038
9	Topaz Lodge Water Co.	10	0.9	9	1.21	10.93	Private	DO	NV0000070	40	14	Arsenic compliance	\$137,918
10	Five Star MHP	10	0.8	8	1.30	10.37	Private	LY	NV0002516	90	29	Arsenic compliance	\$142,101
11	Deluxe Mobile Home Park	10	0.6	6	1.58	9.47	Private	CH	NV0000047	100	46	Arsenic compliance	\$171,309
12	Alamo Sewer & Water GID	10	0.9	9	1.03	9.25	Public	LI	NV0000005	900	275	Arsenic compliance, new well, storage, distrib.	\$2,087,380
13	Frontier Village MHP	10	0.9	9	1.00	8.99	Private	CL	NV0000147	60	71	Arsenic compliance	\$145,920
14	Old River	10	0.8	8	1.09	8.74	Private	CH	NV0000303	300	110	Arsenic compliance	\$1,451,835
15	Shoshone Estates	10	0.7	7	1.24	8.66	Private	NY	NV0005028	240	76	Arsenic compliance	\$307,926
16	Carvers Smokey Valley RV	10	0.7	7	1.24	8.66	Private	NY	NV0000218	180	120	Arsenic compliance	\$398,394
17	Elk Point	10	1.0	10	0.85	8.48	Private	DO	NV0000271	325	88	Uranium compliance	\$200,000
18	Wildes Manor	10	0.5	5	1.58	7.90	Private	CH	NV0000058	70	20	Arsenic compliance	\$86,027
19	Tolas Mobile Home Park	10	0.5	5	1.58	7.90	Private	CH	NV0000061	54	32	Arsenic complianc	\$175,000
20	Silver Springs Mutual Water Co.	10	0.6	6	1.30	7.78	Private	LY	NV0000223	3,000	1,052	Arsenic compliance	\$1,800,000
21	Carson River Estates	10	0.7	7	1.09	7.65	Private	CH	NV0003060	90	34	Arsenic compliance	\$131,425
22	McDermitt	10	0.5	5	1.53	7.64	Public	HU	NV0000162	200	100	Arsenic compliance	\$478,000
23	Panaca	10	0.5	5	1.50	7.48	Public	LI	NV0000185	800	349	Arsenic compliance	\$1,984,750
24	Searchlight	10	0.4	4	1.83	7.31	Public	CL	NV0000219	760	290	Arsenic compliance, two new wells, storage	\$11,125,300
25	Caliente	10	0.4	4	1.73	6.90	Public	LN	NV0000013	1,500	427	New well, distribution	\$2,519,027
26	East Valley	10	0.9	9	0.75	6.74	Public	DO	NV0002216	3,845	1,479	Arsenic compliance	\$7,500,000
27	Spring Creek MHP	10	0.9	9	0.74	6.68	Private	EL	NV0000036	12,000	4,053	Arsenic compliance	\$3,950,000
28	Beatty	10	0.6	6	1.08	6.48	Public	NY	NV0000009	1,100	500	Arsenic compliance	\$750,000
29	Yerington	10	0.4	4	1.43	5.72	Public	LY	NV0000255	2,900	1,835	Arsenic compliane	\$1,720,000
30	Moapa Valley Water District	10	0.5	5	1.12	5.58	Public	CL	NV0000160	8,000	2,668	Arsenic compliance	\$6,760,178
31	Sunrise Estates (Washoe Co)	10	0.5	5	1.10	5.50	Public	WA	NV0002525	86	35	Arsenic compliance	\$451,408
32	Battle Mountain	10	0.5	5	1.04	5.19	Public	LA	NV0000008	4,600	1,145	Water treatment (arsenic), transmission, distribution, storage	\$11,510,910
33	Roark	10	0.5	5	1.01	5.06	Private	CL	NV0000319	64	27	Arsenic compliance	\$300,000
34	Spring Creek	10	0.5	5	0.97	4.87	Public	WA	NV0004082	1,850	743	Arsenic compliance	\$3,516,613
35	Tonopah	10	0.4	4	1.19	4.77	Public	NY	NV0000237	2,600	1,500	Arsenic compliance	\$127,000
36	So. Truckee Meadows Water Treatment Facility (includes Double Diamond)	10	0.4	4	1.10	4.40	Public	WA	NV0000215 NV0000832	21,214	9,339	Arsenic compliance	\$21,500,000
37	Lemmon Valley	10	0.4	4	1.10	4.40	Public	WA	NV0000202	2,853	1,179	Arsenic compliance	\$2,060,664
38	Truckee Canyon	10	0.4	4	1.10	4.40	Public	WA	NV0000978	25	5	Arsenic compliance	\$975,000
39	Desert Springs	10	0.4	4	0.97	3.90	Public	WA	NV0001085	7,629	3,869	Arsenic compliance	\$3,859,680
40	Sunrise Estates (Douglas Co)	10	0.5	5	0.78	3.88	Public	DO	NV0000887	91	37	Arsenic compliance	\$1,400,000
41	Dayton Valley MHP	1	NA	1	2.05	2.05	Private	LY	NV0000033	55	28	TDS above std, consolidate with Dayton Utilities	\$79,500
<b>Non Transient, Noncommunity Public Water System</b>													
42	Schurz Elementary School	10	0.5	5	1.84	9.19	Public	MI	NV0000827	170		Arsenic compliance	\$283,856
												<b>Total Class II</b>	<b>\$129,183,767</b>



## Appendix 2: Grant Program Financials

Availability of Grant Funds  
Board for Financing Water Projects  
Budget Period 7/1/2007 through 6/30/2009

	<u>CASH</u>	<u>Treasurer's Affordability 7/1/07 - 6/30/09</u>	<u>Legislative Authority</u>
<b>Available July 1, 2007</b>	<b>\$ 202,124</b>	<b>\$ 22,600,000</b>	<b>\$77,365,000</b>
Add:			
Bond Proceeds	14,842,125	(14,500,200)	(14,500,200)
Treasurer's Interest	170,345		
Request for additional bond authority		22,000,000	
Less:			
Grant Disbursements	(11,051,007)		
Transfers to operating account	(130,000)		
Repayment to Treasurer	(3,951,414)		
<b>March 6, 2008 Balances</b>	<b>82,173</b>	<b>30,099,800</b>	<b>62,135,200</b>
Less:			
Outstanding grant obligations	(36,894,473)		
<b>Available for new projects</b>	<b>(36,812,300)</b>	<b>30,099,800</b>	<b>62,135,200</b>
Add:			
Bond issue 2008A (April 22)	17,100,000	(17,100,000)	(17,100,000)
Bond issue September 2008	12,999,800	(12,999,800)	(12,999,800)
Less:			
March 20 action items	(1,293,626)		
2009 Transfer to operating account	(230,000)		
<b>Projected balance June 2008</b>	<b>(8,236,126)</b>	<b>0</b>	<b>32,035,400</b>
2009 debt reduction			3,172,570
2010 Bonds needed to cover 2008 deficit	8,236,126	(8,236,126)	(8,236,126)
<b>NET, w/approval of March action items</b>	<b>0</b>	<b>(8,236,126)</b>	<b>26,971,844</b>

**Board for Financing Water Projects**  
**Active funding agreements, as of March 5, 2008**

Project	Grant Amount	Issue Date	Grant Used	Grant Obligations Remaining
Beatty PER	51,850	5/3/06	4,675	\$47,175
Caliente	1,176,869	3/14/02	862,136	\$314,733
Cave Rock / Skyland#2	476,089	1/25/06	257,238	\$218,852
Churchill County	3,667,668	7/20/04	3,332,765	\$334,902
Crystal Clear #2	2,663,635	9/20/07	0	\$2,663,635
Crystal Clear #1 PER	43,350	8/23/06	34,000	\$9,350
Gabbs PER	25,925	3/14/07	0	\$25,925
Golconda	956,479	1/27/05	189,661	\$766,818
Goldfield PER	29,750	8/4/05	28,008	\$1,743
Hawthorne PER	42,500	12/16/03	25,500	\$17,000
Heppner	1,280,300	3/31/04	524,515	\$755,785
Imlay	571,837	8/23/06	14,000	\$557,837
Jarbidge	1,287,701	12/16/03	1,106,616	\$181,085
Kingsbury GID #1 & #2	9,505,311	6/26/02	6,032,106	\$3,473,205
Kingston #2	2,726,310	5/3/06	1,056,181	\$1,670,129
Kyle Canyon #2	3,202,512	11/9/06	0	\$3,202,512
Lovelock Meadows GID #1	2,806,285	10/19/04	2,497,143	\$309,142
Lovelock Meadows #2	3,000,000	12/13/07	0	\$3,000,000
Manhattan PER	85,000	10/19/04	78,880	\$6,120
Metroplis Irrigation #2	489,467	1/25/06	44,191	\$445,277
Moapa	4,000,000	12/13/07	0	\$4,000,000
Moundhouse PER	12,750	5/3/06	9,180	\$3,570
Pershing County Irrigation #3	3,663,021	9/7/07	1,176,370	\$2,486,651
Searchlight	2,536,522	8/23/06	153,841	\$2,382,682
Sheridan Acres	1,632,120	4/27/05	1,367,550	\$264,570
Spanish Springs	4,000,000	1/27/05	386,000	\$3,614,000
Stagecoach GID	2,210,089	8/23/06	1,273,741	\$936,348
Topaz Ranch Estates	1,471,452	3/14/07	0	\$1,471,452
Town of Gabbs PER	25,925	3/14/07	0	\$25,925
Virgin Valley	2,000,137	1/27/05	589,817	\$1,410,320
Virginia City	1,503,096	8/29/01	1,097,287	\$405,809
Walker Irrigation Project	6,685,163	3/14/02	5,406,045	\$1,279,118
Walker Lake	1,143,477	7/20/04	904,965	\$238,512
Wells	1,102,310	12/5/02	763,292	\$339,018
Yerington PER	47,600	5/3/06	12,325	\$35,275
<b>Total funding agreements</b>	<b>73,578,902</b>		<b>33,965,310</b>	<b>36,894,473</b>
<i>March 2008 action items:</i>				
Alamo (arsenic) PER	53,002	3/20/08		53,002
Battle Mtn. (arsenic) PER	117,000	3/20/08		117,000
Goldfield (arsenic) LOI	1,123,624	3/20/08		1,123,624
<b>Total, w/March applications</b>	<b>74,872,528</b>		<b>33,965,310</b>	<b>38,188,099</b>

AB 198 Grant Program  
Cash flow through SFY 2009

DESCRIPTION	Available Cash			Available Treasurer's Allocation			Available Statutory Authority			Obligations		
	INCREASE	DECREASE	BALANCE	INCREASE	DECREASE	BALANCE	INCREASE	DECREASE	BALANCE	INCREASE	DECREASE	BALANCE
Added December meeting				22,000,000		30,099,800			62,135,200			36,894,473
January - March, 2008			82,173			30,099,800			62,135,200			36,894,473
Pay Requests			82,173			30,099,800			62,135,200			36,894,473
March action items			82,173			30,099,800			62,135,200	1,099,582		37,994,055
April - June 2008			82,173			30,099,800			62,135,200			37,994,055
Bond sale April 22	17,100,000		17,182,173		17,100,000	12,999,800		17,100,000	45,035,200			37,994,055
Pay Requests		5,298,085	11,884,088			12,999,800			45,035,200		5,298,085	32,695,970
Transfer to 4155 (Operating)		25,000	11,859,088			12,999,800			45,035,200			32,695,970
			11,859,088			12,999,800			45,035,200			32,695,970
July - September 2008			11,859,088			12,999,800			45,035,200			32,695,970
Pay Requests		3,355,000	8,504,088			12,999,800			45,035,200		3,355,000	29,340,970
Bond sale	12,999,800		21,503,888		12,999,800	0		12,999,800	32,035,400			29,340,970
Transfer to 4155 (Operating)		75,000	21,428,888			0			32,035,400			29,340,970
			21,428,888			0			32,035,400			29,340,970
October - December 2008			21,428,888			0			32,035,400			29,340,970
Pay Requests		3,808,315	17,620,572			0			32,035,400		3,808,315	25,532,655
Transfer to 4155 (Operating)		25,000	17,595,572			0			32,035,400			25,532,655
			17,595,572			0			32,035,400			25,532,655
January - March 2009			17,595,572			0			32,035,400			25,532,655
Pay Requests		2,670,000	14,925,572			0			32,035,400		2,670,000	22,862,655
Transfer to 4155 (Operating)		25,000	14,900,572			0			32,035,400			22,862,655
			14,900,572			0			32,035,400			22,862,655
April - June 2009			14,900,572			0			32,035,400			22,862,655
Pay Requests		3,138,001	11,762,571			0			32,035,400		3,138,001	19,724,653
Transfer to 4155 (Operating)		25,000	11,737,571			0			32,035,400			19,724,653
2009 principal repaid on bonds			11,737,571			0			32,035,400			19,724,653
								3,172,570				35,207,970

