Biological Evaluation for the Proposed
City of Albuquerque Paseo del Norte Widening 1
Control Numbers (CN): A300261, A300262, C3193305, C3202819, C3212984
City of Albuquerque Project Number 7050.06
Bernalillo County, New Mexico
NMDOT District #3

Prepared for:
New Mexico Department of Transportation Environmental Bureau

On behalf of:
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1.0 INTRODUCTION

The City of Albuquerque Department of Municipal Development (DMD) in cooperation with the Federal Highway Administration (FHWA) and New Mexico Department of Transportation (NMDOT), proposes to widen a 2-mile (mi) [3.2 kilometer (km)] long stretch of Paseo del Norte Boulevard NE. The Project Area is located on land within the Alameda Land Grant (Town of Alameda Grant) and in Township 11 North, Range 2 East, and Sections 14 and 15 (Figure 1). The Project Area appears on the *Los Griegos*, *New Mexico* (NM) U.S. Geologic Survey 7.5-minute Quadrangle Map.

2.0 PURPOSE AND NEED

The *purpose* of the Proposed project is to widen the Paseo del Norte roadway within the NMDOT Right of way (ROW) between Rainbow Boulevard and Calle Norteña to improve traffic flows on the west side of the City of Albuquerque.

The *need* of the Proposed Project is to provide improved transportation access to reduce traffic as populations steadily increase on the west side of the City of Albuquerque. The new project would provide a safe commuting lane for cyclists and an offset pathway for walkers.

This document provides the summary of field surveys that collected the biological data needed for the evaluation of impacts to natural resources and address the requirements of resource management agencies such as the US Fish and Wildlife Service, NM State Forestry, and NM Department of Game and Fish.

3.0 PROJECT DESCRIPTION

The Paseo del Norte Widening Project would be constructed along a 2-mi (3.2 km) long stretch from the intersections of Rainbow Boulevard (Beginning of Project [BOP]) to Calle Norteña (End of Project [EOP]) (Figure 1). The project development process will follow FHWA and NMDOT regulations and guidelines. Property for the project would be acquired from private sources from Universe Boulevard to Calle Norteña. The existing roadway has 2-lane and 4-lane sections and would be reconstructed to a standard 4-lane roadway, with an ultimate ROW width of 156 feet (ft) (47.5 meters [m]). The typical section of new roadway would consist of four 12-foot (3.7-m) travel lanes. Each side of the roadway would include a 4-foot (1.2-m) buffer, an 8-foot (2.4-m) bicycle lane, an 8-foot (2.4-m) landscape buffer, and a 10-foot (3.0-m) multi-purpose trail. The Rainbow, Universe, and Unser Boulevards and Calle Norteña intersections would be improved with additions of dedicated turn lanes, lighting luminaires, and signals. One detention pond and drainage improvements would be constructed along the corridor. The project will be advertised for bids on or around October 2024 with construction beginning very late in 2024 or early 2025. The project should take 12-18 months to complete.

4.0 PROJECT HISTORY

Agency Coordination for the project has been conducted with NMED and NMDOT. No other agency coordination has been conducted. No environmental documents have been previously prepared for this Project Area.

5.0 ACTION AREA

As stated in 50 Code of Federal Regulations (CFR) Part 402, the Action Area encompasses all areas with the potential to be affected directly or indirectly by a federal action. The Action Area is primarily defined as a buffer around the Project Area where potential impacts to U.S. Fish and Wildlife Service (USFWS) threatened and endangered species, critical habitat, and stormwater discharges during construction are analyzed. The boundaries of the Action Area are based on the location of the project, the type of potential project impacts anticipated if the proposed project proceeds, and findings of the biological survey. Due to the limited habitat and minimal potential impacts for federally-listed and state species and the lack of habitat in this Project Area, the Project and Action Areas are defined to have the same boundaries (Figure 2).

6.0 METHODS

6.1 Pre-field Methods

Prior to conducting a 100-percent biological survey the following websites were reviewed:

- The USFWS Information for Planning and Consultation (IPaC) [USFWS 2021a]
- USFWS Critical Habitat Mapper (USFWS 2021b)
- New Mexico Department of Game and Fish (NMDGF), New Mexico Environmental Review Tool (NMERT 2021)
- NM State Endangered Plant Species (New Mexico Energy Minerals and Natural Resources Department [NMEMNRD 2021])
- The New Mexico Rare Plants Technical Council (NMRPTC 1999a)
- The New Mexico Department of Agriculture (NMDA), New Mexico Noxious Weed list (NMDA 2020)
- National Hydrography Dataset (NHD) [USGS 2021]
- National Wetland Inventory (NWI) [USFWS 2021c]

6.2 Field Methods

NV5 Biologists, Paul Knight and Mikaela Buscher, conducted a 100-percent pedestrian biological survey on November 4, 2021. On November 4, 2021, the survey began at 9:20 a.m. and ended at 1:30 p.m. The temperature ranged from 42–70 degrees Fahrenheit (°F) [5–21 degrees celsius (°C)] and the sky was sunny.

The Project Area was surveyed by biologists on foot and binoculars were used to identify avian species, as needed, within the ROW. During the biological survey, NV5 biologists recorded plant and animal observations, documented active and inactive bird nests, and evaluated the potential for special-status plant and animal species in the Project Area. A list of plant and animal species observed in the Project Area is included in section 9.0 Survey Results. The SEINet website was used to obtain current plant nomenclature (2021), mammal nomenclature follows the current standards from BISON-M (2022), and avian nomenclature follows the standards from the Institute for Bird Populations (2021).

Species observed during the field survey are listed according to abundance, with classifications rated as follows:

- F-Few (Less than 5 observances)

- U-Uncommon (5–15 observances)
- O-Occasional (15–25 observances)
- C-Common (25–50 observances)
- D-Dominant (primary species identified)

Data was collected on tablets using ArcGIS Field Maps App software. Tablets connected to Trimble® R1s, capable of submeter accuracy, were used to record coordinates of animal sign including bones, tracks and scat, bird nests, and noxious weeds.

