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January 8, 2015

Coconino County Parks & Recreation
HC 39 Box 3A
Flagstaff, Arizona 86001

Attention: Scott Anderson, Natural Resource Manager

RE: Phase I Environmental Site Assessment Update of the Fort Tuthill State Land Expansion Property Located Northwest of Fort Tuthill Fairgrounds & Park in Flagstaff, Arizona Tallpines Job No. 14TEC205.UPD

Introduction

Tallpines Environmental Consulting Co. (Tallpines), Flagstaff, has completed a Phase I Environmental Site Assessment (Phase I) update of the Fort Tuthill State Land Expansion property located northwest of the Fort Tuthill Fairgrounds & Park in Flagstaff, Arizona (the Site). Tallpines was authorized by Scott Anderson, Natural Resource Manager, Coconino County Parks & Recreation, the prospective buyer, to conduct the Phase I update in general compliance with Tallpines' Proposal No. 14P146.UPD, dated December 3, 2014. Tallpines conducted a former Phase I assessment of the property in 2012.

As per the American Society for Testing and Materials (ASTM) Designation E 1527-13; *Standard Practice for Environmental Site Assessments*, a Phase I is valid for a 180-day period following date of issuance for purposes of due diligence involving real estate transactions of a property. After such time, site conditions need to be re-evaluated for the presence, or likely presence of *recognized environmental conditions* which can be attributed to current and/or previous ownership and uses of the Site, and/or to properties within the ASTM-specified distances surrounding the Site. The term *recognized environmental condition (REC)* is defined by the ASTM to be "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property."

As per the ASTM standard, due diligence for conducting an update of a Phase I involves a reliance on the previous Phase I report as being accurate, a recent field reconnaissance of the property, interviews with knowledgeable individuals associated with the property, and a current search of the regulatory records database. Because Tallpines' personnel conducted the Phase I assessment on the property in 2012, reliance on the former Phase I report is deemed appropriate.

Review of Previous Reports

In terms of environmental, geotechnical, geological, or wetlands reports covering the Site, Tallpines relied on the former Phase I report entitled *Phase I Environmental Site Assessment of the Fort Tuthill State Land Expansion Property Located Northwest of Fort Tuthill Fairgrounds & Park in Flagstaff, Arizona,* dated January 13, 2012. Other than the "presence or likely presence" of hazardous substances in the soil from the historical small arms shooting range, Tallpines concluded that there is currently no evidence to suggest the presence of *RECs*, as per the ASTM definition, that can be attributed to current, and/or previous ownership and uses pertaining to the Site.

Due to the "presence or likely presence" of hazardous substances in the soil, Tallpines recommended that Coconino County work directly with the National Guard to resolve this unknown factor. Only analytical testing can document the presence of metal contaminated soil. Remediation of outdoor shooting ranges typically involves screening the ammunition fragments from the soil; both lead and copper can be recycled. The remaining soil is sampled and tested to categorize it as a hazardous or nonhazardous waste. Lead is one of the heaviest elements and does not readily leach into the soil. Once the lead oxidizes, it forms a protective coating which is relatively insoluble in water. If the screened soil analyzes as nonhazardous, the soil can be left in-place. If profiled as hazardous, it must be removed and treated, or disposed of as a hazardous waste. The soil comprising the arcuate impact berm would be the primary concern, but the National Guard may choose to test surface soil on the shooting berms for explosive residuals.

Coconino County Parks & Recreation responded to the Phase I recommendations by contacting John Ladd, Lieutenant Colonel, Arizona Army National Guard (AANG), Environmental Program Manager, to request soil testing. The AANG responded by collecting eight (8) composite soil samples from the southernmost impact berm. The AANG reports that the total lead concentration measured in the soil samples range from 31 to 350 milligrams per kilogram (mg/kg) which is less than the Arizona Residential Soil Remediation Level (R-SRL) of 400 mg/kg. Based on their visual and historical assessment, and the analytical soil test results for the Fort Tuthill Small Arms Range North Munitions Response Site, the AANG granted closure and a No Further Action determination. The AANG soil report and final documentation, No Further Action determination cover letter from Ladd, can be referenced in Appendix A.

