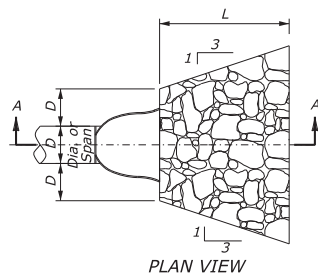
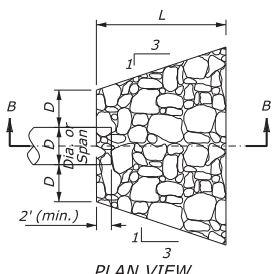


Appendix A

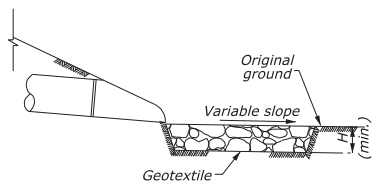
Action Alternative Scour Treatment Options



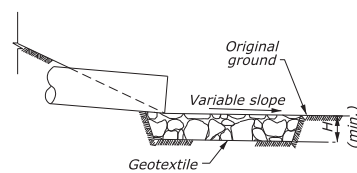
PLAN VIEW

CULVERT WITH STANDARD
END SECTION

PLAN VIEW

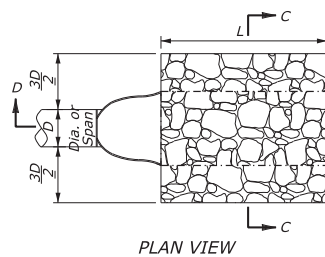
CULVERT WITHOUT STANDARD
END SECTION

SECTION A-A

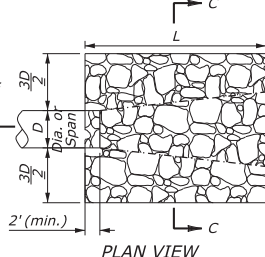


SECTION B-B

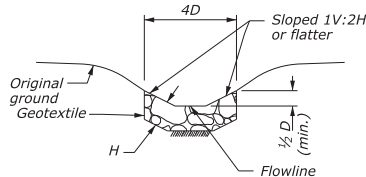
PROTECTIVE APRON AT CULVERT OUTLET WITHOUT DITCH



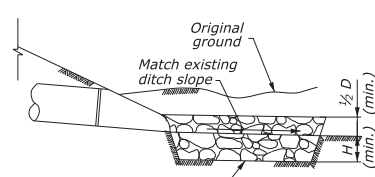
PLAN VIEW

CULVERT WITH STANDARD
END SECTION

PLAN VIEW

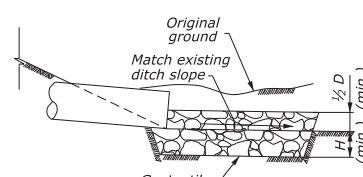
CULVERT WITHOUT STANDARD
END SECTION

SECTION C-C



SECTION D-D

PROTECTIVE APRON AT CULVERT OUTLET WITH DITCH



SECTION E-E

OUTLET WITHOUT DITCH PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES						
	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)	ESTIMATED RIPRAP QUANTITY (CY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	12	2	4	1.5	1	5
	18	2	6	1.5	2.2	9
	24	2	8	1.5	3.9	14
	30	3	12.5	2	10.9	28
	36	3	16	2	15.6	37
	42	4	21	2.5	34.1	63
WITHOUT END SECTION	48	4	24	2.5	44.5	79
	12	2	6	1.5	1.7	8
	18	2	8	1.5	3.2	12
	24	2	10	1.5	5.2	17
	30	3	14.5	2	13.3	33
	36	3	17	2	18.5	43
	42	4	23	2.5	38.7	70
	48	4	26	2.5	49.8	87
	Double 48	4	26	2.5	66.2	110
	54	4	30	2.5	65.3	109
	Double 54	4	30	2.5	86.6	139

STATE	PROJECT	SHEET NUMBER
AZ	FLAP SR88(1) APACHE TRAIL	G1

NOTE:

1. Use for aprons serving culverts with slopes of less than 10%.
2. Furnish geotextile conforming to Subsection 714.01(a).
3. Excavation for placement of riprap will not be measured for payment.

OUTLET WITH DITCH PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES						
	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)	ESTIMATED RIPRAP QUANTITY (CY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	12	2	4	1.5	0.9	5
	18	2	6	1.5	2	8
	24	2	8	1.5	3.6	13
	30	3	12.5	2	9.3	24
	36	3	15	2	13.4	32
	42	4	21	2.5	27.3	53
WITHOUT END SECTION	48	4	24	2.5	35.6	65
	12	2	6	1.5	1.4	6
	18	2	8	1.5	2.7	10
	24	2	10	1.5	4.5	15
	30	3	14.5	2	10.8	27
	36	3	17	2	15.2	36
	42	4	23	2.5	29.9	57
	48	4	26	2.5	38.6	70

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY SPECIAL

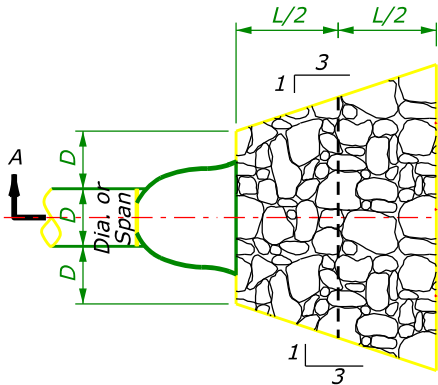
PLACED RIPRAP AT CULVERT OUTLETS

SPECIAL
C251-50

STATE	PROJECT	SHEET NUMBER
AZ	FLAP SR88(1) APACHE TRAIL	T11

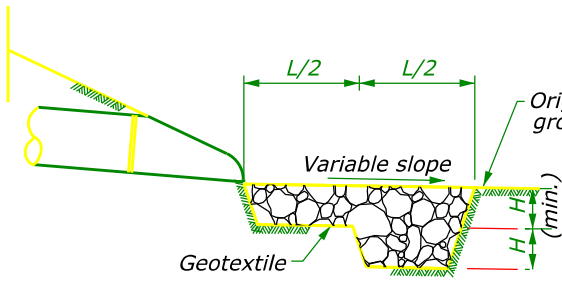
NOTE:

1. See Drainage Summary for Treatment Type.
2. End Treatment Type A is standard riprap apron. See Special Sheet C251-50 for details.
3. See Special 606-B for Pipe Anchor Assembly Detail. Pipe Anchors are incidental to the Pipe Anchor Assembly Item.
4. Fill scour area as directed in the Drainage Summary remarks. Embankment incidental to the Pipe Anchor Assembly Item.

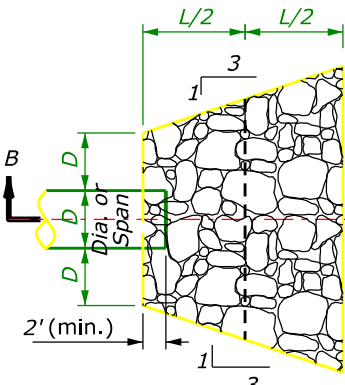


PLAN VIEW

CULVERT WITH STANDARD END SECTION

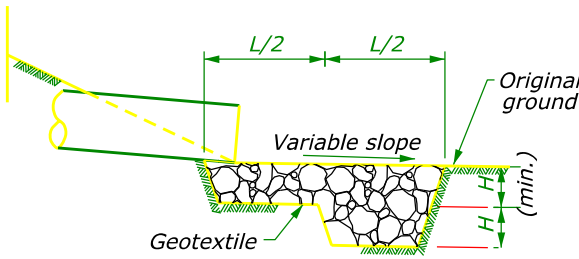


SECTION A-A



PLAN VIEW

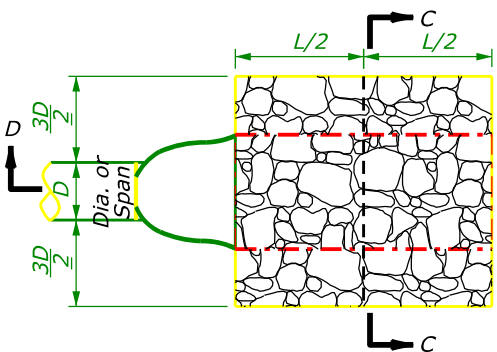
CULVERT WITHOUT STANDARD END SECTION



SECTION B-B

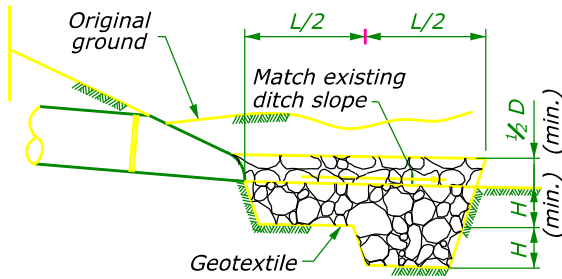
**TREATMENT B
PROTECTIVE APRON AT CULVERT
OUTLET WITHOUT DITCH**

Note: Reference Special Sheet C251-50 Tables for dimensions of D, L, and H

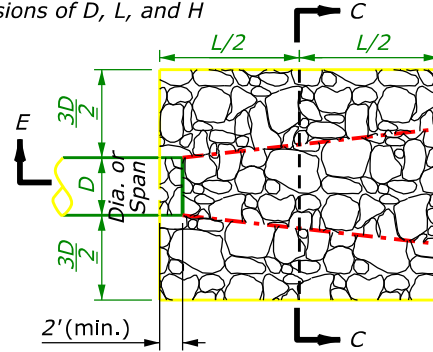


PLAN VIEW

CULVERT WITH STANDARD END SECTION

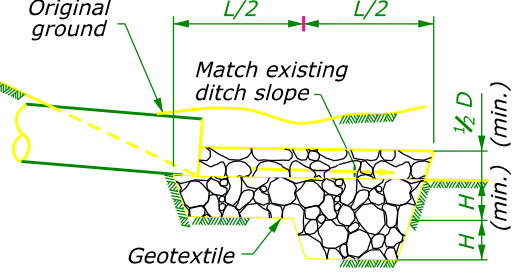


SECTION D-D

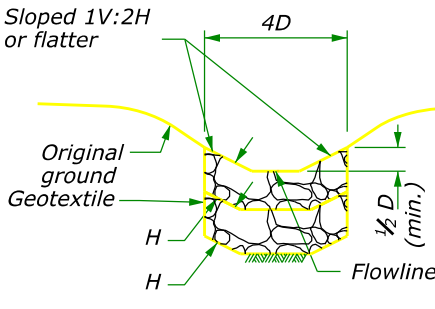


PLAN VIEW

CULVERT WITHOUT STANDARD END SECTION



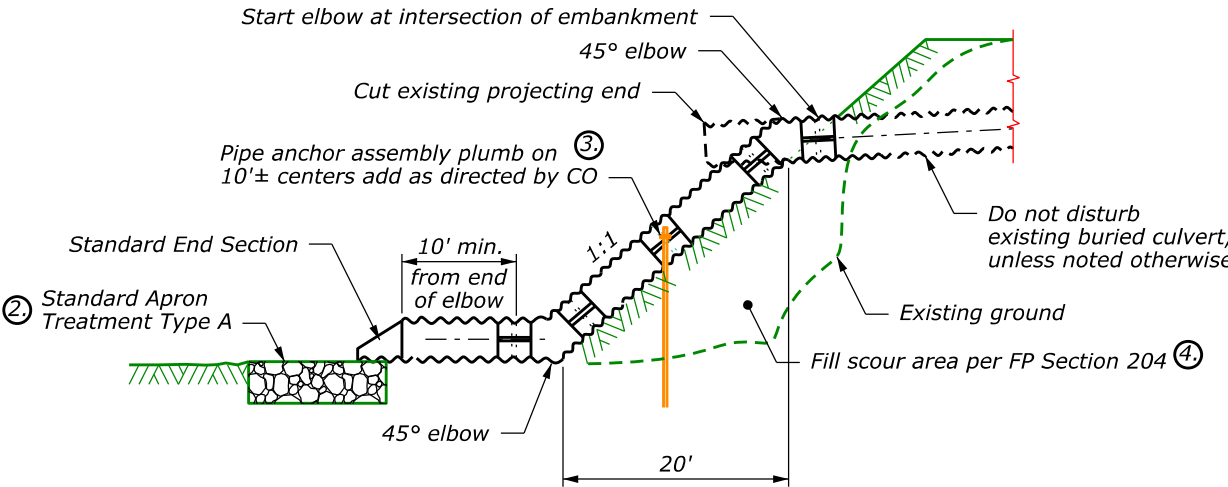
SECTION E-E



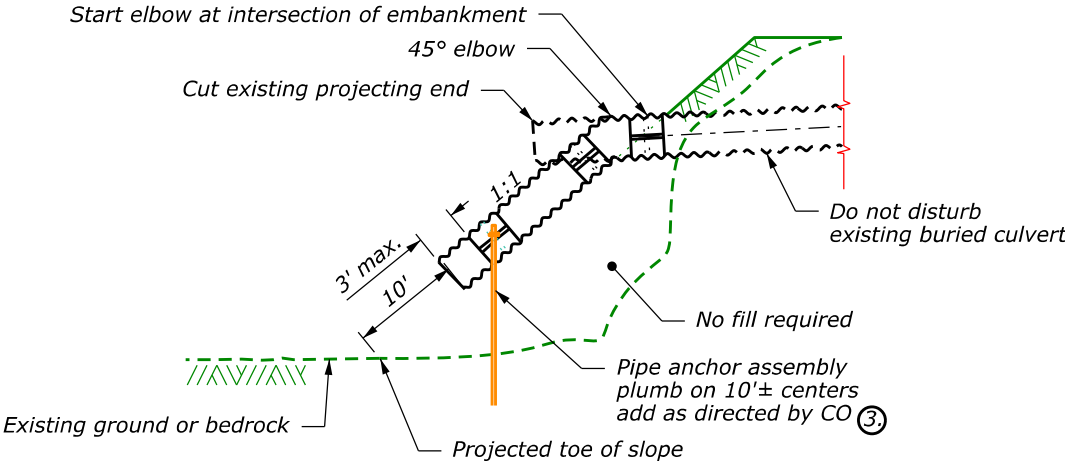
SECTION C-C

**TREATMENT B
PROTECTIVE APRON AT
CULVERT OUTLET WITH DITCH**

Note: Reference Special Sheet C251-50 Tables for dimensions of D, L, and H



**TREATMENT C1
PIPE ANCHOR ASSEMBLY WITH
RIPRAP FOR SCoured AREA**



**TREATMENT C2
PROJECTING PIPE ANCHOR
ASSEMBLY FOR SCoured AREA**

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY SPECIAL

**END TREATMENTS FOR
PIPE CULVERTS**

SPECIAL

606-A

Appendix B

Project-Related Agency Correspondence

Correspondence Regarding Biological Resources



THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT

5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV

GOVERNOR

DOUGLAS A. DUCEY

COMMISSIONERS

CHAIRMAN, JAMES R. AMMONS, YUMA
JAMES S. ZIELER, ST. JOHNS
ERIC S. SPARKS, TUCSON
KURT R. DAVIS, PHOENIX
EDWARD "PAT" MADDEN, FLAGSTAFF

DIRECTOR

TY E. GRAY

DEPUTY DIRECTOR

TOM P. FINLEY



October 6, 2017

FHWA Central Federal Lands Highway Division
c/o Micah Leadford
12300 West Dakota Avenue, Suite 380
Lakewood, Colorado 80228

Re: Review of the Apache Trail Improvements

Dear Mr. Leadford:

The Arizona Game and Fish Department (Department) reviewed your Project Evaluation Request dated September 5, 2017, and received September 11, 2017, regarding the improvements planned to Apache Trail between milepost 229.2 and milepost 241.6 in Maricopa County, AZ. As seen on the Department's Heritage Data Management System (HDMS)'s Online Environmental Tool report generated for you (enclosed) on September 23, 2017, the Sonoran desert tortoise (*Gopherus morafkai*) has been reported in the vicinity of your proposed project.

Based on the information provided in your letter, the Department has the following recommendations:

- Suitable habitat for the Sonoran desert tortoise may be present along or adjacent to the existing dirt roadway to be improved. While work is being conducted within suitable Sonoran Desert tortoise habitat, construction crews should refer to the *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* should a tortoise be encountered.
<https://www.azgfd.com/PortalImages/files/wildlife/2014%20Tortoise%20handling%20guidelines.pdf>
- If proposed ground disturbance (both temporary and permanent), in areas with native vegetation, will meet or exceed 0.25 acre, please comply with the Arizona Native Plant Law regulations. Please determine if a Native Plant Inventory should be conducted to identify, record, and coordinate plant salvage efforts for species that are Protected under the Arizona Native Plant Law. In addition, the applicable land management agencies should be consulted regarding guidelines for revegetation efforts.
<https://agriculture.az.gov/plantsproduce/native-plants>
<http://riester-az-agriculture.pantheonsite.io/sites/default/files/Native%20Plant%20Rules%20-%20AZ%20Dept%20of%20Ag.pdf>
- The trees and/or vegetation within the project area may provide nesting opportunities for avian species that are regulated under the Migratory Bird Treaty Act (MBTA). A qualified

Mr. Micah Leadford

October 6, 2017

2

biologist should conduct a survey for nesting birds within the project area prior to removal or trimming of trees/vegetation during the breeding season. Breeding season for birds is generally May through late August, depending on the species and habitat, and for raptors it is generally January through late June. If you anticipate your project will not be in compliance with MBTA, the Department recommends you contact the U.S. Fish and Wildlife Service (USFWS) for their Technical Assistance. The USFWS will provide options to comply with the MBTA.

- Minimize impacts to vegetation during project construction. Staging areas should be located in previously disturbed sites, and kept as small as possible. Implement erosion and drainage control measures during the project to prevent the introduction of sediment-laden runoff into adjacent surface waters, and to prevent impacts to surface water quality. Stabilize exposed soils, particularly on slopes, with native vegetation as soon as possible to prevent excess erosion.
- Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. To view a list of documented invasive species in or near your project area visit <http://login.imapinvasives.org/azimi/login/?next=/azimi/>. To build a list: login, go to Query and Reports, select a geography value relevant to your project area, and select "View Report" for a list of reported species.
 - Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245); please see the Arizona Department of Agriculture website for prohibited and restricted noxious weeds.
<https://www.invasivespeciesinfo.gov/unitedstates/az.shtml>
<https://agriculture.az.gov/pests-pest-control/agriculture-pests/noxious-weeds>
<https://plants.usda.gov/java/noxious?rptType=State&statefips=04>

The Department appreciates the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with the Apache Trail Improvements project. If you have any questions regarding this letter, please contact me at (623) 236-7615, and visit our website for additional guidelines at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Sincerely,



Cheri A. Bouchér

Project Evaluation Program Specialist, Habitat Branch
Arizona Game and Fish Department

cc: Laura Canaca, Project Evaluation Program Supervisor
Kelly Wolff-Krauter, Habitat Program Manager, Region VI

AGFD# M17-09153231

Arizona Environmental Online Review Tool Report



Arizona Game and Fish Department Mission

To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:

Apache Trail Improvements (MP 229.2-241.6)

Project Description:

Maintain 2 travel lanes and to improve resiliency of the road corridor to reduce maintenance demands

Project Type:

Transportation & Infrastructure, Road Improvements, Paving dirt roads

Contact Person:

Melissa Swain

Organization:

AZGFD

On Behalf Of:

OTHER_FED

Project ID:

HGIS-06181

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

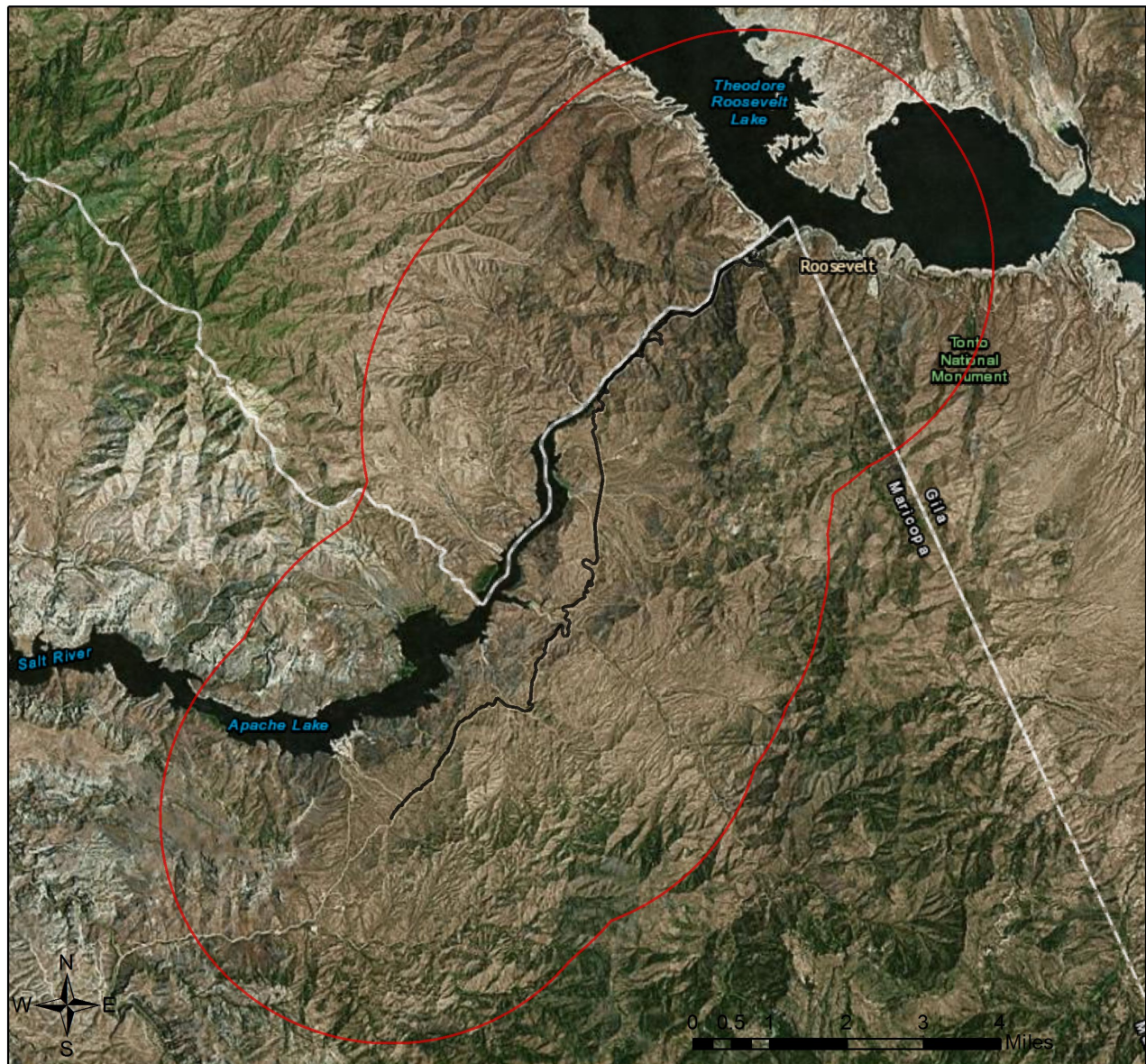
Locations Accuracy Disclaimer:



Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366
Or
PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

Apache Trail Improvements (MP 229.2-241.6) Aerial Image Basemap With Locator Map



-  Project Boundary
-  Buffered Project Boundary

Project Size (acres): 99.56

Lat/Long (DD): 33.6027 / -111.2012

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T3N, R11E; T4N, R11E; T4N, R12E

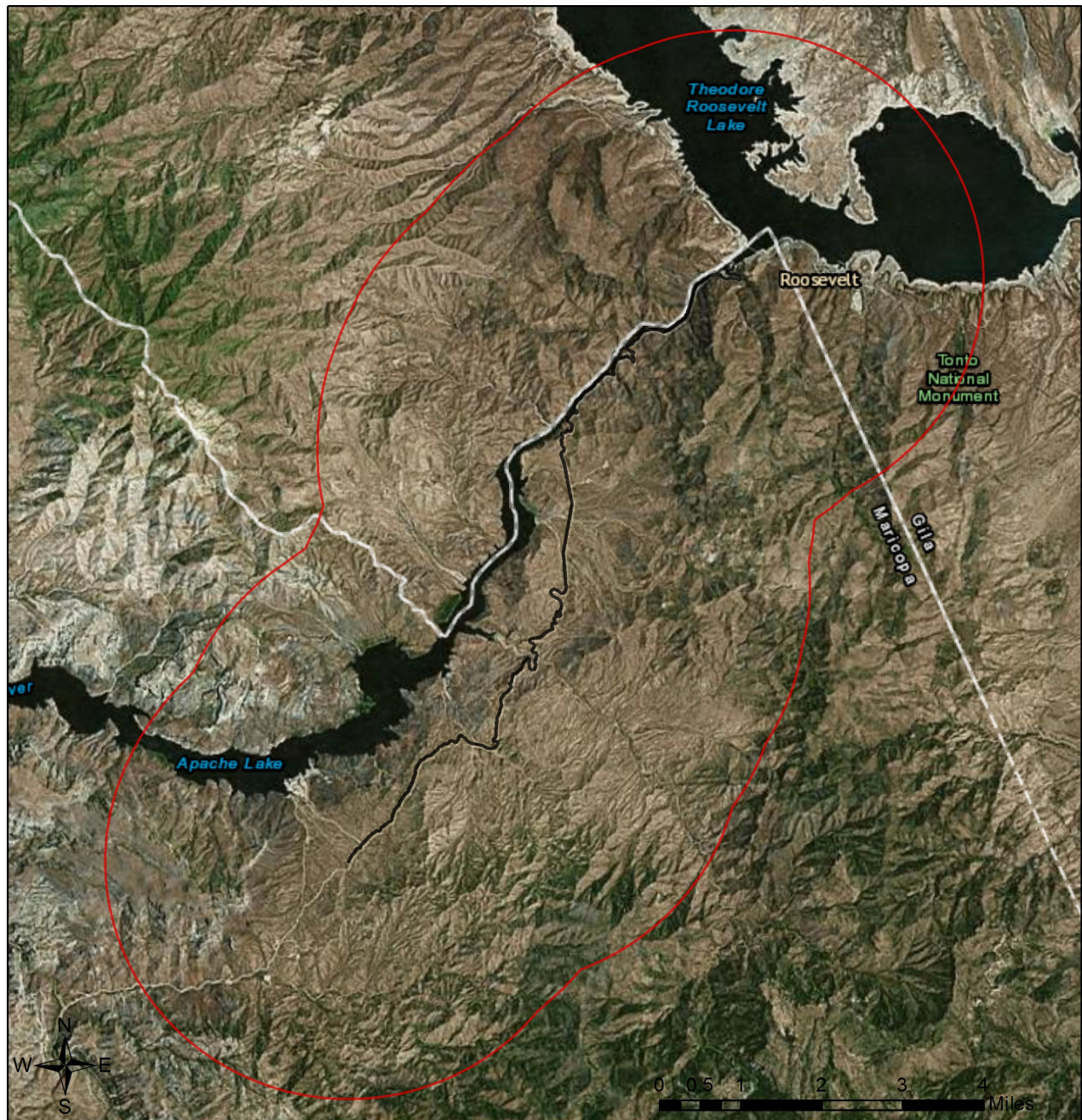
USGS Quad(s): PINYON MOUNTAIN; THEODORE ROOSEVELT DAM

Service Layer Credits: Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong),



Apache Trail Improvements (MP 229.2-241.6)

Web Map As Submitted By User



- ☐ Project Boundary
- ☐ Buffered Project Boundary

Project Size (acres): 99.56

Lat/Long (DD): 33.6027 / -111.2012

County(s): Maricopa

AGFD Region(s): Mesa

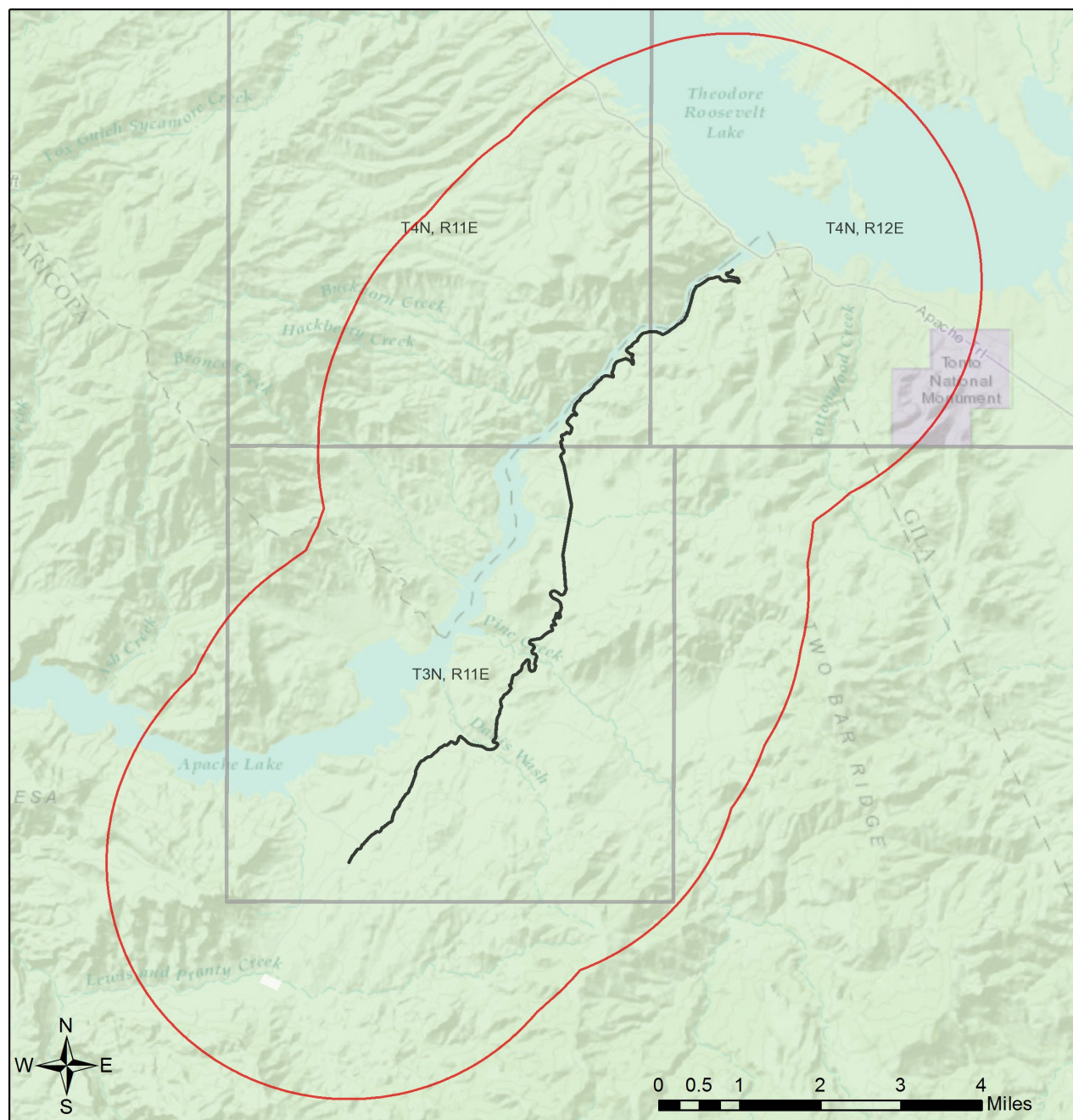
Township/Range(s): T3N, R11E; T4N, R11E; T4N, R12E

USGS Quad(s): PINYON MOUNTAIN; THEODORE ROOSEVELT DAM

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Apache Trail Improvements (MP 229.2-241.6)

Topo Basemap With Township/Ranges and Land Ownership



- | | |
|---------------------------|--------------------------|
| Project Boundary | Mixed/Other |
| Buffered Project Boundary | National Park/Mon. |
| Township/Ranges | Private |
| AZ Game and Fish Dept. | State and Regional Parks |
| BLM | State Trust |
| BOR | US Forest Service |
| Indian Res. | Wildlife Area/Refuge |
| Military | |

Project Size (acres): 99.56

Lat/Long (DD): 33.6027 / -111.2012

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T3N, R11E; T4N, R11E; T4N, R12E

USGS Quad(s): PINYON MOUNTAIN; THEODORE ROOSEVELT DAM

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Special Status Species and Special Areas Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Agave delamateri	Tonto Basin Agave	SC	S		HS	
Agave murpheyi	Hohokam Agave	SC	S	S	HS	
Aquila chrysaetos	Golden Eagle	BGA		S		1B
Bat Colony						
CH for Strix occidentalis lucida	Mexican Spotted Owl Designated Critical Habitat					
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE				1A
Eremogone aberrans	Mt. Dellenbaugh Sandwort		S			
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Ferocactus cylindraceus	Desert Barrel Cactus				SR	
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1A
Haliaeetus leucocephalus (wintering pop.)	Bald Eagle - Winter Population	SC,BG A	S	S		1A
Haliaeetus leucocephalus pop. 3	Bald Eagle - Sonoran Desert Population	SC,BG A	S	S		1A
Heloderma suspectum cinctum	Banded Gila Monster	SC				1A
Heloderma suspectum	Gila Monster					1A
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Perityle saxicola	Fish Creek Rock Daisy	SC	S			

Note: Status code definitions can be found at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/>

**Species of Greatest Conservation Need
Predicted within Project Vicinity based on Predicted Range Models**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Agosia chrysogaster	Longfin Dace	SC		S		1B
Aix sponsa	Wood Duck					1B
Ammodramus savannarum ammolegus	Arizona grasshopper sparrow		S	S		1B
Ammodramus savannarum perpallidus	Western Grasshopper Sparrow					1B
Ammospermophilus harrisi	Harris' Antelope Squirrel					1B
Anaxyrus microscaphus	Arizona Toad	SC		S		1B
Aquila chrysaetos	Golden Eagle			S		1B
Aspidoscelis flagellicauda	Gila Spotted Whiptail					1B
Aspidoscelis pai	Pai Striped Whiptail					1B
Botaurus lentiginosus	American Bittern					1B
Buteo regalis	Ferruginous Hawk	SC		S		1B

**Species of Greatest Conservation Need
Predicted within Project Vicinity based on Predicted Range Models**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Castor canadensis	American Beaver					1B
Catostomus clarkii	Desert Sucker	SC	S	S		1B
Catostomus insignis	Sonora Sucker	SC	S	S		1B
Chilomeniscus stramineus	Variable Sandsnake					1B
Chordeiles minor	Common Nighthawk					1B
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S			1A
Colaptes chrysoides	Gilded Flicker			S		1B
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Crotalus cerberus	Arizona Black Rattlesnake					1B
Crotalus tigris	Tiger Rattlesnake					1B
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE				1A
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eugenes fulgens	Magnificent Hummingbird					1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Gila robusta	Roundtail chub	CCA	S	S		1A
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1A
Haliaeetus leucocephalus	Bald Eagle	SC	S	S		1A
Heloderma suspectum	Gila Monster					1A
Idionycteris phyllotis	Allen's Lappet-browed Bat	SC	S	S		1B
Incilius alvarius	Sonoran Desert Toad					1B
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus blossevillii	Western Red Bat		S			1B
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leopardus pardalis	Ocelot	LE				1A
Leptonycteris curasoae yerbabuenae	Lesser Long-nosed Bat	LE				1A
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Lontra canadensis sonora	Southwestern River Otter	SC				1B
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolni	Lincoln's Sparrow					1B
Melospiza aberti	Abert's Towhee		S			1B
Microtus mexicanus	Mexican Vole					1B
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tuberculifer	Dusky-capped Flycatcher					1B
Myiodynastes luteiventris	Sulphur-bellied Flycatcher		S			1B
Myotis occultus	Arizona Myotis	SC		S		1B

**Species of Greatest Conservation Need
Predicted within Project Vicinity based on Predicted Range Models**

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Odocoileus virginianus	White-tailed Deer					1B
Ovis canadensis mexicana	Mexican Desert Bighorn Sheep					1B
Panthera onca	Jaguar	LE				1A
Passerculus sandwichensis	Savannah Sparrow					1B
Perognathus amplus	Arizona Pocket Mouse					1B
Phrynosoma solare	Regal Horned Lizard					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Poeciliopsis occidentalis occidentalis	Gila Topminnow	LE				1A
Progne subis hesperia	Desert Purple Martin			S		1B
Ptychocheilus lucius	Colorado Pikeminnow	LE,XN				1A
Rhinichthys osculus	Speckled Dace	SC		S		1B
Setophaga petechia	Yellow Warbler					1B
Strix occidentalis lucida	Mexican Spotted Owl	LT				1A
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Troglodytes pacificus	Pacific Wren					1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B
Xantusia bezyi	Bezy's Night Lizard		S			1B
Xyrauchen texanus	Razorback Sucker	LE				1A

Species of Economic and Recreation Importance Predicted within Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Odocoileus hemionus	Mule Deer					
Odocoileus virginianus	White-tailed Deer					1B
Ovis canadensis mexicana	Mexicana Desert Bighorn Sheep					1B
Patagioenas fasciata	Band-tailed Pigeon					1C
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Sciurus aberti	Abert's Squirrel					
Ursus americanus	American Black Bear					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Transportation & Infrastructure, Road Improvements, Paving dirt roads

Project Type Recommendations:

Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the Wildlife Planning button at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g., microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g., livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before leaving the site. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants, <https://agriculture.az.gov/>. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control, <http://www.usda.gov/wps/portal/usdahome>. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information <https://www.azgfd.com/hunting/regulations>.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with State Historic Preservation Office may be required (<http://azstateparks.com/SHPO/index.html>).

Design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Reduce/minimize barriers to allow movement of amphibians or fish (e.g., eliminate falls). Also for terrestrial wildlife, washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found on the home page of this application at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (<http://www.azdeq.gov/>).

Based on the project type entered, coordination with U.S. Army Corps of Engineers may be required (<http://www.usace.army.mil/>)

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly, PEP@azgfd.gov

Project Location and/or Species Recommendations:

HDMS records indicate that one or more native plants listed on the Arizona Native Plant Law and Antiquities Act have been documented within the vicinity of your project area. Please contact:

Arizona Department of Agriculture

1688 W Adams St.

Phoenix, AZ 85007

Phone: 602.542.4373

<https://agriculture.az.gov/environmental-services/np1>

HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at <http://www.fws.gov/southwest/es/arizona/> or:

Phoenix Main Office

2321 W. Royal Palm Rd, Suite 103

Phoenix, AZ 85021

Phone: 602-242-0210

Fax: 602-242-2513

Tucson Sub-Office

201 N. Bonita Suite 141

Tucson, AZ 85745

Phone: 520-670-6144

Fax: 520-670-6155

Flagstaff Sub-Office

SW Forest Science Complex

2500 S. Pine Knoll Dr.

Flagstaff, AZ 86001

Phone: 928-556-2157

Fax: 928-556-2121

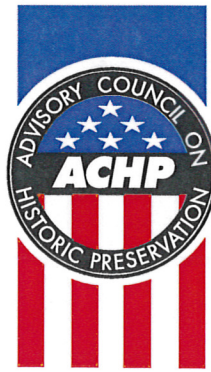
HDMS records indicate that Sonoran Desert Tortoise have been documented within the vicinity of your project area. Please review the Tortoise Handling Guidelines found at: <https://www.azgfd.com/wildlife/nongamemanagement/tortoise/>

Correspondence Regarding Cultural and Tribal Resources

Milford Wayne Donaldson, FAIA
Chairman

Leonard A. Forsman
Vice Chairman

John M. Fowler
Executive Director



Preserving America's Heritage

August 14, 2018

Ms. Brandye Hendrickson
Deputy Administrator
U.S. Department of Transportation
Federal Highway Administration
1200 New Jersey Ave S.E.
Washington, D.C. 20590

Ref: *Apache Trail Improvement Project*
Maricopa County, Arizona
ACHPCONNECT Log Number: 012968

Dear Ms. Hendrickson:

In response to a notification by the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation (ACHP) will participate in consultation regarding the Apache Trail Improvement Project in Maricopa County, Arizona. Our decision to participate in this consultation is based on the *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, contained within our regulations. The criteria are met because the project could have substantial impacts on important historic properties and it has the potential for presenting procedural problems.

Section 800.6(a)(1)(iii) of our regulations requires that we notify you, as the head of the agency, of our decision to participate in consultation. By copy of this letter, we are also notifying Ms. Karla Petty, FHWA Arizona Division Administrator, and Ms. Alexa Miles, an Environmental Protection Specialist at FHWA.