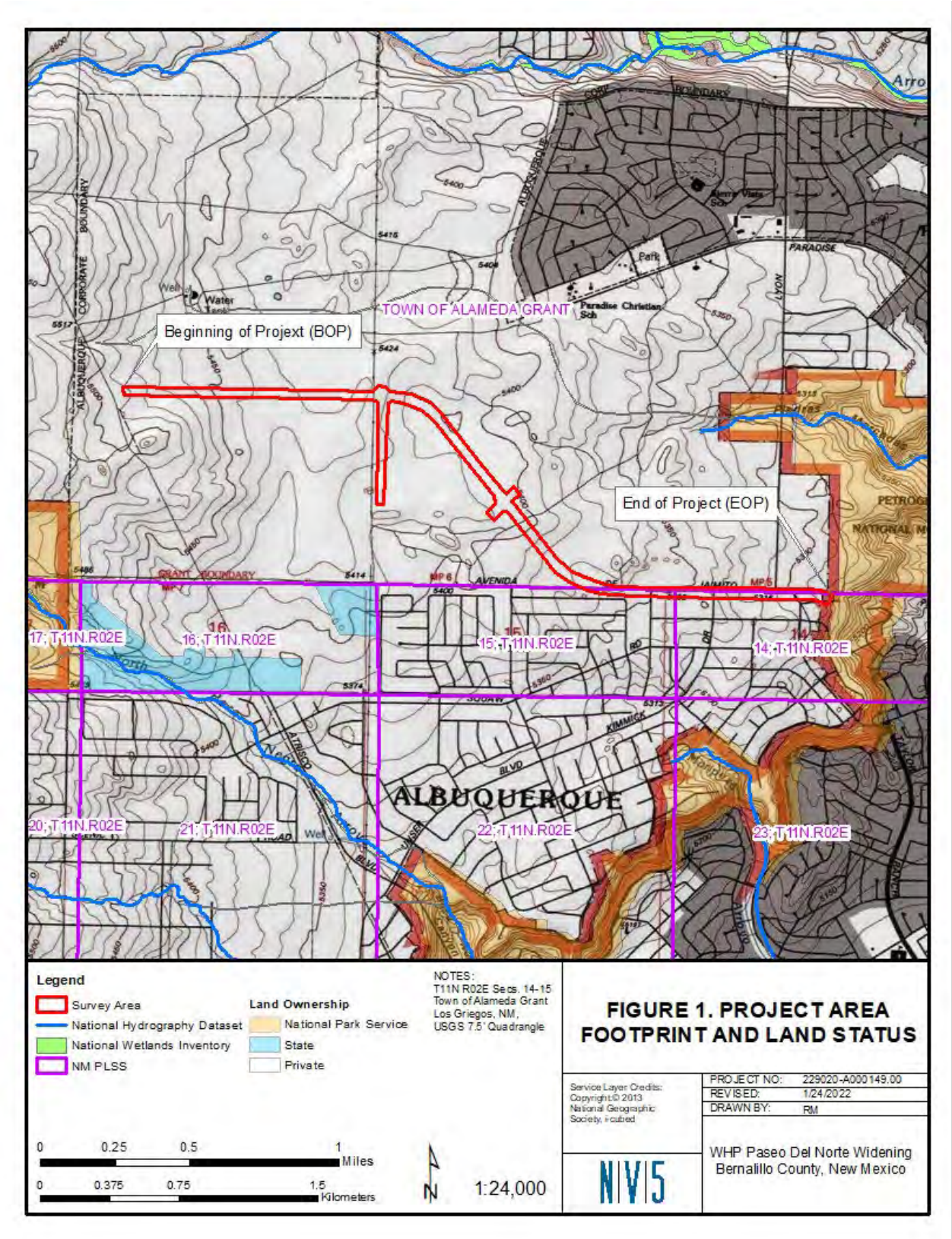

Figure 1. Project Area Footprint and Land Status

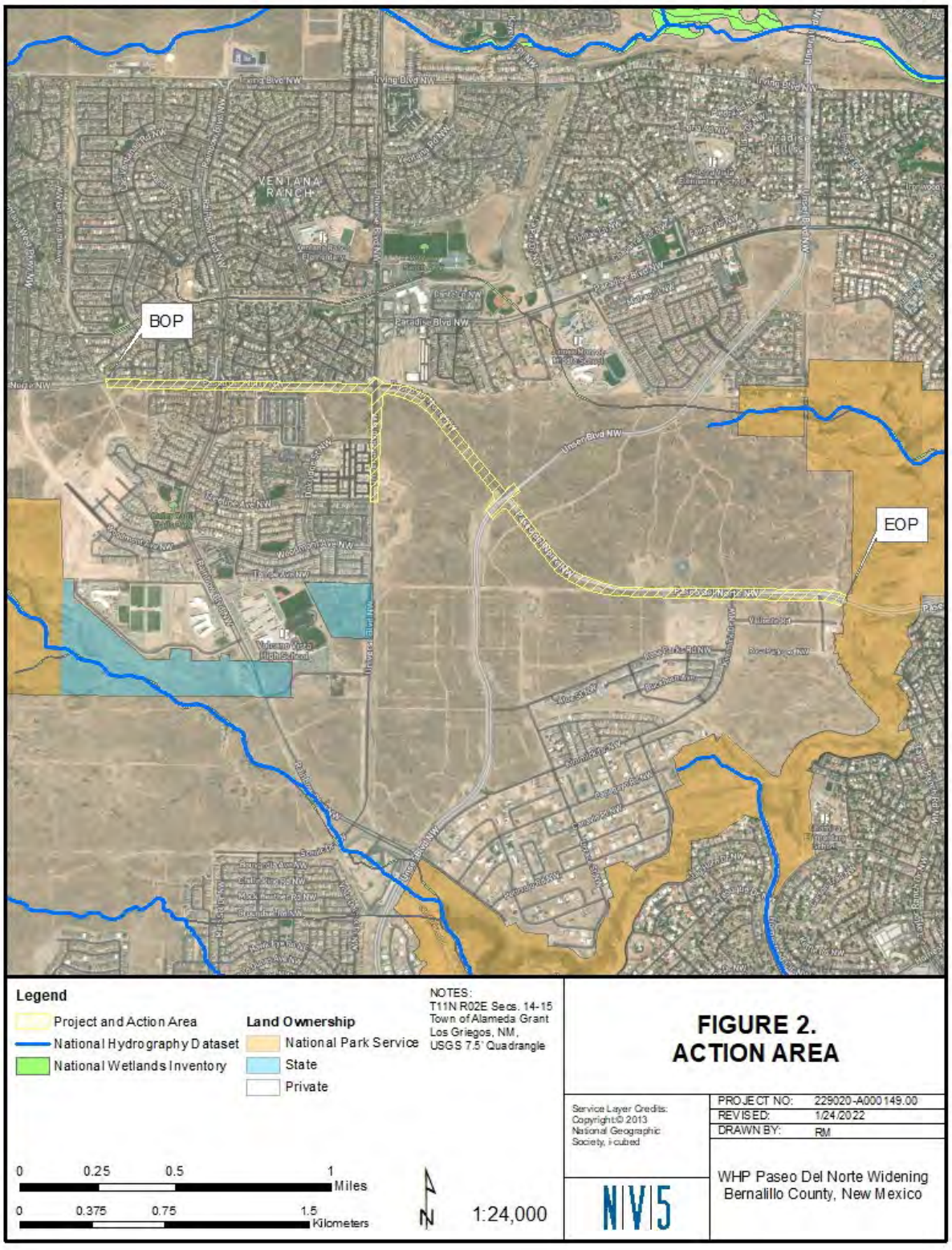

Figure 2. Action Area

7.0 REGULATORY CONTEXT

The NMDOT has identified the following regulatory laws applicable to Project and Action Areas. They include, but are not limited to, the following:

- Bald and Golden Eagle Protection Act (BGEPA)
- Endangered Species Act (ESA)
- Migratory Bird Treaty Act (MBTA)
- Clean Water Act (CWA), Sections 401, 402, and 404
- Executive Order 11990 (Protection of Wetlands)
- Executive Order 11988 (Floodplain Management)
- Noxious Weed Management Act

8.0 GENERAL ENVIRONMENTAL SETTING

8.1 Physiography, Topography, and Geology

Elevation in the Project Area ranges from approximately 5,278–5,496 ft above mean sea level (amsl) (1,608–1,675m amsl). The Project Area is in north-central NM, in the Rio Grande Valley on West Mesa, which was formed by the Rio Grande Rift (National Park Service [NPS] 2018). The Rio Grande Rift was filled with sediment called the Santa Fe Formation, which was then overlayed with lava from the rift exposure. The lava cooled forming basalt which is exposed on the landscape. The Santa Fe Group is the geological formation present in areas where exposed basalt rock is not present (NPS 2018).

8.2 Soils

There are two soil map units that occur in the Project Area (Table 1; Appendix A). The two soil units are Alameda sandy loam, 0 to 5 percent slopes and Madurez-Wink association, gently sloping (Natural Resources Conservation Service [NRCS] 2021). Neither soil type has a hydric rating (Table 1).

Table 1. Soil Mapping Units within the Project Area

Soil Map Unit Symbol	Soil Map Unit Name	Parent Material	Hydric Soil Rating	Prime Farmland of Statewide Importance	Percent in Project Area
AmB	Alemeda sandy loam, 0 to 5 percent slopes	Eolian deposits derived from igneous and sedimentary rock	No	No	97.7
MWA	Madurez-Wink association, gently sloping	Alluvium derived from igneous and sedimentary rock	No	No	2.3%
Total					**100**

8.3 Climate

Climate data for this Project Area was collected from the Petroglyph National Monument, NM, 296754 Weather Station. The average minimum temperature for the area is 43.1°F (6.2°C); the average

maximum temperature is 73.0°F (22.8°C). The average annual precipitation is 9.4 inches (23.9 centimeters) (Western Regional Climate Center 2016).

8.4 Ecoregion

The Paseo del Norte Project Area is situated within north-central NM, within the Arizona/NM Plateau: Albuquerque Basin ecoregion (Griffith et al. 2006). The Project Area contains Desert Grasslands, Juniper Savannah, and Plains-Mesa Sand Scrub habitat.

8.5 Waterways, Wetlands, and Floodplains

8.5.1 Waterways

Review of the NHD and NWI databases indicate that no waterways are found in the Project Area (US Geological Survey [USGS] 2021; USFWS 2021c; Appendix B).

8.5.2 Wetlands

Review of the NHD and NWI databases indicates that no wetlands are found in the in the Project Area (USFWS 2021c; Appendix B).

8.5.3 Floodplains

The Federal Emergency Management Agency (FEMA) has identified the Project Area as *An Area of Minimal Flood Hazard, Zone X* (FEMA 2021). The Project Area is identified on flood hazard panels 35001C0103H, 35001C0111G, and 35001C0112G (FEMA 2021).

8.6 Land Use and Disturbance

Land in the Project Area consists of NMDOT ROW easement and private lands. Disturbances within the Project Area consist of NMDOT maintenance within ROW easements, such as road maintenance, landscaping, and mowing.

9.0 SURVEY RESULTS

9.1 Fauna Observed

A total of seven bird species, seven mammal species, and one reptile species were observed during the biological field survey. Wildlife observations are summarized in Table 2 and Figure 3. Species lists are included in Appendix D.

Table 2. Fauna Observed in the Project Area

Animal Group	Common Name	Scientific Name	Observation	Abundance
Amphibians	None			
Invertebrates	None			
Fish	None			
Birds				
	American crow	*Corvus brachyrhynchos*	Live animal	Occasional
	House finch	*Haemorhous mexicanus*	Live animal	Occasional

Animal Group	Common Name	Scientific Name	Observation	Abundance
	Mourning dove	*Zenaida macroura*	Live animal	Uncommon
	Rock pigeon	*Columba livia*	Live animal	Occasional
	Scaled quail	*Callipepla squamata*	Live animal	Few
	European Starling	*Sturnus vulgaris*	Live animal	Uncommon
	White-crowned sparrow	*Zonotrichia leucophrys*	Live animal	Uncommon
Mammals				
	Banner-tailed kangaroo rat	*Dipodomys spectabilis baileyi*	Mound	Few
	Botta's pocket gopher	*Thomomys bottae*	Mounds	Uncommon
	Coyote	*Canis latrans*	Scat/Tracks	Uncommon
	Desert cottontail	*Sylvilagus audubonii*	Live animal, scat	Occasional
	Ord's kangaroo rat	*Dipodomys ordii*	Burrow and tracks	Occasional
	Rock squirrel	*Otospermophilus variegatus*	Live animal	Few
	Woodrat	*Neotoma* sp.	Nest	Occasional
Reptiles				
	New Mexico whiptail	*Aspidoscelis neomexicana*	Live animal	Few

9.1.1 Amphibians Observed

None observed.

9.1.2 Invertebrates Observed

None observed.

9.1.3 Fish Observed

None observed.

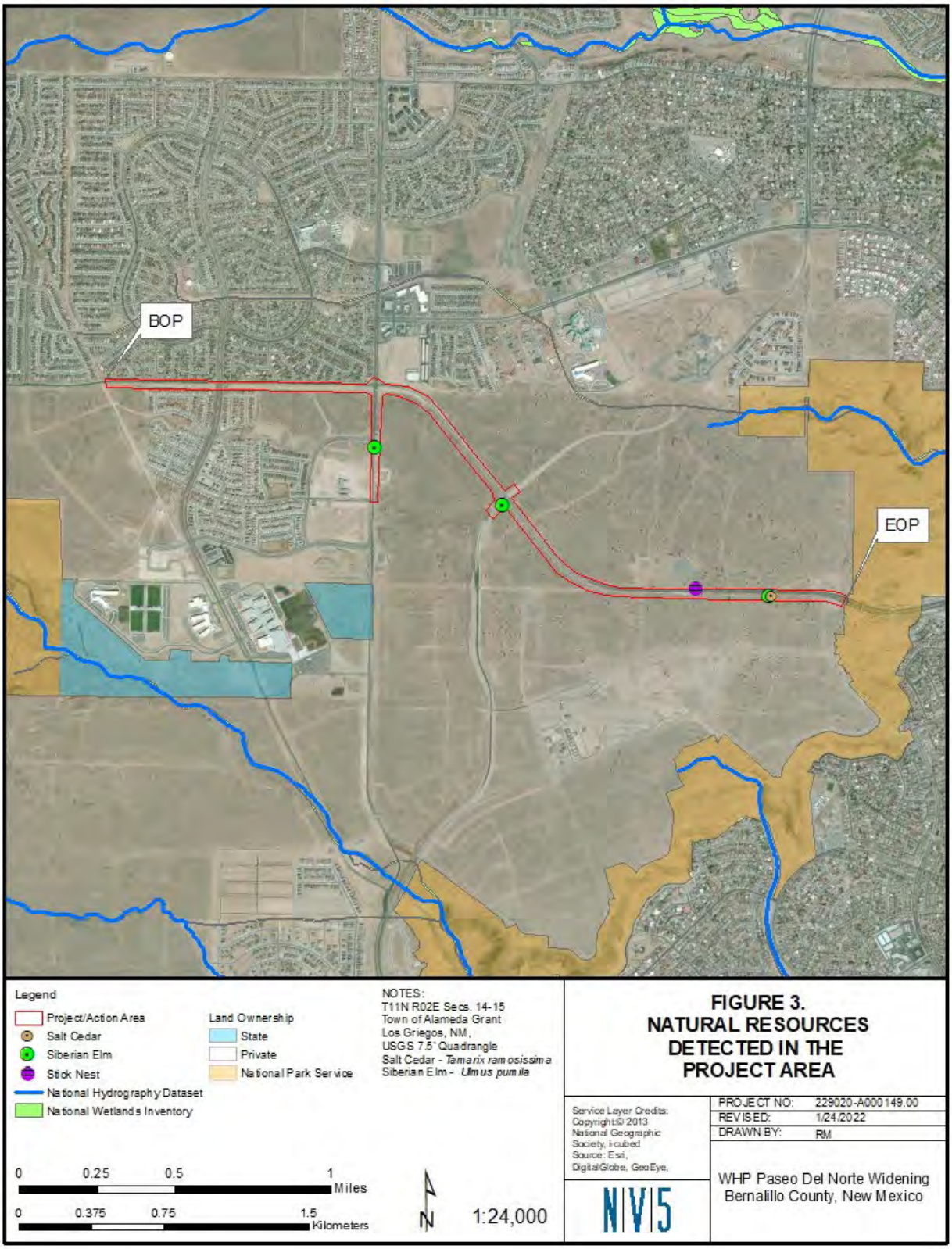
BOP
EOP
Legend
Project/Action Area
Salt Cedar
Siberian Elm
Stick Nest
National Hydrography Dataset
National Wetlands Inventory
Land Ownership
State
Private
National Park Service
NOTES:
T11N R02E Secs. 14-15
Town of Alameda Grant
Los Griegos, NM,
USGS 7.5' Quadrangle
Salt Cedar - Tamarix ramosissima
Siberian Elm - Ulmus pumila
0 0.25 0.5 1 Miles
0 0.375 0.75 1.5 Kilometers
N
1:24,000
FIGURE 3.
NATURAL RESOURCES
DETECTED IN THE
PROJECT AREA
Service Layer Credits:
Copyright © 2013
National Geographic
Society, i-cubed
Source: Esri,
DigitalGlobe, GeoEye,
PROJECT NO: 229020-A000149.00
REVISED: 1/24/2022
DRAWN BY: RM
WHP Paseo Del Norte Widening
Bernalillo County, New Mexico
NV5

