

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

**PROJECT INFORMATION**

**Project Title: Hackberry Wash Water Development – Phase 2**

**Project No. 09-524**

**Region/GMU: 5/37B**

**HPC: Tucson**

**Project Type: Water Development and Redevelopment**

**Project Description:**

This is a cooperative two-phased project with the livestock operator, Rick Bader, the BLM and the AGFD.

Phase one, **which is COMPLETE**, involved the redevelopment of catchment 764, Hackberry seep, which has been nonfunctional for many years. Catchment 764 is a 3-hole horizontal well which seeps water into existing pipes and eventually into an old steel storage tank. The well pipes were cleaned out and a 20 foot 32" black HDPE culvert pipe with vertical slits cut into it was erected vertically into an existing 17 foot deep well unearthed and cleaned out during excavation. The pipe was supported with large boulders and a 3'x3'x44" high reinforced concrete box was installed as a spring box. Approximately 450' feet of 160 PSI Numex pipe was installed with 5 vent pipes to supply water from the spring box to the catchment. A secondary spring box was also installed near the catchment to monitor flow from the upper spring box. Fifteen 24"x21' long PVC pipes were installed as storage tanks which will provide approximately 8,000 gallons of water for wildlife. An 8'x38" drinker was also installed and the site was fenced with wildlife friendly pipe rail fencing.

Phase two involves the development of an existing old windmill and underground storage vault. Approximately 3 miles of 160 psi pipe will be installed due north. Two 10,000 gallon storage tanks will be installed along the pipe approximately one mile apart from each other. There is currently an old concrete drinker at the windmill site which will be repaired if needed for a third water in this system. Rick Bader has offered install all of phase two of the project. The BLM has also offered to contribute approximately \$8,100 in match. NEPA and Arch clearances have already been completed at the site.

**Wildlife Species to Benefit: mule deer, Coues' deer, javelina, small game and non game species**

**Possible Funding Partners:**

**Implementation Schedule:**

**Beginning: September 1, 2008**

**Completed: June 30, 2010**

**NEPA Compliance: (if applicable)**

**Completed: Yes  No**

**Projected Completion Date:**

**PROJECT FUNDING**

**SBG Funds Requested: \$10,000 (Phase 2)**

**Cost Share Funds: \$50,376**

**Total Project Costs: \$60,376**

**PARTICIPANT INFORMATION**

**Applicant: Ben Brochu**

**Telephone: (520) 229-3222**

**Address:**

Arizona Game and Fish Department  
555 N. Greasewood Road  
Tucson, AZ 85745

<b>AGFD Contact and Phone No.</b> <b>(If applicant is not AGFD personnel)</b>	
<b>Coordinated with: Joe Currie (AGFD), Darrell Tersey (BLM) and Rick Bader (livestock operator)</b>	<b>Date: 8-6-07, 2-26-07</b>
<b>Applicant's signature:</b>	<b>Date: September 1, 2009</b>

**SEND COMPLETED APPLICATIONS TO:**

**Game Branch  
 2221 W. Greenway Rd.  
 Phoenix, AZ 85023  
 rothompson@azgfd.gov**

**WAS PROJECT PRESENTED TO THE LOCAL HPC?      YES       NO**

**HAS PROJECT BEEN SUBMITTED IN PREVIOUS YEARS? IF SO WAS IT FUNDED?**

Yes, phase one of the project was submitted and funded last year and has been completed.

**NEED STATEMENT/PROBLEM ANALYSIS:**

Perennial water sources are scarce within 37B. Many ranchers maintain and continue to install water sources; however, they use these waters as tools to move cattle, turning them off during some times of the year. Also, many grazing allotments within 37B do not have adequate water sources. Many of these allotments are severely overgrazed around water sources and underutilized in areas without water. This project will address these issues by providing perennial water sources in and along Hackberry wash, an area where water has historically been very scarce. Forage utilization will be more evenly distributed within this area resulting in improved habitat conditions, namely browse species. The **NEPA** and **Arch clearances** have been completed (see the attached email form Darrell Tersey (BLM)).

