ORIGINAL

ADEQ Arizona Department of Environmental Quality

Water Quality Improvement Grant Program
Grant Agreement EV10-0051 (12-005)

Project Title: *E. coli* Reduction on the San Francisco River through Alternative Livestock Water on Kaler Ranch Phase II
Expiration Date: June 30 2012
Dollars Matched: $74,274.00
Dollars Awarded: $100,246.00

Between
Arizona Department of Environmental Quality
and
The Gila Watershed Partnership of Arizona

This Grant Agreement is established between the State of Arizona Department of Environmental Quality, located at 1110 West Washington Street, Phoenix, Arizona 85007 ("ADEQ" or "Department") pursuant to Arizona Revised Statues (A.R.S.) § 41-2701 et. seq. and A.R.S. § 49-104 and ("Grantee"). This Grant Agreement includes the attachments listed below. Incorporated by reference, this Grant Agreement also includes the ADEQ Water Quality Improvement Grant Program Request for Grant Applications (EV10-0051).

Attachment 1: Grant Application

Attachment 2: Water Quality Improvement Grant Agreement Terms and Conditions

Attachment 3: Additional Reporting Requirements

Special Conditions

1. Photo-monitoring as outlined in the scope of work shall be sufficient to satisfy monitoring needs associated with this grant. Grantee shall submit a revised scope of work and budget removing the project tasks, costs, and monitoring plans associated with *E. coli* monitoring. Grantee shall consult with ADEQ to determine the reallocation of these associated costs.
2. Grantee shall submit a revised schedule of milestones with updated task completion dates.
3. The Grant Agreement shall be modified only through a Grant Agreement Amendment. Unauthorized changes to this Grant Agreement shall be void and without effect, and the Grantee shall not be entitled to any claim under this Grant Agreement based on those changes.
4. Grantee shall report additional project information to ADEQ as outlined in Attachment 3: Additional Reporting Requirements.
5. Grantee shall coordinate with ADEQ to determine load reduction data annually and in the final report of the project for any nitrogen, phosphorus, or sediment load reductions associated with this grant. See Attachment 3 for additional information.
6. All applicable permits and certification must be obtained prior to beginning work on this project.
7. Grantee shall obtain ADEQ approval on all information pertaining to this project that is used as promotional or educational materials, including but not limited to, Web site information, brochures, signage, etc.

ORIGINAL #5

Watershed-scale NPS Grant Final Application

Arizona Department of Environmental Quality
Water Quality Improvement Grant Program
Grant Application Form

Project Description - Watershed area and pollutants of concern.

Our project, **E.coli Reduction on the San Francisco River through Alternative Livestock Water on Kaler Ranch, Phase II,** will reduce the E.coli levels in the San Francisco River, which is listed as impaired for E.coli on the EPA's 303(d) list.

Our watershed, the Upper Gila Watershed of Arizona, is impaired for E.coli in both the San Francisco and the Gila Rivers, and impaired for suspended sediment in the Gila River. We intend to address these impairments in a strategic manner until our water is clean and safe. This project will give us the third well in a series of four, which, when completed, will allow for the complete removal of livestock from the San Francisco River on the Kaler Ranch.

We know that the Kaler Ranch is probably a significant contributor to the E.coli problem, as the Kaler livestock water year-round in the riparian area of the San Francisco River. The Kaler Family has water rights that give them the legal right to do so. The landowner would water their cattle in away from the river; however, no other water sources are available. Through a long education process, the Kalers have agreed to exclude their cattle permanently from the riparian area when they have enough watering capacity by means of solar wells. By locating the wells away from the river, the ranch will have better distribution of their cattle, allowing for better grazing of the BLM, state land, and private land, and the E.coli will be reduced in the San Francisco River.

We have one well ready to be installed on the Kaler's private land with an ADEQ grant matched by an Arizona Department of Agriculture Grant. We have a second Arizona Department of Agriculture Grant that is intended to install a second well that is awaiting completion of the environmental clearance from the BLM. This grant would provide funding for well number three.