Our participation in this consultation will be handled by Sarah Stokely who can be reached at 202-517-0224 or via e-mail at sstokely@achp.gov. We look forward to working with your agency and other consulting parties to consider alternatives to this undertaking that could avoid, minimize, or mitigate potential adverse effects on historic properties and to reach a resolution.

Sincerely,

John M. Fowler
Executive Director

ADVISORY COUNCIL ON HISTORIC PRESERVATION

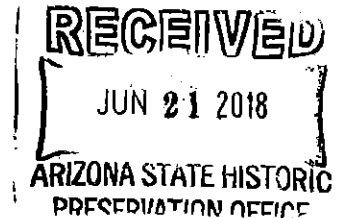
401 F Street NW, Suite 308 • Washington, DC 20001-2637
Phone: 202-517-0200 • Fax: 202-517-6381 • achp@achp.gov • www.achp.gov



U.S. Department
of Transportation
**Federal Highway
Administration**

June 19, 2018

Ms. Kathryn Leonard, SHPO
Arizona State Parks
1100 W. Washington Street
Phoenix, AZ 85007



Subject: Continuing Section 106 Consultation for the Proposed Apache Trail Project (SR88(1) APACHE TRAIL) Maricopa County, Arizona: Revised Area of Potential Effect (APE), Report Adequacy, Determination of Eligibility for Selected Roadway Features, and Determination of Project Effect

Dear Ms. Leonard,

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the Arizona Department of Transportation (ADOT) and the United States Forest Service, Tonto National Forest (TNF), is planning roadway improvements to 11.20 miles of State Route (SR) 88, the Apache Trail between mileposts (MP) 229.20 and 240.60, Maricopa County, Arizona (Figure 1). The project is located on ADOT easement crossing TNF lands, and TNF land. Funding for the project is through the Federal Lands Access Program, in conjunction with a local funding match. Given that this project is federally funded and crosses federal lands, it is considered to be an undertaking subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

SR 88/Apache Trail is considered to be one of Arizona's transportation "crown jewels," and is listed in the Arizona Register of Historic Places (ARHP). It has also been previously determined eligible for inclusion in the National Register of Historic Places (NRHP) under Criteria A, C, and D for its association with important historic events; unique qualities of design and construction; and potential to yield important data regarding the development of early Arizona roadways. The segment of the Apache Trail under consideration for improvements is a portion of the last remaining unpaved segment of the road, is considered to be a contributor to the roadway's NRHP eligibility, and contains numerous significant historic roadway features.

Within the project limits, the roadway surface consists of decomposed granite (DG), which requires frequent blading to maintain an effective surface. In some locations, the blading has created berms of excess materials along the roadway margins and adjacent to historic roadway elements, thus creating drainage, maintenance, and preservation issues. The purpose of the project would be to improve the resiliency of the road corridor and reduce maintenance demands; improve and maintain accessibility; and protect historic roadway elements.

Within the project limits, the scope of the proposed activities would consist of:

- Applying a chip seal containing layers of asphalt and aggregate or paving the existing DG road surface
- General maintenance activities, such as cleaning culverts, to improve drainage flow
- Installation of erosion control elements, consisting of constructing gabion baskets in existing roadway ditches; placing embankment matting along roadway side slopes; and placing rip-rap within existing drainage channels
- Removing berms of excess DG along roadway margins caused by road maintenance and blading



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Central Federal Lands Highway Division

June 19, 2018

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov
In Reply Refer To:
HFPM-16

- Applying a standard width of 20 to 24 feet (with exception segments less than 20 feet) to the roadway within the project limits
- Replacing, repairing, and/or extending existing culverts that are not currently functional
- Cutting back the toe of existing slopes at a grade of 1:2 in five spot locations to improve line-of-sight distance:
 - MP 229.46 to MP 229.51
 - MP 229.55 to MP 229.61
 - MP 229.94 to MP 229.90
 - MP 233.44 to MP 233.50
 - MP 234.50 to MP 234.58.

CFLHD has identified five culvert treatment options to address erosion and drainage issues that are affecting the current roadway and the structural integrity of existing roadway structural features. Description of the five proposed treatment options follows below, and schematic drawings are contained in Attachment A.

Treatment A: Treatment is CFLHD's standard apron end section, which serves to spread drainage flow at the transition from the culvert outlet to the natural drainage channel, or to sheet flow where no natural drainage exists. These improvements would be installed below and downslope from existing culvert outlets, and would not modify any existing structural elements. Design elements include:

- Placement of rip-rap along drainage channels to prevent additional scour and erosion
- Installation of a geotextile filter topped with fill dirt within existing scour slopes below culvert outlets to match the grade of adjacent slopes
- Installation of the apron end section below the culvert outlet.

Treatment B: Treatment B is a modified version of the Treatment A apron end section, and serves the same function, which is to distribute drainage flow at the transition from the culvert outlet to the natural drainage channel, or to sheet flow where no natural drainage exists. Design elements for Treatments A and B are the same, the only exception is that Treatment B exhibits a thicker end section.

Treatment C1: Treatment C1 is a retrofit option for an existing, perched outlet. Many perched pipes in the area have large scour damage at their existing outlet. These improvements would be installed below and downslope from existing culvert outlets, and would consist of extending existing outlet pipes downslope to arrest erosion damage. Design elements include:

- Filling scour holes to stabilize the slope
- Adding a bend joint to the existing outlet to extend the existing pipe down the side of the roadway prism. At the toe of slope, another bend joint would be added to extend the pipe a distance downslope from the roadway prism
- Placement of rip-rap along drainage channels to prevent additional scour and erosion (as needed)
- Installation of a geotextile filter topped with fill dirt within existing scour slopes below culvert outlets to match the grade of adjacent slopes (as needed)
- The extended pipe would terminate with the installation of the Treatment A apron end section.



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12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov
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Treatment C2: Treatment C2 is a modified version of the Treatment C1 retrofit option and would be installed in areas where it would be impractical to extend the existing culvert outlet pipe to the toe of the roadway prism. Design elements would include:

- Filling scour holes to stabilize the slope
- Adding a bend joint to the existing outlet to extend the existing pipe down the side of the roadway prism, short of the toe of slope
- Placement of rip-rap along drainage channels to prevent additional scour and erosion (as needed)
- Installation of a geotextile filter topped with fill dirt within existing scour slopes below culvert outlets to match the grade of adjacent slopes (as needed)
- The extended pipe would terminate with the installation of the Treatment A apron end section.

Treatment D: Treatment D would include the installation a 4-foot cutoff wall at the base of an existing drainage outlet. The wall would be a buried element constructed to arrest the erosional undermining of the existing roadway feature.

CFLHD initiated initial Section 106 consultation with your office on October 3, 2017. The initial Section 106 consultation introduced the project purpose, need, and objectives; and outlined the limits of a preliminary area of potential effects (APE).

PRELIMINARY APE AND CULTURAL RESOURCES INVESTIGATIONS

Review of the preliminary APE revealed that within the project limits, the ADOT easement had been previously investigated for cultural resources by Archaeological Research Services, Inc. (ARS), and the results reported in *"Cultural Resources Survey of Approximately 28.6 Miles of State Route 88, the Apache Trail, Between Tortilla Flat and the Theodore Roosevelt Dam, Maricopa County, Arizona"* (Barz 1995). SHPO concurrence with the adequacy of the report and eligibility assessments are available (Howard [SHPO] to Martin [TNF], 8/20/1998). Review of the methods employed by Barz (1995) in accordance with SHPO Guidance Point No. 5, *Relying on Old Survey Data* (SHPO 2004), revealed that they meet current agency standards. As a result, no resurvey of those areas previously investigated by Barz (1995) was considered to be warranted for the current project.

A total of 86 locations within the preliminary APE where drainage improvements were considered could not be demonstrated to have been previously investigated for cultural resources. As a result, these 86 areas were subject to Class III survey by Jacobs Engineering Group Inc. (Jacobs). The Class III survey was conducted on December 4–6, 2017.

REVISED APE AND CULTURAL RESOURCES INVESTIGATIONS

Following the Class III survey, the limits of the preliminary APE were reduced in an effort to minimize potential impacts to historic roadway features. The results of the Class III survey and the newly defined limits of the APE are provided in *"Results of Class I Literature Review, Historic Feature Documentation, and Class III Cultural Resources Survey between Milepost 229.20 and Milepost 240.60 of State Route 88/Apache Trail, Maricopa County, Arizona"* (Luhnow and Schilling 2018). The report includes the results of a Class I literature review, a compilation of previously recorded cultural resources sites and



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12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov
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historic SR 88/Apache Trail roadway features within the newly defined APE limits, and recommendations for 13 previously unevaluated historic roadway features as character-defining contributing or non-contributing elements to the NRHP eligibility of SR 88/Apache Trail (Appendix D in Luhnnow and Schilling 2018). A copy of the report is enclosed for your review and comment.

CULTURAL RESOURCES IN THE APE

AR-03-12-06-218 (TNF) refers to the historic alignment, including the roadway and features, of SR 88/Apache Trail. The Apache Trail was originally constructed in 1903 as a wagon road to supply the construction of Roosevelt Dam. In its entirety, the Apache Trail is 49 miles in length. It begins near the City of Apache Junction, Maricopa County, Arizona at MP 193.90, and terminates at its junction with United States (US) Highway 60, near Globe, Gila County, Arizona, at MP 242.66. The Apache Trail has been previously determined eligible for inclusion in the NRHP under Criteria A, C, and D (Howard [SHPO] to Martin [TNF], 8/20/1998).

The portion of the historic roadway within the current APE (MP 229.20 to MP 240.60) was assessed by Sullivan (2017) and determined to be a character-defining contributing element to the overall NRHP-eligibility of the Apache Trail (Jacobs [SHPO] to Greenspan [ADOT], 2/2/2017; Bosworth [TNF] to Greenspan [ADOT], n.d.). The proposed improvements consist of paving the roadway, replacing and/or modifying roadway features, and improving line of sight at five locations. These activities would adversely impact the roadway's existing NRHP qualities.

A total of 169 historic roadway features of the Apache Trail are located within the APE. Of these, 156 individual features of the roadway were assessed by Sullivan (2017) and resulted in the determination of specific features as character-defining contributing and non-contributing elements of the Apache Trail (Jacobs [SHPO] to Greenspan [ADOT], 2/2/2017; Bosworth [TNF] to Greenspan [ADOT], n.d.). Improvements to the roadway would not alter the existing NHRP qualities of individual features as character-defining contributing elements to the eligibility of the historic SR 88/Apache Trail alignment. However, proposed drainage improvements, such as replacing, repairing, and modifying individual character-defining contributing elements of SR 88/Apache Trail may adversely impact the existing NRHP qualities of both contributing elements and the SR 88/Apache Trail roadway (Table 1). In addition to the historic Apache Trail and its historic roadway features, a total of 10 additional previously recorded cultural resources sites are located within the newly defined limits of the APE (Table 2). These sites were recorded or revisited during a previous Class III survey of the SR 88/Apache Trail APE (Barz 1995), and were not revisited or re-recorded during Jacobs' Class III survey in 2017. Table 2 itemizes the eligibility status, specific project effects (as currently known), and management recommendations for the 10 additional cultural resources sites.

PROJECT EFFECT

Based on the Class I research and Class III fieldwork, CFLHD has determined that the project would result in an adverse effect to historic properties. CFLHD recommends that an appropriate level of documentation and treatment be outlined in a project-specific Memorandum of Agreement (MOA) to mitigate the adverse effect.

As part of the environmental process for this undertaking, FHWA must also comply with Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966. The intent of the Section 4(f) Statute, 49



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Central Federal Lands Highway Division

June 19, 2018

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov
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U.S.C. Section 303, and the policy of the FHWA is to strive to avoid transportation use of historic sites and publicly owned recreational areas, parks, wildlife and waterfowl refuges. FHWA CFLHD will complete an individual 4(f) analysis over the upcoming months.

CONSULTATION SUMMARY AND REQUEST FOR CONCURRENCE

Please review the enclosed report, and information contained in this letter. At this time, CFLHD is seeking your concurrence on the adequacy of the enclosed cultural resources report, the limits of the revised APE, the eligibility recommendations of 13 newly assessed historic roadway features as contributing/non-contributing elements to the eligibility of the historic SR 88/Apache Trail alignment, CFLHD's determination of adverse effect for the undertaking resulting from impacts to the 06-218(TNF)/Apache Trail roadway and historic roadway features, and the need for a project-specific MOA to resolve adverse effects.

We would appreciate a written response within 30 days from date of receipt, by email at Micah.Leadford@dot.gov or Alexa.Miles@dot.gov or by US Postal Service to 12300 West Dakota Avenue, Suite 280, Lakewood, CO 80228-2583. If you have any questions about the undertaking or would like to discuss the content of this letter further, please email or call Alexa Miles at Alexa.Miles@dot.gov or 720-963-3398.

Sincerely,

Micah Leadford
Project Manager, CFLHD

CONCUR

2 JULY 18
Arizona State Historic Preservation Office

Enclosure: Regional Map and APE Figures
Tables 1 and 2
Appendix A: Design Schematics for Culvert Treatment Options
Class III Cultural Resources Report

Cc: David Jacobs, Compliance Specialist, Arizona State Historic Preservation Office
Michael Sullivan, Section 106 Consulting Party
Kris Hill, Forest Archeologist, Tonto National Forest
Tribes that requested participation in the Section 106 process: Gila River Indian
Community, Hopi Tribe



U.S. Department
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**Federal Highway
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Central Federal Lands Highway Division

September 13, 2017

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov
In Reply Refer To:
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Honorable [CHAIRPERSON NAME]
[TRIBE]
[ADDRESS]

Subject: Tribal Consultation for the Apache Trail Project (AZ FLAP SR88(1))

Dear Chairman/woman ///,

Improvements to 12.4 miles of the Apache Trail (AZ 88) between milepost 229.2 and milepost 241.6 in Maricopa County, Arizona are under study by the Federal Highway Administration (FHWA) Central Federal Lands Highway Division (CFLHD), in cooperation with Arizona Department of Transportation (ADOT) and U.S. Forest Service Tonto National Forest (TNF). The route passes through mountainous terrain with varying grades up to 18%. The existing gravel roadway is between 18 feet and 28 feet wide. The improvement project would include some form of surface chip seal or other surfacing option of the 12.4-mile section. The proposed project would maintain the existing roadway widths and would replace, repair, and/or extend drainage culverts, as needed, within the project area. Minor safety improvements including sight distance improvements and signage would be considered.

TNF and ADOT have identified your Tribe as having an interest in the area. In compliance with Section 106 of the National Historic Preservation Act (NHPA), we are seeking your knowledge of historic properties of traditional religious or cultural importance that may be affected by the proposed road improvements. FHWA-CFLHD is serving as the lead federal agency for the project and will be the lead for Section 106 consultation.

The Apache Trail is a 42-mile, winding historic route that links Apache Junction with Roosevelt Dam through the Superstition Mountains and Tonto National Forest, with the northern 22 miles being unpaved. The proposed project addresses the northern most 12.4-mile gravel section of the Apache Trail between the Apache Lake Marina and the Roosevelt Dam. Funding for the project is through the Federal Lands Access Program, in conjunction with an ADOT local funding match.

The purpose of the project is to improve the resiliency of the road corridor to reduce maintenance demands, improve and maintain all-weather accessibility, and protect elements of the historic road. The project is needed because routine maintenance requiring the continual importing of material and regrading of the road surface contributes to watershed damage, places historic features at further risk to unintentional damage, and requires extensive financial resources.

Objectives for the project include the following:

- Reduce particulate pollution in Maricopa County to improve air quality.
- Encourage drivers (especially those pulling boat trailers) to access the marina from the north end by providing a hardened, resilient, and more trailer-friendly route.
- Enhance the long-term preservation of Fish Creek Hill by reducing the volume of marina-bound traffic on the western section of the Apache Trail.

FHWA-CFLHD is aware that previous surveys in the vicinity of the project area have identified archeological sites and historic features. FHWA-CFLHD has retained a contractor to conduct a cultural resources investigation. As part of the investigation and the environmental analysis, we will identify and



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Central Federal Lands Highway Division

September 13, 2017

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov
In Reply Refer To:
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evaluate historic properties in the project area and assess the potential for the project to affect those properties. Please inform us if your Tribe has a religious or cultural affiliation to resources that have been identified in the project area, and we will continue to consult with you on the nature and level of impacts and potential measures to avoid or reduce impacts. FHWA-CFLHD is also reviewing the project under Section 4(f) of the Department of Transportation Act and may follow up with you if further evaluation of impacts on historic properties is required under this Act.

Your knowledge of the area is of great value and your feedback is important. Please reply with information you wish to share and to confirm your interest in being a consulting party on this project. Please be assured that, in accordance with confidentiality and disclosure stipulations in Section 304 of the NHPA, we will maintain strict confidentiality about certain types of information regarding historic properties. We would also appreciate any suggestions you have about other groups or individuals that we should contact regarding this project.

If you have any comments regarding the proposed project or desire to participate in the Section 106 review process, please respond within 30 days by letter to: Micah Leadford, Federal Highway Administration, 12300 W. Dakota Ave., Suite 380, Lakewood, CO 80228 or by email to ApacheTrail@dot.gov. Also, if you have any questions about the project or would like to schedule a meeting, I can be reached at 720-963-3498 or you may contact Alexa Miles at 720-963-3398.

Sincerely,

Micah Leadford
Project Manager, CFLHD

Enclosure: Project Location Map
Project Area Figures



FIGURE 1: SR 88 APACHE TRAIL REGIONAL MAP





Herman G. Honanie
CHAIRMAN

Alfred Lomahquahu Jr.
VICE-CHAIRMAN

October 13, 2015

Micah Leadford, Project Manager
Attention: Alexa Miles
Federal Highway Administration, Central Federal Lands Highway Division
12300 West Dakota Avenue, Suite 380
Lakewood, Colorado 80228-2583

Dear Mr. Leadford,

Thank you for your correspondence dated October 4, 2017, regarding the Federal Highway Administration (FHWA), Arizona Department of Transportation (ADOT) and Tonto National Forest proposing to improve 12.4 miles of the Apache trail, AZ 88 in Maricopa County. The Hopi Tribe claims cultural affiliation to earlier identifiable cultural groups in Tonto National Forest. The Hopi Cultural Preservation Office supports the identification and avoidance of our ancestral sites and Traditional Cultural Properties, and we consider the archaeological sites of our ancestors to be "footprints" and Traditional Cultural Properties. Therefore, we appreciate the FHWA, the ADOT and the Forest's continuing solicitation of our input and your efforts to address our concerns.

The Hopi Cultural Preservation Office requests consultation on any proposal in Arizona that has the potential to effect prehistoric sites. We understand FHWA is aware of previous surveys in the vicinity that have identified archaeological sites and retained a contractor to conduct a cultural resources investigation.

Therefore, we request continuing consultation on this proposal including being provided with a copy of the survey report for review and comment. If the cultural resource survey of the area of potential effect identifies prehistoric cultural resources that may be adversely affected by project activities, we will request continuing consultation including being provided with a copy of any proposed treatment plans for review and comment. Should you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office. Thank you again for your consideration.

Respectfully,

Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: Arizona State Historic Preservation Office
Arizona Department of Transportation
Tonto National Forest



GILA RIVER INDIAN COMMUNITY

POST OFFICE BOX 2193, SACATON, AZ 85147

TRIBAL HISTORIC PRESERVATION OFFICE

(520) 562-7162

Fax: (520) 562-5083

October 25, 2017

Micah Leadford, Project Manager
U.S. Department of Transportation
Federal Highway Administration
Central Federal Lands Highway Division
12300 West Dakota Avenue, Suite 380
Lakewood, Colorado 80228-2583

RE: HFSM-16, Tribal Consultation for the Apache Trail Project (AZ FLAP SR88(1)),
Maricopa County, Arizona

Dear Mr. Leadford,

The Gila River Indian Community Tribal Historic Preservation Office (GRIC-THPO) has received your consultation letter dated October 4, 2017. The Federal Highway Administration (FHWA) Central Federal Lands Highway Division (CFLHD) in cooperation with Arizona Department of Transportation (ADOT) and the U.S. Forest Service Tonto National Forest (TNF) are planning an undertaking to improve Arizona State Route 88, the Apache Trail (SR 88) between mileposts 229.2 to 241.6, Maricopa County, Arizona. The GRIC-THPO is aware of this proposed undertaking and provided written responses to the FHWA on March 10, 2015 and March 3, 2016. At that time, the FHWA made a finding of adverse effect for this undertaking.

The GRIC-THPO will participate in the Section 106 consultation process for this undertaking. The proposed project area is within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; Ak-Chin Indian Community and the Tohono O'Odham Nation). The GRIC-THPO defers to the Salt River Pima-Maricopa Indian Community as lead in the consultation process for this undertaking.

Thank you for consulting the GRIC-THPO regarding this undertaking. If you have any questions please do not hesitate to contact me or Archaeological Compliance Specialist Larry Benallie, Jr. at 520-562-7162.

Respectfully,

Barnaby V. Lewis
Tribal Historic Preservation Officer
Gila River Indian Community



White Mountain Apache Tribe

Office of Historic Preservation

PO Box 1032

Fort Apache, AZ 85926

Ph: (928) 338-3033 Fax: (928) 338-6055

To: Micah Leadford, Project Manager, CFLHD

Date: November 1, 2017

Re: Tribal Consultation for the Apache Trail Project (AZ FLAP SR88(1))

.....

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the proposed project, dated October 4, 2017. In regards to this, please attend to the following checked items below.

Please refer to the additional notes in regards to the proposed project:

Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the above proposed road improvement projects on SR88 Apache Trail road, within Maricopa County, Arizona. Although the APE lies within Apache aboriginal territory, we have determined the proposed project plans **will not have an impact** on the White Mountain Apache tribe's historic properties and/or traditional cultural properties.

Regardless, any/all ground disturbing activities should be monitored **"if"** there are reasons to believe that there are human remains and/or funerary objects present, and if such remains are encountered they shall be treated with respect and handled accordingly until such remains are repatriated to the affiliated tribe(s).

Thank you. We look forward to continued collaborations in the protection and preservation of places of cultural and historical importance.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe - THPO



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

June 19, 2018

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov

Leigh Kuwanwisiwma, Director
Hopi Tribe
P.O. Box 123
Kykotsmovi, AZ 86039

RE: Apache Trail Project (AZ FLAP SR88(1))

Dear Leigh Kuwanwisiwma,

Per your letter request, dated October 13, 2017, please see the attached copy of the Federal Highway Administration Central Federal Lands Highway Division's Section 106 consultation submittal and a copy of the completed cultural resource report.

If you have any questions, please do not hesitate to contact me at 720-963-3398 or
Alexa.Miles@dot.gov.

Sincerely,

Alexa Miles
Environmental Protection Specialist, CFLHD

Cc: Herman Honanie, Chairman



U.S. Department
of Transportation

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Administration**

Central Federal Lands Highway Division

June 19, 2018

12300 West Dakota Avenue

Suite 380

Lakewood, CO 80228-2583

Micah Leadford Office: 720-963-3498

Alexa Miles Office: 720-963-3398

Fax: 720-963-3596

Micah.Leadford@dot.gov

Barnaby V. Lewis, THPO
Gila River Indian Community
P.O. Box 2140
Sacaton, AZ 85147

RE: Apache Trail Project (AZ FLAP SR88(1))

Dear Mr. Lewis,

Per your letter request, dated October 25, 2017, please see the attached copy of the Federal Highway Administration Central Federal Lands Highway Division's Section 106 consultation submittal and a copy of the completed cultural resource report.

If you have any questions, please do not hesitate to contact me at 720-963-3398 or
Alexa.Miles@dot.gov.

Sincerely,

Alexa Miles
Environmental Protection Specialist, CFLHD

Cc: Stephen Roe Lewis



U.S. Department
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**Federal Highway
Administration**

Central Federal Lands Highway Division

June 19, 2018

12300 West Dakota Avenue
Suite 380

Lakewood, CO 80228-2583

Micah Leadford Office: 720-963-3498

Alexa Miles Office: 720-963-3398

Fax: 720-963-3596

Micah.Leadford@dot.gov

In Reply Refer To:

HFPM-16



Ms. Kathryn Leonard, SHPO
Arizona State Parks
1100 W. Washington Street
Phoenix, AZ 85007

Subject: Continuing Section 106 Consultation for the Proposed Apache Trail Project (SR88(1) APACHE TRAIL) Maricopa County, Arizona: Revised Area of Potential Effect (APE), Report Adequacy, Determination of Eligibility for Selected Roadway Features, and Determination of Project Effect

Dear Ms. Leonard,

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the Arizona Department of Transportation (ADOT) and the United States Forest Service, Tonto National Forest (TNF), is planning roadway improvements to 11.20 miles of State Route (SR) 88, the Apache Trail between mileposts (MP) 229.20 and 240.60, Maricopa County, Arizona (Figure 1). The project is located on ADOT easement crossing TNF lands, and TNF land. Funding for the project is through the Federal Lands Access Program, in conjunction with a local funding match. Given that this project is federally funded and crosses federal lands, it is considered to be an undertaking subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

SR 88/Apache Trail is considered to be one of Arizona's transportation "crown jewels," and is listed in the Arizona Register of Historic Places (ARHP). It has also been previously determined eligible for inclusion in the National Register of Historic Places (NRHP) under Criteria A, C, and D for its association with important historic events; unique qualities of design and construction; and potential to yield important data regarding the development of early Arizona roadways. The segment of the Apache Trail under consideration for improvements is a portion of the last remaining unpaved segment of the road, is considered to be a contributor to the roadway's NRHP eligibility, and contains numerous significant historic roadway features.

Within the project limits, the roadway surface consists of decomposed granite (DG), which requires frequent blading to maintain an effective surface. In some locations, the blading has created berms of excess materials along the roadway margins and adjacent to historic roadway elements, thus creating drainage, maintenance, and preservation issues. The purpose of the project would be to improve the resiliency of the road corridor and reduce maintenance demands; improve and maintain accessibility; and protect historic roadway elements.

Within the project limits, the scope of the proposed activities would consist of:

- Applying a chip seal containing layers of asphalt and aggregate or paving the existing DG road surface
- General maintenance activities, such as cleaning culverts, to improve drainage flow
- Installation of erosion control elements, consisting of constructing gabion baskets in existing roadway ditches; placing embankment matting along roadway side slopes; and placing rip-rap within existing drainage channels
- Removing berms of excess DG along roadway margins caused by road maintenance and blading



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Administration**

Central Federal Lands Highway Division

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12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov
In Reply Refer To:
HFPM-16

- Applying a standard width of 20 to 24 feet (with exception segments less than 20 feet) to the roadway within the project limits
- Replacing, repairing, and/or extending existing culverts that are not currently functional
- Cutting back the toe of existing slopes at a grade of 1:2 in five spot locations to improve line-of-sight distance:
 - MP 229.46 to MP 229.51
 - MP 229.55 to MP 229.61
 - MP 229.94 to MP 229.90
 - MP 233.44 to MP 233.50
 - MP 234.50 to MP 234.58.

CFLHD has identified five culvert treatment options to address erosion and drainage issues that are affecting the current roadway and the structural integrity of existing roadway structural features. Description of the five proposed treatment options follows below, and schematic drawings are contained in Attachment A.

Treatment A: Treatment is CFLHD's standard apron end section, which serves to spread drainage flow at the transition from the culvert outlet to the natural drainage channel, or to sheet flow where no natural drainage exists. These improvements would be installed below and downslope from existing culvert outlets, and would not modify any existing structural elements. Design elements include:

- Placement of rip-rap along drainage channels to prevent additional scour and erosion
- Installation of a geotextile filter topped with fill dirt within existing scour slopes below culvert outlets to match the grade of adjacent slopes
- Installation of the apron end section below the culvert outlet.

Treatment B: Treatment B is a modified version of the Treatment A apron end section, and serves the same function, which is to distribute drainage flow at the transition from the culvert outlet to the natural drainage channel, or to sheet flow where no natural drainage exists. Design elements for Treatments A and B are the same, the only exception is that Treatment B exhibits a thicker end section.

Treatment C1: Treatment C1 is a retrofit option for an existing, perched outlet. Many perched pipes in the area have large scour damage at their existing outlet. These improvements would be installed below and downslope from existing culvert outlets, and would consist of extending existing outlet pipes downslope to arrest erosion damage. Design elements include:

- Filling scour holes to stabilize the slope
- Adding a bend joint to the existing outlet to extend the existing pipe down the side of the roadway prism. At the toe of slope, another bend joint would be added to extend the pipe a distance downslope from the roadway prism
- Placement of rip-rap along drainage channels to prevent additional scour and erosion (as needed)
- Installation of a geotextile filter topped with fill dirt within existing scour slopes below culvert outlets to match the grade of adjacent slopes (as needed)
- The extended pipe would terminate with the installation of the Treatment A apron end section.



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12300 West Dakota Avenue
Suite 380

Lakewood, CO 80228-2583

Micah Leadford Office: 720-963-3498

Alexa Miles Office: 720-963-3398

Fax: 720-963-3596

Micah.Leadford@dot.gov

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HFPM-16

Treatment C2: Treatment C2 is a modified version of the Treatment C1 retrofit option and would be installed in areas where it would be impractical to extend the existing culvert outlet pipe to the toe of the roadway prism. Design elements would include:

- Filling scour holes to stabilize the slope
- Adding a bend joint to the existing outlet to extend the existing pipe down the side of the roadway prism, short of the toe of slope
- Placement of rip-rap along drainage channels to prevent additional scour and erosion (as needed)
- Installation of a geotextile filter topped with fill dirt within existing scour slopes below culvert outlets to match the grade of adjacent slopes (as needed)
- The extended pipe would terminate with the installation of the Treatment A apron end section.

Treatment D: Treatment D would include the installation a 4-foot cutoff wall at the base of an existing drainage outlet. The wall would be a buried element constructed to arrest the erosional undermining of the existing roadway feature.

CFLHD initiated initial Section 106 consultation with your office on October 3, 2017. The initial Section 106 consultation introduced the project purpose, need, and objectives; and outlined the limits of a preliminary area of potential effects (APE).

PRELIMINARY APE AND CULTURAL RESOURCES INVESTIGATIONS

Review of the preliminary APE revealed that within the project limits, the ADOT easement had been previously investigated for cultural resources by Archaeological Research Services, Inc. (ARS), and the results reported in *"Cultural Resources Survey of Approximately 28.6 Miles of State Route 88, the Apache Trail, Between Tortilla Flat and the Theodore Roosevelt Dam, Maricopa County, Arizona"* (Barz 1995). SHPO concurrence with the adequacy of the report and eligibility assessments are available (Howard [SHPO] to Martin [TNF], 8/20/1998). Review of the methods employed by Barz (1995) in accordance with SHPO Guidance Point No. 5, *Relying on Old Survey Data* (SHPO 2004), revealed that they meet current agency standards. As a result, no resurvey of those areas previously investigated by Barz (1995) was considered to be warranted for the current project.

A total of 86 locations within the preliminary APE where drainage improvements were considered could not be demonstrated to have been previously investigated for cultural resources. As a result, these 86 areas were subject to Class III survey by Jacobs Engineering Group Inc. (Jacobs). The Class III survey was conducted on December 4–6, 2017.

REVISED APE AND CULTURAL RESOURCES INVESTIGATIONS

Following the Class III survey, the limits of the preliminary APE were reduced in an effort to minimize potential impacts to historic roadway features. The results of the Class III survey and the newly defined limits of the APE are provided in *"Results of Class I Literature Review, Historic Feature Documentation, and Class III Cultural Resources Survey between Milepost 229.20 and Milepost 240.60 of State Route 88/Apache Trail, Maricopa County, Arizona"* (Luhnow and Schilling 2018). The report includes the results of a Class I literature review, a compilation of previously recorded cultural resources sites and



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

June 19, 2018

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov
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HFPM-16

historic SR 88/Apache Trail roadway features within the newly defined APE limits, and recommendations for 13 previously unevaluated historic roadway features as character-defining contributing or non-contributing elements to the NRHP eligibility of SR 88/Apache Trail (Appendix D in Luhnnow and Schilling 2018). A copy of the report is enclosed for your review and comment.

CULTURAL RESOURCES IN THE APE

AR-03-12-06-218 (TNF) refers to the historic alignment, including the roadway and features, of SR 88/Apache Trail. The Apache Trail was originally constructed in 1903 as a wagon road to supply the construction of Roosevelt Dam. In its entirety, the Apache Trail is 49 miles in length. It begins near the City of Apache Junction, Maricopa County, Arizona at MP 193.90, and terminates at its junction with United States (US) Highway 60, near Globe, Gila County, Arizona, at MP 242.66. The Apache Trail has been previously determined eligible for inclusion in the NRHP under Criteria A, C, and D (Howard [SHPO] to Martin [TNF], 8/20/1998).

The portion of the historic roadway within the current APE (MP 229.20 to MP 240.60) was assessed by Sullivan (2017) and determined to be a character-defining contributing element to the overall NRHP-eligibility of the Apache Trail (Jacobs [SHPO] to Greenspan [ADOT], 2/2/2017; Bosworth [TNF] to Greenspan [ADOT], n.d.). The proposed improvements consist of paving the roadway, replacing and/or modifying roadway features, and improving line of sight at five locations. These activities would adversely impact the roadway's existing NRHP qualities.

A total of 169 historic roadway features of the Apache Trail are located within the APE. Of these, 156 individual features of the roadway were assessed by Sullivan (2017) and resulted in the determination of specific features as character-defining contributing and non-contributing elements of the Apache Trail (Jacobs [SHPO] to Greenspan [ADOT], 2/2/2017; Bosworth [TNF] to Greenspan [ADOT], n.d.). Improvements to the roadway would not alter the existing NHRP qualities of individual features as character-defining contributing elements to the eligibility of the historic SR 88/Apache Trail alignment. However, proposed drainage improvements, such as replacing, repairing, and modifying individual character-defining contributing elements of SR 88/Apache Trail may adversely impact the existing NRHP qualities of both contributing elements and the SR 88/Apache Trail roadway (Table 1). In addition to the historic Apache Trail and its historic roadway features, a total of 10 additional previously recorded cultural resources sites are located within the newly defined limits of the APE (Table 2). These sites were recorded or revisited during a previous Class III survey of the SR 88/Apache Trail APE (Barz 1995), and were not revisited or re-recorded during Jacobs' Class III survey in 2017. Table 2 itemizes the eligibility status, specific project effects (as currently known), and management recommendations for the 10 additional cultural resources sites.

PROJECT EFFECT

Based on the Class I research and Class III fieldwork, CFLHD has determined that the project would result in an adverse effect to historic properties. CFLHD recommends that an appropriate level of documentation and treatment be outlined in a project-specific Memorandum of Agreement (MOA) to mitigate the adverse effect.

As part of the environmental process for this undertaking, FHWA must also comply with Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966. The intent of the Section 4(f) Statute, 49

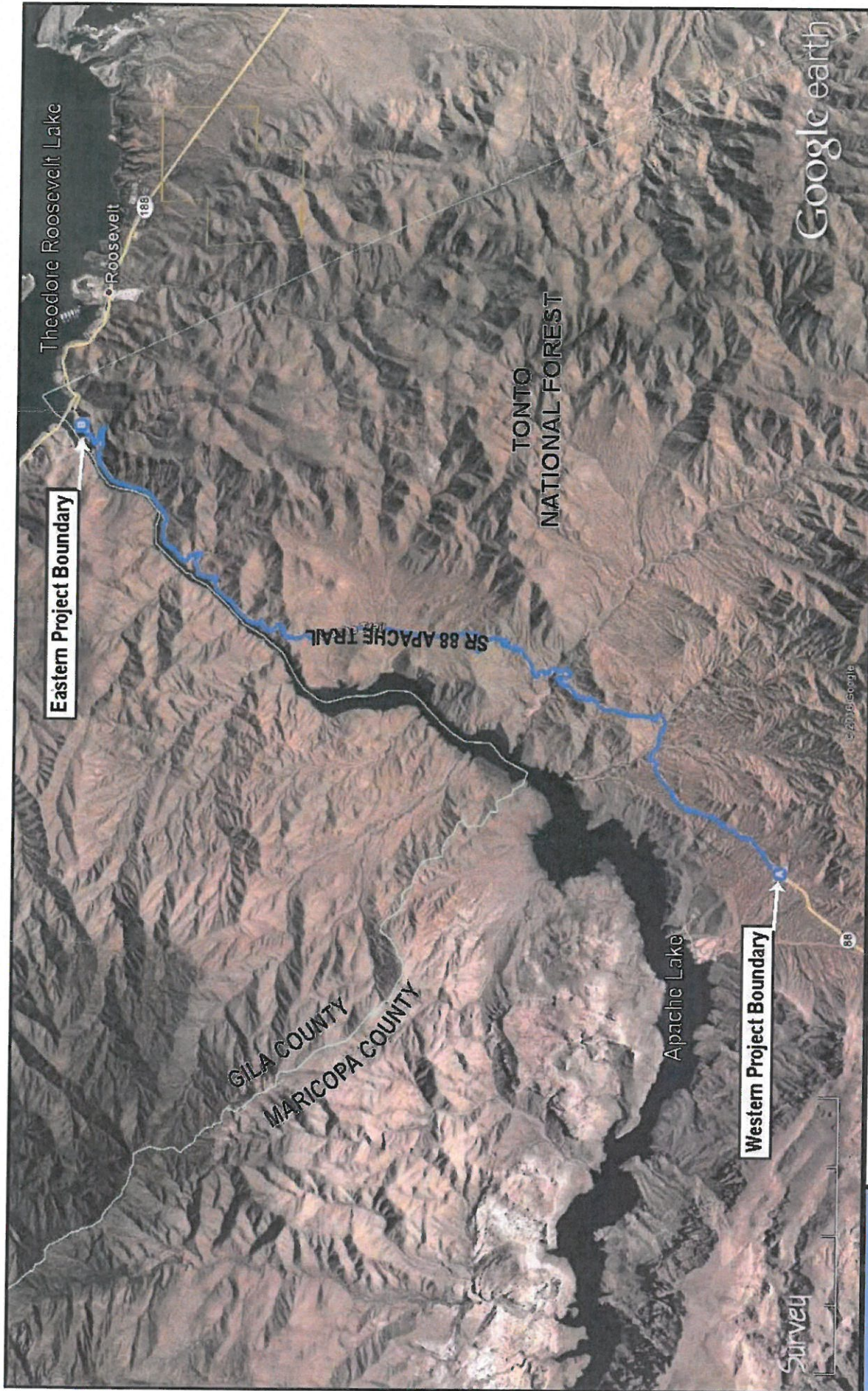
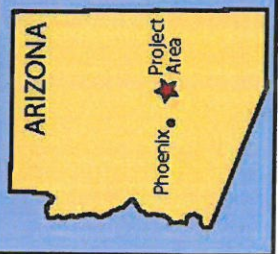


FIGURE 1: SR 88 APACHE TRAIL REGIONAL MAP





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**Federal Highway
Administration**

Central Federal Lands Highway Division

June 19, 2018

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Micah Leadford Office: 720-963-3498
Alexa Miles Office: 720-963-3398
Fax: 720-963-3596
Micah.Leadford@dot.gov
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U.S.C. Section 303, and the policy of the FHWA is to strive to avoid transportation use of historic sites and publicly owned recreational areas, parks, wildlife and waterfowl refuges. FHWA CFLHD will complete an individual 4(f) analysis over the upcoming months.

CONSULTATION SUMMARY AND REQUEST FOR CONCURRENCE

Please review the enclosed report, and information contained in this letter. At this time, CFLHD is seeking your concurrence on the adequacy of the enclosed cultural resources report, the limits of the revised APE, the eligibility recommendations of 13 newly assessed historic roadway features as contributing/non-contributing elements to the eligibility of the historic SR 88/Apache Trail alignment, CFLHD's determination of adverse effect for the undertaking resulting from impacts to the 06-218(TNF)/Apache Trail roadway and historic roadway features, and the need for a project-specific MOA to resolve adverse effects.

We would appreciate a written response within 30 days from date of receipt, by email at Micah.Leadford@dot.gov or Alexa.Miles@dot.gov or by US Postal Service to 12300 West Dakota Avenue, Suite 280, Lakewood, CO 80228-2583. If you have any questions about the undertaking or would like to discuss the content of this letter further, please email or call Alexa Miles at Alexa.Miles@dot.gov or 720-963-3398.