**PROJECT OBJECTIVES:**

- To increase deer and javelina populations by providing dependable, long term, self-sustaining, quality water sources and by increasing the use of otherwise unavailable forage resources
- To increase hunter opportunity
- To install systems that have a long lifespan (40-50 years for storage and collection systems, 25 years for drinking troughs)
- To install systems that do not require supplemental hauling except in rare or exceptional circumstances
- To install systems that have minimal visual impacts and blend in with surrounding landscape
- To install systems that are accessible and that requires minimal routine maintenance
- To monitor catchment use using a remote digital game camera

## PROJECT STRATEGIES:

The two phase project will be completed in the following way:

- **Phases** –
  - **2009 – COMPLETE** - Involved the redevelopment of catchment 764, Hackberry seep, which has been nonfunctional for many years. Catchment 764 is a 3-hole horizontal well which seeps water into existing pipes and eventually into an old steel storage tank. The well pipes were cleaned out and a 20 foot 32” black HDPE culvert pipe with vertical slits cut into it was erected vertically into an existing 17 foot deep well unearthed and cleaned out during excavation. The pipe was supported with large boulders and a 3’x3’x44” high reinforced concrete box was installed as a spring box. Approximately 450’ feet of 160 PSI Numex pipe was installed with 5 vent pipes to supply water from the spring box to the catchment. A secondary spring box was also installed near the catchment to monitor flow from the upper spring box. Fifteen 24”x21’ long PVC pipes were installed as storage tanks which will provide approximately 8,000 gallons of water for wildlife. An 8’x38” drinker was also installed and the site was fenced with wildlife friendly pipe rail fencing.
  - **2010** – Repair and develop the existing windmill and storage vault. Approximately 3 miles of 160 psi pipe will be installed due north. Two 10,000 gallon storage tanks and two wildlife/livestock drinkers will be installed along the pipe approximately one mile apart from each other. There is currently an old concrete drinker at the windmill site which will be repaired if needed for a third water in this system.
- **Components** - Utilize big game special tag funds and rancher funds to purchase the project components.
- **Rick Bader** - Has offered to cost-share and install all of phase two.
- **Development Branch Involvement** – Very little, if any, involvement from Development Branch is expected.
- **Volunteers** – Local sportsmen may be solicited to help with some phases of the project such as installing the wildlife drinkers and pipe rail fencing.
- **Safari Club International** – SCI has expressed interest in providing volunteers to work on projects in the southern part of the state. They are a likely source for project volunteers as well.
- **NEPA** – complete for phase one and due to be completed by February 2009 for phase two
- **Arch Clearances** – complete