Field Reconnaissance Update

On December 6, 2014, Tallpines conducted a field reconnaissance of the Site. The reconnaissance was conducted by Patty Rubick Luttrell, R.G., C.M.C., Principal Geologist, assisted by Diana Mullen, Industrial Hygienist, Tallpines. Only minor changes from the 2012 Phase I assessment were observed by Tallpines, and those changes have been incorporated into the following descriptive text:

The cadastral location of the Site is within the W½ NE¼; the NW¼; and a portion of the N½ SW¼ of Section 6, Township 20 North, Range 7 East of the Gila and Salt River Baseline and

Meridian in Coconino County, Arizona. The property is located northwest of Fort Tuthill consisting of a reported 220 acres. The property is accessed by service roads in the Fort Tuthill Fairgrounds & Park. Figure 1, following page, shows the general location of the property, and Figure 2 details surface features observed during Tallpines' field reconnaissance. Appendix B contains a photographic log which displays some of the surface features observed by Tallpines during the field assessment.

The State lands consist of forested grasslands with an unnamed ephemeral drainage which parallels the eastern side of the property. Urban trails are used for hiking, mountain biking, and there are equestrian trails with jumps. Motorized vehicles are prohibited. Roads leading into the property are graded, and trails are surfaced with reddish to black volcanic cinders. Only the northern and western sides of the property are fenced.

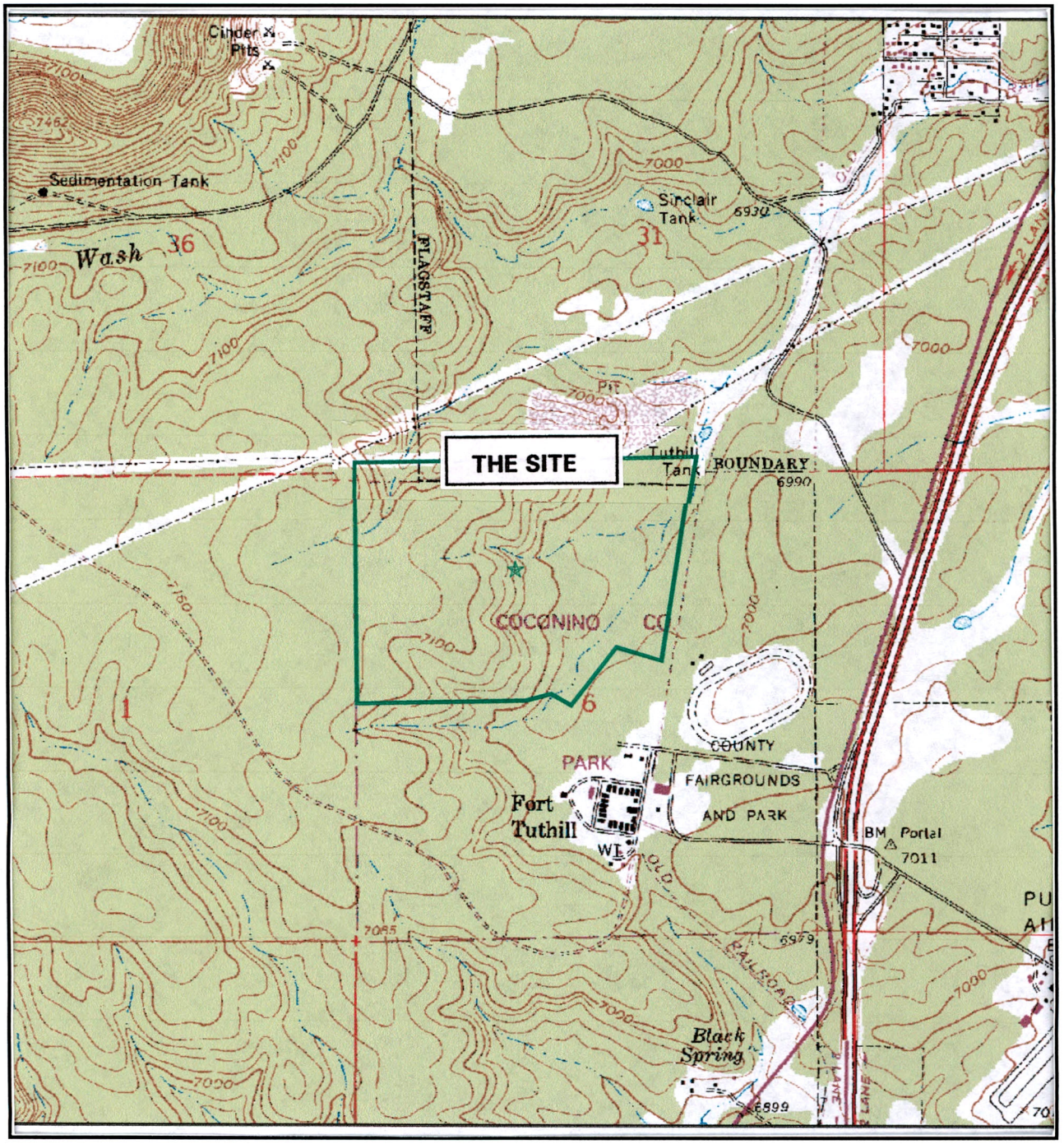
The eastern side of the property consists of a shallow, natural ephemeral drainage (flows only during times of heavy precipitation) which serves as an open grassy meadow in contrast to the stands of Ponderosa pine trees covering the rest of the acreage. Within this natural drainage is an historic shooting range reportedly constructed in the 1930s for Army National Guard soldiers stationed at the Fort. The shooting range consists of four (4) basalt rock/mortar/concrete walls termed firing berms. The firing berms are approximately 5 feet in height, 100 feet in length with attached side walls approximately 25 feet in length. The berms are aligned parallel, contain centrally-located drainage culverts near the base of the berms, and are separated by distances ranging from 300 to 1,250 feet (refer to Figure 2). The southernmost berm is the reported impact berm.