Budget Account 41 Inception to Present

	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>TOTAL</u>
Bond Proceeds (net)	7,646,237	0	10,839,968	720,000	0	0	2,970,809	0	5,369,633	8,085,375	9,948,641	10,190,151	6,935,746	5,979,001	14,842,125	83,527,687
1996 principal			30,000													30,000
1997 principal			305,000	25,000												330,000
1998 principal	835,000		330,000	25,000												1,190,000
1999 principal	1,000,000		360,000	30,000												1,390,000
2000 principal	1,000,000		390,000	30,000												1,420,000
2001 principal	1,000,000		410,000	30,000			110,000									1,550,000
2002 principal	1,000,000		435,000	30,000			112,500									1,577,500
2003 principal	1,400,000		455,000	35,000			115,000		200,000							2,205,000
2004 principal	1,500,000		480,000	35,000			117,500		210,000	285,000						2,627,500
2005 principal			505,000	35,000			120,000		220,000	295,000	350,000					1,525,000
2006 principal			525,000	40,000			125,000		230,000	305,000	360,000	440,000	375,000			2,400,000
2007 principal			555,000	40,000			130,000		240,000	320,000	370,000	450,000	240,000	370,000		2,715,000
2008 principal			590,000	40,000			135,000		250,000	330,000	380,000	460,000	250,000	200,000		2,635,000
2009 principal			620,000	45,000			140,000		260,000	345,000	395,000	470,000	260,000	210,000	427,570	3,172,570
2010 principal			650,000	45,000			145,000		270,000	360,000	405,000	480,000	270,000	215,000	449,878	3,289,878
2011 principal			690,000	55,000			150,000		280,000	370,000	420,000	490,000	280,000	225,000	472,186	3,432,186
2012 principal			725,000	55,000			155,000		290,000	385,000	435,000	500,000	290,000	235,000	498,212	3,568,212
2013 principal			770,000	60,000			160,000		300,000	400,000	450,000	505,000	305,000	245,000	524,238	3,719,238
2014 principal			815,000	65,000			165,000		290,000	420,000	470,000	505,000	315,000	255,000	550,264	3,850,264
2015 principal			865,000				170,000		300,000	440,000	490,000	510,000	325,000	265,000	580,008	3,945,008
2016 principal			335,000				175,000		310,000	460,000	510,000	510,000	340,000	290,000	609,752	3,539,752
2017 principal							180,000		320,000	485,000	530,000	515,000	355,000	290,000	643,214	3,318,214
2018 principal							185,000		330,000	505,000	550,000	515,000	365,000	300,000	676,676	3,426,676
2019 principal							190,000		345,000	535,000	575,000	515,000	380,000	315,000	713,856	3,568,856
2020 principal							195,000		355,000	560,000	605,000	520,000	395,000	325,000	751,036	3,706,036
2021 principal										585,000	630,000	520,000	415,000	340,000	788,216	3,278,216
2022 principal										615,000	660,000	520,000	430,000	355,000	829,114	3,409,114
2023 principal											690,000	525,000	450,000	365,000	873,730	2,903,730
2024 principal											725,000	525,000	470,000	385,000	922,064	3,027,064
2025 principal												525,000	490,000	400,000	966,680	2,381,680
2026 principal														415,000	1,018,732	1,433,732
2027 principal															1,074,502	1,074,502
2028 principal															1,130,272	1,130,272
2029 principal																0
Total repaid	7,735,000	0	10,840,000	720,000	0	0	2,975,000	0	5,000,000	8,000,000	10,000,000	10,000,000	7,000,000	6,000,000	14,500,200	82,770,200

## Appendix 3: Alamo Arsenic PER Letter of Intent/Grant Summary

## **Arsenic Mitigation PER - Alamo Sewer and Water General Improvement District**

**1, 2** The Town of Alamo is located in southern Lincoln County, approximately 90 miles north of Las Vegas and is home to the Pahrangat National Wildlife Refuge.

Alamo was founded in 1900 and is the largest town in the Pahrangat Valley. Many of the Alamo settlers came from Fredonia, Arizona. The name of the town was derived from the Spanish word for "poplar" and denotes the presence of poplar or cottonwood trees in the area. The primary industry of the town is ranching. Alamo is also a bedroom community for many who work in Las Vegas even though the commute is over 100 miles one way.

The Alamo water system is supplied by four wells. A 500,000-gallon, welded, steel tank provides all of the system's storage. The distribution system piping, valves and tank are within their useful life, and the water supply wells have undergone regular maintenance. The overall condition of the water system is good.

The arsenic level throughout the distribution system has historically been above 25 ppb and all of the wells are above the maximum contaminant level of 10 ppb. Due to the high concentrations of arsenic in the drinking water, the Division ranked this project as a Class II water project. In May 2007, the State Environmental Commission granted Alamo an exemption from the arsenic compliance requirement until January 23, 2009.

The Alamo water system is fully metered and charges a metered water rate of \$30.75 per month for a usage of 15,000 gallons. The minimum water rate that conforms to the Board's policy, based on 1.5% of the median household income, is \$43.36 per month for residential users. There are 312 active residential connections and 10 non-residential users.

A PER was completed in 2003 and provides a significant amount of information on the Alamo water system; however, at the direction of the Alamo Board, only a limited amount of review was included on arsenic treatment. In March 2005, the Nevada Division of Environmental Protection and the Nevada Rural Water Association conducted a detailed study of arsenic concentrations in 35 private wells in the Alamo area as well as at both Ash and Crystal Springs. Shallow and medium depth wells in the area (wells with depths ranging from 25 – 250 ft) generally showed higher arsenic concentrations. Three deep wells (wells with depths >300 ft) had arsenic concentrations from <10 to 20 ppb. The sample from Ash Springs had arsenic concentration of 11 ppb. The data were plotted on maps so that trends could be visually identified. In August 2005, an arsenic management report was completed for Alamo. Given the 2003 PER, the 2005 arsenic management report, and the information on wells and water quality in the Alamo area, it appears that an amendment to the PER would be acceptable to the USDA, CDBG, and the Nevada Drinking Water SRF and AB198 grant programs for Alamo to seek funding for an arsenic mitigation construction project in the future.

The focus of this PER is to determine if it is feasible to develop additional water resources near the town of Alamo that would meet the arsenic MCL and be sufficient to meet the town's needs. Pilot testing and exploratory drilling are not included in this basic, amended PER. The costs outlined in the application include aquifer testing using existing wells.

If a non-treatment option is identified and it requires the drilling of a new well, the PER needs to include the results of a contaminate source inventory survey within 3,000 feet of the proposed well and the new well location needs to be incorporated into Alamo's Wellhead Protection Plan and submitted to the Bureau of Water Pollution Control, Groundwater Protection Branch for endorsement prior to applying for funding of a construction project.

If non-treatment options are eliminated, the PER must include the cost of arsenic pilot testing and both capital and operation/maintenance costs of permanent treatment. If exploratory drilling or arsenic treatment pilot testing becomes necessary as a result of the PER research, it should be noted that the CDBG and USDA should also be in a position to assist in funding this work in fiscal year 2009.

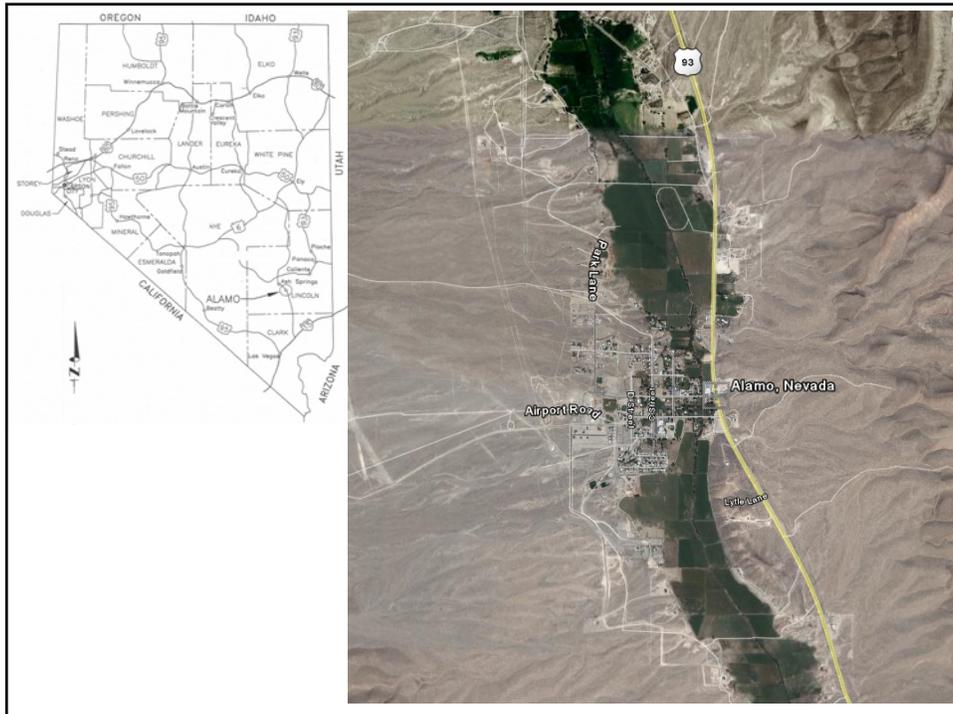
A PER is necessary to apply for funding with the USDA and the AB-198 grant program. Nevada Administrative Code allows for reimbursement of costs traditionally associated with capital improvements including costs for engineering, legal and financial services and acquisition of water rights, easements and rights-of-way. The letter of intent and grant application for the development of the proposed amended arsenic mitigation PER, are recommended for approval subject to the conditions given. The grant amount should not exceed \$53,001.75 (85% of the eligible project costs estimated to be \$62,355.00).

#### CONDITIONS

1. Alamo is subject to the provisions of NAC 349.554 through 349.574 regarding the administration of this grant.
2. The PER must conform to the USDA Bulletin 1780-2 and the "Quality Control Checklist" developed by the Infrastructure for Nevada Communities' Working Group.
3. If the drilling of a new well is the preferred arsenic mitigation option, the PER needs to include the results of a contaminate source inventory survey within 3,000 feet of the proposed well and the new well location needs to be incorporated into Alamo's Wellhead Protection Plan and submitted to the Bureau of Water Pollution Control, Groundwater Protection Branch for endorsement prior to applying for funding of a construction project.
4. If water quality issues warrant, the PER must include the cost of arsenic pilot testing and both capital and operation/maintenance costs of permanent treatment.
5. Prior to applying to this grant program for any construction grants, Alamo must provide a plan and schedule to increase water rates to at least the minimum amount described in the Board's policy on water rates. Before any construction contract may be awarded, the water rates must conform to the Board's policy.

