COUNTY ADMINISTRATOR'S OFFICE

PIMA COUNTY GOVERNMENTAL CENTER
130 W. CONGRESS, FLOOR 10, TUCSON, AZ 85701-1317
(520) 724-8661 FAX (520) 724-8171

C.H. HUCKELBERRY
County Administrator

October 29, 2018

Brigadier General D. Peter Helmlinger
Division Commander, Northwestern Division
US Army Corps of Engineers
P.O. Box 2870
Portland, Oregon 97208-2870

Re: New Information: Rosemont Copper Mine, Clean Water Act

Dear Brigadier General Helmlinger:

Pima County and the Regional Flood Control District appreciate the US Army Corps of Engineers' (Corps) thorough analysis of the impacts of the proposed Rosemont mine to the Waters of the United States and the Corp's willingness to consider new information. Over the last several months as new information comes to our attention, we continue to provide it to your technical reviewers. We are providing you with this new information and correspondence, to ensure it be fully considered as you make your determination to issue or deny a 404 permit for the Rosemont mine, as currently proposed.

- Attachment 1. October 18, 2018 letter to Mr. William James and Ms. Elizabeth Goldman entitled *"Response to Hudbay regarding Intermediacy and Surface Water Impacts."* This letter demonstrates that Hudbay's own data show impacts of fills are underestimated and that intermittent flow occurs in Barrel Canyon downstream of the proposed mine.

- Attachment 2. September 13, 2018 letter to Mr. William James entitled *"New information regarding protection of County parks, Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB."* This letter provided information about Pima County parks and Section 10 (Endangered Species Act) mitigation lands downstream of the mine relative to the Corps public interest review.

- Attachment 3. September 13, 2018 letter to Mr. William James entitled *"New Air Quality Emissions, Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB"*. This letter brought attention to new information about increased daily air emissions from the State's air quality permit for the mine.

- Attachment 4. September 7, 2018 letter entitled *"New information and response to Hudbay Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB."* This letter presented new research about the relationship of the Santa Rita Mountains to discharges from upper Cienega wetlands, and described the relationship of the fill to the Corps' public interest determination.

As before, we are available to provide additional data and to answer any questions you may have about these and other matters.

Sincerely,

C.H. Huckelberry
County Administrator

CHH/lab

Enclosure

c: Michael Stoker, Director, US Environmental Protection Agency, Region 9
Alexis Strauss, Senior Policy Advisor, US Environmental Protection Agency
Kerwin Dewberry, Forest Supervisor, Coronado National Forest
Linda Mayro, Director, Sustainability and Conservation

Attachment 1

October 18, 2018 letter to Mr. William James and Ms. Elizabeth Goldman entitled *"Response to Hudbay regarding Intermediacy and Surface Water Impacts."*

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C.H. HUCKELBERRY
County Administrator

October 18, 2018

Mr. William James, National Mining Expert
US Army Corps of Engineers
3701 Bell Road
Nashville, Tennessee 37214-2660

Elizabeth Goldmann
US Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

Re: Response to Hudbay Regarding Intermittency and Surface Water Impacts

Dear Mr. James and Ms. Goldmann:

New information obtained from the Army Corps of Engineers (Corps) via a Freedom of Information Act request indicates Hudbay has provided you with rainfall and runoff data that were not previously available.

In this letter, my staff uses Hudbay's new data to support our contention that the impact of flow reduction by the mine has been greatly underestimated. Hudbay's rainfall and runoff data also confirm the presence of intermittent flow on Barrel Canyon as well as other streams in the Rosemont area. Hudbay's mischaracterization of flow conditions as entirely ephemeral does not obviate the need for the federal agencies to fulfill their responsibilities under the Clean Water Act to protect existing uses for these streams.

This letter will present additional information substantiating intermittent flow derived from U.S. Geological Survey and will correct Hudbay's misinformation concerning aquatic invertebrates.

Hudbay's data show impacts of fills are underestimated

In their July 17, 2017 letter to you, Hudbay attached a report by their subcontractor, Water and Earth Technologies (WET), which shows the amount of flow generated on the mine site contributing to Davidson Canyon is much greater than the fractions predicted by Zeller (2011[1]) and used in the Final Environmental Impact Statement. Based on the observed watershed runoff reported in WET 2017, the Zeller method cannot be considered

[1] Zeller, M. E. 2011. Predicted Regulatory (100-Yr) Hydrology and Average-Annual Runoff Downstream of the Rosemont Copper Project. Tucson, Arizona: Tetra Tech. July 11

"conservative"[2] as alleged by Hudbay in their April 2017 presentation to the Corps. In fact, Barrel watershed's observed outflows during 2013-2016 provided over half of the flow to Hudbay's Davidson gage station (Attachment 1). This is a much greater proportion of flow than would be predicted by the Zeller method.

Hudbay's Own Data Confirm Intermittent Flow in McCleary and Barrel

In the past few years, Hudbay has taken numerous opportunities to discredit the assertion that Barrel Canyon has intermittent flow. This was highlighted most recently in a report by Westland[3] in which it is stated that Barrel Canyon flows "only in response to storm events" (page 6). In light of this effort to discredit, Hudbay's July 17, 2017 letter and accompanying reports from WET are a fascinating read because data from the company's own consultant validate what we and others have been saying for years: Barrel Canyon and contributing streams such as McCleary have intermittent flow.

Despite the monitoring effort taking place during one of the driest periods on record, the result of stream discharge monitoring by WET can be nicely summarized by the following paragraph:

> "At some Rosemont stations, *bank storage flow has been observed as flowing water not directly attributed to precipitation events*. At some Rosemont stations, bank storage flow is often very low flows of the trailing limb of hydrographs (e.g., < 1.0 cfs) that *persists for several days or weeks following large runoff events*. Bank storage flows have been observed at station RS-MC-3 and to a lesser extent at stations RS-SC-4 and RS-BC-2." (Emphasis added; "Hydrologic Data Summaries", Page 4).

What is particularly relevant to this topic is that Hudbay's flow (stage) sensor in Barrel Canyon (RS-BC-2) is actually located in alluvial deposits and further upstream of the Barrel Spring and USGS gages that demonstrate intermittent flow. Hudbay fails to mention this fact.

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[2] The term "conservative" was used 15 times in Hudbay's presentation to the Corps in April 18, 2017. Exactly what this word means is undefined, but assumed to mean an overestimate of impacts.

[3] "Response to Pima County Comments Regarding Intermittent Status, Sept. and Nov. 2017 Rosemont Copper Project, Clean Water Act Section 404 Permit, CoE File No.: 2008-00816-MB". Transmitted to Mr. William James (U. S. Army Corps of Engineers) by Hudbay on January 25, 2018.

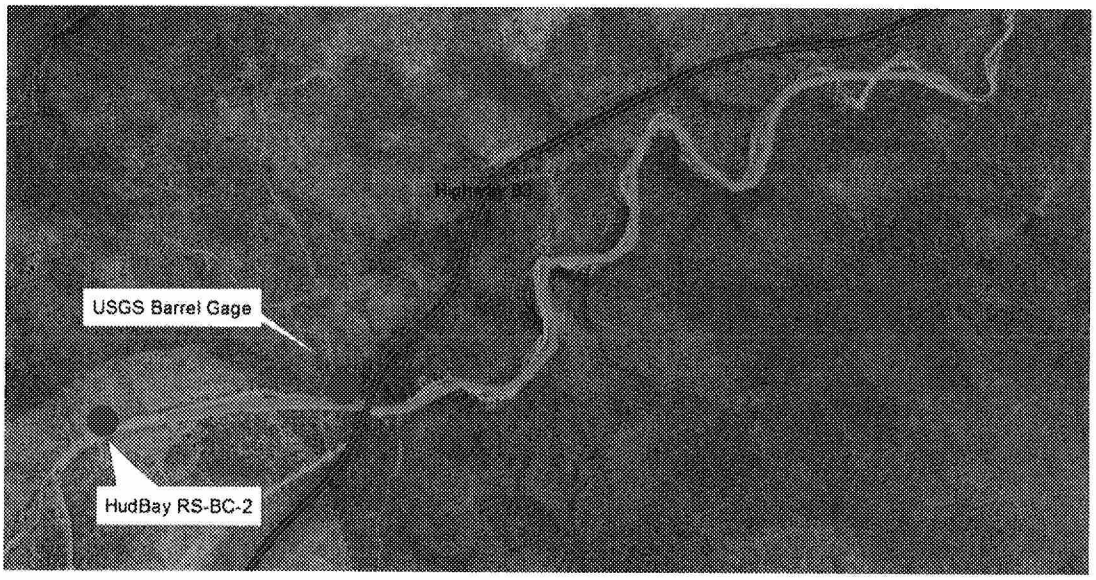

Figure 1. Location of the two stage sensors in Barrel Canyon in relationship to alluvial deposits (green) and bedrock (red)[4]. Intermittent flow reach of Barrel Canyon[5] is noted in blue.

Despite this, it should be noted that by the company's own data in the January 25, 2018 letter, anything that is "Bank Storage" is flow, by definition, characteristic of intermittent or perennial streams because it is not associated with storm events.

- 2016 (from "Data Analysis for December 2016"):
  - WET station McCleary Canyon RS-MC-3 had a total Event Runoff of 47.55 acre feet (AF) but a Bank Storage Flow of 384.70 AF (Table 9).
  - Barrel Canyon USGS gage showed a runoff volume of 157.65 AF and a Bank Storage flow of 10.42 AF (Table 10) and the HudBay sensor in Barrel (RS-BC-2) also showed Bank Storage Flow (Table 9).
  - Discharge at the Barrel gage showed two separate periods of continuous flow in what appears to be for 68 days in January to March and 78 days from August to October) (Page 56).

- 2015:
  - WET station McCleary Canyon RS-MC-3 had a total Event Runoff of 73.13 acre feet (AF) but Bank Storage Flow of 112.83 AF (Table 9, "Data Analysis for December 2016").
  - McCleary ran for 88 days from August through November and 18 days in December (Page 54). Note, there were no measurement taken from January through the middle of May).

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[4] See http://gis.pima.gov/data/contents/metadet.cfm?name=hgbasin1 for metadata.
[5] See: http://gis.pima.gov/data/contents/metadet.cfm?name=istreams.

The USGS gage also provides important information showing intermittent flow on the Barrel Canyon. Figure 2 shows flow during three distinct periods of continuous flow since 2015 and Figure 3 shows Barrel Canyon on August 16, 2017, just downstream of the Highway 83 bridge.

Additional information regarding Dr. Bogan's aquatic invertebrate observation.
Westland's 2017 report takes issue with a number of assertions made by Pima County with regards to the winter stonefly species (*Mesocapnia arizonensis*) studied by Bogan (2017)[6], who documented the life cycle and distribution this species throughout its range in Arizona and California.

In April 2010, multiple specimens were collected in Barrel Canyon approximately 1500 feet downstream from the Highway 83 bridge and USGS gage[7], near "Barrel Spring" where shallow bedrock likely enhances the expression of surface flow. The collection occurred just after an extremely dry three-year period (Figure 3), but heavy rains elevated groundwater levels and Barrel Canyon began flowing on January 22, 2010.

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[6] Bogan, M. T. 2017. Hurry up and wait: life cycle and distribution of an intermittent stream specialist (*Mesocapnia arizonensis*). Freshwater Science 36(4):805-815.

[7] According to Dr. Bogan, the specimen reported as being collected from "Davidson Canyon" was actually collected in Barrel Canyon near the Barrel Canyon USGS gage (Michael Bogan, *personal communication*). The latitude and longitude reported in Bogan (2017) are correct, and indicate that specimens were collected near Barrel Spring, a seasonal spring downstream of the USGS gage.

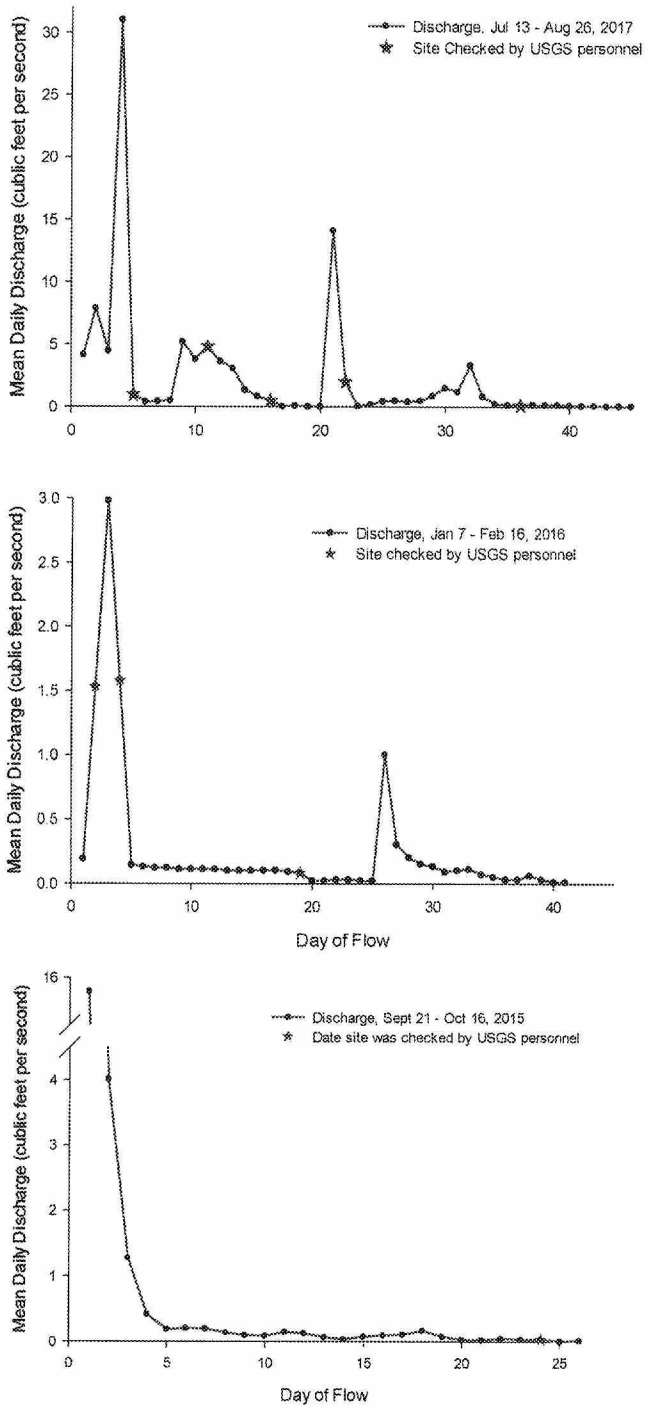

Figure 2. Days of flow recorded at the USGS 09484580 Barrel Canyon gage at various times since 2015. Data are "Approved for Publication".