According to Jim Warbasse, Fort Tuthill Museum Director, the firing berms represent elevated platforms from which soldiers shot down range (southward) toward mechanically hoisted targets. When asked about the differing distances between the firing berms, he stated that it would have been shooting distances specified by the Army to qualify the soldiers. He stated that the firing range was for small firearms; pistols, rifles, and machine guns, and that heavy artillery and explosives were never used at this firing range. When asked about the actual locations of the targets, he indicated that it was the southernmost impact berm which currently contains approximately 9 feet of mounded soil in front of it. The targets were mechanically raised and lowered, the bullet holes piercing the targets were counted, and score cards for individual shooters were raised back up for qualification. He said the target area was termed "the pits" - this is where the soldiers would hide from the line of fire to operate the hoist. In terms of soil contamination from impacting bullets, it would be most concentrated in the area of "the pits" or impact berm, not on the actual firing berms.

According to Geoffrey Gross, Parks Project Coordinator, Parks and Recreation, the historic shooting range was most recently used by the public during the 1970s for target practice, but this practice was discontinued in the 1980s. The firing berms contain evidence of bullet impact, and rusty bullet debris and jackets were observed on the ground surface in the vicinity of the berms. Today, the two northernmost firing berms have been modified for use as equestrian jumps. Gross stated

