Grant Application

Part I - Grant Application Form and Signature Page

Arizona Department of Environmental Quality Water Quality Improvement Grant Program

Grant Application Form

Project Title - *Please limit the length of the title to one line.*Campomocho-Sacaton Watershed Stormwater Runoff Control Phase II

Project Description - The project description should identify the type of project and the name of the waterbody and/or ground water basin that the project will improve.

This project will reduce the amount of sediment produced off 12,800 acres of rangeland in the Campomocho sub watershed of the Willcox Playa. This is the second phase of a watershed rehabilitation project designed to reduce runoff and sedimentation through a comprehensive program of applied practices and management targeted at improving watershed health.

Currently, runoff from this watershed flows across residential areas, into the City of Willcox on its way to the Willcox Playa. With each rainfall event, sediment is deposited on Stewart Road, creating a safety hazard and as water flows toward the Playa, it carries sediment, and inundates wells and septic systems, creating a pollution hazard. The 1977 Santa Cruz-San Pedro River Basin Report compiled by the Soil Conservation Service and the Arizona Water Commission, estimated a sediment production of 30 acre feet per year. Watershed dynamics have not improved since 1977, making intervention to reverse the trend necessary. The entire project area is in an Arizona State grazing lease, under the control of the Red Tail Ranch. The new owner of the Red Tail took control five years ago and has aggressively pursued watershed improvement. He has implemented a grazing system designed by NRCS and has an active Environmental Quality Incentives Program (EQIP) contract to install fences to improve grazing management. He brought other stakeholders in the watershed together to form a local watershed group and has actively led them in the direction of watershed planning and improvement.

The objective is to keep precipitation that falls on the upper watershed, on the upper watershed, utilizing it for plant growth and reducing runoff that causes downstream problems. Best Management Practices that were applied in phase I were sediment retention structures and contour ripping and seeding to reestablish vegetation. These have been determined to be very successful, and will be applied in this Phase. Five new water/sediment control basins will be installed, two existing ones will be repaired and 4000 acres will be ripped on the contour and seeded to native grasses. In addition to erosion control, BMPs will improve wildlife habitat and reduce safety concerns brought by flooding and sediment deposition on Stewart Road.

Authorizing Agency - Enter the name of the company, agency, or tribal authority who is applying for the grant.	Authorized Agency Contact - Enter the name of the person who will be accepting responsibility for the terms and conditions of the Grant Agreement. This person must sign the signature page.	
Name: Coronado RC&D Area, Inc. Address: 656 N Bisbee Ave City: Willcox State: AZ Zip Code: 85643	Name: Roy G. Ard Title: President Phone #: 520-384-2229 x 123 Fax #: 520-384-2735 E-mail: RFARD@vtc.net	
day-to-day knowledge of the project and should		
Name: <u>Donna Matthews</u>	Title: <u>Coordinator</u>	
Address: 656 N Bisbee Ave City: Willcox State: AZ Zip Code: 85643 donna.matthews@az.usda.gov	Phone #: 520-384-2229 x 122 Fax #: 520-384-2229 x 122 E-mail:	
Project Period ⊠ 0 - 2 Years (Preferred)	Greater than 2 years – (Provide justification in Part IV, Project Milestones)	
Project Costs	Location Information	
Funds Requested: \$179,800 Matching Funds: \$142,200 Total Project Cost: \$322,000	Latitude T 12S Longitude R 25E Hydrologic Unit Code 15050201 (See Part III – Scope of Work, Section G-5)	
Are you or your organization currently or prohibited from any public procuremen	debarred, suspended or otherwise lawfully tactivity? Yes No	

Signature Page

The undersigned hereby offers and agrees to perform in compliance with all terms,	
conditions, specifications and scope in this grant application. Signature certifies	
understanding and compliance with the application attached hereto. ADEQ may appr	ove the
grant application with modifications to scope, methodology, schedule, final projects a	
budget.	