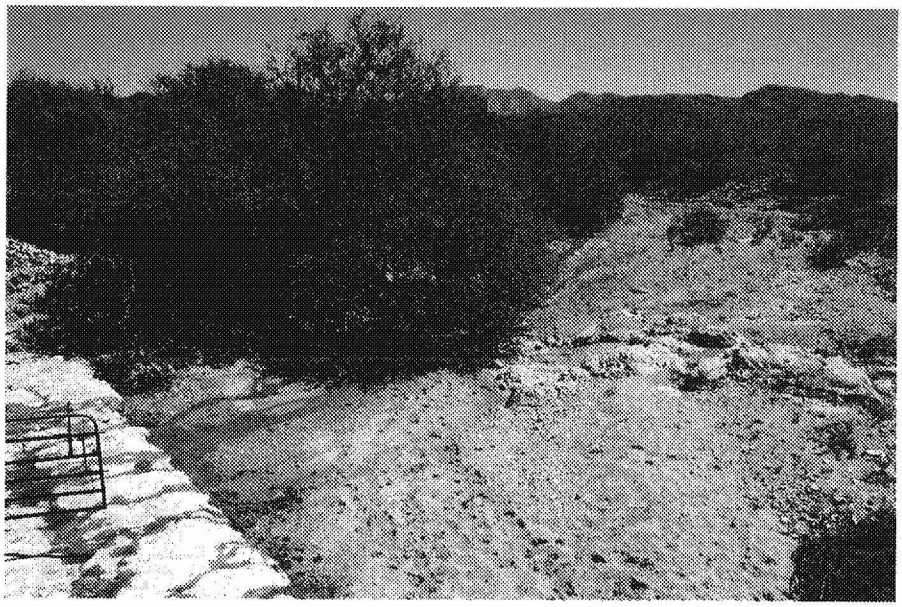

Figure 3. A proportion of Barrel Canyon's intermittent reach; in this site just downstream of the Highway 83 bridge. Photo taken on August 16, 2017.

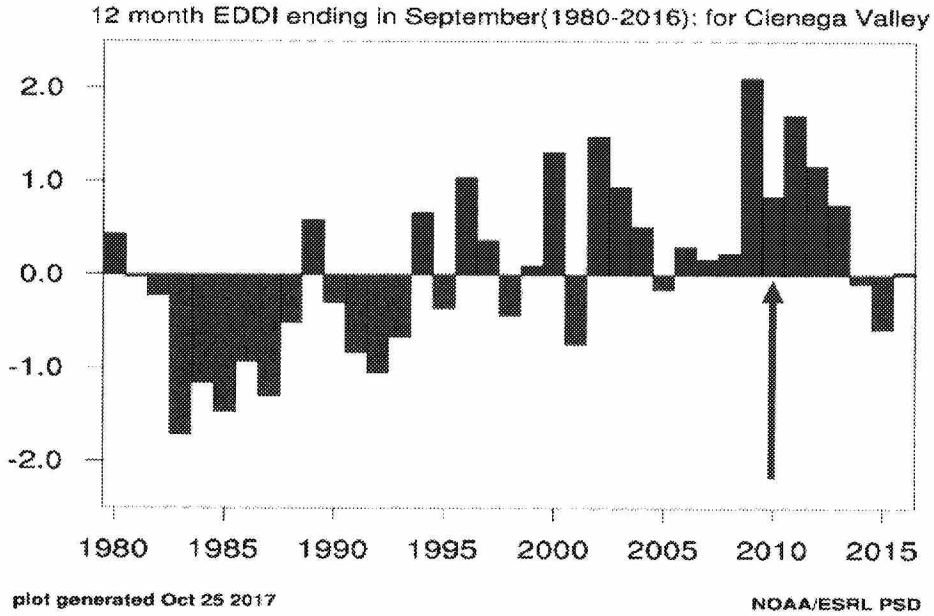

Figure 3. Evaporative Demand Drought Index[8] graph showing the drought conditions (in red). Collection year for the stonefly is noted, but because of the biology of the species, its presence at the site in early 2010 is especially important because of the extremely dry conditions in 2009.

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[8] Hobbins, M., A. Wood, D. McEvoy, J. Huntington, C. Morton, M. Anderson, and C. Hain. 2016. The Evaporative Demand Drought index: Part I – Linking Drought Evolution to Variations in Evaporative Demand. Journal of Hydrometeorology 17:1745-1761.

For one population of this species in Arizona, Bogan (2017) noted "Nymphs were abundant within days of flow resumption, grew rapidly as a single cohort, and started emerging as adults 42 d after flow resumed". In California, Bogan and Carlson (2018[9]) found that adults of *M. arizonensis* emerged from intermittent reaches an average of 51 days after flow resumed. In other words, for this species to mature, it needs at least 42 consecutive days with water. This is clearly a species that relies on intermittent surface water conditions for survival.

In personal communications to Brian Powell (Pima County Office and Sustainability and Conservation), Dr. Bogan conveyed the following:

- Multiple adult individuals were collected, not just one individual as Hudbay reported; these specimens represented a breeding population with both larvae and adults observed at the site;

- Hudbay posited that females could potentially fly in from time to time from the closest nearest populations. This is possible, but this speculation could not explain presence of mature larvae and emerging adults given the simultaneous emergence of adults in those nearby drainages (i.e. adults were not present earlier in the winter and thus could not have flown to Davidson/Barrel in January and lain the eggs needed to produce mature larvae in March/April);

- Stonefly larvae can mature in as few as 43 days, and were found to take an average of 51 days to emerge in California, so that means the reach was flowing at least 6 or 7 weeks when emerging adults were collected, or had grown in an adjacent upstream reach and then were connected by flow with the downstream reach. At the time of sampling, however, the reach above the study reach was dry (see Barrel Canyon UGSG gage flow record), so drift was not a possible source of colonists;

- Hudbay's assertion that ephemeral streams can also be characterized by such aquatic invertebrates misrepresents the data. The only way the species occurs in ephemeral reaches is via drift from upstream intermittent reaches. Drift from populations in intermittent Sabino Canyon were the source of individuals collected in the ephemeral Rillito in Tucson in February 2017;

- The stonefly species is an intermittent stream specialist, only occurring in streams that dry during the early summer and fall but have flow during the winter season when temperatures are appropriate (Dec-April). They need to have this sustained winter flow period to complete their life cycle.

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[9] Bogan, M.T. and S.M. Carlson. 2018. Diversity and phenology of stoneflies (Plecoptera) from intermittent and perennial streams in Pinnacles National Park, California, U.S.A. Illiesia 14:144-154. https://doi.org/10.25031/2018/14.08.

Federal Agencies Must Protect Existing Uses, Even if They Are Not Designated Uses

The Clean Water Act requires states to develop antidegradation policies to establish a level of water quality necessary to protect existing uses of a stream, which includes "those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards." 40 C.F.R. § 131.12, 131.3(e). Arizona "Antidegradation" rules implementing this federal obligation are unequivocal, stating, "The level of water quality necessary to support an existing use **shall** be maintained and protected." R18-11-107 (emphasis added). This "Tier 1" protection is considered the minimum protection level for surface water quality and applies to all surface waters regardless of existing water quality, including effluent dependent waters, ephemeral waters, intermittent waters and certain canals. R18-11-107.01. Despite this clear mandate, water quality standards used and analyzed in the FEIS did not take into consideration the existing aquatic wildlife uses of the intermittent streams at Barrel and McCleary Canyons, nor the existing livestock uses mentioned in our letter of September 28, 2017.

In conclusion, Pima County and the Regional Flood Control District appreciate the Corps' thorough analysis of Rosemont's impacts to public trust values, including existing uses of the streams at the mine site and its impact area. This latest set of evidence should leave little doubt that portions of Barrel and McCleary canyons must be considered intermittent with uses that would include aquatic wildlife characteristic of intermittent flow.

If you require any additional information, my staff are available to answer any questions you may have.

Respectfully,

C. H. Huckelberry
County Administrator

CHH/lab

Attachment

c: Deanna Cummings, US Army Corps of Engineers

Date: 10-15-18
From: Evan Canfield
To: Brian Powell
Subject: July 17, 2017 Watershed Yield Data

Background:
SWCA (08-28-2012 [SWCA 2012]) provided an estimate of 4.3% reduction of flow at the Davidson Canyon confluence, citing the method of Zeller, 2011. Pima County has long contended that the methods used by Hudbay to estimate the contribution of the watershed occupied by the proposed mine to Davidson Canyon and the Outstanding Arizona Waters (OAW) is underestimated (e.g comment #2 (Pima County's response to Westland Resources et al. (2016)). *The data summarized by Water and Earth Technologies in Hudbay's July 17, 2017 transmittal to William James, U. S. Army Corps, indicate that the fraction of flow generated on the mine site contributing to Davidson Canyon is much greater than the fractions presented by Hudbay.*

Datasets:
The data presented by Water and Earth Technologies (WET) with the contributing watershed is as follows:

Table 1
Ac-ft Runoff (from WET, June 2017)

	Area (sq. mi) *	2013	2014	2015	2016
Davidson at DC-3	50.5	24.05	86.72	204.64	>219.62
Barrel at USGS	14.1	42.02	58.68	186.91	168.07
Barrel at BC -2	13.83	18.93	99.81	127.83	149.55
SC-6	3.1			39.23	>6.72
SC-4	2.44			52.05	90.09
MC-4	2.29			19.14	1.78
MC-3	1.75			185.96	432.25
TC-4	1.41			0.47	0.0001
TC-3	0.87			0.87	0.0002

* From USGS site data or USGS Streamstats, based on coordinates provided by WET

This original relationship by Zeller, 2011 is:

$$Q_{AA} = (8.44885x10^{-6})A^{0.9821}\,P^{2.1198}E^{1.2101}$$

Q_{AA} – Average annual runoff (acre-ft)
A – Area in (square miles)
P - Annual Precipitation (inches)

E – Mean Elevation (feet)

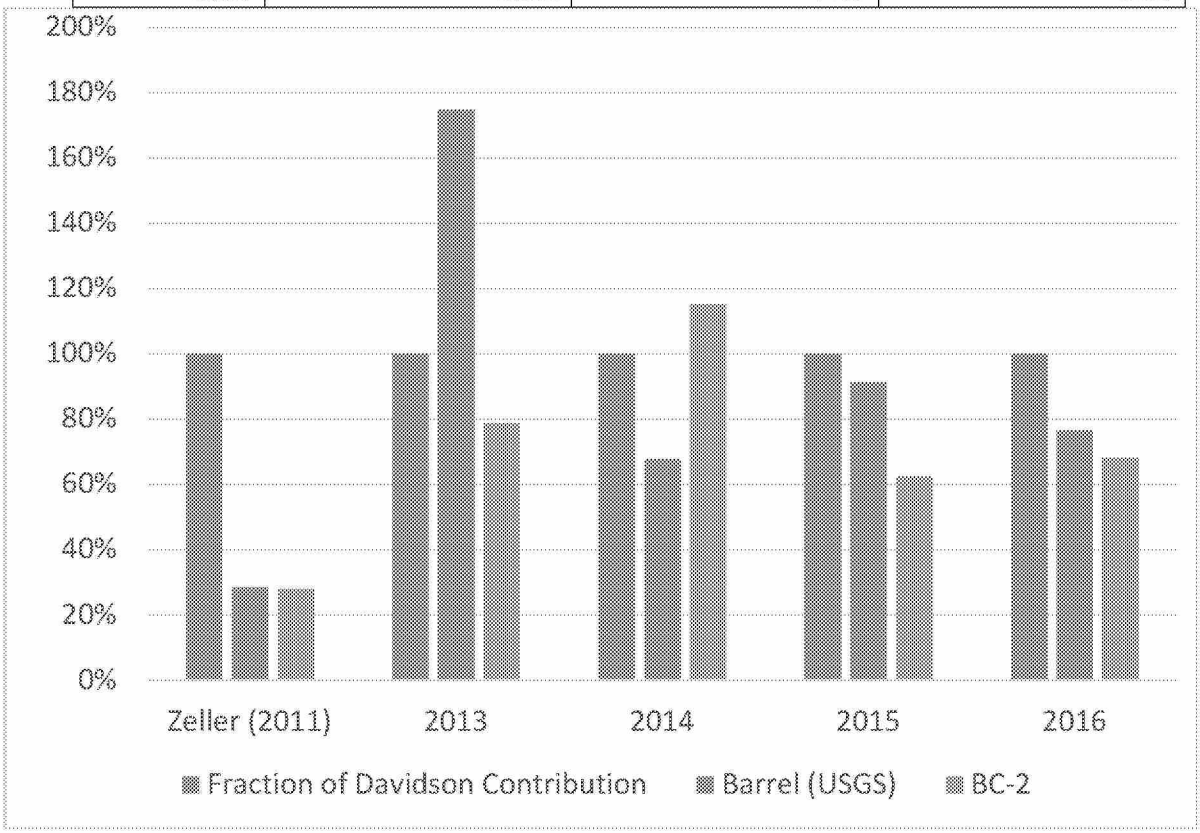
The simplified relationship cited in SWCA 2012 assumes a constant elevation and annual precipitation, so that the regression equation is based solely on the watershed area. While Pima County contends that assumption underestimate the importance of these inputs, the estimates using area as the only variable demonstrate a dramatic underestimate when compared to the observed data.

Using a ratio approach where the fraction from the portion of the watershed contributing to Davidson, the Zeller (2011) approach would mean that 29% of the flow at Davidson DC-3 could have come from Barrel).

In fact, comparing the observed measurements for the period from 2013 to 2016 (based on data in Table 1), the fraction contributing from Barrel is always more than half of the observed flow at Davidson (Table 2 and Figure 1).

Table 2 – Fraction of the Observed Flows Contributing to Davidson

	Davidson at DC-3	**Barrel at USGS**	**Barrel at BC-2**
	50.5 (sq. mi)	**14.1 (sq. mi)**	**13.8 (sq. mi)**
Zeller (2011)	**100%**	**29%**	**28%**
2013	100%	175%	79%
2014	100%	68%	115%
2015	100%	91%	62%
2016	100%	77%	68%



A similar argument could be made for the smaller, more-recently gaged watersheds on the mine site, though results would be more variable because of the smaller dataset, and local rainfall variability.

Conclusion:

Hudbay in their 2017 letter to U. S. Army Corps focuses on the observed flows being less than the model predictions:

> *.....As we have stated, the 1,404 acre-feet per year is approximately 10 times any flow volume that we have seen using an average 18-inch per year rainfall for the calculations. (cover page of 07-17-17 data transmittal).*

However, their consultant's datasets attached to the transmittal letter confirm that flows from the mine site to Davidson Canyon are significantly higher than predicted by the Zeller method, and the estimate of 4.3% reduction in flows to Davidson indicated in SWCA 2012. Outflows predicted by the Zeller method cannot be considered "conservative" based on the observed data. Barrel watershed's observed outflows during 2013-2016 provided more than half of the observed flows to Davidson.

References:

HudBay, 2017. July 17, 2017 Transmittal letter Re: Stormwater Information to William James, U. S. Army Corps of Engineers.

Pima County's Response to Westland Resources et al. (2016) 5/24/2016. Seeing the Water for the Models: Pima County's Modeling of Rosemont Mine Impacts on Water Resources in Davidson Canyon Remains Robust Despite Comments by Westland Resources et al. (2016)

SWCA. 2012 Method for estimating flow in Davidson Canyon. Memorandum to file from DeAnne Rietz dated August 28, 2012.

Water and Earth Technologies, 2017. Hydrologic Data Summary, January 1, 2013 – May 31, 2017. Rosemont Project dated 6/29/2017. In Hudbay 2017.