Sincerely,

Micah Leadford
Project Manager, CFLHD

cc: [unclear]

Mingait
for
Kouyounstew
6-25-18

Enclosure: Regional Map and APE Figures
Tables 1 and 2
Appendix A: Design Schematics for Culvert Treatment Options
Class III Cultural Resources Report

Cc: David Jacobs, Compliance Specialist, Arizona State Historic Preservation Office
Michael Sullivan, Section 106 Consulting Party
Kris Hill, Forest Archeologist, Tonto National Forest
Tribes that requested participation in the Section 106 process: Gila River Indian
Community, Hopi Tribe



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

June 23, 2020

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Dustin Robbins Office: 720-963-3586
Thomas Parker Office: 720-963-3688
Fax: 720-963-3596
Dustin.Robbins@dot.gov
In Reply Refer To:
HFPM-16

Honorable [CHAIRPERSON NAME]

[TRIBE]

[ADDRESS]

Dear Chairman/woman////,

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the Arizona Department of Transportation (ADOT) and the United States Forest Service, Tonto National Forest (TNF), has been planning roadway improvements to 11.20 miles of State Route (SR) 88, the Apache Trail, between mileposts (MP) 229.20 and 240.60, Maricopa County, Arizona (Figure 1). The project is located on TNF lands and an ADOT easement crossing TNF lands. The Apache Trail is a 42-mile, winding historic road that links Apache Junction with Roosevelt Lake through the Superstition Mountains and TNF. The Apache Trail is paved from Apache Junction to approximately MP 220, while the remainder of the road is unpaved until just west of Theodore Roosevelt Dam and the junction of Apache Trail and SR 188. The proposed improvements would begin at MP 229.2 and extend approximately 11.12 miles east-northeast to MP 240.6. Within the project limits, the roadway surface consists of decomposed granite (DG), which requires frequent blading to maintain an effective surface. Contractor staging and use areas are proposed to occur within the limits of the environmental study area.

In the fall and winter of 2017/2018, public outreach began on the proposed project. Interested parties such as yourself were contacted to solicit input and comments on the proposed action as well as issues and concerns that should be considered in the environmental analysis. The feedback received was very informative and helped to shape the project and resources of consideration. As project design was progressing recent disaster events have resulted in significant damage to this roadway facility and its surrounding landscape and require that the project design and coordination efforts be reinitiated to account for changes to the projects design approach and repair philosophy. Funding for the project is through the Federal Lands Access Program, in conjunction with a local funding match. Additional funding is now being added to the project through the Emergency Relief Program as detailed below to account for damage that has occurred along the route.

The Apache trail has qualified for funding under the emergency relief program. Congress authorized in Title 23, United States Code, Section 125, a special program from the Highway Trust Fund for the repair or reconstruction of Federal-aid highways and roads on Federal lands which have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause. This program, commonly referred to as the emergency relief or ER program, supplements the commitment of resources by States, their political subdivisions, or other Federal agencies to help pay for unusually heavy expenses resulting from extraordinary conditions.

On June 8, 2019, the human-caused Woodbury Fire began in the Superstition Wilderness near the Woodbury Trailhead. This Forest Service land is full of rugged terrain with virtually no access which

limited the ability of firefighters to safely confront the fire on land. Over the course of the summer, the fire grew burning a total of 123,875 acres. Within Tonto National Monument, 88% (989 acres) of the land was burned. Although previous fires had burned small sections of the Monument, this was the largest in recorded history. Large and severe wildfires present a major threat to watershed health, because they can impair watershed condition, alter hydrologic and geomorphic processes, and ultimately degrade water quality. Wildfires can lead to changes in flow regimes, flood frequency, erosion, and debris flows. Wildfires can also lead to significant changes in stream water chemistry, and post-fire sediment-driven transport can lead to increases in contaminant loads. The historic Woodbury fire reached full containment in the summer of 2019. However, on September 23, 2019 and November 19, 2019 severe thunderstorms originating from the remnants of Tropical Storms Lorena and Raymond respectively moved over the project area for the Apache Trail project. These storms released intense rainfall over this denuded and degraded watershed which resulted in significant flooding and debris flows over segments of the Apache Trail roadway. Much of the roadway drainage features, many which were historic character defining features (CDF) for the Apache Trail (SR 88), were damaged or destroyed. During project development a Class I literature review, historic feature documentation, and class III cultural resources survey for the proposed segment of Apache trail was completed. A total of 66 eligible structural character defining features of the historic apache trail, such as culverts, retaining walls, low water crossings, guardrails, and cattle guards were documented within this segment of the Apache Trail. Of this 66 CDFs, a total of 37 now require some form of repair ranging from minor/less invasive work, to total replacement. A total of 18 will require minor/less invasive work and 19 will require major work. Of the major work, 12 are proposed to be reset(rebuilt), 5 are proposed to be replaced, and 2 are proposed to be a combination of resetting historic elements and new construction. Consultation and suitable mitigations for impacts to historic properties and contributing elements, including but not limited to Historic American Engineering Records (HAER) will be completed to offset adverse impacts.

In response to changing hydraulic conditions and recent failure events, the FHWA in partnership with the ADOT and USFS must reevaluate the design approach to the Apache Trail project to ensure the safe continued operation of this roadway. To date detailed damage inspection reports (DDIRs) for the route documenting the extent of damage to the roadway infrastructure have been completed. Approximately 8.5 million dollars in damage to the roadway surface, embankments, culverts and other drainage features have been documented. These DDIRs have evaluated the need for replacement of CDF and non CDF structural features along the route including 8 damaged pipe culverts with larger Reinforced Concrete Box Culverts, entirely replacing 9 damaged pipe culverts with larger pipes, performing various repairs at 45 sites (remove/reset headwalls, add riprap aprons, line pipes, etc.), and placing approximately 38,300 cubic yards (cy) of Decomposed Granite (DG) that was eroded off of the roadway and embankments to reestablish the road crown and drainage paths damaged by the September and November flood events. These improvements amend and supplement proposed design activities originally proposed and disclosed to you during past coordination events for the proposed FLAP funded work on the Apache Trail.

Within the project limits, the scope of the proposed activities would consist of the following activities. New design elements added as a result of roadway damage are italicized:

- Applying a chip seal containing layers of asphalt and aggregate or paving the existing DG road surface
- *Replacing, repairing, upsizing, and/or extending existing culverts that are not currently functional or were damaged to meet current hydrologic conditions.*
- *Placement of Decomposed Granite (DG) to reestablish roadway crown and drainage paths.*
- General maintenance activities, such as cleaning culverts, to improve drainage flow

- Installation of erosion control elements, consisting of constructing gabion baskets in existing roadway ditches; placing embankment matting along roadway side slopes; and placing rip-rap within existing drainage channels
- Removing berms of excess DG along roadway margins caused by road maintenance and blading
- Applying a standard width of 20 to 24 feet (with exception segments less than 20 feet) to the roadway within the project limits
- Cutting back the toe of existing slopes at a grade of 1:2 in five spot locations to improve line-of-sight distance:
 - MP 229.46 to MP 229.51
 - MP 229.55 to MP 229.61
 - MP 229.94 to MP 229.90
 - MP 233.44 to MP 233.50
 - MP 234.50 to MP 234.58.
- Additional work would include various culvert treatment options to address erosion and drainage issues that are affecting the current roadway and the structural integrity of existing roadway structural features.

The purpose of the project is to improve the resiliency of the road corridor to reduce maintenance demands, improve and maintain accessibility, and protect elements of the historic road where practicable. The project is needed because routine maintenance requiring the continual importing of material and regrading of the road surface contributes to watershed damage, places historic features at further risk to unintentional damage, and requires extensive financial resources. Objectives for the project include the following:

- Reduce particulate pollution in Maricopa County to improve air quality.
- Encourage drivers (especially those pulling boat trailers) to access the marina from the north by providing a hardened, resilient, and more trailer-friendly route.
- Enhance the long-term preservation of Fish Creek Hill by reducing the volume of marina-bound traffic on this section of the Apache Trail.
- Improve response times and access for emergency services (firefighting; medical, search and rescue and law enforcement) in the project area.

To improve communication with the public, the ADOT has established a website to disclose the apache trail roadways status. Currently the fish creek hill segment of Apache Trail is closed indefinitely due to damage. If you wish to see the current roadway closure status you may access the ADOT website at: <https://azdot.gov/projects/southeast-district-projects/state-route-88-apache-trail>

Additionally, the apache trail project that is under development by the FHWA in partnership with the ADOT and USFS has a project website which p project details, documents, and anticipated schedule for development. This website may be accessed at: <https://highways.dot.gov/federal-lands/projects/az/apache-trail>

Your feedback on the proposed action is appreciated. Written comments or questions should be submitted to the FHWA Central Federal Lands Highway Division, Attention: Dustin Robbins, Federal Highway Administration, 12300 W. Dakota Ave., Suite 380, Lakewood, CO 80228 or by email to dustin.robbins@dot.gov or you can reach Thomas Parker, Environmental Protection Specialist at thomas.w.parker@dot.gov.

Sincerely,

Dustin Robbins
Project Manager, CFLHD

Enclosure: Project Location Map

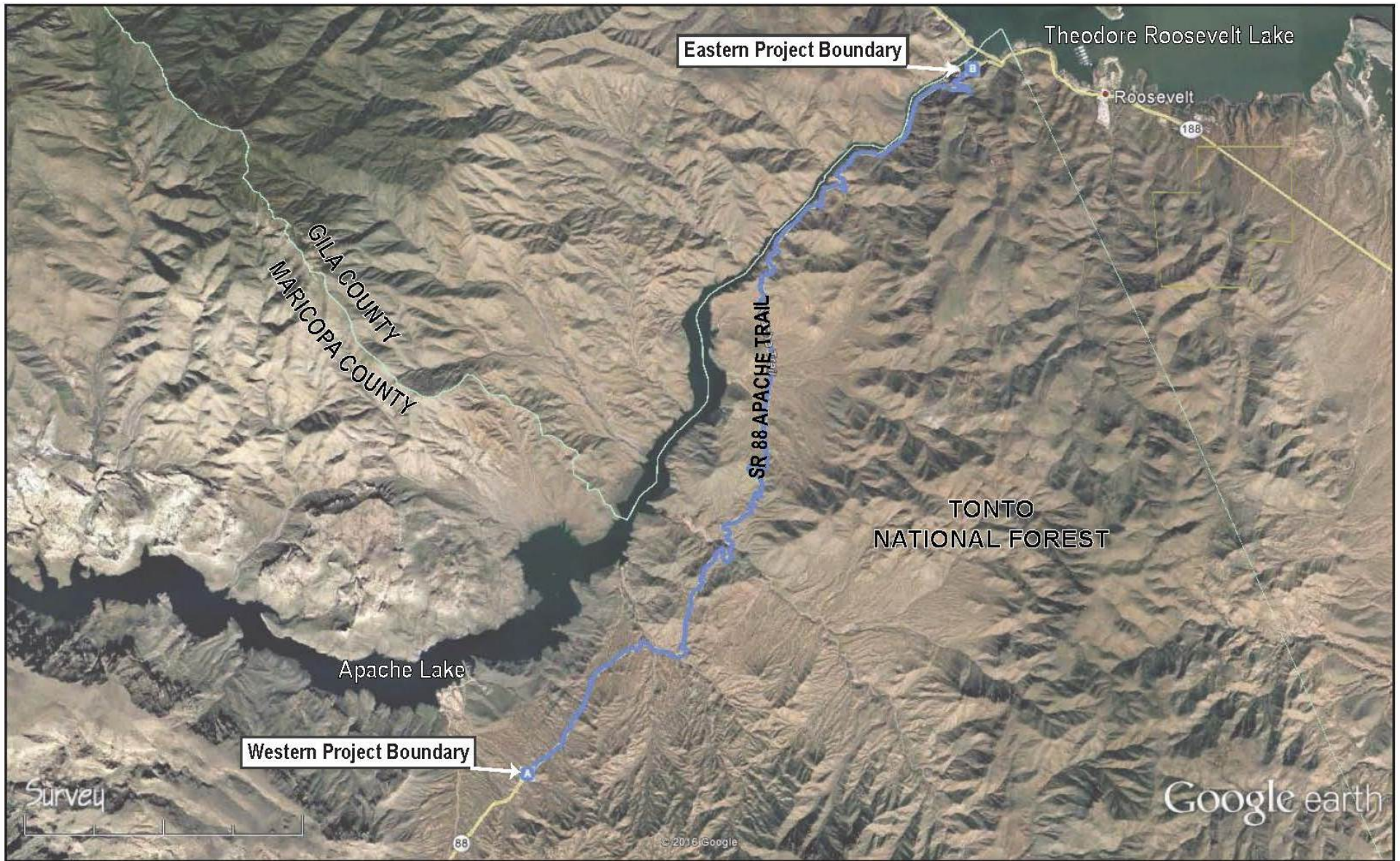


FIGURE 1: SR 88 APACHE TRAIL REGIONAL MAP





White Mountain Apache Tribe

Office of Historic Preservation

PO Box 1032

Fort Apache, AZ 85926

Ph: (928) 338-3033 Fax: (928) 338-6055

To: Dustin Robbins, Project Manager, CFLHD

Date: July 23, 2020

Re: *Tonto National Forest State Route 88 Apache Trail Road Improvement Project*

.....

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the project dated; June 23, 2020. In regards to this, please attend to the following statement below.

Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the proposed road improvement project for the State Route 88 Apache Trail road, on the Tonto National Forest, in Maricopa County, Arizona.

Please be advised, we've determined a "***No Historic Properties Affected***" would apply in regards the White Mountain Apache tribe's historic properties and/or traditional cultural resources. No further consultation regarding this proposed project is necessary and/or required.

Thank you for your continued collaborations in protecting and preserving places of cultural and historical importance.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe – THPO
Historic Preservation Office



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

February 22, 2021

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Dustin Robbins Office: 720-963-3586
Fax: 720-963-3596
Dustin.Robbins@dot.gov
In Reply Refer To:
HFPM-16

[CHAIRPERSON NAME]

[TRIBE]

[ADDRESS]

Dear Chairman/woman/President,

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the Arizona Department of Transportation (ADOT) and the United States Forest Service, Tonto National Forest (TNF), has been planning roadway improvements to 11.20 miles of State Route (SR) 88, the Apache Trail, between mileposts (MP) 229.20 and 240.60, Maricopa County, Arizona (Figure 1). The project is located on TNF lands and an ADOT easement crossing TNF lands. The Apache Trail is a 42-mile, winding historic road that links Apache Junction with Roosevelt Lake through the Superstition Mountains and TNF. The Apache Trail is paved from Apache Junction to approximately MP 220, while the remainder of the road is unpaved until just west of Theodore Roosevelt Dam and the junction of Apache Trail and SR 188. The proposed improvements would begin at MP 229.2 and extend approximately 11.16 miles east-northeast to MP 240.6. Within the project limits, the roadway surface consists of decomposed granite (DG), which requires frequent blading to maintain an effective surface. Contractor staging and use areas are proposed to occur within the limits of the environmental study area.

In the fall and winter of 2017/2018, public outreach began on the proposed project. Interested parties, including tribes, were contacted to solicit input and comments on the proposed action as well as issues and concerns that should be considered in the environmental analysis. The [TRIBAL NAME] (Tribe) did not respond to the consultation request. A cultural resources report was produced in 2018. As required under Section 106 of the National Historic Preservation Act, the report and FHWA-CFLHD's effects determination was submitted to the Arizona State Historic Preservation Officer (SHPO). SHPO concurred with FHWA-CFLHD's determination that the proposed project would have an **adverse effect to historic properties**.

As project design was progressing fire and flood events in 2019 resulted in significant damage to this roadway facility and its surrounding landscape, requiring that the project design and coordination efforts be reinitiated to account for changes to the project's design approach and repair philosophy. A letter dated June 23rd, 2020, was sent to the Tribe outlining the project changes and requesting any feedback you may have on the revised scope of work. We did not receive a response from the Tribe.

Due to the change in scope, additional cultural resource surveys were conducted in the project area. A cultural resources addendum to the 2018 cultural resources report was produced. The results of the report do not change FHWA-CFLHD's initial effects determination. The proposed project will have an **adverse effect** to historic properties.

Due to the adverse effect determination, FHWA-CFLHD, ADOT, and TNF are preparing a Memorandum of Agreement (MOA) outlining mitigation measures for impacts to the Apache Trail. One of the proposed mitigation measures is the development of interpretive materials (i.e. signs/kiosks) along

the Apache Trail roadway. Included in the list of topics for the interpretive materials are history of the Apache Tribe in the project area, desert cultural living and cultural landscapes. Your tribe may have information that would add value to this interpretive material. For this reason, FHWA-CFLHD is inviting the Tribe to sign the MOA as a concurring party. The draft MOA has been attached for your review. The Tribe does not need to be a signatory of the MOA to be involved in the development of the interpretive material. If the Tribe would like to be a signatory and/or be involved in the development of the interpretive material, please respond to this request in 30 days from receipt of this letter. If additional time is needed to make these decisions, please contact FHWA-CFLHD using the contact information provided below. Development of the interpretive material is expected to begin in summer of 2021.

To improve communication with the public, the ADOT has established a website to disclose the apache trail roadways status. Currently the fish creek hill segment of Apache Trail is closed indefinitely due to damage. If you wish to see the current roadway closure status you may access the ADOT website at: <https://azdot.gov/projects/southeast-district-projects/state-route-88-apache-trail>

Additionally, the apache trail project that is under development by the FHWA in partnership with the ADOT and USFS has a project website which p project details, documents, and anticipated schedule for development. This website may be accessed at: <https://highways.dot.gov/federal-lands/projects/az/apache-trail>

Written comments or questions should be submitted to the FHWA Central Federal Lands Highway Division, Attention: Dustin Robbins, Federal Highway Administration, 12300 W. Dakota Ave., Suite 380, Lakewood, CO 80228 or by email to dustin.robbins@dot.gov or you can reach Lisa Hemesath, Environmental Protection Specialist at lisa.hemesth@dot.gov.

Sincerely,

Dustin Robbins
Project Manager, CFLHD

Enclosure:
Figure 1
Draft Memorandum of Agreement



FIGURE 1: SR 88 APACHE TRAIL REGIONAL MAP





White Mountain Apache Tribe

Office of Historic Preservation

PO Box 1032

Fort Apache, AZ 85926

Ph: (928) 338-3033 Fax: (928) 338-6055

To: Lisa Hemesath, Federal Highway Administration - Central Federal Highway Admin.

Date: March 30, 2021

Re: *Memorandum of Agreement for mitigation measures for impacts to Apache Trail Road*

.....

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the project dated; March 24, 2021. In regards to this, please attend to the following statement below.

Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the proposed development of the MOA outlining mitigation measures for impacts to the Apache trail and the development of interpretive materials along the roadway in central Arizona.

Please be advised, we reviewed the consultation letter and the information provided, and we've determined that the proposed project plans will ***"Not have an Adverse Effect"*** on the tribe's cultural heritage resources and/or traditional cultural properties. Although we would like to participate in the development and review of the interpretive panels, we feel it is not necessary to be a concurring party to the MOA.

Thank you for your continued collaborations in protecting and preserving places of cultural and historical importance.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe – THPO
Historic Preservation Office

From: [Hemesath, Lisa \(FHWA\)](#)
To: [Greg Glassco](#)
Cc: [Robbins, Dustin \(FHWA\)](#)
Subject: RE: HFPM-16 _ Apache Trail Consultation_Yavapai_
Date: Wednesday, March 24, 2021 12:05:00 PM

Thanks Greg. We will put the Yavapai-Prescott Indian Tribe on the list of tribes that will provide input on the interpretive panel(s) regarding cultural resources. You will be hearing from us in June. I will direct my email correspondence to you on this issue. Expect an invitation in June (probably a Zoom meeting) to kick off the interpretive panel development.

If you have any questions, contact me, or the Project Manager, Dustin Robbins.

Lisa Hemesath
Federal Highway Administration
Central Federal Highway Administration
12300 West Dakota Ave.
Lakewood, CO 80228
Phone: 720-963-3473

From: Greg Glassco [mailto:gglassco@ypit.com]
Sent: Wednesday, March 24, 2021 12:00 PM
To: Hemesath, Lisa (FHWA) <lisa.hemesath@dot.gov>
Subject: RE: HFPM-16 _ Apache Trail Consultation_Yavapai_

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Lisa,
Our Director Linda Ogo usually does not move to get MOA's approved by our Tribal Board of Directors, so I would not anticipate us signing that MOA.
You could try and get an official response back from Linda but its more likely she would not respond. I know the Tribe would like to review and provide input on the interpretive panels though since much of the project is in Yavapai aboriginal territory, if you can keep us updated on that.
Any questions let me know, thanks for looking at my edits.
Sincerely,
Greg

From: Hemesath, Lisa (FHWA) <lisa.hemesath@dot.gov>
Sent: Wednesday, March 24, 2021 10:34 AM
To: Greg Glassco <gglassco@ypit.com>
Subject: RE: HFPM-16 _ Apache Trail Consultation_Yavapai_

WARNING!! This email originated from an external mail server that is not administered by Tribal MIS. Do not click links or open attachments unless you recognize the sender and have confirmed the contents are safe. Please contact MIS if you need assistance.

Greg,

Thanks for reviewing and providing edits to the MOA.

As the letter states and requests,

Due to the adverse effect determination, FHWA-CFLHD, ADOT, and TNF are preparing a Memorandum of Agreement (MOA) outlining mitigation measures for impacts to the Apache Trail. One of the proposed mitigation measures is the development of interpretive materials (i.e. signs/kiosks) along the Apache Trail roadway. Included in the list of topics for the interpretive materials are history of the Apache Tribe in the project area, desert cultural living and cultural landscapes. Your tribe may have information that would add value to this interpretive material. **For this reason, FHWA-CFLHD is inviting the Tribe to sign the MOA as a concurring party. The draft MOA has been attached for your review. The Tribe does not need to be a signatory of the MOA to be involved in the development of the interpretive material. If the Tribe would like to be a signatory and/or be involved in the development of the interpretive material, please respond to this request in 30 days from receipt of this letter.** If additional time is needed to make these decisions, please contact FHWA-CFLHD using the contact information provided below. Development of the interpretive material is expected to begin in summer of 2021.

Does the Yavapai-Prescott Indian Tribe want to sign the MOA and/or be involved in the development of the interpretive panels?

Please let us know so that we can make accommodations moving forward. You can provide a response via a formal letter or just with an email.

Thanks,

Lisa Hemesath
Federal Highway Administration
Central Federal Highway Administration
12300 West Dakota Ave.
Lakewood, CO 80228
Phone: 720-963-3473

From: Robbins, Dustin (FHWA)
Sent: Monday, March 22, 2021 12:59 PM
To: Hemesath, Lisa (FHWA) <lisa.hemesath@dot.gov>
Subject: FW: HFPM-16

FYI

From: Greg Glassco [<mailto:gglassco@ypit.com>]
Sent: Monday, March 22, 2021 12:04 PM
To: Robbins, Dustin (FHWA) <dustin.robbins@dot.gov>
Subject: RE: HFPM-16

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Sure Dustin, I'm sure they were probably fixed already:

Page 3, line 6 should be Tohono O'odham
Page 3, line 7 should be Yavapai-Prescott Indian Tribe
Page 10, line 38 should be Tohono O'odham
Page 10, line 39 should be Yavapai-Prescott Indian Tribe
Figure 2, could delete extra space between site and distance

Treatment Plan

Introduction, is excavation data recovery a proper term?

Definitions, add line before Unassociated Funerary Objects

Font for Cultural Patrimony definition needs fixing

Cultural Affiliation definition, should that be Forest Service?

Cultural Affiliation section, should be Ak-Chin, should be Tohono O'odham, should be Yavapai-Prescott Indian Tribe, should be Fort McDowell Yavapai Nation

From: Robbins, Dustin (FHWA) <dustin.robbins@dot.gov>
Sent: Monday, March 22, 2021 10:01 AM
To: Greg Glassco <gglassco@ypit.com>
Subject: RE: HFPM-16

WARNING!! This email originated from an external mail server that is not administered by Tribal MIS. Do not click links or open attachments unless you recognize the sender and have confirmed the contents are safe. Please contact MIS if you need assistance.

Hi Greg.

You can send them to me and I will forward on to our staff that has developed the document.

Sorry for the delayed response.

Thanks!

Dustin Robbins, P.E.
Project Manager

FHWA – Central Federal Lands
12300 West Dakota Avenue
Lakewood, Colorado 80228
Direct: 720-963-3586
Cell: 202-913-3938
dustin.robbins@dot.gov

From: Greg Glassco [<mailto:gglassco@ypit.com>]
Sent: Friday, March 12, 2021 3:08 PM
To: Robbins, Dustin (FHWA) <dustin.robbins@dot.gov>
Subject: HFPM-16

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Dustin,
We are reviewing the MOA you sent for the work on SR 88 Apache Trail.
I found one or more typos in the MOA, who should I send those to when I finish my review?
Thank you,
Greg Glassco
Yavapai-Prescott Indian Tribe

From: [Karl Hoerig](#)
To: [Hemesath, Lisa \(FHWA\)](#); [Peter Yucupicio](#)
Subject: Re: Apache Trail: Tribal Consultation
Date: Monday, March 29, 2021 4:28:19 PM

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Lisa,

Please continue to consult with Pascua Yaqui Tribe regarding the development of the interpretive panels for the Apache Trail project. At this time I am not recommending to the Tribal Council the need to be a signatory to the MOA. There is the possibility that Yaqui people participated in the construction of the road and we can most likely provide some valuable perspectives on the panel content.

Thanks,
Karl

Karl A. Hoerig, Ph.D.
Tribal Historic Preservation Officer
Pascua Yaqui Tribe
7777 S. Camino Huivisim, Building C
Tucson, AZ 85757
(520) 883-5116
karl.hoerig@pascuayaqui-nsn.gov

From: Hemesath, Lisa (FHWA) <lisa.hemesath@dot.gov>
Sent: Wednesday, March 24, 2021 12:46 PM
To: Peter Yucupicio <Peter.S.Yucupicio@pascuayaqui-nsn.gov>; Karl Hoerig <Karl.Hoerig@pascuayaqui-nsn.gov>
Subject: Apache Trail: Tribal Consultation

CAUTION: This email originated from outside of the PYT Organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

CAUTION: This email originated from outside of the PYT Organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good afternoon,

On February 22nd, the Federal Highway Administration sent the attached letter to the Pascua Yaqui Tribe as part of tribal consultation for the Apache Trail project. An excerpt of the letter

is below:

“Due to the adverse effect determination, FHWA-CFLHD, ADOT, and TNF are preparing a Memorandum of Agreement (MOA) outlining mitigation measures for impacts to the Apache Trail. One of the proposed mitigation measures is the development of interpretive materials (i.e. signs/kiosks) along the Apache Trail roadway. Included in the list of topics for the interpretive materials are history of the Apache Tribe in the project area, desert cultural living and cultural landscapes. Your tribe may have information that would add value to this interpretive material. For this reason, FHWA-CFLHD is inviting the Tribe to sign the MOA as a concurring party. The draft MOA has been attached for your review. The Tribe does not need to be a signatory of the MOA to be involved in the development of the interpretive material. If the Tribe would like to be a signatory and/or be involved in the development of the interpretive material, please respond to this request in 30 days from receipt of this letter. If additional time is needed to make these decisions, please contact FHWA-CFLHD using the contact information provided below. Development of the interpretive material is expected to begin in summer of 2021.”

Does the Pascua Yaqui Tribe want to sign the MOA and/or be involved in the development of the interpretive panels?

Please let us know so that we can make accommodations moving forward. You can provide a response via a formal letter or just with an email.

Thanks,

Lisa Hemesath
Federal Highway Administration
Central Federal Highway Administration
12300 West Dakota Ave.
Lakewood, CO 80228
Phone: 720-963-3473

From: [Chris Coder](#)
To: [Hemesath, Lisa \(FHWA\)](#)
Cc: ["vincent Randall"](#); [Tanya Lewis](#)
Subject: RE: Apache Trail: Tribal Consultation
Date: Wednesday, March 31, 2021 4:02:26 PM

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Lisa,
#1 NO

#2A YES (I read the draft)

#2B YES

Thanks,
chris

From: Hemesath, Lisa (FHWA) [mailto:lisa.hemesath@dot.gov]
Sent: Wednesday, March 31, 2021 2:42 PM
To: Chris Coder <ccoder@yan-tribe.org>; Matilda Cassadore <mcassadore@yan-tribe.org>; Robbins, Dustin (FHWA) <dustin.robbs@dot.gov>
Cc: 'vincent Randall' <randall.ve1959@yahoo.com>; Tanya Lewis <tlewis@yan-tribe.org>; Jon Huey <jhuey@yan-tribe.org>
Subject: RE: Apache Trail: Tribal Consultation

Hi Chris,

I noted you wanted to be a consulting party on the Apache Trail job. That's great. Questions I need answered:

- 1) We just finished the cultural resources addendum and will be sending the report to SHPO for Section 106 concurrence. **Do you want to see a copy of the Addendum Report?**
- 2) In the most recent letter FHWA-CFLHD sent the Yavapai-Apache Nation asked two questions:
 - a. **Do you want to be a signatory of the MOA?** A draft of copy of the MOA was attached to the letter.
 - b. You don't have to be a signatory of the MOA to be involved in the development of interpretive panels/signs that will be placed along the Apache Trail. The signs may include information on the history of local tribes in the area and how they contributed to the construction of Apache Trail, Roosevelt Dam, and other public works projects tied to the Apache Trail. **Does the Yavapai-Apache Nation want to be involved in the interagency committee that provides input and review of these interpretive panels?**

We expect work on the interpretive panels to start in June. If you decide your tribe wants to be involved, we will contact you for a “kick off” meeting at that time.

Please let me know so that I can make arrangements going forward.

Thanks,

Lisa Hemesath
Environmental Protection Specialist
Federal Highway Administration
Central Federal Highway Administration
12300 West Dakota Ave.
Lakewood, CO 80228
Phone: 720-963-3473

From: Chris Coder [<mailto:ccoder@yan-tribe.org>]
Sent: Wednesday, March 31, 2021 2:56 PM
To: Hemesath, Lisa (FHWA) <lisa.hemesath@dot.gov>; Matilda Cassadore <mcassadore@yan-tribe.org>; Robbins, Dustin (FHWA) <dustin.robbsins@dot.gov>
Cc: 'vincent Randall' <randall.ve1959@yahoo.com>; Tanya Lewis <tlewis@yan-tribe.org>; Jon Huey <jhuey@yan-tribe.org>
Subject: RE: Apache Trail: Tribal Consultation

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Hi Lisa & Dustin,

Thank-you for the information regarding the proposed ROADWAY IMPROVEMENTS TO 11.2 MILES OF STATE ROUTE 88 ON THE APACHE TRAIL THROUGH THE SUPERSTITION MOUNTAINS. Please be informed the Yavapai-Apache Nation of Camp Verde would like to be a consulting party on this project in reference to Section 106 of the Antiquities Act.

At this point we just ask that you keep us in the loop as the project gains steam.

Cordially,

Chris Coder/archaeologist/YAN

From: Hemesath, Lisa (FHWA) [<mailto:lisa.hemesath@dot.gov>]
Sent: Wednesday, March 24, 2021 12:59 PM
To: Chris Coder <ccoder@yan-tribe.org>; Matilda Cassadore <mcassadore@yan-tribe.org>
Subject: Apache Trail: Tribal Consultation

Good afternoon,

On February 22nd, the Federal Highway Administration sent the attached letter to the Yavapai-

Apache Nation as part of tribal consultation for the Apache Trail project. An excerpt of the letter is below:

“Due to the adverse effect determination, FHWA-CFLHD, ADOT, and TNF are preparing a Memorandum of Agreement (MOA) outlining mitigation measures for impacts to the Apache Trail. One of the proposed mitigation measures is the development of interpretive materials (i.e. signs/kiosks) along the Apache Trail roadway. Included in the list of topics for the interpretive materials are history of the Apache Tribe in the project area, desert cultural living and cultural landscapes. Your tribe may have information that would add value to this interpretive material. **For this reason, FHWA-CFLHD is inviting the Tribe to sign the MOA as a concurring party. The draft MOA has been attached for your review. The Tribe does not need to be a signatory of the MOA to be involved in the development of the interpretive material. If the Tribe would like to be a signatory and/or be involved in the development of the interpretive material, please respond to this request in 30 days from receipt of this letter.** If additional time is needed to make these decisions, please contact FHWA-CFLHD using the contact information provided below. Development of the interpretive material is expected to begin in summer of 2021.”

Does the Yavapai-Apache Nation want to sign the MOA and/or be involved in the development of the interpretive panels?

Please let us know so that we can make accommodations moving forward. You can provide a response via a formal letter or just with an email.

Thanks,

Lisa Hemesath
Federal Highway Administration
Central Federal Highway Administration
12300 West Dakota Ave.
Lakewood, CO 80228
Phone: 720-963-3473

-----Original Message-----

From: Peter Steere [<mailto:Peter.Steere@tonation-nsn.gov>]

Sent: Wednesday, March 3, 2021 11:23 AM

To: Robbins, Dustin (FHWA) <dustin.robbins@dot.gov>

Cc: Vernalda Grant <apachevern@yahoo.com>

Subject: Apache Trail

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Dustin

Received your letter and draft MOA for improvements to Apache Trail

I did not receive earlier mailings you mentioned in letter of February 22, 2021

The Tohono O'odham Nation does not wish to consult on this project and will not sign MOA

The Tohono O'odham Nation defers to Apache Tribes on this project.

Peter L. Steere

THPO

Tohono O'odham Nation

Sent from my Verizon, Samsung Galaxy smartphone Get Outlook for

Android<<https://gcc02.safelinks.protection.outlook.com/?url=https%3A%2F%2Faka.ms%2Fghei36&data=04%7C01%7CIsa.hemesath%40dot.gov%7C8a0db5d0d96441abe16208d8e4a9685c%7Cc4cd245b44f04395a1aa3848d258f78b%7C0%7C0%7C637510763570746122%7CUnknown%7CTWFpbGZsb3d8eyJWIjojMC4wLjAwMDAiLCJQIjoiV2luMzliLCJBTiI6IjEhaWwiLCJXVCi6Mn0%3D%7C1000&sdata=d42K1nHnbmoJRMVlQl0iyVrpS%2FIK9fgSp%2B9UpsvZxdk%3D&reserved=0>



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

April 1, 2021

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Dustin Robbins Office: 720-963-3586
Fax: 720-963-3596
Dustin.Robbins@dot.gov
In Reply Refer To:
HFPM-16

Mr. Stewart Koyiyumtewa, Director
Cultural Preservation Office
The Hopi Tribe
P.O. Box 123
Kykotsmovi, AZ 86039

Dear Director Koyiyumtewa,

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the Arizona Department of Transportation (ADOT) and the United States Forest Service, Tonto National Forest (TNF), has been planning roadway improvements to 11.20 miles of State Route (SR) 88, the Apache Trail, between mileposts (MP) 229.20 and 240.60, Maricopa County, Arizona. The project is located on TNF lands and an ADOT easement crossing TNF lands. The Apache Trail is a 42-mile, winding historic road that links Apache Junction with Roosevelt Lake through the Superstition Mountains and TNF. The Apache Trail is paved from Apache Junction to approximately MP 220, while the remainder of the road is unpaved until just west of Theodore Roosevelt Dam and the junction of Apache Trail and SR 188. The proposed improvements would begin at MP 229.2 and extend approximately 11.16 miles east-northeast to MP 240.6. Within the project limits, the roadway surface consists of decomposed granite (DG), which requires frequent blading to maintain an effective surface. Contractor staging and use areas are proposed to occur within the limits of the environmental study area.

In the fall and winter of 2017/2018, public outreach began on the proposed project. Interested parties, including tribes, were contacted to solicit input and comments on the proposed action as well as issues and concerns that should be considered in the environmental analysis. The Hopi Tribe (Tribe) responded and requested to enter consultation on the project. As required under Section 106 of the National Historic Preservation Act, a cultural resources report was produced, and a copy of the report was sent to the Hopi Tribe on June 19th, 2018, along with the effects determination submitted to the Arizona State Historic Preservation Officer (SHPO). The Hopi Tribe concurred with the adverse effect determination on June 25th, 2018.

As project design was progressing fire and flood events in 2019 resulted in significant damage to this roadway facility and its surrounding landscape, requiring that the project design and coordination efforts be reinitiated to account for changes to the project's design approach and repair philosophy. A letter dated June 23rd, 2020, was sent to the Tribe outlining the project changes and requesting any feedback you may have on the revised scope of work. We did not receive a response.

Due to the change in scope, additional cultural resource surveys were conducted in the project area. A cultural resources addendum to the 2018 cultural resources report was produced. The results of the report do not change FHWA-CFLHD's initial effects determination. The proposed project will have an **adverse effect** to historic properties.

Because the Hopi Tribe requested to consult on the project, we are enclosing a copy of our Section 106 consultation with the Arizona SHPO and a copy of the cultural resources addendum (Attachment 1). Please let us know if you have any questions or comments.

Due to the adverse effect determination, FHWA-CFLHD, ADOT, and TNF are preparing a Memorandum of Agreement (MOA) outlining mitigation measures for impacts to the Apache Trail. One of the proposed mitigation measures is the development of interpretive materials (i.e. signs/kiosks) along the Apache Trail roadway. Included in the list of topics for the interpretive materials are the history of the local tribes in the project area, desert cultural living and cultural landscapes. Your tribe may have information that would add value to this interpretive material. For this reason, FHWA-CFLHD is inviting the Tribe to sign the MOA as a concurring party. The draft MOA has been attached for your review (Attachment 2). The Tribe does not need to be a signatory of the MOA to be involved in the development of the interpretive material. If the Hopi Tribe would like to be a signatory and/or be involved in the development of the interpretive material, please respond to this request in 30 days from receipt of this letter. If additional time is needed to make these decisions, please contact FHWA-CFLHD using the contact information provided below. Development of the interpretive material is expected to begin in summer of 2021.

To improve communication with the public, the ADOT has established a website to disclose the Apache Trail roadways status. Currently the Fish Creek hill segment of Apache Trail is closed indefinitely due to damage. If you wish to see the current roadway closure status you may access the ADOT website at: <https://azdot.gov/projects/southeast-district-projects/state-route-88-apache-trail>

Additionally, the Apache Trail project that is under development by the FHWA in partnership with the ADOT and USFS has a project website which provides project details, documents, and anticipated schedule for development. This website may be accessed at: <https://highways.dot.gov/federal-lands/projects/az/apache-trail>

Written comments or questions should be submitted to the FHWA Central Federal Lands Highway Division, Attention: Dustin Robbins, Federal Highway Administration, 12300 W. Dakota Ave., Suite 380, Lakewood, CO 80228 or by email to dustin.robbins@dot.gov or you can reach Lisa Hemesath, Environmental Protection Specialist at lisa.hemesath@dot.gov.

Sincerely,

Dustin Robbins
Project Manager, CFLHD

Cc: Timothy Nuvangyaoma, Chairman

Enclosure:

Attachment 1 - Section 106 Consultation Letter and Cultural Resources Addendum

Attachment 2 - Draft Memorandum of Agreement

APR 29 2021 *CFLHD*



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

April 1, 2021

12300 West Dakota Avenue
Suite 380

Lakewood, CO 80228-2583

Dustin Robbins Office: 720-963-3586

Fax: 720-963-3596

Dustin.Robbins@dot.gov

In Reply Refer To:

HFPM-16

Mr. Stewart Koyiyumtewa, Director
Cultural Preservation Office
The Hopi Tribe
P.O. Box 123
Kykotsmovi, AZ 86039



Dear Director Koyiyumtewa,

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the Arizona Department of Transportation (ADOT) and the United States Forest Service, Tonto National Forest (TNF), has been planning roadway improvements to 11.20 miles of State Route (SR) 88, the Apache Trail, between mileposts (MP) 229.20 and 240.60, Maricopa County, Arizona. The project is located on TNF lands and an ADOT easement crossing TNF lands. The Apache Trail is a 42-mile, winding historic road that links Apache Junction with Roosevelt Lake through the Superstition Mountains and TNF. The Apache Trail is paved from Apache Junction to approximately MP 220, while the remainder of the road is unpaved until just west of Theodore Roosevelt Dam and the junction of Apache Trail and SR 188. The proposed improvements would begin at MP 229.2 and extend approximately 11.16 miles east-northeast to MP 240.6. Within the project limits, the roadway surface consists of decomposed granite (DG), which requires frequent blading to maintain an effective surface. Contractor staging and use areas are proposed to occur within the limits of the environmental study area.

In the fall and winter of 2017/2018, public outreach began on the proposed project. Interested parties, including tribes, were contacted to solicit input and comments on the proposed action as well as issues and concerns that should be considered in the environmental analysis. The Hopi Tribe (Tribe) responded and requested to enter consultation on the project. As required under Section 106 of the National Historic Preservation Act, a cultural resources report was produced, and a copy of the report was sent to the Hopi Tribe on June 19th, 2018, along with the effects determination submitted to the Arizona State Historic Preservation Officer (SHPO). The Hopi Tribe concurred with the adverse effect determination on June 25th, 2018.