We are currently implementing a WIP on the San Francisco and Blue Rivers. We will be prioritizing projects for implementation in the second phase of the grant. We could wait until that time to write this grant and submit it for funding. However, we believe that even though we do not have the data to prove that the Kaler livestock are a contributing cause of the E.coli exceedance, we have sufficient evidence that has convinced us of what the monitoring will show. In light of the state's budget reductions, we are worried that we will not have funding available to address this issue in the future.

In our pre-application, we were told that we should seek funding through another agency for this grant. There simply is no other funding available. The Arizona Water Protection Fund has had all of their grant funds swept by the state, and both they and the Arizona Department of Agriculture Livestock and Crop Conservation Program have been told that there would be no new funding for the foreseeable future. If ADEQ has funding available this cycle, I urge you to fund this project, as funding may be more scarce in the future, and there will certainly be more competition for your funding .

Authorizing Agency - Name of person, agency, company, tribal authority who is applying for the grant.	**Authorized Agency Contact** – Person who will accept responsibility for the terms and conditions of the Grant Agreement. This person must sign the signature page.
Name: The Gila Watershed Partnership of Arizona **Address: 711 South 14th Avenue** **Safford, Arizona 85546**	**Name: Jan Holder** **Title: Executive Director** **Phone: 520-395-2499** **E-mail: watershedholder@yahoo.com** **Fax: 520-829-3660**

Application Content

I. Desired Outcomes

State the outcomes associated with each phase of this project.

With this project, the desired outcome is the reduction of E.coli in the San Francisco River. We will do this by drilling a well and adding solar equipment and pipes, tanks and a trough to water the Kaler livestock. This will result in the exclusion of the Kaler Ranch livestock for three-fourths of the year, from the riparian area of the San Francisco River. This means that three-fourths of the current amount of livestock fecal material from the Kaler livestock will be eliminated.

II. Pollutants of Concern

a. What is/are the pollutant/s of concern for this project? Are there any known or suspected sources? If so, reference supporting documents (TMDL reports, etc.).

The pollutants of concern are E.coli and suspended sediment. There is considerable evidence (fecal material, livestock tracks, etc.) that the Kaler livestock is causing a portion of both the E.coli and suspended sediment issue. In addition, The San Francisco River is listed in the EPA's 303(d) list for E.coli, and the TMDL reports for the San Francisco River suggest that the Kaler Ranch is a contributing factor.

b. Will this project be able to provide load reduction data?

Yes. We have documentation through our partnership with the Kaler's land management agency – the Bureau of Land Management, to the number and duration of livestock watering in the riparian area of the river. The BLM has been working with the Kaler family to develop a Coordinated Ranch Management Plan, which carefully prescribes the livestock moves through the pastures. Therefore, with the BLM monitoring staff and the assistance of NEMO, we can provide accurate load reduction data on the project

III. Background Information

Provide some background information about the project, including what is already known about the nonpoint source issues in the watershed, and what past work the project is building on. Reference previous projects (WQIG and other), data, monitoring, or planning that has been done to address the nonpoint source issue of concern.

In 2002, the Gila Watershed Partnership began working with Lois and Richard Kaler to address numerous issues in the San Francisco River within the boundaries of their private property or adjacent grazing leases. The Kaler Ranch has been the location of numerous grant projects. We supported the Kalers in a NRCS grant to level his fields adjacent to the river to reduce the amount of livestock waste reaching the river. We completed an ADEQ grant in 2006 that addressed a portion of the erosion caused by huge culverts. We completed another ADEQ grant, matched by Arizona Water Protection Fund and Arizona Department of Agriculture grants to address the remaining culverts We are currently working on an ADEQ grant for one well to remove the Kaler livestock from the riparian area, which is matched by an ADA grant.

These past grants have made dramatic improvements in the riparian area in and surrounding the Kaler Ranch. Along with the effort the Kalers make to police the recreational users on the river, the river corridor improvements are obvious. We planted an extensive section of the riparian area that is thriving, even in the recent heavy rains.

In this project, we intend to test for E.coli and determine the impact the Kaler livestock are still having on the river.

The BLM has spent countless hours evaluating the Kaler ranch. The Coordinated Ranch Management Plan includes the Kaler's private land and the BLM, Freeport Mac Mo Ran lease and the state land lease. In addition, a Biological Evaluation is in the draft stage, and will be

sent to the U.S. Fish and Wildlife Service (Mark Crites in the USFW Tucson office is the biologist assigned to the project) as soon as the BLM can complete the Proper Functioning Condition Evaluation. Attached is a copy of the draft BE.