Zeller, M. E. 2011. Predicted Regulatory (100-Yr) Hydrology and Average-Annual Runoff Downstream of the Rosemont Copper Project. Tucson, Arizona: Tetra Tech. July 11.

Attachment 2

September 13, 2018 letter to Mr. William James entitled "*New information regarding protection of County parks, Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB*".

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C.H. HUCKELBERRY
County Administrator

September 13, 2018

Mr. William James, National Mining Expert
U. S. Army Corps of Engineers
3701 Bell Road
Nashville, Tennessee 37214-2660

Re: **New information regarding protection of County parks, Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB**

Dear Mr. James:

The purpose of this letter is to respond to misinformation that was provided by Hudbay. We only recently became aware of their correspondence to you concerning our land. In the attachment to their letter to you dated February 1, 2018, Hudbay wrote:

"Bar V Ranch is maintained as a working ranch and is not a preserve (see http://www.pima.gov/cmo/admin/reports/ConservationReport/PDF/Chapters/Reserves/Bar%20V%20Ranch.pdf, accessed January 15, 2018) so 40 CFR 230.54 does not apply."

The cited report and the Rosemont project's Final Environmental Impact Statement and its Supplements were completed prior to significant changes in the conservation status of the Bar V Ranch and most other protected areas under County or Regional Flood Control District ownership. Based on an array of conservation actions, reviews and designations at the federal, state and local level, we believe that the terms of 40 CRF 230.54 do apply to the portions of Davidson Canyon we own, as well as other properties in the impact area.

On July 13, 2016, Pima County and U. S. Fish and Wildlife Service agreed to the terms of an Endangered Species Act Section 10 incidental take permit #TE84356A-0, which established a framework for compensatory mitigation that relies on a set of acquired and managed lands—inclusive of Bar V Ranch—to offset the impacts of actions covered under Pima County's Section 10 permit. Pursuant to that federal approval of the permit, the Pima County Board of Supervisors then placed restrictive covenants on the deeded portions of the designated mitigation lands to fulfill the permit terms. Figure 1 illustrates the location of the mitigation properties for the federal permit relative to the location of the Rosemont mine project.

The restricted covenants on the deeded lands in Figure 1 restrict future use of those lands and establish a baseline year for pre-existing uses. As you can see, some of the encumbered lands are located at the Bar V Ranch, but we also own many other properties in the vicinity that likewise restrict development activities. On October 16, 2016, the deeded lands were

designated as parks by the Pima County Board of Supervisors and are subject to park rules. Based on federal and local actions to protect these lands, the lands shown in orange meet the parks definition in 40 CFR 230.54[1] and must considered as such during your project review. The terms do not apply to the state trust land we lease shown in green.

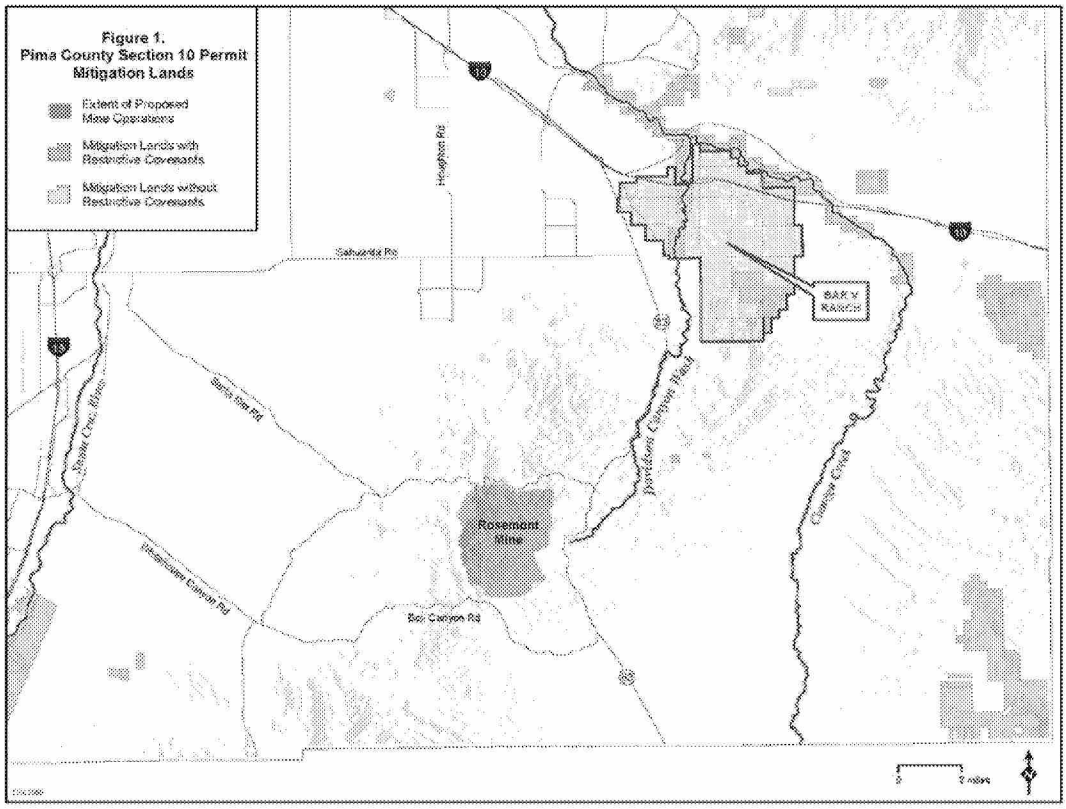

Figure 1. Section 10 Mitigation Land owned by Pima County or the Regional Flood Control District in the vicinity of the proposed Rosemont Mine with restrictive covenants. Bar V Ranch is comprised of two types of land, state trust land (in green) and deeded land (orange). Adjacent mitigation lands (orange) along Cienega Creek and elsewhere in the valley are entirely deeded lands owned by either Pima County or the District. The presence of restrictive covenants means these lands are protected under 40 CFR 230.54.

Copies of the federal; permit and the Master Restrictive Covenants which apply to these properties are attached for reference. Pima County and The Arizona Department of Transportation also entered into an agreement, which requires management of the Davidson Canyon property to "manage and preserve the scenic view shed of the Property in

[1] "These preserves consist of areas designated under Federal and State laws or local ordinances to be managed for their aesthetic, educational, historical, recreational, or scientific value."

perpetuity". The agreement prohibits using the property for revenue generation except for agriculture, including grazing (attached).

Hudbay consistently understates the value of Davidson Canyon for regional conservation. During the development of the Sonoran Desert Conservation Plan, a panel of biological experts, known as the Science Technical Advisory Team, identified Davidson Canyon as a part of a critical landscape and wildlife connection between the Rincon and Santa Rita mountains (Pima County 2000; RECON Environmental Inc. 2000; Pima County 2001a, b). This was later re-affirmed by the Arizona Game and Fish Department and Dr. Paul Beier (Beier et al. 2006). The significant value of Davidson Canyon as mitigation was reviewed and affirmed by U. S. Fish and Wildlife in granting our Section 10 incidental take permit. Moreover, the original nomination report for the Outstanding Arizona Waters designation for Davidson Canyon (Pima Association of Governments 2005) provided additional information on the fish and wildlife, and hydrological values of the stream and underwent public review through the state's rulemaking process. Successive reports by Pima County and others substantiating the values have been provided to the Corps or other federal partners (Powell 2013; Powell et al. 2014; Powell et al. 2015).

On behalf of Pima County and the Regional Flood Control District, I ask that your public interest review under 33 CFR § 320.4 consider the permanent impacts that approval of the mine would have on the County's parks, which are intended as mitigation under our federal Section 10 incidental take permit.

Sincerely,

C.H. Huckelberry
County Administrator

CHH/mp

Attachment

c: Kerwin Dewberry, Forest Supervisor
Elizabeth Goldmann, U. S. Environmental Protection Agency

Literature Cited

Beier, P., D. Majka, and T. Bayless. 2006. Arizona missing linkages: Rincon-Santa Rita-Whetstone linkage design. Report to the Arizona Game and Fish Department. School of Forestry, Northern Arizona University.

Pima Association of Governments. 2005. Unique Waters nomination for Davidson Canyon. Prepared for the Pima County Regional Flood Control District, Tucson, Arizona.

Pima County. 2000. Draft preliminary Sonoran Desert Conservation Plan. Report to the Pima County Board of Supervisors for the Sonoran Desert Conservation Plan. Tucson, Arizona.

Pima County. 2001a. Priority Conservation Areas. Report to the Pima County Board of Supervisors in support of the Sonoran Desert Conservation Plan. Tucson, Arizona.

Pima County. 2001b. Reserve design process update. Draft report to the Pima County Board of Supervisors in support of the Sonoran Desert Conservation Plan. Tucson, Arizona.

Powell, B., L. Orchard, J. Fonseca, and F. Postillion. 2014. Impacts of the Rosemont Mine on hydrology and threatened and endangered species of the Cienega Creek Natural Preserve. Pima County, Arizona.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Post Office Box 1306
Albuquerque, New Mexico 87103

In Reply Refer To:
FWS/R2/ES-ER/063367

JUL - 5 2016

Mr. Charles H. Huckelberry
Pima County and
Pima County Regional Flood Control District
130 W. Congress, 10th Floor
Tucson, Arizona 85701

Dear Mr. Huckelberry:

We are providing you with two copies of your Fish and Wildlife Service – Endangered Species Act – Incidental Take Permit (TE84356A) for Pima County and the Pima County Regional Flood Control District. Please sign both copies and return one copy to:

U.S. Fish and Wildlife Service, Southwest Region
Environmental Review – Section 10 Permits
P.O. Box 1306, Room 6034
Albuquerque, New Mexico 87103

We would like to extend our sincere appreciation for your participation in the Habitat Conservation Program. Conserving, and ultimately recovering, endangered species must be a cooperative endeavor, and we thank you for your stewardship efforts.

If you have any comments or questions, please contact Jean Calhoun, Assistant Field Supervisor at the Arizona Ecological Services Field Office – Tucson Sub-Office of the U.S. Fish and Wildlife Service at 520-670-6150, extension 223. Thank you again for your commitment to the conservation of endangered species.

Sincerely,

Joy E Nicholopoulos

Deputy Regional Director
Southwest Region

Enclosures

3-201
(1/97)

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FEDERAL FISH AND WILDLIFE PERMIT

2. AUTHORITY-STATUTES
16 USC 1539(a)(1)(B)

REGULATIONS
50 CFR §§ 13 & 17

3. NUMBER
TE84356A-0

1. PERMITTEE

Pima County
Pima County Regional Flood Control District
130 W. Congress, 10th Floor
Tucson, AZ 85701
Phone: 520/740-8661
CHH@pima.gov

4. RENEWABLE	5. MAY COPY
[X] YES	[X] YES
[ ] NO	[ ] NO
6. EFFECTIVE 7/5/2016	7. EXPIRES 7/30/2046

8. NAME AND TITLE OF PRINCIPAL OFFICER (if #1 is a business)
Charles H. Huckelberry, Pima County Administrator and General Manager

9. TYPE OF PERMIT
Endangered Species – Incidental Take

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
Within Pima County and adjacent counties (Santa Cruz, Cochise, and Pinal) as described in section 3.1 of the MSCP.

11. CONDITIONS AND AUTHORIZATIONS:

A. Valid for use by Permittees named above.

B. Acceptance of the permit serves as evidence that the Permittee(s) agree to abide by the terms and conditions of this permit and all applicable sections of Title 50 CFR Parts 13 and 17 pertinent to issued permits. Terms and conditions of the permit are inclusive. Any activity not specifically permitted is prohibited. Violations of permit terms and conditions could result in the permit being suspended or revoked. Violations of the permit terms and conditions that contribute to a violation of the Endangered Species Act (ESA) could also subject you to criminal or civil penalties.

C. The persons listed in box 8 must sign for the permit to acknowledge receipt and signify agreement to fully abide by and implement this permit. An original signature copy must be returned to the Regional Office listed below in condition K.

Permittee Signature: C. Huckelberry Date: 7/13/16
Charles H. Huckelberry, Pima County Administrator

Permittee Signature: C. Huckelberry Date: 7/13/16
Charles H. Huckelberry, General Manager,
Pima County Regional Flood Control District

12. REPORTING REQUIREMENTS
Annual reports are due March 1.

ISSUED BY:	TITLE	DATE
Joy E Nicholopoulos	Deputy Regional Director	7/5/2016

D. DEFINITIONS

The following terms as used in the Permit shall have the meanings as set forth below:

Biological and Conference Opinion (BCO). The section 7 biological and conference opinion issued by the USFWS for the MSCP, including certain actions by the U.S. Army Corps of Engineers included as Covered Activities (Consultation # 22410-2006-F-0459).

Biological Certificate of Inclusion(). A County-issued certificate that affords protection under Pima County's Section 10 Incidental Take Permit to a third party for implementation of biological enhancements.

Certificate of Coverage. County-issued documentation certifying that all necessary requirements have been met and that Pima County is extending the benefits of its Section 10 Incidental Take Permit to private property where certain grading and ground disturbances are authorized by the Pima County Development Services Department.

Changed Circumstances. "Changes in circumstances affecting a species or geographic area covered by an Habitat Conservation Plan (HCP) that can reasonably be anticipated by Plan developers and the USFWS and that can be planned for (e.g., the listing of a new species, or a fire or other natural catastrophic event in areas prone to such events)" (50 CFR §17.3). If additional conservation and mitigation measures are deemed necessary to respond to changes in circumstances that were provided for in the HCP. The USFWS can request additional conservation, but cannot require that the Permittee(s) comply. Permittee(s) will be expected to implement the measures specified in the HCP, but only those measures and no others.

Covered Activities. Refers to those actions and activities outlined in Section 3.4 of the MSCP for which Pima County or Pima County Regional Flood Control District is seeking incidental take coverage. Covered Activities also include conservation and mitigation activities undertaken on mitigation lands. These actions, as outlined in the MSCP, occur under the authority and jurisdiction of Pima County and the Pima County Regional Flood Control District.

Covered Species. Those 44 species described in Section 3.3 of the MSCP that are proposed for coverage under Pima County and Pima County Regional Flood Control District's Section 10 Incidental Take Permit.

Effective Date. The date upon which documents related to the Pima County MSCP are signed and become effective. Signatures required may be USFWS, Pima County, Pima County Regional Flood Control District, Participants, Enrollees, or any combination of the foregoing. These documents include the Permit, Implementing Agreement, Certificates of Coverage, and Biological Certificates of Inclusion. Effective date also applies to dates notifications are given to parties with regard to amendment, suspension, or revocation of the Permit.

Enrollee. These are private landowners or developers that enroll in activities covered by the Biological Certificate of Inclusion issued by the Permittees under the MSCP.

Endangered Species Act (ESA). This is the Endangered Species Act, 16 U.S.C. § 1531 et seq., as amended. Terms defined and utilized in the ESA and implementing regulations shall have the same meaning when utilized in this Permit, except as specifically noted herein.

Implementing Agreement (IA). Specifies all terms and conditions of activities under the MSCP. By signing the Implementing Agreement, USFWS explicitly acknowledges approval of the plan and declares that it meets the requirements of an HCP to allow issuance of appropriate permits for the incidental take of Covered Species

listed at the time the IA is signed or take of other Covered Species should those become listed within the term of the Incidental Take Permit.