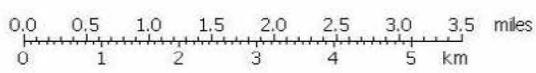
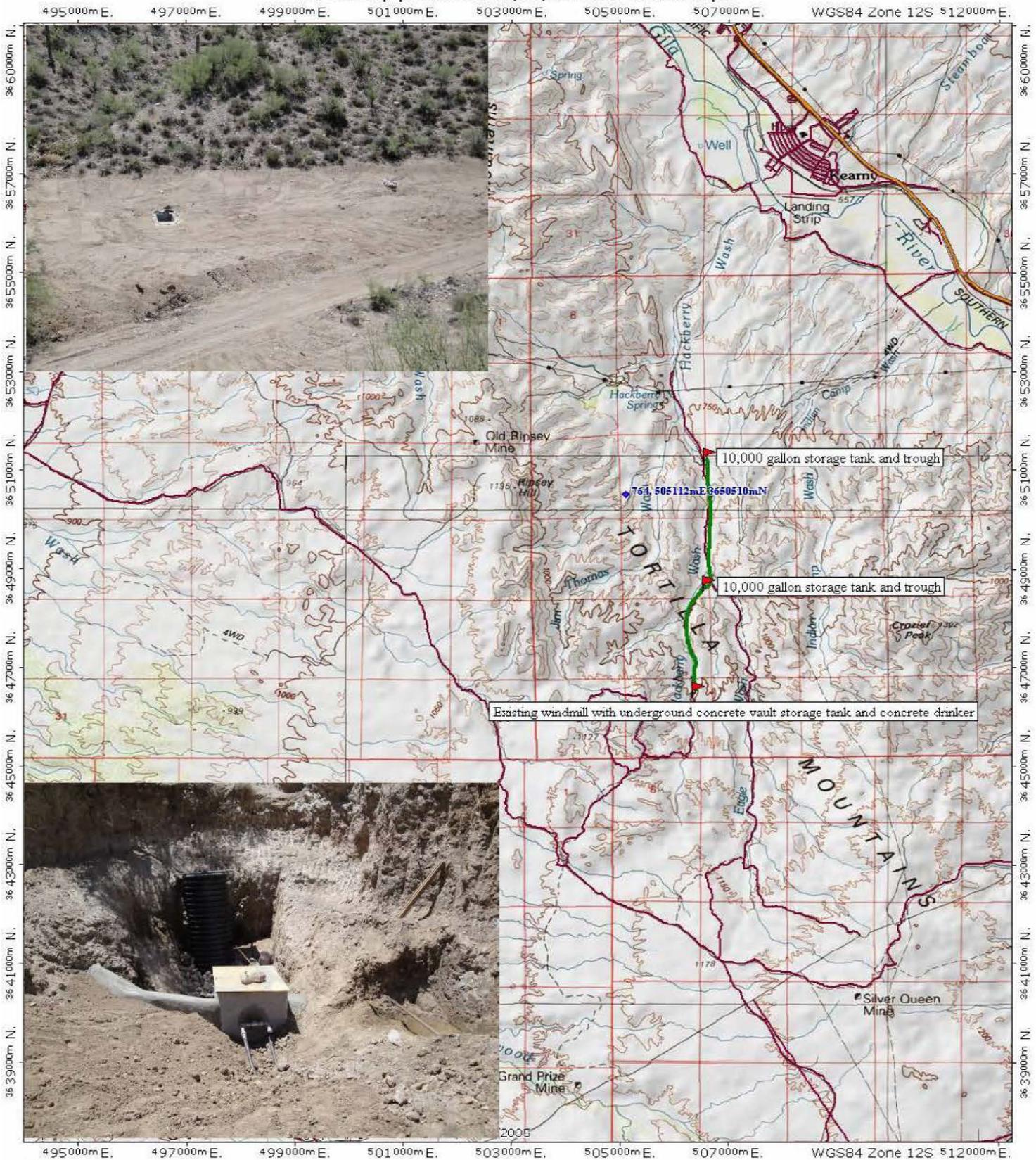
## PROJECT LOCATION:

Game Management Unit 37B south of Kearny

Catchment 764 is located at UTM Coordinates: 505112mE, 3650510mN

See map on next page

TOPO! map printed on 08/29/08 from "Untitled.tpo"



TN ↑ MN  
 11°  
 08/29/08  
 (revised 7-02-2007)

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

The project site is on land administered by the Bureau of Land Management, [REDACTED].

The project site is on land administered by the Arizona State Land Department, Tucson Field Office, [REDACTED].

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

This project is not on private property. It is located on State and BLM land.

**HABITAT DESCRIPTION:**

Game management unit 37B is located in Pinal County, Arizona, southeast of Phoenix. Two main biotic community types, Sonoran Desertscrub and Semidesert Grassland, comprise the bulk of the habitat in 37B. Catchment #764 is located within the Jojoba-Mixed Scrub Series of the Arizona Upland Subdivision of the Sonoran Desertscrub community. Common vegetation includes jojoba (*Simmondsia chinensis*), foothill palo verde (*Cercidium microphyllum*), mesquite (*Prosopis spp.*), and desert hackberry (*Celtis pallida*). Average rainfall is approximately 13” and elevation is approximately 2700’.

**ITEMIZED USE OF FUNDS:**

Item	Quantity	Est. Cost/Item	Total Est. Cost	Rick Bader Installation Estimates	Total Rick Bader Cost Share	BLM Cost Share	AGFD
160 psi pipe	17350 ft	\$1.73/foot installed	\$30,016	.60/foot = \$10,410	\$42,276	\$8,100	\$10,000
Troughs	3000 gal	\$1.32/gallon	\$3,960	3@\$300ea = \$900			
Storage Tanks	20000 gal	\$1.32/gallon	\$26,400	2@\$1500ea = \$3000			
<b>Total</b>			<b>\$60,376</b>		<b>\$42,276</b>	<b>\$8,100</b>	<b>\$10,000</b>

AGFD Estimated Costs Per Phase	
Phase 1	\$19,550
Phase 2	\$10,000
<b>Total</b>	<b>\$29,550</b>

