


**ARIZONA GAME AND FISH DEPARTMENT  
HABITAT PARTNERSHIP PROGRAM  
HABITAT ENHANCEMENT AND WILDLIFE MANAGEMENT PROPOSAL**

<b>PROJECT INFORMATION</b>	
<b>Project Title:</b> North Corral Canyon Solar Well	<b>Project No.</b> 11-505
<b>Region/GMU:</b> Region 5/GMU 35B	<b>HPC:</b> Southeast Arizona
<b>Project Type:</b> Water improvement	
<b>Project Description:</b> The funding of this project will allow the lessee to install a solar panel and pump on a recently drilled well in the Canelo Hills. This well significantly improves permanent water abundance by supplying 3 current water locations over a distance of 3 miles in Corral and North Corral Canyons. See attached map of area and current water sources filled by this well.	
<b>Wildlife Species to Benefit:</b> Coues Whitetail Deer, Gould's Turkey, Javelina	
<b>Possible Funding Partners:</b> USFS- Sierra Vista Ranger District, AZ Dept of Agriculture, Arizona Deer Association, SCI -Tucson Chapter, NWTf	
<b>Implementation Schedule:</b> Beginning: Spring 2012 Completed: Summer 2012	<b>NEPA Compliance: (if applicable)</b> Completed: Yes <u>X</u> No ___ Projected Completion Date:
<b>PROJECT FUNDING</b>	
<b>SBG Funds Requested:</b> \$3,893	
<b>Cost Share Funds:</b> \$12,112	
<b>Total Project Costs:</b> \$16,005	
<b>PARTICIPANT INFORMATION</b>	
<b>Applicant:</b> Bryan Marshall Wildlife Manager 35A/B (please print) <b>Telephone:</b> (520) 591-4721	<b>Address:</b> 555 W. Greasewood Road Tucson, AZ 85745
<b>AGFD Contact and Phone No.</b> (If applicant is not AGFD personnel)	
<b>Coordinated with:</b> Richard Collins Jr - C6 Ranch James Heitholt - USFS Coronado Nat. Forest	<b>Date:</b>
<b>Applicant's signature:</b> 	<b>Date:</b> 6/30/11

**SEND COMPLETED APPLICATIONS TO:**

**AZ Game and Fish Department  
Attn: Game Branch  
5000 W. Carefree Highway  
Phoenix, AZ 85086**

**WAS PROJECT PRESENTED TO THE LOCAL HPC? YES X NO \_\_\_\_\_**

**HAS PROJECT BEEN SUBMITTED IN PREVIOUS YEARS? IF SO WAS IT FUNDED?**  
**No.**

**NEED STATEMENT/PROBLEM ANALYSIS:**

This area consists of excellent habitat for Coues Whitetail Deer and Gould's Turkey, but it is very dry and lacks perennial water sources. There are very few year round water sources available in this part of the Canelo Hills. This new well provides a source of permanent, year-long water at 3 locations on the Coronado National Forest.

Access into the area is available but limited. Private property bordering Hwy 82 stops most vehicle and foot access into the area, with the exception of a few hunters who gain access with permission from the Rail X Ranch. However, there is open OHV access from the Papago Springs Rd, on the Coronado National Forest, which will get within about a mile of the well site as well.

This area is excellent Coues Whitetail and Javelina habitat. However, only total of 27 Whitetails and 32 Javelina were observed in this flight block during the 2010/11 winter surveys. Anecdotal information from the previous Wildlife Manager says that surveys in this area used to be much higher, and that one of the main limiting factors in the area is permanent water. In addition, the riparian corridor nearby is commonly occupied by 2 to 4 flocks of Gould's Turkeys.

**PROJECT OBJECTIVES:**

Improve perennial water availability for Coues Whitetail Deer and Gould's Turkey in the Patagonia Mountains.

**PROJECT STRATEGIES:**

Add solar panels and pump to newly drilled well.

**PROJECT LOCATION:**

The well was drilled in Corral Canyon, on the Crittenden Allotment of the Coronado National Forest. Township 21 South, Range 16 East, Section 15  
(See attached map)

**LAND OWNERSHIP AT PROJECT SITE (Please state specifically if PRIVATE PROPERTY and provide landowner's name):**

Coronado National Forest Crittenden Allotment-- Leased by Richard Collins Jr (C6 Ranch)

**IF PRIVATE PROPERTY, IS THERE A STEWARDSHIP AGREEMENT BETWEEN THE LANDOWNER AND THE DEPARTMENT?**

**HABITAT DESCRIPTION:**

The habitat type is typically referred to as Madrean Oak Woodlands, comprised primarily of various oak species (*Quercus sp.*), Juniper (*Juniperus sp.*), pinion (*Pinus sp.*), manzanita (*Arctostaphylos sp.*), cliffrose (*Cowania mexicana*), yuccas (*Yucca sp.*), False Mesquite (*Calliandra eriophylla*), prickly pear cactus (*Opuntia sp.*), various native grasses and forbs. The area lies ranges from 4300-5000 foot elevation with a number of drainages and riparian areas cutting through the hills. These drainages consist of a variety of

riparian species, including cottonwood (*Populus sp.*), Arizona walnut (*Juglans major*), and willow (*Salix sp.*).