Incidental Take Permit (ITP; also called Section 10 Incidental Take Permit; see also Permit). A permit issued under Section 10(a)(1)(B) of the ESA to a non-Federal party undertaking an otherwise lawful project that might result in the incidental take of an endangered or threatened species. Application for an incidental take permit is subject to certain requirements, including preparation by the permit applicant of a conservation plan, generally known as an HCP. In the case of Pima County and Pima County Regional Flood Control District, the HCP is known as the Multi-species Conservation Plan.

Mitigation (programs/measures). Activities contributing to the conservation of resources and offsetting resource loss. The primary mitigation mechanisms for Pima County and Pima County Regional Flood Control District's Section 10 Incidental Take Permit is acquisition of land and property rights and subsequent management and monitoring activities, but other methods may be approved by USFWS.

Participant. Those property owners who voluntarily solicit protections afforded by the Pima County MSCP and who fulfill certain requirements.

Permit. See Incidental Take Permit (ITP).

Permittee-Controlled Mitigation Land. Mitigation lands for which either Permittee has a property interest (e.g., fee simple ownership, conservation easement, or grazing lease). Excludes mitigation lands derived from Permittee-issued Certificates of Coverage.

Permittees. The Permittees covered by this Permit are Pima County and the Pima County Regional Flood Control District.

Permit Area. This is the geographic area within which the MSCP and the associated Permit apply. A detailed description of the Permit Area is found in Section 3.1 of the MSCP.

Unforeseen Circumstance: "changes in circumstances affecting a species or geographic area covered by an HCP that could not reasonably have been anticipated by plan developers and the USFWS at the time of the HCP's negotiation and development, and that result in a substantial and adverse change in the status of the Covered Species" (50 CFR §17.3). The USFWS will not require the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources, even upon a finding of Unforeseen Circumstances, unless the Permittee(s) consent(s). Upon a finding of unforeseen circumstances, the USFWS will be limited to modifications within conserved habitat areas and the MSCP's operating conservation program, unless the USFWS provides additional resources to address the Unforeseen Circumstance.

F. COVERED PERMITTEES AND COVERED PARTICIPANTS

The Permittees covered by this Permit are Pima County and the Pima County Regional Flood Control District. Coverage under this Permit may be granted by the Permittees to certain private landowners or private development entities through the issuance of a Certificate of Coverage (Participants) or the Biological Certificate of Inclusion (Enrollees) provided these private entities are compliant with all of the requirements and commitments of the Pima County MSCP and associated documents.

F. COVERED SPECIES

The following is a list of the species covered under this Permit:

Common Name	Scientific Name	Federal Listing Status
Plants (4 species)		
Pima pineapple cactus	Coryphantha scheeri var. robustispina	Endangered
Needle-spined pineapple cactus	Echinomastus erectocentrus var. erectocentrus	Not listed
Huachuca water umbel	Lilaeopsis schaffneriana ssp. recurva	Endangered
Tumamoc globeberry	Tumamoca macdougalii	Not listed
Mammals (7 species)		
Mexican long-tongued bat	Choeronycteris mexicana	Not listed
Western red bat	Lasiurus blossevillii	Not listed
Western yellow bat	Lasiurus xanthinus	Not listed
Lesser long-nosed bat	Leptonycteris curasoae yerbabuenae	Endangered
California leaf-nosed bat	Macrotus californicus	Not listed
Pale Townsend's big-eared bat	Corynorhinus townsendii pallescens	Not listed
Merriam's mouse	Peromyscus merriami	Not listed
Birds (8 species)		
Western burrowing owl	Athene cunicularia hypugaea	Not listed
Cactus ferruginous pygmy-owl	Glaucidium brasilianum cactorum	Not listed
Rufous-winged sparrow	Aimophila carpalis	Not listed
Swainson's hawk	Buteo swainsoni	Not listed
Yellow-billed cuckoo (western distinct population segment)	Coccyzus americanus	Threatened
Southwestern willow flycatcher	Empidonax traillii extimus	Endangered
Abert's towhee	Melozone aberti	Not listed
Arizona Bell's vireo	Vireo bellii arizonae	Not listed
Reptiles (6 species)		
Desert box turtle	Terrapene ornata luteola	Not listed
Tucson shovel-nosed snake	Chionactis occipitalis klauberi	Not listed
Sonoran desert tortoise	Gopherus morafkai	Not listed
Groundsnake (valley form)	Sonora semiannulata	Not listed
Northern Mexican gartersnake	Thamnophis eques megalops	Threatened
Giant spotted whiptail	Aspidoscelis stictogramma	Not listed
Amphibians (2 species)		
Chiricahua leopard frog	Lithobates chiricahuensis	Threatened
Lowland leopard frog	Lithobates yavapaiensis	Not listed
Fish (5 species)		
Longfin dace	Agosia chrysogaster	Not listed
Desert sucker	Catostomus clarki	Not listed
Sonora sucker	Catostomus insignis	Not listed
Gila chub	Gila intermedia	Endangered
Gila topminnow	Poeciliopsis occidentalis occidentalis	Endangered

Common Name	Scientific Name	Federal Listing Status
Invertebrates (12 species)		
Black Mountain/Papago talussnail	Sonorella ambigua	Not listed
San Xavier talussnail	Sonorella eremita	Cons. Agree.
Total Wreck talussnail	Sonorella imperatrix	Not listed
Empire Mountain talussnail	Sonorella imperialis	Not listed
Sonoran talussnail	Sonorella magdalenensis syn. tumamocensis	Not listed
Pungent talussnail	Sonorella odorata	Not listed
Posta Quemada talussnail	Sonorella rinconensis	Not listed
Santa Catalina talussnail subspecies	Sonorella sabinoensis buehmanensis	Not listed
Santa Catalina talussnail subspecies	Sonorella sabinoensis tucsonica	Not listed
Las Guijas talussnail	Sonorella sitiens	Not listed
Tortolita talussnail	Sonorella tortillita	Not listed
Santa Rita talussnail	Sonorella walkeri	Not listed

G. COVERED AREA

A full description of the covered area (Permit Area) is found in Chapter 3.1 of the MSCP, and includes: (1) private lands in unincorporated Pima County; (2) lands where construction and maintenance of Pima County infrastructure occur, including lands within the cities and towns of Tucson, Marana, Oro Valley, and Sahuarita; and adjacent counties (Santa Cruz, Cochise, and Pinal); (3) lands Pima County owns in fee simple and lands on which the County possesses a property right, including those located in other jurisdictions; (4) State Trust lands that are or would be leased by Pima County or used as road easements; (5) State Trust and U.S. Bureau of Land Management (BLM) lands that could be released to the private sector and thus become subject to regulatory control of Pima County, except those within Federal reserves; (6) State Trust lands where Pima County holds a lease or acquires the land in fee simple; and (7) BLM lands that Pima County might patent for open-space purposes either through the Recreation and Public Purposes Act (RPPA) or through land exchanges.

H. COVERED ACTIVITES

A full description of the following activities is found in Chapter 3.4 of the Pima County MSCP and is incorporated herein by reference.

H.1 Covered activities include:

(a) Ground disturbances on individual, single-dwelling lots that occur subsequent to the County's issuance of a building permit that authorizes grading of 14,000 square feet or more provided that the property owner elects to participate in the County's Section 10 permit;
(b) Ground disturbances that occur as part of—and subsequent to—the development of a residential subdivision where such actions are subject to the County's issuance of a site construction permit provided the property owner elects to participate in the County's Section 10 permit after the submittal of the site construction permit application but prior to the County's issuance of the site construction permit ;
(c) Ground disturbances that occur as part of—and subsequent to—the development of a non-residential facility where such actions are subject to the County's issuance of a site construction permit provided the property owner elects to participate in the County's Section 10 permit after submittal of the site construction permit application but prior to the County's issuance of the site construction permit ;
(d) Activities of the County including construction, repair, maintenance, and operation of County facilities and infrastructure;

(e) Construction, operation, and maintenance of renewable energy generation projects located on County-owned lands leased to others specifically for that purpose;
(f) Relocation of utilities within County rights-of-way, where required by Pima County;
(g) Monitoring and land management activities including surveys, scientific studies, and other such activities carried out by Pima County and its cooperators for the purposes of the MSCP;
(h) Restoration activities such as vegetation treatments (including fire management activities) that are intended to improve the biological and ecological values;
(i) Recreation activities authorized by Pima County; and
(j) County ranch-management activities—exclusive of livestock herbivory and trampling—on land owned by the County and lands managed by the County through grazing leases issued by the State of Arizona.

Implementation of avoidance, minimization, and mitigation measures are also Covered Activities. The MSCP formalizes avoidance and minimization measures currently being implemented (see Table 4.1 of the Final MSCP), and provides additional species conservation measures in Appendix A of the MSCP that will avoid, minimize, and mitigate impacts associated with take of Covered Species and their habitat. Monitoring and implementation of management and conservation measures are also Covered Activities.

H.2 The mitigation program for the MSCP (Chapter 4.3 of the MSCP) is based on a commitment from the Permittees to acquire, protect, manage, and monitor mitigation lands in proportion to actual impacts from Covered Activities that occur over the life of the Permit.

I. INCORPORATION OF THE MSCP AND IA; GOVERNING LAW

I.1 The MSCP, the IA, and each of their provisions are intended to be, and by this reference are, incorporated herein. The terms of this Permit, the MSCP, and the IA shall be interpreted to be complementary. In the event of any direct contradiction among the terms of this Permit, the MSCP, and the IA, the terms and conditions of this Permit shall control.

I.2 This Permit, the MSCP, and the IA, and the Parties' compliance therewith, shall be governed by the ESA and associated implementing regulations.

J. TAKE AUTHORIZATION

J.1 Permittees are authorized to take Covered Species (described and specified within Chapter 3 of the MSCP and the final Biological and Conference Opinion on the issuance of this Permit – Consultation # 22410-2006-F-0459), through impacts to and loss of up to 36,000 acres of habitat resulting from new ground-disturbing activities, which can come from any combination of Covered Activities. The following is a list of habitat loss for each species covered under this Permit:

Species	Acres	Species	Acres
Pima pineapple cactus	18,963	Southwestern willow flycatcher	50
Needle-spined pineapple cactus	852	Abert's towhee	554
Huachuca water umbel	364	Arizona Bell's vireo	72
Tumamoc globeberry	15,706	Longfin dace	5
Mexican long-tongued bat	5,735	Desert sucker	5
Western red bat	178	Sonora sucker	5

Species	Acres	Species	Acres
Western yellow bat	48	Gila chub	0.1
Lesser long-nosed bat	15,978	Gila topminnow	0.5
California leaf-nosed bat	111	Chiricahua leopard frog	2
Pale Townsend's big-eared bat	1,525	Lowland leopard frog	7,145
Merriam's mouse	330	Desert box turtle	748
Western burrowing owl	1,392	Sonoran desert tortoise	9,473
Cactus ferruginous pygmy-owl	7,394	Tucson shovel-nosed snake	63
Rufous-winged sparrow	19,108	Northern Mexican gartersnake	3,210
Swainson's hawk	10,981	Giant spotted whiptail	4,355
Yellow-billed cuckoo	28	Groundsnake (valley form)	11

Up to 0.1 acres of habitat for each of the talussnails named above in condition E may be impacted.

Take of a small, but undeterminable number of individuals of some Covered Species may occur as a result of monitoring, management, and conservation measures (as described in the BCO).

J.2 This Permit will take effect for the Covered Species that are currently federally-listed as threatened or endangered at the time this Permit is issued. Subject to compliance with all other terms of this Permit, IA, and MSCP, the Permit shall take effect for Covered Species that are not listed at the time this Permit is issued immediately upon listing of such species as threatened or endangered by USFWS. Conservation and mitigation measures for all species, including species not listed as threatened or endangered, as outlined in the MSCP, shall be implemented upon issuance of this Permit.

J.3 Species may be added to the list of Covered Species only by amendment to this Permit and as outlined in the MSCP. The USFWS shall give due consideration to and full credit for conservation and mitigation measures previously implemented as part of the MSCP which benefit any species proposed to be added as a Covered Species.

J.4 Incidental take of Covered Species by landowners, developers, and other private entities is authorized pursuant to this Permit, provided a Certificate of Coverage or a Biological Certificate of Inclusion has been issued by the Permittees.

J.5 With regard to the Permittees or holders of Biological Certificates of Inclusion exercising the provisions of the MSCP for species reintroduction or population augmentation as outlined in the MSCP, these entities shall provide notification to the USFWS at least one month prior to any actions that would return Covered Species populations to the baseline condition and allow access to their properties for the capture, salvage, and relocation of the appropriate Covered Species occupying those properties.

K. PROPER IMPLEMENTATION OF THE MSCP

K.1 The MSCP shall be deemed properly implemented if the commitments and provisions of this Permit, the MSCP, and IA have been and are being implemented and met in accordance with their terms. The Permittees shall timely and completely comply with and perform their obligations under the MSCP and IA.

K.2 If the Permittees are wholly or partially prevented from performing obligations under this Permit, the IA, or the MSCP because of causes beyond the reasonable control of and without the fault or negligence of the Permittees (Force Majeure), including, but not limited to, acts of God, labor disputes, sudden actions of the elements, or actions of non-participating persons or entities, the Permittees shall be excused from whatever performance is affected by the Force Majeure to the extent so affected, and the failure to perform such shall not be considered a material violation or breach. However, the occurrence of any Force Majeure shall not be deemed to authorize the Permittees to violate the ESA. Further, it is required that: 1) the suspension of performance is of no greater scope and no longer duration than is required by the Force Majeure; 2) within fifteen (15) working days after the occurrence of the Force Majeure, the Permittees shall give the USFWS written notice describing the particulars of the occurrence; and 3) the Permittees use their best efforts to remedy their inability to perform (however, this section shall not require the settlement of any strike, walk-out, lock-out, or other labor dispute on terms which, in the sole judgment of the Permittees, are contrary to their interests).

K.3 Upon reasonable notification to the Permittees (50 CFR 13.47), the USFWS will be allowed access to Permittee-controlled mitigation properties to inspect the condition of the properties and to ensure that the MSCP is being implemented according to its terms for the benefit of the Covered Species.

K.4 The Permittees shall submit an annual report detailing the implementation of the MSCP, as described in Section 9.1, Appendix P of the MSCP, and Section 8.0 of the IA. Annual reports shall be submitted by March 1 of each year (detailing accomplishments in the previous calendar year) to:

Field Supervisor
U.S. Fish and Wildlife Service
BLM Training Center
9828 N. 31st Avenue (3rd floor)
Phoenix, Arizona 85051

U.S. Fish and Wildlife Service
Ecological Services
P.O. Box 1306, Room 6034
Albuquerque, New Mexico 87103
FW2_HCP_Permits@fws.gov

L. TERM

This Permit shall have a duration beginning on the Effective Date in Box 6, above, and continuing in full force and effect for a period of up to 30 years thereafter, or until Covered Activity impacts total 36,000 acres and full mitigation has been provided, or until revocation or surrender and cancellation of this Permit as provided for in subparagraph O hereof, whichever comes earlier.