IV. Location and Land Ownership

City/Town: Clifton

County: Greenlee

Greater Watershed--8 digit Hydrologic Unit Code (HUC): 15040004

Land Ownership: BLM

Provide documentation of landowner permission and support for all landowners within the project area.

See letters of support from the Bureau of Land Management and the landowners Richard and Lois Kaler.

V. Scope and Scale of the Watershed

a. Define the scope and scale of the watershed that your project will be addressing. Include a map that clearly shows the boundaries of the watershed of concern, and its location in relation to known water quality impairments as well as the greater watershed.

The Upper Gila Watershed of Arizona is comprised of that part of the Upper Gila River watershed from Coolidge Dam to the Arizona-New Mexico border. The watershed covers about 6,000 square miles, of which 17 percent is privately owned and the remainder is under the stewardship of state, federal and tribal governments. Mining, ranching, agriculture and recreation are the principle industries of the Upper Gila Watershed. These activities provide economic resources for the region and are potential sources of environmental concern.

The watershed of the Gila River has wide, flat valleys between narrow, rugged mountain ranges. Climate above 7000 feet ranges from cool to sub-humid, and annual precipitation is up to 20 inches. Vegetation is dominated by Ponderosa pine and pinion/juniper. The valleys below are arid with average annual precipitation of 9.5 inches. Vegetation is primarily desert scrub or desert grassland type. Most rain is received from summer thunderstorms resulting in heavy, localized runoff. Winter rains are generally gentle but can result in heavy runoff after the soil become saturated.

The valleys of the Gila River and its principle tributaries are made up of alluvial materials up to several thousand feet thick. A coarse, highly permeable aquifer of about 100 feet thickness is found under and along the river itself. Underlying this recent alluvium is a finer grained material with locally concentrated salt deposits. Natural subsurface flow through the aquifer systems transmits salts to the Gila River consequently increasing both salt load and salinity; such flow is a major non-point source pollutant.

The population of the watershed is above 40,000 persons with about 50% residing in the city of Safford. Other major towns in the GWP watershed are Duncan, Thatcher, and Pima. Additionally, Bylas and San Carlos are the principle towns on the San Carlos Apache Reservation.

Impairments in the watershed include E.coli – on the San Francisco and Blue Rivers, and the Gila River, Selenium, on the Gila River, and suspended sediment on the Gila River.

The water body that will be affected is the San Francisco River. See Attached watershed and project maps.

b. Provide the HUC associated with the project area. Projects should ideally focus on 10 or 12 digit HUCs, although slightly larger or smaller drainages may be feasible dependent upon the project.

1504000409 Chase Creek San Francisco

VI. Scope of Work

a. Describe the overall approach that will be taken to complete this project.

This well will be located in an area of the ranch on BLM property that has no livestock water, and has no road. It is currently only accessible by horse or all-terrain vehicle. We will first level and grade a road (which is four miles long and very rock and remote) to the well for the construction and permanent access to the well and tank and troughs. This is being done by the landowner as a match. The well area will be leveled. Then, we will bring in a well drilling company, to drill the well, and add solar components, which are necessary because of the remote location.

The land where the tank and troughs will be leveled and a rock crew will build a large storage tank, and a trough. Then everything will be completed with pipe and fittings.

b. Does this project propose activities that are specifically recommended by a TMDL/TIP or other approved watershed based plan? If so, please identify the plan and recommendation. ***Plans not prepared by ADEQ must be submitted with the application for review. Applicant must site specifically which component of the plan supports their project***

This project proposes installing alternative livestock watering facilities. This activity is specifically recommended on page 7-14 of Section 7: Watershed Management section of the Arizona NEMO Upper Gila Watershed watershed-based plan.

c. What permits, if any, will need to be obtained in order to complete this project?

We have been working with the Bureau of Land Management to complete a Coordinated Ranch Management plan for the Kaler Ranch. The livestock grazing schedule portion has been completed and the entire document will be completed soon. In addition, the BLM must complete a biological evaluation for the project. The BLM's personnel, Range Conservationist Dave Arthun, Hydrologist Chris Morris, and Biologist Tim Goodman have spent hundreds of hours on the biological evaluation. The recent rain has prohibited them from completing the final two days of field survey work necessary to complete the plan. The grazing portion of the Coordinated Ranch Management Plan and the draft of the Biological Evaluation are attached.