Authorized Signature Key H- and Date 10-17-04

Print Name _Roy G. Ard_____

Company/Agency: Coronado Resource Conservation & Development Area, Inc.

Title President

The Grant Application Form must be signed by the individual legally authorized to act on behalf of the applicant in conducting all official business relating to the project. Signing this form and submitting a grant application package, certifies that the applicant has authority to enter into the agreement, accept funding, and fulfill the terms of the proposed project if approved. Applicant is required to read the Water Quality Improvement Grant Agreement Terms & Conditions and be legally authorized to enter into an agreement with ADEQ.

Part II - Executive Summary

In 1991, local landowners and land management agencies came together as a watershed group to address runoff and sediment generated by the Campomocho-Sacaton sub watershed of the Willcox Playa. Their concerns were that this 42,000 acre watershed north of the City of Willcox, Arizona was contributing to water quality problems downstream.

The north boundary is National Forest in the Pinaleno Mountains, topography slopes across state and private rangeland in the upper quarter into the relatively flat agricultural land of the Sulfur Springs Valley and into the Willcox Playa, the lowest part of the watershed.

Over time, a dynamic of erosion and sedimentation has developed a cycle that has degraded the ecological balance of the watershed. The majority of the 12-15 inches of annual rainfall is received during the summer rains. Current conditions in the watershed do little to impede the flow and increase infiltration so water runs off at a rapid rate. Runoff picks up sediment in the upper areas of the watershed, scours gullies and increases velocity until it reaches the flatter agricultural areas. Sediment is dropped on rural residences, and roads. It inundates domestic and irrigation wells and septic systems. As runoff continues on it's path to the playa, it flows across farm fields with the possibility of absorbing agricultural chemicals before it enters the city of Willcox. Water from these flows has the potential to carry sediment, agricultural chemicals and sewage from domestic systems in the rural areas.

At that time, a Watershed Based Plan, utilizing data from a Natural Resources Conservation Service (NRCS) and Arizona Department of Water Resources (ADWR) Flood Plain Study was developed. (Assistance has been requested from ADEQ to update this plan to incorporate EPA's nine points). The first priority identified in the plan was to slow runoff on the sub watershed contributing the greatest amount of runoff to the basin. A project funded by ADEQ (grant # 03-005) and other partners in 2001 implemented Phase I of runoff and sediment control in the Campomocho-Sacaton sub watershed. (This phase predominately addressed the Sacaton portion of the sub watershed) This was done through ripping and seeding on the contour to trap sediment, increase water infiltration and revegetate the area, and through the construction of sediment retention structures to slow runoff, allowing sediment to settle out and agrade gully erosion behind them.

Landowners downstream of the project, and all the partners have been very pleased with the effectiveness of the Best Management Practices (BMPs) implemented, and fully support implementing a second phase of the project that will focus on the Campomocho portion of the sub watershed.

This project will apply the same Best Management Practices (BMPs) implemented in phase I to 12,800 adjacent acres east of the Phase I Project. All area is rangeland under lease from the Arizona State Land Department and under the control of the Red Tail Ranch. Five new sediment retention structures will be installed in the uplands to trap sediment and restore areas damaged by active gully erosion. In addition, two

existing structures will be repaired by Cochise County. El Paso Natural Gas has contributed \$50,000 toward the structures as they will control the gully erosion in the area of their natural gas pipeline, reducing their need for maintenance.

The new structures will require water rights (permit to construct) from the Arizona Department of Water Resources. During Phase I, ranchers and technical staff worked with ADWR to establish acceptable designs and criteria for the dual purpose ponds that were implemented. Obtaining water rights for phase II should be completed within 6 months from project start.

Arizona State Land Department Rangeland Management Specialist has been a part of the watershed group and technical team since the inception of the project. They will provide staff to lead the archeological survey necessary to obtain the SHPO clearance needed for the *Permit to Place Improvements on Rangeland* required by the State Land Department.