M. LIMITATION ON IMPOSITION OF ADDITIONAL CONSERVATION MEASURES

M.1. Changed Circumstances, Notice of Changed Circumstances, and Implementation of Response

(a) Changed Circumstances. Table 7.1 of the MSCP describes Changed Circumstances, and corresponding conservation and mitigation measures, if any, that the Permittees shall implement in response to such Changed Circumstances, should they occur during the life of this Permit. These Changed Circumstances are incorporated herein by reference.

As long as the terms of the MSCP are being properly implemented, USFWS shall not require the implementation of any conservation and mitigation measures by the Permittees in response to Changed Circumstances, other than those measures specified in this subparagraph, M.1(a).

(b) Notice of Changed Circumstances & Implementation of Response

(1) Permittee-initiated Response to Changed Circumstances.
The Permittees shall give written notice to USFWS within 30 working days after learning that any of the Changed Circumstances listed in the MSCP and included in subparagraph M.l(a) hereof has occurred. As soon as practicable thereafter, but no later than 90 working days after learning of the Changed Circumstances, the Permittees shall modify their activities in the manner and to the extent required by the MSCP and subparagraph M.1(a) hereof and report to the USFWS on its actions. The Permittees shall make any such required modifications without awaiting notice from USFWS.

(2) FWS-initiated Response to Changed Circumstances.
If USFWS determines that Changed Circumstances have occurred and that the Permittees have not responded in accordance with the MSCP and subparagraph M.1(a) hereof, USFWS shall so notify the Permittees in writing and direct the Permittees to make the required changes. Within 90 working days after receiving such notice, the Permittees shall make the required changes and report to USFWS on their actions.

(c) Effect of Changed Circumstances on Permit and MSCP

(1) In General
Changed Circumstances are provided for in the MSCP and, hence, do not constitute Unforeseen Circumstances or require amendment of this Permit, the MSCP, or the IA.

(2) Critical Habitat
USFWS shall consider the MSCP in its preparation of any proposed designation of critical habitat concerning any Covered Species. Consistent with 50 CFR § 424.12, the MSCP incorporates special management considerations necessary to the conservation of habitat that is necessary for the conservation of the Covered Species.

M.2. Unforeseen Circumstances

(a) No Surprises Assurances

The "Covered Species" listed in subparagraph G above, are considered adequately addressed under the MSCP and are, therefore, covered by no surprises rule assurances. In the event that it is demonstrated by USFWS that Unforeseen Circumstances exist during the life of this Permit, and additional conservation and mitigation measures are deemed necessary to respond to Unforeseen Circumstances, USFWS may require additional measures of the Permittees where the MSCP is being properly implemented, but only through coordination with the Permittees and only if such measures are limited to modifications to the MSCP's operating conservation program for the Covered Species, and maintain the original terms of the MSCP to the maximum extent practicable.

Notwithstanding the foregoing, USFWS shall not:

1) Require the commitment of additional land, water, or financial resources by the Permittees without the consent of the Permittees; or

2) Impose additional restrictions on the use of land, water, or natural resources otherwise available for use by the Permittees under the original terms of the MSCP.

(b) Effect of Unforeseen Circumstances on Permit

Except as provided in subparagraph M.2 hereof, notwithstanding the occurrence of Unforeseen Circumstances, as long as the Permittees continue to properly implement the provisions of the MSCP and any additional measures required by USFWS in accordance with subparagraph M.2(a) hereof, this Permit will remain in full force and effect.

(c) Notice of Unforeseen Circumstances

USFWS shall notify the Permittees in writing of any Unforeseen Circumstances of which USFWS becomes aware that may affect the obligations of the Permittees under this Permit, the MSCP, or the IA.

N. PERMIT AMENDMENT

N.1 This Permit may be amended in accordance with the provisions of 50 CFR §13.23, and with the consent of the Permittees as outlined in the MSCP and the IA. The Permittees or USFWS shall provide a written statement of the reasons for the proposed amendment and an analysis of its environmental effects, including its effects on operations under the MSCP and on Covered Species.

N.2 If, during the life of this Permit, the Covered Activities and/or the extent of the impact of the covered activities described in the MSCP are altered, such that there may be an increase in the anticipated incidental take beyond that described in the MSCP, the associated appendices, and the final BCO, the Permittees are required to contact the USFWS and obtain authorization and/or amend this Permit before commencing any covered activities that might result in exceeding said limits for covered species.

O. PERMIT SUPSENSION, REVOCATION, AND SURRENDER

O.1 Permit Suspension

(a) USFWS may suspend this Permit if the Permittees are not in compliance with the terms and conditions of this Permit, or with any applicable Federal laws or regulations governing the conduct of the Covered Activities. The suspension shall remain in effect until USFWS determines that the Permittees have corrected the deficiencies. Notwithstanding the foregoing, USFWS shall not suspend this Permit without first: (1) notifying the Permittees in writing that this Permit may be subject to suspension pursuant to this subparagraph P.1(a), including a statement of the deficiencies that must be corrected by the Permittees; and (2) providing the Permittees with a period of sixty 60 working days after the date of notice of deficiencies in which to correct the deficiencies. If the correction has been initiated but cannot be completed within the 60-day period, suspension may be averted provided the USFWS has, at its discretion, approved a schedule of completion for the correction.

(b) A partial suspension of this Permit, meaning it may apply only to specified Covered Species or to only a portion of the Permit Area or Covered Activities, may occur. In the event of a partial suspension, the portion of this Permit not subject to the suspension shall remain in full force and effect.

(c) All avoidance, minimization, and mitigation measures in the MSCP that are continued in effect during any Permit suspension shall be taken into account by USFWS and credited towards meeting the requirements of the MSCP upon removal of any Permit suspension to ensure that any Covered Activities remain in compliance with the requirements of the ESA.

O.2 Permit Revocation

(a) USFWS shall not revoke this Permit for any reason except those listed in 50 CFR § 13.28(a)(1)-(4), or unless the Covered Activities would be inconsistent with the criteria set forth in 16 U.S.C. § 1539(a)(2)(B)(iv) and this inconsistency has not been remedied. Notwithstanding the foregoing, this Permit will only be revoked if USFWS and the Permittees have not been successful in remedying any such inconsistency through other means.

(b) A partial revocation of this Permit, meaning it may apply only to specified Covered Species, or to only a portion of the Permit Area or Covered Activities, may occur. In the event of a partial revocation, the portion of this Permit not subject to the revocation shall remain in full force and effect.

O.3. Surrender and Cancellation of Permit.

Should the Permittees or successor-in-interest, at their discretion, desire to surrender this Permit, they shall return this Permit to the USFWS with a written statement surrendering this Permit for cancellation. Only joint surrender by the Permittees or their successors-in-interest is permitted. This Permit will be deemed cancelled only upon a determination by USFWS, in collaboration with the Permittees, that sufficient measures have been implemented by the Permittees to mitigate for take of Covered Species that occurred pursuant to the terms of this Permit, before its surrender. Upon surrender of this Permit, no further take of the Covered Species by the Permittees shall be authorized.

P. BIOLOGICAL CERTIFICATE OF INCLUSION SUSPENSION, REVOCATION, AND SURRENDER

P.1. Biological Certificate of Inclusion Suspension and Revocation

A Biological Certificate of Inclusion may be suspended or revoked for cause by either the Permittees or the USFWS, acting jointly or separately, if: the Enrollee has failed to satisfy any specific responsibility or condition required by the MSCP, Permit, or Certificate; the Permittees and/or the USFWS have made reasonable, good faith efforts to cooperatively work with the Enrollee to correct the deficiency; the deficiency remains uncorrected, even after the Permittee's and/or the USFWS's good faith efforts; and written notice has been provided to the affected Enrollee alerting the Enrollee of the pending suspension or revocation a minimum of 30 days prior to the Effective Date of the suspension or revocation.

P.2. Certificate of Inclusion Severability

A Biological Certificate of Inclusion issued by the Permittees to an Enrollee is severable with respect to the Permittee's Permit, and with respect to Certificates of Inclusion issued by the Permittees to other Enrollees. Thus, failure by one Enrollee to comply with the requirements of a Certificate of Inclusion, potentially invalidating that Enrollee's Permit coverage, does not affect the rights and obligations of other Enrollees under their respective Certificate of Inclusion, or the Permittee's rights or obligations under its Permit, provided that the Permittees or other such Enrollees are, themselves, in compliance with the requirements of the MSCP, the Permit, or their Certificates of Inclusion, as applicable.

P.3. Biological Certificate of Inclusion Amendments

If a change of ownership occurs, a Certificate of Inclusion is not transferrable, but the new owner is eligible for a new Certificate of Coverage provided that new owner agrees and meets obligations specified in the Certificate.

P.4. Biological Certificate of Inclusion Early Termination

Voluntary or early termination of a Certificate of Inclusion by an Enrollee is allowable only if all obligations and measures required by the MSCP and the Permit have been fully implemented or satisfied. Any Enrollee requesting early termination of a Certificate of Inclusion also understands that the benefits provided by the MSCP and its associated Permit, regulatory or otherwise, also cease as of the Effective Date of termination of the Certificate of Inclusion. An Enrollee who wishes to terminate a Certificate of Inclusion prior to its specified expiration date may do so by giving the Permittees written notice of such termination, together with a written explanation of the reason for termination, and a minimum of 60 working days prior to the Effective Date of the termination. Upon such notification, the Certificate of Inclusion with respect to that Enrollee will be considered terminated as of the end of the 60-day period. Early termination of a Certificate of Inclusion will not require USFWS approval. However, the Permittees will inform USFWS of all such early terminations occurring in a given year in its annual report, as required in Section 9.1 of the MSCP and Subparagraph K.3 of this Permit.

GENERAL TERMS AND CONDITIONS

Q. DISPOSITION OF DEAD, INJURED, OR SICK INDIVIDUALS OF LISTED SPECIES

Upon locating a dead, injured, or sick individual of a vertebrate listed species listed in subparagraph G above, within the Permit Area or mitigation lands, the Permittees are required to contact the USFWS Office of Law Enforcement, Resident Agent in Charge, 4901 Paseo del Norte NE, Suite D, Albuquerque, NM 87113, telephone: 505/248-7889, within three working days of its finding. Written notification must be made within five working days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Law Enforcement Office with a copy to the Phoenix USFWS Ecological Services Office (see address above in subparagraph K.4). Care must be taken in handling sick or injured animals to ensure effective treatment and care and in handling dead specimens to preserve the biological material in the best possible state.

R. MIGRATORY BIRD TREATY ACT PROVISIONS

This Permit also constitutes a Special Purpose Permit under 50 CFR §21.27 for the take of ESA-listed covered migratory bird species (see subparagraph G above) to the extent outlined in the MSCP and BCO and subject to

the terms and conditions specified herein. Any such take will not be in violation of the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§703 –12). The Special Purpose Permit shall be valid for the life of this Permit, provided the Permit remains in effect for that period and the Permittees remain in full compliance with the terms of this Permit, the IA, and the MSCP.

S. RENEWAL OF PERMIT

The Permittees may apply for the renewal of the Permit prior to its expiration date in accordance with the provisions of 50 CFR § 13.22.

T. SUCCESSORS AND ASSIGNS

The terms and conditions of this Permit shall be binding on and shall inure to the benefit of the Permittees and their respective successors and assigns, as provided in 50 CFR §§ 13.24 and 13.25.

U. SEVERABILITY

The terms and conditions of this Permit shall be deemed severable, and if any term or condition of this Permit shall be held invalid, illegal, or unenforceable by a Federal court, after exhaustion of all available appeals, the remainder shall continue to be effective and binding upon USFWS and the Permittees. Notwithstanding the foregoing, in the event that any portion of this Permit shall be held invalid, USFWS and the Permittees shall use their best efforts to agree upon amendments to this Permit, consistent with condition P above.

V. USFWS ENFORCEMENT RESPONSIBILITIES

No provision of this Permit shall limit the authority of the USFWS to seek civil or criminal penalties, or otherwise fulfill its enforcement responsibilities under the ESA and other applicable laws. However, as long as the Permittees are in compliance with the terms of this Permit, the USFWS shall not seek civil or criminal penalties or otherwise enforce the take prohibitions of the ESA and other applicable laws for incidental take of the Covered Species in accordance with the terms of this Permit.

***** End of Permit # TE84356A-0 *****

F. ANN RODRIGUEZ, RECORDER
Recorded By: LW
DEPUTY RECORDER
41

PCREA
PIMA CO REAL PROPERTY SERVICES
PICKUP

SEQUENCE: 20163130354
NO. PAGES: 104
COV 11/08/2016
14:53:01

PICK UP
AMOUNT PAID: $0.00

WHEN RECORDED RETURN TO:
PIMA COUNTY REAL PROPERTY SERVICES
ATTN.: MICHAEL D. STOFKO
201 N. STONE, 6TH FLOOR
TUCSON, AZ 85701-1215

DOCUMENT TITLE: MASTER RESTRICTIVE COVENANT FOR PIMA COUNTY MSCP MITIGATION LAND

ARS Section 11-1134 is inapplicable.

RecordedDocReturn.Frm

Master Restrictive Covenant for

Pima County MSCP Mitigation Land

This Master Restrictive Covenant ("**MSCP Master Covenant**") is entered into by Pima County, a political subdivision of the State of Arizona ("**County**"), the Pima County Regional Flood Control District, a political taxing subdivision of the State of Arizona ("**District**"), and the Arizona Land and Water Trust, Inc., an Arizona nonprofit corporation ("**Beneficiary**") (County, District, and Beneficiary being collectively the "**Parties**").

1. Background and Purpose

1.1. The United States Fish and Wildlife Service issued permit #TE84356A to County (the "**Permit**") for the incidental take of threatened and endangered species caused by specific, lawful activities within Pima County. To direct the mitigation of these incidental takes and ensure compliance with the permit, the County has established its Multi-Species Conservation Plan ("**MSCP**"). The objectives of the MSCP (the "**Objectives**") include managing mitigation lands to prioritize conservation of Covered Species and their habitats, prevent landscape fragmentation, and support species establishment or recovery.

1.2. The County owns the real property listed in Exhibit A (the "**Restricted Property**" or "**Restricted Properties**"). A map identifying the Restricted Property is attached hereto as Exhibit B. Individual maps of each of the Restricted Properties are attached hereto as Exhibit C. The Restricted Property contains significant undisturbed natural open space that the County wishes to preserve and protect for the mitigation of incidental take covered by the County's incidental take permit.

1.3. The Parties intend this MSCP Master Covenant to prohibit uses of the Restricted Properties that would impair or interfere with the mitigation efforts of the County, except for any pre-existing uses as shown on imagery by Pictometry or Pima Association of Governments dated 2015 or 2016, whichever is more recent (the "**Pre-existing Uses**").

1.4. The Parties intend that this MSCP Master Covenant assure that the Restricted Properties will be forever preserved as natural open space for the conservation of natural habitat for wildlife, the protection of rare and unique native plants and animals and the scenic enjoyment of the general public.

2. Recording of Site Specific Restrictive Covenants

2.1. The Parties intend that a site specific agreement ("**Site Specific Agreement**") be recorded for each individual property listed on Exhibit A and depicted on Exhibits B and C. The Site Specific Agreement shall be in the form of Exhibit D attached hereto. The Parties intend that each Site Specific Agreement incorporate all of the terms and conditions contained in this MSCP Master Covenant. Each Site Specific Agreement will contain the legal description of the referenced property, and recordation of a Site

Specific Agreement will subject the real property described therein to the terms of this MSCP Master Covenant and cause such property to be a Restricted Property.