VII. Methods

a. Describe the methods that will be used to survey the watershed to determine critical sites for implementation. Include methods for:

- Preliminary field modeling
- Actual physical surveys
- Social/educational needs surveys
- Pre- and post-implementation monitoring
- Data analysis

- Preliminary field modeling – No actual modeling has been done in determining implementation sites.
- Actual physical surveys - The BLM is in the final stages of a Coordinated Resource management plan that has been prepared in cooperation with the Natural Resource Conservation Service. This plan takes into consideration the Kalers private Land, along with their BLM leased land, a state land lease and a lease from the Freeport MacMoRan Mining Company. The plan determines the condition of the land and the suitability of the land for livestock grazing. The grazing plan recommendation portion of

the plan is complete, and a copy is attached. In addition, the BLM's biological evaluation includes the surveys of the river, the uplands and the vegetation and fish and wildlife affected by the grant. Their opinion is that the project will benefit the river, the vegetation, and the fish and wildlife present in the area. In addition, they worked with the landowner to determine the optimum location for the wells, taking into consideration the permittee's needs and the requirements of the BLM and USFW.

- Social/educational needs surveys – We have spent considerable time already determining that the livestock producers in Greenlee County need education on the E.coli problem. We have been working on their education for years, yet many ranchers still do not believe that there is an E.coli problem. We've heard that some folks believe any E.coli is removed (or destroyed) in swiftly-flowing water. We've heard that ADEQ is making up the E.coli problem to drive ranchers off their land, and we've heard that E.coli actually doesn't hurt you. We need to educate the ranching community – and that needs to be done by the Kalers through the Cattle Growers Association.
- Pre- and post-implementation monitoring – We will be setting up photo-monitoring points at strategic locations along the riparian area of the San Francisco River, and monitoring before and after the 9 month exclusion period to assure that no cattle are present in the area. With the completion of this project, we will have a total of three wells completed for the Kaler Ranch. We will be able to exclude his cattle 75% of the time from the riparian area.
- Data analysis – We will be working with NEMO to develop a load reduction analysis.

b. Provide an Abbreviated Monitoring Plan. See RFGA Appendix F for the Abbreviated Monitoring Plan outline. Grantees will be required to work with ADEQ to complete a detailed monitoring plan for the project post-award.

Abbreviated Monitoring Plan Components

1. Background and monitoring objectives
   a. Pollutant(s) of concern – E.coli
   b. What the monitoring should be able to demonstrate – The monitoring plan should demonstrate a 25% reduction of fecal material in the riparian area, as well as
   c. General methods of data analyses, such as:
      i. Before/after photos at "key sites" will be used to determine the reduction of fecal material in the riparian area.
      ii. Sampling for E.coli will be performed before and after the project to determine the success of the project. The samples will be tested at the Greenlee County laboratory.
2. Parameters and measurements
   a. List of laboratory and field measurements to be collected. This will consist of measurements to support scientific analysis of *Bacteroides* and *E. coli* samples, including flow, turbidity, temperature and pH.
   b. Describe why each group of parameters was chosen. These were chosen to conform to the monitoring protocols developed in the SAP/QAPP developed in the E.coli Targeted Watershed project
3. Sites
   a. Criteria to select sites
      i. Use of *key sites* where deterioration is apparent and progress can be measured – The key sites will include: a site directly below the Kaler Ranch, and a control site, above the Kaler Ranch
      ii. Access issues There should be no access issues on the Kaler Ranch, with the

exception of heavy snow or rainy periods.

iii. Flow conditions that affect site selection The San Francisco River is dangerous during high flow, and we will not monitor during these times.

iv. Past exceedances of surface water standards There have been exceedances for E.coli directly below the Kaler Ranch, which is why we have chosen that location for sampling.

b. Map of area – see attached map.