The US Army Corps of Engineers has been contacted by telephone and will receive a copy of all plans. All project activities will fall under Nationwide Permit #27, to restore wetlands and will not need a special COE permit to implement.

Four thousand acres will be ripped and then seeded to native vegetation. This method has proven effective at slowing runoff with the rips creating low barriers to slow sheet erosion and also allowing water to infiltrate in the rips. By seeding the disturbed areas, a microclimate is created that traps additional water to support seed germination and growth. An added benefit is the wildlife habitat created. Arizona Game and Fish Department (AGFD) is an active partner and is contributing \$18,000 in funding to be used for seed with the objective of significantly improving quail and antelope habitat in the area.

Effectiveness of the use of these practices will be measured through visual and photo assessment of change in watershed conditions as well as direct measurement of sediment captured in the structures and deposited on Stewart Road. It is expected that size and number of new gullies into existing channels will be reduced. Sediment captured during runoff events will be visible in contour seeded strips and in the bar ditch along Stewart Road. Flow levels and number of flow events at Stewart Road will be monitored and should show a significant decrease. At the present time, a ¾ inch rain on the watershed produces damaging, sediment laden flows at Stewart Road. After implementation, rainfall will be correlated with flow level reaching the Stewart Road site.

This is the second project in a series designed to reduce non point source pollution impacts through the improvement of watershed health. The goal is to trap sediment at the top of the watershed using best management practices and reduce the amount of runoff that reaches the valley, thereby reducing potential for further contamination of water moving across the watershed.

Part III - Scope of Work (A-G)

Section A - Water Quality Problem(s)

A-1 Problem:

The water quality problem that will be addressed is sediment. Although there are other potential water quality concerns, quantifying them is difficult except through the measurement of runoff. Stewart Road lies directly between the project area and a subdivision. A change in the amount of sediment and runoff reaching Stewart Road will be quantified and correlated with other project data to determine effectiveness of BMPs.

This watershed receives 12-15 inches of rainfall annually, most of it during the summer season. Lack of past grazing management twenty combined with extended drought, has left little vegetation to slow runoff. Rainfall has little opportunity to infiltrate, and runs off, creating gullies and picking up sediment loads that reach the flatter residential areas. Sediment is dropped on rural roads and residences, water inundates domestic and irrigation wells and septic systems. Water from these flows has the potential to carry sediment, sewage from domestic systems in the rural areas and other contaminants.

A-2 Pollution sources (primary and secondary):

Primary Pollution Source

#	Name	% of Project Area	
1st -1000	Agriculture	90%	
2 nd -8000	Other Non point source Pollution	10%	
3 rd -		%	
4 th -7190		%	
5 th -		%	

Secondary Pollution Source

#	Name #	% of Project Area
1500	Range grazing	100 %
8600	Natural sources	5 %
8700	Recreation and Tourism activities	5%
7100	Channelization	20%
7190	Channel Erosion/Incision	10%
		%
		%

Section B - Action Plan

B-1 Plan of Action:

The local watershed group that includes local landowners, residents, and government technical agencies have determined that next critical area to address is the 12,800 acres of the Campomocho sub-watershed. This area has severe gully erosion and lack of perennial grass cover. Physical and climatic dynamics of fifty or more years ago have left the upper watershed devoid of perennial herbaceous cover. Erosion has moved the sandy loam topsoil from the higher elevations in the watershed and deposited it as sediment in the lower areas. The volume of water moving across the watershed has initiated a cycle of picking up and depositing sediment that continues from the top of the watershed until the water reaches the Willcox Playa. The exposed clay subsoil has not yet been colonized by invasive species making this project timely in restoring watershed health.