Figure 3. Natural Resources Detected in the Project Area

9.1.4 Birds Observed

A total of seven species of birds were observed during the biological survey. The most common species in the Project Area were American crows (*Corvus brachyrhynchos*), rock pigeons (*Columba livia*), and house finches (*Haemorhous mexicanus*), all of which were seen flying through the Project Area heading south. Other birds observed included:

- Rock pigeons and house finches were seen perched in ornamental trees and on retaining walls on the western side of the Project Area in residential areas.
- White-crowned sparrows (*Zonotrichia leucophrys)* were also observed perched in ornamental trees on the western side of the Project Area, though in less abundance.
- Mourning doves (*Zenaida macroura*) were observed flying south on the eastern side of the Project Area in undeveloped areas of Juniper Woodland habitat.
- Scaled quail (*Callipepla squamata*) were seen in the undeveloped areas of the Juniper Woodland habitat. The quail were seen walking east and west under the juniper trees along the ROW. Three quails flushed from a juniper tree on the far eastern side of the Project Area and flew north.
- Towards the end of the survey, a group of 10 starlings (*Sturnus vulgaris*) were observed perching on a utility pole and an electrical line at the intersection of Paseo del Norte and Universe Blvd NW. Half of the starling group flew south from the utility pole. The other half of the starlings remained perched.

No active nests were observed within the Project Area. One inactive stick nest, in poor condition, was observed on the north side of Paseo del Norte at latitude 35.1798643, longitude -106.7092492 (13S 344361 3894327 Universal Transverse Mercator [UTM]) (Photograph 1).

Photograph 1. An inactive stick nest in a juniper tree located in the Project Area.

9.1.5 Mammals Observed

Seven species of mammals were observed in the Project Area (Table 2). Due to the presence of major roads and the overall lack of sign observed during the survey, it is unlikely the Project Area supports a substantial movement of wildlife. Animal sign observed included coyote (*Canis latrans)* tracks and scat, Botta's pocket gopher (*Thomomys bottae)* and Banner-tailed rat (*Dipodomys spectabilis*) mounds, Ord's kangaroo rat (*Dipodomys ordii*) burrows and tracks, and woodrat (*Neotoma* sp.) middens (Photograph 2). Desert cottontails (*Sylvilagus audubonii*) were observed, and their scat was abundant throughout the Project Area.

Photograph 2. An example of a woodrat midden in a juniper tree in the Project Area.

9.1.6 Reptiles Observed

One species of reptile was observed in the Project Area. Only New Mexico whiptails (*Aspidoscelis neomexicanus*) were observed during the biological survey.

9.2 Flora Observed

A total of 61 species of plants were identified within the Project Area (Table 3).

Table 3. Flora Observed within the Project Area

Common Name	Scientific Name	Noxious Weed Class	Abundance
Alfalfa	*Medicago sativa*	-	Few
Apache plume	*Fallugia paradoxa*	-	Occasional
Black grama	*Bouteloua eriopoda*	-	Dominant
Blazing star	*Mentzelia sp.*	-	Uncommon
Blue grama	*Bouteloua gracilis*	-	Common

Common Name	Scientific Name	Noxious Weed Class	Abundance
Broom dalea	*Psorothamnus scoparius*	-	Occasional
Bush muhly	*Muhlenbergia porteri*	-	Occasional
Canada horseweed	*Conyza canadensis*	-	Uncommon
Cane bluestem	*Bothriochloa barbinodis*	-	Uncommon
Careless weed	*Amaranthus palmeri*	-	Uncommon
Coastal sandbur	*Cenchrus spinifex*	-	Uncommon
Common dandelion	*Taraxacum officinale*	-	Uncommon
Common sunflower	*Helianthus annuus*	-	Uncommon
Curlytop gumweed	*Grindelia nuda var. aphanactis*	-	Common
Dark-spined pricklypear	*Opuntia phaecantha*	-	Occasional
Desert willow	*Chilopsis linearis*	-	Uncommon
Devil's cholla	*Grusonia kunzei*	-	Few
Feather fingergrass	*Chloris virgata*	-	Uncommon
Fendler threeawn	*Aristida purpurea var. longiseta*	-	Uncommon
Fendler's globemallow	*Sphaeralcea fendleri*	-	Uncommon
Four-wing saltbush	*Atriplex canescens*	-	Common
Freckled milkvetch	*Astragalus lentiginosus var. diphysus*	-	Uncommon
Giant dropseed	*Sporobolus giganteus*	-	Occasional
Gray globemallow	*Sphaeralcea incana*	-	Occasional
Green Mexican hat	*Ratibida tagetes*	-	Uncommon
Grizzlybear pricklypear	*Opuntia polyacantha var. hystricina*	-	Uncommon
Hoary tansyaster	*Machaeranthera canescens*	-	Common
Hopi tea	*Thelesperma megapotamicum*	-	Uncommon
Indian rice grass	*Achnatherum hymenoides*	-	Common
James' galleta	*Hilaria jamesii*	-	Dominant
Lacy tansyaster	*Xanthisma spinulosum*	-	Occasional
Low woollygrass	*Dasyochloa pulchella*	-	Occasional
One-seed juniper	*Juniperus monosperma*	-	Common
Pincushion cactus	*Coryphantha vivipara*	-	Uncommon
Plains pricklypear	*Opuntia polyacantha*	-	Occasional
Puncturevine	*Tribulus terrestris*	-	Uncommon
Purple threeawn	*Aristida purpurea*	-	Common
Ragweed	*Ambrosia acanthicarpa*	-	Occasional
Red-spike Mexican hat	*Ratibida columnifera*	-	Uncommon
Rose heath	*Chaetopappa ericoides*	-	Uncommon
Rubber rabbitbrush	*Ericameria nauseosa*	-	Common
Russian thistle	*Salsola tragus*	-	Common
Salt cedar	*Tamarix chinensis*	C	Few
Sand dropseed	*Sporobolus cryptandrus*	-	Common
Sand sage	*Artemisia filifolia*	-	Common
Scarlet globemallow	*Sphaeralcea coccinea*	-	Uncommon
Siberian elm	*Ulmus pumila*	C	Few
Side-oats grama	*Bouteloua curtipendula*	-	Common

Common Name	Scientific Name	Noxious Weed Class	Abundance
Silverleaf nightshade	*Solanum elaeagnifolium*	-	Common
Skunkbush sumac	*Rhus trilobata*	-	Few
Smooth amaranth	*Amaranthus hybridus*	-	Uncommon
Snakeweed	*Gutierrezia sarothrae*	-	Common
Soapweed yucca	*Yucca glauca*	-	Occasional
Spike dropseed	*Sporobolus contractus*	-	Common
Spike muhly	*Muhlenbergia wrightii*	-	Common
Summer cypress	*Bassia scoparia*	-	Common
Sweet clover	*Melilotus officinalis*	-	Uncommon
Threadleaf ragwort	*Senecio flaccidus*	-	Occasional
Thyme-leaf sandmat	*Euphorbia serpillifolia*	-	Occasional
Virginia creeper	*Parthenocissus quinquefolia*	-	Few
Winterfat	*Krascheninnikovia lanata*	-	Common

*****Scientific names used are from SEINet at http://swbiodiversity.org/seinet

9.2.1 Vegetation Communities

The Paseo del Norte Project Area is situated within north-central NM at the intersection point of a variety of plant communities. The Project Area supports three different vegetation types. Dominant ecotones include Desert Grassland and Juniper Savanna. In areas where deep sandy soils are present, patches of Plains Mesa Sand Scrub are intermixed with the other vegetation communities (Dick-Peddie 1993). Over sixty species of native vascular plants were identified along the roadways and the undisturbed upland habitats flanking them (Table 4). There were also extensive patches of planted, non-local, and, in some cases, non-native vegetation along the pedestrian and biking trails that stretch along portions of the north side of Paseo del Norte and the west side of Universe Boulevard. Most of the native vegetation in the Project Area was in good condition and showed no signs of grazing or recent disturbance. The native vegetation was observed away from the surface disturbance associated with the roadways,

9.2.1.1 Desert Grasslands

Within the Desert Grassland Community, the most abundant species encountered were black grama (*Bouteloua eriopoda*), James' galleta (*Hilaria jamesii*), snakeweed (*Gutierrezia sarothrae*), locally abundant patches of blue grama (*Bouteloua gracilis*), and scattered purple three-awn (*Aristida purpurea*). The most common shrubs and subshrubs within this community were four-wing saltbush (*Atriplex canescens*), scattered sand sage (*Artemisia filifolia*), and rabbitbrush (*Ericameria nauseosa*). This community appeared to be most abundant on areas that were underlain with shallow basalt bedrock (Photograph 3).

Photograph 3. Facing east in Desert Grasslands habitat along Paseo del Norte.

9.2.1.2 Juniper Savannah

One-seed juniper (*Juniperus monosperma*) was scattered diffusely across most of the Project Area often in association with galleta and blue grama. However, there were a few areas where the density of trees and other associated species met the criteria of Juniper Savanna. The Paseo del Norte Project Area represents the lower elevation range and ecotonal fringe of this community type (Photograph 4).

Photograph 4. Facing east in Juniper Savannah habitat along Paseo del Norte.

9.2.1.3 Plains-Mesa Sand Scrub

In the Project Area, there were patches of deeply sandy soil occupied by enclaves of Plains Mesa Sand Scrub dominated by sand sage, four-wing saltbush, and dropseed grasses such as sand dropseed (*Sporobolus cryptandrus*), spike dropseed (*S. contractus*), and giant dropseed (*S. giganteus*) [Photograph 5].

Photograph 5. Facing north in Plains Mesa Sand Scrub habitat along the intersection of Universe Boulevard NW and Paseo del Norte.