4. Schedule

a. Criteria for determining when monitoring will occur, such as:

i. Estimated time for the project to improve water quality –We expect the project to improve water as soon as the project is complete, with the improvement increasing after a significant rainfall event.

ii. We will conduct our monitoring, both photo monitoring and E.coli sampling, before the well drilling has begun, again at the end of one year, and at the end of the two year grant. However, we will have to work around any significant rainfall event where the velocity makes it dangerous to sample.

5. Protocols, Equipment, and Training

a. Protocol to be used for collecting data - We will be using the monitoring protocols developed under the E.coli on the San Francisco River project.

b. Equipment and resources required, including needs. We need field equipment to take samples, as well as access to a lab to test our samples.

c. Describe resources and support already available – Since we already have a fully-operational laboratory in Greenlee County, we will be utilizing the lab, the field equipment and training intelligence that was developed under the E.coli on the San Francisco River project. We will need to purchase additional E.coli sampling supplies, as the existing supplies purchased for the E.coli grant may be insufficient for this grant.

VIII. Education and Outreach

Describe the education and outreach component of this project. How will the public be educated about nonpoint source pollution? What are the desired outcomes and behavioral changes associated with education and outreach? How will this component of the project be measured for effectiveness?

The permittee, with the support of the GWP and the Bureau of Land Management, have agreed to make a presentation about the project and non-source pollution for the cattle growers association and local landowners. This will be presented at a field day that will include a tour and a presentation about the project. We will invite ADEQ representatives to be present and talk about the project's objectives and outcomes to the community. The desired outcomes of the project will be a reduction of livestock in the riparian areas of the San Francisco and Blue Rivers and a reduction in the E.coli loading in the rivers. The measurement for behavior modification in this grant will be the same as the monitoring component – reduced levels of E.coli in the river.

IX. Community Involvement

How will the community be involved in each of the major aspects of the project? Who makes up the community (who are the landowners/managers and other stakeholders)? Explain how they will be brought into the process and how they will participate in each of the methods identified in Part IV above.

The "community" in this area consists mainly of the people who live along the river and the other livestock producers in the area. The Kalers and the GWP will educate these folks through a field day with a tour and a talk about the project. Usually, after hearing about what their neighbor is doing, the information is percolated slowly out among the area, and people will

stop by the ranch and want to see what the Kalers are up to and why. It's a slow process in rural areas.

X. Long-term Maintenance and Effectiveness Monitoring

Practices implemented in Phase II must be maintained. Who will do this? Who will take on effectiveness monitoring responsibilities, and take measures to change things that aren't working?

As this well is located on BLM land, the BLM makes the permittee responsible for the maintenance of improvements on their allotments. The BLM does an excellent job of assuring that the improvement are maintained in a satisfactory manner, and is active in monitoring their permittees to assure compliance to their agreements under their grazing lease agreement.

XI. Key Personnel and Partnerships

Describe the organization that is requesting funds as well as the key personnel and their expertise. Identify all partners including watershed groups, agencies, tribes, etc. and the duties they will be performing. Be sure to include personnel handling the following project aspects at a minimum:

a. Project manager *(Responsible for making sure that the project is progressing in accordance with the approved scope of work and milestones, submitting quarterly and final reporting as well as budget and reimbursement request documents to ADEQ, providing additional load reduction and project information upon request, and serving as the day-to-day contact person regarding the project)*

Jan Holder is the Executive Director of The Gila Watershed Partnership.
Ms. Holder will be administrating the grant, overseeing the project is progressing in accordance with the approved scope of work and milestones, submitting quarterly and final reporting as well as budget and reimbursement request documents to ADEQ, providing additional load reduction and project information upon request, and serving as the day-to-day contact person regarding the project.

b. BMP engineering/implementation expertise *(Responsibilities may include load reduction modeling, pre-implementation BMP design and site evaluation)*

We will be relying on the expertise of the NRCS, the BLM and the USFW Service for the technical expertise - BMP design and site evaluation - in this project. For the load reduction modeling expertise – we will ask for the assistance of NEMO.

c. Field surveying/monitoring expertise *(Responsibilities may include volunteer coordination, developing monitoring plan and survey form development, and data interpretation)*

New Hire - We intend to hire a new person for monitoring. Since our previous monitoring person, Dave Henson is too busy to take on any projects, he is making some recommendations, and we will be hiring a new monitoring person, who will be assisted by the landowner. We intend to work with NEMO to determine if there are any particular techniques we need to collect for our monitoring and modeling.