To halt the dynamic state of accelerated erosion taking place on the watershed, five new and two restored, water/sediment control basins will be used as a Best Management Practice to capture large volumes of sediment on the upper watershed and reduce the velocity of the water. These basins have proven to be effective in separating out the upper ranges of sediment sizes (sand and gravel) that cause downstream channel degradation. To trap sediment from sheet flow erosion, 4000 acres of land will be treated with contour ripping and seeding to reestablish perennial grass in strips that will act as sediment barriers, and improve wildlife habitat, resulting in an over all benefit to watershed health.

Water quality will be improved by reducing the amount of sediment being transported off of the upper watershed during a rain fall event and allowed to reach residential and agricultural areas and the playa at the bottom of the watershed.

The land involved in this phase of the project area is currently Arizona State Land under the control of the Red Tail ranch that is committed to implementing practices with long term watershed health objectives. In addition to contour ripping and seeding to increase vegetative cover, ranches will defer grazing during the project term and implement a rotational grazing system under guidance from a conservation plan prepared by NRCS that will maintain plant community populations and health. Increased vegetation on the watershed will increase percolation and create microclimates that facilitate restoration of a healthy water cycle

B-2 Method(s) of Approach: 11 BMP Design/Implementation Multiple BMPs will be designed and implemented with the goal of using the watershed approach to improve water quality. All designs will be done by NRCS and meet their standards and specifications. NRCS will provide quality control with construction inspection of all practices.

B-3 Management Measures

- a. Project Site (area 1): The project site (treatment area) is 4000 acres located in T12S, R25E, Sections: 14,15,21,22,26,27,28,29,30,31,32,33,34,35 Acres benefited=12,800
- b. BMPs: Water/Sediment Control Basin, Grazing-Land Mechanical, Grazing deferred, Grazing-Planned systems, Pond, Range Planting, Wildlife-Upland Area Management, Wildlife-watering
- c. Pollutant Type: Sedimentation/siltation
- d. Load Reduction Estimate: ~21 ac/ft per year. Current sediment production is 30 ac/ft per year. It is estimated that practices installed will reduce sediment load production by 75%

Section C - Expected Outcomes

- C-1 Goals: The goal is to reduce impacts on water quality in the Willcox Playa Watershed through improvement of watershed health.
- C-2 Project Longevity: 20 or more years.

The structures will have a life span of 20 or more years. They will require a minimum of maintenance, which will be the responsibility of the Red Tail Ranch.

The ripping and seeding/vegetative practices will be implemented in conjunction with a grazing management plan to insure that there are beneficial long term impacts on watershed health.

Section D - Project Evaluation

The effectiveness and impact of the project will be evaluated through a comprehensive monitoring program with baselines established prior to project implementation.

Monitoring activities related to this project will focus on factors that influence watershed health. The following will be monitored during the two-year term of the project:

- a. Rainfall: A rain gauge will be installed to track precipitation that falls on the watershed so it can be correlated with flow event data and sediment yield.
- Sediment accumulation behind structures: Photos will be used to document sediment accumulation at each drop structure.
- c. Sediment yield at Stewart Road: Changes in cross section of county ditch along Stewart Road as it borders the treatment area will be monitored semi annually as a direct measurement of sediment deposition in relation to rainfall events.
- d. Photo monitoring: Photo documentation will be done to show construction of sediment basins, repair of existing structures, and implementation of vegetative

practices. These will be taken at the time of installation and one year after installation and at project close. Sediment accumulation will be photographed at the County Ditch along the north side of Stewart road on a semi annual basis when cross sections are taken. (Photos are also taken each time the vegetative transects are read)

e. Change in vegetation will be monitored on the upper watershed using a line transect method for assessing range condition. This gives an evaluation of percent cover and species composition in relation to change over time. Transects are read each fall at the end of the growing season. Photos are taken at each transect at the time of reading. Transects will remain in place at project close as part of an ongoing monitoring program that will provide data for grazing management.

Section E - Public Education, Outreach, and Partnerships

E-1 Education and Public Outreach:

An outreach plan will be developed by the technical team and implemented by the partners. The technical team will meet a minimum of quarterly to keep the project on track and keep the watershed group informed. This project has implications to be duplicated in arid watersheds across the southwest that have potential to reverse the decline in trend and improve conditions.