There is a recommended motion for the Letter of Intent in your binder at the end of the project summary. If the Letter of Intent motion passes, staff suggests that the Board move to approve the grant under these same conditions and based on the Resolution in the Board binder.

# Alamo Sewer & Water General Improvement District



**Appendix 4: Battle Mountain Arsenic PER Letter of Intent/Grant  
Summary**

## **Arsenic Mitigation PER - Lander County for Battle Mountain Water and Sewer**

**1, 2** Battle Mountain is located approximately 225 miles northeast of Reno and is the county seat for Lander County.

Lander County was named after General Fredrick W. Lander who was a prominent road builder for the Department of the Interior. He played an important role in negotiating a peace settlement with American Indians during the Pyramid Lake War of 1860. The Lander County region attracted prospectors fanning out across the Great Basin after the 1859 discovery of the Comstock Lode. In October 1868, the railroad established Reese River Siding and made Argenta its principal station and point of departure for the busy mining camps to the south. In January 1870, Argenta was moved five miles west, Reese River Siding was renamed Battle Mountain Switch, and the town of Battle Mountain sprang into existence. Nevada's most prominent mining camps in the 1870s were served by the railroad at Battle Mountain.

From 1880 to 1938, Battle Mountain was the operating headquarters for the Nevada Central Railroad, as well as the Battle Mountain and Lewis Railroad. The town's first copper boom developed in 1897 in the Galena Range which is now known as Battle Mountain. By the middle 1930s, most of the mines that generated traffic at Battle Mountain were shut down and boarded up. Some 30 years later, the DuVal Company invested more than \$20 million in the development of large copper ore bodies in the hills to the south. Battle Mountain became a boomtown, the schools overflowed, the sewer system burst its seams and the municipal wells started pumping sand.

Battle Mountain's mines now produce gold instead of copper and significant improvements have been made to the water and sewer system. Battle Mountain receives its water supply from a confined aquifer source via three groundwater wells. Arsenic in the water supply is reported at concentrations of 18 to 23 ppb, which exceeds the new MCL for arsenic of 10 ppb. The Division ranked this project as a Class II water project. In May 2007, the State Environmental Commission granted the Battle Mountain Water System an exemption from the arsenic compliance requirement until January 23, 2009.

**3** A Letter of Intent for a construction project was approved by the Board in 2002 for a three phase project that included replacement of the cast iron water mains and services, the addition of a new storage tank and arsenic treatment with total estimated eligible project costs of approximately \$4 million.

The original construction grant for Phase I of the project was awarded to Lander County for the Battle Mountain water system in December 2002 in the amount of approximately \$1.6 million or 64.6% of the total eligible project cost which was estimated at \$2.5 million at that time. The scope of the Phase I project was the replacement of the old, leaking, undersized pipe in Battle Mountain.

Match funding for the Phase 1 project was expected to come from the Corps of Engineers and the USDA. Money from the Corps was not made available for the water project, and the County approached the Board for additional grant funding. An increase in construction grant funding for Phase I was approved by the Board in November 2005. That increase in construction grant amount was approximately \$1.5 million bringing the total grant to just over \$3 million or 64.6% of the new estimated total eligible project cost of approximately \$4.8 million. Phase I of the project was completed in July 2007. **4**

**6** Project savings totaling \$147,350 were returned to the grant fund from this Phase 1 project to be made available to other projects.

*(Canyon Construction – Corey Glennon, Shaw Engineering – Steve Brigman, Inspectors for Shaw – Gordon Cole & Ray Ridenour, USDA - Cheryl Couch)*

The Battle Mountain water system is fully metered and charges a metered water rate of \$33.25 per month for a usage of 15,000 gallons. The minimum water rate that conforms to the Board's policy, based on 1.5% of the median household income, is \$53.73 per month for residential users. This information was reversed in the table on your summary sheet. There are 1,072 active residential connections and 162 non-residential users.

In the fall of 2007, research on project alternatives was started in support of a Preliminary Engineering Report for arsenic mitigation. A PER is necessary to apply for funding with the USDA and the AB-198 grant program. In the course of that research, a potential new water source that met the arsenic standard was identified. Initial information on three wells located south of Battle Mountain indicates the availability of groundwater with arsenic levels less than 10 ppb. **7**

Hydrogeologists from Newmont Mining Corporation provided well data and hydrogeologic knowledge of the groundwater and groundwater quality south of Battle Mountain. Newmont pledged their support to Lander County officials regarding this project and made their hydrogeologists available to assist at no cost to the County. Newmont will also assist in water rights research.

The applicant reviewed available area well logs on file at the State Engineer's office. This review indicates that similar layers of gravels and sands should be found within the basin area south of Battle Mountain and pumping capacities from this basin, meeting the town's demands, should be achievable with a minimum number of new wells. As a part of the on-going investigations, the applicant will further evaluate the water quality in the area. The well owned by Newmont will likely not be made available to Battle Mountain for possible municipal use as previously anticipated. One additional finding was reported after the PER application was submitted. The power lines that currently exist near the originally proposed test well site are private and not owned by Sierra Pacific. Drilling a new well in this location would significantly increase overall project costs due to length of the water and power transmission lines. In order to verify water quality and quantity and complete an engineering estimate for a construction project, Battle Mountain needs to drill and test an exploratory well within Basin 059 but closer to Battle Mountain. Lander County is requesting assistance with the funding of this PER in order to finalize a proposal for an arsenic mitigation construction project.

Staff recommends that the letter of intent and grant application for the development of the proposed arsenic mitigation PER be approved subject to the conditions given. The following activities are recommended for funding from the AB-198 grant program: 1) investigate the ability of Lander County to obtain and/or transfer water rights in Basin 059 to a new point of diversion for the Battle Mountain water system; 2) drill and test one exploratory well; and 3) finalize the PER.

If a non-treatment option is identified and it requires the drilling of a new well, the PER needs to include the results of a contaminate source inventory survey within 3,000 feet of the proposed well and the new well location needs to be incorporated into Battle Mountain's Wellhead Protection Plan and submitted to the Bureau of Water Pollution Control, Groundwater Protection Branch for endorsement prior to applying for funding of a construction project.

If non-treatment options are eliminated, the PER must include the cost of arsenic pilot testing and both capital and operation/maintenance costs of permanent treatment. If exploratory drilling or arsenic treatment pilot testing becomes necessary as a result of the PER research, it should be noted

that the CDBG and USDA-RD should also be in a position to assist in funding this work in fiscal year 2009.

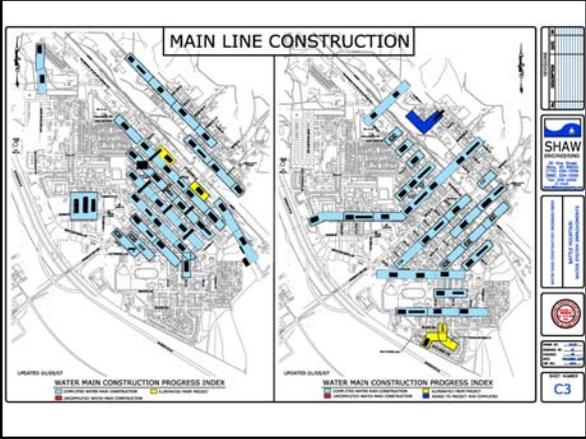
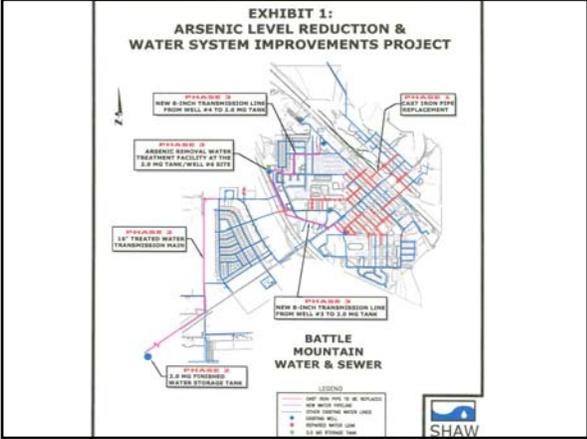
The County's budgeted amount for the PER is \$58,000. The total eligible costs for the PER are \$175,000. The grant amount should not exceed \$117,000.

#### CONDITIONS

1. Lander County is subject to the provisions of NAC 349.554 through 349.574 regarding the administration of this grant.
2. The PER must conform to the USDA Bulletin 1780-2 and the "Quality Control Checklist" developed by the Infrastructure for Nevada Communities' Working Group.
3. If the drilling of a new well is the preferred arsenic mitigation option, the PER needs to include the results of a contaminate source inventory survey within 3,000 feet of the proposed well and the new well location(s) needs to be incorporated into Battle Mountain's Wellhead Protection Plan and submitted to the Bureau of Water Pollution Control, Groundwater Protection Branch for endorsement prior to applying for funding of a construction project.
4. If water quality issues warrant, the PER must include the cost of arsenic pilot testing and both capital and operation/maintenance costs of permanent treatment.
5. Prior to applying to this grant program for any construction grants, Lander County must provide a plan and schedule to increase water rates to at least the minimum amount described in the Board's policy on water rates. Before any construction contract may be awarded, the water rates must conform to the Board's policy.

There is a recommended motion for the Letter of Intent in your binder at the end of the project summary. If the Letter of Intent motion passes, staff suggests that the Board move to approve the grant under these same conditions and based on the Resolution in the Board binder.

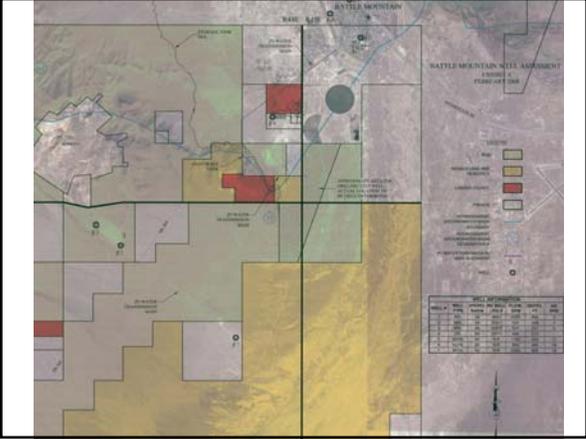
**Lander County for Battle Mountain Water & Sewer**



Phase I – funded by the AB198 Grant Program & USDA-RD - completed in July 2007.

Project savings totaling \$147,350 were returned to the grant fund from this Phase 1 project to be made available to other projects.

Contractor: Canyon Construction  
 Engineer: Shaw Engineering  
 Funders: USDA & AB198 Grant



## Appendix 5: Goldfield Arsenic Project Letter of Intent Technical Summary

## **Goldfield Water System Arsenic Mitigation Letter of Intent - Esmeralda County for Goldfield Utilities**

**1, 2, 3** Esmeralda County was created in 1861, three years before Nevada became a state. The county seat, originally in Aurora, was moved to Hawthorne, and finally to the historic mining town of Goldfield in 1907. Goldfield is located approximately 27 miles south of Tonopah on US Highway 95.

**4** At its peak of prosperity Goldfield was an eccentric combination of wild western boomtown and respectable city. Goldfield began as a mining camp in May 1903 with a population of less than a dozen. In about six years, it grew in population to around 20,000 as a result of several large ore discoveries. From 1903 to 1910, Goldfield was the largest city in Nevada and Goldfield's mines produced more than \$86 million. The Goldfield Hotel was the most luxurious stopping place between Kansas City and the Pacific Coast. The community's boom was short-lived and by 1910 the mines were in decline. Major fires and floods in the early 1900s took a large toll on the town.