FIGURE 1: VICINITY MAP

FORT TUTHILL ARIZONA STATE
LAND EXPANSION PROJECT



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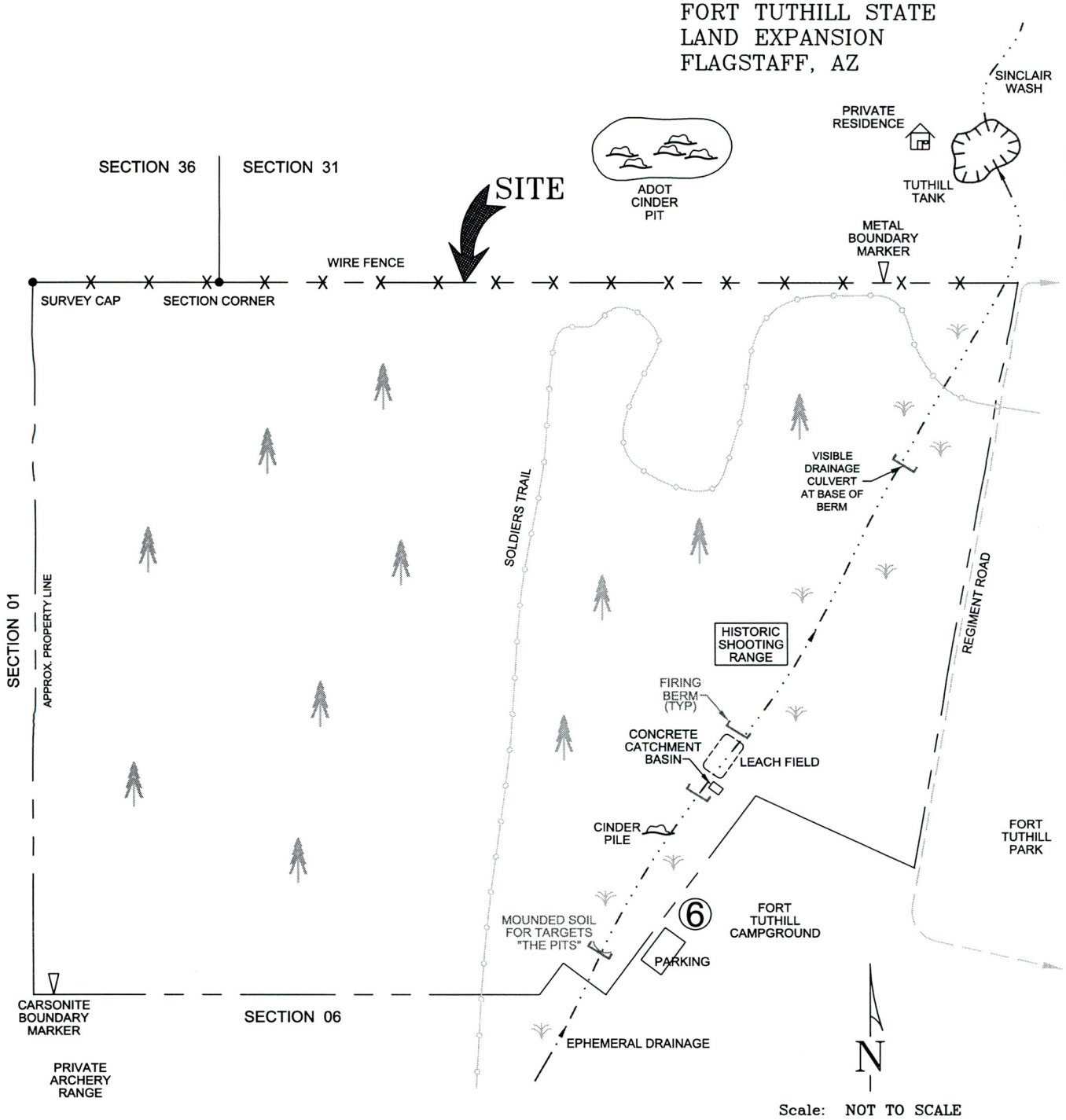
APPROX. SCALE: 1" = 2000 FT

BASE MAP ADAPTED FROM USGS FLAG WEST QUAD TOPOGRAPHIC MAP

Tallpines Environmental Consulting Co.		
CLIENT: COCONINO COUNTY PARKS & RECREATION	JOB NO. 14TEC205.UPD	
PROJECT: PHASE I SITE ASSESSMENT UPDATE		
DATE: 01/08/2015	BY: KJL	REVIEWED: Patty Luttrell, R.G.

FIGURE 2.

PHASE I ESA UPDATE
FORT TUTHILL STATE
LAND EXPANSION
FLAGSTAFF, AZ



FORT TUTHILL ARIZONA STATE
LAND EXPANSION PROJECT
FLAGSTAFF, AZ

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that he has no knowledge of the use or release of petroleum products or hazardous substances at the Site.

A concrete septic system catchment basin and leach field are located within the same open grassy meadow as the historical firing range. No odors or stained soil were noted on, or around the concrete basin or leach field. A heavy concrete lid seals the opening to the catchment basin. The basin is reportedly connected to the septic system for the adjacent Fort Tuthill fairgrounds. Wastewater is filtered into the catchment basin before it empties into the leach field; marked on the southern end of the field by a capped white polyvinylchloride (PVC) pipe. Walking across the leach field, it is not wet and there are no sewer odors which suggest that it is functioning properly.

Topsoil on the property consists of a cindery to clayey volcanic soil with gravel-sized clasts of dark basalt (fine-grained volcanic rock), and reddish to black cinders. Areas of stockpiled cinder appear to have been hauled in for possible use on roadway and trail maintenance. Grasses, shrubs, and trees on the property appear healthy with no signs of undue stress other than seasonal. A stock pond, referred to as Tuthill Tank on the topographic map, is located on the northern, down-gradient end of the ephemeral drainage. Based on the tracks in the mud surrounding the tank, it is used as a water source by cattle and wild animals. No oily sheen was noted on the water surface the day of the reconnaissance.