Information and techniques used in this project will be brought to the public and other groups through the following methods:

- Displays and presentations at the Arizona Association of Conservation Districts Annual Conference, Western Resource Conservation & Development Councils Regional Conference, Cattle Growers associations, local ag days and County fairs.
- Development of a brochure illustrating key features of the project
- Newsletter and newspaper articles
- Fact sheets on non point source pollution and this project

2. E-2 Partnerships:

This project relies heavily on partnerships that have been formed in the development of a local watershed group. The following is a list of the partners and their contributions to the project and the watershed group.

- The US Forest Service holds 1400 acres at the uppermost part of the watershed and has been an active partner in the watershed group development and project development process. They have agreed to implement practices on their land in the next five years that will reduce runoff entering the project area. None of the Forest Service contributions to the project will be used as match.
- Cochise County will contribute earthwork as in-kind match to the project.
- The Natural Resources Conservation Service will provide technical assistance and oversight that will not be used as a match.
- The local Willcox-San Simon Natural Resource Conservation District will provide project review and participate in the outreach program.
- University of Arizona Extension will collect monitoring data and provide information and education.
- The Arizona State Land Department will perform the necessary archeological clearances, and assist with monitoring and information and education.
- Arizona Game and Fish Department will donate \$18,000 in funding to purchase native seed, provide technical input and monitor wildlife populations and habitat and provide that information to the group.
- City of Willcox will provide man hours to serve on the technical team and photo monitoring of conditions in the City and the Playa semi annually.
- Hook Open A and Red Tail Ranch staff serve on the Watershed Planning Group, the technical team for this project and will implement Best Management Practices designed to improve vegetation on the watershed. In addition they will assist with monitoring and provide a site supervisor to construction activities of the project
- Apple Annie's Orchard will provide man-hours to serve on the technical team and for monitoring of rainfall.
- El Paso Natural Gas Company will donate \$50,000 cash for the implementation of sediment and runoff control structures.
- Coronado RC&D will coordinate and administer this project for the Watershed Partnership and assist with the implementation of an information/education program.

Section F - Key Personnel

Daniel A. Skinner

- Chairman Campomocho-Sacaton Watershed Group
- Owner Red Tail Ranch
- BS Degree Accounting/Finance
- CEO of company that employs 200
- Cooperator of Willcox-San Simon NRCD
- Will serve as site supervisor for project implementation
- Will outline conservation practices as outlined in the plan

Jack Kortsen

- Owner Hook Open A Ranch
- Member Campomocho Sacaton Watershed Group
- BS Degree, Arizona State Univerity
- 25 years farming and ranching in southern Arizona
- · Will implement conservation practices as outlined in plan

Dave Matthews

- District Conservationist Natural Resources Conservation Service (17 years)
- BS Rangeland Management, Arizona State University
- Selected by Campomocho-Sacaton Watershed Group to serve as technical team leader
- Will provide technical direction to the project as well as direct NRCS staff resources to develop project plans, practice designs and provide quality control of construction.

Albert Skinner

- Ranch Manager, Red Tail Ranch
- · 40 years experience in ranch operations and management
- Heavy equipment operator
- Will assist with on the ground project coordination

Kim Mc Reynolds

- University of Arizona Extension Specialist headquartered in Willcox
- BS/MS Plant Sciences
- Will provide leadership and technical assistance in vegetative monitoring of the project.