The Goldfield water system was developed around 1903 using shallow, hand-dug wells. As the population and mining increased, water quality and quantity decreased resulting in a need to bring water in from outlying areas. Three private water companies – Goldfield Water and Transit Company, Esmeralda Water Company, and Montezuma Water Company – initially brought water from outlying springs. In 1906, the three companies merged to become Goldfield Consolidated Water Company and, in 1937, the County took over the private water system. A rehabilitation program replaced 12,000 feet of pipe in 1940, and in the early 1980s, additional improvements were made including storage, distribution and a well.

Water is now supplied from two wells located approximately 12 miles north of Goldfield and delivered to the distribution system via two booster pump stations along the pipeline. The total system capacity is limited by the booster stations to 300 gallons per minute. Goldfield has a total of 566,000 gallons of combined storage in its two water tanks.

In June 2000, a grant was awarded by the Board for Financing Water Projects to Esmeralda County in the amount of \$1.25 million or 85% of the eligible project cost of \$1.46 million that allowed Goldfield to essentially rebuild the entire water system, add storage and install water meters on all connections.

In August 2005, a grant for an Arsenic Feasibility Study was awarded by the Board to Esmeralda County in the amount of \$29,750 or 85% of the eligible project cost of \$35,000. The source water for the system has arsenic concentrations ranging from approximately 34 to 41 micrograms per liter. The Division ranked this project as a Class II water project. In September 2006, the State Environmental Commission granted Goldfield Utilities an exemption from the arsenic compliance requirement until January 23, 2009. Due to the high concentrations of arsenic, Goldfield is not eligible to apply for extensions to their exemption and is expected to be in compliance by January 2009.

**5** The Goldfield water system is fully metered and charges a metered, residential, water rate of \$49.00 per month for a usage of 15,000 gallons. The minimum water rate that conforms to the Board's policy, based on 1.5% of the median household income, is \$41.21 per month for residential users. There are 241 active residential connections, 49 non-residential users, and 9 inactive connections as of December 2007. Goldfield Utilities has a system obligation fee of \$36.00 per year on improved parcels.

The arsenic feasibility study, partially funded by the AB-198 grant program, provided a starting point for the PER to determine the best course of action to comply with the arsenic drinking water standard. The PER was completed in November 2007.

Several options for arsenic compliance were investigated including: a new water source, blending, connection to other existing water systems, and treatment. Of the options investigated, treatment appears to be the most economical solution at this time. Pilot testing of both adsorptive media and coagulation-filtration processes was conducted. The primary arsenic species in the Goldfield water is arsenate thereby eliminating the need to oxidize the arsenic prior to treatment. While adsorptive media was able to successfully remove the arsenic, competing ions such as silica, potassium, vanadium, selenium, and chromium caused a lower than expected bed life during the pilot testing. Lower bed life results in a lower volume of water treated prior to media regeneration or replacement and higher operating costs. The pilot tests conducted using a coagulation-filtration process showed a production efficiency of 97.8% and was a reliable treatment method for the Goldfield water sources. The coagulation-filtration media tested also has a manufacturer's guaranteed minimum life of 10 years.

**6, 7, 8** The treatment system will be constructed within the fenced perimeter of the two storage tanks. This area does not appear to be large enough for a lined drying pond for the sludge from the backwash; however, an area below the existing storage tank compound, currently owned by the County, should be large enough to accommodate the pond and could be made available to the water system.

The total project cost is currently estimated to be approximately \$1.1 million and additional annual operation and maintenance expenses estimated to cover the treatment system total \$25,125.

Based on the requirements for safe drinking water attached as a part of the staff report this Letter of Intent to submit a grant for the proposed arsenic treatment construction project is recommended for approval on a technical basis.

Esmeralda County for Goldfield Utilities



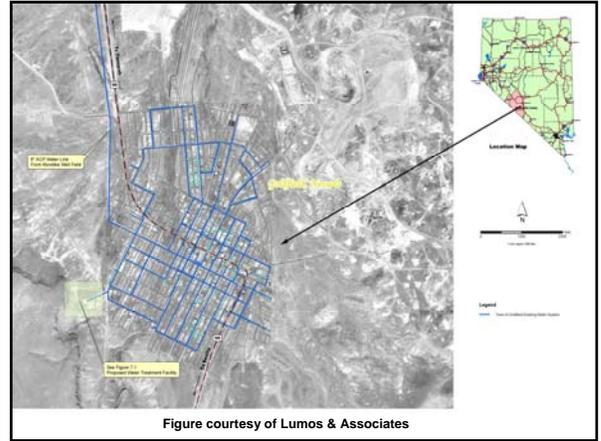
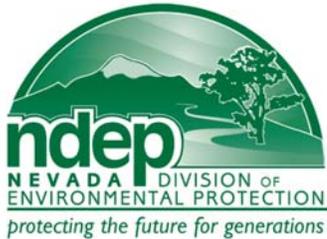


Figure courtesy of Lumos & Associates

## Appendix 6: Goldfield Arsenic Project Letter of Intent Financial Summary



# STATE OF NEVADA

Department of Conservation & Natural Resources

*Jim Gibbons, Governor*

*Allen Biaggi, Director*

DIVISION OF ENVIRONMENTAL PROTECTION

*Leo M. Drozdoff, P.E., Administrator*

Wednesday, February 26, 2008

**TO:** Adele Basham, P.E.  
Board for Financing Water Projects

**FROM:** Dana Tuttle, Administrative Services Officer

**SUBJECT:** **Goldfield LOI – Financial evaluation and recommendation**

Financial evaluation:

Audited financial statements of Goldfield Water Utility Fund indicate losses for the past three years. Revenues averaged \$155,000 and expenses averaged \$185,000, with very little change from year to year, indicating that rates have not changed. The utility has been able to maintain a positive cash flow by not covering depreciation expense of \$50,000 per year. In order to approach financial capability in their current situation, the utility would need \$47,000 more revenue than last year to cover expenses, or an added \$13.50 per month for each of its 290 customers. A rate increase of 30% would bring them into this range of “financial viability”.

The proposed project for \$1,123,624, as presented, would bring annual expenses to \$247,000, including \$78,000 depreciation. Payment on the loan of \$25,420 is approximately \$1,285 and the reserve requirement for all three AB198 grants is \$25,000. To raise enough revenue to cover the anticipated deficit, the utility will need \$29.79 more than in 2007 from each customer per month, which would result in an average water bill of \$71, or 2.6% of MHI. This 72% increase would make Goldfield Water Utility financially viable.

The 2008 budget and capital improvement plan do not indicate any plans to increase rates, either to cover current losses or in anticipation of funding these added improvements. The budgeted revenues for 2008 are \$134,000, 7% less than 2007.

Financial recommendation:

If a grant is awarded to Goldfield, I recommend that they be required to implement a rate structure that would:

- 1) correct current losses (increasing revenue by 30%), and
- 2) provide for the additional costs of the new project.

A rate increase of approximately 72% would accomplish both.

Given the small, non-growth customer base, the utility should consider any other steady revenue sources that might be available.

**ATTACHMENT A**  
**Goldfield Letter of Intent**

**Statutory Financial requirements:**

**NAC349.469:** NAC 349.469 "Viable" defined. (NRS 349.982) "Viable" means having the ...financial ability (as defined by NRS 445A.817) to sustain the operation of a community water system or nontransient water system over a long term and remain in compliance with the [financial] requirements for public water systems.

YES  NO

**NAC 349.475.1:** (b) The purveyor of water is unable to finance the proposed capital improvement from its own resources.

YES  NO

**NAC 349.475.2:** To apply for a grant, a purveyor of water must file with the board a letter of intent. The letter must include:

(h) Documentation concerning the inability of the applicant to finance the capital improvement, including, but not limited to:

(1) Letters from local lending institutions;

YES  NO

(2) Letters from financial advisers, accountants or fiscal agents, if applicable;

YES  NO

(3) Copies of any applications for funding the capital improvement filed by the applicant with a governmental agency that funds capital improvements, other than the board; and

YES  NO

(4) A statement concerning the inability of the applicant to finance the capital improvement.

YES  NO

(i) A brief demonstration, which includes any relevant financial information, that the community water system or nontransient water system will be viable upon completion of the capital improvement.

YES  NO

(k) Any additional information required by the Board.

YES  NO

**Board Policy financial requirements:**

**Reasonable water rates:**

Percent MHI required:  1.50% Actual:  1.78%

YES  NO

**Funding of Reserve Account:**

Annual requirement: Grant #1  \$14,582 Grant #2  \$383 Pending  \$10,023 Accumulated to date:  \$13,554

Monthly cost per connection:	<u>New Capital</u>	<u>New Operating</u>	<u>TOTAL THIS PROJECT</u>	<u>2007 average cost</u>	<u>Projected Total</u>
Cash :	\$322.88	\$7.22	\$330.10	\$54.72	<b>\$384.82</b>
100% Financed at 4%, 40 yr.	\$16.31	\$7.22	\$23.53	\$54.72	<b>\$78.25</b>
76% Grant /24% USDA (4%, 40 yr)	\$8.69	\$7.22	\$15.91	\$54.72	<b>\$70.63</b>

## Appendix 7: Bolted vs Welded Tanks

## BOLTED V/S WELDED STEEL STORAGE TANKS

March 20, 2008

By: George J. Georgeson, PE  
CSA, Inc. Engineers  
Reno, Nevada

Presented to: State of Nevada Board for Financing Water Projects

As most of you are aware, there are many types of water storage tanks available in the market. This depends on the size, capacity and intended use. The types of water storage tanks available are:

- 1- Steel tanks, bolted or welded.
- 2- Tanks that are set on the ground or elevated tanks such as those we see in the Mid-west.
- 3- Concrete tanks
- 4- Fiberglass tanks and:
- 5- Plastic tanks

In the past, we had Wood Tanks mostly made of redwood and steel hoops to hold them together and steel riveted tanks.

1. **Steel riveted tanks** have been in use for more than 100 years. One tall narrow tank is in Wabash Indiana (1902) is still in use today according to AWWA Standard M-42).

### **AWWA Standards;**

There are AWWA standards that illustrate the construction methods and placement of water tanks. These are;

- D100- Welded tanks
- D102- Coating of tanks
- D103- Factory coated, bolted steel tanks
- D104- Cathodic protection
- D110- Pre-stressed Concrete tanks
- D120- Fiberglass reinforced plastic tanks
- D652- Disinfection of tanks

\*\* D100, 102, and 103 have been approved by American National Standards Institute (ANSI).

Standards such as these are only recommendations. They are not enforceable until a Municipality or Governing Agency adopts them and incorporates them into their regulations

**Welded Tanks:**

These types of tanks began their use starting around the 1930's, when welding came into wide use. By 1950, welded tanks replaced riveted tanks. The reason for this 20 year lag (according to AWWA M-42) is that contractors were slow in training welders and to convert workers skills from riveting to welding. The reason for that is they did not want to change workers who were used to riveting.

AWWA/ANSI, D100 which addresses welded tanks has been in print since 1935 and, several revisions have been issued since. Also, welded tanks can be built taller than bolted tanks, see D100 and D103.

**Advantages:** Provides for new tank configurations such as elevated tanks, the greater advantage is a smooth surface and lower maintenance costs. Over the years, welding has improved, thereby, offering increased economy and strength.

**Thickness and Capacity:** Welded tank wall thickness varies from 3/16" to 2" for elevated welded tanks. Reservoir capacities range from 50,000 to  $5 \times 10^6$  or more. Note that the 2" thickness is more due to elevated tanks and the strength they require in hurricane and tornado prone areas. (flat lands in mid west)

**Welding Quality:**

AWWA D100 requires the constructor to check the welding quality. However it is the job of the owner to monitor the constructor's quality control program. The most common method to evaluating the weld quality is by means of radiography (X-ray photograph). It is essential for the constructor and the purchaser to visually inspect all welds to ensure the removal of all weld splatter, sharp surfaces, overlaps and unacceptable undercuts that will be detrimental to the spray-on coating life.