As project design was progressing fire and flood events in 2019 resulted in significant damage to this roadway facility and its surrounding landscape, requiring that the project design and coordination efforts be reinitiated to account for changes to the project's design approach and repair philosophy. A letter dated June 23rd, 2020, was sent to the Tribe outlining the project changes and requesting any feedback you may have on the revised scope of work. We did not receive a response.

Due to the change in scope, additional cultural resource surveys were conducted in the project area. A cultural resources addendum to the 2018 cultural resources report was produced. The results of the report do not change FHWA-CFLHD's initial effects determination. The proposed project will have an **adverse effect** to historic properties.

Because the Hopi Tribe requested to consult on the project, we are enclosing a copy of our Section 106 consultation with the Arizona SHPO and a copy of the cultural resources addendum (Attachment 1). Please let us know if you have any questions or comments.

Due to the adverse effect determination, FHWA-CFLHD, ADOT, and TNF are preparing a Memorandum of Agreement (MOA) outlining mitigation measures for impacts to the Apache Trail. One of the proposed mitigation measures is the development of interpretive materials (i.e. signs/kiosks) along the Apache Trail roadway. Included in the list of topics for the interpretive materials are the history of the local tribes in the project area, desert cultural living and cultural landscapes. Your tribe may have information that would add value to this interpretive material. For this reason, FHWA-CFLHD is inviting the Tribe to sign the MOA as a concurring party. The draft MOA has been attached for your review (Attachment 2). The Tribe does not need to be a signatory of the MOA to be involved in the development of the interpretive material. If the Hopi Tribe would like to be a signatory and/or be involved in the development of the interpretive material, please respond to this request in 30 days from receipt of this letter. If additional time is needed to make these decisions, please contact FHWA-CFLHD using the contact information provided below. Development of the interpretive material is expected to begin in summer of 2021.

To improve communication with the public, the ADOT has established a website to disclose the Apache Trail roadways status. Currently the Fish Creek hill segment of Apache Trail is closed indefinitely due to damage. If you wish to see the current roadway closure status you may access the ADOT website at: <https://azdot.gov/projects/southeast-district-projects/state-route-88-apache-trail>

Additionally, the Apache Trail project that is under development by the FHWA in partnership with the ADOT and USFS has a project website which provides project details, documents, and anticipated schedule for development. This website may be accessed at: <https://highways.dot.gov/federal-lands/projects/az/apache-trail>

Written comments or questions should be submitted to the FHWA Central Federal Lands Highway Division, Attention: Dustin Robbins, Federal Highway Administration, 12300 W. Dakota Ave., Suite 380, Lakewood, CO 80228 or by email to dustin.robbins@dot.gov or you can reach Lisa Hemesath, Environmental Protection Specialist at lisa.hemesath@dot.gov.

4-19-21
defer to SHPO
Mungab
for
Kevin W. P. [unclear]

Sincerely,

DUSTIN
ROBBINS

Digitally signed by
DUSTIN ROBBINS
Date: 2021.04.01
10:03:35 -06'00'

Dustin Robbins
Project Manager, CFLHD

Cc: Timothy Nuvangyaoma, Chairman

Enclosure:

Attachment 1 - Section 106 Consultation Letter and Cultural Resources Addendum
Attachment 2 - Draft Memorandum of Agreement



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

April 1, 2021

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Dustin Robbins Office: 720-963-3586
Fax: 720-963-3596
Dustin.Robbins@dot.gov
In Reply Refer To:
HFPM-16

Mr. Barnaby V. Lewis
Tribal Historic Preservation Officer
Gila River Indian Community
P.O. Box 2140
Sacaton, AZ 85247

Dear Mr. Lewis,

The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), in cooperation with the Arizona Department of Transportation (ADOT) and the United States Forest Service, Tonto National Forest (TNF), has been planning roadway improvements to 11.20 miles of State Route (SR) 88, the Apache Trail, between mileposts (MP) 229.20 and 240.60, Maricopa County, Arizona. The project is located on TNF lands and an ADOT easement crossing TNF lands. The Apache Trail is a 42-mile, winding historic road that links Apache Junction with Roosevelt Lake through the Superstition Mountains and TNF. The Apache Trail is paved from Apache Junction to approximately MP 220, while the remainder of the road is unpaved until just west of Theodore Roosevelt Dam and the junction of Apache Trail and SR 188. The proposed improvements would begin at MP 229.2 and extend approximately 11.16 miles east-northeast to MP 240.6. Within the project limits, the roadway surface consists of decomposed granite (DG), which requires frequent blading to maintain an effective surface. Contractor staging and use areas are proposed to occur within the limits of the environmental study area.

In the fall and winter of 2017/2018, public outreach began on the proposed project. Interested parties, including tribes, were contacted to solicit input and comments on the proposed action as well as issues and concerns that should be considered in the environmental analysis. The Gila River Indian Community (Tribe) responded that they would like to participate in Section 1066 consultation in a letter dated October 25, 2017, but deferred the consultation to the Salt River Pima-Maricopa Indian Community. The Salt River Pima-Maricopa Indian Community did not respond to our request for consultation. For this reason, FHWA-CFLHD continued to correspond directly with the Gila River Indian Community. As required under Section 106 of the National Historic Preservation Act, a cultural resources report was produced, and a copy of the report was sent to the Tribe on June 19th, 2018, along with the effects determination submitted to the Arizona State Historic Preservation Officer (SHPO). The Tribe did not respond to this submittal.

As project design was progressing fire and flood events in 2019 resulted in significant damage to this roadway facility and its surrounding landscape, requiring that the project design and coordination efforts be reinitiated to account for changes to the project's design approach and repair philosophy. A letter dated June 23rd, 2020, was sent to the Tribe outlining the project changes and requesting any feedback you may have on the revised scope of work. We did not receive a response.

Due to the change in scope, additional cultural resource surveys were conducted in the project area. A cultural resources addendum to the 2018 cultural resources report was produced. The results of the report do not change FHWA-CFLHD's initial effects determination. The proposed project will have an **adverse effect** to historic properties.

Because the Gila River Indian Community requested to consult on the project, we are enclosing a copy of our Section 106 consultation with the Arizona SHPO and a copy of the cultural resources addendum (Attachment 1). Please let us know if you have any questions or comments.

Due to the adverse effect determination, FHWA-CFLHD, ADOT, and TNF are preparing a Memorandum of Agreement (MOA) outlining mitigation measures for impacts to the Apache Trail. One of the proposed mitigation measures is the development of interpretive materials (i.e. signs/kiosks) along the Apache Trail roadway. Included in the list of topics for the interpretive materials are history of the Apache Tribe in the project area, desert cultural living and cultural landscapes. Your tribe may have information that would add value to this interpretive material. For this reason, FHWA-CFLHD is inviting the Tribe to sign the MOA as a concurring party. The draft MOA has been attached for your review (Attachment 2). The Tribe does not need to be a signatory of the MOA to be involved in the development of the interpretive material. If the Gila River Indian Community would like to be a signatory and/or be involved in the development of the interpretive material, please respond to this request in 30 days from receipt of this letter. If additional time is needed to make these decisions, please contact FHWA-CFLHD using the contact information provided below. Development of the interpretive material is expected to begin in summer of 2021.

To improve communication with the public, the ADOT has established a website to disclose the Apache Trail roadways status. Currently the Fish Creek hill segment of Apache Trail is closed indefinitely due to damage. If you wish to see the current roadway closure status you may access the ADOT website at: <https://azdot.gov/projects/southeast-district-projects/state-route-88-apache-trail>

Additionally, the Apache Trail project that is under development by the FHWA in partnership with the ADOT and USFS has a project website which provides project details, documents, and anticipated schedule for development. This website may be accessed at: <https://highways.dot.gov/federal-lands/projects/az/apache-trail>

Written comments or questions should be submitted to the FHWA Central Federal Lands Highway Division, Attention: Dustin Robbins, Federal Highway Administration, 12300 W. Dakota Ave., Suite 380, Lakewood, CO 80228 or by email to dustin.robbins@dot.gov or you can reach Lisa Hemesath, Environmental Protection Specialist at lisa.hemesath@dot.gov.

Sincerely,

Dustin Robbins
Project Manager, CFLHD

Cc: Stephen R. Lewis, Governor

Enclosure:

Attachment 1 - Section 106 Consultation Letter and Cultural Resources Addendum

Attachment 2 - Draft Memorandum of Agreement

From: [Larry Benallie Jr](#)
To: [Robbins, Dustin \(FHWA\)](#); [Hemesath, Lisa \(FHWA\)](#)
Cc: [Barnaby Lewis](#)
Subject: HFPM-16, Apache Trail Project (AZ FLAP SR88(1)) State Route 88 (SR 88), Maricopa County, Arizona
Date: Friday, April 23, 2021 11:49:41 AM

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

FHWA Central Federal Lands Highway Division, HFPM-16, Apache Trail Project (AZ FLAP SR88(1))
State Route 88 (SR 88), Maricopa County, Arizona
April 23, 2021

Project Manager Robbins,

The GRIC-THPO is in receipt of your consultation documents dated April 1, 2021. The Federal Highway Administration, Central Federal Lands Highway Division (CFLHD), the Arizona Department of Transportation (ADOT) and the Tonto National Forest (TNF) are planning a roadway improvements undertaking for the Apache Trail (SR 88). Consultation for this undertaking began in 2017. Wildland fire and flooding has delayed the development of this project. Additional proposed repairs required additional archaeological survey of the project area which was completed in 2020. The CFLHD has submitted a Class III addendum archaeological survey report (prepared by Jacobs Engineering Group Inc.) and a draft Memorandum of Agreement (MOA) for review. The CFLHD has made a finding of adverse effect for this undertaking.

The entire project area has been archaeologically surveyed. The Apache Trail is considered a Register eligible property and is listed on the Arizona Register of Historic Places. The current report, An Addendum Class III Cultural Resources Survey and Effects Analysis between Milepost 229.15 and Milepost 240.80 of State Route 88/Apache Trail, Maricopa County, Arizona, is an acceptable cultural resource management document/report. The MOA clearly defines agency roles and responsibilities. The MOA also proposes an acceptable timeline for deliverables.

The GRIC-THPO concurs with a finding of adverse effect for this undertaking. The GRIC-THPO respectfully declines to sign the MOA as a concurring party. We will continue to participate in the consultation process for this undertaking. The proposed project area is within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; Ak-Chin Indian Community and the Tohono O'Odham Nation). The GRIC-THPO defers to the Salt River Pima-Maricopa Indian Community Historic Preservation Office as lead in the consultation process for this undertaking.

Thank you for consulting with the GRIC-THPO on this undertaking. Please do not hesitate to contact us if you should have any questions.

Respectfully,

Larry Benallie, Jr.
Archaeological Compliance Specialist

Tribal Historic Preservation Office
Gila River Indian Community
P.O. Box 2193
Sacaton, Arizona 85147
(520) 562-7153
Larry.BenallieJr@gric.nsn.us

[Government to Government Consultation Toolkit](#)

2017-1261 (158339)



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

March 31, 2021

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Dustin Robbins Office: 720-963-3586
Lisa Hemesath Office: 720-963-3473
Fax: 720-963-3596
Dustin.Robbins@dot.gov
In Reply Refer To:
HFPM-16

RECEIVED

MAR 31 2021

ARIZONA SHPO

Ms. Kathryn Leonard, SHPO
Arizona State Parks
1100 W. Washington Street
Phoenix, AZ 85007

Subject: Continuing Section 106 Consultation for the Proposed Apache Trail Project [SR88(1)
APACHE TRAIL] Maricopa County, Arizona: Cultural Resources Addendum Report

Dear Ms. Leonard,

The Federal Highway Administration, Central Federal Lands Highway Division (FHWA-CFLHD), in cooperation with the Arizona Department of Transportation (ADOT) and the United States Forest Service, Tonto National Forest (TNF), is planning roadway improvements to 11.16 miles of State Route (SR) 88, the Apache Trail between mileposts (MP) 229.20 and 240.60, Maricopa County, Arizona. The project is located on ADOT easement crossing TNF lands. Funding for the project is through the Federal Lands Access Program (FLAP) and the Emergency Relief (ER) Program, in conjunction with a local funding match. Given that this project is federally funded and crosses federal lands, it is considered to be an undertaking subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

SR 88/Apache Trail is considered to be one of Arizona's transportation "crown jewels," and is listed in the Arizona Register of Historic Places (ARHP). It has also been previously determined eligible for inclusion in the National Register of Historic Places (NRHP) under Criteria A, C, and D for its association with important historic events; unique qualities of design and construction; and potential to yield important data regarding the development of early Arizona roadways. The segment of the Apache Trail under consideration for improvements is a portion of the last remaining unpaved segment of the road, is considered to be a contributor to the roadway's NRHP eligibility, and contains numerous significant historic roadway features.

Within the project limits, the roadway surface consists of decomposed granite (DG), which requires frequent blading to maintain an effective surface. In some locations, the blading has created berms of excess materials along the roadway margins and adjacent to historic roadway elements, thus creating drainage, maintenance, and preservation issues. The purpose of the project would be to improve the resiliency of the road corridor and reduce maintenance demands; improve and maintain accessibility; and improve safety for the traveling public.

A Class I literature review, historic feature documentation, and Class III cultural resources survey for the proposed project segment of Apache Trail was completed [*Results of Class I Literature Review, Historic Feature Documentation, and Class III Cultural Resources Survey between Milepost 229.20 and Milepost 240.60 of State Route 88/Apache Trail, Maricopa County, Arizona*] (Luhnow and Schilling 2018)]. A total of 66 eligible structural character defining features of the historic apache trail, such as culverts, retaining walls, low water crossings, guardrails, and cattle guards were documented within this segment of the Apache Trail. The report was submitted to the Arizona State Historic Preservation Office



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

March 31, 2021

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Dustin Robbins Office: 720-963-3586
Lisa Hemesath Office: 720-963-3473
Fax: 720-963-3596
Dustin.Robbins@dot.gov
In Reply Refer To:
HPPM-16

(SHPO) for Section 106 concurrence on June 19th, 2018. On July 2nd, 2018, the Arizona SHPO concurred with FHWA-CFLHD's determination of eligibility and determination of an **adverse effect** for the undertaking resulting from impacts to the 06-218(TNF) Apache Trail roadway and historic roadway features.

During the summer of 2019 a fire began in the Superstition Wilderness. The fire swept through Tonto National Monument and burned 88% of the land. In the fall of 2019 severe thunderstorms moved over the project area. These storms released intense rainfall over this denuded and degraded watershed which resulted in significant flooding and debris flows over segments of the Apache Trail roadway. Much of the roadways drainage features, many which were historic character defining features (CDF) for the Apache Trail (SR 88), were damaged or destroyed.

It was at this time that the Apache Trail qualified for ER funding. Congress authorized in Title 23, United States Code, Section 125, a special program from the Highway Trust Fund for the repair or reconstruction of Federal-aid highways and roads on Federal lands which have suffered serious damage as a result of (1) natural disasters or (2) catastrophic failures from an external cause. This program, commonly referred to as the emergency relief or ER program, supplements the commitment of resources by States, their political subdivisions, or other Federal agencies to help pay for unusually heavy expenses resulting from extraordinary conditions.

In response to changing hydraulic conditions and recent failure events, the FHWA-CFLHD in partnership with the ADOT and USFS reevaluated the design approach to the Apache Trail project to ensure the safe continued operation of this roadway. Damage reports from the flood indicated that additional drainage improvements, along with improvements to the damaged road need to be completed.

Within the project limits, the revised scope of the proposed activities would consist of the following activities. New design elements added or modified are italicized:

- Applying a chip seal containing layers of asphalt and aggregate or paving the existing DG road surface
- *Replacing, repairing, upsizing, and/or extending existing culverts that are not currently functional or were damaged to meet current hydrologic conditions.*
- *Placement of Decomposed Granite (DG) to reestablish roadway crown and drainage paths.*
- *Safety striping (i.e. fog line and possibly centerline)*
- General maintenance activities, such as cleaning culverts, to improve drainage flow
- Installation of erosion control elements, consisting of constructing gabion baskets in existing roadway ditches; placing embankment matting along roadway side slopes; and placing rip-rap within existing drainage channels
- Removing berms of excess DG along roadway margins caused by road maintenance and blading
- Applying a standard width of 20 to 24 feet (with exception segments less than 20 feet) to the roadway within the project limits
- Cutting back the toe of existing slopes at a grade of 1:2 in five spot locations to improve line-of-sight distance:



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

March 31, 2021

12300 West Dakota Avenue
Suite 380

Lakewood, CO 80228-2583

Dustin Robbins Office: 720-963-3586

Lisa Hemesath Office: 720-963-3473

Fax: 720-963-3596

Dustin.Robbins@dot.gov

In Reply Refer To:

HFPM-16

- MP 229.46 to MP 229.51
 - MP 229.55 to MP 229.61
 - MP 229.94 to MP 229.90
 - *MP 233.51 to MP 233.54*
 - MP 234.50 to MP 234.58.
- Additional work would include various culvert treatment options to address erosion and drainage issues that are affecting the current roadway and the structural integrity of existing roadway structural features.

CONTINUING CULTURAL RESOURCES INVESTIGATIONS

Given that the current scope of the improvements amend and supplement proposed design activities originally proposed for the project, FHWA-CFLHD requested that Jacobs conduct a supplemental Class III survey of additional areas where project improvements would be required, and to update the analysis of potential effects to historic features of the Apache Trail. The newly surveyed areas consist of 52 small, discontinuous areas where drainage improvements would be required.

The results of the survey are provided in *"An Addendum Class III Cultural Resources Survey and Effects Analysis Between Milepost 229.15 and Milepost 240.80 of State Route 88/Apache Trail, Maricopa County, Arizona"* (Schilling et al. 2021). A copy of the report is provided for your review and comment.

Table 4 in the report provides updated repair activities for structural features along the project route and within the APE. This is an update to the information provided under "Proposed Action" in Table 4 of Luhnnow and Shilling (2018).

In Appendix B of the report Table B-3 provides updates to Table 8 as presented in Luhnnow and Shilling (2018). The table lists NRHP eligible sites and provides recommendations for avoidance, minimization and/or mitigation based on project effects. Impacts to individual features to the Apache Trail [06-218(TNF)] have been grouped based on proposed repair activities and if the activity would adversely affect the existing qualities of the individual features as a contributing element of the NRHP-eligible roadway.

The report also provides updated descriptions for the different scour treatments that will be applied to drainage features in order to protect the road from future erosional events (See Appendix C).

PROJECT EFFECT

The effects analysis has not changed from our 2018 determination. Based on the attached report, FHWA-CFLHD has determined that the project would result in an **adverse effect** to historic properties. FHWA-CFLHD is currently working with our project partners on a project-specific Memorandum of Agreement (MOA) to mitigate the adverse effect.



U.S. Department
of Transportation
**Federal Highway
Administration**

Central Federal Lands Highway Division

March 31, 2021

12300 West Dakota Avenue
Suite 380
Lakewood, CO 80228-2583
Dustin Robbins Office: 720-963-3586
Lisa Hemesath Office: 720-963-3473
Fax: 720-963-3596
Dustin.Robbins@dot.gov
In Reply Refer To:
HFPM-16

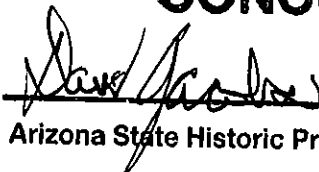
As part of the environmental process for this undertaking, FHWA must also comply with Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966. The intent of the Section 4(f) Statute, 49 U.S.C. Section 303, and the policy of the FHWA is to strive to avoid transportation use of historic sites and publicly owned recreational areas, parks, wildlife and waterfowl refuges; unless (1) there is no prudent and feasible alternative to the use of such land, and (2) any such program or project includes all possible planning to minimize harm to these resources. Section 4(f) applies only to the actions of agencies within the USDOT, including the FHWA. The finding of Adverse effect to the Apache Trail constitutes a "use" under Section 4(f) as such FHWA will be preparing an individual Section 4(f) analysis in compliance with our regulations. Your agency, as an official with jurisdiction (OWJ) over the Section 4(f) resource will have an opportunity to review the evaluation.

CONSULTATION SUMMARY AND REQUEST FOR CONCURRENCE

Please review the enclosed report, and information contained in this letter. At this time, CFLHD is seeking Section 106 concurrence for CFLHD's determination of **adverse effect** for the undertaking resulting from impacts to the Apache Trail roadway [06-218(TNF)] and historic roadway features, and the historic blasting can site [06-2503 (TNF), AZ U:8:632(ASM)].

We would appreciate a written response within 30 days from date of receipt, by email at dustin.robbins@dot.gov or lisa.hemesath@dot.gov or by US Postal Service to 12300 West Dakota Avenue, Suite 280, Lakewood, CO 80228-2583. If you have any questions about the undertaking or would like to discuss the content of this letter further, please email or call Lisa Hemesath at 720-963-3473.

CONCUR

 6 APRIL 21
Arizona State Historic Preservation Office

Sincerely,

Dustin Robbins
Project Manager, CFLHD

Enclosure: Cultural Resources Addendum

Cc: David Jacobs, Compliance Specialist, Arizona State Historic Preservation Office
Kristina Powell, Cultural Resource Program Manager, Arizona Dept. of Transportation
Michael Sullivan, Section 106 Consulting Party
Travis Bone, Forest Archeologist, Tonto National Forest
Sarah Stokely, Advisory Council on Historic Preservation
Gila River Indian Community
Hopi Tribe

Correspondence Regarding Waters of the U.S.



**DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT
3636 NORTH CENTRAL AVENUE SUITE 900
PHOENIX, AZ 85012-1939**

March 5, 2021

SUBJECT: Approved Jurisdictional Determination

Lisa Hemesath
Federal Highway Administration
12300 West Dakota Avenue
Lakewood, Colorado 80228

Dear Ms. Hemesath:

I am responding to your request dated February 4, 2021 for an approved Department of the Army jurisdictional determination (JD) for the Apache Trail Road Improvement Project (Central Federal Highway Administration) project site (File No. SPL-2021-00063). The proposed project is located in Pine Creek, Davis Wash, and several unnamed washes, near Apache Lake, Maricopa County, Arizona (Latitude 33.6186793074896°, Longitude -111.196900420514°).

The Corps' evaluation process for determining whether or not a Department of the Army permit is needed involves two tests. If both tests are met, a permit would likely be required. The first test determines whether or not the proposed project is located within the Corps' geographic jurisdiction (i.e., it is within a water of the United States). The second test determines whether or not the proposed project is a regulated activity under Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act. This evaluation pertains only to geographic jurisdiction.

Based on available information, I have determined there are waters of the United States on the project site, as well as non-jurisdictional aquatic resources, in the locations depicted on the enclosed drawing. The basis for our determination can be found in the enclosed approved jurisdictional determination form.

This letter includes an approved jurisdictional determination for the Apache Trail Road Improvement Project (Central Federal Highway Administration) project site. If you wish to submit new information regarding this jurisdictional determination, please do so within 60 days. We will consider any new information so submitted and respond within 60 days by either revising the prior determination, if appropriate, or reissuing the prior determination. If you object to this or any revised or reissued jurisdictional determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) and Request for Appeal (RFA) form. If you wish to appeal this decision, you must submit a

completed RFA form within 60 days of the date on the NAP to the Corps South Pacific Division Office at the following address:

Tom Cavanaugh
Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division, CESPDPDO
450 Golden Gate Ave.
San Francisco, CA 94102

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5 (see below), and that it has been received by the Division Office by **May 4, 2021**.

This determination has been conducted to identify the extent of the Corps' Clean Water Act jurisdiction on the particular project site identified in your request, and is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

Thank you for participating in the regulatory program. If you have any questions, please contact me at (602) 230-6854 or via email at Jesse.M.Rice@usace.army.mil. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Sincerely,

Michael Langley
Senior Project Manager
Regulatory Division

Enclosures

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Central Federal Highway Administration	File Number: SPL-2021-00063	Date: MARCH 5, 2021
Attached is:		See Section below
<input type="checkbox"/>	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
<input type="checkbox"/>	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
<input type="checkbox"/>	PERMIT DENIAL	C
<input checked="" type="checkbox"/>	APPROVED JURISDICTIONAL DETERMINATION	D
<input type="checkbox"/>	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://www.usace.army.mil/cecw/pages/reg_materials.aspx or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:

Jesse Rice
U.S. Army Corps of Engineers
Los Angeles District
3636 North Central Avenue Suite 900
Phoenix, AZ 85012-1939
Phone: (602) 230-6854
Email: Jesse.M.Rice@usace.army.mil

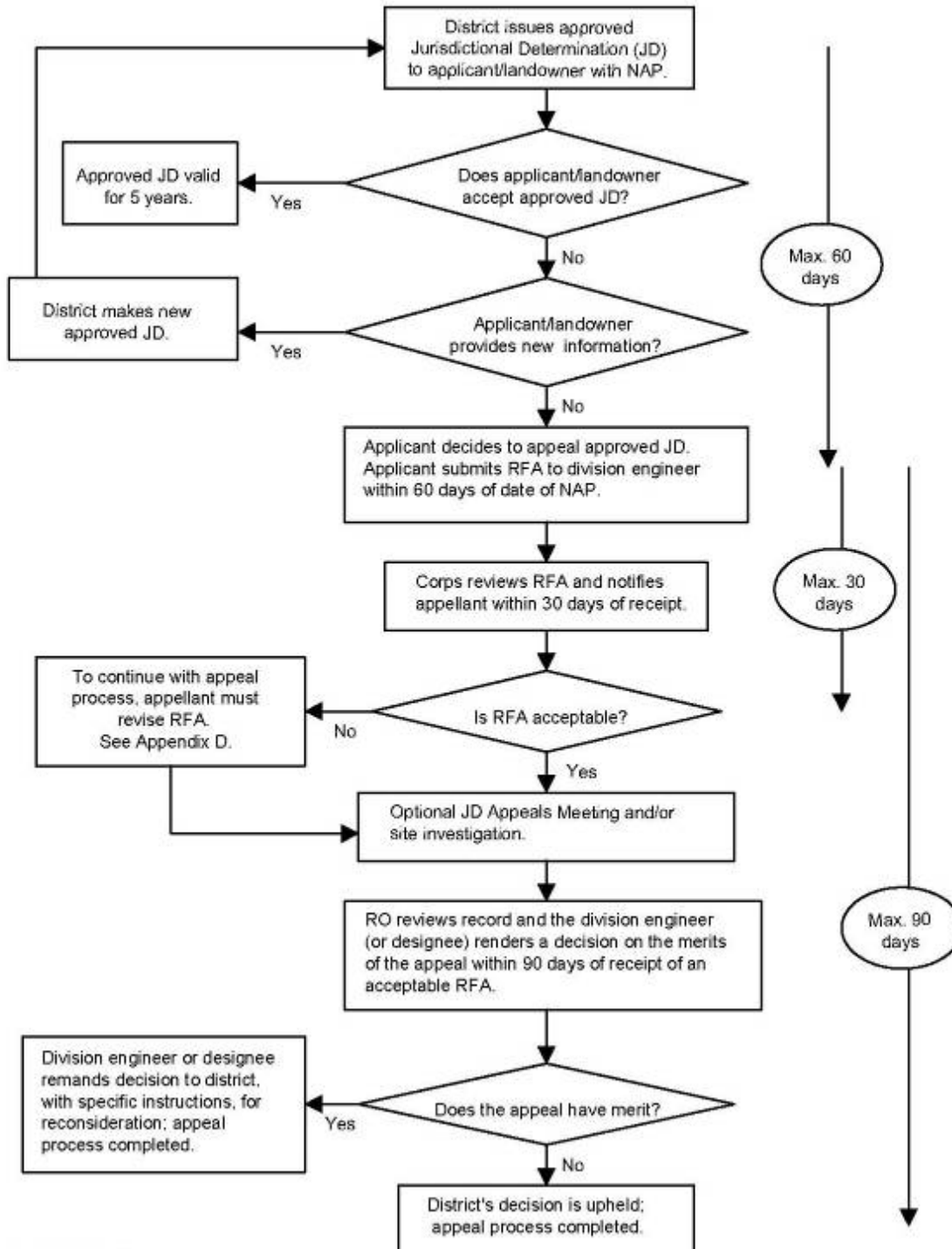
If you only have questions regarding the appeal process you may also contact: Thomas J. Cavanaugh

Administrative Appeal Review Officer
U.S. Army Corps of Engineers
South Pacific Division
450 Golden Gate Ave.
San Francisco, CA 94102
Phone: (415) 503-6574 Fax: (415) 503-6646
Email:
thomas.j.cavanaugh@usace.army.mil

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

<hr/> Signature of appellant or agent.	Date:	Telephone number:
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Administrative Appeal Process for Approved Jurisdictional Determinations



§ 331.5 Criteria.

(a) *Criteria for appeal* —(1) *Submission of RFA*. The appellant must submit a completed RFA (as defined at §331.2) to the appropriate division office in order to appeal an approved JD, a permit denial, or a declined permit. An individual permit that has been signed by the applicant, and subsequently unilaterally modified by the district engineer pursuant to 33 CFR 325.7, may be appealed under this process, provided that the applicant has not started work in waters of the United States authorized by the permit. The RFA must be received by the division engineer within 60 days of the date of the NAP.

(2) *Reasons for appeal*. The reason(s) for requesting an appeal of an approved JD, a permit denial, or a declined permit must be specifically stated in the RFA and must be more than a simple request for appeal because the affected party did not like the approved JD, permit decision, or the permit conditions. Examples of reasons for appeals include, but are not limited to, the following: A procedural error; an incorrect application of law, regulation or officially promulgated policy; omission of material fact; incorrect application of the current regulatory criteria and associated guidance for identifying and delineating wetlands; incorrect application of the Section 404(b)(1) Guidelines (see 40 CFR Part 230); or use of incorrect data. The reasons for appealing a permit denial or a declined permit may include jurisdiction issues, whether or not a previous approved JD was appealed.

(b) *Actions not appealable*. An action or decision is not subject to an administrative appeal under this part if it falls into one or more of the following categories:

(1) An individual permit decision (including a letter of permission or a standard permit with special conditions), where the permit has been accepted and signed by the permittee. By signing the permit, the applicant waives all rights to appeal the terms and conditions of the permit, unless the authorized work has not started in waters of the United States and that issued permit is subsequently modified by the district engineer pursuant to 33 CFR 325.7;

(2) Any site-specific matter that has been the subject of a final decision of the Federal courts;

(3) A final Corps decision that has resulted from additional analysis and evaluation, as directed by a final appeal decision;

(4) A permit denial without prejudice or a declined permit, where the controlling factor cannot be changed by the Corps decision maker (e.g., the requirements of a binding statute, regulation, state Section 401 water quality certification, state coastal zone management disapproval, etc. (See 33 CFR 320.4(j));

(5) A permit denial case where the applicant has subsequently modified the proposed project, because this would constitute an amended application that would require a new public interest review, rather than an appeal of the existing record and decision;

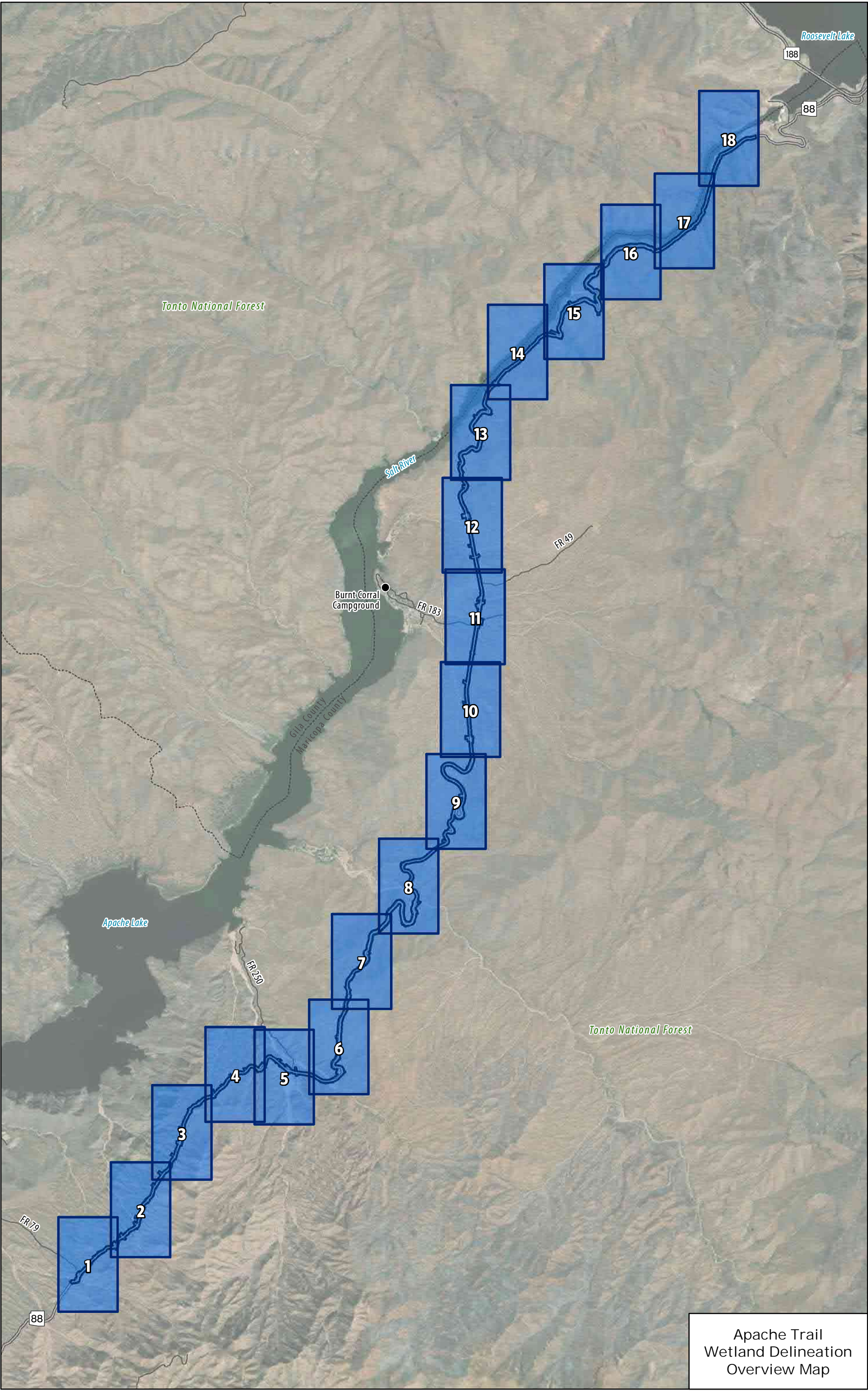
(6) Any request for the appeal of an approved JD, a denied permit, or a declined permit where the RFA has not been received by the division engineer within 60 days of the date of the NAP;

(7) A previously approved JD that has been superseded by another approved JD based on new information or data submitted by the applicant. The new approved JD is an appealable action;

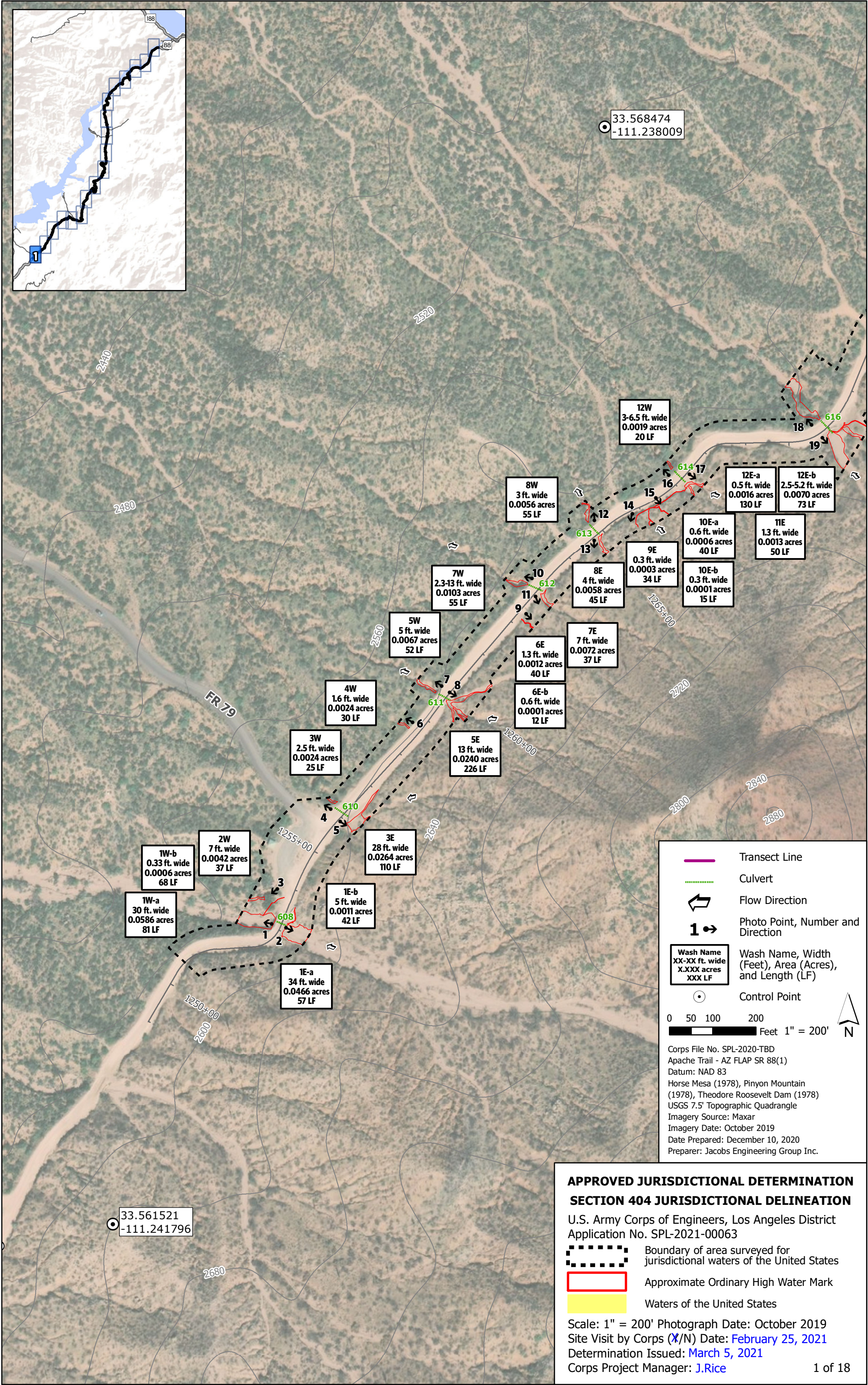
(8) An approved JD associated with an individual permit where the permit has been accepted and signed by the permittee;

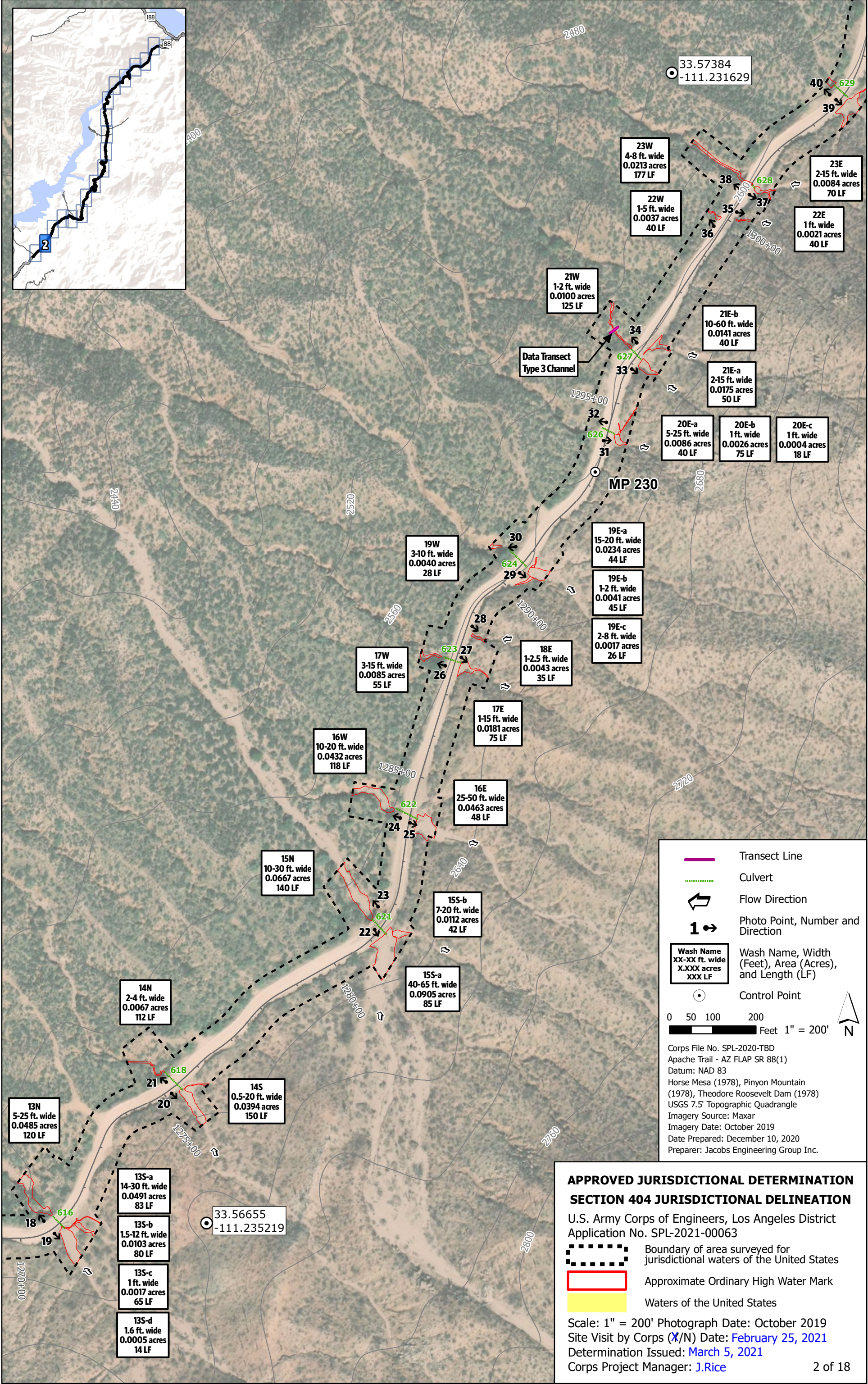
(9) A preliminary JD; or

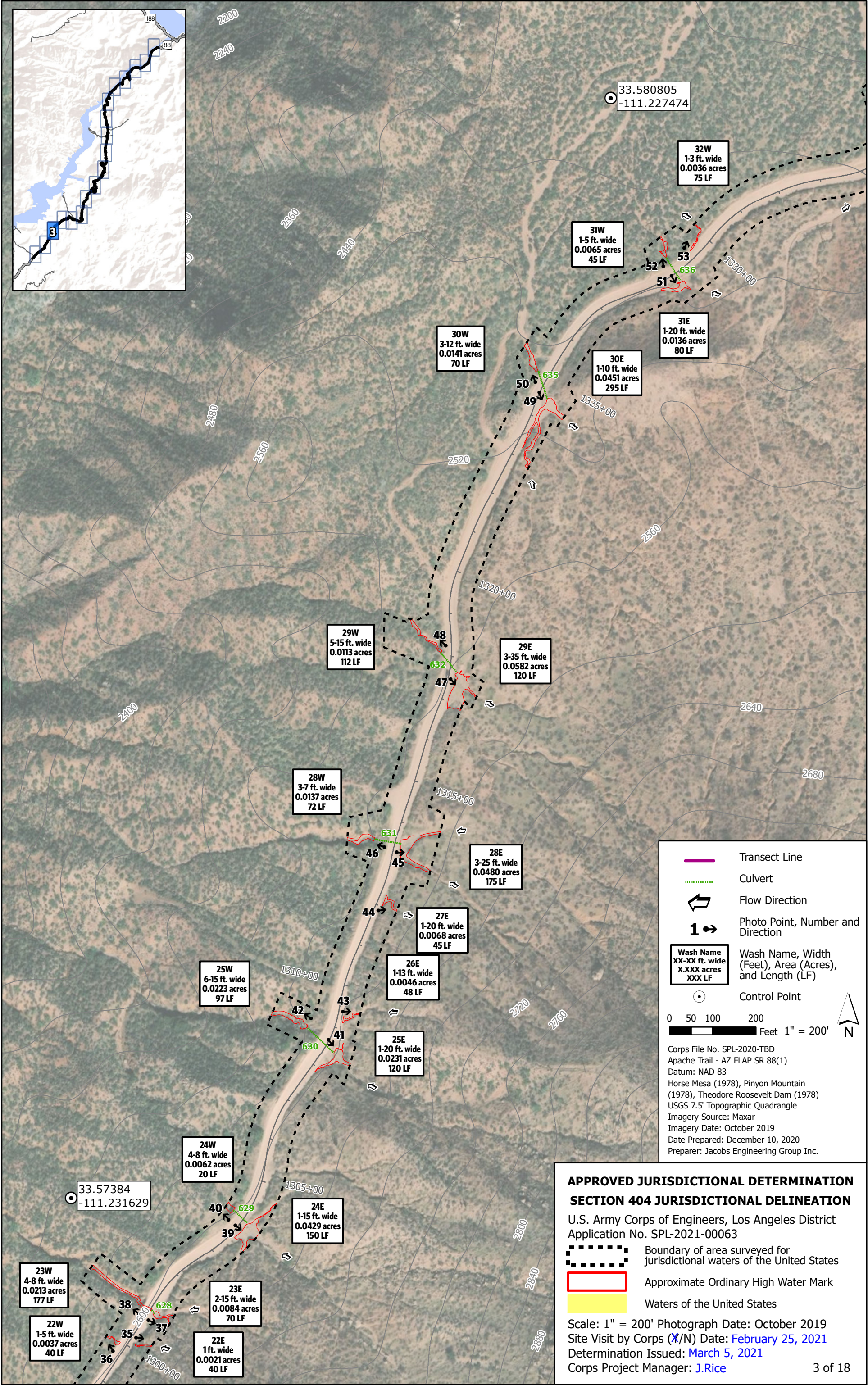
(10) A JD associated with unauthorized activities except as provided in §331.11.