9.2.2 Noxious Weeds

Two Class C Noxious Weeds, Siberian elm (*Ulmus pumila*) and salt cedar (*Tamarix chinensis*), were observed within the Project Area (NMDA 2020) (Photographs 6–7; Figure 3). Siberian Elm was found in three locations along the eastern half of the Project Area within the ROW shoulder in groups ranging from three to eight trees. Two salt cedars were found at the eastern end of the ROW

Photograph 6. Facing northeast along Universe Boulevard NW at a small cluster of Siberian elm, In the Project Area.

Photograph 7. Facing north along Paseo del Norte, two salt cedars in the Project Area.

9.3 Observed Waterways, Wetlands, and Floodplains

9.3.1 Waterways

Pre-field review of the NHD and NWI databases determined that no waterways are found in the Project Area (USGS 2021; USFWS 2021c). This was confirmed during the biological survey (Figure 3).

9.3.2 Wetlands

Pre-field review of the NHD and NWI databases determined that no wetlands are located in the Project Area (USGS 2021; USFWS 2021c). This was confirmed during the biological survey (Figure 3).

9.3.3 Floodplains

During the field survey it was determined that floodplains in the Project Area did not appear to be different than what is described in Section 8.5.3 (FEMA 2021).

9.4 Observed Surrounding Landscape and Land Use

The surrounding landscape consists primarily of roadway ROW easements which are maintained by the NMDOT, NPS Lands, and privately owned residential areas.

9.5 Observed Human or Natural Disturbance

Human disturbance of the Project Area primarily includes residential areas, roadway maintenance, mowing, and vehicle traffic.

10.0 LISTED SPECIES AND CRITICAL HABITAT

A number of listed species with the potential to occur in the Project Area were evaluated. Species lists are provided in Appendix C. Most of these species listed were eliminated from further consideration due to lack of habitat (USFWS 2021a).

10.1 Critical Habitat

No designated critical habitat occurs within the Project Area. The nearest critical habitat occurs approximately 2.6 miles (4.2 km) east of the project area in the Rio Grande. This is critical habitat for the Rio Grande silvery minnow (*Hybognathus amarus*) (USFWS 2021b).

10.2 Listed Species Eliminated from Further Analysis

The project would result in no impact to the following species that were eliminated from further analysis due to the lack of habitat in the Project Area (Table 4; Appendix C).

Table 4. Listed Species Eliminated from Further Analysis

Group	Common Name (Scientific Name)	Agency Status	Habitat/Distribution	Rationale for Elimination
Plants				
	Lady tresses orchid (*Spiranthes magnicamporum*)	State E	This species inhabits ciénegas or stream sides found in the Project Area in NM from 4,560–6,500 ft amsl (1,402–1,981 m amsl) [NMRPTC 1999b].	No ciénegas or stream sides are found in the Project Area.
Invertebrates	None			
Amphibians	None			
Fish	None			

Group	Common Name (Scientific Name)	Agency Status	Habitat/Distribution	Rationale for Elimination
	Rio Grande silvery minnow (*Hybognathus amarus*)	USFWS E	The Rio Grande silvery minnow is a federally endangered species that occupies slow to moderate currents over mud and gravel substrate, or shifting sand-silt substrates in perennial waters (USFWS 2020a).	No perennial water is present in the Project Area for this species, and there are no drainages in the project area that discharge into the Rio Grande.
Reptiles	None			
Birds				
	Aplomado falcon (*Falco femoralis*)	State E	Aplomado falcons inhabit desert grasslands where yuccas or other elevated perches are available (BISON-M 2021b; The Cornell Lab 2019).	This species is unlikely to occur due to increased development, disturbance, and the lack of yuccas or other perches within the Project Area.
	Bald eagle (*Haliaeetus leucocephalus*)	BGEPA State T	Bald eagles forage and nest near large lakes and rivers. They also winter along the Rio Grande in NM (The Cornell Lab 2019).	No lakes, rivers, or perennial water bodies are present in the Project Area.
	Gray vireo *(Vireo Vicinor*)	State T	Gray vireos prefer Piñon-Juniper Woodlands and Oak Scrub and Chaparral Habitats in arid mountains and high plains associated with small drainages (NMDGF 2007).	Although scattered junipers are present, there was no appropriate woodland habitat within the Project Area nor were there any drainages present
	Mexican spotted owl (*Strix occidentalis lucida)*	USFWS T	Mexican spotted owls occupy forested montane canyons (The Cornell Lab 2019).	There is no forest or canyon habitat in the Project Area.
	Peregrine falcons (*Falco peregrinus anatum/tundrius*)	State T	Peregrine falcons inhabit rugged terrain with rocky cliffs and canyons (30 to 1,000 ft amsl [9 to 304 m amsl] high), typically adjacent to rivers, lakes, or streams. Peregrine falcons also utilize urban areas where towers and buildings are present (Stahlecker 2010).	This species is unlikely to occur due to a lack of rocky cliff habitat near rivers or lakes in the Project Area.
	Southwestern willow flycatcher (*Empidonax trailli extimus)*	USFWS E	Southwestern willow flycatchers nest in riparian habitats in proximity to water where	No waterways or aquatic habitat is present in the Project Area.

Group	Common Name (Scientific Name)	Agency Status	Habitat/Distribution	Rationale for Elimination
			insects are plentiful (Sogge et al. 2010).	
	Yellow-billed cuckoo (*Coccyzus americanus*)	USFWS T	Yellow-billed cuckoos breed in large blocks of riparian habitat (particularly riparian woodlands with cottonwoods and willows present (Halterman et al. 2016).	No large thickets of riparian habitat are present in the Project Area.
Mammals				
	New Mexico meadow jumping mouse (*Zapus hudsonius luteus*)	USFWS E State E	Habitat requirements for this species include tall (averaging at least 24-inches), dense riparian herbaceous vegetation, primarily composed of sedges (*Carex* spp.) and forbs. This habitat is found when wetland vegetation achieves full growth potential associated with perennial flowing water (USFWS 2016).	There are no boggy areas where flowing water or sedges are present in the Project Area.
	Spotted bat (*Euderma maculatum*)	State T	Spotted bats are cliff dwellers that use cracks and crevices in canyons and utilize areas near water (BISON-M 2017).	No canyons, cliffs, or suitable crevices are present in the Project Area for this species.

**E – Endangered, T – Threatened; BGEPA – Bald and Golden Eagle Protection Act*

10.3 Listed Species with Potential to Occur

The Project Area contains potential habitat for one species: the federal candidate species monarch butterfly (*Danaus plexippus*) (Table 5; Appendix C).

Table 5. Listed Species with Potential to Occur in the Project Area

Group	Common/ (Scientific Name)	Agency County Status	Habitat/Distribution	Present/Absent at Survey
Plants	Not applicable			
Fish	Not applicable			
Amphibians	Not applicable			
Reptiles	Not applicable			
Birds	Not applicable			

Group	Common/ (Scientific Name)	Agency County Status	Habitat/Distribution	Present/Absent at Survey
Mammals	Not applicable			
Invertebrates				
	Monarch butterfly (*Danaus plexippus*)	USFWS Candidate	Monarch butterflies require milkweed (*Asclepias* ssp.) to lay their eggs on and for the larvae to forage on as they mature (USFWS 2020b). The larvae emerge and feed on various types of milkweed to obtain toxic cardenolides used as defenses against predators (USFWS 2020b; Cary and DeLay 2016). Adult monarchs require the nectar from flowering plants to survive and are often seen along roadsides, at wetlands, in meadows and in fields (USFWS 2020b; Cary and DeLay 2016).	Absent. Although no monarch butterflies were observed in the Project Area during the survey, they have been observed elsewhere in the Albuquerque area. there is potential for this species to occur along Paseo del Norte.

10.3.1 Invertebrates

10.3.1.1 Monarch Butterfly

Species Ecology/Threats
Monarch butterflies occur in two North America populations: one east and the other west of the Rocky Mountains (USFWS 2020b). Their larvae develop through five stages over 9 to 18 days, feeding on milkweed and sequestering toxic compounds for defense against predators. Loss of milkweed foraging habitat has caused their decline (USFWS 2020b). There are multiple generations of monarchs during the breeding season, with most adults living approximately two to five weeks, as they feed on the nectar of flowering plants. Monarch butterflies that breed in NM migrate to Mexico during the winter (USFWS 2020b). The International Union for Conservation of Nature (IUCN) officially classified monarch butterflies as endangered, but the monarch butterfly is still classified as a candidate species by the USFWS. The USFWS has agreed to make a decision on potentially listing the monarch butterfly as threatened or endangered in Fiscal 2024 (Science, 2022).

Habitat Use and Condition/ Habitat in Project Area
The landscape around the Project Area consists primarily of roadway ROWs, which is owned and maintained by the NMDOT, National Park Service Lands, and private owners. Although no milkweeds were present in the project area, species such as *Asclepias subverticillata* (horsetail milkweed), a species known to be used by monarchs, occurs in the general area (NV5-Personal Observations). Additionally, adult monarchs are generalist feeders and need nectar sources when milkweeds are done flowering particularly during migration. They have been documented using some aster species, (*Aster* sp.),

goldenrods (*Solidago* sp.), coneflowers (Echinacea sp.) and beebalm (*Monarda* sp.) to name a few (Hesston College, 2022). It is possible that monarchs could be using habitats in the general area.

Data Sources
Information for this species was compiled from previously documented studies and related biological data collected for the USFWS website (USFWS 2020b) as well as previous biological surveys of the general area.

Affected Habitat in Project Area
There was an abundance of flowering plants within the Project Area, but there were no milkweeds within or immediately adjacent to the project area. Monarchs

Direct, Indirect Effects, Interrelated, and Interdependent Effects to Species
The area of disturbance is relatively small, as the roadway already exists and is being expanded along the roadway shoulders. Existing populations of wildflowers will be removed during construction. There were no milkweeds (the key species for monarchs) in the project area nor were there any of the key nectar flowers known to be used by monarchs. Additionally, extensive undeveloped habitat exists surrounding the project area, some of which occurs on NPS lands. It does not appear that the removal of the existing vegetation is likely to impact monarch butterflies.

Cumulative Effects to Species
No milkweed was present in the Project Area, although other flowering plants in the ROW could be used as nectar sources for migrating adult monarch butterflies the proposed construction should not impact the monarch population as a whole.

Recommended Mitigation
Seed mixes containing milkweeds and nectar plants favored by monarchs could be utilized for revegetation of the roadway, but factors such as the high traffic volumes and vehicle speed along this roadway should be considered. Attracting them to the edge of this roadway may create a hazard for this species.

11.0 PROJECT AREA DIRECT EFFECTS ANALYSIS

As defined in the Council on Environmental Quality (CEQ) regulations (40 CFR 1508.8(a)), direct effects are those which are caused by the proposed undertaking and occur at the same time and place. Direct impacts related to the Project Area include the following:

- Temporary and permanent soil and vegetation disturbance will occur in the construction area, which will be determined when the final site plans are created.
- Nesting activity in and adjacent to the Project Area could be altered if construction occurs during the nesting season.

12.0 PROJECT AREA INDIRECT EFFECTS ANALYSIS

As defined in the CEQ regulations (40 CFR 1508.8(b)), indirect effects are those which are caused by the proposed undertaking and either occur later in time or are farther removed in distance, but are reasonably foreseeable (cumulative effects).