**2. Bolted Tanks:**

One advantage of **Bolted Tanks** is they can be dismantled and relocated as population shifts or factories move.

These types of tanks were developed in the early 1900's to serve crude as storage for oil and brine (API). 1970's bolted tanks gained acceptance for potable water through AWWA D103 in association with API (American Petroleum Institute).

**Construction:** Bolted tanks are made of uniformly sized steel panels; 5' high, 8' wide or 8' high and 5' wide, and are pre-coated and readily transported to the erection site and then site assembled.

Organic gaskets or sealants are used to achieve water tight seal at bolted joints which includes the bottom, sides and roof (recently some tank roofs are made up of shiny, aluminum domes which eliminate the interior columns or reduces the number of interior supports.

Bolted tanks seem to be assembled faster than welded tanks, due to the welding and inspections of the welds, sand-blasting both inside and outside before making them ready for paint inside and outside.

**Panel thickness** varies from 0.073” (12ga) to 0.375” (3/16”). Since these tanks are bolted, they can be disassembled and erected elsewhere as the needs arise.

**Capacities** range from 4000 to  $2.5 \times 10^6$  gallons. Height is restricted by AWWA D103 to 32’ high. Currently AWWA is working on increasing the strength of steel from grade 50 ksi to grade 60 or 70 ksi, and as a result taller bolted tanks may be allowed in the future.

**Bolting Assembly:**

Bolted tanks require the proper placing of steel sheets, gaskets and sealants and tightening the bolts to a prescribed torque. These details are covered by the manufacturer’s erection instructions and drawings.

**3. Coating and Life of Tank:**

Bolted tanks are factory coated for long term corrosion protection. Four (4) coating systems are presently available for bolted tanks:

- Galvanized
- Glass
- Thermoset liquid suspension epoxy
- Thermoset powder epoxy.

A bolted steel tank is delivered to the location with a factory-applied coating. If the steel has not been damaged in transit, the surface will be smooth. Welded Tanks are not coated until they are erected, inspected and sandblasted.

Anticipated life of bolted tanks is limited to the effective life of the protective coating and cathodic protection system. If coating is not abused or damaged, the anticipated life expectancy is more than 30 years. Welded tanks are delivered to the construction site in uncoated sections. Coating happens on site after the tank is welded together.

Today's coatings require exactness in measuring and mixing components and thinners. The appropriate application equipment must be used, and the proper combination of humidity and dew point, air temperature and steel temperature are critical during both the application and curing.

Remember that Bolted Tanks are coated at the factory under ideal conditions, where Welded Tanks are coated in the field and are subject to the painting contractor's experience, skill and weather conditions. It is not unusual for a welded tank to sit in the field unpainted for months at a time until weather conditions are right for the usually epoxy paint to be applied and cure.

The tank Interior must be ventilated to ensure the safety of workers and the proper curing of the field applied coatings. When painting the welded tank, especially the interior, forced air ventilation and proper breathing equipment are necessary for the safety of all the workers.

Bottom of welded tanks are not coated or painted when assembled. Reason is that if not correctly coated, moisture gets trapped under the bottom and the tank has a greater potential for deteriorating. When welding is done on the inside of the tank bottom if the steel sheets are coated on the underside, the coating would burn and flake off at the seams thereby attracting and trapping moisture.

Bolted tank Coating:

Bolted tank panels are coated in the factory under controlled conditions. AWWA D103 requires that the panels be grit-blasted to near white metal and the coating either baked on or fused on. Then they are delivered to the erection site.

In all cases however, all materials whether for bolted or welded tanks should be inspected by both the owner and contractor to ensure owners is getting for what they are paying for.

END



RECEIVED

JAN 10 2008

ENVIRONMENTAL PROTECTION

LETTER OF TRANSMITTAL

DATE: January 8, 2008

ATTENTION: Michelle Stamates COMPANY: Bureau of Administrative Services
NDEP
901 E. Carson Street St. Ste 4001
Carson City, NV 89701

PROJECT: Virginia City Bolted Water Tank

TRANSMITTED: [X] Calculations [ ] Prints [ ] Specifications [X] Other: Letter & Photos

Table with 2 columns: No. of Copies, DESCRIPTION. Rows include: 1 Set Calculations addressing the bulging of the Tank bottom ring from the manufacturers Engineer; 1 Set Calculations and color illustrations from the engineer hired by CSA, Inc. Engineers; 1 Warranty letter from Allstate Tank, the Tank manufacturer, to Storey County; 2 Color photos of the tank roof rafter and column supports during their construction.

[ ] Please review and Comment [X] Per Your Request [X] For Your Use

Comments Michelle;
I am sending you the information you requested from two engineers addressing the tank bulging at the bottom ring. As you can surmise from their calculations the bulging appears to be normal based on the water column inside the tank.
Therefore, referencing their structural check and results the tank appears to be structurally sound.
Please call with any questions.

George J. Georgeson, CSA, Inc. Engineers.

Phone: (775) 323-0244

Fax: (775) 323-0432

**CSA**

---

**From:** Gary Chubb [gary@chubbengineering.com]  
**Sent:** Monday, October 15, 2007 5:21 PM  
**To:** CSA  
**Cc:** Rob Wooster  
**Subject:** RE: Ring bulging at Virginia City Water Tank

George,

Attached is a calculation specific to this tank which determines the expected radial growth of the shell in terms of the change in radius. The first number is due to the steel stretching under load. I have listed the published reference where this calculation is taken from. The second calculation is simply the total of all the oversized bolt holes less the actual bolt diameter, assuming all bolts slip the full allowable amount.

The total accumulated radial growth to the tank radius is calculated to be just over 5/8". Please let me know what the measured growth is so I can compare the numbers.

I will be traveling Wednesday through Friday of this week. If you can get the information to me, I will be able to respond on Monday.

Thank you for the photo.

Gary A. Chubb, P.E.  
**Chubb Engineering, LLC**  
PO Box 605  
Parsons, KS 67357  
Ph: 620/421-3351  
Fax: 620/421-3733

-----Original Message-----

**From:** CSA [mailto:csa@csaincengineers.com]  
**Sent:** Monday, October 15, 2007 7:08 PM  
**To:** gary@chubbengineering.com  
**Cc:** Mike Nevin  
**Subject:** Ring bulging at Virginia City Water Tank

Gary:

Thank you for calling and explaining the tank situation I conveyed to Allstate tank about the bottom ring bulging outward when the tank is full of water.

I have attached a photograph taken by one of the people who visited the site on October 11, 2007. I will go to the site and measure the distance the ring is bulging from the center to the outer vertical edges near the bolted seams, and I can send the information to you in a few days.

I understand that you stated the bulging we observed is very typical for tanks of this size and that there should be of no concern. Please send that information addressing this observed bulging effect of the ring and I can submit to the county for their records. Downstream of this tank there are residences and a water treatment plant. The County is very concerned on this ring bulging issue.

Look forward to hearing from you.

George Georgeson  
CSA, Inc.

**Expected Radial Growth  
Cylindrical Bolted Steel Tank Shell**

Reference: All State Tank  
Order # 07-0009  
Client Sierra Nevada Construction  
Jobsite Virginia City, NV

**Radial Growth of Steel Shell**

Reference: *Roark's Formulas for Stress and Strain*, Sixth Edition, Warren C. Young  
Table 28, case 1b, Page 518 for cylinder with uniform radial pressure.

Diameter of cylinder = 92.31 ft  
R = 553.86 in  
Depth of product = 28.14 ft  
Specific gravity = 1.00  
Pressure at base of cylinder,  $q = 62.428 \times \text{depth of product} \times \text{SG} / 144$   
= 12.2 psi  
Thickness of bottom ring = 0.375 in  
Modulus of elasticity,  $E = 29000000$  psi

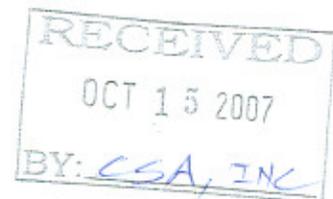
From reference,  $\Delta R = qR^2 / Et$   
= 0.34 in  
Total growth in diameter,  $\Delta D = 0.69$  in

**Radial Growth From Bolt Holes**

Total number of panels in circumference = (30)  
Diameter of vertical seam bolt holes = 0.563 in  
Diameter of vertical seam bolts = 0.500 in  
Total expected circumferential growth = # panels x (Bolt hole dia - Bolt dia)  
= 1.89 in  
 $\Delta D = \text{Circumferential growth} / \Pi$   
= 0.60 in

**Total Radial Growth**

Radial growth from shell stress = 0.69 in  
Radial growth from bolt holes = 0.60 in  
Total expected radial growth = 1.29 in on the diameter  
= 0.64 in on the radius



**Expected Radial Growth  
Cylindrical Bolted Steel Tank Shell**

Reference: All State Tank  
Order # 07-0009  
Client Sierra Nevada Construction  
Jobsite Virginia City, NV

**Radial Growth of Steel Shell**

Reference: *Roark's Formulas for Stress and Strain*, Sixth Edition, Warren C. Young  
Table 28, case 1b, Page 518 for cylinder with uniform radial pressure.

Diameter of cylinder = 92.31 ft  
R = 553.86 in  
Depth of product = 28.14 ft  
Specific gravity = 1.00  
Pressure at base of cylinder,  $q = 62.428 \times \text{depth of product} \times \text{SG} / 144$   
= 12.2 psi  
Thickness of bottom ring = 0.375 in  
Modulus of elasticity, E = 29000000 psi

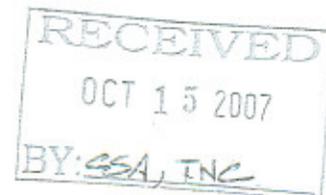
From reference,  $\Delta R = qR^2 / Et$   
= 0.34 in  
Total growth in diameter,  $\Delta D = 0.69$  in

**Radial Growth From Bolt Holes**

Total number of panels in circumference = (30)  
Diameter of vertical seam bolt holes = 0.563 in  
Diameter of vertical seam bolts = 0.500 in  
Total expected circumferential growth = # panels x (Bolt hole dia - Bolt dia)  
= 1.89 in  
 $\Delta D = \text{Circumferential growth} / \Pi$   
= 0.60 in

**Total Radial Growth**

Radial growth from shell stress = 0.69 in  
Radial growth from bolt holes = 0.60 in  
Total expected radial growth = 1.29 in on the diameter  
= 0.64 in on the radius





## FERRARI SHIELDS & ASSOCIATES

Consulting Structural and Civil Engineers

185 Cadillac Place  
Reno, Nevada 89509  
775-829-9277  
775-829-9359 (Fax)  
www.ferrarishields.com

## Memorandum

**To** George Georgeson, PE  
CSA

**From** Joe Shields, CE/SE, Principal

**Project** Virginia City Water Tank

**2 Nov 2007**

### Subject

Structural Review of Water Tank

### Message

Per your request, we conducted an investigation of the new water tank in Virginia City, Nevada. Our investigation consisted of a site visit on 10/16/2007, review of the construction documents, and we prepared structural calculations to verify the tank design. The construction of the steel water tank was completed this year. The tank is approximately 92 feet in diameter and is approximately 30'-0" high. A picture of the tank follows.



1. The original calculations assume the full difference between the bolt hole sizes and the bolt shank diameter to contribute to bolt slip; thus, the calculated bolt slip value is overestimated.
2. The water level in the tank was not full when the bulge was measured. The water level was observed to be 22 feet.
3. The field measurement method was measured with instruments at hand. If greater accuracy is desired, Professional Surveying instruments should be used to obtain a measurement with greater precision.