**LIST COOPERATORS AND DESCRIBE POTENTIAL PARTICIPATION:**

- **BLM** – Expedite the processing of the remaining NEPA compliance documents and provide approximately \$8,100 in match funds
- **Rick Bader** –Install all of the project components and supply all heavy equipment needed for phase 2. The pipelines will be installed in the middle of existing two-track roadway down the wash to minimize disturbance to vegetation and avoid creating additional OHV travel routes. This will be completed using a dozer.
- **AGFD** – Cost share the project where possible and install the wildlife storage tanks, drinker, and exclusion fence for catchment 764.
- **Volunteers** – Local sportsmen may be used to install the wildlife drinkers, PVC storage tanks, and pipe rail fencing.

- **Safari Club International** – SCI has expressed interest in providing volunteers to work on projects in the southern part of the state. They are a likely source for project volunteers as well.
- **ASLD** – Expedite the processing of the ASLD compliance documents.

**PROJECT MONITORING PLAN:**

Remote digital cameras will be used to monitor density and frequency of wildlife water use during the months of May-July if cameras are available. This will enable the Wildlife Manager to make better informed decisions for the management of wildlife within GMU 37B.

Water levels will be monitored at least twice per year with emphasis during the warmer drier months by the Wildlife Manager. Additional monitoring will be conducted as needed. Minor maintenance will also be conducted as needed by the Wildlife Manager. The AGFD Development Branch will be responsible for major maintenance issues.

**PROJECT MAINTENANCE:**

The maintenance of each catchment will continue to be the responsibility of the AGFD. The Wildlife Manager will be responsible for coordinating this.

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

Ed Jahrke, Joe Currie or Ben Brochu

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

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

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

**PROJECT NAME: Hackberry Wash Water Development**

1) **Is the water development listed as a priority in the most recent “Wildlife Water Development Annual Implementation Schedule?”**

Yes

2) **Please list the Development Branch personnel and date coordinated with for this project.**

Joe Currie on 9-11-08

3) **What is the estimated annual inches of precipitation for the area? (mark one)**

  2-4   4-6   6-8   8-10   10-12   X\_12-14   14-16   >16

4) **Is there a perennial water source available to big game within four miles of this project?**

  X\_YES (please complete #5 below)   NO (skip #5 below)

5) **For the accessible, perennial water source nearest this project:**

Name of water source: Catchment #752

Type of water source (catchment, spring, dirt tank, etc.): Catchment

Ownership of water source: AGFD

Distance in miles from project: 1.42

\*Note – Catchments 748 and 749 are also within 4 miles of the project site, however they are not perennial water sources and are in need of redevelopment.

6) **Is the target wildlife species a result of transplant efforts?   YES   X\_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.**

N/A

8) **Please provide the following information about access to the proposed site:**

Type of access (mark one):   2x4 vehicles   X\_4x4 only   foot only\*\*

\*\*If foot access only: Distance in miles:   Approx. hiking time:

-- Does access to this site require crossing private or tribal lands?   X\_YES   NO

-- Please describe any restrictions to public access: none

**Please list below (or on a separate sheet) the material type and dimensions of each component proposed to be added, modified, or repaired.**

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9) Was a site visit completed?  Yes  No  
 A site visit was completed on September 11, 2008.

From: [REDACTED]  
 Sent: Tuesday, February 12, 2008 11:44 AM  
 To: Ben Brochu  
 Cc: John Windes  
 Subject: Re: Tortilla Mountains Water Catchments - #748, 749, and 764

Hi Ben,  
 Sorry to take so long to reply to you. I did check on the NEPA documentation for the projects. All of the projects were covered by the Middle Gila HMP, which is a cooperative plan between the BLM and the AG&F Dept. Part of the plan was an EA covering all of the projects which at the time were either new proposals or redevelopments. The development up  
 hackberry wash is actually a horizontal well development and I have all of the project files, including as-built drawings. I would think that either the Tucson office or the Phoenix office would have a copy of the HMP as it was signed by Bud Bristow when he was director of the department. If you can't find one, I could probably copy the EA out of this one for your records.

Darrell Tersey  
 [REDACTED]  
 [REDACTED]  
 [REDACTED]  
 [REDACTED]