2.2. County hereby delegates to the County Administrator or his designee the authority to sign each of the Site Specific Agreements on behalf of County. District hereby delegates to the General Manager of the District or his designee the Authority to sign each of the Site Specific Agreements on behalf of District.

3. **Nature of MSCP Master Covenant**

3.1. This MSCP Master Covenant runs with each Restricted Property and binds the County and its successors and assigns.

3.2. This MSCP Master Covenant remains in perpetuity with respect to each Restricted Property, unless released by written consent of County, District, and Beneficiary, with the written concurrence of the U. S. Fish & Wildlife Service. Any release will specify if it relates to a specific Restricted Property or to this Master Agreement and, therefore, all the Restricted Properties.

3.3. The uses of the Restricted Properties prohibited by this MSCP Master Covenant remain in effect notwithstanding any future annexation of all, or any portion, of a specific Restricted Property by a municipality.

3.4. This MSCP Master Covenant may not be amended or modified except upon written agreement of County, District, and Beneficiary, and written concurrence from the U.S. Fish and Wildlife Service.

3.5. This MSCP Master Covenant may be enforced by District or Beneficiary as provided in Section 9 below.

4. **The Restrictions**. Except as provided in Section 5 of this MSCP Master Covenant, the following uses of the Restricted Properties are prohibited (collectively the "**Restrictions**"):

4.1. Development of the Restricted Properties, including subdividing or lot splitting of a Restricted Property;

4.2. Construction or placement of new or additional buildings or structures on a Restricted Property, unless the construction supports the purposes for which the Restricted Property was originally intended including any adopted master plan, and does not degrade the Restricted Property's values as expressed in the purpose statement;

4.3. Alteration of the ground surface or natural vegetation, except as may be needed for ranch, range improvement, or trail-based recreational uses, and only if such alterations are consistent with other provisions of the Multi-species Conservation Plan;

4.4. Impoundment, diversion or alteration of any natural watercourse unless for watershed enhancement to improve species habitat or to maintain a Restricted Property's mitigation values;

4.5. Development of, or the granting of, access, rights-of -way or easements for new roads or new utilities, including telecommunications facilities, except where County has no discretion to prohibit the activity;

4.6. Filling, excavation, dredging, mining, drilling, exploration, or extraction of minerals, hydrocarbons, soils, sand, gravel, rock or other materials on or below the surface of the Restricted Property, except where County has no discretion to prohibit the activity;

4.7. Storage, accumulation or disposal of hazardous materials, trash, garbage, solid waste or other unsightly material on the Restricted Property;

4.8. Introduction of non-native fish or amphibians or other non-native animals to or from catchments, tanks, springs or creeks. Other non-native species that might adversely affect the mitigation of permitted activities are also prohibited except for the purposes of supporting existing ranching operations, if any, and limited to those areas identified that have historically been devoted to the growing of such species, as shown on 2015 or 2016 aerial photographs;

4.9. Storage and use of biocides and chemical fertilizers except for residential and agricultural purposes. Aerial application of biocide or other chemicals is prohibited except where County and District concur that it is an appropriate and necessary management technique to promote the recovery and re-establishment of native species, to reduce threats to ecosystem structure and function, or to protect public health, safety and welfare;

4.10. Pumping of water from existing diversions for purposes other than on-site residential, wildlife, recreational, habitat enhancement and agricultural uses associated with livestock grazing on the Restricted Property. Increases in the pumped amounts of surface or subsurface water as allowed by the Arizona Department of Water Resources are not permitted without joint approval from the County and District and concurrence from the U.S. Fish and Wildlife Service;

4.11. Installation of underground storage tanks for petroleum or other polluting substances, except for already existing or permitted septic tanks;

4.12. Confinement of livestock where animals are permanently located in enclosures and the majority of their feed supplied from outside sources. This includes feeder cattle, dairy, pig, poultry and exotic animal farm operations;

4.13. Commercial enterprises inconsistent with the Objectives, excluding farming and ranching. The County and District may jointly approve commercial enterprises, other

than farming or ranching, that provide for ecotourism or wildlife-related recreation provided that it is consistent with the Objectives and does not degrade the Restricted Property's mitigation value;

4.14. Residential use for mobile homes, travel trailers, tent trailers, self-propelled recreational vehicles and like structures or vehicles, except temporary use as permitted by County Park Rules or reasonable use as needed to support the protection or enhancement of the Restricted Property's mitigation value;

4.15. Paving of roads using asphalt or concrete except where required by County ordinance;

4.16. Any modification of the topography of the Restricted Property through the placement of soil, dredging spoils, or other material, except for those uses permitted under this document, or to reduce soil erosion or to protect public health, safety and welfare;

4.17. Severance of water rights appurtenant to the Restricted Property including the transfer, encumbrance, lease and sale of water rights;

4.18. Off-road vehicular travel except to facilitate permitted activities on the Restricted Property; and

4.19. Removal of natural, mineral, or cultural resources that is not authorized by County.

5. **Exceptions to Restrictions.** Notwithstanding any other provision of this MSCP Master Covenant, the following uses of the Restricted Properties are not prohibited:

5.1. Any use of the Restricted Property which the County Board of Supervisors in its reasonable discretion determines is necessary to retain, restore, or enhance the mitigation of incidental take covered by the Permit;

5.2. Any Pre-existing Use of the Restricted Property;

5.3. Any use of the Restricted Property expressly permitted by a contract in effect between the County and a third party as of the date this MSCP Master Covenant is recorded; and

5.4. Any use of the Restricted Property which the County Board of Supervisors determines, based on clear and convincing evidence presented to said Board, is necessary to protect the public health, safety or welfare.

6. Obligations of County

6.1. County, through its employees, agents and contractors, retains all responsibilities and will bear all costs and liabilities of any kind related to the ownership, operation, upkeep, and maintenance of the Restricted Properties. County remains solely responsible for obtaining any applicable governmental permits and approvals for any activity or use undertaken on the Restricted Properties. All such activity shall comply with all applicable Federal, state, and local laws, regulations, and requirements.

6.2. County, through its employees, agents and contractors, at County's expense, will conduct an inspection of the Restricted Properties at least biennially to determine if there are any violations of the Restrictions. The inspection will be completed by either examination of aerial photographs or by physical inspections with onsite photographs taken at the time of the inspections. The County will prepare and deliver copies of biennial reports ("Reports") of its inspections, which reports will describe the then current condition of the Restricted Properties inspected and note any violations of the Restrictions. Copies of the Reports will be provided to District and Beneficiary upon completion, and in no event later than October 15 of each biennial reporting year. County will maintain the Reports as County records in accordance with Arizona state law.

6.3. County shall report any violations of the terms of this MSCP Master Covenant to District and Beneficiary within 2 working days of County discovery and confirmation of any such violation. For purposes of this Section 6.3, the determination of what shall constitute a reportable violation of this MSCP Master Covenant shall be at County's reasonable discretion. However, County's determination of what is reportable pursuant to this Section 6.3 will not limit District or Beneficiary's right to enforce this MSCP Master Covenant as provided for in Sections 7, 8, and 9 of this MSCP Master Covenant.

6.4. The parties acknowledge that Beneficiary has no legal ownership interest in the Restricted Properties, and it is the parties' intent that the Beneficiary not undertake any responsibility or liability with respect to the Restricted Properties, other than liability related to Beneficiary's negligence ("Beneficiary's Negligence"), as more specifically limited below. Therefore, County agrees:

6.4.1. County (as indemnifying party) shall indemnify, defend and hold harmless, Beneficiary and its officers, directors, employees, agents, affiliates, successors and permitted assigns (collectively, "**Indemnified Party**") against any and all losses, damages, liabilities, deficiencies, claims, actions, judgments, settlements, interest, awards, penalties, fines, costs, or expenses of whatever kind, including attorneys' fees, that are incurred by Indemnified Party (collectively, "**Losses**"), arising out of or related to any third-party claim alleging:

6.4.1.1. breach or non-fulfillment of any provision of this Agreement by County, District, or County or District's personnel;

6.4.1.2. any negligent or more culpable act or omission of County, District, or County or District's personnel (including any reckless or willful misconduct) in connection with the performance of County, District, or County or District's personnel under this Agreement;

6.4.1.3. any bodily injury, death of any person or damage to real or tangible personal property caused by the negligent or more culpable acts or omissions of County, District, or County or District's personnel (including any reckless or willful misconduct);

6.4.1.4. any failure by County, District, or County or District's personnel to comply with any applicable federal, state or local laws, regulations or codes, including any failure related to their performance under this Agreement; or

6.4.1.5. any claim by any third party asserting a failure of Beneficiary to enforce Beneficiary's rights, or perform Beneficiary's duties, under this Agreement. County's obligation to indemnify Beneficiary against third party claims related to any failure of Beneficiary perform Beneficiary's duties, under this Agreement will not preclude County from replacing Beneficiary as provided in Section 8.5. Replacement of Beneficiary will be County's sole remedy for Beneficiary's breach of its obligations under this Agreement.

6.4.2. Beneficiary must give notice to County (a "**Claim Notice**") of any claim filed which may give rise to a Losses. Indemnified Party's failure to provide a Claim Notice does not relieve County of any liability, but in no event shall County be liable for any Losses that result directly from a delay in providing a Claim Notice, which delay materially prejudices the defense of the claim. County's duty to defend applies immediately after receiving a Claim Notice.

6.4.3. County may select legal counsel to represent Beneficiary in any action for which County has an obligation to indemnify, defend and hold harmless Beneficiary, and County shall pay all costs, attorney fees, and Losses.

6.4.4. County shall give prompt written notice to Beneficiary of any proposed settlement of a claim that is indemnifiable under this Agreement. County may settle or compromise any claim without Beneficiary's consent, so long as Beneficiary is not responsible for paying any Losses.

7. Obligations of District

7.1. District shall review any and all reports on potential violations of the Restrictions provided by County to District as required by this MSCP Master Covenant, at District's expense.

7.2. If the event of any action that may constitute a violation of the terms of this MSCP Master Covenant, District shall determine, in its reasonable discretion, whether to take any action to enforce the terms of this MSCP Master Covenant.

7.3. In the event that County desires to take action with respect to the Restricted Properties that may constitute a violation of this MSCP Master Covenant, County will obtain District's prior approval of such action, and District shall respond to any such request from County in a timely manner.

7.4. District and County will advise Beneficiary in writing of any non-privileged communications between County and District with regard to the matters referred to in Sections 7.2 and 7.3. District and County will also provide Beneficiary with copies of any written communications, in whatever form, between District and County with regard to the matters referred to in Sections 7.2 and 7.3.

8. Obligations of Beneficiary

8.1. Beneficiary shall review any and all reports provided by County to Beneficiary as required by this MSCP Master Covenant, at County's expense. County shall compensate Beneficiary for performing its actions under this Section 8.1 on a time and materials basis, pursuant to the terms of professional services contract entered into between County and Beneficiary (the "Services Agreement"). In the event (i) County and Beneficiary cannot agree upon the Services Agreement; (ii) the Services Agreement is terminated, for any reason; (ii) County fails to timely pay Beneficiary under the Services Agreement; or (iii) County materially breaches any other term of the Services Agreement, then Beneficiary will have the right to terminate its obligations under this MSCP Master Covenant by providing County and District ten days prior written notice.

8.2. If the event of any action that may constitute a violation of the terms of this MSCP Master Covenant, Beneficiary shall determine, in its reasonable discretion, whether to take any action to enforce the terms of this MSCP Master Covenant. Beneficiary shall be reimbursed for any expenses incurred by Beneficiary to enforce this Master Agreement in accordance with the Services Agreement.

8.3. In the event that County desires to take action with respect to a Restricted Property that may constitute a violation of this MSCP Master Covenant, County will obtain Beneficiary's prior approval of such action, and Beneficiary shall respond to any such request from County in a timely manner. Beneficiary shall be compensated for any services performed in response to any such request in accordance with the Services Agreement.

8.4. In the event Beneficiary is no longer able to perform its obligations under this MSCP Master Covenant, or no longer desires to serve as Beneficiary, then Beneficiary shall provide not less than sixty (60) days' notice to County. Beneficiary may designate a replacement Beneficiary subject to County's approval. In the event Beneficiary does not designate a replacement Beneficiary within 45 days' after delivery of the notice, then

County will be solely responsible to designate a replacement Beneficiary. Beneficiary's resignation shall be effective sixty (60) days after the delivery of the notice by Beneficiary to County.

8.5. County's sole remedy for Beneficiary's failure to perform Beneficiary's obligations under this Agreement will be to terminate the Services Agreement and replace Beneficiary with a new party who will fill the role of Beneficiary. County will be solely responsible to designate a replacement Beneficiary in such event.

9. **District and Beneficiary's Right To Enforce.**

9.1. District and/or Beneficiary (for purposes of this Section 9, collectively or individually the "**Enforcing Party**") may enforce this MSCP Master Covenant against the County and its successors and assigns.

9.2. If the Enforcing Party has reason to believe that a violation of the Restrictions may have occurred, the Enforcing Party has the right to enter upon the Restricted Properties. The Enforcing Party must provide at least two (2) business days' notice to County prior to entering upon a Restricted Property.

9.3. The Enforcing Party shall hold County harmless from liability for any injuries to its employees or agents occurring on a Restricted Property in the course of its duties pursuant to this MSCP Master Covenant which are not directly or indirectly the result of acts, omissions, or the negligence of County, or County's employees, agents, successors and assigns.

9.4. If the Enforcing Party determines that there is a breach of the terms of the Restrictions, the Enforcing Party may, but is not obligated to, enforce the terms of this MSCP Master Covenant as provided in this Section 9. When evaluating any possible breach or enforcement action, the Enforcing Party will have the right to consult experts (e.g., biologists, engineers, etc.) to assist it in determining both whether or not there is a violation and appropriate remedial action, provided that the cost of any such experts is subject to the maximum dollar limitation in the Services Agreement. Beneficiary will be reimbursed by County for any such expenses in accordance with the Services Agreement.

9.5. Prior to any enforcement action by the Enforcing Party, the Enforcing Party must give written notice to County of such breach (the "**Notice of Breach**") and demand corrective action sufficient to cure the breach and, where the breach involves injury to a Restricted Property resulting from any activity inconsistent with the purpose of this MSCP Master Covenant, to restore the portion of the Restricted Property so injured.

9.6. If (i) under circumstances where an alleged breach can be cured within a 30 day period, County fails to cure an alleged breach within 30 days after receipt of the Notice of Breach, or (ii) under circumstances where an alleged breach cannot reasonably be cured within a 30 day period, County fails to begin curing such breach within the 30 day

period, or County fails to continue diligently to cure such breach until finally cured, the Enforcing Party may in any such event bring an action at law or equity to enforce the terms of this MSCP Master Covenant or to enjoin the breach by temporary or permanent injunction, and to recover any damages caused by the breach of the terms of this MSCP Master Covenant or injury to any protected uses or mitigation, including damages for any loss, and to require the restoration of any Restricted Property to the condition that existed prior to the injury.