We prepared a Three-Dimensional Finite Element model of the tank to calculate the shell stress and the elastic radial growth due to water pressure. Bolt slip was not evaluated in the model as it is not elastic. We computed the radial growth of the tank due to shell stress to be 0.35 inches which correlates very well with Chubb Engineering's calculations of 0.345 inches. Our calculations indicate that the maximum shell stress due to water pressure is 15.7 kips per square-inch which is less than the allowable stress value for the Grade 36 and Grade 50 Steel used on this project.

A graphic of the computed shell stress and the highly exaggerated deflected shape is attached to the end of this report. The deflected shape is scaled by a factor of 100 times to show that the maximum bulge occurs just a few feet above the bottom of the tank. The computed deflected shape correlates well with the bulge that was measured in the field.

The tank was designed in accordance with applicable design standards. The bulge at the base is acceptable and is not a result of an overstress that could compromise the structural integrity of the water tank.

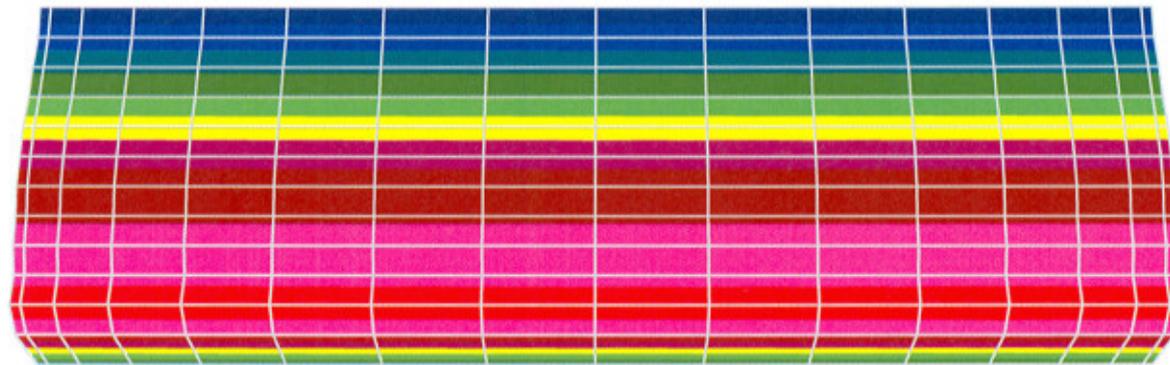
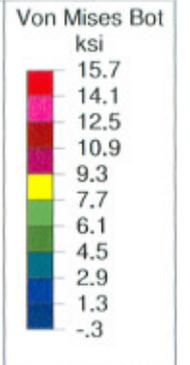
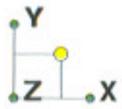
The tank will best perform when it is filled with water at a depth of one-half filled to full. This is because the hoop stress due to the presence of water will not allow local buckling of the thin shell due to wind, seismic, or snow loads. We recommend that the water should only be removed for short periods to allow for maintenance of the tank.

Please call with any questions.

Sincerely,



Joe Shields, CE/SE, Principal  
Ferrari Shields & Associates



Results for LC 2,

Ferrari Shields & Associates	Virginia City Water Tank Analysis	Nov 1, 2007 at 11:50 AM
JFS	Shell Stress and Deflected Shape - Amplified 100 Times	Water Tank Virginia City.r3d
07133		

# ALL STATE TANK MANUFACTURING, LLC

PO Box 450190  
511 Industrial Park Rd. A  
Grove, Oklahoma 74345

Darrel Robertson  
Phone: (918) 787-2600  
Fax: (918) 787-2601

August 24, 2007

Storey County Courthouse  
P.O. Box 176  
Virginia City, NV 89440

(775) 847-0968  
(775) 847-0949 Fax

Attention: Mike Nevin

**Subject: Virginia City Water Tank Additional Warranty**

Mike,

As previously discussed, All State Tank Manufacturing, LLC warrants all of the joints on the Storey County Bolted Steel Water Tank where Manus-Bond 75-AM was used to be free of leaks for the period of six years following the conclusion of the one year contractual warranty period between the County and Sierra Nevada Construction. The terms of this extended warranty period under this agreement shall be made expressly between All State Tank Manufacturing, LLC and Storey County.

If there should be a leak from a Manus-Bond 75-AM sealed joint, All State Tank Manufacturing, LLC will dispatch a crew to repair the leaking joint immediately from the closest, most feasible location. All correspondence involving these matters will be made directly between Storey County and All State Tank Manufacturing, LLC.

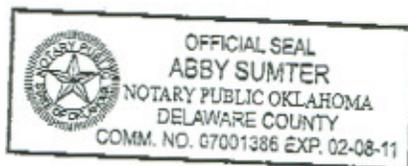
If at any time, Storey County should have any questions regarding this tank or the six year additional guarantee, please do not hesitate to call (918) 787-2600.

Sincerely,



Darrel Robertson  
All State Tank Manufacturing, LLC

This warranty is in effect for the following time period September 15, 2007 until September 15, 2014



*Abby Sumter*  
Exp: 02/08/11  
Commission: 07001386

*Delaware County  
Oklahoma*

## Appendix 8: Progress Report for Funded AB198/AB237 Projects

# PROGRESS REPORT ON OPEN PROJECTS

March 2008

GRANTEE	DATE APPROVED	GRANT AMOUNT	ENGINEER	OWNER'S REPRESENTATIVE	LAST STAFF SITE VISIT	PROGRESS
Walker Lake	12/10/97	\$1,143,447.00	Farr West	Mark Nixon	Apr-07	Land was not secured from the military as expected. The engineers and hydrogeologists are planning a new well on GID property but away from the influence of Walker Lake. Although the GID indicated that this well would be completed in 2007, progress was slowed due to the need to change the location of the proposed well.
Storey Co for Virginia City	8/29/01	\$1,503,096.00	CSA	Marilou Waling	Oct-07	The project is now complete and final pay requests are still pending the State Treasurer's Office sale of bonds.
City of Caliente	3/14/02	\$2,021,314.72	Amec & Sunrise Engineering	April Nelson	May-07	<p>The water meters in Caliente are installed and on-line. Money from FEMA has apparently been received by the City and the new well and back up well locations and designs are in progress.</p> <p>At the request of the Board, staff sent a letter to Caliente regarding the use of their water meters and implementing a metered water rate. In February 2008, the City Council adopted and implemented a metered water rate. A letter from the City is attached as Item 1.</p>
Walker River Irrigation District	3/13/02 1/22/07	\$6,685,163.19	Farr West Lumos RO Anderson Black Eagle	Ken Spooner	Oct-07	The diversion structure, spillway, and levee are complete. Staff made a final walk-through of the new structures with NDWR and CA DSOD on 2/11/08. Controls for the diversion structure gates should be completed by March 2008.
Kingsbury GID	6/26/02 8/23/06	\$9,505,311.39	Amec	TBD	Sep-07	<p>All but one section of pipeline (Palady Perkins) is now complete on the project. The last section is scheduled for construction in the summer of 2008. KGID is focusing its energy on obtaining a new tank site for Tank 10B. A likely site has been identified and approval is still being sought from the USFS and Heavenly Ski Resort, which share control of the property. If approval does not appear promising, the district will pursue replacement of existing Tank 10A. The district's preferred alternative is to construct a new Tank 10B while Tank 10A is still on line. According to the District's schedule, the tank will be complete by the fall of 2009.</p> <p>In January 2008, staff sent the KGID a letter requesting the water meter and metered rate implementation plan for KGID in accordance with the motion made and approved by the Board on 8/23/06 (Board minutes from 8/23/06, staff's letter to KGID, and KGID's draft Metering Plan are attached as Item 2).</p> <p>Although NDEP sent a request for a renewal letter as required by NAC, Kingsbury GID did not send in a renewal request to remain on the Priority List. Being on the priority list is a requirement for grant funding consideration per NAC 349.475 1. (c).</p>

# PROGRESS REPORT ON OPEN PROJECTS

March 2008

GRANTEE	DATE APPROVED	GRANT AMOUNT	ENGINEER	OWNER'S REPRESENTATIVE	LAST STAFF SITE VISIT	PROGRESS
Wells	12/5/02	\$1,102,310.09	TRW Engineering	Jolene Supp	Jul-06	<p>The installation of the well, well house, chlorination system, and SCADA are now complete. Design and bid documents are complete for the new tank and water line. The City plans to bid the tank project in the spring of 2008.</p> <p>The earthquake of 2/21/08 caused damage to three 10" water mains. The damage was repaired immediately. Aftershocks in the area were significant and did as much damage as the earthquake. The City was under a boil water order from BSDW until damages were repaired and test results were received. Damages were also reported to homeowners' systems (water heaters falling/breaking, etc.) and at least one lateral. The ground is still frozen and other issues may be noted as it thaws.</p> <p>A structural engineer was in Wells to check the tanks. One tank shifted laterally approximately 1 1/2 " but has no apparent leaks or other structural problems. Another tank has a 6" bulge and is being evaluated to see if it is a problem or requires repairs. Divers will investigate. The third tank does not appear to have any problems.</p>
Hawthorne PER	12/16/04	\$42,500.00	Farr West	Steve Gustafson		<p>The water audit is complete. The master plan has been completed, including the background, existing conditions, proposed improvements, mapping, water rate analysis, and environmental information. A water model is also apparently complete. The County is asking for additional information to be addressed regarding the old Babbitt area, as a large development may be relocating to the area and may put a strain on existing infrastructure. The post-PER work has yet to be accomplished, such as the environmental report and applications for funding. No updates have been received.</p>
Elko Co for Jarbidge	12/16/03	\$1,287,700.70	Stantec	Lynn Forsberg		<p>The treatment plant is complete and in operation. Certification of the plant is complete. BSDW completed a sanitary survey of the system in Sept 2007 and lifted the boil water order. Project close out is in progress.</p>
Washoe Co for Heppner Subdivision	3/31/04	\$1,280,300.00	Washoe County	Joe Stowell	May-07	<p>Heppner Waterline Extensions Phase 1-3 and 5a are complete. The County acquired the Right-of-Way for the new storage tank site from the BLM. The design of the new storage tank at the Heppner subdivision is 75% complete and funding from the grant will be used to install a new waterline from the tank transmission line at Ohio St to Matterhorn Blvd along Oregon Blvd to allow efficient use of the imported water from Fish Springs Ranch. They will put the improvements to Lemmon Valley Well #8 on hold indefinitely.</p>
Churchill County	7/20/04 4/05 8/23/06 11/9/06	\$3,667,667.54	Brown & Caldwell/ V-Point	Milorad Stojicevic	Jan-08	<p>The Sand Creek system is on-line. The tie-in of Jetway Chevrolet and both West Star and Virginia MHPs are still pending.</p>