- The cumulative impacts for this proposed project are expected to be minor, as the project would not impact sensitive or critical habitat. The project is not expected to adversely affect

protected species. Minimal to negligible impacts to wildlife and plants are expected to occur due to this project.

13.0 ACTION AREA DIRECT AND INDIRECT EFFECTS ANALYSIS

Direct and indirect effects within the action area from project implementation would be the same as those discussed in Sections 11 and 12.

14.0 RECOMMENDATIONS FOR AVOIDANCE, MINIMIZATION, AND MITIGATION

- Define a work zone for the contractor, outside of which no construction or equipment storage/fueling will be allowed.
- Clean heavy equipment that will be used in the Project Area before starting construction and inspect equipment daily for leaks.
- Avoid discharging chemical substances arising from construction or excavation activity into soils.
- Initiate construction or complete vegetation removal within areas providing suitable nest sites prior to the migratory bird nesting season for the area (March 15 to August 15). If this is not feasible, provide pre-construction surveys for migratory bird nests.
- Follow the MBTA Compliance recommendations from NMDOT: the Contractor shall at all times comply with the MBTA, which prohibits possession, capture, or killing of any migratory bird, egg, or occupied nest. If occupied nests (i.e., containing eggs or juvenile birds) are present during construction, the parental birds and their nests must be avoided until juvenile birds have fledged and flown away from nests. Occupied nests cannot be disturbed or relocated without a USFWS permit. Any cost or suspension of work caused by nest avoidance, USFWS permitting, or USFWS permit denial shall be at the Contractor's expense. Prior to the seasonal onset of bird nesting activity, the Contractor may elect to install and maintain bird exclusion measures, such as bird netting, or perform daily monitoring and removal of nesting attempts before egg-laying occurs to prevent establishment of occupied nests. In cases where the project proponent elects to initiate nest prevention measures prior to contractor mobilization, the costs and effectiveness of nest prevention measures shall become the responsibility of the Contractor upon the date of mobilization.
- The contractor is required to re-vegetate open disturbed soils with certified weed-free native seed per NMDOT specifications.
- Bury any trenching or excavation concurrently to reduce the incidental trappings of small mammals and reptiles.

15.0 CONCLUSIONS

There are no waterways or wetlands in the Paseo del Norte Widening Project Area. One federally-listed candidate species, monarch butterfly, has the potential to be present in the Project Area. However, neither of these species were observed in the Project Area during the biological survey and no impact to these species is anticipated due to the proposed project.

16.0 REPORT PREPARERS/CERTIFICATION

NMDOT Required Certification:

It is believed by NV5 that the proposed action would not violate any provision of the Endangered Species Act of 1973, as amended. Results and conclusions contained in this report are based on actual field examination of the survey area. They represent our best professional judgment, based on information provided by the project proponent, applicable agencies, and other sources.

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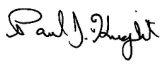

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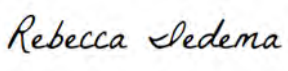

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APPENDIX A:

SOIL REPORT

United States Department of Agriculture

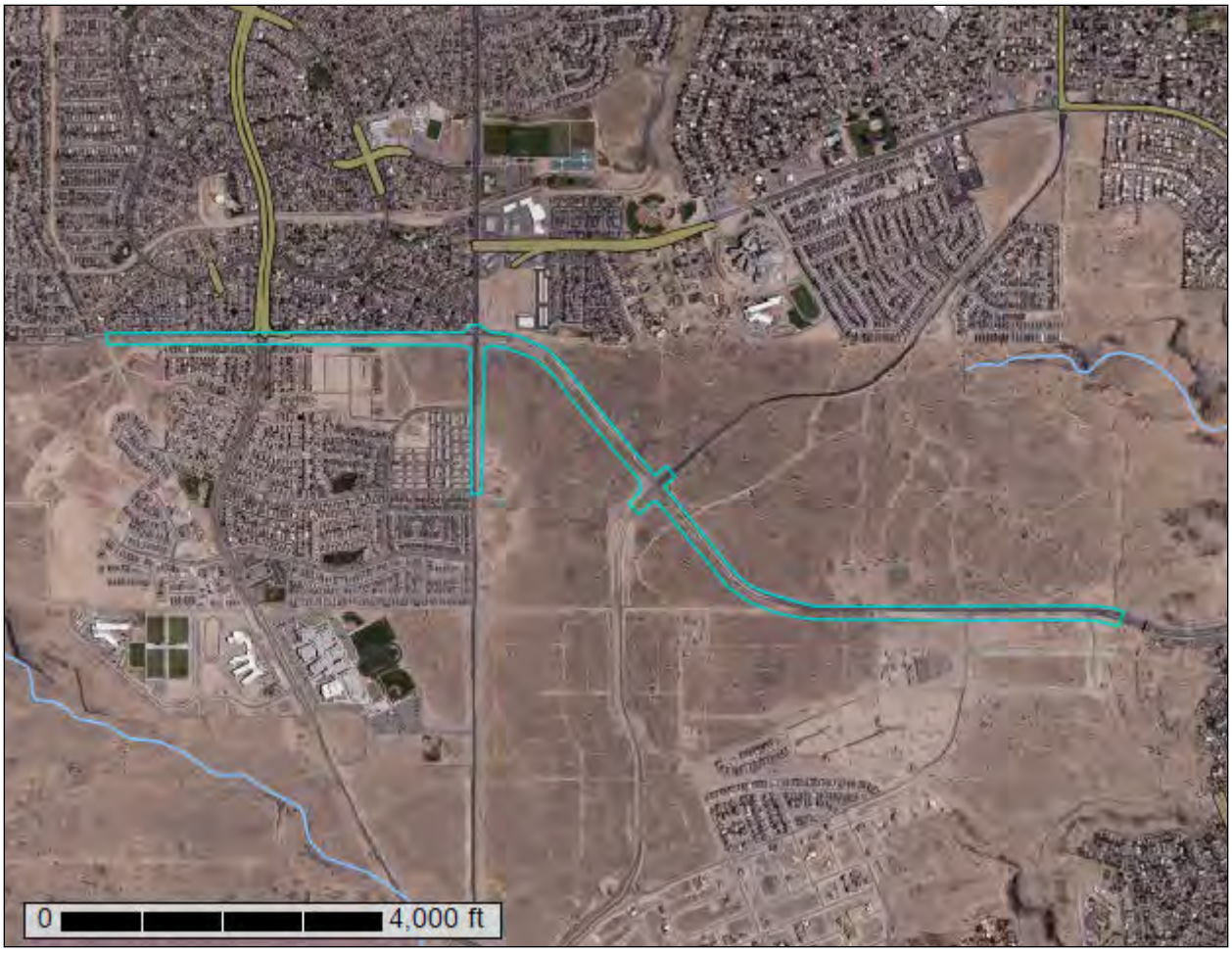
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico

WHP Paseo del Norte Widening



November 3, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

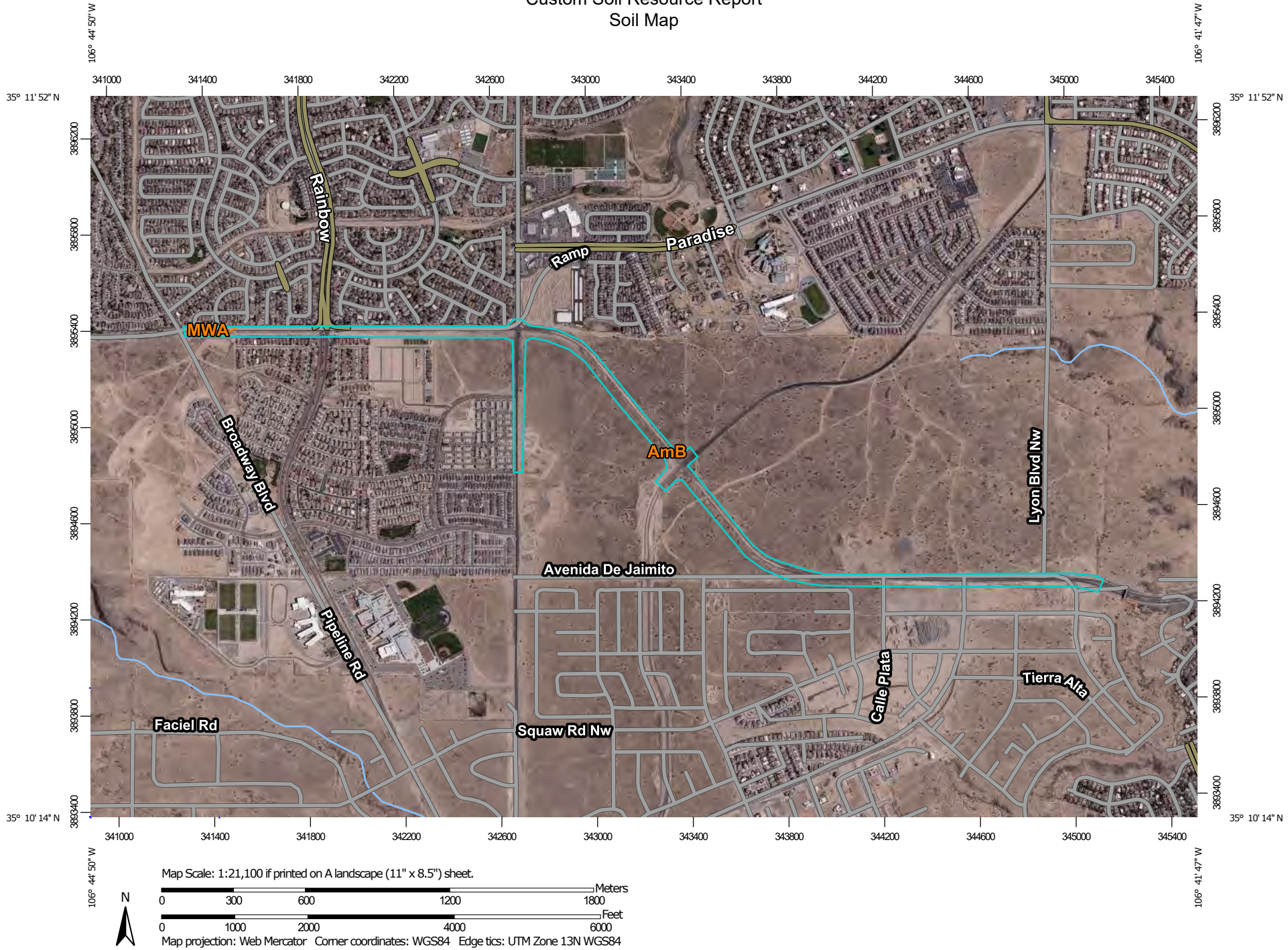
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:21,100 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 300 600 1200 1800

Feet: 0 1000 2000 4000 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico
Survey Area Data: Version 16, Sep 12, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 23, 2018—Sep 9, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AmB	Alemeda sandy loam, 0 to 5 percent slopes	61.9	97.7%
MWA	Madurez-Wink associatin, gently sloping	1.5	2.3%
Totals for Area of Interest		**63.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico

AmB—Alemeda sandy loam, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1vw7
Elevation: 2,200 to 6,000 feet
Mean annual precipitation: 4 to 12 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 170 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Alemeda and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alemeda