**ITEMIZED USE OF FUNDS:**

2 solar modules - \$854

Pole, mount and concrete - \$750

Float switch - \$35

Design, delivery, travel, insurance - \$350

Labor - \$1,904

(See attached estimate for 2011 pricing)

\*\*an extra 10% was added into labor to counteract price increases in 2012

**Cost Share Funds:**

Drilled well, case, install pump – AZ Dept of Ag - \$10,712

Wire and plumbing to connect to existing system – C6 Ranch - \$1,200

Fence materials – USFS Coronado - \$200

(See copies of attached receipts)

**LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:**

- USFS – provided fencing material for well site
- AZ Dept of Agriculture – Possible reimbursement for well drilling
- Lessee; Richard Collins Jr

**PROJECT MONITORING PLAN:**

- Lessee will provide any mechanical repairs to water system. The District Wildlife Manager will conduct annual winter wildlife surveys and will monitor responses to improved water availability.

**PROJECT MAINTENANCE:**

- USFS lessee at C6 Ranch will perform routine maintenance on the water system and will provide year-long water for wildlife.

**PROJECT COMPLETION REPORT TO BE FILED BY:**

- Bryan Marshall – Wildlife Manager, Arizona Game and Fish Dept.

**WATER DEVELOPMENT PROJECTS (see attached worksheet):**

**TREE SHEARING (AGRA-AXE, PUSH) PROJECTS (see attached worksheet):**

NA



Ranchers Well Service  
 P.O. Box 232  
 Sonoita, AZ 85637

Date 5/13/2011  
 Invoice # 1001

Bill To  
 C6 Ranch  
 182 Red Rock Canyon Rd.  
 Patagonia AZ 85624

Ship To

P.O. #  
 Terms Due on receipt

Ship Date 5/13/2011  
 Due Date 5/13/2011  
 Other

Item	Description	Qty	Price	Amount
Pressure Switch	Square D	1	22.75	22.75T
Pressure Tank	Flexcon Flex Lite Composite Tank 90 gallon	1	660.00	660.00T
Pressure Gau...	Steel Case Glass Face 0-200 lbs.	2	7.66	15.32T
Ball Valve	Brass 1.25"	1	28.82	28.82T
Elbows	PVC 1.25"	3	1.58	4.74T
Coupling	PVC 1.25"	2	1.25	2.50T
Mip Adaptor	PVC 1.25"	4	1.66	6.64T
Labor	Installation	3	50.00	150.00
<u>Backhoe</u>	<u>Trenching at new well</u>	2	<u>65.00</u>	<u>130.00</u>

Subtotal \$1,020.77  
 Sales Tax (7.1%) \$52.59  
 Total \$1,073.36  
 Payments/Credits \$0.00  
 Balance Due \$1,073.36

**Ranchers Well Service**

520-860-0030

*PAID #1318*



**DRIVER DRILLING**

5219 SAN PAULO  
 SIERRA VISTA AZ  
 85650

**Invoice**

Number: **1006**

Date: **March 01, 2011**

**Bill To:**

RICHARD COLLINS  
 C 6 RANCH

**LOCATION**

Customer #	Ship	Via	Project

Item #	Description	Quantity	Price Each	Tax 1	Amount
	DRILLED AND CASED	380.00	20.00	✓	7,600.00
	PERMIT FEES		200.00	✓	200.00
	STAINLESS COUPLINGS	16.00	7.60	✓	121.60
	1.25 SCD 80 DROP PIPE	340.00	1.25	✓	425.00
	WIRE	500.00	2.17	✓	1,085.00
	WELL SEAL	1.00	80.00	✓	80.00
	MISC.		200.00	✓	200.00
	LABOR	340.00	1.50	✓	510.00
	DRILLED 385 CASED 382 PUMP SET 340 APPROX STATIC 145 APPROX GPM 6-8				

**Sub-Total** \$10,221.60

State Tax 4.80% on 10,221.60 490.64

**Total** \$10,712.24

*Paid*

*✓ # 1289*

Amount Paid: 5,000.00

Amount Due: 5,712.24

License #232889

**WESTWIND SOLAR ELECTRIC**

Page No. 1 of 1

Expires: 8/11

INC  
 821 N Main Ave  
 TUCSON, AZ 85705  
 520-349-0622

**PROPOSAL**

PROPOSAL SUBMITTED TO		TODAY'S DATE	DATE OF PLANS/PAGE #'S
Rich Collins C6 Ranch		7/2/11	
PHONE NUMBER	FAX NUMBER	JOB NAME	
		C6 220WPump	
ADDRESS, CITY, STATE, ZIP		JOB LOCATION	
Patagonia, AZ		Santa Cruz County	