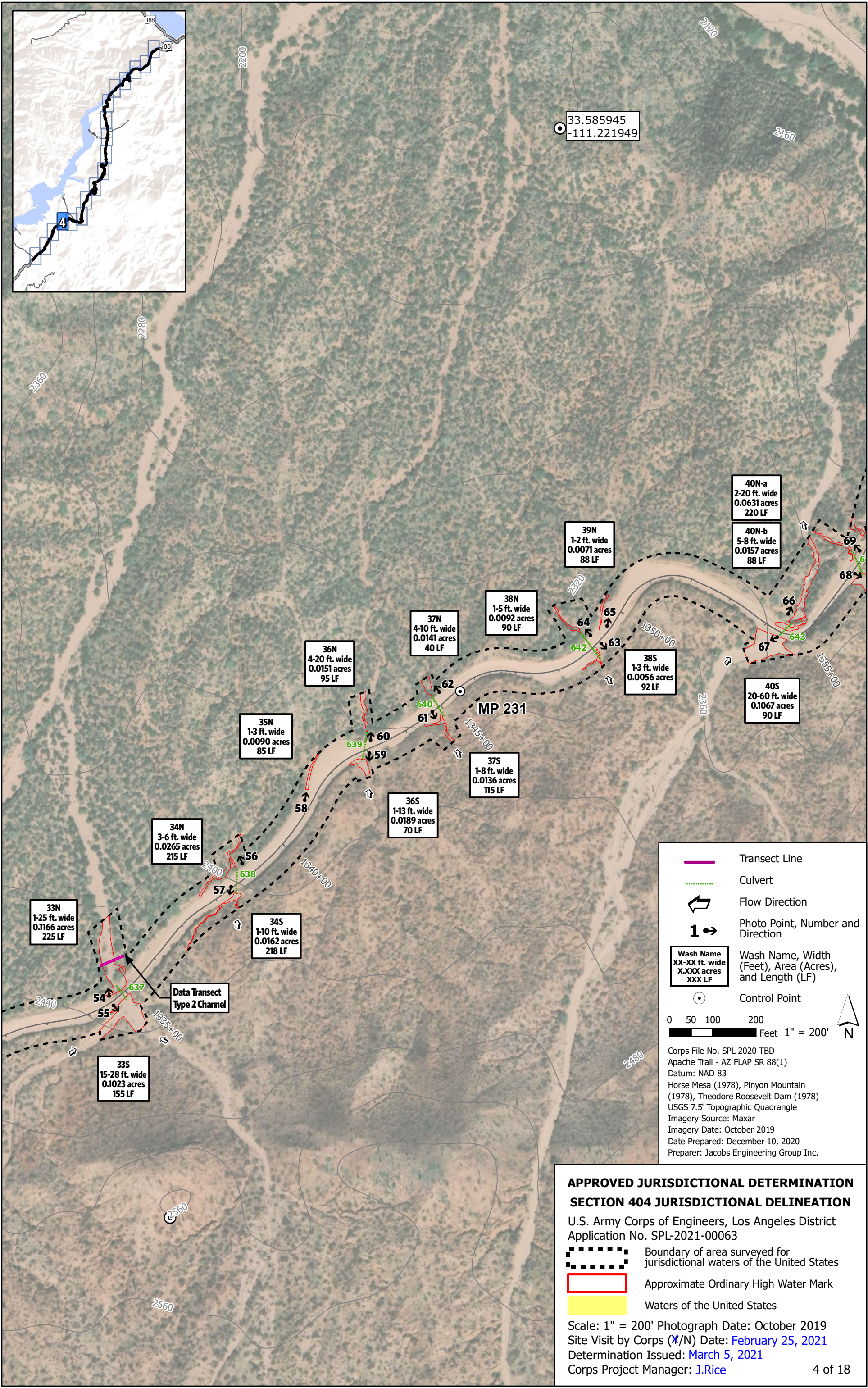
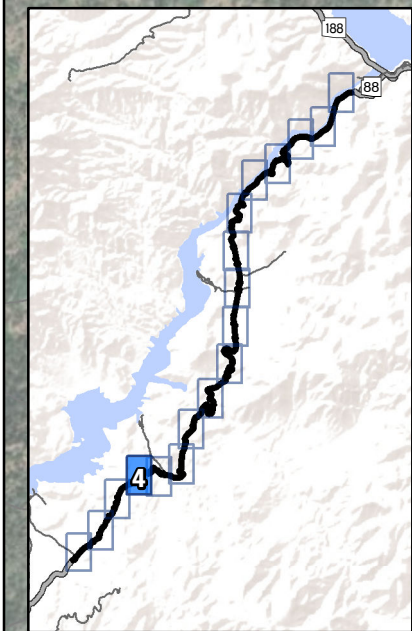


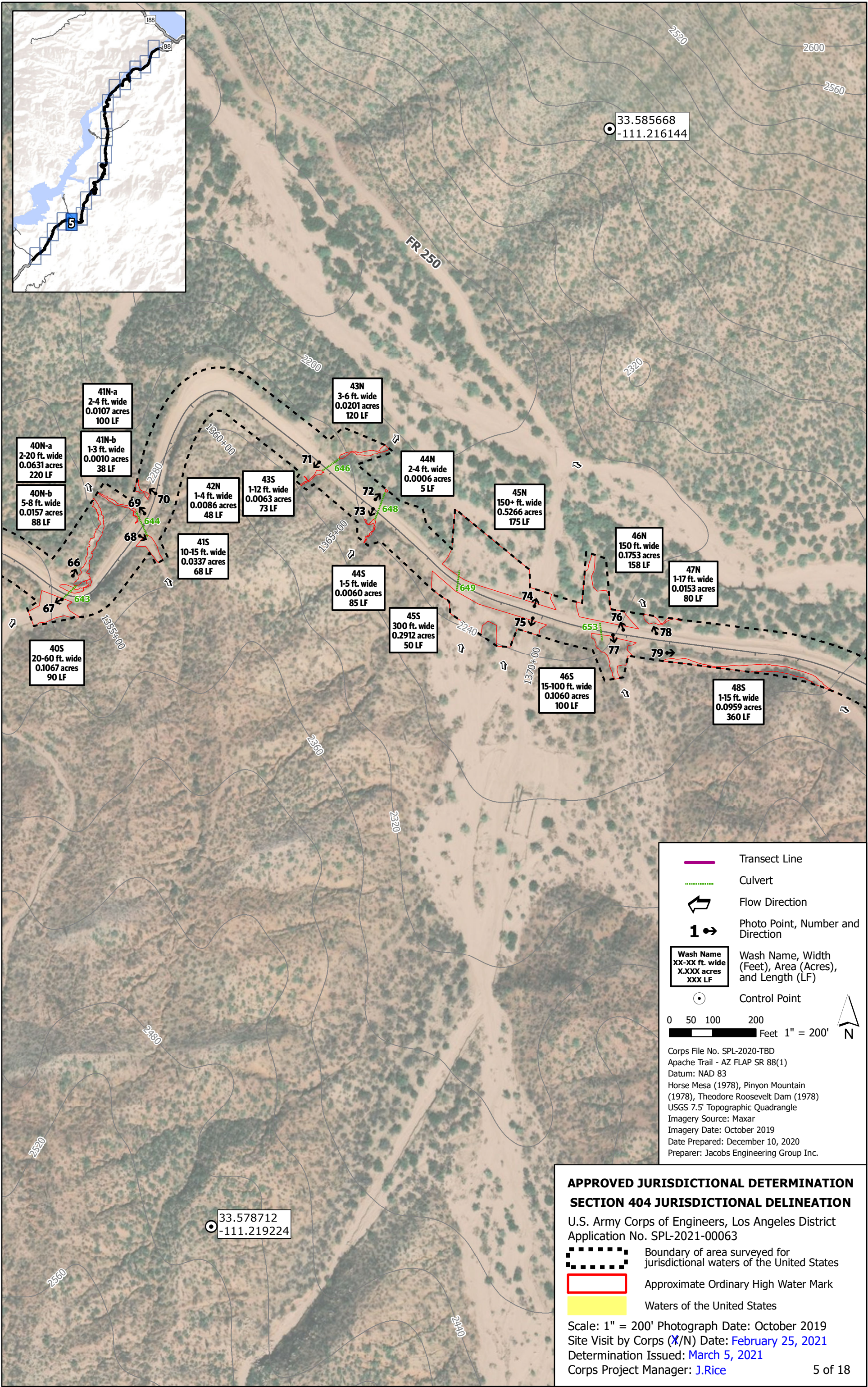
Apache Trail
Wetland Delineation
Overview Map

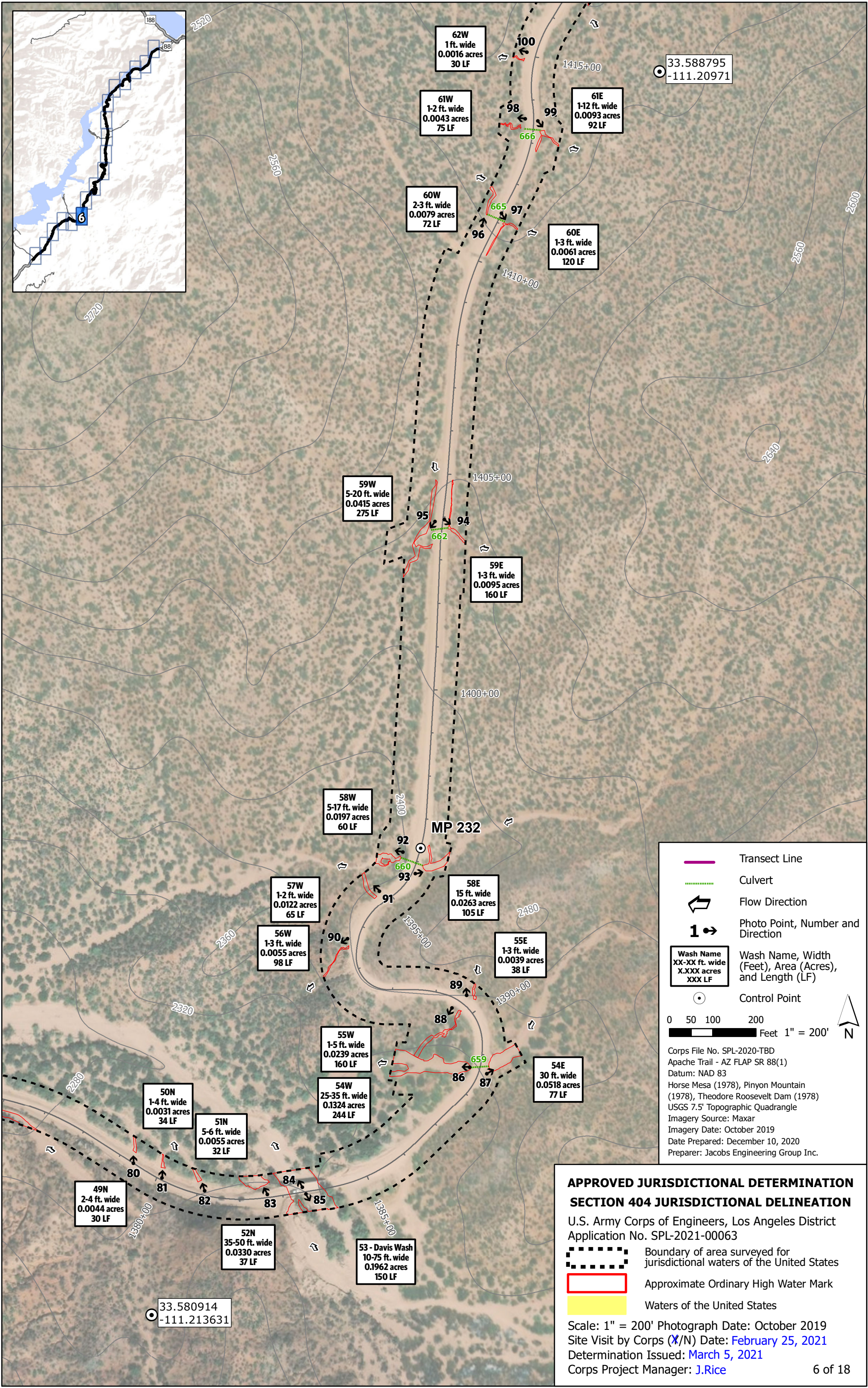










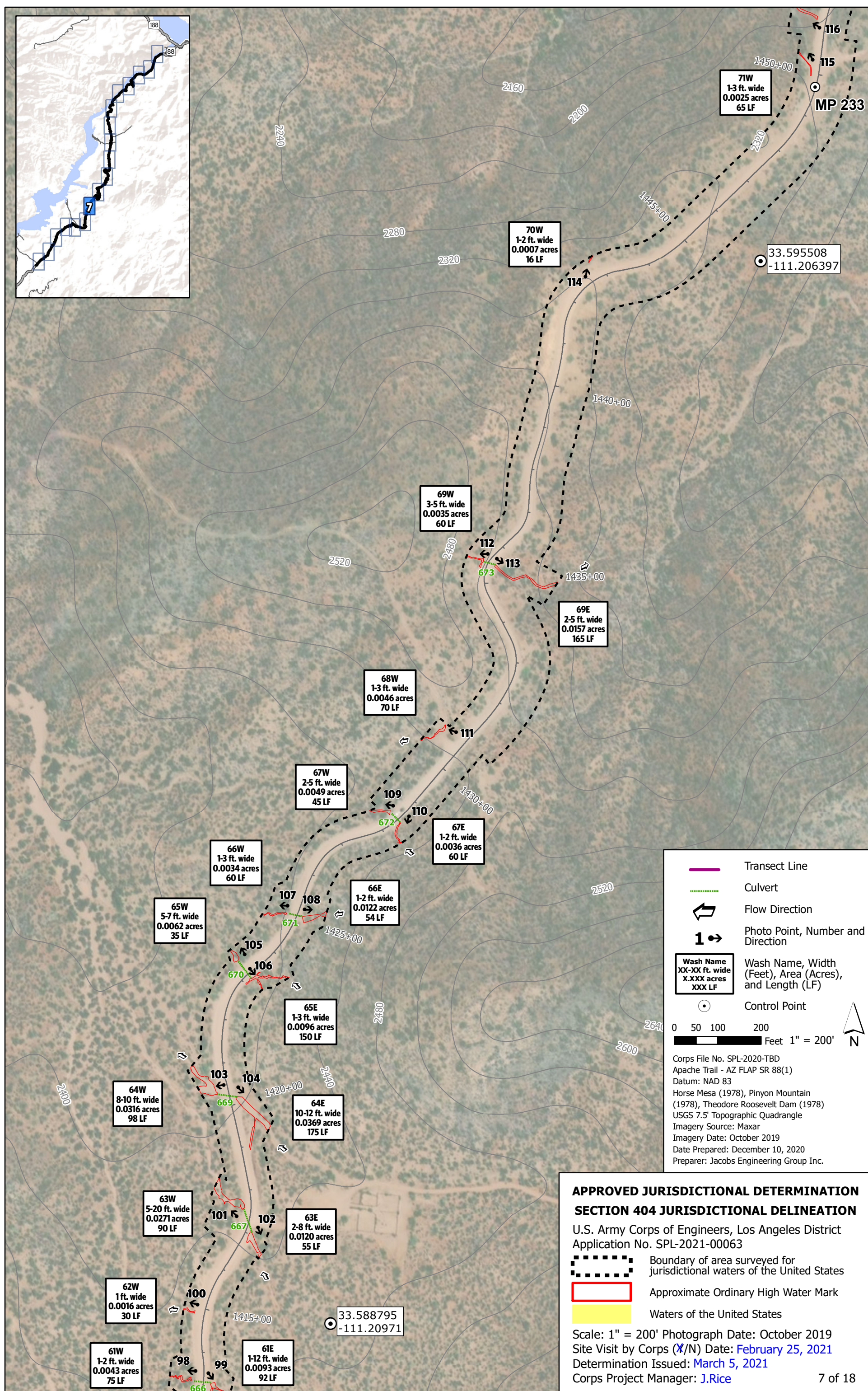


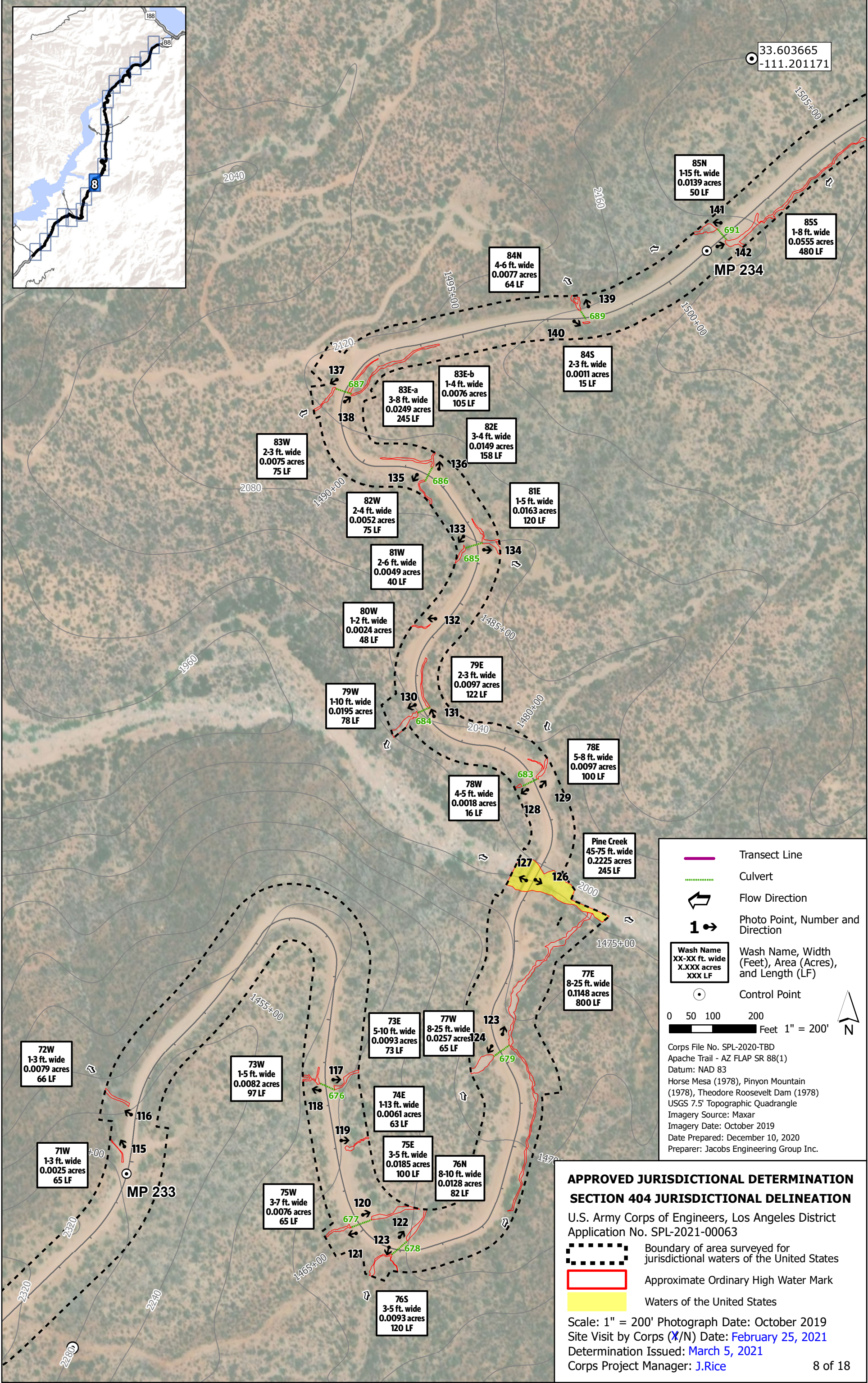
**APPROVED JURISDICTIONAL DETERMINATION
SECTION 404 JURISDICTIONAL DELINEATION**

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00063

- Boundary of area surveyed for jurisdictional waters of the United States
- Approximate Ordinary High Water Mark
- Waters of the United States

Scale: 1" = 200' Photograph Date: October 2019
Site Visit by Corps (X/N) Date: February 25, 2021
Determination Issued: March 5, 2021
Corps Project Manager: J.Rice



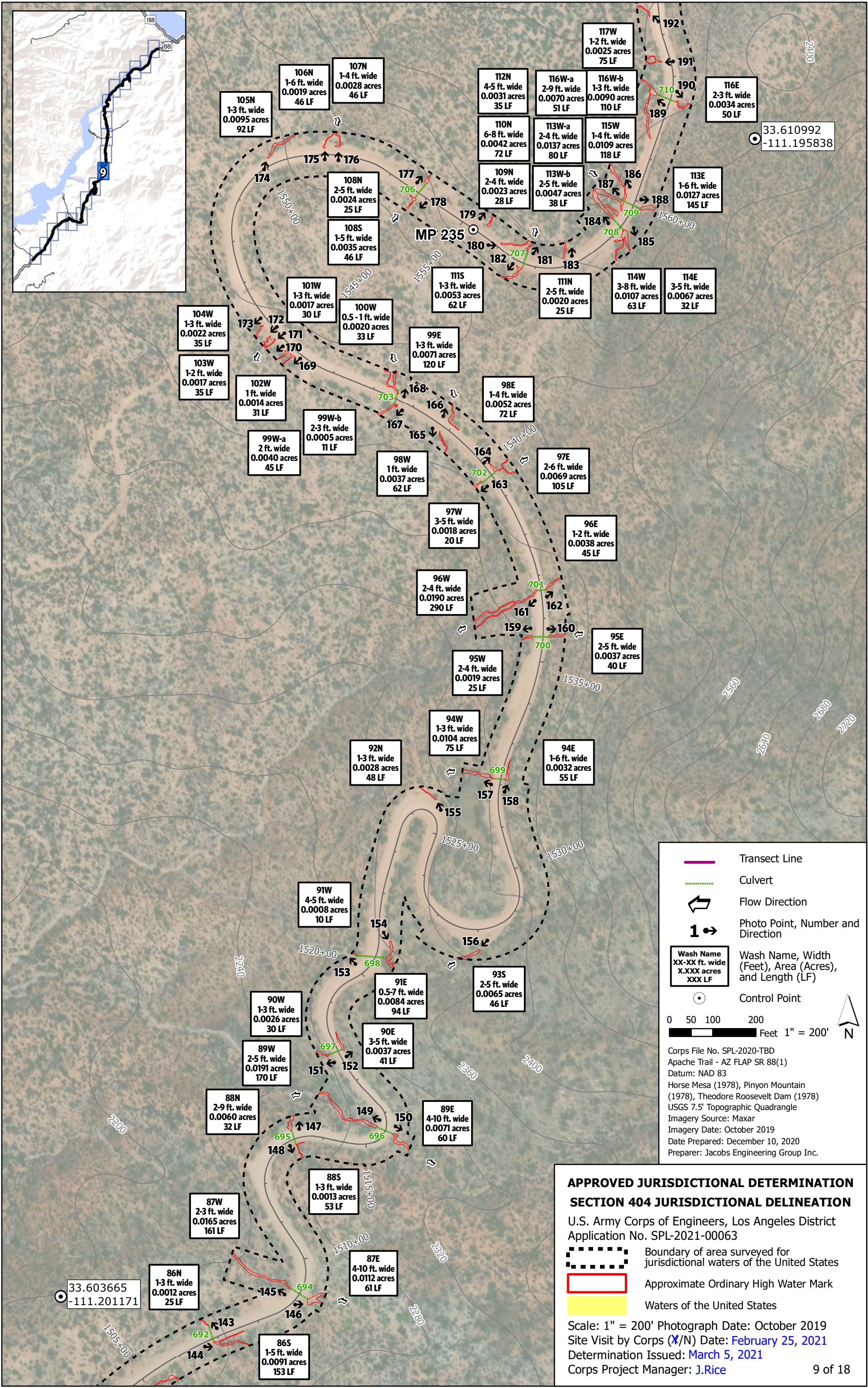


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Corps Project Manager: [J.Rice](#)



Legend

- Transect Line
- Culvert
- Flow Direction
- Photo Point, Number and Direction
- Wash Name
XX-XX ft. wide
X.XXX acres
XXX LF
- Control Point

0 50 100 200
Feet 1" = 200'

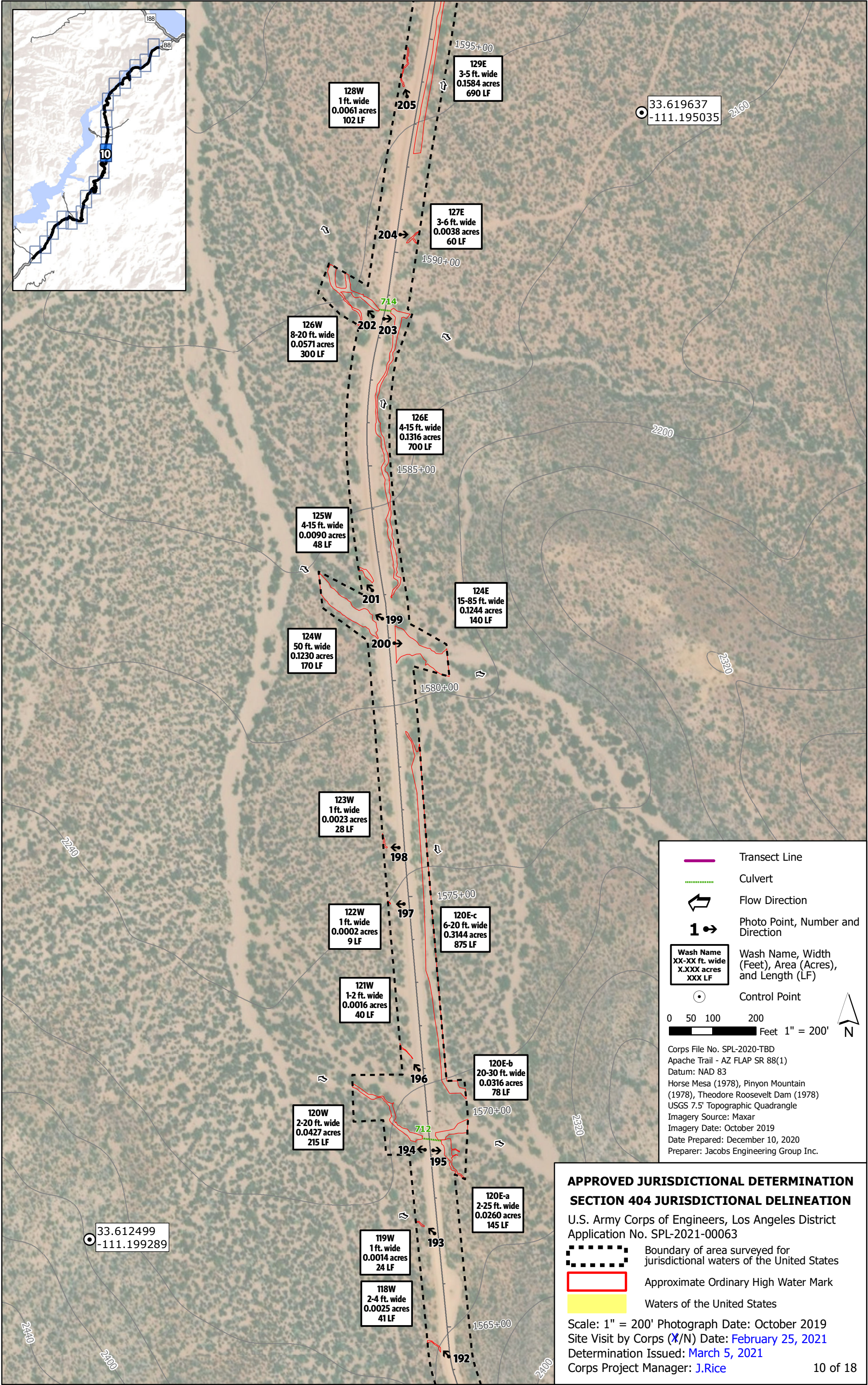
Corps File No. SPL-2020-TBD
Apache Trail - AZ FLAP SR 88(1)
Datum: NAD 83
Horse Mesa (1978), Pinyon Mountain (1978), Theodore Roosevelt Dam (1978)
USGS 7.5' Topographic Quadrangle
Imagery Source: Maxar
Imagery Date: October 2019
Date Prepared: December 10, 2020
Preparer: Jacobs Engineering Group Inc.

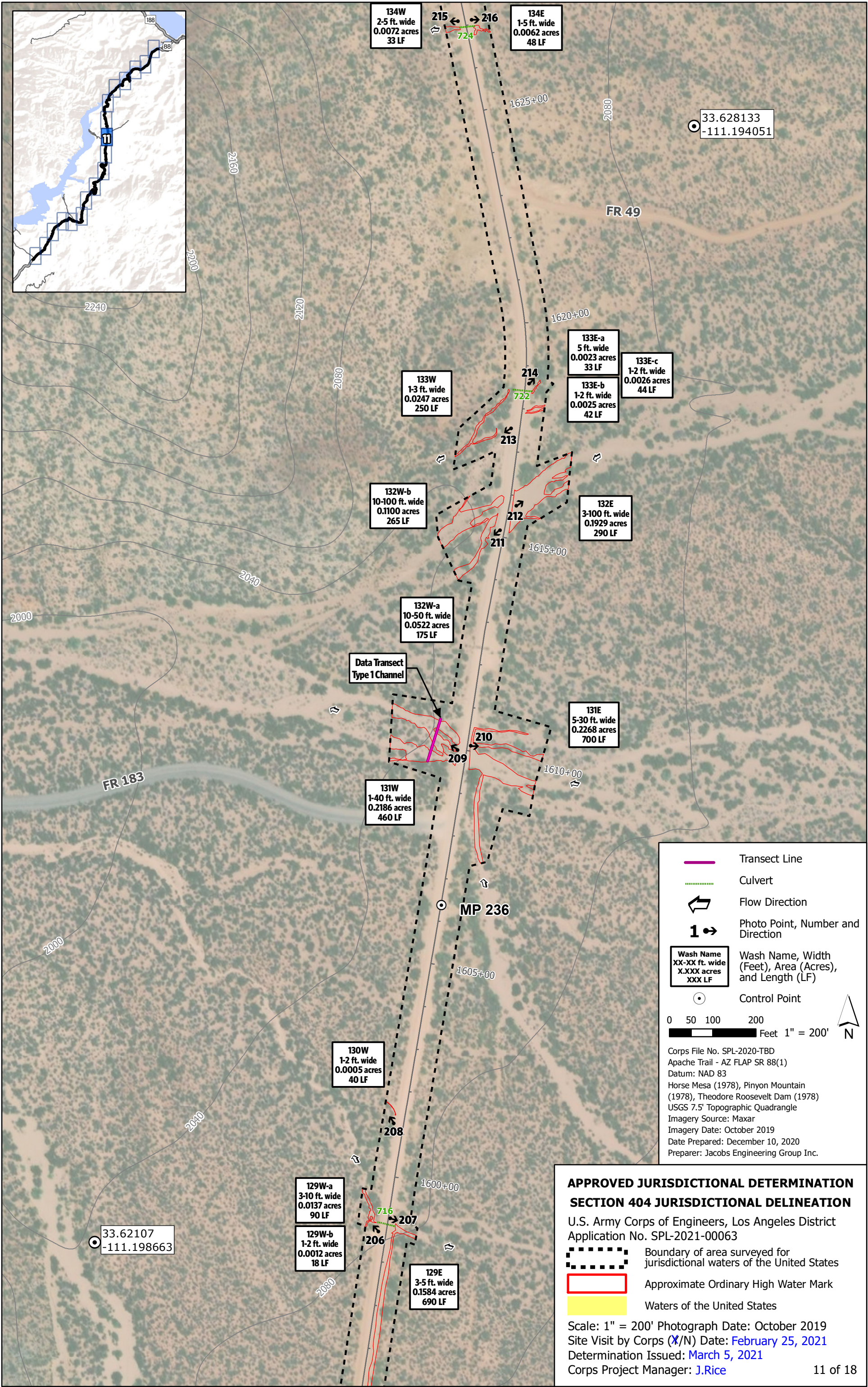
**APPROVED JURISDICTIONAL DETERMINATION
SECTION 404 JURISDICTIONAL DELINEATION**