Setting

Landform: Hillslopes, lava flows
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Lower third of mountainflank, center third of mountainflank, side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 4 inches: sandy loam
H2 - 4 to 13 inches: gravelly sandy loam
H3 - 13 to 26 inches: very cobbly loam
H4 - 26 to 30 inches: bedrock

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 50 percent
Maximum salinity: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 6.0
Available water supply, 0 to 60 inches: Very low (about 2.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: R042XA056NM - Malpais

Hydric soil rating: No

Minor Components

Akela

Percent of map unit: 8 percent
Ecological site: R042XA056NM - Malpais
Hydric soil rating: No

Basalt outcrop

Percent of map unit: 8 percent
Hydric soil rating: No

Madurez

Percent of map unit: 7 percent
Ecological site: R042XA052NM - Loamy
Hydric soil rating: No

Wink

Percent of map unit: 7 percent
Ecological site: R042XA052NM - Loamy
Hydric soil rating: No

MWA—Madurez-Wink associatin, gently sloping

Map Unit Setting

National map unit symbol: 1vxn
Elevation: 1,400 to 6,000 feet
Mean annual precipitation: 4 to 13 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 170 to 290 days
Farmland classification: Not prime farmland

Map Unit Composition

Madurez and similar soils: 55 percent
Wink and similar soils: 25 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Madurez

Setting

Landform: Fan piedmonts, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 21 inches: fine sandy loam
H3 - 21 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 7 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: R042XA052NM - Loamy
Hydric soil rating: No

Description of Wink

Setting

Landform: Fan piedmonts, alluvial fans
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

H1 - 0 to 4 inches: fine sandy loam
H2 - 4 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 7 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R042XA052NM - Loamy
Hydric soil rating: No

Minor Components

Bluepoint

Percent of map unit: 7 percent
Ecological site: R042XA054NM - Deep Sand
Hydric soil rating: No

Latene

Percent of map unit: 7 percent
Ecological site: R042XA052NM - Loamy
Hydric soil rating: No

Pajarito

Percent of map unit: 6 percent
Ecological site: R042XA051NM - Sandy
Hydric soil rating: No

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APPENDIX B:

WATER RESOURCES INFORMATION

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was New Mexico State Plane, Central Zone (FIPS 3002). The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey, SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by City of Albuquerque, 2010, Bernalillo County, 2004, and 2010, Bureau of Land Management, 2003, National Geodetic Survey, 2003, and United States Geological Survey (USGS), 1999. Additional Information was photogrammetrically compiled at a scale of 1:12,000 from U.S. Department of Agriculture aerial photography dated 2009.

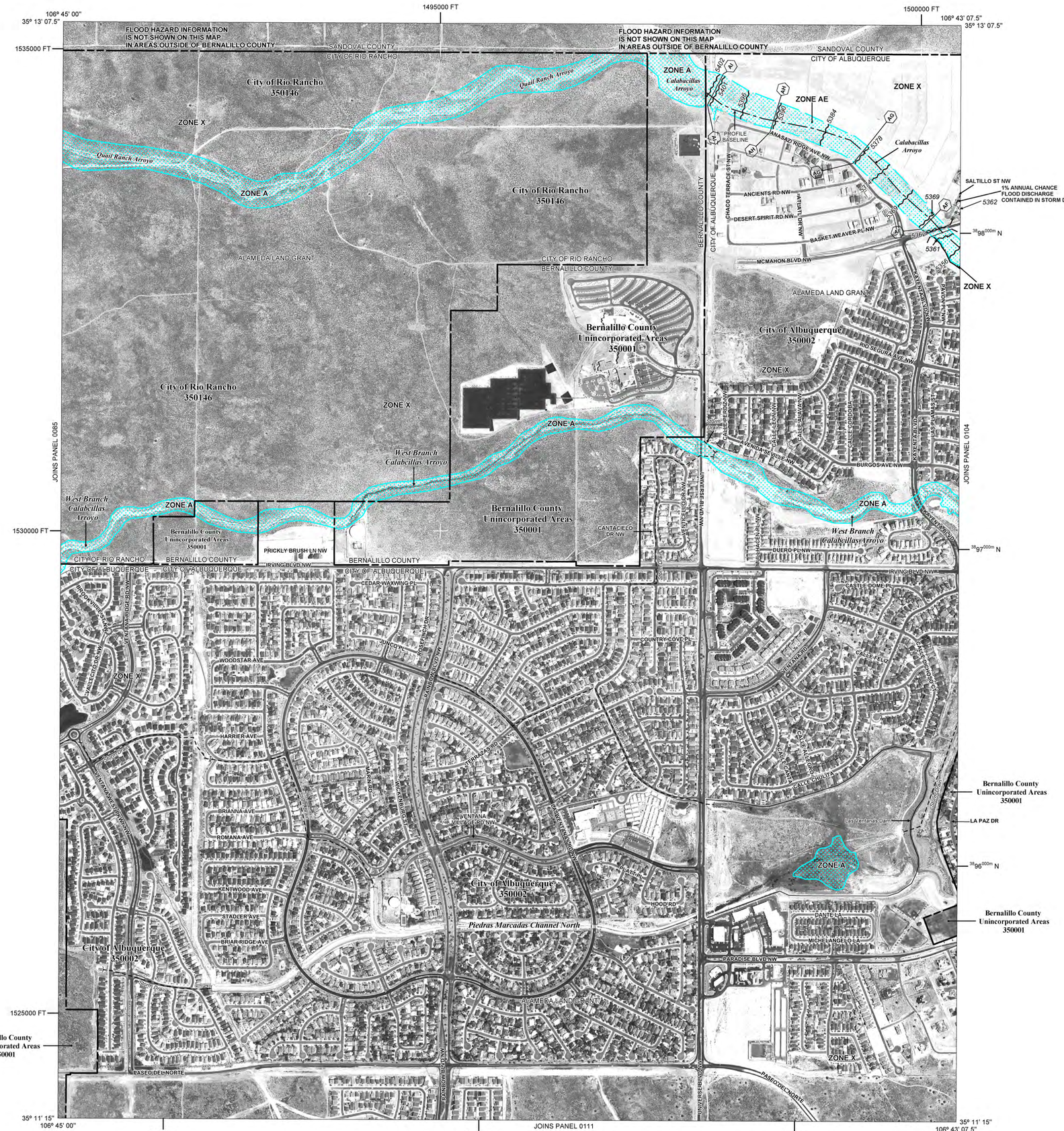
This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D Boundary
- CBRS and OPA Boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 (EL 987) — Base Flood Elevation line and value; elevation in feet* / Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 97° 07' 30", 32° 22' 30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 76000mE — 1000-meter Universal Transverse Mercator grid values, zone 13
- 600000 FT — 5000-foot grid ticks: New Mexico State Plane coordinate system, Central zone (FIPSZONE 3002), Transverse Mercator
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL

SEPTEMBER 20, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

April 2, 2002
November 19, 2003
September 26, 2008

August 16, 2012 - to update corporate limits, to change Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to add roads and road names, to incorporate previously issued Letters of Map Change.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0103H

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 103 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0103	H
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0103	H
RIO RANCHO, CITY OF	350146	0103	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 35001C0103H

MAP REVISED AUGUST 16, 2012

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was New Mexico State Plane, Central Zone. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

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Base map information shown on this FIRM was provided in digital format by Bernalillo County produced at a scale of 1:12,000 from photography dated 1999 or later.

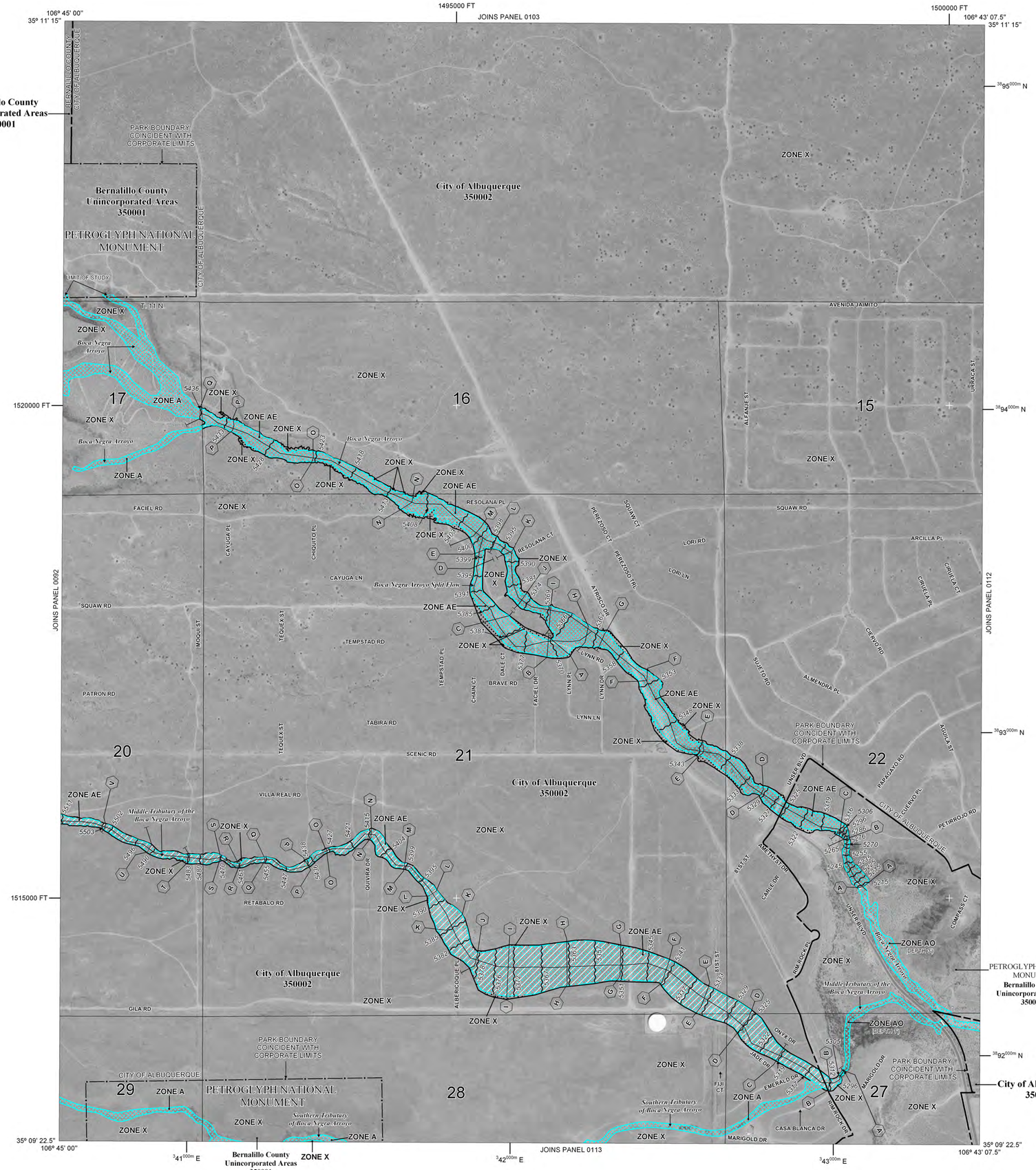
Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and their website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D Boundary
	CBRS and OPA Boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513 (EL 987)	Base Flood Elevation line and value; elevation in feet* / Base Flood Elevation value where uniform within zone; elevation in feet*
	*Referenced to the North American Vertical Datum of 1988
A — A	Cross section line
23 — 23	Transect line
97° 07' 30", 32° 22' 30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
76000mE	1000-meter Universal Transverse Mercator grid values, zone 13
600000 FT	5000-foot grid ticks: New Mexico State Plane coordinate system, Central zone (FIPSZONE 3002), Transverse Mercator
DX5510	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL

SEPTEMBER 20, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

April 2, 2002 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to add roads and road names, to reflect updated topographic information, and to incorporate previously issued Letters of Map Revision.