Off the eastern side of the State Lands is the *Flagstaff Extreme Adventure Course*. It opened to the public in 2012, and consists of 60 different elevated aerial challenges consisting of cable and log bridges, Tarzan swinging ropes, zip lines, planks, split logs, nets, tight wires, and rope ladders suspended at differing heights of 30-50 feet; selection by climbers being a function of skill.

Tallpines' personnel walked the forested grasslands, and noted no evidence of stockpiles of solid waste other than lumber, illegal dump sites, USTs, dry wells, stained soil, oil slicks or oily sheens, or odors suggestive of a current or prior release of petroleum products or hazardous substances at the Site. Because the soil from the historical small arms shooting range has been tested for total lead, and subsequently closed by the AANG, Tallpines noted no evidence of *recognized environmental conditions (RECs)* on the property the day of the field reconnaissance.

Description of Adjoining Land Use

The Site is bound to the north by the Tuthill Tank stock pond, a private residence, and a cinder pit owned and operated by the Arizona Department of Transportation (ADOT). Jeffrey Gross stated that the cinder pit is not currently being excavated, but that he has observed an occasional vehicle inside the fenced ADOT property. The Site is bound to the east and southeast by the Fort Tuthill County Fairgrounds & Park, and to the south and west by the Coconino National Forest. A private archery range is located off the southwest side of the Site. Properties surrounding the State Lands consist of a mixture of county, state, federal, and private ownership.

Changes to the adjoining land use include an early phase of construction of a mountain bike park located east of the Fort Tuthill campground. According to Anderson, the plans involve several levels of difficulty for the bicyclist. Tallpines noted no evidence of contaminated soil (odors, stains) in the vicinity of the imported mounds of soil.

Interviews With Current Owner

Anderson stated that, to the best of his knowledge, there has been no prior use, storage, or release of petroleum products or hazardous substances on the adjoining State Lands, and no known environmental incidents since the 2012 Phase I fieldwork.

ASTM Database Records Search

Environmental Data Resources (EDR) was subcontracted to perform a database search which meets the ASTM Standard E-1527 for a federal, state, and tribal government database search for Phase I environmental assessments and transaction screens. The *Environmental FirstSearch Report* can be referenced in Appendix C.

The property is not listed on any of the federal, state, or government databases, and there are no facilities recorded within the ASTM search distances. After reviewing the report, Tallpines concludes that none of the facilities represent a current environmental threat to the property.

Conclusions and Recommendations

- Following the testing of potentially contaminated soil in the historic small arms shooting range, and the official closure of the range by the AANG, Tallpines concludes that there is currently no evidence of *recognized environmental conditions (RECs)* at the Site. Based on the visual assessment conducted during the Phase I update, Tallpines recommends no additional environmental work on the State Lands prior to purchase.

Tallpines recommends that this Phase I update be used to show that due diligence has been conducted at the Site to meet the substantive requirements for the ASTM Designation E 1527-13.

Respectfully Submitted,
Tallpines Environmental Consulting Co.

REGISTERED GEOLOGIST
CERTIFICATE NO.
28248
PATTY RUBICK
LUTTRELL
Date Signed 01/08/15
ARIZONA, U.S.A.
EXPIRES 09/30/15

Patty Rubick Luttrell, R.G., C.M.C.
Principal Geologist

Addressee:(1) e-mailed .pdf report

APPENDIX A

FINAL DOCUMENTATION, NO FURTHER ACTION COVER LETTER

& REQUEST FOR CONCURRENCE WITH A NO FURTHER ACTION DETERMINATION REPORT

APPENDIX B
PHOTOLOG

Photo #1: Partial view of the southern end of the State of Arizona Trust Lands historic shooting range located northwest of the Coconino County Fort Tuthill fairgrounds. The acreage is reported at 220 acres in the NW¼ and the W½NE¼ of Section 6, T20N, R7E, Coconino County. The acreage is used by the public for hiking, biking, equestrian trails and jumps. Viewing northeast along a cinder surfaced road that parallels an ephemeral drainage that joins the downgradient Sinclair Wash.