# PROGRESS REPORT ON OPEN PROJECTS

March 2008

GRANTEE	DATE APPROVED	GRANT AMOUNT	ENGINEER	OWNER'S REPRESENTATIVE	LAST STAFF SITE VISIT	PROGRESS
Lovelock Meadows Phase 1	10/19/04 11/9/06	\$2,806,284.99	Farr West	Ryan Collins	Jul-07	Phase 1 of this project was completed in July 2007. Final pay requests are still pending the State Treasurer's Office sale of bonds.
Nye Co for Manhattan PER	10/19/04 11/3/05	\$85,000.00	Day Engineering	Samson Yao	Aug-07	The Pipe Spring borehole in the town of Manhattan was pump tested in Aug 2007. Early test results indicate that this location may produce water that meets the Safe Drinking Water arsenic concentration requirements.  It appears that the final project will be funded by the County and the USDA-RD. Although solicited, Nye County did not send in a renewal request to keep Manhattan on the Priority List. This is a requirement for grant funding consideration per NAC 349.475 1. (c).
Golconda GID	1/27/05	\$956,478.75	Farr West	Becky Trigg	Jan-08	A&K began construction in Nov 2007. All pipeline in town and the transmission main and PRV from the new tank site are complete. The project was shut down by the owner pending the availability of grant reimbursement funds from the AB-198 program. Work on the tank is expected to begin in April 2008 with completion in June 2008.
Washoe Co for Spanish Springs	1/27/05	\$4,000,000.00	Washoe County	TBD	May-07	The Phase 1A sewer project is complete and 171 homes have abandoned their septic systems and connected to the new sewer line to date.
Virgin Valley Water District	1/27/05	\$2,000,137.00	Bowen, Collins & Associates	Mike Winters	Mar-08	The Scenic reservoir construction is complete from Well No. 30 to the distribution system. The new coagulation-filtration arsenic treatment facilities for the 2 Bunkerville plants were redesigned to include lined infiltration ponds to handle the backwash water. VVWD recently awarded the construction contract to MMC. The 3 Mesquite treatment plants will be built first and are in progress. The 2 Bunkerville treatment plants will be constructed after the Mesquite plants are completed. These 2 facilities have partial funding from the state grant program
Douglas Co for Sheridan Acres	4/27/05 3/14/07	\$1,632,119.63	Douglas County	Ron Roman	Sep-07	The well, well house, and CO2 stripper, new storage tank, and service connections/meters are complete and on-line. Final pay requests are still pending the State Treasurer's Office sale of bonds.
Goldfield Arsenic Feasibility Study	8/04/05	\$29,750.00	Lumos	Lori Dunn	Jul-07	Treatment and non-treatment options were investigated. Three pilot tests, one bench test, and one computer simulation were completed. A PER is now complete and Goldfield is seeking funding for a construction project for arsenic treatment.
Metropolis Irrigation District	1/25/06	\$489,467.40	Dyer Engineering	Vernon Dalton	Jun-07	Engineering design and environmental and cultural assessment for BLM permitting is currently in progress. Easements for the roadway alignment are currently being pursued.  The District provided a response to Board questions regarding the project. A report on the condition of the existing structure after the Wells earthquake is also included. See attached Item 3.

# PROGRESS REPORT ON OPEN PROJECTS

March 2008

GRANTEE	DATE APPROVED	GRANT AMOUNT	ENGINEER	OWNER'S REPRESENTATIVE	LAST STAFF SITE VISIT	PROGRESS
Douglas Co for Cave Rock	1/25/06	\$476,089.25	Douglas Co	Ed Mason	Sep-07	Construction of the new storage tank is complete and the tank is on line. Final pay requests are still pending the State Treasurer's Office sale of bonds.
Moundhouse PER	5/3/06	\$12,750.00	Farr West	Mike Workman		Staff is awaiting copies of the final PER. No further updates have been received.
Beatty Arsenic PER	5/3/06	\$51,850.00	Farr West	Jim Weeks		Water samples have been taken to get additional data on water quality. Arsenic treatment system vendors have been contacted in order to determine the feasibility of pilot testing. A bench test was run on the water and results are pending. Well EW4 is back on line and pilot testing at this well is expected to begin in the spring of 2008. No further updates have been received.
Yerington Arsenic PER	5/3/06	\$47,600.00	Farr West	Dan Newell		Sampling of 4 city wells was completed. Pilot testing began in April 2007 and complete. The pilot testing included pH adjustments and a media switch to determine effects on arsenic removal. Staff is awaiting copies of the final PER. It does not appear that Yerington will seek state grant funding for the construction of arsenic treatment facilities. No further updates have been received.
Pershing Co Water Conservation District	5/3/06 9/20/07	\$3,956,282.50 \$3,663,021.45	Farr West & Dyer Engineering	Bennie Hodges	Feb-08	The Board awarded additional grant funding at the Sept 2007 Board meeting for the construction of a new Rogers Dam. The dam construction started in Nov 2007 and is being done by Q&D Construction. Cash flow issues due to the lack of grant reimbursement funding may result in late penalties from the contractor; however, work is continuing.
Kingston GID	5/3/06	\$2,726,309.70	Day Engineering	Shannon Thiss Dean Day	Oct-07	The pipeline and appurtenances are now complete and on-line. Problems with the new service interconnections resulted in a need to rework 72 service lines. This work is due to be completed as soon as the ground thaws. A final project walk-through and close out is will follow this rework.
Pershing Co for the Town of Imlay	8/23/06	\$563,993.96	Farr West	Celeste Hamilton	Jul-06	Engineering design has been approved by the BSDW. NDOT permitting is complete. A pre-bid conference occurred on 2/28/08 with bids scheduled for opening on 3/20/08. Some items necessary for well improvements identified on the July 2007 sanitary survey will also be addressed.  Although NDEP sent a request for a renewal letter as required by NAC, Pershing County did not send in a renewal request to keep Imlay on the Priority List. Being on the priority list is a requirement for grant funding consideration per NAC 349.475 1. (c).
Stagecoach GID	8/23/06	\$2,210,089.19	Nichols Consulting	Lynn Arndell	Jan-08	A final project walk-through occurred on 1/29/08. The new tank and transmission line are on-line. Final pay requests are still pending the State Treasurer's Office sale of bonds.

# PROGRESS REPORT ON OPEN PROJECTS

March 2008

GRANTEE	DATE APPROVED	GRANT AMOUNT	ENGINEER	OWNER'S REPRESENTATIVE	LAST STAFF SITE VISIT	PROGRESS
LVVWD for Searchlight	8/23/06	\$2,536,522.34	LVVWD	Shweta Bhatnagar	Aug-07	All four exploratory wells are now complete to 1000-ft. Results of the air-lift testing are being analyzed to determine which two wells will become production wells to replace S1 and S2. The remaining two holes will become monitoring wells. An approved EA was required by the BLM prior to exploratory drilling and another EA is now required by the BLM for construction of production wells, pipeline, and appurtenances. With long approval time from the BLM, construction of the new production wells is not expected to begin until approximately December 2008 or later.
Gabbs PER	3/14/07	\$25,925.00	Day Engineering	Samson Yao		Blending of new source water is thought to be a possible method to eliminate the fluoride issues and avoid treatment. Two wells were pump tested to determine potential water quantity and quality. The well at the airport could not be pumped.  Although NDEP sent a request for a renewal letter as required by NAC, Nye County did not send in a renewal request to keep Gabbs on the Priority List. Being on the priority list is a requirement for grant funding consideration per NAC 349.475 1. (c).
Topaz Ranch Estates	3/14/07	\$1,471,452.01	TEC	Bill Maher		Engineering design for the new well and pipeline are in progress.  Although NDEP sent a request for a renewal letter as required by NAC, Topaz Ranch Estates did not send in a renewal request to remain on the Priority List. Being on the priority list is a requirement for grant funding consideration per NAC 349.475 1. (c).
Lyon Co Utilities for Crystal Clear	9/20/07	\$2,663,635.00	Farr West	Mike Workman	Oct-07	Design is in progress. The BLM permit has been obtained and the NDOT permit is in process. Two private easements are still required along Hwy 95A. The engineer is breaking the design into sections: 1) Hwy 95A alignment, 2) Fox Lane alignment, 3) storage tank, and 4) distribution main and work within the service boundary.
Lovelock Meadows	12/13/07	\$3,000,000.00	Farr West	Ryan Collins		The Phase 2 project was approved by the Board on December 13, 2007.  Although NDEP sent a request for a renewal letter as required by NAC, Lovelock Meadows Water District did not send in a renewal request to remain on the Priority List. Being on the priority list is a requirement for grant funding consideration per NAC 349.475 1. (c).
Moapa Valley	12/13/07	\$4,000,000.00	Bowen Collins	Brad Huza	Mar-08	Design was approved by the BSDW and construction bidding was completed with Wisser Construction being awarded the contract. Bids came in approximately \$800,000 under engineering estimates.

## Appendix 9: SB62 Financial & Project Summaries

**BOARD FOR FINANCING WATER PROJECTS  
SB62 FINANCIAL SUMMARY**

PROJECT NAME	GRANT AMOUNT	GRANT USED	GRANT REMAINING
Central NV Regional Water Auth.	150,000.00	68,709.69	81,290.31
Churchill County	36,500.00	36,500.00	
Esmeralda County	16,245.85	16,245.85	
Eureka County	120,000.00	60,000.00	60,000.00
City of Fernley	38,680.59	24,671.25	14,009.34
Gerlach GID	92,833.42	32,761.62	60,071.80
Humboldt River Basin Water Auth.	120,000.00	111,439.17	8,560.83
LVVWD - Kyle Canyon	27,184.72	19,168.71	8,016.01
LVVWD - Searchlight	150,000.00		150,000.00
Topaz Ranch Estate GID	5,221.88		5,221.88
Town of Tonopah	11,250.00	9,954.02	1,295.98
Virgin Valley Water District	116,041.77	67,013.35	49,028.42
White Pine County	116,041.77	104,992.00	11,049.77
<b>TOTALS</b>	<b>1,000,000.00</b>	<b>551,455.66</b>	<b>448,544.34</b>

**SB62 Program Summary - Inception to present**

Total Grant Funds	1,000,000.00
FY 06 Expenditures	45,888.68
FY 07 Expenditures	398,263.00
FY 08 Expenditures	80,090.74
Total Grant Funds Used	524,242.42
Remaining Authority	475,757.58

**Budget Account 3175 - Summary of FY08 Activity through**

03/07/08

Beginning Cash	300,000.00
Balance Forward	255,848.00
Total Receipts / Funding Available	555,848.00
Total Payments to Grantees to Date	80,090.74
Current Funds Available for Grants	475,757.26

**SB 62 PROJECT REPORT**  
March 2008

Project	Grant Amount	Project Summary
Humboldt River Basin Water Authority	\$120,000.00	<p>Assemble existing information into a water resources database in support of threats to water rights. Develop recommendations for collection of additional necessary data. Develop a public information program. Deliver a summary report for each county describing available forecast of economic/demographic conditions and related water.</p> <p>Progress Report, August 2007: The Authority submitted a report entitled “Forecasting Water Demand in the Humboldt River Basin: Capabilities and Constraints.” This report is on file with NDEP. Staff is awaiting receipt of access to the water resources database.</p>
Esmeralda County	\$16,245.85	<p>The project was planned to conduct a physical reconnaissance of the County’s present water uses and existing water rights and develop a strategy to enhance and protect the County’s water rights to ensure present and future water demands can be met as well as preparing a Water Rights Management Plan. All water rights identified in four hydrographic basins were reviewed. A field reconnaissance trip was conducted with the State Engineers office to physically site in the locations for the point of diversion for water rights and ascertain the manner by which the appropriated water is being exercised.</p> <p>Progress Report, June 2007: The Esmeralda County Water Rights Plan is complete and available electronically on NDEP’s website at <a href="http://ndep.nv.gov/bffwp/esmeralda%20county_sb62.htm">http://ndep.nv.gov/bffwp/esmeralda%20county_sb62.htm</a> (contact: Michelle Stamates at 775.687.9331 or <a href="mailto:mstamate@ndep.nv.gov">mstamate@ndep.nv.gov</a>).</p>
Town of Tonopah	\$11,250.00	<p>Assemble all active surface and groundwater rights for Ralston Valley Hydrographic Basin No. 141, Big Smokey – Tonopah Flat Hydrographic Basin No. 137, and Alkali Spring Valley Hydrographic Basin No. 142.</p> <p>Progress Report, Dec 2007: The water rights inventory is now complete. Staff is awaiting the final map. This information will then be made available on NDEP’s website.</p>
Churchill County	\$36,500.00	<p>Update of the County’s Water Resources Plan for surface and groundwater resources. Review of all county records relating to water resource requirements, both existing and projected. Update of the water resource ownership in the County.</p> <p>Progress Report, June 2007: The Churchill County Water Resources Plan update is complete and available on the County’s website at <a href="http://www.churchillcounty.org/planning/waterplan.php">http://www.churchillcounty.org/planning/waterplan.php</a> and is linked to NDEP’s website at <a href="http://ndep.nv.gov/bffwp/sb62.htm">http://ndep.nv.gov/bffwp/sb62.htm</a> (contact: Michelle Stamates at 775.687.9331 or <a href="mailto:mstamate@ndep.nv.gov">mstamate@ndep.nv.gov</a>).</p>
Eureka County	\$120,000.00	<p>Compile and develop a database of existing water-level data and supporting hydrologic information as the basis for developing a baseline of water-level measurements for Nevada’s Central Hydrographic Region. Create maps showing a spatial distribution of existing water level data.</p> <p>Progress Report, Jan 2008: Awaiting final deliverables prior to making final payment. It appears that the project scope has changed and staff is working with the County to review the changes and set new target dates.</p>