Sal Palazzolo

- Arizona Game and Fish Department
- Will provide technical assistance and input on seeding to reestablish native grass for quail and antelope habitat

Kim Webb

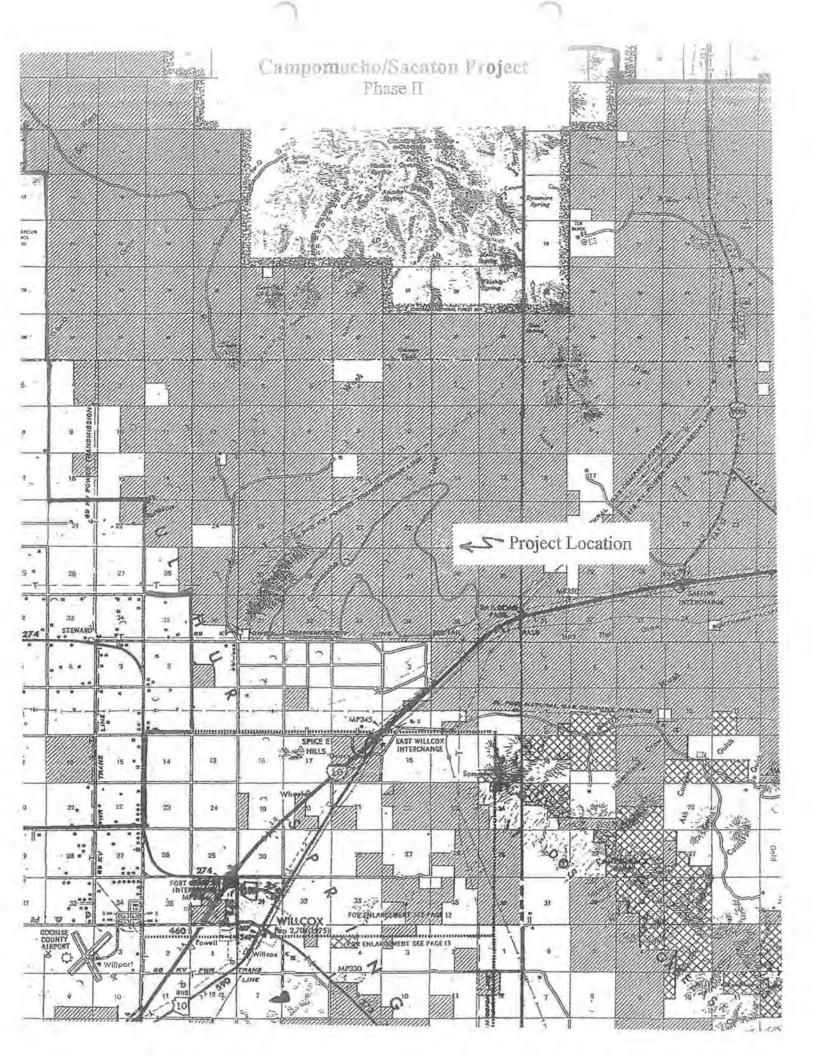
- Coronado RC&D Program Manager
- · AA Art
- Experience in developing public information/outreach materials and event coordination
- Will lead outreach and marketing portion of project

Donna Matthews

- NRCS Coordinator for Coronado RC&D (11 years)
- BS Biology and Chemistry
- Experienced in project management and coordination.
- Will serve as project contact and liaison between watershed group and ADEQ

Section G - Location & Site Plan

- G-1 Map: See appendix
- G-2 Site Plan: See appendix
- G-3 County: Cochise
- G-4 Watershed Name(s): Campomocho-Sacaton a sub watershed of the Willcox Playa
- G-5 HUC Code (USGS): 15050201
- G-6 Land Ownership: State and private
- G-7 Current Land Use: Grazing
- G-8 Size and Total of Project Site(s): 4000 and
- G-9 Waterbody Type(s): Groundwater and other Willcox Playa
- G-10 Affected Waterbody/Stream Name(s): Willcox Playa
- G-11 Impaired Water: Yes x No
- G-12 Length of Stream (if applicable): N/A
- G-13 Miles of Stream Benefited (if applicable): N/A
- G-14 Acres of Riparian Habitat (if applicable): N/A