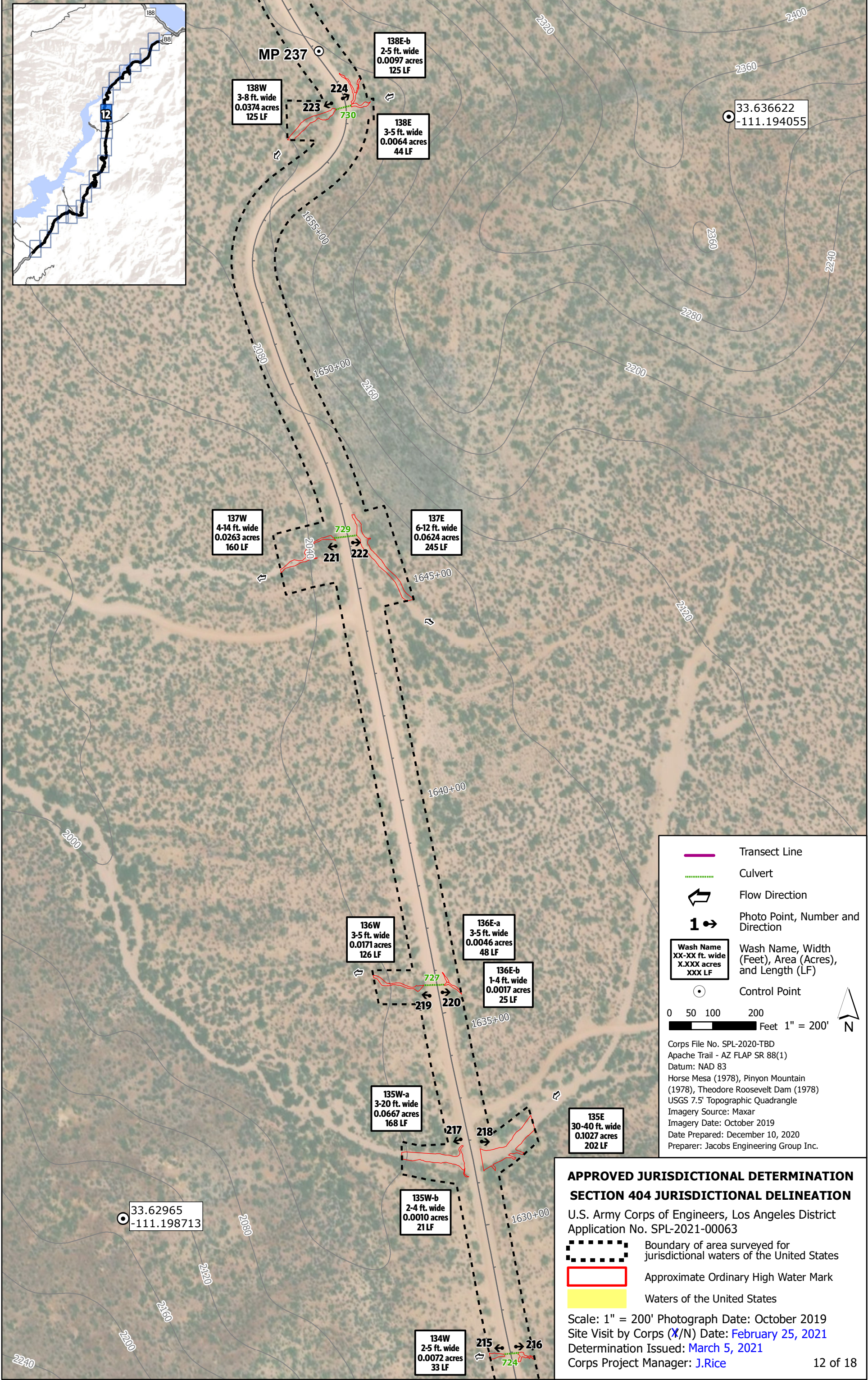
U.S. Army Corps of Engineers, Los Angeles District
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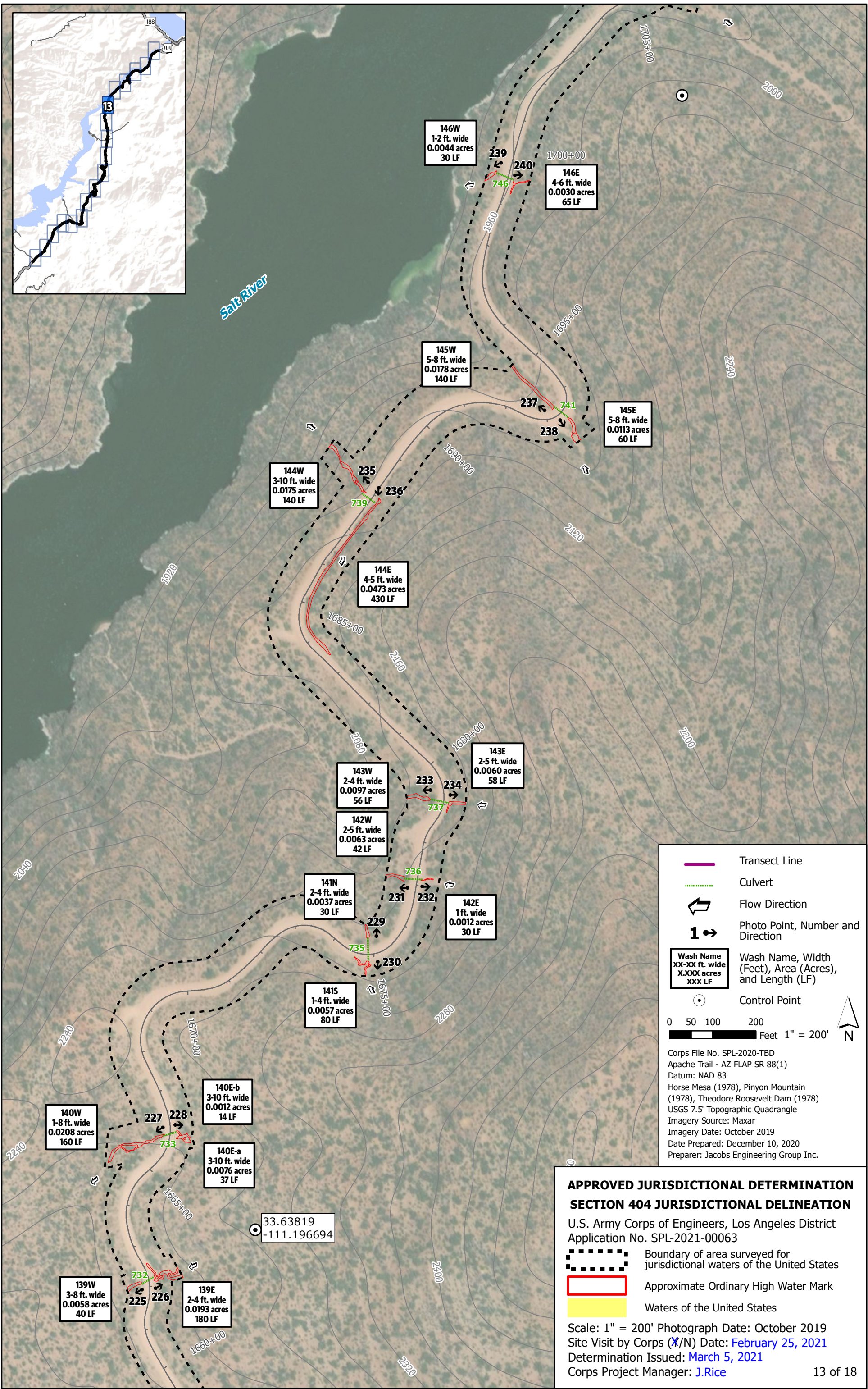
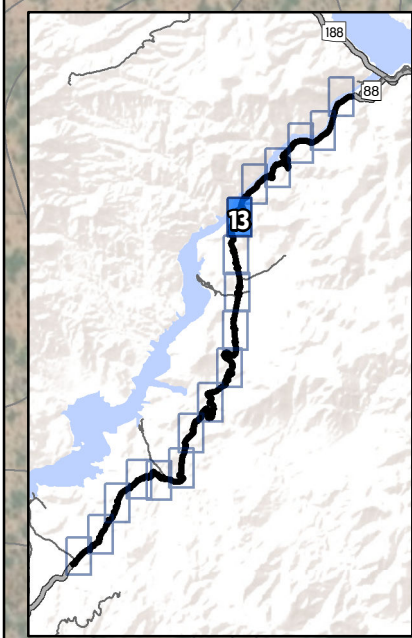
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Legend

- Transect Line
- Culvert
- Flow Direction
- Photo Point, Number and Direction
- Wash Name
XX-XX ft. wide
X.XXX acres
XXX LF
- Control Point

0 50 100 200 Feet 1" = 200'

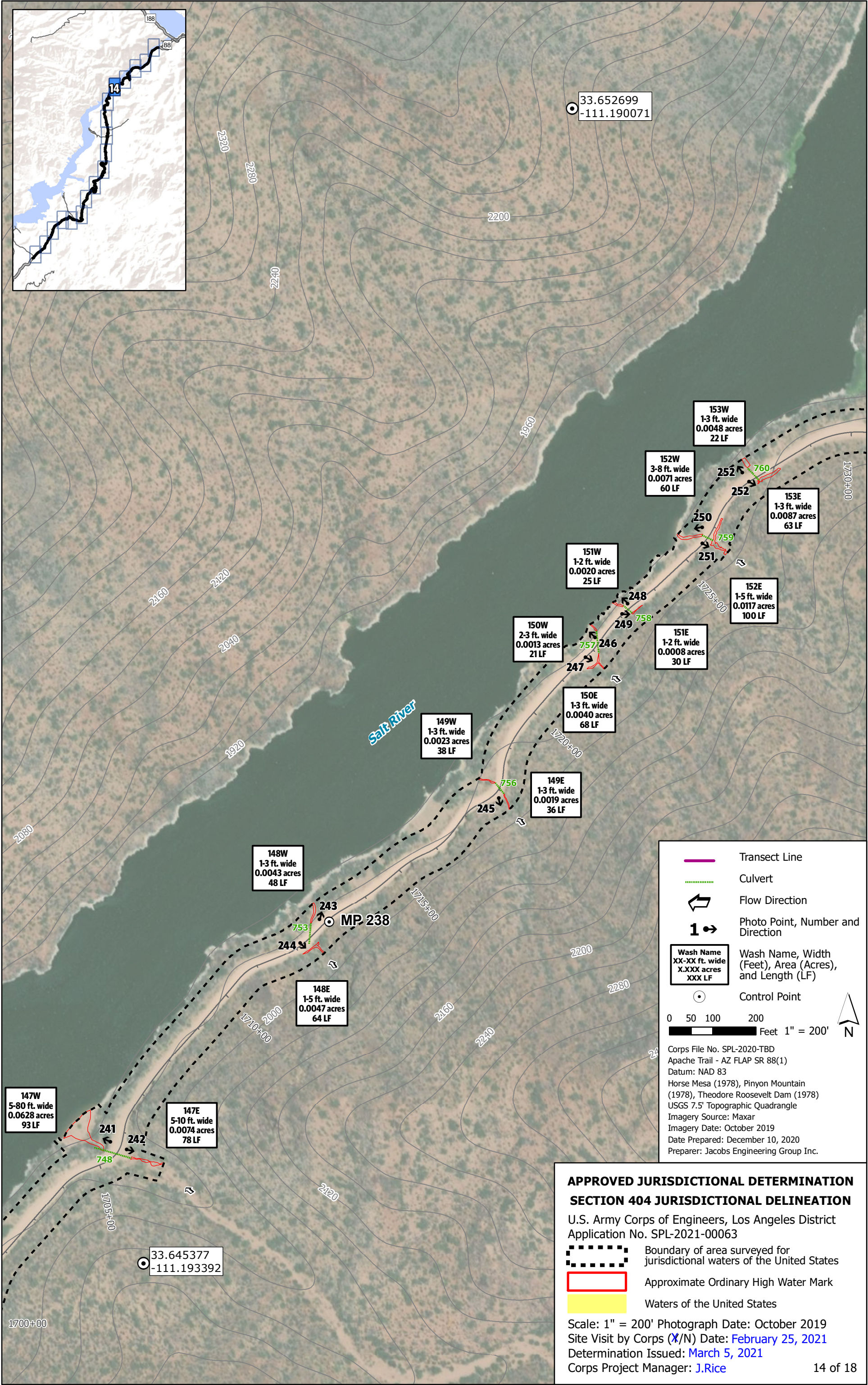
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Horse Mesa (1978), Pinyon Mountain (1978), Theodore Roosevelt Dam (1978)
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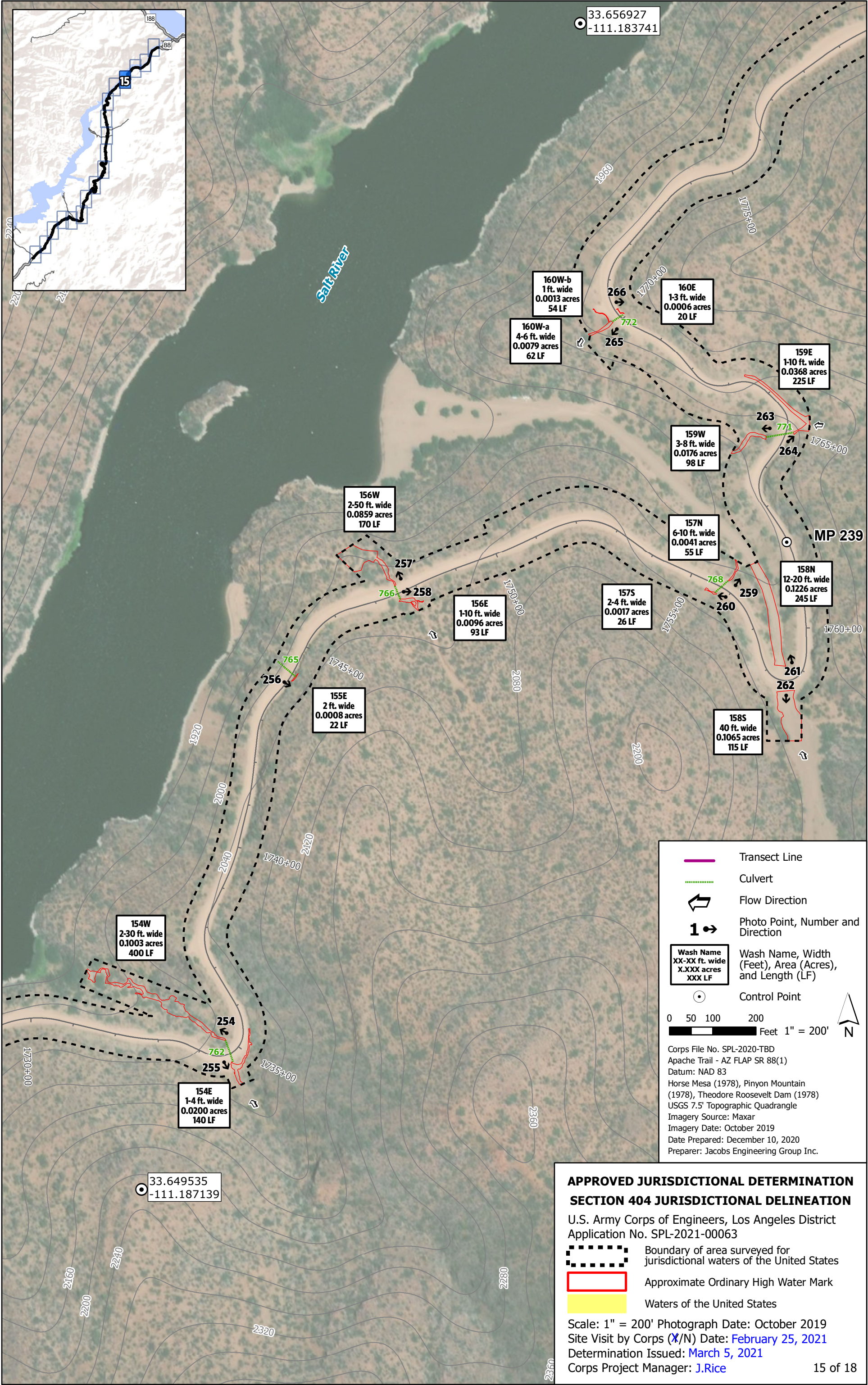
**APPROVED JURISDICTIONAL DETERMINATION
SECTION 404 JURISDICTIONAL DELINEATION**

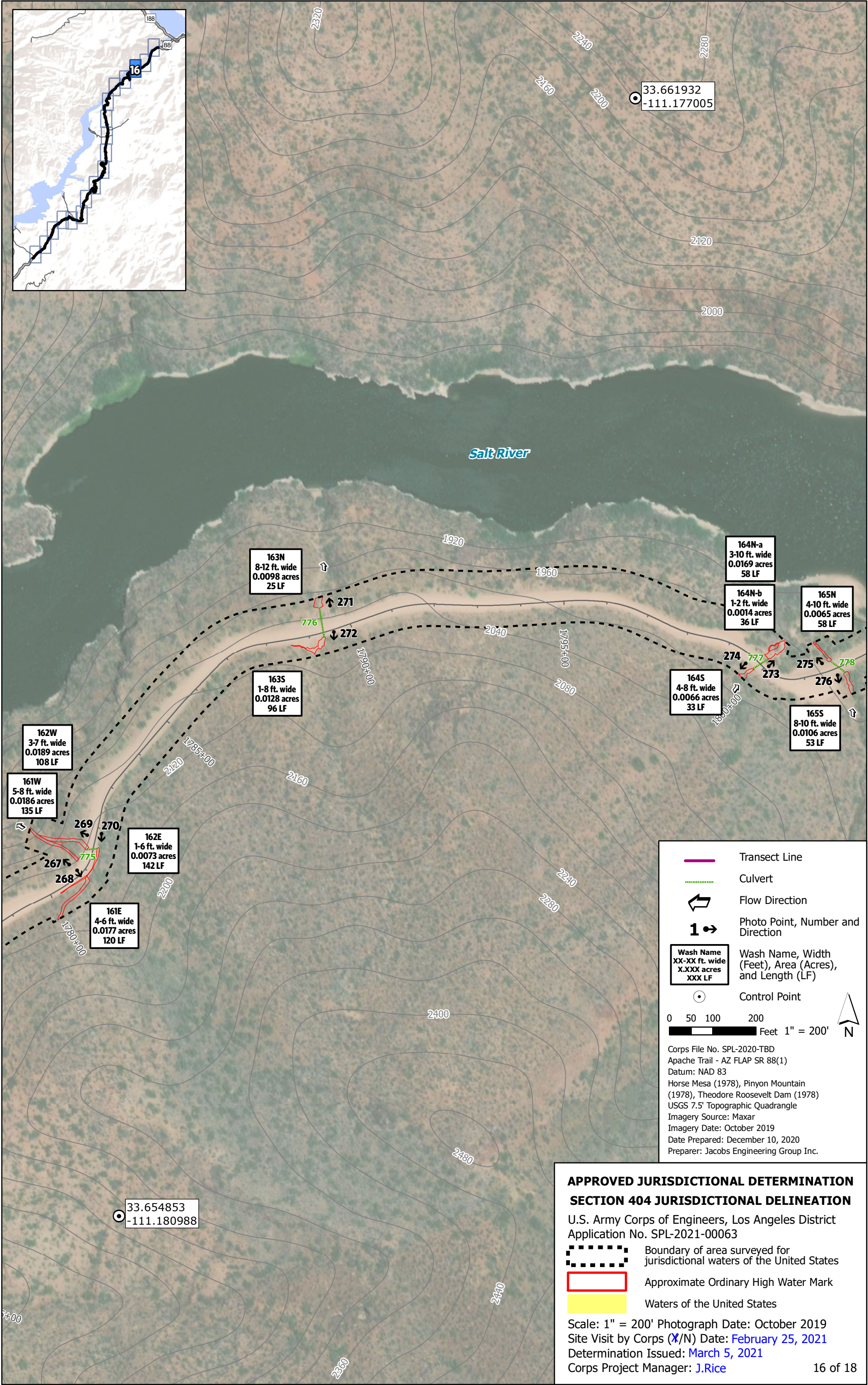
U.S. Army Corps of Engineers, Los Angeles District
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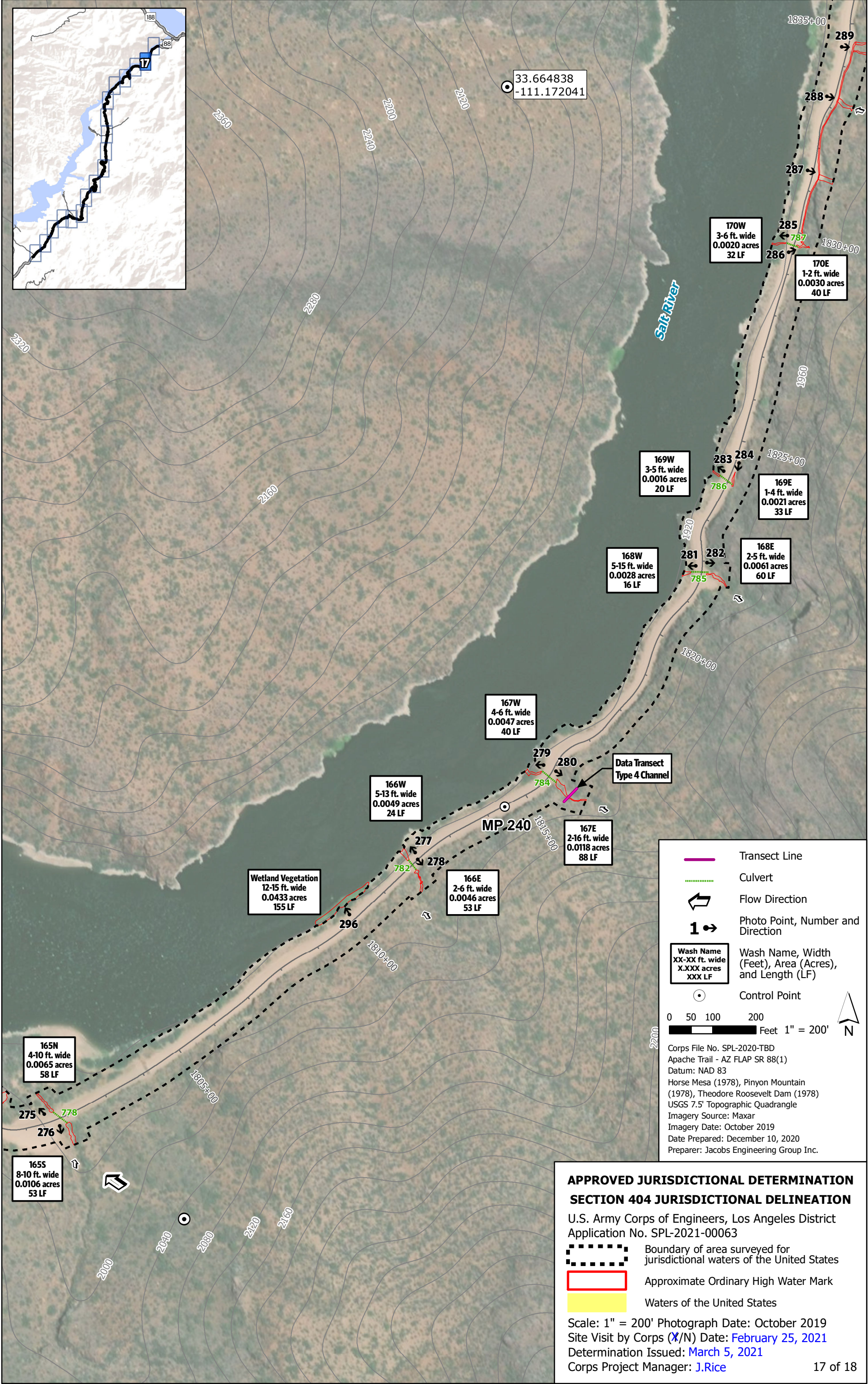
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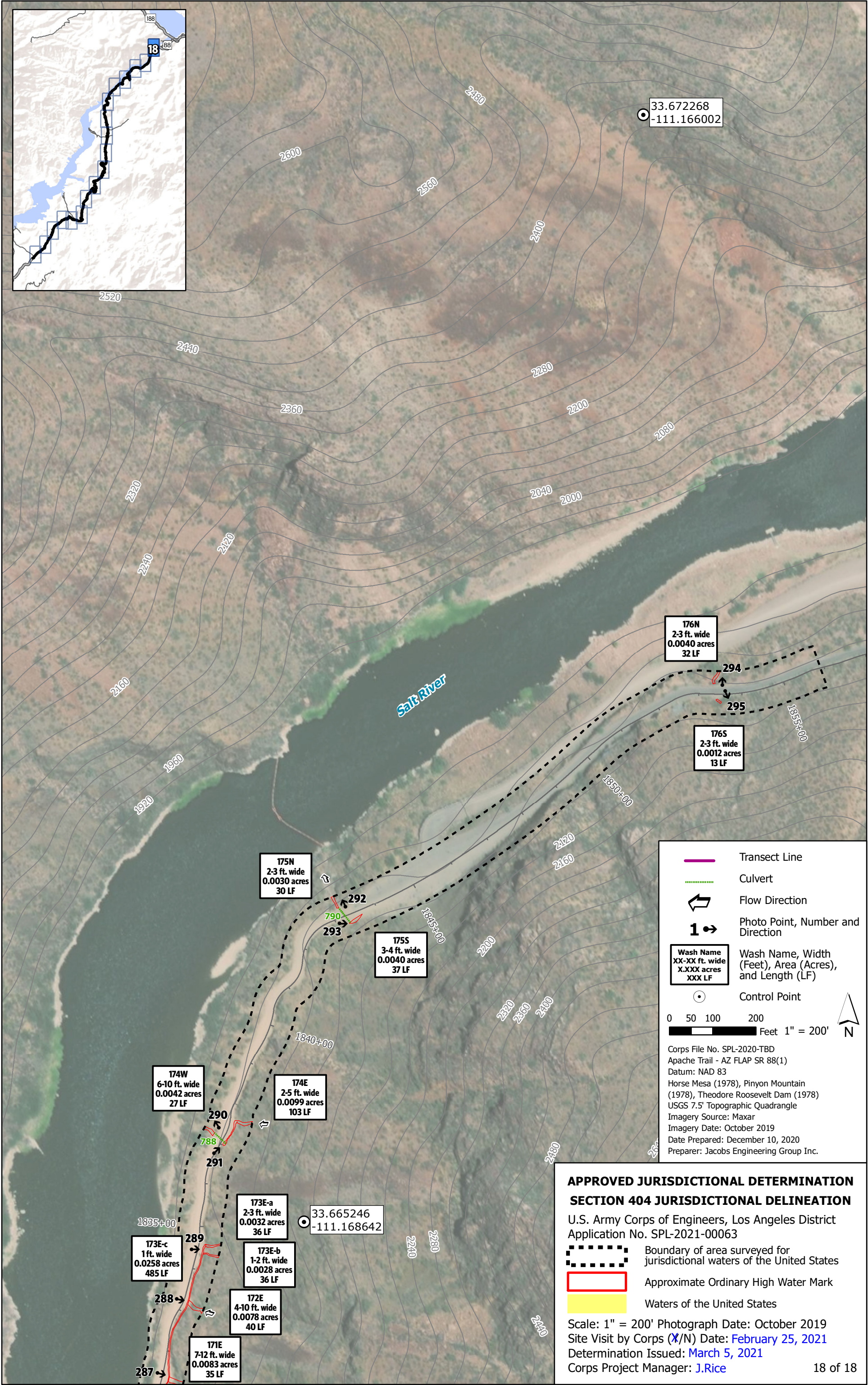
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U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): March 5, 2021

ORM Number: SPL-2021-00063

Associated JDs: N/A

Review Area Location¹:

State/Territory: AZ City: N/A County/Parish/Borough: Maricopa County

Center Coordinates of Review Area: Latitude 33.618679 Longitude -111.1969

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list **MUST** be selected. Complete the corresponding sections/tables and summarize data sources.

- ☐ The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- ☐ There are "navigable waters of the United States" within Rivers and Harbors Act jurisdiction within the review area (complete table in section II.B).
- ☒ There are "waters of the United States" within Clean Water Act jurisdiction within the review area (complete appropriate tables in section II.C).
- ☒ There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A	N/A	N/A	N/A

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters)³

(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A	N/A	N/A	N/A

Tributaries ((a)(2) waters):

(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
Pine Creek	0.2225 acres	(a)(2) Intermittent tributary contributes surface water flow directly or indirectly to an (a)(1) water in a typical year	Pine Creek exhibits intermittent flows and contributes flow in a typical year to Apache Lake, which is the second of a chain of four reservoirs on the Salt River. From these reservoirs, the Salt River contributes flow in a typical year to the nearest downstream (a)(1) water on the Gila River between Powers Butte and Gillespie Dam. See Section III.B-C for more information.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):

(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A	N/A	N/A	N/A

¹ Map(s)/Figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps Districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



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Adjacent wetlands ((a)(4) waters):

(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A	N/A	N/A	N/A

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12))⁴:

Exclusion Name	Exclusion Size	Exclusion ⁵	Rationale for Exclusion Determination
01E-a	0.0466 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
01E-b	0.0011 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
01W-a	0.0586 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
01W-b	0.0006 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
02W	0.0042 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
03E	0.0264 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
03W	0.0024 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

¹ Map(s)/Figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

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NAVIGABLE WATERS PROTECTION RULE

04W	0.0024 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
05E	0.024 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
05W	0.0067 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
06E	0.0012 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
06E-b	0.0001 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
07E	0.0072 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
07W	0.0103 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
08E	0.0058 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
08W	0.0056 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

¹ Map(s)/Figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

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APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE

			vegetation present. Please see Section III.B-C for more information.
09E	0.0003 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
100W	0.002 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
101W	0.0017 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
102W	0.0014 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
103W	0.0017 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
104W	0.0022 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
105N	0.0095 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
106N	0.0019 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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107N	0.0028 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
108N	0.0024 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
108S	0.0035 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
109N	0.0023 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
10E-a	0.0006 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
10E-b	0.0001 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
110N	0.0042 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
111N	0.002 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
111S	0.0053 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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			vegetation present. Please see Section III.B-C for more information.
112N	0.0031 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
113E	0.0127 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
113W-a	0.0137 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
113W-b	0.0047 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
114E	0.0067 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
114W	0.0107 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
115W	0.0109 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
116E	0.0034 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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116W-a	0.007 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
116W-b	0.009 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
117W	0.0025 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
118W	0.0025 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
119W	0.0014 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
11E	0.0013 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
120E-a	0.026 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
120E-b	0.0316 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
120E-c	0.3144 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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			vegetation present. Please see Section III.B-C for more information.
120W	0.0427 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
121W	0.0016 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
122W	0.0002 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
123W	0.0023 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
124E	0.1244 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
124W	0.123 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
125W	0.009 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
126E ext	0.1316 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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126W	0.0571 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
127E	0.0038 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
128W	0.0061 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
129E	0.1584 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
129W-a	0.0137 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
129W-b	0.0012 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
12E-a	0.0016 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
12E-b	0.007 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
12W	0.0019 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
130W	0.0005 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
131E	0.2268 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
131W	0.2186 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
132E	0.1929 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
132W-a	0.0522 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
132W-b	0.11 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
133E-a	0.0023 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
133E-b	0.0025 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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133E-c	0.0026 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
133W	0.0247 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
134E	0.0062 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
134W	0.0072 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
135E	0.1027 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
135W-a	0.0667 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
135W-b	0.001 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
136E-a	0.0046 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
136E-b	0.0017 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
136W	0.0171 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
137E	0.0624 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
137W	0.0263 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
138E	0.0064 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
138E-b	0.0097 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
138W	0.0374 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
139E	0.0193 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
139W	0.0058 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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13N	0.0485 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
13S-a	0.0491 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
13S-b	0.0103 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
13S-c	0.0017 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
13S-d	0.0005 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
140E-a	0.0076 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
140E-b	0.0012 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
140W	0.0208 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
141N	0.0037 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
141S	0.0057 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
142E	0.0012 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
142W	0.0063 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
143E	0.006 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
143W	0.0097 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
144E	0.0473 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
144W	0.0175 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
145E	0.0113 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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145W	0.0178 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
146E	0.003 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
146W	0.0044 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
147E	0.0074 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
147W	0.0628 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
148E	0.0047 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
148W	0.0043 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
149E	0.0019 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
149W	0.0023 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
14N	0.0067 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
14S	0.0394 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
150E	0.004 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
150W	0.0013 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
151E	0.0008 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
151W	0.002 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
152E	0.0117 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
152W	0.0071 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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153E	0.0087 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
153W	0.0048 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
154E	0.02 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
154W	0.1003 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
155E	0.0008 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
156E	0.0096 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
156W	0.0859 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
157N	0.0041 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
157S	0.0017 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
158N	0.1226 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
158S	0.1065 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
159E	0.0006 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
159W	0.0176 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
15N	0.0667 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
15S-a	0.0905 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
15S-b	0.0112 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
160E	0.0006 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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160W-a	0.0079 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
160W-b	0.0013 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
161E	0.0177 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
161W	0.0186 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
162E	0.0073 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
162W	0.0189 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
163N	0.0098 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
163S	0.0128 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
164N-a	0.0169 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
164N-b	0.0014 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
164S	0.0066 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
165N	0.0065 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
165S	0.0106 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
166E	0.0046 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
166W	0.0049 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
167E	0.0118 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
167W	0.0047 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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168E	0.0061 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
168W	0.0028 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
169E	0.0021 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
169W	0.0016 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
16E	0.0463 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
16W	0.0432 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
170E	0.003 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
170W	0.002 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
171E	0.0083 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
172E	0.0078 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
173E-a	0.0032 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
173E-b	0.0028 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
173E-c	0.0258 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
174E	0.0099 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
174W	0.0042 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
175N	0.003 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
175S	0.004 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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176N	0.004 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
176S	0.0012 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
17E	0.0181 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
17W	0.0085 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
18E	0.0043 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
19E-a	0.0234 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
19E-b	0.0041 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
19E-c	0.0017 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
19W	0.004 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
20E-a	0.0086 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
20E-b	0.0026 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
20E-c	0.0004 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
21E-a	0.0175 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
21E-b	0.0141 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
21W	0.01 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
22E	0.0021 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
22W	0.0037 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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23E	0.0084 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
23W	0.0213 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
24E	0.0429 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
24W	0.0062 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
25E	0.0231 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
25W	0.0223 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
26E	0.0046 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
27E	0.0068 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
28E	0.048 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
28W	0.0137 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
29E	0.0582 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
29W	0.0113 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
30E	0.0451 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
30W	0.0141 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
31E	0.0136 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
31W	0.0065 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
32W	0.0036 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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33N	0.1166 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
33S	0.1023 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
34N	0.0265 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
34S	0.0162 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
35N	0.009 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
36N	0.0151 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
36S	0.0189 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
37N	0.0141 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
37S	0.0136 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
38N	0.0092 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
38S	0.0056 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
39N	0.0071 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
40N-a	0.0631 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
40N-b	0.0157 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
40S	0.1067 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
41N-a	0.0107 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
41N-b	0.001 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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41S	0.0337 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
42N	0.0086 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
43N	0.0201 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
43S	0.0063 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
44N	0.0006 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
44S	0.006 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
45N	0.5266 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
45S	0.2912 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
46N	0.1753 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
46S	0.106 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
47N	0.0153 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
48S	0.0959 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
49N	0.0044 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
50N	0.0031 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
51N	0.0055 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
52N	0.033 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
53 - Davis Wash	0.1962 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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54E	0.0518 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
54W	0.1324 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
55E	0.0039 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
55W	0.0239 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
56W	0.0055 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
57W	0.0122 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
58E	0.0263 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
58W	0.0197 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
59E	0.0095 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
59W	0.0415 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
60E	0.0061 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
60W	0.0079 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
61E	0.0093 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
61W	0.0043 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
62W	0.0016 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
63E	0.012 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
63W	0.0271 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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64E	0.0369 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
64W	0.0316 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
65E	0.0096 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
65W	0.0062 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
66E	0.0122 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
66W	0.0034 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
67E	0.0036 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
67W	0.0049 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
68W	0.0046 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
69E	0.0157 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
69W	0.0035 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
70W	0.0007 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
71W	0.0025 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
72W	0.0079 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
73E	0.0093 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
73W	0.0082 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
74E	0.0061 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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75E	0.0185 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
75W	0.0076 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
76N	0.0128 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
76S	0.0093 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
77E	0.1148 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
77W	0.0257 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
78E	0.0097 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
78W	0.0018 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
79E	0.0097 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
79W	0.0195 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
80W	0.0024 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
81E	0.0163 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
81W	0.0049 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
82E	0.0149 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
82W	0.0052 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
83E-a	0.0249 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
83E-b	0.0076 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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83W	0.0075 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
84N	0.0077 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
84S	0.0011 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
85N	0.0139 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
85S	0.0555 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
86N	0.0012 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
86S	0.0091 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
87E	0.0112 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
87W	0.0165 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
88N	0.006 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
88S	0.0013 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
89E	0.0071 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
89W	0.0191 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
90E	0.0037 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
90W	0.0026 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
91E	0.0084 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
91W	0.0008 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

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92N	0.0028 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
93S	0.0065 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
94E	0.0032 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
94W	0.0104 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
95E	0.0037 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
95W	0.0019 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
96E	0.0038 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
96W	0.019 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
97E	0.0069 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic

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			vegetation present. Please see Section III.B-C for more information.
97W	0.0018 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
98E	0.0052 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
98W	0.0037 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
99E	0.0071 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
99W-a	0.004 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.
99W-b	0.0005 acres	(b)(3) Ephemeral feature, including an ephemeral stream, swale, gully, rill, or pool	Feature exhibits Ordinary High Water Mark indicators such as a developed bed and bank, sediment sorting, change in vegetation cover, and change in bank slope. However, there is no water present and no hydrophytic vegetation present. Please see Section III.B-C for more information.

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

X Information submitted by, or on behalf of, the applicant/consultant: *Apache Trail Aquatic Resources Delineation Report (January 2021).*

This information *is and is not* sufficient for purposes of this AJD.

Rationale: The report contains a delineation of all aquatic features located in the survey area and documentation of flow regime status was provided for Pine Creek. However, the report only considered conditions during observed during the consultant's October 2020 site visit, which was during a severe drought during the dry season. Sonoran Desert intermittent

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streams are more likely to be active during the winter and spring months. Additionally, No discussion or analysis was provided for other periods of time when flows were readily observable in Pine Creek in satellite imagery.

- ☒ Data sheets prepared by the Corps: *New Mexico Environment Department Surface Water Quality Bureau Level 1 Hydrology Determination Sheet, prepared February 25, 2021.*
- ☒ Photographs: *Requestor's site photos from October 2020; Corps' site photos taken February 25, 2021; Maxar Satellite Imagery taken October 2019 and 12/03/2016; Google Earth Satellite Imagery dated 10/03/2003, 5/13/2005, 6/7/2007, 6/4/2010, 6/24/2011, 06/05/2012, 01/07/2014, 3/14/2015, 2/14/2016, 2/24/2017, 12/17/2017, 1/13/2018, 06/27/2019, 6/30/2019, 5/18/2020.*
- ☒ Corps Site visit(s) conducted on: *February 25, 2021.*
- ☒ Previous Jurisdictional Determinations (AJDs or PJDs): *SPL-2020-00501 (AJD).*
- ☒ Antecedent Precipitation Tool: *provide detailed discussion in Section III.B.*
- ☐ USDA NRCS Soil Survey:
- ☐ USFWS NWI maps:
- ☒ USGS topographic maps: *Horse Mesa (1978), Pinyon Mountain (1978), Theodore Roosevelt Dam (1978).*

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	NHD Dataset (ORM)
USDA Sources	N/A.
NOAA Sources	National Weather Service/University of Utah's MesoWest weather observation data.
USACE Sources	N/A.
State/Local/Tribal Sources	Flood Control District of Maricopa County Precipitation Data (Accessed 2/25/21); Arizona Department of Environmental Quality Flow Regime datalayer (2020); Arizona Department of Water Resources Well Registry; New Mexico Environment Department Surface Water Quality Bureau Level 1 Hydrology Protocol.
Other Sources	

- B. Typical year assessment(s):** A typical year assessment was conducted for Pine Creek using the Corps' Antecedent Precipitation Tool (APT) to determine if flows observed during a February 2021 site visit and in various years of satellite imagery were: a) occurring during typical year conditions (times when precipitation and other climatic variables are within the normal periodic range) and b) were demonstrating an intermittent flow regime (continuously during certain times of the year more than in direct response to precipitation).

Typical Year Conditions:

In order to select the dates to run the APT for, all readily accessible satellite imagery was reviewed for evidence of surface flows. During this review, flow events were observed only during winter or spring months, which is one of two times of year when precipitation peaks in this region of Arizona (National

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Weather Service). No flow events were observed during the summer months, which is when the other peak occurs during the North American Monsoon. Based on this observation, the APT was ran for the dates of all available imagery taken in the winter or spring months as well as for the dates of two site visits.

Twelve dates occurring in nine different years between May 2005 and February 2021 were analyzed with the APT tool. Four of the 12 dates were indicated as occurring in the dry season and eight were during the wet season (per The Web-based, Water-Budget, Interactive, Modeling Program or WebWIMP). Flows were observed on eight dates occurring in eight different years, while pools of water and moist soils were only observed on one date. Of the nine dates where water was visible, only three had a Palmer Drought Severity Index (PDSI) class (a regional measure of long-term drought conditions) of 'moderate wetness' to 'extreme wetness'. The remaining six dates had classes ranging from 'mild drought' to 'extreme drought'. On the date of the Corps' site visit, the PDSI was 'severe drought'.

The APT also provides an indication of short-term, antecedent precipitation conditions for the 90 days prior to the date entered and provides rain gauge data at selected stations (refer to the APT documentation for full details). Of the nine dates where water was observable, all but one date had 'normal' conditions or 'drier than normal' conditions for the preceding 90 days. On the date of the Corps' site visit, conditions were indicated as being 'drier than normal'.

Based on this analysis, flows in Pine Creek are mostly likely to occur during the wet season when evapotranspiration is less than precipitation. Flows can occur during drier than normal short-term and during long-term drought conditions. Therefore, flows in Pine Creek are likely to occur in a typical year.

Flow Regime:

During the Corps' site visit on February 25, 2021, water was observed flowing in Pine Creek (see photos in project folder). To assist in determining if the flows were a result of wetter than normal conditions or were a result of recent precipitation, the APT results for February 25th were reviewed along with weather station data from the local area.

As stated earlier, the APT results for the date of the Corps' site visit showed a PDSI in 'Severe Drought' for the region but that the time of year was considered the wet season based on WebWIMP. The previous 90 days were considered to be drier than normal. Of the 8 weather stations used by the APT, a trace of precipitation was observed around the middle of February. However, within January, several days of precipitation was observed and the 30-day rolling total was approximately 0.30 inches (declining from 1.5 inches shortly before the site visit). The APT used weather stations as far away as 20 miles away on the west side of the Superstition Mountains, which frequently experiences drier

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weather conditions due to the effects of the mountains. To address this climatic variability, local weather station data (within 10 miles of the site and located within the same topography) was also reviewed from the Maricopa County Flood Control District and the National Weather Service. No precipitation was observed in the previous two weeks prior to the site visit. Based on this information, it was determined that the flows observed in Pine Creek during the site visit were not in direct response to precipitation and were not a result of wetter-than-normal conditions. To determine if previous flows seen in satellite imagery were also not in direct response to precipitation, a similar review of the APT results was conducted for the selected dates of satellite imagery. This review found that precipitation often occurred in the days, weeks, or months prior to the imagery being shot, but in every instance there was no precipitation observed immediately preceding the observed flows. This suggests that the flows in Pine Creek are likely augmented by precipitation, but they do not occur in direct response since the flows generally persist for some time after the event. In order to confirm the intermittent flows regime, the Corps conducted a flow regime assessment using the protocol developed by the New Mexico Environment Department Water Quality Bureau, which is discussed in III.C.