## SB 62 PROJECT REPORT

March 2008

Project	Grant Amount	Project Summary
Gerlach	\$92,833.42	<p>A database of spring flow and quality and a groundwater model will be developed to determine any changes that might result from the proposed development in the basin that might adversely affects the two springs (Garden and Railroad Springs) that provide water to Gerlach.</p> <p>Progress Report, December 2007: Data loggers &amp; flow meters were installed at both springs; Monitoring of water level and discharge rate from the springs is currently in progress and will be used in calibration of the groundwater model. Problems with the data collection have slowed the progress on this project.</p>
LVVWD – Kyle Canyon	\$27,184.72	<p>Install 100 Permalog units for the detection of subsurface leaks and acquisition of a Patroller unit for data collection. This system will allow operators to find and repair leaks, protecting millions of gallons of water previously lost to the system.</p> <p>Progress Report, January 2008: The leak detection units have been installed. Final project reports are being prepared to close out this project.</p>
City of Fernley	\$38,680.59	<p>Reconcile all past and future mapping difficulties by attempting to develop a new GIS map of all Truckee Diversion surface water rights within the City of Fernley.</p> <p>Progress Report, June 2007: Data on all deeds relating to water rights transfers to the City of Fernley have been obtained and included in a database. Initial mapping of both sections 10 and 13 are in progress.</p>
Virgin Valley Water District	\$116,041.77	<p>Analyze water quality information from throughout the watershed region to develop a conceptual model of groundwater flow, mixing and hydrologic connection through naturally occurring chemical tracers, and develop a steady-state representation of the predevelopment conditions of the regional groundwater flow systems utilizing modifications of previous models to develop a comprehensive numerical model.</p> <p>Progress Report, March 2008: the District submitted documents for review by staff along with a final pay request. Review is currently in progress.</p>
White Pine County	\$116,041.77	<p>Update information (including: hydrogeologic framework, groundwater hydrology, and regional groundwater flow system) on County’s water resources and update the Water Resources Plan to assist in identifying potential water use and needs based on scenarios for growth and development.</p> <p>Progress Report, January 2008: White Pine County’s Water Resources Plan is complete and available at the NDEP offices in Carson City. This document will also be made available electronically on NDEP’s website (contact: Michelle Stamates at 775.687.9331 or <a href="mailto:mstamate@ndep.nv.gov">mstamate@ndep.nv.gov</a>). The County is adding GIS capability in order to maintain and update information as it becomes available.</p>

## SB 62 PROJECT REPORT

March 2008

Project	Grant Amount	Project Summary
LVVWD – Searchlight	\$150,000.00	<p>Drill and develop 4 new monitoring wells to better understand the groundwater resource and groundwater quality in Paiute Valley and the Eldorado Valley Basins. One of the 4 wells will be funded by this grant.</p> <p>Progress Report, Dec 2007: LVVWD evaluated monitoring well locations in Piute Valley and drilled 4 exploratory wells in 2007. An Environmental Assessment for the monitoring well project is in progress and should be submitted by February 2008. Approval of the EA and granting of ROW by the BLM is expected by September 2008. Bidding for the drilling project is expected to be completed by September 2008. The site chosen for this monitoring well is approximately 2 miles south of Searchlight’s primary production well, Well S-2. The monitoring wells is now scheduled for completion by April 2009.</p>
Topaz Ranch Estates	\$5221.88	<p>Identification and mapping of proposed point of use/place of diversion for the existing 9 water rights permits.</p> <p>Progress Report, September 2007: The GID was awaiting final easement on the new well to begin this project. The easement was finalized in August 2007.</p>
Central Nevada Regional Water Authority	\$150,000.00	<p>Compile and document the baseline information required to determine long-term changes in groundwater levels in the Central Hydrographic Region (including: Churchill, Elko, Esmeralda, Eureka, Lander, Nye, &amp; White Pine counties) in order to evaluate the sustainability of present groundwater supplies secured under existing water rights, analyze the impacts of future development, and support future actions by local governments.</p> <p>Progress Report, April 2007: Completed to date: 1) a spreadsheet containing water-level data, supporting database attributes and data-quality information; 2) maps showing spatial distribution of water-level data; and 3) analysis of data gaps.</p> <p>Progress Report, December 2007: The summary report that documents methods and findings and identifies areas needing additional new water-level measurements was generated and the website that will host the information and maps is in the final implementation stages with the Nevada Division of Water Resources. When this site becomes active, NDEP will include a copy of the summary report and a link to this site on its webpage.</p>

## Appendix 10: Draft Policy on Funding Levels for Irrigation Projects

<p>BOARD FOR FINANCING WATER PROJECTS</p> <p>PROPOSED POLICY</p>	<p>DATE</p> <p>3/20/08</p>	<p>PAGE</p> <p>Page 1 of 3</p>
<p>SUBJECT: FUNDING LEVEL FOR IRRIGATION PROJECTS</p>		

**STATEMENT OF POLICY:**

It is the policy of the Board for Financing Water Projects to provide a reasonable level of support for water conservation projects associated with irrigated agriculture, recognizing both the important economic role of agriculture in rural Nevada communities and other competing needs for available funds.

**PURPOSE:**

To establish a policy for determining the amount of grant funds the Board for Financing Water Projects can award for irrigation projects and a reasonable level of required matching funds.

**REFERENCE:**

NRS 349.981 1(b) provides that water conservation improvements related to irrigation systems are eligible to receive grant funds awarded by the Board for Financing Water Projects. Eligibility for these water conservation projects was included in AB 237, adopted by the 1999 Nevada Legislature. This bill also increased the bonding authority for the grants program from \$40 million to \$50 million. NRS 349.381 2 gives the Board sole discretion of who is to receive a grant.

**BOARD POLICY:**

1. It is the policy of the Board to give preference to grant applications for projects necessary to comply with safe drinking water regulations over those applications for other purposes including water conservation projects related to irrigation systems. In addition, Board staff are directed to give similar preference when budgeting projected biennial bond fund needs in the event staff are asked by the Department of Administration or State Treasurer to reduce AB198 projected bond fund needs due to other competing needs for State capital.
2. The Board may fund up to 85% of eligible project costs for irrigation projects deemed eligible for grant funding pursuant to NRS 349.981 when the applicant has shown they are unable to fund the project or obtain alternate funding from other sources. The following scale shall be used to determine the grant scale and amount of local match:

BOARD FOR FINANCING WATER PROJECTS	DATE	PAGE
PROPOSED POLICY	3/20/08	Page 2 of 3
SUBJECT: FUNDING LEVEL FOR IRRIGATION PROJECTS		

	POINTS	MAX PTS
<u>I. Water Conservation.</u>		
A. Project will improve the efficiency of the overall irrigation system through:		
1. piping or lining of irrigation canals;	5	5
2. recovery or recycling of wastewater or tailwater;	5	5
3. measurement or metering of the use of water;	5	5
4. improvements in irrigation system operations.	5	5
B. Project will conserve water and contribute to downstream uses and users.	5	5
C. Impact of the conservation project on groundwater recharge has been evaluated.	5	5
<u>II. Finance and Planning.</u>		
A. Applicant has implemented a facility maintenance plan;	5	5
B. Applicant has developed a long term capital improvement plan;	5	5
C. User fees support a reasonable capital reserve fund.	10	10
<u>III. System Capacity and Economic Benefit.</u>		
A. Number of system users:		
more than 250	5	5
100 to 250	3	
10 to 100	1	
B. Irrigated acreage:		
more than 40,000 acres	5	5
10,000 to 40,000 acres	3	
less than 10,000 acres	1	
C. Storage capacity:		
more than 50,000 ac-ft	5	5
10,000 to 50,000 ac-ft	3	
less than 10,000 ac-ft	1	
D. Economic benefit:		
Project results in availability of new water resource	5	5
Project restores irrigation storage and diversion systems	3	
Project maintains existing irrigation systems	1	

BOARD FOR FINANCING WATER PROJECTS	DATE	PAGE
PROPOSED POLICY	3/20/08	Page 3 of 3
SUBJECT: FUNDING LEVEL FOR IRRIGATION PROJECTS		

<u>IV. Other benefits of the system and/or project.</u>		
A. Improves flood control for downstream population centers	10	10
B. Provides significant recreational opportunities	10	10
C. Enhances tourism	5	5
V. <u>Board evaluation of project value and need.</u>	5	5
VI. <u>Deductions.</u>		
A. Applicant did not perform adequately on prior grant project as demonstrated by preventable project delays and cost over-runs.	-20	
B. Applicant failed to submit required financial and progress reports for prior grant project.	-10	
	MAX. PTS	100

**MAXIMUM POINTS ARE 100**  
**MAXIMUM GRANT AMOUNT IS 85% OF ELIGIBLE PROJECT COSTS**

Number of points \_\_\_\_\_ /3.58 = \_\_\_\_\_ + 57.1 = Grant Percent \_\_\_\_\_ %

**Grant Amount** = \_\_\_\_% x eligible project costs of \$ \_\_\_\_\_ = a grant of \$ \_\_\_\_\_

Eligible Project Costs of \$ \_\_\_\_\_ less the grant amount of \$ \_\_\_\_\_ =

the amount of matching money required from other sources, \$ \_\_\_\_\_

## Appendix 11: Policy on Alternative Funding

BOARD FOR FINANCING WATER PROJECTS	EFFECTIVE DATE	PAGE
POLICY	03/20/08	Page 1 of 1
SUBJECT: ALTERNATIVE FUNDING		

STATEMENT OF POLICY:

It is the policy of the Board to require grant applicants to seek alternative funding before submitting applications for grant funding.

**Deleted:** The Policy on Alternative Funding was implemented at the July 20, 2004 Board for Financing Water Projects Public Meeting.

PURPOSE:

To establish a protocol under which the Water Conservation or Capital Improvement Grants can be awarded.

BOARD POLICY:

1. It is the intent of the Board for Financing Water Projects to be the last funding source from which a water utility receives funding.
2. Regardless of any other grants a water utility may have received, the water utility must attempt to obtain a loan from the Drinking Water State Revolving Fund, the U.S. Department of Agriculture, Rural Development and/or other loan sources for the maximum amount possible that will not cause an increase in water rates to exceed those prescribed in the Board's policy on Reasonable Water Rates.
3. If a water utility is unable to finance or fund any portion of the capital improvement, a grant applicant, in accordance with NAC 349.475.2(h), must provide evidence of its inability in the application requesting a letter of intent from the Board for Financing Water Projects. The evidence must include a reasoned statement as to why the water utility is unable to fund or finance the project AND other documentation indicating its inability to fund or finance the project, including one or more of the following, but not limited to:
  - a. Letters from lending institutions indicating denial and reasons for the denial
  - b. Letters from financial advisers, accountants or fiscal agents justifying the water utility's inability to fund or finance the capital improvement.
4. This policy on alternative funding does not apply to a grant for an engineering study.

**Deleted:** 1.5% of the median household income.

**Deleted:** <#>The median household income shall be determined using data from the latest U.S. Census data unless data from an approved income survey is available.¶

**Formatted:** Bullets and Numbering

**Formatted:** Bullets and Numbering