Photo #2: Open metal stake protruding near the cinder surfaced nature trail used by handicapped individuals near the southern boundary of the State Land. The stake appears to have been used as a post for signage. Viewing down.

Photo #3: Typical vegetation on the forested State Land consists of Ponderosa pine, pinyon, and juniper trees, shrubs, wildflowers, and native grasses. No stressed vegetation, other than seasonal, was observed on the property. Viewing northeast.

Photo #4:

Fenceless metal boundary sign denoting the division between the Coconino National Forest and the State Land. Viewing northeast along the western boundary of the property.

Photo #5: The western ½ of the State Land forms an erosional topography consisting of soil covered forested slopes with resistant Kaibab limestone outcrops. Viewing upgradient toward the western side of the property.

Photo #6: Fenced western boundary between State Land and the Coconino National Forest. Following the fence to the south one encounters a private archery range. Viewing south.

Photo #7: Walking northeasterly on the State Land, the historic Soldier's Trail is encountered. It was named in honor of the soldiers who trained at Fort Tuthill when it was a National Guard facility prior to World War II. It is approximately 5.5 miles in length, and loops the perimeter of Fort Tuthill and crosses the State Land. Viewing northeasterly.

Photo #8: Wooden equestrian jump located in the northeastern portion of the equestrian trails that are located in the eastern ephemeral drainage portion of the State Land. Viewing northeast.

Photo #9: One of several basalt rock/mortar/concrete walls used as firing berms in the late 1930s by the Army National Guard. The firing berms are aligned parallel and strattle the ephemeral drainage on the eastern side of the State Lands. Some of the berms contain exposed concrete culvert drains near the base of the berms. Viewing northeast.

Photo #10: Black cinders imported to help make muddy portions of the ephemeral drainage more passable during times of heavy precipitation and/or snowmelt. Viewing south within the ephemeral drainage on the eastern side of the State Lands.

Photo #11: Concrete catchment basin located within the shooting range ephemeral drainage, and reportedly connected to the Fort Tuthill fairgrounds septic system. The catchment is the reported last filter for the sewage before it reaches the adjacent leach field. Viewing southwest.

Photo #12: Adjacent leach field with visible white PVC clean out port. Viewing north-east within the grassy ephemeral drainage.

Photo #13: Picnic tables placed near one of the historic small arms firing berms. Viewing northwest.

Photo #14: Painted wooden components discarded near the equestrian trail on the northern portion of the State Lands. Viewing northeast.

Photo #15: Fenced north property line near the northeast corner of the State Lands. Viewing west.

Photo #16: Stock pond Tuthill Tank, located on the downgradient north end of the ephemeral drainage, shows no oily sheen or evidence of petroleum products or hazardous substances on the surface or banks of the tank. Tracks in the muddy banks are evidence that it is used by cattle and wild animals. The tank is located off the northeast corner of the State Lands. Viewing southeast.

Photo#17: ADOT cinder pit consists of volcanic cinders and basalt bedrock excavated and crushed for use on roadways. The ADOT cinder pit is located due north of the State Lands. Viewing southwest.

Figure 18:

Flagstaff Extreme Adventure Course located along the southeastern side of the historic shooting range consists of a reported 60 aerial challenges; cable and log bridges, Tarzan swinging ropes, zip lines, planks, split logs, nets, tight wires, and rope ladders suspended at an approximate 30-50 foot height from the Ponderosa pine trees. The aerial extreme course opened to the public in the spring of 2012.

Photo#19: The historic Fort Tuthill fairgrounds, park, and campgrounds, consisting of a reported 413 acres, is open to the public year round. The buildings were constructed as military bunkers. Note the Fort Tuthill 200-foot high water tank visible in the background. Viewing southeast.

Photo#20: Fort Tuthill Office building located at the entry to the fairgrounds. Viewing northeast.

Photo#21: Early phase of construction for a bike park located east of the Fort Tuthill campgrounds. Viewing northwest.

Photo#22: Bedrock covered dirt mound is part of the bike park. Scott Anderson, Natural Resource Manager, Parks & Recreation, informed Tallpines that the park is being designed with several skill levels for mountain bike riders. Viewing northwest.

APPENDIX C
EDR FIRST SEARCH DATABASE REPORT