d. Education and Outreach Coordinator *(Responsibilities may include leading workshops, training project volunteers, and development of educational and outreach materials)*

Jan Holder will be working with the landowner and the BLM.

e. Other *(Please specify role and associated duties)*

Dick Kaler, the owner of the ranch, will be acting as site supervisor, and also providing his labor and a back hoe, caterpiller, tractor, and truck for leveling the site for the well digging equipment as an in-kind match. He will also be providing the match to pay for the cement and rock tank and trough labor and supplies, as well as giving them a place to stay. He will be taking the photos and recording the cattle in the riparian area. He will be helping in the education and outreach.

f. Qualifications

If individuals have not yet been identified to fill these positions, what qualifications will be used to determine who will fulfill these duties?

We will insure that any new hire has experience, and the qualifications necessary for that particular position. The executive director sends the resume and application of the prospective consultants or new hires to the executive board for approval.

XII. Conflict of Interest

What steps will be taken to ensure that hiring/personnel selection practices are carried out without the existence or appearance of bias? Provide a statement of policy for hiring if possible.

The Gila Watershed Partnership has a written conflict of interest policy in the GWPPolicy and Employment manual. A copy will be sent to you if the grant is awarded.

XIII. Smart Growth Scorecard

Is there a completed Smart Growth Scorecard for the municipality in which the project will take place? If so, please identify the community and Scorecard score below. If multiple completed Scorecards apply, the applicant may select the Scorecard with the highest score.

Greenlee County – In Progress

XIV. Work Plan Steps and Milestones

Develop a work plan with a series of steps and associated dates that are necessary to complete the plans. Each step must have a milestone that provides a description of what will be accomplished. A form is provided below. Pre-defined work plan steps identified in the form are mandatory and must be addressed.

WORK PLAN STEP	MILESTONE	DATE TO COMPLETE	ASSOCIATED COSTS
1. Sign contract in accordance with ADEQ's standards	Copy of signed contract	August 1, 2010	Grant: $0 Match: $0
2. Sign all other contracts and agreements	Copies of signed contracts	August 15, 2010	Grant: $0 Match: $0
3. Obtain permits, clearances, and authorizations.	Copies of all permits, clearances and authorizations	August 15, 2010	Grant: $0 Match: $0
4. Order equipment, materials and supplies	Receipts from equipment, materials and supplies	August 15, 2010	Grant: $61,196 Match: $0
5. Pre-project monitoring	Copies of monitoring report	September 15, 2011	Grant: $500 Match: $0
6. Road work and Site leveling	Photos of completed work and time sheets	October 31, 2010	Grant: $0 Match: $58,130
7. Drill well, and Install well casing and pump	Photos of well digging and construction, copies of receipts, narrative construction report	November 30, 2010	Grant: $31,614 Match: $0
8. Build rock tank and trough	Photos of completed work and time sheets	November 30, 2010	Grant: $0 Match: $14,150
9. Install solar Equipment, materials and supplies	Photos of solar installation, copies of receipts, narrative construction report	December 15, 2010	Grant: $54,382 Match: $0
10. Lay pipe from well to tank and troughs	Photos of pipe, copies of receipts, narrative construction report	January 15, 2011	Grant: $0 Match: $2,000
11. Periodic monitoring	Copies of E.coli data and photos	July 31, 2011	Grant: $2,000 Match: $0
12 Education and Outreach	Copies of outreach material, photos from the field day	July 31, 2011	Grant: $1,000 Match: $500

12. Quarterly reports	**Copies of Reports**	**Quarterly throughout grant period**	**Grant: $1,000 Match: $0**
13. Grant administration	**Grant administration in accordance with ADEQ's standards**	**Ongoing**	**Grant: $9,000 Match: $994**
14. Final Report	**Copy of the final report**	**August 31, 2011**	**Grant: $750 Match: $0**

XV. Budget Form & Narrative

There is no cap on the funding request per project; however, project costs should be reasonable and commensurate with project benefits. Use the following guidelines when developing your project budget:

XV.1. Budget Narrative

Identify how costs were determined, including comparative quotes used to determine costs or worth where applicable as well as sources of all project match (funding and in-kind). Adequate justification should be provided to show that the cost of implementing the project is reasonable for the benefits anticipated toward improving water quality.