November 19, 2003 - to update corporate limits and to incorporate previously issued Letters of Map Revision.

September 26, 2008 - to update corporate limits, to change Special Flood Hazard Areas, to add roads and road names, to incorporate previously issued Letters of Map Revision, to reflect updated topographic information, to change Base Flood Elevations, to add Base Flood Elevations.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0111G

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 111 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0111	G
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0111	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 35001C0111G

MAP REVISED SEPTEMBER 26, 2008

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was New Mexico State Plane, Central Zone. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey, SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by Bernalillo County produced at a scale of 1:12,000 from photography dated 1999 or later.

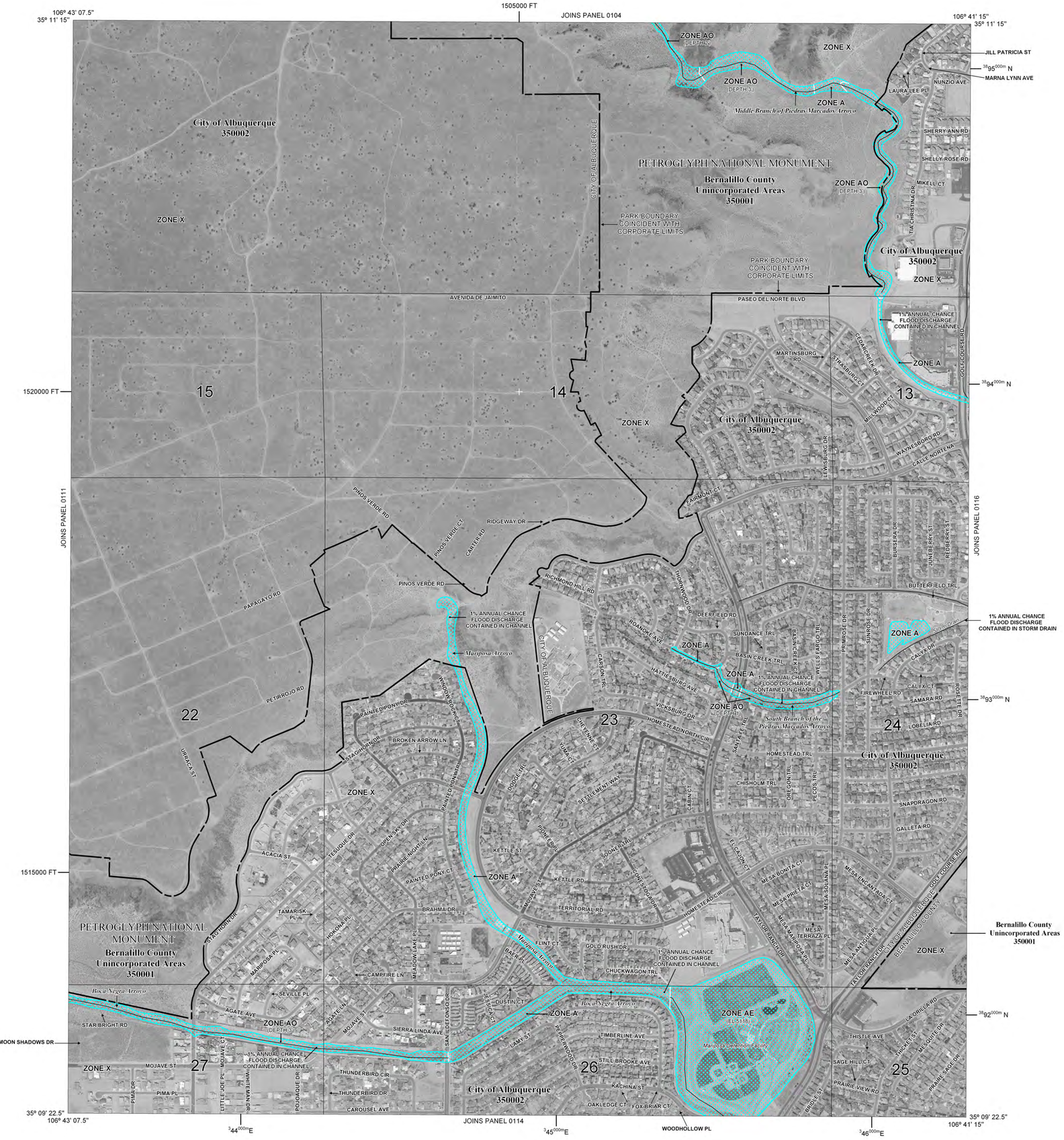
Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for the Flood Insurance Study report may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and their website at http://www.msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1- 877- FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D Boundary
	CBRS and OPA Boundary
	Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513 (EL 987)	Base Flood Elevation line and value; elevation in feet* / Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 — 23	Transect line
97° 07' 30", 32° 22' 30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4276000mE	1000-meter Universal Transverse Mercator grid values, zone 13
600000 FT	5000-foot grid ticks: New Mexico State Plane coordinate system, Central zone (FIPSZONE 3002), Transverse Mercator
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5	River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL

SEPTEMBER 20, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0112G

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 112 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE CITY OF	350002	0112	G
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0112	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
35001C0112G

MAP REVISED
SEPTEMBER 26, 2008

Federal Emergency Management Agency

APPENDIX C:

SPECIES LISTS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
Phone: (505) 346-2525 Fax: (505) 346-2542
http://www.fws.gov/southwest/es/NewMexico/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

In Reply Refer To: November 03, 2021
Consultation Code: 02ENNM00-2022-SLI-0101
Event Code: 02ENNM00-2022-E-00270
Project Name: WHP Paseo del Norte Widening

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally-listed species, consultation with the Service will be necessary. Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with

Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take "after-the-fact." For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

The scope of federally listed species compliance not only includes direct effects, but also any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects that may occur in the action area. The action area includes all areas to be affected, not merely the immediate area involved in the action. Large projects may have effects outside the immediate area to species not listed here that should be addressed. If your action area has suitable habitat for any of the attached species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico state agencies. These lists, along with species information, can be found at the following websites:

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program: www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.html

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at www.fws.gov/midwest/eagle/guidelines/bgepa.html.

On our web site www.fws.gov/southwest/es/NewMexico/SBC_intro.cfm, we have included conservation measures that can minimize impacts to federally listed and other sensitive species. These include measures for communication towers, power line safety for raptors, road and highway improvements, spring developments and livestock watering facilities, wastewater facilities, and trenching operations.

We also suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State fish, wildlife, and plants.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please call 505-346-2525 or email nmesfo@fws.gov and reference your Service Consultation Tracking Number.

Attachment(s):

- Official Species List
- Migratory Birds

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

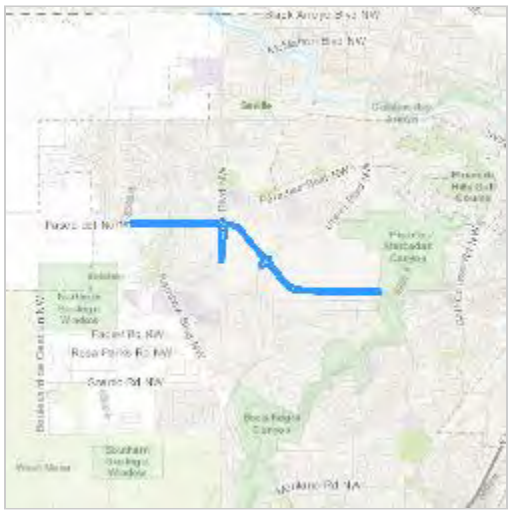
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

Project Summary

Consultation Code: 02ENNM00-2022-SLI-0101
Event Code: Some(02ENNM00-2022-E-00270)
Project Name: WHP Paseo del Norte Widening
Project Type: TRANSPORTATION
Project Description: Road widening project for Paseo Del Norte on the west side of Albuquerque near Rio Rancho.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.1843087,-106.72062813652772,14z



Counties: Bernalillo County, New Mexico

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7965	Endangered

Birds

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Rio Grande Silvery Minnow *Hybognathus amarus*	Endangered

Population: Wherever found, except where listed as an experimental population
There is **final** critical habitat for this species. The location of the critical habitat is not available.
Species profile: https://ecos.fws.gov/ecp/species/1391

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Cassin's Finch *Carpodacus cassinii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15

NAME	BREEDING SEASON
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
Grace's Warbler *Dendroica graciae* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 20 to Jul 20
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Pinyon Jay *Gymnorhinus cyanocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9420	Breeds Feb 15 to Jul 15
Virginia's Warbler *Vermivora virginiae* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9441	Breeds May 1 to Jul 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum

probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

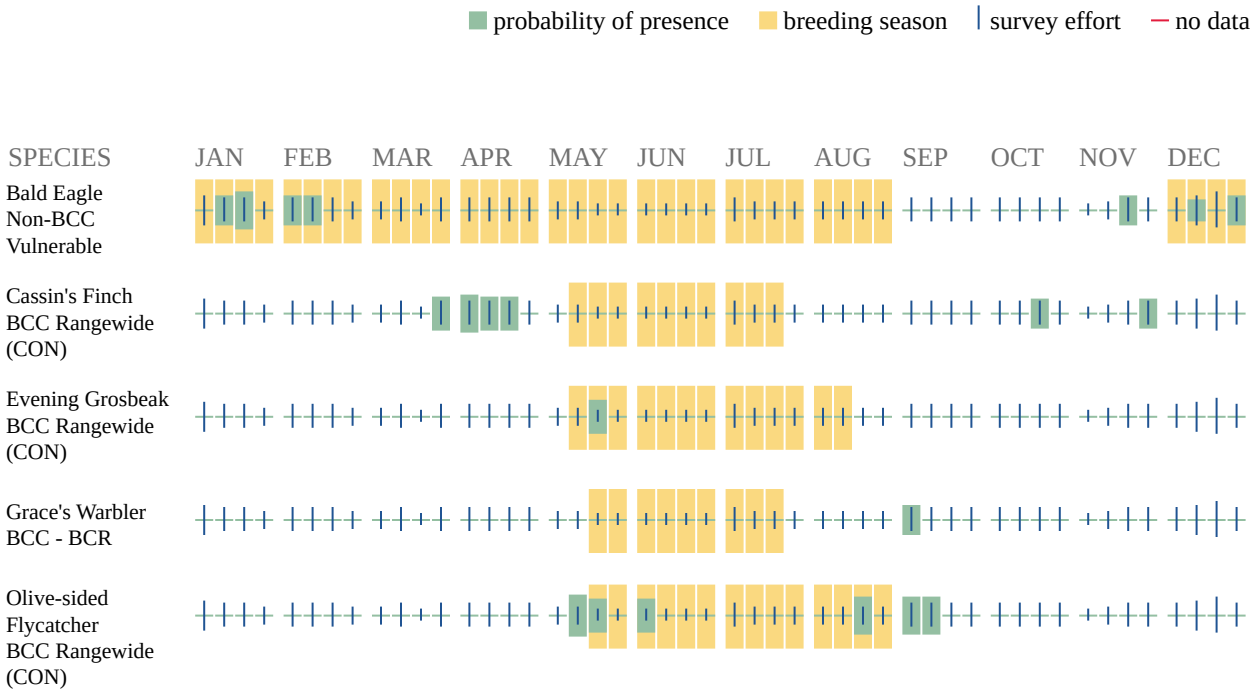
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