We propose hereby to furnish material and labor necessary for the completion of:  
 220 Watt SOLAR Photovoltaic Water Pumping Direct Renewable Energy System mounted on "Ground Mount" w/ complete installation. Minimum 2/gallons per minute during prime sun hours 10am-3pm.  
 FOR REMOTE RANCH WELL for Livestock purposes

**EQUIPMENT:**

- 2 - 110 Sunwize Industrial PV Mono-crystal Solar Modules @427.00ea \$854.00
- 1 - PV Pole MOUNT Structure w/ fasteners, 8' above grade steel pole, concrete \$750.00
- 1 - Float Switch - \$35.00
- Disconnects, wire, conduit, design, delivery, travel, insurance, \$350.00
- EQUIPMENT \$1,989.00**

- 1<sup>st</sup> VISIT - Foundation excavation for pole mount, Install Pole in Concrete, Trenching, Conduit/Wire Run for Float Switch, Install Float Switch
- 2<sup>nd</sup> VISIT - Install PV Modules and Control Boxes and Gen Wire Hook-up., Wire Up system, test and complete tie in.

LABOR \$1,550.00

TOTAL \$3,539.00

PUMP must be set correctly, sliced correctly and wire sized per Grundfos Specifications or there will be additional costs

PV Modules 20 Year Warranty

Westwind Solar will provide a 2 YEAR WARRANTY to keep system fully operational

We propose hereby to furnish material and labor – complete in accordance with above specifications for the sum of:  
 Three Thousand Five Hundred Thirty Nine \_\_\_\_\_ dollars ( \$3,539.00 )

Payment as follows: 50% down , Bal Due on System Completion

All material is guaranteed to be as specified. All work to be completed in a substantial workmanlike manner according to specifications submitted, per standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workmen's Compensation Insurance. If either party commences legal action to enforce its rights pursuant to this agreement, the prevailing party in said legal action shall be entitled to recover its reasonable attorney's fees and costs of litigation relating to said legal action, as determined by a court of competent jurisdiction.

**Authorized Signature** \_\_\_\_\_

Note: this proposal may be withdrawn by us if not accepted within 60 days.

**ACCEPTANCE OF PROPOSAL** The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Signature \_\_\_\_\_  
 Signature \_\_\_\_\_  
 Date of Acceptance \_\_\_\_\_

## **ARIZONA GAME AND FISH DEPARTMENT** **WATER DEVELOPMENT WORKSHEET**

**PROJECT NAME:** North Corral Canyon Solar Well

- 1) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”**  
No. This Project was implemented by the lessee and the Coronado National Forest. This HPC proposal is just to pay for the cost of adding a solar pump and panels.
- 2) **Please list the Development Branch personnel and date coordinated with for this project.**  
Joe Currie – 8/30/11
- 3) **What is the estimated annual inches of precipitation for the area? (mark one)**  
 2-4    4-6    6-8    8-10    10-12    12-14    14-16    >16
- 4) **Is there a perennial water source available to big game within four miles of this project?**  
 YES (please complete #5 below)    NO (skip #5 below)
- 5) **For the accessible, perennial water source nearest this project:**  
Name of water source: Monkey Spring  
Type of water source (catchment, spring, dirt tank, etc.): Spring fed dirt tank  
Ownership of water source: Coronado National Forest  
Distance in miles from project: ~2.1 miles
- 6) **Is the target wildlife species a result of transplant efforts?**    YES    NO
- 7) **Please list any special land management status for the project site (i.e. Wilderness, National Park, National Monument, etc). If private land, list landowner.**  
NA
- 8) **Please provide the following information about access to the proposed site:**  
Type of access (mark one):    2x4 vehicles    4x4 only    foot only\*\*  
\*\*If foot access only: Distance in miles: ~1 mile   Approx. hiking time: 15-20 min  
-- Does access to this site require crossing private or tribal lands?    YES    NO  
-- Please describe any restrictions to public access:  
Access into the area is available but limited. Private property bordering Hwy 82 stops most vehicle and foot access into the area, with the exception of a few hunters who gain access with permission from the Rail X Ranch. However, there is open OHV access from the Papago Springs Rd, on the Coronado National Forest, which will get within about a mile of the well site as well.
- 9) **Please list below (or on a separate sheet) the material type and dimensions of each component proposed to be added, modified, or repaired.**
- 10) **Was a site visit completed?**    Yes    No  
If Yes, please list personnel that attended and date.