C. Additional comments to support AJD:

Ephemeral Features: With the exception of Pine Creek, all features within the survey area were determined to be ephemeral. During site visits conducted by the requestor's consultant and the Corps, no flowing water was observed in these features and soils were dry. Ordinary high water mark features primarily consist of a change in vegetation cover and sediment texture, a change in slope at the banks, and signs of erosion or scour. There was no evidence of water staining, mudcracks, or ripples. All vegetation observed in or along the edges of these aquatic features consisted of upland vegetation common to this region including saguaro cactus (*Carnegiea gigantea*) and various other cacti, jojoba (*Simmondsia chinensis*), velvet mesquite (*Prosopis velutina*), ocotillo (*Fouquieria splendens*), brittlebush (*Encelia farinosa*), and foothills paloverde (*Parkinsonia microphylla*), sotol (*Dasylirion wheeleri*) Mormon tea (*Ephedra trifurca*) and agave (*Agave sp.*).

Pine Creek: During the Corps' site visit on February 25, 2021, considerable flows were observed within Pine Creek (See photo documentation). However, the documentation provided by the requestor did not report any flows during their site visit in late October 2021, but photographs did show an area of wet soil in the stream channel. Information from the Arizona Department of Environmental Quality (ADEQ) indicates that this reach of Pine Creek is unknown, but a tributary located above the survey area (Reevis Creek) was determined to be intermittent. Well logs from the Arizona Department of Water Resources shows that groundwater in the area is 18-50 feet below the surface, but shallow bedrock in the canyon (indicated by the large outcroppings of rock) may be responsible for forcing groundwater flows up to the surface in this canyon.

The APT was ran for the date of the Corps' site visit and conditions were determined to be drier than normal (previous 90 days) with a severe drought (per the PDSI) (See III.B). Although precipitation had

¹ Map(s)/Figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where independent upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD form.

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps Districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



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not occurred in the previous two weeks, it had been recorded during the past two months and February was determined to be in the wet season (per the WebWIMP). In order to determine which flow regime may be present in Pine Creek, the Corps completed the Hydrology Protocol developed by the New Mexico Environment Department's Water Quality Bureau. While this protocol has not been calibrated or approved for use in Arizona, several of the indicators are applicable due to similar climate, soils, and topography between the two states. After completing the Level 1 evaluation, a score of 17 was given for the reach which indicates an intermittent stream system. Notable observations during this evaluation included the presence of water low in turbidity, filamentous algae, the presence of benthic macroinvertebrates, and pioneer riparian tree saplings such as Coyote Willow (*Salix exigua*) (Facultative-Wet), cottonwoods (*Populus fremontii*) (Facultative), and Arizona Ash (*Fraxinus velutina*) (Facultative) trees. Satellite imagery from past years and Google Streetview imagery from 2008 indicates that show more riparian vegetation may have been present in the canyon bottom, but high flows in 2019 following the Woodbury Fire may have removed most of the vegetation.

Based on the Typical Year Assessment and the information discuss here, Pine Creek is determined to be an intermittent stream.

Pine Creek Connectivity to an (a)(1) Traditional Navigable Water:

In order for Pine Creek to be a jurisdictional tributary under the Navigable Waters Protection Rule, the reach being considered must have an intermittent or perennial flow regime and contribute flow directly or indirectly to an (a)(1) water (Traditional Navigable Water or Territorial Sea) in a typical year. The nearest Traditional Navigable Water (TNW) downstream from Pine Creek is the Gila River between Powers Butte and Gillespie Dam, approximately 98 miles downstream of the confluence of Pine Creek with Apache Lake. To reach the Gila River TNW, Pine Creek flows 0.5 mile from the surveyed reach into Apache Lake. This lake is an impoundment of the Salt River and is the second of a chain of four consecutive reservoirs operated by the Salt River Project (SRP). Approximately 8 miles from Pine Creek, Apache Lake releases water directly into Canyon Lake, which then releases water directly into Saguaro Lake 9 miles downstream. Saguaro lake then releases water into the Lower Salt River 8.5 miles downstream. Since all of SRP's reservoirs on the Salt River supply hydroelectric power and water for agricultural and municipal uses, water is consistently released from the lakes down to Granite Reef Diversion Dam (GRDD), which is a diversion structure 13 miles downstream from Saguaro Lake and 3.3 miles downstream from the mouth of the Verde River (a perennial stream). Up to this point, the Salt River can be considered perennial from Pine Creek to Granite Reef, which is approximately 39 miles.

The GRDD diverts waters in canals for the delivery of water. However, water may spill over the GRDD when flows exceed the rate of diversion. The typical year flow contribution from the GRDD to the Gila River TNW was previously considered in an AJD issued by the Corps (SPL-2020-00501). Data used in this determination included ADEQ flow regime data layer, was collected for ambient water

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monitoring and is a collection of several sources of data. This data layer shows all the Salt River and the Gila River downstream of the GRDD as being intermittent or perennial through the designated TNW reach at Powers Butte. Other data used in the determination for SPL-2020-00501 included an analysis from SRP on the frequency and threshold for spills (releases over GRDD) and their connectivity to the TNW. The determination in SPL-2020-00501 concluded that the Salt River is perennial and intermittent downstream of the GRDD and that a connection exists to the downstream TNW in a typical year. The AJD's determination is incorporated by reference.

Based on the information reviewed, Pine Creek is an intermittent stream which contributes flow to an (a)(1) TNW in a typical year and is therefore jurisdictional under the Navigable Waters Protection Rule.

¹ Map(s)/Figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District's list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

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Appendix C

Draft Memorandum of Agreement (MOA)

**DRAFT MEMORANDUM OF AGREEMENT AMONG THE
FEDERAL HIGHWAY ADMINISTRATION,
ARIZONA DEPARTMENT OF TRANSPORTATION,
USDA FOREST SERVICE (TONGO NATIONAL FOREST),
ARIZONA STATE HISTORIC PRESERVATION OFFICE, AND THE
ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE TREATMENT OF HISTORIC PROPERTIES FOR THE
SR88 – APACHE TRAIL MP 229.2 TO 240.6 PROJECT
MARICOPA COUNTY, ARIZONA**

WHEREAS, the Federal Highway Administration, Central Federal Lands Highway Division (FHWA-CFLHD) proposes rehabilitation, drainage improvements, and chip sealing along approximately 11.16 miles of State Route (SR) 88, also known as the Apache Trail, in Maricopa County, Arizona (hereafter referred to as “Undertaking”); and

WHEREAS, the Undertaking occurs on federal land under the jurisdiction of the United States Department of Agriculture Forest Service (USFS), Tonto National Forest (TNF), and within the existing Arizona Department of Transportation (ADOT) easement; and

WHEREAS, FHWA-CFLHD has assumed lead responsibilities for compliance under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and will consult with the Arizona State Historic Preservation Office (SHPO) pursuant to Section 106 of the NHPA of 1966, as amended, 54 United States Code (U.S. C.) 300101 et seq., and pursuant to 36 Code of Federal Regulations (CFR) § 800.2 (c)(1)(i) and 36 CFR § 800.6(b)(1); and

WHEREAS, the area of potential effect (APE) is located along the Apache Trail between MP 229.20 and MP 240.60 for a total of 11.46 miles; width is variable and ranges between 200 and 300 feet. Land jurisdiction in the APE is ADOT easement (100 feet in width centered on the roadway) crossing public lands under the jurisdiction of TNF. Total acreage of the APE is 165.5 acres (Attachment A), all of which are on TNF lands. Of the 165.5 acres, 138.9 acres are operated and maintained by ADOT under an existing easement across TNF lands; and

WHEREAS, much of the APE has been previously investigated for cultural resources (Barz 1995) and those areas that could not be demonstrated to have been previously investigated were subject to a Class III survey by Jacobs Engineering Group Inc. (Jacobs) conducted on December 4–6, 2017 (Luhnow and Schilling 2018); and

WHEREAS, a fire in the Superstition Wilderness in the summer of 2019 followed by storm events later that year caused significant damage to the Apache Trail, FHWA-CFLHD reassessed the ongoing roadway design and requested Jacobs to conduct a

supplemental Class III survey of additional areas (Luhnow, Schilling and Stubing 2021). The newly surveyed areas consist of 52 small, discontinuous areas where drainage improvements would be required adjacent to the previously surveyed APE and project limits; and

WHEREAS, the SHPO has concurred that eleven historic properties identified within the APE of this Undertaking (Attachment B) are eligible for inclusion in the National Register of Historic Places (NRHP); and

WHEREAS, through Section 106 consultation with the SHPO, ADOT, and TNF, and consulting parties, FHWA-CFLHD determined that nine of the eleven historic properties would be avoided and will not be adversely impacted by the Undertaking; and

WHEREAS, FHWA-CFLHD in consultation with TNF and SHPO has determined that the Undertaking will result in an adverse effect to two historic properties: AR-03-12-06-218(TNF)/AZ V:5:197(Arizona State Museum [ASM] and AR-03-12-06-2503(TNF)/AZ U:8:632(ASM) (see Attachment B); and

WHEREAS, the SHPO is authorized to enter this Memorandum of Agreement (MOA) in order to fulfill its role of advising and assisting federal agencies in carrying out Section 106 responsibilities and the SHPO is a signatory to this MOA; and

WHEREAS, the Advisory Council on Historic Preservation (ACHP) has been invited to participate in consultation pursuant to 36 CFR § 800.6(a)(1) and has accepted the invitation and is a signatory to this MOA; and

WHEREAS, ADOT, the project sponsor, has participated in consultation and is an invited signatory to this MOA; and

WHEREAS, ADOT has responsibility to consider the effects of their projects on cultural resources under the State Historic Preservation Act (SHPA) (ARS § 41-861 et seq.). As lead federal agency for the Undertaking, FHWA-CFLHD is fulfilling its Section 106 responsibilities, and ADOT will fulfill their SHPA responsibilities via the FHWA-CFLHD Section 106 consultation process; and

WHEREAS, FHWA-CFLHD has consulted with TNF as a land managing agency pursuant to 36 CFR § 800.2(c), and TNF is an invited signatory to this MOA; and

WHEREAS, the FHWA-CFLHD, in accordance with 36 CFR § 800.2(c)(2), has consulted with the Ak-Chin Indian Community, Fort McDowell Yavapai Nation, Gila River Indian Community, Hopi Tribe, Mescalero Apache Tribe, Pascua Yaqui Tribe, Salt River Pima-Maricopa Indian Community, San Carlos Apache Tribe, Tonto Apache Tribe, Tonto O'odham Nation, White Mountain Apache Tribe, Yavapai-Apache Nation, Yavapai-Prescott Tribe, and Zuni Pueblo, hereinafter referred to as Tribes; and

WHEREAS, the FHWA-CFLHD consulted again with the Tribes following the 2019 storm damage of the Apache Trail to inform the Tribes of changes to ongoing roadway design; and

WHEREAS, the FHWA-CFLHD invited the Tribes to sign as concurring parties to the MOA and the Yavapai-Apache Nation accepted the invitation; and

WHEREAS, all materials and records from any archaeological investigations necessitated by the Undertaking will be curated at the ASM, or other repository that meets the standards set forth in 36 CFR Part 79, in accordance with the Archaeological Resources Preservation Act (ARPA) (Section 4.b.3) and 36 CFR Part 79, and ASM has been invited to be a concurring party in this MOA, and ASM has declined to participate; and

WHEREAS, the FHWA-CFLHD, ACHP, ADOT, TNF, and the SHPO collectively will be referred to as the MOA Signatories; and

NOW, THEREFORE, the FHWA-CFLHD, ACHP, ADOT, TNF, and the SHPO agree that this MOA shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties.

STIPULATIONS

The FHWA-CFLHD will ensure that the following measures are carried out:

I. Roles and Responsibilities

FHWA-CFLHD is the lead agency for Section 106 of the NHPA. These responsibilities include but are not limited to consulting and coordinating with the consulting parties; conducting Government-to-Government consultation with the Tribes; ensuring that all signatories and invited signatories (i.e. MOA Signatories) carry out their responsibilities; overseeing all cultural resource work, including any additional cultural resources inventory work, drafting and implementing a Historic Properties Treatment Plan (HPTP); providing all submissions to the consulting parties, including additional cultural resources inventory reports (if needed), the HPTP, and the preliminary and final data recovery reports; and seeking SHPO concurrence with agency compliance decisions as appropriate.

II. Professional Qualifications and Permits

- A. FHWA-CFLHD shall ensure that all cultural resources work carried out pursuant to this MOA is conducted by or under the supervision of a person, or persons, meeting the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-44739) as per Section 112(a)(1)(A) of the NHPA and 36 CFR § 800.2(a)(1).

III. Project Finding of Effect and Avoiding, Minimizing, or Mitigating Adverse Effects

- A. FHWA-CFLHD shall, if possible, avoid adverse effects to all types of historic properties, with input from consulting parties. Avoidance measures for historic properties may include (but are not limited to) flagging or fencing of sites during construction, monitoring of construction activities near site areas within a buffer zone, or placing infrastructure outside of site boundaries. A Monitoring and Discovery Plan (see HPTP discussion in Stipulation IV section below) will be in place to ensure avoidance.
- B. Prior to the start of any work that could adversely affect any characteristics that qualify the Apache Trail as a historic property, FHWA-CFLHD shall have a Secretary of the Interior-qualified professional in history or architectural history (as specified in 36 CFR Part 61, Appendix A) complete historical recordation and documentation of specific character-defining features of the Apache Trail to the outline format for engineering structures specified in: *Historic American Engineering Record (HAER) Guidelines for Historical Reports* (2008, updated December 2017).

- 1. This work will include large format photographs of 15 character-defining features of the Apache Trail in their context. These features, as listed in

Attachment C, were chosen by the MOA Signatories as representative of the many similar character-defining features found along the Apache Trail and were features that remained intact following natural disaster events.

2. This list of features can be modified by the MOA Signatories as needed without an amendment to this Agreement.

3. Photos shall follow the standards set forth in the *National Register Photo Policy Factsheet* (updated 5/15/2013).

4. FHWA-CFLHD shall also include copies of any historic construction drawings of these character-defining features in an 11"x17" format.

5. FHWA-CFLHD will provide an electronic copy of the draft HAER documentation to the SHPO and ADOT for review. Within 30 days of receipt, the SHPO and ADOT will provide FHWA-CFLHD with comments on the draft documentation. FHWA-CFLHD will incorporate the comments and produce one paper copy and one electronic copy of the final documentation for the SHPO, TNF, and ADOT records.

6. Printed materials shall be produced on archival, acid-free paper and an electronic copy will be provided on an archival gold Compact Disc (CD) that includes a Portable Document Format (PDF) version of the documentation and digital Tag Image File Format (TIFF) images of the photos.

7. Character-defining features shall not be altered or demolished until FHWA-CFLHD has submitted digital photos for review and approval by the SHPO and ADOT.

C. Prior to construction completion, FHWA-CFLHD shall develop and install interpretation materials (i.e. signs/kiosks) at currently developed recreation sites located along the Apache Trail.

1. Interpretive material shall be installed at one or more of the five following sites: Needle Vista Recreation Site, Canyon Lake Vista, Tortilla Flat, Fish Creek Hill Vista, and Apache Lake Vista. Developed and installed interpretive signs/panels shall not exceed 11 in number.

2. The interpretive materials may include topics such as characteristics of the historic road (i.e. drainage features, retaining walls, bridges, etc.); engineering, construction methods and challenges of building the historic road; work force or people involved in designing and building the original road; stagecoach stops along the Apache Trail; tribal occupation, desert culture living and cultural landscapes; history of the town of Tortilla Flat; and/or history of tourism along Apache Trail. Final topics will be determined by FHWA-CFLHD in consultation

with SHPO, TNF, ADOT, concurring parties, and interested tribes but shall not deviate from the history of the Apache Trail and the cultural resources associated with it.

3. The FHWA-CFLHD will prepare the interpretive materials and will consult with the SHPO, TNF, ADOT, concurring parties, and interested tribes during the development of such materials.

4. FHWA-CFLHD shall develop an outline, which summarizes the contents of the interpretive materials to be developed, and will hold a scoping meeting with the above mentioned parties prior to interpretive material development.

5. Two draft interpretive material reviews with the SHPO, TNF, ADOT, concurring parties, and interested tribes will be conducted at 50% and 90% complete milestones. All listed parties will be afforded 30 calendar days to review and comment on the design and content of the interpretive materials.

6. FHWA-CFLHD will coordinate with the SHPO, TNF, ADOT, concurring parties and interested tribes to identify an appropriate site(s), out of the five aforementioned developed recreational sites, for installing each of the interpretive sign/kiosk materials. Once the interpretive materials are installed, they will be maintained by the TNF.

D. FHWA-CFLHD will document the historic context of the Apache Trail and related resources, including Roosevelt Dam, Apache Lake and Marina, Fish Creek Hill, as well as contributing elements of the Apache Trail to provide a permanent record of how maintenance, fire, and flooding (including the 2019 events) have affected resources in the project area. In developing the historic context, FHWA-CFLHD shall:

1. Consult with the SHPO, TNF, ADOT, and concurring parties on the format and content of the historic context documentation; and
2. Ensure that all documentation activities will be performed or directly supervised by, architects, historians, photographers, and/or other professionals meeting the qualification standards for their field in the Secretary of Interior's Professional Qualifications Standards (36 CFR 61, Appendix A); and
3. Provide a draft of the documentation to the SHPO, TNF, ADOT, and concurring parties within two years of execution of this MOA, and the final documentation prior to completion of the construction of this Undertaking; and
4. Make the documentation available to interested parties by coordinating with ADOT to post the historic context document on the ADOT website for a minimum of five years.

- E. Where avoidance is not possible, FHWA-CFLHD shall minimize or mitigate adverse effects to historic properties through the development and implementation of an HPTP. The HPTP will be developed in consultation with the parties to the MOA (see Stipulation IV regarding development of the HPTP), and will specify a program of measures to minimize (if applicable) and/or mitigate adverse effects.

IV. Content and Development of an HPTP

- A. FHWA-CFLHD shall ensure that a HPTP for the treatment of historic properties, including archaeological sites, buildings, structures, objects, districts, and Traditional Cultural Places (TCPs) that cannot be avoided by project activities is prepared. The HPTP will be consistent with Archeology and Historic Preservation; the Secretary of the Interior's Standards and Guidelines, and with SHPA and Arizona Antiquities Act standards, and will specify:
1. The properties or portions of properties where historical recordation and documentation of specific character-defining features of the Apache Trail treatment as outlined in Stipulation III(B) is to be carried out. The HPTP also will specify any potential portion of specific character-defining features of the Apache Trail that would be destroyed or altered without treatment and the justification for lack of treatment;
 2. The results of previous research relevant to the subject Undertaking, the research questions to be addressed through historic documentation, with an explanation of their relevance and importance within an appropriate historic context;
 3. The field and archival analysis methods to be used, with an explanation of their relevance to the historic context and research questions;
 4. The procedures by which the content of interpretive materials and facilities outlined in Stipulation III(C) will be developed and implemented by FHWA-CFLHD, in coordination with the SHPO, TNF, ADOT, concurring parties, and interested tribes;
 5. The procedures by which the content and format of the historic context of the Apache Trail and its relevant resources as outlined in Stipulation III(D) will be developed and implemented by FHWA-CFLHD, in coordination with the SHPO, TNF, ADOT, and concurring parties;
 6. A Monitoring and Discovery Plan that outlines the procedures for monitoring, evaluating and treating discoveries of unexpected or newly identified properties during geotechnical investigations or construction of the project, the proposed disposition and curation of any recovered materials and records in accordance with 36 CFR 79 and ARS 41-844, and protocols for consultation with other parties;
 7. A protocol for the treatment of human remains, in the event that such remains are encountered, describing methods and procedures for the recovery, inventory, treatment, and disposition of Human Remains, Funerary Objects, Sacred Ceremonial Objects, or Objects of Cultural

Patrimony. This protocol will reflect concerns and/or conditions identified as a result of consultations among parties to this MOA and as specified by the ASM;

8. The methods to be used for disseminating data to the professional community and the public;
9. A proposed schedule for project tasks, and a schedule for the submission of draft and final reports to SHPO, TNF, ADOT, concurring parties, and interested tribes;
10. A Project Suspension/Termination Plan that stipulates the procedures to be followed if the Undertaking is halted for any reason, including:
 - a) a program outlining the steps to be taken in order to complete any treatment measures that are in progress at the time of project termination; and
 - b) a component outlining how treatment measures at all historic properties will be completed.
11. A strategy for a public outreach program with the goal of disseminating information to the general public about the results of the cultural resources investigations associated with the Undertaking. The public outreach program will include the following:
 - a) interpretive displays as outlined in Stipulation III(C).
 - b) a historic context resource document as outlined in Stipulation III(D).

B. Review and Comment on the HPTP

1. FHWA-CFLHD will distribute the draft HPTP to all MOA Signatories and concurring parties who will have 30 calendar days from receipt to review the HPTP and provide comments to FHWA-CFLHD. All comments are to be in writing. Lack of response within this review period will be taken as concurrence with the adequacy of the HPTP.
2. If revisions to the HPTP are made, FHWA-CFLHD will distribute the revised HPTP to all MOA signatories and concurring parties, who will have 15 calendar days from receipt to review the revisions and provide comments to FHWA-CFLHD in writing. If no response is received, FHWA-CFLHD may proceed with finalization of the document.
3. The final HPTP will be provided to all MOA signatories and concurring parties.
4. Once parties to this MOA have reviewed the HPTP, and agreed with its adequacy, FHWA-CFLHD shall issue authorization to proceed with the implementation of the HPTP by the institution, firm, or consultant responsible for the work, subject to that entity obtaining all necessary permits.
5. Agreement with the HPTP will occur prior to advertisement of the construction contract for the Undertaking.

V. Review and Comment Process

- A. Except for the documentation developed in Stipulations III(B) and III(C), and IV(A), FHWA-CFLHD will submit all remaining documentation related to the Undertaking (e.g., survey reports, determination of eligibility and findings of effect, data recovery reports, etc.) to the consulting parties for review and comment within 30 calendar days of receipt. If a party does not comment on a submittal during this time period, FHWA-CFLHD will follow-up by telephone or e-mail with the party. If, after such reasonable and good faith efforts to reach an unresponsive consulting party, there has still been no response, FHWA-CFLHD will proceed to the next step prescribed by this agreement.

VI. Communication Among Parties to this MOA

- A. Electronic mail (e-mail) may serve as the official correspondence method for all communications regarding this MOA and its provisions. See Attachment D for a list of contacts and e-mail addresses. Contact information in Attachment D may be updated as needed without an amendment to this MOA. It is the responsibility of each MOA Signatory and concurring party to immediately inform FHWA-CFLHD of any change in name, email address, or phone number for any point-of-contact. FHWA-CFLHD will forward this information to all parties to the MOA by e-mail.

VII. Confidentiality

- A. To the maximum extent allowed by federal and state law, FHWA-CFLHD will maintain confidentiality of sensitive information regarding historic properties that could be damaged through looting or disturbance, and/or to help protect a historic property to which a Tribe attaches religious or cultural significance. However, any documents or records FHWA-CFLHD has in its possession are subject to the Freedom of Information Act (FOIA) (5 U.S.C. 552 et. seq.) and its exemptions, as applicable. FHWA-CFLHD shall evaluate whether a FOIA request for records or documents would involve a sensitive historic property, or a historic property to which a Tribe attaches religious or cultural significance, and if such documents contain information that FHWA-CFLHD is authorized to withhold from disclosure by other statutes including Section 304 of the NHPA, as well as ARPA. If so authorized, then FHWA-CFLHD will consult with the Keeper of the National Register and the ACHP regarding withholding the sensitive information. If a tribally sensitive property is involved, FHWA-CFLHD will also consult with the relevant Tribe prior to making a determination in response to a FOIA request.

VIII. Curation

- A. FHWA-CFLHD shall ensure that all artifacts, samples and records resulting from the mitigation program are curated in accordance with 36 CFR Part 79, except as determined through consultations with Tribes carried out in accordance with

federal and state laws pertaining to the treatment and disposition of Native American Human Remains, Associated/Unassociated Funerary Objects, and Objects of Cultural Patrimony.

- B. All materials and records from any archaeological investigations necessitated by the Undertaking will be curated at the ASM, or other repository that meets the standards set forth in 36 CFR Part 79, and in accordance with ARPA (Section 4.b.3).

IX. Annual Review of Agreement, Annual Report, and Annual Meeting

- A. The MOA Signatories and consulting parties shall evaluate the implementation and operation of this MOA on an annual basis until the year following the completion of construction. An annual conference call among the MOA Signatories and consulting parties may occur, if needed, after the annual letter report has been submitted. FHWA-CFLHD would be responsible for setting up this meeting, in coordination with all the consulting parties.
- B. Prior to the annual meeting, the FHWA-CFLHD will provide MOA Signatories and consulting parties with an annual letter report (Annual Report) to review the progress under this MOA and under the approved HPTP. The Annual Report will include an update on project schedule, status, and any ongoing cultural resource monitoring or mitigation activities, discovery situations, proposed future actions, or outstanding tasks to be completed under this MOA or the HPTP. MOA Signatories and consulting parties will have 30 calendar days to review the Annual Report and provide comments to FHWA- CFLHD. If a signatory or concurring party does not respond within the comment period, FHWA-CFLHD will follow-up to verify the party has no comments. If the attempt at follow-up consultation is unsuccessful, FHWA-CFLHD will assume that the party has no comments on the annual report.
- C. Within 14 days after the annual meeting, FHWA-CFLHD will summarize the meeting, including proposed action items and how they are to be addressed, in a letter to consulting parties. MOA Signatories and consulting parties will have 20 days to review and comment on the meeting notes and, if necessary, provide FHWA-CFLHD with any edits to the meeting notes. If changes are needed, FHWA-CFLHD will produce revised meeting notes within 30 days of receipt of comments, and will provide the final notes to the consulting parties.
- D. Evaluation of the implementation of this MOA may also include in-person meetings or conference calls among the MOA Signatories and consulting parties, and suggestions for possible modifications or amendments to this MOA. If possible, all MOA Signatories and consulting parties should be included in these consultations.

X. Post-Review Discoveries

- A. If new cultural resources are discovered, or if unanticipated effects on historic properties are identified, FHWA-CFLHD shall implement the project specific Monitoring and Discovery Plan (MDP) that is part of the HPTP.
- B. Should a discovery of archaeological or historical materials not covered under the Native American Graves Protection and Repatriation Act (NAGPRA) or the Arizona State Burial Laws occur, FHWA-CFLHD will follow procedures detailed in the MDP of the HPTP. FHWA-CFLHD will require that any cultural resources discovered during construction or other ground-disturbing activities be protected immediately in accordance with all applicable laws. If a cultural resource is discovered, FHWA-CFLHD will cease all construction activity and ground disturbance within 50 feet of the discovery, and will notify the SHPO, ADOT and TNF, along with any other consulting parties.
- C. FHWA-CFLHD will consult with all of the consulting parties on the eligibility of newly discovered cultural resources. If eligible, FHWA-CFLHD will ensure that treatment measures follow the final HPTP, as well as the review processes and timelines for all reports as embodied in this MOA.
- D. Unanticipated encounter of cultural items covered under NAGPRA (i.e., human remains, funerary objects, sacred ceremonial objects, and objects of cultural patrimony) are the responsibility of TNF. If human remains or NAGPRA cultural items as described in 43 CFR 10 are encountered, the protocol for the treatment of human remains and NAGPRA cultural items found in the HPTP will be followed. All construction within 50 feet of the encounter will cease, and TNF will be notified immediately by telephone, followed by written confirmation within 24 hours. TNF will then notify the SHPO of the discovery.

XI. Dispute Resolution

- A. Should any party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA-CFLHD shall consult with such party to resolve the objection, and shall notify the MOA Signatories and concurring parties of the objection. If FHWA-CFLHD determines that such objection cannot be resolved, FHWA-CFLHD will:
 - 1. Forward all documentation relevant to the dispute, including FHWA-CFLHD's proposed resolution, to the ACHP. The ACHP shall provide FHWA-CFLHD with its opinion on the resolution of the objection within 30 days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA-CFLHD shall prepare a written response that takes into account any timely opinion or comments regarding the dispute from the MOA signatories and concurring parties, and provide them with a copy of this written response. FHWA-CFLHD will then proceed according to its final decision.

2. If the ACHP does not provide comments regarding the dispute within the 30-day time period, FHWA-CFLHD may make a final decision on the dispute and proceed accordingly. Prior to reaching a final decision, FHWA-CFLHD shall prepare a written response that takes into account any timely comments regarding the dispute from the MOA Signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
3. The responsibilities of FHWA-CFLHD to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.
4. At any time during implementation of the measures stipulated in this MOA, should an objection pertaining to this MOA or the effect of the Undertaking on historic properties be raised by a member of the public, FHWA-CFLHD shall notify the parties to this MOA and take the objection into account, consulting with the objector and with relevant parties to this MOA to resolve the objection.

XII. Amendments

- A. This MOA may be amended when such an amendment is agreed to in writing by all MOA Signatories. Any signatory to this Agreement may propose an amendment in writing to FHWA-CFLHD.
- B. FHWA-CFLHD shall consult with the signatories to this MOA to consider the proposed amendment. If there is agreement among all MOA Signatories, the MOA shall be amended accordingly and the amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP. FHWA-CFLHD shall provide all MOA Signatories and concurring parties with a copy of the executed amendment.

XIII. Termination

- A. If any MOA Signatory determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation XII. If, within thirty (30) days, an amendment cannot be reached, any MOA Signatory may terminate the MOA upon written notification to the other signatories.
- B. Once the MOA is terminated, and prior to work continuing on the Undertaking, FHWA-CFLHD must either (a) execute an agreement pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FHWA-CFLHD shall notify the MOA Signatories as to the course of action it will pursue.

XIV. Duration

- A. This MOA will expire if its terms are not carried out within 10 years from the date

of its execution. At least six months prior to the end of the expiration date, if the Undertaking will be continuing beyond the expiration date, the MOA Signatories shall consult to determine if an extension of the MOA's duration is warranted. If it is decided that an extension is needed, the MOA Signatories shall consult to determine whether this MOA remains satisfactory or if its terms need to be amended pursuant to the Amendment stipulation (Stipulation XII).

XV. Anti-Deficiency Act

- A. FHWA-CFLHD's obligations under this MOA are subject to the availability of funds, and the stipulations of this MOA are subject to the provisions of the Anti-Deficiency Act (31 USC 1341). FHWA-CFLHD will make a reasonable and good faith effort to secure the necessary funds to implement this MOA in its entirety. If compliance with the Anti-Deficiency Act alters or impairs the FHWA-CFLHD's ability to implement the stipulations of this MOA, FHWA-CFLHD will consult with the SHPO and ACHP in accordance with the amendment and termination procedures in Stipulations XII and XIII respectively.

XVI. Counterpart Signatures

- A. This MOA and any amendments may be executed in counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.

SIGNATURE BLOCKS

EXECUTION of this MOA by the FHWA-CFLHD, the SHPO, and the ACHP, and implementation of its terms is evidence that FHWA-CFLHD has taken into account the effects of the Undertaking on historic properties, and has afforded the ACHP an opportunity to comment on the Apache Trail Project.

SIGNATORIES:

Federal Highway Administration – Central Federal Lands Highway Division

By:_____ Date:_____

Name: Curtis Scott, P.E. Title: Chief of Engineering

Arizona State Historic Preservation Officer

By:_____ Date:_____

Name: Kathryn Leonard Title: State Historic Preservation Officer

Advisory Council on Historic Preservation

By:_____ Date:_____

Name: Reid J. Nelson Title: Executive Director, Acting

INVITED SIGNATORIES:

USDA Forest Service, Southwest Region

By:_____ Date:_____

Name: Michiko Martin Title: Regional Forester

Arizona Department of Transportation

By:_____ Date:_____

Name: Kurtis J. Harris Title: Assistant District Engineer

CONCURRING PARTIES:

Yavapai-Apache Nation

By: _____ Date: _____

Name: John Huey Title: Chairman

DRAFT

MOA
Attachment A.
Description and Maps of the
Area of Potential Effect

The Undertaking is located within portions of Sections 19 and 30, Township 4 North (T4N), Range 12 East (R12E); Sections 25, 35, and 36, T4N, R11E; and Sections 2, 11, 14, 22, 23, 27, 28, and 33, T3N, R11E (Gila and Salt River Baseline and Meridian [GSRB&M]) as depicted on the United States Geological Survey (USGS) Pinyon Mountain, Ariz., and Theodore Roosevelt Dam, Ariz., 7.5-minute topographic maps.

The area of potential effect (APE) defined for this project is located along the Apache Trail between MP 229.20 and MP 240.60. Total length of the APE is 11.20 miles; width is variable and ranges between 200 and 300 feet. Land jurisdiction in the APE is ADOT easement (100 feet in width centered on the roadway) crossing public lands under the jurisdiction of TNF, and TNF lands. Total acreage of the APE is 165.5 acres, all of which are on TNF lands. Of this, 138.9 acres are maintained and operated by ADOT under an existing across TNF lands. The APE is depicted graphically on the subsequent pages. The project's APE was originally delineated by FHWA CFLHD using the following maximum extents for each proposed activity:

- Road resurfacing and berm removal: 20 feet upslope and 30 feet downslope of the existing road alignment
- Line-of-sight slope cutbacks: 50 feet upslope of the existing road alignment
- Culvert improvements/replacements/removals: 20 feet (width) by 25 feet (length) beyond the existing road alignment for upslope inlets, and 80 feet to 120 feet beyond the existing road alignment for downslope outlets (depending on the size of the existing culvert), with exceptions
- Low water crossings: 120 feet (length) by 80 feet (width) on each side of the existing roadway, with exceptions
- A buffer beyond the edge of these limits to account for construction access.

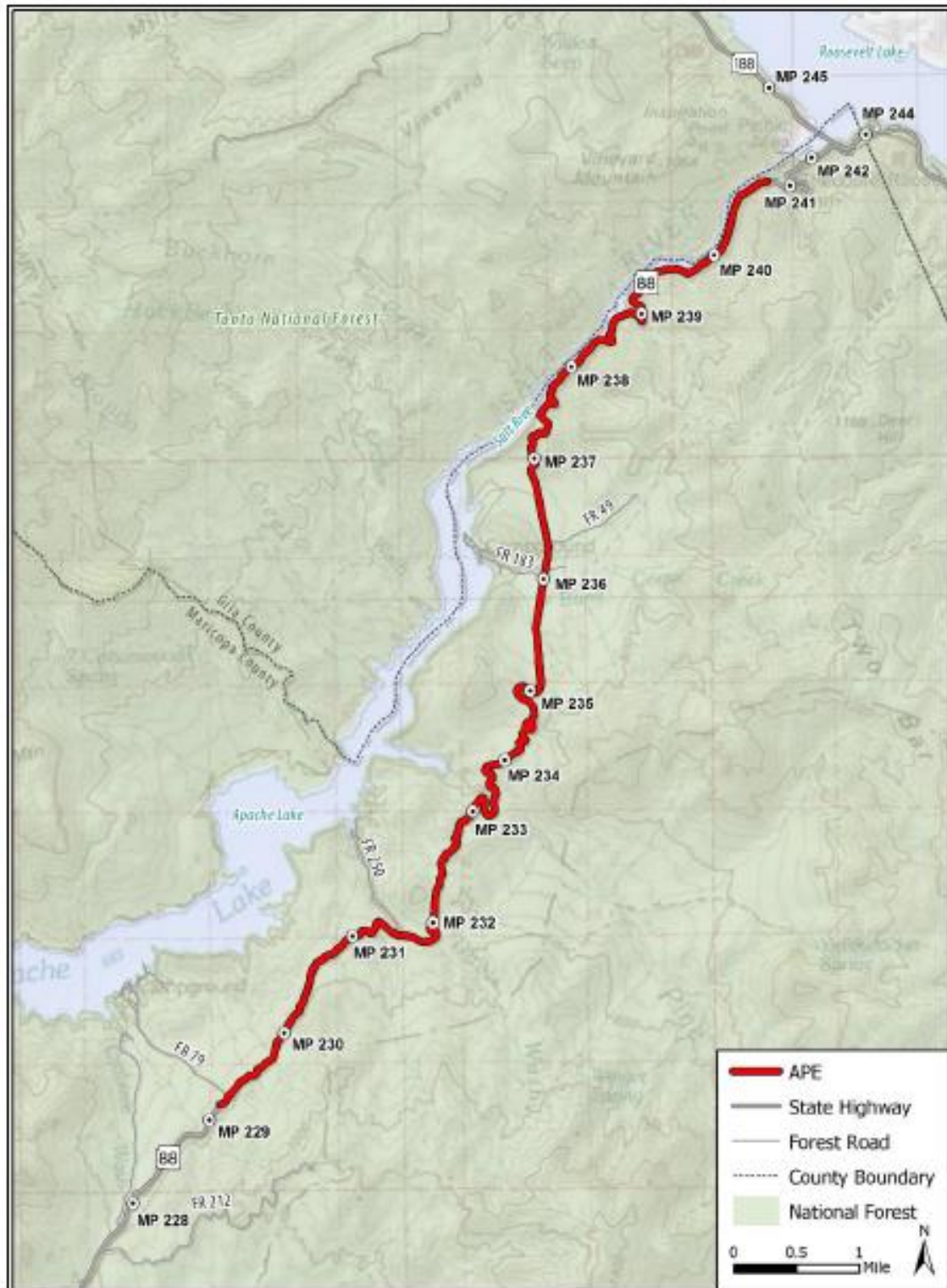
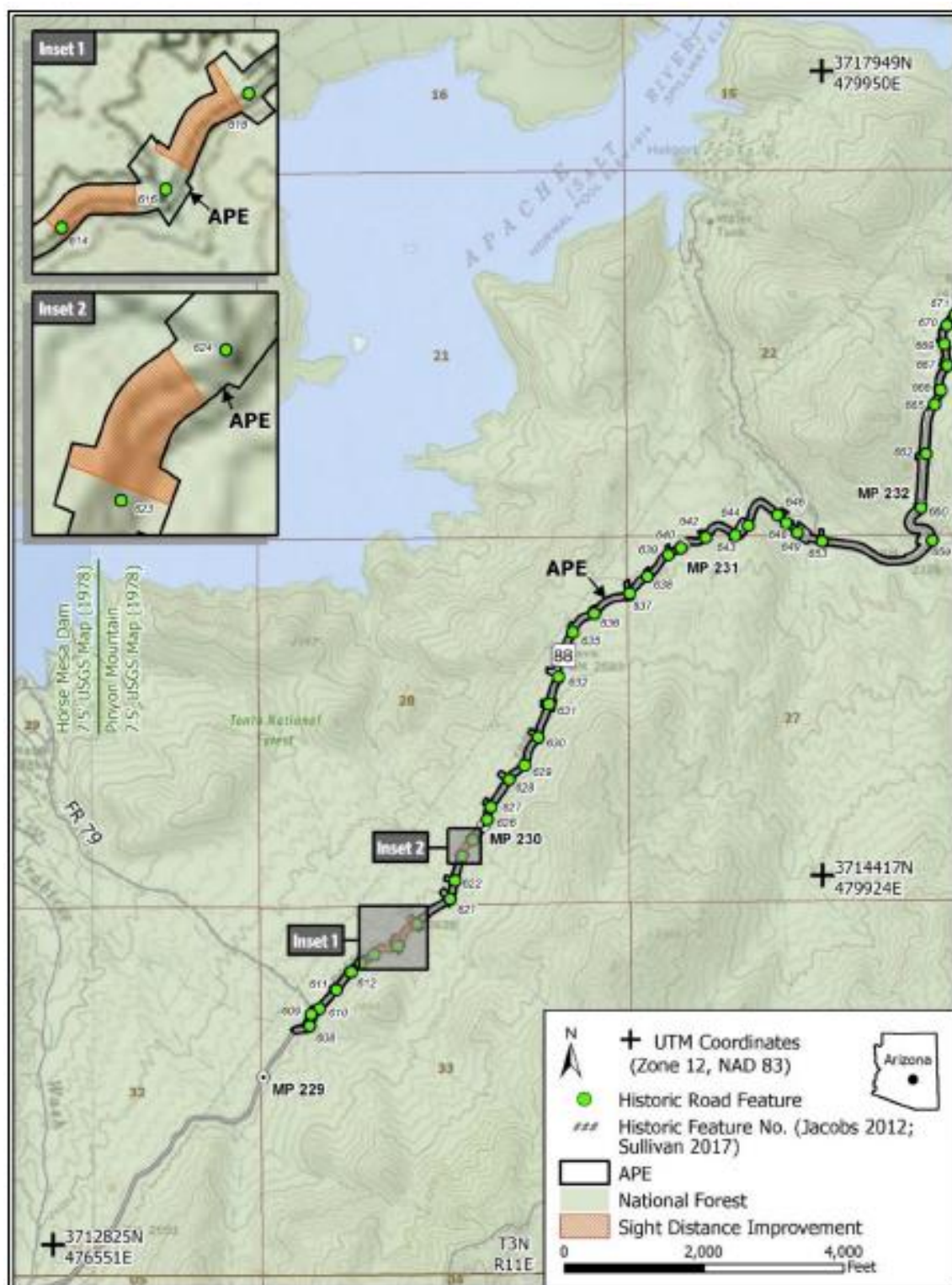


Figure 1: Location of the APE and Land Jurisdiction.