9.7. In the event any action, suit or proceeding at law or in equity is instituted with respect to this MSCP Master Covenant, the Enforcing Party shall be entitled to reasonable attorneys' fees, expenses and court costs incurred if it is the prevailing party.

9.8. Nothing contained in this MSCP Master Covenant can be construed to entitle the Enforcing Party to bring any action against the County for any injury to or change in the Restricted Property resulting from causes beyond the County's control including unforeseeable acts of trespassers, fire, flood, storm, drought, pests, natural earth movement, vegetative disease, or resulting from any action taken by the County under emergency conditions to prevent, abate or mitigate significant injury to any Restricted Property resulting from such causes.

10. **General Provisions**

10.1. The laws and regulations of the State of Arizona govern this MSCP Master Covenant. Any action relating to this MSCP Master Covenant must be brought in a court of the State of Arizona in Pima County.

10.2. Unless the context requires otherwise, the term "including" means "including but not limited to".

10.3. Each provision of this MSCP Master Covenant stands alone, and any provision of this MSCP Master Covenant found to be prohibited by law is ineffective only to the extent of such prohibition without invalidating the remainder of this MSCP Master Covenant.

10.4. This instrument sets forth the entire Agreement of the County, District and Beneficiary with respect to this MSCP Master Covenant.

10.5. Any notice given under this MSCP Master Covenant must be in writing and served by delivery or by certified mail upon the other Parties as follows:

If to County: Office of Sustainability and Conservation
Attn: Director
Pima County Public Works
201 N Stone Ave., 6th FL
Tucson, Arizona 85701

If to District: Regional Flood Control District
Attn: Director
Pima Works Building
201 N Stone Ave., 9th FL
Tucson, Arizona 85701

If to Beneficiary: The Arizona Land and Water Trust
Attn: Diana Freshwater, President
3127 N. Cherry Ave.
Tucson, Arizona 85719

The Parties have executed this MSCP Master Covenant by their duly authorized representatives.

COUNTY: PIMA COUNTY, a political subdivision of the State of Arizona:

Chair, Board of Supervisors — OCT 18 2016 Date

ATTEST:

Robin Brigode, Clerk of Board of Supervisors — OCT 18 2016 Date

DISTRICT: The Pima County Regional Flood Control District

Chair, Board of Directors — OCT 18 2016 Date

ATTEST:

Robin Brigode, Clerk of Board of Directors — OCT 18 2016 Date

APPROVED AS TO CONTENT:

Neil J. Konigsberg, Manager, Real Property Services

John Bernal, Deputy County Administrator, Public Works

APPROVED AS TO FORM:

10/10/16

Tobin Rosen, Deputy County Attorney

BENEFICIARY: The Arizona Land and Water Trust, Inc.

Diana Freshwater, President

10/11/16

Date

EXHIBIT D

When Recorded, Please Return to:

Pima County Real Property Services
201 N Stone Ave, 6th Floor
Tucson, AZ 85701-1215

SITE-SPECIFIC AGREEMENT TO MASTER RESTRICTIVE COVENANT

1. **Parties; Effective Date.** This Site-Specific Agreement (**"SSA"**) is entered into by and between PIMA COUNTY, a body politic and corporate of the State of Arizona (**"County"**), the PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT, a political taxing subdivision of the State of Arizona (**"District"**), and the Arizona Land and Water Trust, Inc. an Arizona nonprofit corporation (**"Beneficiary"**) (County, District, and Beneficiary being collectively the **"Parties"**). This SSA shall be effective on day it is signed by the Parties (the "Effective Date").

2. **Incorporation of Master Agreement** This SSA incorporates all definitions, terms and conditions of that certain Master Restrictive Covenant for County Conservation Land between the Parties, dated _____, and recorded _____, 2016, in in the records of the Pima County Recorder in Sequence No. _____ (the **"Master Covenant"**).

3. **Site-Specific Property.**

3.1. The property subject to this SSA is legally described on **Exhibit A** to this SSA (the **"Site-Specific Property"**).

3.2. The Site-Specific Property is subject to all of the terms and conditions of the Master Covenant.

COUNTY: PIMA COUNTY

By: _____ _____
Its: Date

DISTRICT: Regional Flood Control District

By: _____ _____
Its: Date

BENEFICIARY: The Arizona Land and Water Trust, Inc.

By: _____ _____
Its: Date

EXHIBIT ONLY --- NOT FOR EXECUTION

EXEMPTION: A.R.S. § 11-1134.A.3.	PCGPR Mitigation: Sec 10 [ ]; ILF [ ]; Sec 7 [ ]; CLS [ ];; Other [ ]		
Agent: MDS	File: E-0019	Activity:	P [ ] De [ ] Do [ ] E [ ]

CONTRACT

NO. 01-30-A-137783-0406

AMENDMENT NO. _____

This number must appear on all invoices, correspondence and documents pertaining to this contract.

A.G. Contract No.: KR05-1273TRN
ECS File No.: JPA 05-045
Project No.: NNA-0-410
Section: I-10 at Davidson Canyon
Project: Purchase Scenic Easement
TRACS No.: H6638 01R
Budget Source Item No.: 75305

INTERGOVERNMENTAL AGREEMENT

BETWEEN
THE STATE OF ARIZONA
AND
PIMA COUNTY

THIS AGREEMENT is entered into this date April 24, 2006, pursuant to Arizona Revised Statutes § 11-951 through 11-954, as amended, between the STATE OF ARIZONA, acting by and through its DEPARTMENT OF TRANSPORTATION (the "State") and PIMA COUNTY, acting by and through its CHAIRMAN and BOARD OF SUPERVISORS (the "County").

1. The State is empowered by Arizona Revised Statutes § 28-401 to enter into this Agreement and has delegated the undersigned the authority to execute this Agreement on behalf of the State.

2. The County is empowered by Arizona Revised Statutes § 11-251 and 11-951 to enter into this Agreement and has by resolution, a copy of which is attached hereto and made a part hereof, resolved to enter into this Agreement and has authorized the undersigned to execute this Agreement on behalf of the County.

3. Congress has authorized appropriations for, but not limited to, the twelve eligible Transportation Enhancement (TE) activities.

4. The State and the County are in mutual agreement to participate in the TE activity 3 using FHWA funding and an Enhancement Reimbursable Grant in, the acquisition and management of scenic property (the "Property") along I-10 at Davidson Canyon, south of Tucson, hereinafter referred to as the "Project". Both parties agree that the County will provide matching funds, be the lead agency of the Project and manage and preserve the scenic view shed of the Property in perpetuity.

THEREFORE, in consideration of the mutual agreements expressed herein, it is agreed as follows:

NO. 28198
Filed with the Secretary of State
Date Filed: 4-24-06
Janice K. Brewer
Secretary of State
By: _____

II. SCOPE OF WORK

1. The County shall:

a. Upon execution of this Agreement, provide a copy of the deed and closing statement to show the acquisition of the Property. Revenue generated by any lease of the Property needs to be put back into maintenance or other Title 23 eligible projects.

b. Be responsible for any and all costs of the Project over and above the State's share of $500,000.00.

c. Be responsible to provide copies of all studies, reports and other materials to the State for review and comment.

d. Be responsible to manage the Property acquired as a result of this Agreement, in perpetuity, and preserve its natural scenic qualities.

e. Acknowledge and agree that the Property shall not be leased for revenue generation except that the County may use the Property for agricultural purposes, grazing, and for the operation of cattle ranches and may lease the Property for similar types of uses, as part of a management plan.

f. Acknowledge and agree that in the future, if a widening or repairs along the Property on I-10 at Davidson Canyon are necessary, access will be granted to the State/ADOT at no cost(s) over the portions of the Property adjacent to the right of way while the work is performed, provided that upon completion of the work the State/ADOT will at its expense restore the Property, including fencing, if any, to substantially the condition that existed prior to such temporary access. If any of the property is needed for the widening, County shall grant such property to the State/ADOT at no cost or credit, provided the property so granted does not have a value in excess of $500,000.00.

2. The State shall:

a. Review the documents provided, including the deed and closing statement.

b. Upon execution of this Agreement and within thirty-days (30) of receipt of the deed and closing statement, using Federal Funds, reimburse the County in a total amount not to exceed $500,000.00, as its share of the Project. The State shall have no other direct or indirect responsibilities with respect to the monetary contribution defined herein.

III. MISCELLANEOUS PROVISIONS

1. The State has no direct interest in the Project. The only interest of the State in this Agreement is to provide monetary contribution from Federal Funds, to the Project.

2. The County shall not transfer, sell, or otherwise dispose of all or any part of the Property nor shall it assign its obligations under this Agreement without prior written consent from the State. If the Property is sold without retention by the County of a scenic easement or if the scenic easement is later removed from the Property, the County shall need to refund the $500,000 to the State.

3. The County agrees to indemnify and save harmless the State, including its departments, officers, and employees, from and against all losses, expenses, damages or claims of any nature whatsoever arising out of the negligence or willful misconduct of the County or its officers or employees in the performance of any of the provisions of this Agreement.

4. The terms, conditions and provisions of this Agreement shall remain in full force and effect until completion and reimbursements; provided herein. This Agreement may be cancelled at any time prior to the award of a Project construction contract, upon thirty-days (30) written notice to either party. It is understood and agreed that, in the event the County cancels this Agreement, the State shall in no way be obligated to maintain said Project.

5. This Agreement shall become effective upon filing with the Secretary of State.

6. This Agreement may be cancelled in accordance with Arizona Revised Statutes § 38-511.

7. The provisions of Arizona Revised Statutes § 35-214 are applicable to this Agreement.

8. In the event of any controversy, which may arise out of this Agreement, the parties hereto agree to abide by required arbitration as is set forth for public works contracts in Arizona Revised Statutes § 12-1518.

9. This Agreement is subject to all applicable provisions of the Americans with Disabilities Act (Public Law 101-336, 42 U.S.C. 121-1-12213) and all applicable Federal regulations under the Act including 28 CFR Parts 35 and 36. The parties to this Agreement shall comply with Executive Order Number 99-4 issued by the Governor of the State of Arizona, and incorporated herein by reference regarding "Non-Discrimination".

10. Non-Availability of Funds: Every payment obligation of the State under this contract is conditioned upon the availability of funds appropriated or allocated for the payment of such obligation. If funds are not allocated and available for the continuance of this contract, this contract may be terminated by the State at the end of the period for which the funds are available. No liability shall accrue to the State in the event this provision is exercised, and the State shall not be obligated or liable for any future payments or for any damages as a result of termination under this paragraph.

11. All notices or demands upon any party to this Agreement shall be in writing and shall be delivered in person or sent by mail addressed as follows:

Arizona Department of Transportation
Joint Project Administration
205 S. 17th Avenue – Mail Drop 616E
Phoenix, AZ 85007
(602) 712-7525

Pima County Real Property Services
Attn: Janet Russell
201 N. Stone Avenue, 6th Floor
Tucson, AZ 85701
(520) 740-6321

12. Pursuant to Arizona Revise Statutes § 11-952, (D) attached hereto and incorporated herein is the written determination of each party's legal counsel that the parties are authorized under the laws of this State to enter into this Agreement and that the Agreement is in proper form.

IN WITNESS WHEREOF, the parties have executed this Agreement the day and year first above written.

PIMA COUNTY

By _____
RICHARD ELIAS
Chairman, Pima County Board of Supervisors

ATTEST: APR 04 2006

By _____
LORI GODOSHIAN
Clerk of the Board of Supervisors

STATE OF ARIZONA
Department of Transportation

By _____
SUSAN TELLEZ
Contract Administrator

G:05-045-Pima County-Scenic Easement-DRAFT-30January2006-slc

JPA 05-045

ATTORNEY APPROVAL FORM FOR PIMA COUNTY

I have reviewed the above referenced Intergovernmental Agreement between the State of Arizona, acting by and through its DEPARTMENT OF TRANSPORTATION, and the COUNTY, an Agreement among public agencies which, has been reviewed pursuant to A.R.S. § 11-951 through § 11-954 and declare this Agreement to be in proper form and within the powers and authority granted to the COUNTY under the laws of the State of Arizona.

No opinion is expressed as to the authority of the State to enter into this Agreement.

DATED this 6th day of February, 2006.

Scott Neely

County Attorney

RESOLUTION NO. 2006- 80

RESOLUTION OF PIMA COUNTY TO ENTER INTO AN INTERGOVERNMENTAL AGREEMENT WITH THE STATE OF ARIZONA FOR REIMBURSEMENT OF ACQUISITION COSTS FOR THE BAR V RANCH

WHEREAS, Pima County (the "County") purchased the Bar V Ranch (the "Property") on February 17, 2005, as part of the 2004 Open Space Bond Program; and

WHEREAS, the Property contains a portion of the scenic Davidson Canyon, visible from Interstate 10, east of Sonoita Highway; and

WHEREAS, the County applied for and was awarded $500,000 towards the purchase of this Property, via the Federal Highway Administration's Transportation Enhancement Program; and

WHEREAS, the Arizona Department of Transportation ("ADOT") administers the program for the Federal Highway Administration; and

WHEREAS, the County has met all of the requirements of the program for reimbursal; and

WHEREAS, the County and the State of Arizona (the "State") have completed negotiations on an Intergovernmental Agreement to reimburse the County the $500,000 for the acquisition; and

NOW, THEREFORE, BE IT RESOLVED, that Pima County will enter into an Intergovernmental Agreement with the State of Arizona to be reimbursed for $500,000 in acquisition costs for the Property, as part of the Transportation Enhancement program. In return for reimbursement, the County shall:

1. Agree not to lease the property for lease revenue generation, except that the County may lease the property for grazing and agricultural purposes.

2. Agree that in the future, if widening or repairs along the Property on I-10 at Davidson Canyon are necessary, access to the Property will be granted to the State/ADOT at no cost, and if any property is needed for the widening, the County will grant such property to the State at no cost up to $500,000.

3. Agree that the County will not sell or transfer the Property without the consent of the State.

Passed by the Board of Supervisors of Pima County, this 4th day of April, 2006.

Chairman, Pima County Board of Supervisors

APR 04 2006

ATTEST:

Clerk of the Board

APPROVED AS TO FORM:

Deputy County Attorney

00599-06

TERRY GODDARD
Attorney General

OFFICE OF THE ATTORNEY GENERAL
STATE OF ARIZONA

CIVIL DIVISION
TRANSPORTATION SECTION
Writer's Direct Line:
602.542.8855
Facsimile: 602.542.3646
E-mail: Susan Davis@azag.gov

INTERGOVERNMENTAL AGREEMENT DETERMINATION

A.G. Contract No. KR05-1273TRN (**JPA 05-045**), an Agreement between public agencies, i.e., The State of Arizona and Pima County, has been reviewed pursuant to A.R.S. § 11-952, as amended, by the Undersigned Assistant Attorney General who has determined that it is in the proper form and is within the powers and authority granted to the State of Arizona.

No opinion is expressed as to the authority of the remaining Parties, other than the State or its agencies, to enter into said Agreement.