H.9	irt v - water Quality Improvement Plants)
1.	Please select one of the following (See <i>Chapter 2</i> for additional information.): x Watershed-based plan in development
	☐ Watershed-based plan has been completed
	☐ TMDL implementation plan in development
	☐ TMDL implementation plan has been completed
	 Other plan which contains all required elements identified in Chapter 2. N/A; no plan
	Title: Watershed Based Plan (WBP) For: The Campomocho/Sacaton Watershed, A sub_watershed of the Willcox Plava in Southeastern Arizona

2. How does your project support the goals and objectives of the plan?

The goal of the plan is to reduce impacts on water quality through the improvement of watershed health. This project addresses sediment and runoff from one of the major sub watersheds in the area by creating barriers to gully erosion and increasing vegetation. Both of these BMPs have significant impacts on watershed health when combined with a planned, rotational grazing system.

Campomocho Project Cost - Phase II

Total Projected Cost	\$300,000	
Ripping & Seeding Estimated Cost (\$26.25/ac. X 4,000 ac.)		\$105,000
Retention Structures (5 @ \$25,000 ea.)		\$125,000
Rebuild 2 Existing Rentention Structures (County)		\$35,000
Administration Cost (Coronado RC&D)		\$18,000
Other Costs -monitoring, supervision, etc.		\$17,000
Proposed Grant Funding - ADEQ	\$180,000	
Matching Funds - other sources	\$120,000	
AZ Game & Fish		\$18,000
El Paso Natural Gas		\$50,000
ASLD		\$5,000
CES		\$5,000
County		\$35,000
Ranchers		\$7,000

Part VII - State Historic Preservation Office (SHPO) Form

Any Arizona Department of Environmental Quality (ADEQ) action, including grant projects paid in-part with ADEQ funds, on state, federal, or private lands that may impact historic properties (i.e., any prehistoric or historic-period district, site, building, structure, or object included in, or eligible for inclusion in the State Register of Historic Places) require consultation with the State Historic Preservation Office (SHPO) pursuant to the State Historic Preservation Act (ARS 41-861 to 864). ADEQ is legally responsible for making determinations and findings. In order to make informed decisions and facilitate consultation with SHPO, ADEQ requires applicants to provide the "project related" information requested below. By working together, we can seek out ways that "the historical and cultural foundations of this state can be preserved as a living part of our community life and development" (State Historic Preservation Act).

Please prepare and answer the following questions pertaining to historic properties and preservation. Add map(s), drawings and pictures where appropriate.

1. Project Location and Area.

- County: Cochise
- Township, Range and Section: T12S, R 25E, Sections: 14, 15, 21, 22, 26, 27, 28, 29,30,31,32,33,34,35
- Nearest Town or City: Willcox, AZ
- Describe the conditions of the land in the project area: Eroded rangeland

Attach a copy a USGS topographic map (See Part III – Scope of Work, Section G-1) with the project area clearly marked. On the map, please specify the area(s) where impacts will occur.

II. Project Description:

- Describe the buildings or structures within project area and their age: N/A
- Describe any ground-disturbing activities: Ripping and seeding and pond construction
- Generally speaking, can this project impact historical properties, should they be present? x Yes
 No

III. Describe the steps taken to identify historic properties in the project area:

- What does the state or federal land manager, if any, say about historic properties present in the project area? No properties are known but the entire

area will be surveyed prior to any ground disturbance. (Attach letter if available.)

What efforts, if any, would be reasonable to complete in determining the
presence or absence of historic properties? The entire area will be surveyed
prior to any ground disturbance. Survey will be organized and led by qualified
Arizona State Land Department employee.

be avoided or protected	perties present.	nt Describe how historic properties will
	A s	
negative impacts to his		Suggest treatment measures:
Positive impacts to histo	oric properties.	Describe:
Use Only - Record of	f Consultation	
		ication effort, determination of
Concur with determinati	ion	
Oo not concur with deter	rmination	
Request More Informati	on	
Additional comments be	low:	
		Date:
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