We used quotes from a contractor known in the area to be effective and reasonable, and we reviewed the costs with either local BLM or NRCS personnel, or Donna Matthews from the Coronado RC&D.

The Gila Watershed Partnership is supplying the match on the admin, and the Kalers are supplying the match on the road equipment, fuel and labor, and the labor rock work for the trough and tank.

The costs, even though not inexpensive, bring us one step closer to complete exclusion of livestock from this section of the river. It's important.

XV.2. Budget Form

Develop a draft budget based on the anticipated costs for completing the project within the proposed time schedule. Budget sheet is provided below. Applicants are encouraged to provide as much detail as possible. You may add lines and cost categories as needed.

GRANT FUNDS REQUESTED (60% of total cost maximum)		
Line Item	**FUNDS**	**Additional Description and Comments**
Admin. Costs (10% maximum)		
	$9,000	
SUBTOTAL:	**$9,000**	
Salaries (Non-administrative)		
Well Driller	$6,750	Flat rate driller charges
Solar installer	$3,050	Flat rate solar installer quoted
SUBTOTAL:	**$9,800**	
Equipment		
Well Equipment:		
Drill Rig	$10,000	Drills the well
Water Truck	$3,000	Keeps heat down while drilling
Back Hoe	$1,000	To bring in equipment and level the well site
Crane Truck	$1,000	To move the pipe, and well casing, etc. in position
Solar Equipment:		
Submersible motor	$2,925	Goes in the well to control the solar system
Solar Modules	$28,370	These are the actual panels
Trackers	$9,765	These track the sun, as it moves through the sky, maximizing the amount of sun exposure
Mounting poles	$1,469	Takes the solar panels off the ground, so they can't get hurt.
Control system	$6,175	For the solar system
Fuse Assembly & Grounding equipment	$728	To keep the whole assembly from zapping out
SUBTOTAL:	**$64,432**	
Supplies		
Well materials and supplies:		
Well casing	$1,475	Lines the well
Down Rod & Discharge Pipe	$1,275	Goes up and down and makes water come out
Down Wire & Pump Cable	$2,142	Connects to the power and makes the down rod go up and down
Casing grout	$1,200	Fills in the gaps
Gravel Pack	$1,172	Packs the space between the liner and Casing
Well Liner	$2,100	Lines the casing
Well seal, nipples, couplings, and angles	$500	Miscellaneous items needed
Solar materials and supplies:		
Concrete	$600	To make the solar panel poles rigid and permanent
Fittings, Conduit, Connectors & Misc Hardware	$1,000	Miscellaneous items needed
E.coli monitoring supplies	$300	Sampling trays, bottles
SUBTOTAL:	**$11,464**	
Education and Outreach		
	$1,000	
SUBTOTAL:	**$1,000**	
Other (Specify)		
Reports	$1,750	
Monitoring	$2,500	Photo and E.coli monitoring
SUBTOTAL:	**$4, 250**	
Total Grant Funds	**$100, 246**	

MATCHING FUNDS (40% of total cost minimum)		
	FUNDS	**Description and Comments**
Admin. Costs (10% maximum)		
	$994	
SUBTOTAL:	**$994**	
Salaries (Non-administrative)		
Labor for rock work	$6,000	I stone mason - $24/hr x 10 hrs /day x 5 days/wk x 5 wks
Labor for rock work	$4,500	1 stone mason helper - $18/hr x 10 hrs /day x 5 days/wk x 5 wks
Labor for pipe to troughs and tank	$1,500	Permittee - $60 hrs @ $25/hr
Site Supervision	$2,500	Permittee - $40 hrs @ $25/hr
SUBTOTAL:	**$13,000**	
Equipment		
Road Equipment:		Heavy equipment for road grading for road to wells
Tractor	$11,250	$75/hr (includes operator) 150 hrs
Backhoe	$9,000	$75/hr (includes operator) 120 hrs
D3 Caterpillar	$2,700	$45/hr (includes operator) 30 hrs
1 ton, 4 whl drive truck	$9,000	$45/hr (includes operator) 200 hrs
Tank and trough equipment:		Heavy Equipment for road work and land leveling for tank and troughs
Tractor	$1,800	$75/hr (includes operator) 50 hrs
Backhoe	$9,000	$75/hr (includes operator) 120 hrs
1 ton, 4 whl drive truck	$5,400	$45/hr (includes operator) 120 hrs
SUBTOTAL:	**$68,350**	
Supplies		
Diesel fuel	$9,480	4 gallons per hour @ $3/gal x 790 hrs
Pipe & fittings	$500	For pipeline to troughs – 200 feet of pipe and fittings
Concrete	$450	For rock work
Sand	$200	For rock work
Rock	$1,500	For rock work
SUBTOTAL:	**$9,850**	
Education and Outreach		
Labor for E&O	$500	20 hrs @ $25/hr
SUBTOTAL:	**0**	
Other (Specify)		
SUBTOTAL:		
Total Matching Funds	**$74,774**	