DATED: April 17, 2006

TERRY GODDARD
Attorney General

Susan Davis

SUSAN E. DAVIS
Assistant Attorney General
Transportation Section

SED:mjf:956535
Attachment

Attachment 3

September 13, 2018 letter to Mr. William James entitled "*New Air Quality Emissions, Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB*

COUNTY ADMINISTRATOR'S OFFICE

PIMA COUNTY GOVERNMENTAL CENTER
130 W. CONGRESS, FLOOR 10, TUCSON, AZ 85701-1317
(520) 724-8661 FAX (520) 724-8171

C.H. HUCKELBERRY
County Administrator

September 11, 2018

Mr. William James, National Mining Expert
U. S. Army Corps of Engineers
3701 Bell Road
Nashville, Tennessee 37214-2660

Re: **New Air Quality Emissions, Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB**

Dear Mr. James:

The U. S. Forest Service (USFS) and U. S. Army Corps of Engineers (USACE) must rely on the conclusions of fact in the Final Environmental Impact Statement (FEIS) and other records relating to the Rosemont Copper project. From time to time, as conditions change, the agencies must consider whether new information or conclusions of fact require re-analysis.

Since the Forest Service concluded the EIS process and issued its Record of Decision, certain conditions have changed. This letter advises you of additional information for your consideration.

Revised Air Quality Emissions

The State of Arizona has amended the air quality permit for the Rosemont Copper Project. We note the following changes:

1. The 2013 permit limited the amount of rock mined to no more than 359,500 tons per day on a calendar day basis. The 2018 permit limits the amount of rock mined to no more than 420,000 tons per day, calendar day basis. This is an increase in the amount of rock mined per day by 16.8 percent.

2. The 2013 permit limited the amount of ammonium nitrate and fuel oil (ANFO) used during blasting to no more than 52 tons per day. The 2018 permit limits the amount of ammonium nitrate and fuel oil (ANFO) used during blasting to no more than 250 tons per day. This is an increase in the amount of ANFO used per day by 380 percent.

3. Potential emissions have been revised according to the schedule below[1]. Highlighted cells indicate increased fugitive or total emissions. Although total greenhouse gases, volatile organic compounds, and Hazardous Air Pollutant emissions declined, we are particularly concerned about the increased emissions of nitrogen oxides and particulates.

Table 1: Potential Non-Fugitive and Fugitive Emissions Pollutant	Non-Fugitive Emissions (tons per year)	Fugitive Emissions (tons per year)	TOTAL (tons per year)
PM	50.23	4986.73	5036
PM_{10}	24.73	1384.55	1435
$PM_{2.5}$	8.55	156.28	165
NO_x	14.89	205.56	221
CO	8.36	810.13	818
SO_2	0.02	24.18	24
VOC	2.37	0.00	2
GHG	1663.83	4581.82	6245
HAPs	0.04	2.69	3

Since these changes may potentially affect the ambient air quality impacts from the facility's emissions, ADEQ requested Rosemont perform dispersion modeling to demonstrate that the facility's emissions will not interfere with attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). The pollutants subject to this ambient assessment review are PM10, PM2.5, NOx, CO and ozone.

Ambient Assessment

Modeled Results for PM10, PM2.5, NO_2, SO_2 and CO are presented in Table below, which summarizes the modeled results for PM10, Primary PM2.5, NO2, SO2 and CO as presented in the ambient assessment. Representative background concentrations were added to modeled impacts and the total concentrations were then compared to the NAAQS. Based on the table, the state has determined emissions from the Rosemont project would not cause

[1] Technical Review and Evaluation of Application for Air Quality Permit No. 67001, April 24, 2018.

or contribute to a violation of the NAAQS under the operational limits/conditions as proposed in the permit. The AERMOD modeling analysis also revealed that the modeled design concentrations for all pollutants occurred within or near the ambient air boundary. Because PM10 is the primary pollutant of concern, the state requires Rosemont to install and operate a PM10 monitor in the area, to provide additional assurances that the project's operations are protective of NAAQS.

Table 1: Modeled Results for PM10, Primary PM2.5, NOx, SO2 and CO[2]

Pollutant	Averaging Period	Modeled Concentration (µg/m3)	Background Concentration (µg/m3)	Maximum Ambient Concentration (µg/m3)	NAAQS (µg m3)
PM_{10}	24-hour	97.66	47.7	145.4	150
$PM_{2.5}$	24-hour	9.31	9.3	18.6	35
	Annual	2.91	3.2	6.11	12
NO_2	1-hour	127.5	26.3	153.8	188.6
	Annual	15.2	4.0	19.2	100
SO_2	1-hour	26.1	22.6	48.7	196
	Annual	0.03	3	3.03	80
CO	1-hour	1,711	582	2,293	40,000
	8-hour	277.6	582	859.6	10,000

The FEIS underestimated air quality impacts

We continue to believe that the potential air quality impacts of the Rosemont Copper Mine Project have been underestimated due to incorrect assumptions used to model air quality impacts. The incorrect assumptions resulted in inaccurate conclusions regarding the mine's impact on air quality and visibility in the FEIS[3]. Because nitrogen oxide and particulate emissions have been revised upward, we ask again for your independent consideration of ozone and visibility impacts as you conclude your public interest review.

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[2] *Id.*

[3] Letter to Jim Upchurch by C. H. Huckelberry, August 14, 2013. Pima County Comments—Rosemont Copper Mine Preliminary Administrative Final Environmental Impact Statement.

Given the potential impacts of increased NO_x, a conservative approach to protecting air quality dictates the use of a photochemical model, especially since more than a million people live in the air shed. The federal agencies have unique obligations under the NEPA to determine if the permit would significantly degrade the environment. The federal responsibilities are distinct from this state's, and must be exercised to protect the public.

Sincerely,

C.H. Huckelberry
County Administrator

CHH/mp

c: Kerwin Dewberry, Forest Supervisor
Elizabeth Goldmann, U. S. Environmental Protection Agency

Attachment 4

September 7, 2018 letter entitled "*New information and response to Hudbay Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB*"

COUNTY ADMINISTRATOR'S OFFICE

PIMA COUNTY GOVERNMENTAL CENTER
130 W. CONGRESS, FLOOR 10, TUCSON, AZ 85701-1317
(520) 724-8661 FAX (520) 724-8171

C.H. HUCKELBERRY
County Administrator

September 7, 2018

Mr. William James, National Mining Expert
U. S. Army Corps of Engineers
3701 Bell Road
Nashville, Tennessee 37214-2660

Re: **New Information and Response to Hudbay, Rosemont Copper Project ACOE Application No. SPL – 2008-00816-MB**

Dear Mr. James:

This letter responds to Hudbay's February 2, 2018 letter to Mr. William James and Ms. Deanna Cummings, which we only recently obtained through a Freedom of Information Act request. In that letter, Hudbay states that the mine's drawdown of groundwater must not be considered by the U. S. Army Corps of Engineers (Corps) in making a determination to issue the Section 404 permit. Pima County agrees with the Environmental Protection Agency (EPA) in its letter of November 30, 2017, to the Corps, that these effects are secondary effects on the aquatic ecosystem under the "Guidelines for the Specification of Disposal Sites for Dredged or Fill Material" found in 40 CFR § 230.11(h) (Guidelines), and must be considered as such when evaluating the project.[1] The Corps must also consider these effects in the public interest review mandated by 33 C.F.R. § 320.4. Groundwater emanating from the Santa Rita Mountains is a source of water supply for the Tucson Active Management Area, and sustains wetlands of national interest along Cienega Creek and other streams.

New Research

We have previously asserted the importance of the Rosemont area as a source of recharge based on USGS models, groundwater contours, and our own groundwater model, and now

[1] November 30, 2017 letter from Nancy Woo to Edwin Townsley; "EPA Analysis of Hudbay Minerals' *Final Mitigation and Monitoring Plan Permit NO. SPL-2008-00816-MB Rosemont Copper Project* (HMMP)," September 12, 2017.

new research clearly links the springs and wells in Las Cienegas to the Santa Rita Mountains[2]. We point you to newly completed research by Rachel Tucci (University of Arizona) that shows wetlands at the Las Cienegas National Conservation Area depend on water recharging in the Santa Rita Mountains, and not from recently recharged runoff infiltrating through streambeds in the basin[3]. Because the springs and wells appear to discharge from a confined aquifer that originates in the Santa Rita Mountains, our our concern is that changes in the pressure of water located in rock fractures and sediment pores at the mine site may quickly affect these nationally significant water features in Las Cienegas.

The models in the Final Environmental Impact Statement for the Rosemont project assumed an aquifer dominated by releases from fractured bedrock to the basin fill unit, and further assumed equal interconnectivity among the fractures. The degree to which these assumptions may hold true is poorly understood but Rosemont's own pump tests show hydraulic conductivity in the bedrock units greatly varies.[4] If fractured bedrock is largely responsible for groundwater movement to the basin fill unit in Las Cienegas, then impacts on Las Cienegas wetlands could be more sudden and profound than modeled. We are unaware of any pump tests that would have tested the characteristics of the bedrock beneath the basin fill unit south and east of the Rosemont area, but within the Rosemont area, unequal interconnectivity is evident in bedrock wells[5]

Response to Hudbay

The EPA, in their November 30, 2017 letter to the Corps, concludes the drawdown will have a substantial impact on the streams and related ecology. The EPA further determines, based on its interpretation of the Guidelines, that drawdown is a regulated secondary effect under § 404. Pima County fully supports both of EPA's conclusions.

The mine's dredge and fill activity could alter physical and biological integrity of some very important water sources and wetlands within Las Cienegas National Conservation Area, which support tourism, hunting and other forms of recreation, grazing and wildlife uses. These wetlands and springs are considered traditional cultural places, sacred to the Tohono O'odham and the shared heritage of Native people in the region, as evidenced by ongoing conflict over the Forest's decision.

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[2] See for instance C. H. Huckelberry to Reta LaFord, Acting Forest Supervisors, June 8, 2010.

[3] Tucci, R., 2018. Using isotopes and solute tracers to infer groundwater recharge and flow in the Cienega Creek watershed, SE Arizona. Master's thesis, Department of Hydrology and Water Resources, University of Arizona.

[4] Myers, T., 2010. Technical Memorandum Review of the Proposed Rosemont Ranch Mine, Hydrogeologic Analysis and Groundwater Model. February 1, 2010 in C. H. Huckelberry letter to Jeanine Derby, Forest Supervisor, February 17, 2010.

[5] Myers, T. 2010 Technical Memorandum, Davidson Canyon Conceptual Model and Natural Water Level Fluctuations, August 27, 2010 in C. H. Huckelberry letter to Jim Upchurch, Forest Supervisor, October 4, 2010.

Hudbay disagrees with the EPA's position that drawdown is a regulated secondary effect, but this disagreement is based entirely on a strained interpretation of an EPA legal opinion memo.[6] This memo addresses several questions regarding the scope of the Guidelines, including whether secondary impacts must be considered. The memo discusses *two separate types of impacts* that may be considered secondary: "reasonably foreseeable impacts of the discharge itself that occur away from the immediate site of the discharge" and "impacts that may be caused by the subsequent operation of a project or by associated development." Regarding the former type, the memo states, "there can be no serious doubt that such off-site effects are to be considered in deciding whether to allow the discharge." Regarding the latter type, it states, "When one moves beyond secondary impacts as defined above *to impacts caused by the subsequent operation of a project* or by associated development, the question becomes more difficult" requiring consideration of the impact's "causal connection, the predictability...and a general rule of reason." *Id* (emphasis added).

Despite this clear delineation, Hudbay asserts that groundwater drawdown resulting from the project is not a secondary effect, "because the impacts are not effects of the discharge itself; they are the effects of some other activity." (Hudbay letter, page 22). However, the example in the memo that Hudbay points to as most analogous to the Rosemont Copper Project (the barge-loading facility for an upland factory) is in fact not analogous at all, as the example describes two related, but *entirely separate* projects. Considering that Hudbay specifically identifies the mine pit in the § 404 permit application as an integral part of the Rosemont Copper Project, it can hardly be considered "some other activity."

Further, Hudbay ignores the relationship between the mine pumping and the changed hydrology resulting from fill operations on adjoining federal land. Surface water that currently flows through the planned filled areas would now be impounded in the perimeter containment areas, ultimately going into the mine pit as a result of the proposed construction in Waters of the US. The need to pump water from the mine pit results in part from this redirection and impoundment of the surface flows by the fill. Thus, the groundwater drawdown is undoubtedly an effect caused by the subsequent operation of the project.

The Guidelines define "secondary impacts on the aquatic ecosystem" as those "that are *associated* with a discharge of dredged or fill materials" (emphasis added). This language intentionally gives the agency discretion to determine whether a reasonably foreseeable effect of a project qualifies as a secondary effect under the Guidelines. Based on the discussion above, the EPA is clearly well within its discretion to find that groundwater

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[6] "Legal Issues Concerning Section 404(b)(1) Guidelines", Robert Perry, EPA General Counsel, to Frederic Eidsness, EPA Asst. Admin., March 17, 1983.

drawdown is a regulated secondary effect of the project under the Guidelines, and we strongly agree with this finding.

Hudbay spends a great deal of effort in its February 2 letter trying to show the drawdown impact on downstream ecology is negligible and uncertain. However, that very uncertainty should enhance the Corps' concern about the mine's potential impacts on the area hydrology, and not provide a release of responsibility for impacts.

Public Interest Determination

In addition to complying with the Guidelines, the project must also undergo a separate evaluation to ensure it is not contrary to the public interest, as mandated by 33 CFR § 320.4. As stated in the Corps' Standard Operating Procedures, "The Public Interest Determination involves much more than an evaluation of impacts to wetlands."[7] It requires an evaluation of *all* probable impacts, "including cumulative impacts of the proposed activity and its intended use on the public interest." § 320.4(a). As the regulations state, "All factors which may be relevant to the proposal must be considered including the cumulative effects thereof: among those are conservation, ... general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, ... recreation, water supply and conservation, water quality, ... considerations of property ownership and, in general, the needs and welfare of the people." *Id.* Clearly, groundwater drawdown is a probable impact of the project and it must be included in the public interest evaluation.

The public interest review also provides for substantial consideration for another federal agency's determination to proceed. The Forest Service felt they were required to approve the mine by the 1872 Mining Law, so their decision is not entitled to this consideration. Further, in rejecting backfilling of the pit, the Forest Service has ensured the Corps can only approve or deny a course of action that creates a perpetual drain on the aquifer. Bear in mind, also, that U. S. Bureau of Land Management was denied a decision when the access road was routed around their property. The record shows they expressed their concerns regarding detrimental effects on Las Cienegas National Conservation Area and did not relinquish any federal surface and groundwater rights to this mine[8].

Clearly, the decision before you is a distressing, multi-dimensional problem as evidenced by over a decade of community turmoil that shows no sign of abating. The Corps must consider the secondary and cumulative effects. I appreciate your continued consideration of the

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[7] "Army Corps of Engineers Standard Operating Procedures for the Regulatory Program," reprinted in *Compensating for Wetland Losses Under the Clean Water Act*, National Academy of Sciences (2001).

[8] David Baker, U. S. Bureau of Land Management, to Jim Upchurch, Forest Supervisor, Comments on the Rosemont Copper Project, Final EIS, Preliminary Adminstrative Review Draft, July 2013, letter dated August 15, 2013.

adverse and irreversible effects that permitting this mine could have on the region and its future viability.

Sincerely,

C.H. Huckelberry
County Administrator

CHH/mp

c: Elizabeth Goldmann, U. S. Environmental Protection Agency