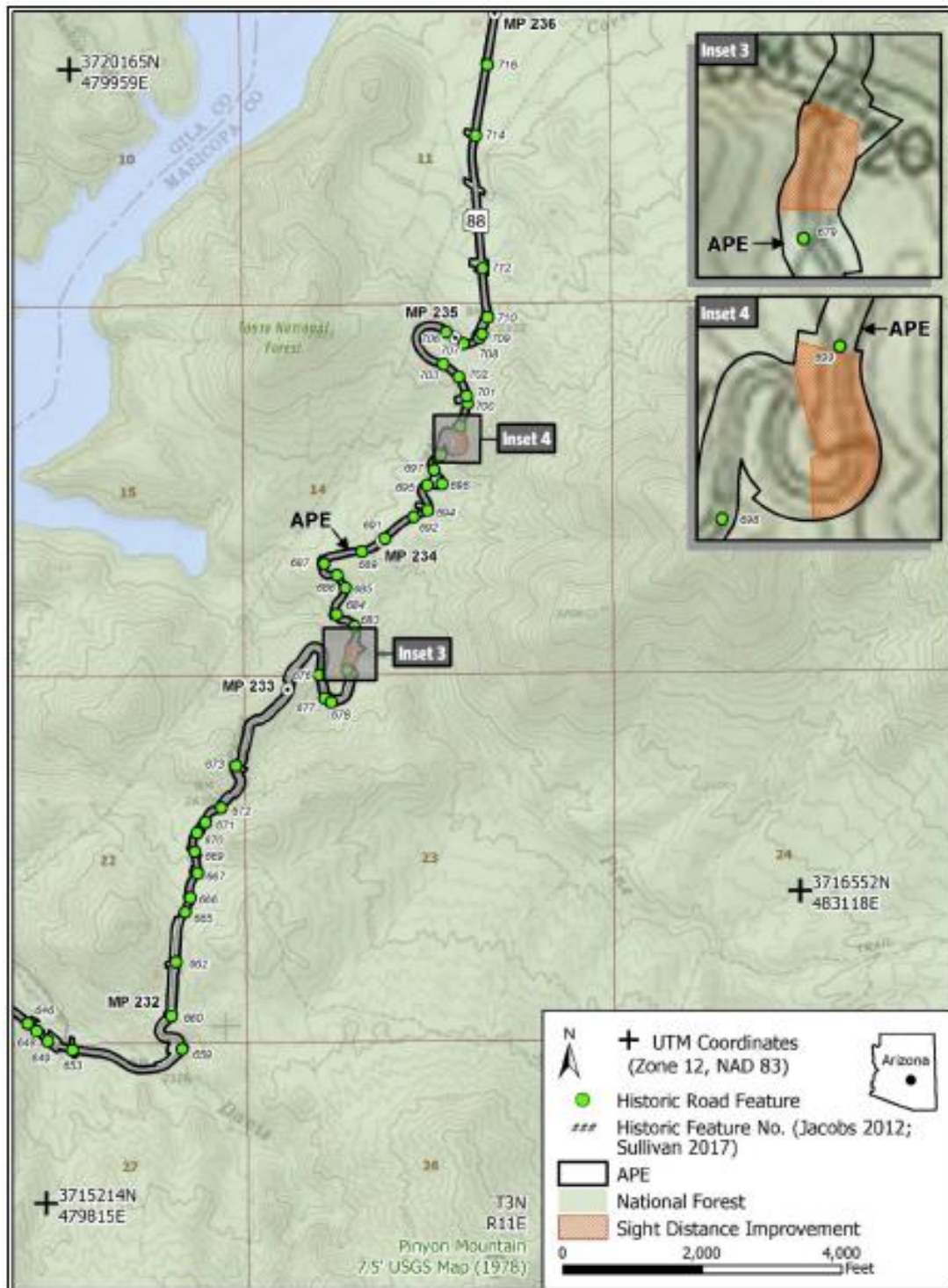


Figure 3: Locations of historic road feature and site distance improvements (panel 2 of 4).

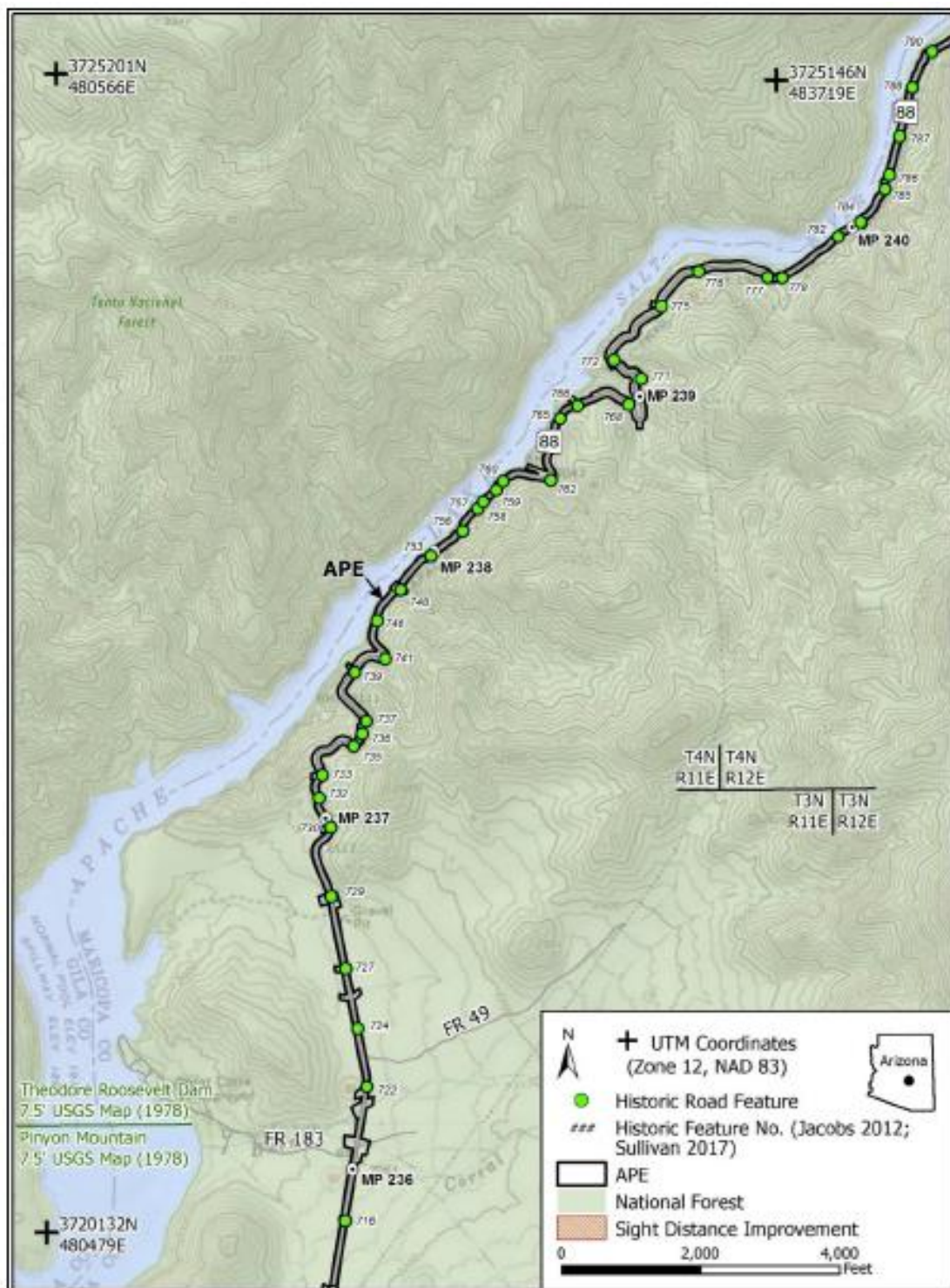


Figure 4: Locations of historic road feature and site distance improvements (panel 3 of 4).



Figure 5: Locations of historic road feature and site distance improvements (panel 4 of 4).

MOA
Attachment B.
Eligible Historic Properties

Site/Feature No.	MP	Description	Eligibility	Proposed Activity	Management Recommendations
03-555(TNF)/ AZ U:7:7(ASM)	Not specified	Historic transmission line	Determined eligible (A)	Roadway improvements	This site loosely parallels and crosses the project APE for its length. A total of nine features and artifacts were recorded by Barz (1995) within the ADOT easement. With the exception of some unmaintained access roads, these are outside of the roadway where improvements would occur. There would be no improvements to these access roads as a result of the project, and the other extant features of this site would be avoided by construction. No further work is recommended for this site.
03-556(TNF)/ AZ U:7:8(ASM)	Not specified	Historic telephone line	Determined eligible (A, D)	Roadway improvements	This site parallels and crosses the project APE for most of its length. A total of 30 features and artifacts were recorded by Barz (1995) within the ADOT easement. These are outside of the roadway where improvements would occur. The extant features of this site would be avoided by construction. No further work is recommended for this site.
06-450(TNF)/ AZ U:8:604(ASM)	236.16-236.21	Historic work camp	Determined eligible (A, D)	Roadway improvements	This site is plotted on both sides of the road in an area where improvements to the roadway are planned. Avoidance is recommended. To ensure avoidance, it is recommended that the site boundary and a 50-foot buffer avoidance be flagged by a qualified archaeologist prior to construction.
06-2426(TNF)/ AZ U:8:600(ASM)	MP 229.28-MP 229.54	Historic site of unknown use	Determined eligible (D)	Roadway improvements	The site is plotted on both sides of the road in an area where improvements to the roadway are planned. Avoidance is recommended. To ensure avoidance, it is recommended that the site boundary and a 50-foot avoidance buffer be flagged by a qualified archaeologist prior to construction.
06-2428(TNF)/ AZ U:8:602(ASM)	234.93	Historic road and corral	Determined eligible (D)	Roadway improvements	Only the historic road is located within the project APE. Review of aerial imagery reveals that within the project APE, the road has been destroyed by modern use as a turnout and no longer retains integrity. All of the extant features of the site are outside of the project APE and would be avoided. No further cultural resources work is recommended for this site.
06-2429(TNF) / AZ U:9:603(ASM)	MP 234.15	Yavapai temporary campsite	Determined eligible (D)	Roadway improvements	The site is plotted atop a cut bank above the roadway and would be avoided by project activities. No further cultural resources work is recommended.
06-2430(TNF)/ AZ U:8:605(ASM)	MP 238.12	Hohokam limited activity area	Determined eligible (D)	Roadway improvements	The site is plotted in the APE below the roadway and the extant features of this site would be avoided by project activities. No further cultural resources work is recommended.
06-2431(TNF)/ AZ U:8:606(ASM)	MP 238.88	Historic trash dump	Determined eligible (D)	Roadway improvements	This site is plotted atop and on the west side of a steep bluff along the west side of the roadway. As described by Barz (1995), the portion of the site atop the bluff and adjacent to the roadway has been obliterated by blading, and the features and artifacts associated with the site are below the roadway along the sides of the bluff. Aerial review of current conditions confirms this. The intact portion of the site would be avoided by project activities. No further cultural resources work is recommended.
06-2435(TNF)/ AZ U:8:607(ASM)	MP 239.43	Historic work camp and access road	Determined eligible (D)	Roadway improvements	Only the historic access road is located within the APE. Review of aerial imagery reveals that within the project APE, the road is no longer is accessible from the roadway. As a result, this site would be avoided. No further cultural resources work is recommended.
06-2503(TNF)/ AZ U:8:632(ASM)	MP 234.45-MP 234.65	Historic blasting cans	Determined eligible	Roadway improvements	The site is plotted atop a cut bank above the roadway in a location where line of sight improvements are planned. It is recommended that the site be avoided. If avoidance is not feasible, it is recommended that an appropriate level of treatment be outlined in a project-specific Memorandum of Agreement (MOA), and implemented prior to construction to mitigate any potential adverse effect.
06-218(TNF)/Apache Trail roadway and historic roadway features	MP 229.20- 240.60	Historic roadway	Determined eligible (A, C, D)	Roadway improvements, including paving, and line of sight improvements; removal and/or alteration of historic roadway features	Roadway improvements such as paving and improving line of sight would adversely affect the NRHP qualities of the historic roadway. Removal of historic roadway features would also adversely affect the NRHP characteristics of the roadway. It is recommended that an appropriate level of documentation and treatment be outlined in a project-specific MOA to mitigate the adverse effect.

MOA
Attachment C.
Apache Trail (SR 88) Character Defining
Features for HAER Documentation

SR88 – Apache Trail MP 229.2 to 240.6
HAER Documentation Recommendations
1/4/2021

SR88 – Character Defining Features for HAER Documentation				
#	Mile Post	Character Defining Feature #	Post Natural Disaster Condition ¹	HAER Documentation
1	229.2	608	Intact - Minimal Damage	Yes
2	229.26	610	Intact - Minimal Damage	Yes Outlet Only
3	229.55	616	Intact - Minimal Damage	Yes
4	229.94	624	Intact - Minimal Damage	Yes
5	230.14	628	Inlet Damage/ Outlet Intact - Minimal Damage	Yes Outlet Only
6	231.17	643	Inlet Damage/ Outlet Intact - Minimal Damage	Yes Outlet Only
7	231.36	646	Inlet Damaged/ Outlet Intact - Minimal Damage	Yes Outlet Only
8	232.24	666	Intact - Minimal Damage	Yes
9	236.76	729	Intact – Minimal Damage	Yes Inlet Only
10	237.31	735	Intact – Minimal Damage	Yes
11	237.9	748	Intact – Minimal Damage	Yes
12	238.65	765	Inlet Damage / Outlet Intact – Minimal Damage	Yes Outlet Only
13	239.52	776	Inlet Damage / Outlet Intact - Minimal Damage	Yes Outlet Only
14	239.72	777	Intact – Minimal Damage	Yes
15	240.48	788	Inlet Damage / Outlet Intact - Minimal Damage	Yes Outlet Only

¹ In the summer of 2019 the Woodbury Fire burned and denuded 88% of Tonto National Monument. On September 23, 2019 and November 19, 2019 severe thunderstorms originating from the remnants of Tropical Storms Lorena and Raymond respectively moved over the project area for the Apache Trail project. These storms released intense rainfall over this denuded and degraded watershed which resulted in significant flooding and debris flows over segments of the Apache Trail roadway. Much of the roadways drainage features, many which were historic character defining features (CDF) for the Apache Trail (SR 88), were damaged or destroyed.

MOA
Attachment D.
Contact Information

Contact List

Federal Highway Administration – Central Federal Lands Highway Division

Renee Sigel, Division Director
12300 W. Dakota Avenue, Suite 380A
Lakewood, CO 80228
Phone: 720-963-3448
Email: Renee.Sigel@dot.gov

Dustin Robbins, Project Manager
12300 W. Dakota Avenue, Suite 380A
Lakewood, CO 80228
Phone: 720-963-3586
Email: dustin.robbins@dot.gov

Arizona Department of Transportation

Kurtis. J. Harris, Assistant SE District Engineer
P.O. Box 2717
Globe, AZ 85502
Phone: 928-402-5612
Email: kharris@asdot.gov

USDA Forest Service, Tonto National Forest

Travis Bone, Forest Archaeologist
2324 E. McDowell Road
Phoenix, AZ 85006
Phone: 602-225-5233
Email: travis.bone@usda.gov

Advisory Council on Historic Preservation

Sarah Stokely
Advisory Council on Historic Preservation 401 F
Street NW, Suite 308
Washington, DC 20001-2637
Phone: 202-517-0224
Email: sstokely@achp.gov

Arizona State Historic Preservation Officer

Kathryn Leonard, State Historic Preservation Officer

Arizona State Parks

1100 W Washington Street

Phoenix, AZ 85007

Phone: 602-542-4009

Email: kleonard@azstateparks.gov

David Jacobs, Compliance Specialist/Archaeologist

Arizona State Parks

1100 W Washington Street

Phoenix, AZ 85007

Phone: 602-542-7140

Email: djacobs@azstateparks.gov

Yavapai-Apache Nation

Chris Coder

Tribal Archaeologist

Yavapai-Apache Nation

2400 W. Datsi Street

Camp Verde, AZ 86322

Phone: 928-649-6962

Email: ccoder@yan-tribe.org

Appendix D

Summary of Avoidance, Minimization and/or Mitigation Measures

Summary of Avoidance, Minimization, and/or Mitigation Measures

This appendix summarizes the avoidance, minimization and mitigation measures discussed in Chapter 3. Additional details regarding these measures are included in the applicable resource sections within Chapter 3. Some measures pertain to the protection of multiple resources.

Transportation

During construction, the following measures will be implemented to help minimize transportation impacts:

- During the majority of the construction period, at least one lane of traffic shall remain open during construction with a maximum daytime 30-minute delay. Temporary full closures would be anticipated to accomplish specific construction activities, such as culvert replacements or blasting. Prior to Memorial Day, an extended delay from 9 am to 3 pm would be permitted with the contractor passing traffic once through this delay to perform blasting operations and major earthwork where maintaining a single traffic lane would not be feasible. Nighttime closures would be considered for culvert replacements or heavy earthwork/blasting as needed. Public notification of anticipated closures and delays would be posted on ADOT's and TNF's website and along the route. Prior to full closures, notice must be provided to the public, relevant local agencies, school districts, and emergency service providers.
- Emergency vehicles shall be permitted to pass through the construction limits during construction without delay.

Socioeconomics

During construction, the following measures will be implemented to help minimize socioeconomic impacts:

- During the majority of construction period, at least one lane of traffic shall remain open, with a maximum daytime 30-minute delay. If any delay longer than 30 minutes is anticipated to accomplish specific construction activities, then notice shall be provided. Prior to Memorial Day, an extended delay from 9 am to 3 pm would be permitted with the contractor passing traffic once through this delay to perform blasting operations and major earthwork where maintaining a single traffic lane would not be feasible. Nighttime closures would be considered for culvert replacements or heavy earthwork/blasting as needed. Public notification of anticipated closures and delays would be posted on ADOT's and TNF's website and along the route. Prior to full closures, notice must be provided to the public, relevant local agencies, school districts, and emergency service providers.
- Emergency vehicles shall be permitted to pass through the construction limits during construction without delay.
- The contractor shall provide the construction schedule to businesses and nearby residences adjacent to the construction limits and notify them at least 48 hours in advance of construction work.

- FHWA will coordinate closely with the Apache Lake Marina & Resort, Apache Trail Tours, private ranch owner, and other entities before and during the project to ensure appropriate public outreach and notification is employed.

Recreation and Visitor Experience

During construction, the following measures will be implemented to help minimize impacts to recreational users:

- At least one lane of traffic will remain open during construction, with a maximum daytime 30-minute delay. If any delay longer than 30 minutes is anticipated to accomplish specific construction activities, then notice shall be provided. Prior to Memorial Day, an extended delay from 9 am to 3 pm would be permitted with the contractor passing traffic once through this delay to perform blasting operations and major earthwork where maintaining a single traffic lane would not be feasible. Nighttime closures would be considered for culvert replacements or heavy earthwork/blasting as needed. Public notification of anticipated closures and delays would be posted on ADOT's and TNF's website and along the route. Prior to full closures, notice must be provided to the public, relevant local agencies, school districts, and emergency service providers.
- Emergency vehicles shall be permitted to pass through the construction limits during construction without delay.

Cultural Resources

The following measures will be implemented to reduce potential impacts to historic properties:

- Any ground disturbing activities in proximity to features with a known potential for buried walls would require the presence of a qualified archaeologist.
- A site boundary and a 50-foot buffer avoidance would be flagged by a qualified archaeologist prior to construction around the historic work camp and the historic site of unknown use in order to avoid impacts to these sites.
- FHWA CFLHD shall, if possible, avoid adverse effects to all types of historic properties, with input from consulting parties. Avoidance measures for historic properties may include (but are not limited to) fencing or flagging of sites during construction, monitoring of construction near site areas within a buffer zone, or placing infrastructure outside of site boundaries. A Monitoring and Discovery Plan (see HPTP measure below) will be in place to ensure avoidance during construction.

The following measures have been proposed to mitigate for those adverse impacts that would result under the Action Alternative:

- Where avoidance is not possible, FHWA-CFLHD shall minimize or mitigate adverse effects to historic properties through the development and implementation of an HPTP. The HPTP will be developed in consultation with the parties to the agreement, and will specify a program of measures to minimize (if applicable) and/or mitigate adverse effects. FHWA-CFLHD shall ensure that the HPTP is consistent with the Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (48 FR 44734-44737). The HPTP will include additional detail regarding the following items:
 - Development of interpretive materials such as signs, kiosks, pamphlets, books and/or electronic documentation for the historic corridor, further described below.

- A data recovery/ documentation plan for contributing elements along the Apache Trail.
 - The proposed disposition and curation of recovered materials and records in accordance with relevant state and federal laws (ARS 41-842, 844) (36 CFR 79).
 - A Monitoring and Discovery Plan with procedures for monitoring, evaluating, and treating existing features and discoveries of unexpected or newly identified cultural resources during construction of the Undertaking, including the consultation process and timelines with appropriate consulting parties.
 - A project suspension/termination statement that stipulates the procedures to be followed if the project is halted during data recovery for any reason. This statement shall include the steps to be taken in order to complete any data recovery or other treatment measures that are in progress at the time of project termination; a brief discussion shall also be included that outlines how analysis, interpretation, reporting, and curation of remains obtained during treatment measures at all historic properties will be completed if the project is terminated prior to completion of the archaeological investigations.
 - A proposed schedule for the Undertaking tasks, and a schedule for the submittal of draft and final reports (preliminary data recovery reports and data recovery reports) to consulting parties for review and comment.
- Prior to the start of any work that could adversely affect any characteristics that qualify the Apache Trail as a historic property, FHWA-CFLHD shall have a Secretary of the Interior-qualified professional in history or architectural history (as specified in 36 CFR Part 61) complete historical recordation and documentation of up to 15 character-defining features of the Apache Trail to the “outline format: engineering structures” specified in the Historic American Engineering Record (HAER) Guidelines for Historical Reports (2008, updated December 2017).
 - FHWA-CFLHD will develop interpretive materials such as signs, kiosks, and/or electronic documentation for the historic corridor as outlined below.
 - Prior to construction completion, FHWA-CFLHD shall develop and install interpretation materials (i.e., signs/kiosk) at up to five currently developed recreation sites (i.e. Needle Vista Recreation Site, Canyon Lake Vista, Tortilla Flat, Fish Creek Hill Vista, and Apache Lake Vista) located along the Apache Trail. Developed and installed interpretive signs/panels shall not exceed 11 in number. The interpretive materials may include topics such as characteristics of the historic road (i.e. drainage features, retaining walls, bridges, etc.); engineering, construction methods and challenges of building the historic road; work force or people involved in designing and building the original road; stagecoach stops along the Apache Trail; tribal occupation and history; desert culture living and cultural landscapes; history of the town of Tortilla Flat; and/or history of tourism along Apache Trail. Final topics will be determined by FHWA-CFLHD in consultation with SHPO, signatories and concurring parties of the MOA, but shall not deviate from the history of the Apache Trail and the cultural resources associated with it.

- FHWA-CFLHD will document the historic context of the Apache Trail and related resources, including Roosevelt Dam, Apache Lake and Marina, Fish Creek Hill, as well as contributing elements of the Apache Trail to provide a permanent record of how maintenance, fire, and flooding (including the 2019 events) have affected resources in the area. In coordination with ADOT, the historic context document will be made available to interested parties on the ADOT website for a minimum of five years.
- FHWA-CFLHD shall ensure that all artifacts, samples and records resulting from the mitigation program are curated in accordance with 36 CFR Part 79, except as determined through consultations with Tribes carried out in accordance with federal and state laws pertaining to the treatment and disposition of Native American Human Remains, Associated/Unassociated Funerary Objects, and Objects of Cultural Patrimony. FHWA-CFLHD would be responsible for any written agreements or fees associated with the curation.
- All materials and records from any archaeological investigations necessitated by the Undertaking will be curated at the ASM, or other repository that meets the standards set forth in 36 CFR Part 79, in accordance with Archaeological Resources Protection Act (ARPA) (Section 4.b.3) and 36 CFR Part 79.
- If new cultural resources are discovered, or if unanticipated effects on historic properties are identified, FHWA-CFLHD shall implement the project specific Monitoring and Discovery Plan (MDP) that is part of the HPTP.
- Should a discovery of archaeological or historical materials not covered under NAGPRA or the Arizona State Burial Laws occur, FHWA-CFLHD and the Project Contractor will follow procedures detailed in the MDP of the HPTP. FHWA-CFLHD will require that any cultural resources discovered during construction or other ground-disturbing activities be protected immediately in accordance with all applicable laws. The contractor will cease all construction activity in the immediate vicinity and all ground disturbing activities within 50 feet of any discovery, and will notify FHWA-CFLHD of the discovery within 24 hours. FHWA-CFLHD will notify the SHPO and appropriate consulting parties (e.g., the land manager) of the discovery.
- FHWA-CFLHD will consult with all of the consulting parties on the eligibility of newly discovered cultural resources. If eligible, FHWA-CFLHD will ensure that treatment measures follow the final HPTP, as well as the review processes and timelines for all reports as embodied in this agreement document.
- Unanticipated discoveries of cultural items covered under NAGPRA (i.e., human remains, funerary objects, sacred objects, and objects of cultural patrimony) are the responsibility of TNF, the federal landowner. If human remains or NAGPRA cultural items as described in 43 C.F.R. 10 are discovered, the protocol for the treatment of human remains and NAGPRA cultural items found in the HPTP will be followed. All construction within 50 feet of the discovery will cease and TNF will be notified.

Visual

The project design minimizes visual impacts in the following ways:

- Minimize the size of cut and fill slopes to the extent practicable.
- Minimize removal of trees, saguaros and other vegetation to the extent practicable.

- Minimize the number of road signs.
- Design cut slopes to blend into the adjacent natural topography.

Implementation of the following measures will offset the visual changes that would result from the proposed roadway improvements:

- The limits of clearing shall be irregular, and straight clearing lines shall be avoided by varying the width of the area to be cleared or by leaving selected clumps of vegetation, rock formations, and or boulders near the edge of the clearing limit.
- All disturbed areas shall be reseeded to the limits of clearing with native seeding mix.
- The contractor shall preserve and protect all vegetation outside of the approved clearing limits. Removal of vegetation outside of the approved clearing limits shall only occur with the authorization of the contracting officer.
- The contractor shall round and blend new slopes to mimic the existing contours, maintain slope stability, and highlight natural formations.
- Erosion-control fiber rolls shall be of natural earth-tone and biodegradable material.
- Integral natural appearing concrete coloring, natural rock, and/or form liners will be used for highly visible headwalls and/or wingwalls when deemed appropriate.

Noise

During construction, the following measures will be implemented to help reduce noise levels:

- Construction equipment shall have mufflers conforming to original manufacturer specifications that are in good working order and are in constant operation to prevent excessive noise or unusual noise.
- Operators shall avoid leaving equipment idling for more than five minutes when parked or not in use.

Geology and Soils

During construction, the following measures will be implemented to help reduce impacts to geology and soils:

- As part of the National Pollutant Discharge Elimination System (NPDES) Permit, a Stormwater Pollution Prevention Plan shall be implemented which would reduce impacts to soils.
- The area beyond the construction limits shall not be disturbed. Areas impacted from construction-related activity shall be replanted or reseeded with native plants under guidance from TNF and/or ADOT biologists. Revegetated areas shall be protected and cared for until restoration criteria have been met under NPDES standards.

Air Quality

Standard construction BMPs will be implemented to minimize fugitive dust and NO_x emissions during construction. Examples of which include the following:

- Maintain roadways during construction as follows:
 - Manage dust on the traveled way such that visibility and air quality are not affected and a hazardous condition is not created.
 - Remove accumulations of soil and other material from traveled way.
- Before grubbing or grading construct sediment controls around the perimeter of the project including filter barriers, diversion, and settling structures.
- Provide an adequate water supply and apply water uniformly across the traveled way as necessary to control dust. Uniformly apply water using pressure-type distributors, pipelines equipped with spray systems, or hoses with nozzles.
- Control dust within the construction limits as necessary including nights, weekends, and periods of non-work when the project is open to public traffic. When the project is not open to public traffic, control dust in areas of the project that have adjacent residences or businesses. Apply water at the locations, rates, and frequencies as ordered.
- Control dust on active haul roads, in pits and staging areas, and on the project during periods not covered above.

Wetlands and Other Waters of the U.S.

There is no practicable alternative to avoid impacting ephemeral streams (i.e. non-jurisdictional waters) while meeting the purpose and need of the project. The following measures will be implemented in order to avoid or minimize impacts:

- Maintain the existing roadway alignment to minimize impacts to adjacent WOTUS.
- In certain locations, the road width and numerous curves will have design exceptions in order to minimize ground disturbance.
- Culvert repair or replacement and associated work shall not be completed if there is flowing water within the ephemeral channel.
- The construction contractor shall use BMPs to prevent the discharge of equipment fluids. All equipment shall be stored, repaired, maintained, and fueled at least 65 feet away from waterways. A plan to allow a prompt and effective response to any accidental spills shall be developed prior to construction.
- The area beyond the construction limits shall not be disturbed. Degraded areas impacted from construction-related activity shall be replanted or reseeded with native plants. FHWA-CFLHD shall work with TNF and ADOT for appropriate seed mixes.

Water Quality and Hydrology

The following measures would be implemented to reduce impacts on water quality:

- The area beyond the construction limits shall not be disturbed. Degraded areas impacted from construction-related activity shall be replanted or reseeded with native plants. FHWA-CFLHD shall work with TNF and ADOT for appropriate seed mixes.
- Certified weed-free permanent and temporary erosion control measures shall be used to minimize erosion and sedimentation during and after construction according to the contract erosion control plan, contract permits, Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (referred to as FP) Section 107 and FP Section 157.
- Any spill of petroleum products, hazardous materials, or other chemical or biological products released from stationary sources or construction, fleet, or other support vehicles shall be properly cleaned, mitigated, and remedied, if necessary. Any spill of petroleum products or a hazardous material shall be reported to the appropriate federal, state, and local authorities, if the spill is a reportable quantity. Response shall occur in accordance with federal, state, and local regulations.
- The contractor shall repair leaks immediately on discovery. Equipment that leaks shall not be used. Oil pans and absorbent material shall be in place prior to beginning work. The contractor shall be required to provide the “on-scene” capability of catching and absorbing leaks or petroleum product spills, including antifreeze from breakdowns or repair actions, with approved absorbent materials. A supply of acceptable absorbent materials at the job site in the event of spills, as defined in the SWPPP, shall be available. Sand and soil are not approved absorbent materials. Soils contaminated with fluids shall be removed, placed in appropriate safety containers, and disposed of according to state and/or federal regulations.
- The construction contractor shall use BMPs to prevent the discharge of equipment fluids. All equipment shall be stored, repaired, maintained, and fueled at least 65 feet away from waterways, wetlands, and riparian habitat. A plan for prompt and effective response to any accidental spills shall be developed prior to construction.
- Temporary erosion control measures shall be maintained in working condition until the project is complete or the measures are no longer needed.
- Only apply herbicides conforming to U.S. Environmental Protection Agency (EPA), Arizona Department of Agriculture, and/or Arizona Department of Environmental (ADEQ) requirements on project corridor.
- Apply herbicides prior to ground disturbance where there are visible noxious and invasive plant species only.
- Herbicides proposed for use on projects within transportation easements on USFS Lands shall be in conformance with the following current environmental documents including the *Environmental Assessment for Management of Noxious Weeds and Hazardous Vegetation on Public Roads on National Forest System Lands in Arizona* which is available at:
<http://www.fs.usda.gov/main/r3/landmanagement/projects> .

- For the use and application of herbicides, follow the Tonto National Forest EA for Treatment of Noxious Weeds: http://data.ecosystem-management.org/nepaweb/nepa_project_exp.php?project=4454, including information provided at: https://www.fs.usda.gov/detail/tonto/landmanagement/resourcemanagement/?cid=fsbdev3_018789.

Wildlife (Including Special Status Species)

The following BMPs would help avoid and minimize impacts to all species:

- All vehicles and equipment entering the project area must be clean of noxious weeds and free from oil leaks, and are subject to inspection. All construction equipment shall be washed thoroughly to remove all dirt, plant, and other foreign material prior to entering the project area. Particular attention shall be shown to the under-carriage and any surface where soil containing exotic seeds may exist. These efforts are critical to prevent the introduction and establishment of non-native plant species into the project area. Arrangements shall be made for inspections of each piece of equipment before entering the project, and records of inspections shall be maintained. Equipment found operating on the project that has not been inspected or has oil leaks shall be shut down and subject to citation.
- Operators shall avoid leaving equipment and vehicles idling for more than five minutes when parked or not in use.
- Any spill of petroleum products, hazardous materials, or other chemical or biological products released from construction, fleet, or other support vehicles, or stationary sources shall be properly cleaned, mitigated, and remedied, if necessary. Response shall occur in accordance with federal, state, and local regulations. Any spill of petroleum products or a hazardous material shall be reported to the appropriate federal, state, and local authorities, if the spill is a reportable quantity.
- Leaks shall be repaired immediately on discovery. Equipment that leaks shall not be used. Oil pans and absorbent material shall be in place prior to beginning work. The contractor shall be required to provide the “on-scene” capability of catching and absorbing leaks or petroleum product spills, including antifreeze from breakdowns or repair actions, with approved absorbent materials. A supply of acceptable absorbent materials at the job site in the event of spills, as defined in the SWPPP, shall be available. Sand and soil are not approved absorbent materials. Soils contaminated with fluids shall be removed, placed in appropriate safety containers, and disposed of according to state and/or federal regulations.
- The construction contractor shall be required to take appropriate measures to prevent the discharge of equipment fluids. All equipment shall be stored, repaired, maintained, and fueled at least 65 feet away from waterways. A plan to allow a prompt and effective response to any accidental spills shall be developed prior to construction.
- Certified weed-free permanent and temporary erosion control measures shall be implemented to minimize erosion and sedimentation during and after construction.
- FHWA-CFLHD shall conform to the Federal Seed Act, the Federal Noxious Weed Act, and applicable state and local seed and noxious weed laws.

The following measures will be implemented to avoid and minimize impacts to migratory birds:

- No vegetation clearing should occur during the migratory bird breeding season (February 1–August 31). During the non-breeding season (September 1–January 31) vegetation is not subject to this restriction. If vegetation clearing must occur between February 1 and August 31, pre-construction surveys for active migratory bird nests will be conducted by a qualified biologist in all suitable habitat that will be disturbed.
- If active bird nests are identified within the project limits, construction activities will avoid disturbing any active nest. A qualified biologist will determine the appropriate avoidance strategy until the nestlings have fledged and the nest is no longer active.
- In the year of proposed construction, FHWA-CFLHD would contact AGFD to determine if bald or golden eagles were known to be nesting within 0.5 miles of the project corridor between MP 238.6 and the eastern terminus of the project (MP 240.6). If an active eagle nest is present in this area, no work will occur until FHWA-CFLHD has determined that work can commence based on the location of the nest, type of construction, and expected noise levels associated with project activities in that area, consistent with the *National Bald Eagle Management Guidelines* (USFWS 2007).
- In the year of proposed construction, FHWA-CFLHD would contact AGFD to determine if peregrine falcons were known to be nesting within 0.5 miles of the project corridor between MP 237 to the eastern terminus of the project (MP 240.6). If an active falcon nest is present in this area, no work will occur until FHWA-CFLHD has determined that work can commence based on the location of the nest, type of construction, and expected noise levels associated with project activities in that area.

The following measures will be implemented to avoid or minimize potential adverse effects to the Sonoran Desert tortoise:

- During construction, FHWA-CFLHD would ensure the project adheres to the *ADOT Sonoran Desert Tortoise Awareness Program Handout* and AFGD's *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* guidance documents which are both available online at: https://azdot.gov/sites/default/files/2019/06/tortoise_awareness_handout.pdf.
- The project contractor would be required to arrange for a qualified biologist to present an environmental awareness program to all personnel who would be onsite that would contain, at minimum, information regarding the desert tortoise and procedures to be implemented in case a desert tortoise is found within the project limits. No work would begin prior to presentation of the environmental awareness program.
- The project contractor shall notify FHWA-CFLHD if a desert tortoise is encountered during construction.
- During construction, FHWA-CFLHD would report all encountered desert tortoises (live, injured, or dead) to the Arizona Department of Transportation Environmental Planning Biologist within 24 (twenty-four) hours of the encounter using the Arizona Department of Transportation Sonoran Desert Tortoise Observation Form. Photos should be taken of tortoises encountered and included in the report, if possible.
- If any desert tortoises were encountered in the project area, the contractor would take any measures necessary to ensure that project activities would not harm or disturb any desert tortoise, while adhering to ADOT's current handling guidelines for Sonoran desert tortoise.

- The contractor would require all on-site workers to check under their parked vehicles and equipment prior to driving to make sure there wasn't a tortoise sheltering underneath. If a desert tortoise were found sheltering underneath a parked vehicle or piece of equipment, the tortoise would be allowed to move out from under the vehicle on its own or be relocated following the current guidelines for Sonoran desert tortoise handling before the vehicle could be moved.
- Before replacement and/or repair of any existing culverts, the culverts must be checked to ensure no Sonoran desert tortoises are present. If a desert tortoise is found inside a culvert, the tortoise shall be allowed to move out from the culvert under its own volition, or relocated by a qualified biologist. The current guidelines for Sonoran desert tortoise handling must be followed if any tortoises must be handled.
- A qualified biologist would be required to be onsite to monitor initial vegetation clearing activities greater than 100 SF for the protection of desert tortoises in that area. For vegetation clearing of less than 100 SF, the area would be checked by construction staff (who have received the environmental awareness program) to ensure no desert tortoise were present immediately prior to commencement of vegetation clearing.
- The contractor would not begin vegetation removal activities of over 100 SF or blasting activities until receiving project engineer approval. Project engineer approval would only be given following an initial survey of the vegetation clearing or blasting area for the presence of desert tortoises or other sensitive species by a qualified biologist immediately prior to commencement of vegetation clearing. The contractor would not conduct initial vegetation removal of over 100 SF unless a qualified biologist was present to handle Sonoran desert tortoises.

Vegetation and Noxious Weeds

The following measures will be implemented to minimize or mitigate impacts to vegetation and reduce the spread of invasive species. These measures are specific to the project area, which encompasses the project construction limits:

- All vehicles and equipment entering the project area shall be clean of noxious weeds and free from oil leaks, and are subject to inspection. All construction equipment shall be washed thoroughly to remove all dirt, plant, and other foreign material prior to entering the project area. Particular attention shall be shown to the under-carriage and any surface where soil containing exotic seeds may exist. These efforts are critical to prevent the introduction and establishment of non-native plant species into the project area.
- Certified weed-free permanent and temporary erosion control measures shall be implemented to minimize erosion and sedimentation during and after construction.
- FHWA-CFLHD shall conform to the Federal Seed Act, the Federal Noxious Weed Act, and applicable state and local seed and noxious weed laws.
- Degraded areas impacted from construction-related activity shall be reseeded with guidance from TNF biologists. Revegetated areas shall be protected and cared for, including watering when needed, until restoration criteria have been met under USACE permits or NPDES standards. Revegetated areas shall be monitored in accordance with the approved restoration plan to ensure success criteria are met.