XVI. State Historic Preservation Office (SHPO) Form

Appendix E. State Historic Preservation Office (SHPO) Form

For Each On-the-ground Project Site

Please prepare and answer the following questions pertaining to historic properties and preservation. Use multiple forms as needed. Add map(s), drawings and pictures where appropriate. When complete, copy and paste this information into your grant application in the requested area.

1. Project Location

Indicate the location of the project sites, including:

- County - Greenlee
- Township, range and section - T3S, R30E, Section 32
- Nearest Town or City – Clifton
-

Describe the conditions of the land in the project area. Attach a copy a USGS topographic map with the project area clearly marked. On the map, please specify the area(s) where impacts will occur.

The land has been utilized for livestock grazing continuously for over 100 years. The map has clearly marked the location of the well and road.

2. Project Description:

Describe the buildings or structures within project area and their age. Describe any ground-disturbing activities. Indicate whether the proposed project could impact historical properties, should they be present.

There are no buildings or structures in the project area. The existing off-highway-vehicle road will be widened and regarded to allow for passage of the well drilling equipment. The well site will be leveled, and a tank and a trough will be built out of rock. Solar panels will be mounted on poles, and wired to the well. Pipe will connect the well to the tank and trough.

3. Steps Taken to Identify Historic Properties

- Indicate whether the project area has been previously surveyed to determine the presence or absence of historic properties? NO
- Are buildings, structures, or objects 50 years old or older present in the project area? NO
- Are any prehistoric or historic-period archaeological sites present? If yes, please list and briefly describe. NO.
- What does the state or federal land manager, if any, say about historic properties present in the project area? This is BLM property, and Dan McGrew, the BLM Safford archeologist has indicated to us that he is not aware of any archeological sites existing near the project site. However, they have not completed a survey. Dan McGrew indicated that the project area is very small, and the land has been in continuing agricultural use for over 100 years, it is highly unlike that there would be any historic property left in the area.
- What efforts, if any, would be reasonable to determine the presence or absence of historic properties? We will ask the BLM to complete a cultural clearance.

Provide synopsis of steps taken to identify historic properties (use as much space as needed)
As the BLM highly supports this project, I am confident that they will complete the clearance, if necessary.

4. Potential for Historic impacts

In the applicant's opinion, which determination listed below is appropriate for this project based on the information presented above:

x No impacts/ historic properties not present

☐ No impacts/ historic properties present. Describe how historic properties will be avoided or protected.

☐ Negative impacts to historic properties. Suggest treatment measures.

☐ Positive impacts to historic properties. Describe any positive impacts to historic properties that could be attributed to the proposed project.

Describe how any negative impacts to historic properties will be avoided and describe potential positive impacts: We will consult with Dan McGrew, the BLM Safford archeologist who has indicated to us that he is not aware of any archeological sites existing near the project site. However, they have not completed a survey. Dan McGrew indicated that the project area is very small, and the land has been in continuing agricultural use for over 100 years, it is highly unlike that there would be any historic property left in the area.

For SHPO Use Only - Record of Consultation

SHPO advises ADEQ on the completeness of identification effort, determination of effect, and any proposed treatment measures.

___Concur with determination
___Do not concur with determination
___Request More Information
___Recommend that the project area be surveyed to determine the presence or absence of historic properties by a qualified professional
___Additional comments attached

Signed: _____ Date: _____