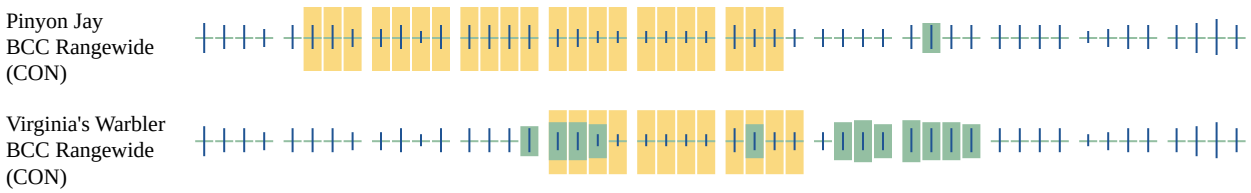
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical

Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

PROJECT INFORMATION

Project Title:	WHP Paseo del Norte Widening
Project Type:	TRANSPORTATION, ROADS AND BRIDGES, ROADS AND BRIDGES-NEW CONSTRUCTION OR MAJOR EXPANSION/RETROFIT
Latitude/Longitude (DMS):	35.185522 / -106.721890
County(s):	BERNALILLO
Project Description:	Road widening project for Paseo Del Norte on the west side of Albuquerque near Rio Rancho.

REQUESTOR INFORMATION

Project Organization:	OTHER
Contact Name:	Mikaela Buscher
Email Address:	mikaela.buscher@NV5.com
Organization:	NV5
Address:	4374 Alexander Blvd NE, Suite K, Albuquerque NM 87107
Phone:	651-231-8000

OVERALL STATUS

The information contained within this report comprises the recommendations of the New Mexico Department of Game and Fish (Department) for management and mitigation of proposed project impacts to wildlife and habitat resources; see the Project Recommendations section below for further details. No further consultation with the Department is required based on the project's location and, with implementation of mitigation measures described in the Project Recommendations section below, no adverse effects to wildlife or important habitats are anticipated. However, a Department biologist may be in touch within 30 days if they determine that further review is required.

About this report:

- This environmental review is based on the project description and location that was entered. The report must be updated if the project type, area, or operational components are modified.
- This is a preliminary environmental screening assessment and report. It is not a substitute for the potential wildlife knowledge gained by having a biologist conduct a field survey of the project area. Federal status and plant data are provided as a courtesy to users. The review is also not intended to replace consultation required under the federal Endangered Species Act (ESA), including impact analyses for federal resources from the U.S. Fish and Wildlife Service (USFWS) using their Information for Planning and Consultation tool.
- The New Mexico Environmental Review Tool (ERT) utilizes species observation locations and species distribution models, both of which are subject to ongoing change and refinement. Inclusion or omission of a species within a report can not guarantee species presence or absence at a precise point location, as might be indicated through comprehensive biological surveys. Specific questions regarding the potential for adverse impacts to vulnerable wildlife populations or habitats, especially in areas with a limited history of biological surveys, may require further on-site assessments.
- The Department encourages use of the ERT to modify proposed projects for avoidance, minimization, or mitigation of wildlife impacts. However, the ERT is not intended to be used in a repeatedly iterative fashion to adjust project attributes until a previously determined recommendation is generated. The ERT serves to asses impacts once project details are developed. The New Mexico Crucial Habitat Assessment Tool is the appropriate system for advising early-stage project planning and design to avoid areas of anticipated wildlife concerns and associated regulatory requirements.

WHP Paseo del Norte Widening

Project Boundary
Buffered Project Boundary

NM_SurfaceOwnership_2016

- Bureau of Land Management
- Bureau of Reclamation
- US Dept. of Agriculture
- Military
- Dept. of Energy
- US Forest Service
- Wildlife Area/Refuge
- Tribal
- National Park/Mon.
- Private
- State Land Office
- NM Game & Fish Dept.
- State Park

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

Special Status Animal Species within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMDGF (WCA)	NMDGF SGCN/SERI
Northern Leopard Frog	Lithobates pipiens			SGCN
American Bittern	Botaurus lentiginosus			SGCN
Bald Eagle	Haliaeetus leucocephalus		T	SGCN
Aplomado Falcon	Falco femoralis		E	SGCN
Peregrine Falcon	Falco peregrinus		T	SGCN
Mountain Plover	Charadrius montanus			SGCN
Elf Owl	Micrathene whitneyi			SGCN
Western Burrowing Owl	Athene cunicularia hypugaea			SGCN
Lewis's Woodpecker	Melanerpes lewis			SGCN
Red-Headed Woodpecker	Melanerpes erythrocephalus			SGCN
Williamson's Sapsucker	Sphyrapicus thyroideus			SGCN
Olive-Sided Flycatcher	Contopus cooperi			SGCN
Bank Swallow	Riparia riparia			SGCN
Pinyon Jay	Gymnorhinus cyanocephalus			SGCN
Clark's Nutcracker	Nucifraga columbiana			SGCN
Juniper Titmouse	Baeolophus ridgwayi			SGCN
Pygmy Nuthatch	Sitta pygmaea			SGCN
Western Bluebird	Sialia mexicana			SGCN
Bendire's Thrasher	Toxostoma bendirei			SGCN
Loggerhead Shrike	Lanius ludovicianus			SGCN
Gray Vireo	Vireo vicinior		T	SGCN
Painted Redstart	Myioborus pictus			SGCN
Spotted Bat	Euderma maculatum		T	SGCN
Black-Tailed Prairie Dog	Cynomys ludovicianus			SGCN
Gunnison's Prairie Dog	Cynomys gunnisoni			SGCN
Cougar	Puma concolor			SERI
Mule Deer	Odocoileus hemionus			SERI

ESA = Endangered Species Act, WCA = Wildlife Conservation Act, SGCN = Species of Greatest Conservation Need, SERI = Species of Economic and Recreational Importance

Special Status Plant Species within 1 Miles of Project Area

Common Name	Scientific Name	USFWS (ESA)	NMAC	NMRPCS
La Jolla Prairie Clover	Dalea scariosa			SS
Dune Unicorn-Plant	Proboscidea sabulosa			

NMAC = New Mexico Administrative Code, NMRPCS = New Mexico Rare Plant Conservation Strategy, SS = NM Rare Plant Conservation Strategy Species

Project Recommendations

Since the proposed highway project includes bridge or road construction activities, the Department recommends implementation of its Bridge and Road Reconstruction Guidelines for Wetland and Riparian Areas for any rivers, streams, washes, springs, seeps, or riparian areas that are fall within the impact footprint of this project. These guidelines should assist in minimizing impacts to the river or wetland, and should be incorporated into the standard best management practices for these types of construction activities.
The Department also recommends that preconstruction bat surveys be conducted during summer months to determine if bats occur are present, and if they are determined to occur at bridge sites, work be scheduled to avoid impacting bats that may roost there (i.e., conduct work in winter months).

Burrowing owl is known to occur within or near your project area. Before any ground disturbing activities occur, the Department recommends that a preliminary survey be conducted between April and September, using the Department's burrowing owl survey protocol. Should burrowing owls be documented in the project area, please contact the Department or USFWS for further recommendations regarding relocation or avoidance of impacts.

Disclaimers regarding recommendations:

- The Department provides technical guidance to support the persistence of all protected species of native fish and wildlife, including game and nongame wildlife species. Species listed within this report include those that have been documented to occur within the project area, and others that may not have been documented but are projected to occur within the project vicinity.
- Recommendations are provided by the Department under the authority of § 17-1-5.1 New Mexico Statutes Annotated 1978, to provide "communication and consultation with federal and other state agencies, local governments and communities, private organizations and affected interests responsible for habitat, wilderness, recreation, water quality and environmental protection to ensure comprehensive conservation services for hunters, anglers and nonconsumptive wildlife users".
- The Department has no authority for management of plants or Important Plant Areas. The New Mexico Endangered Plant Program, under the Energy, Minerals, and Natural Resources Department's Forestry Division, identifies and develops conservation measures necessary to ensure the survival of plant species within New Mexico. Plant status information is provided within this report as a courtesy to users. Recommendations provided within the ERT may not be sufficient to preclude impacts to rare or sensitive plants, unless conservation measures are identified in coordination with the Endangered Plant Program.
- Additional coordination may also be necessary under the federal ESA or National Environmental Policy Act (NEPA). Further site-specific recommendations may be proposed during ESA and/or NEPA analyses, or through coordination with affected federal agencies.

NEW MEXICO STATE ENDANGERED PLANT SPECIES (19.21.2.8 NMAC)

Detailed information and images of many of these and other rare plants can be found at the New Mexico Rare Plants website (https://nmrareplants.unm.edu/). Also, click on botanical name in table to get detailed information for each species from New Mexico Rare Plants Website.

Botanical Name	Common Name	New Mexico Counties
Agalins calycina	Leoncita false-foxglove	Chaves
Aliciella formosa	Aztec gilia	San Juan
Allium gooddingii	Goodding's onion	San Juan, McKinley, Catron, Lincoln
Amsonia tharpii	Tharp's bluestar	Eddy
Argemone pinnatisecta	Sacramento prickly poppy	Otero
Astragalus humillimus	Mancos milkvetch	San Juan
Castilleja ornata	Swale paintbrush	Hidalgo
Castilleja tomentosa	Tomentose paintbrush	Hidalgo
Cirsium vinaceum	Sacramento Mountains thistle	Otero
Cirsium wrightii	Wright's marsh thistle	Chaves, Guadalupe, Otero, Sierra, Socorro
Cleome multicaulis (Peritoma multicaulis)	slender spiderflower	Grant, Hidalgo
Coryphantha robustispina ssp. scheeri	Scheer's pincushion cactus	Chavez, Eddy
Cylindropuntia viridiflora	Santa Fe cholla	Santa Fe
Cymopterus spellenbergii	Spellenberg's springparsley	Rio Arriba, Taos
Cypripedium parviflorum var. pubescens	golden lady's slipper	San Juan, Grant, San Miguel
Echinocereus fendleri var. kuenzleri	Kuenzler's hedgehog cactus	Chavez, Eddy, Lincoln, Otero
Erigeron hessii	Hess' fleabane	Catron
Erigeron rhizomatus	Zuni fleabane	Catron, McKinley, San Juan
Eriogonum gypsophilum	gypsum wild buckwheat	Eddy

Escobaria duncanii	Duncan's pincushion cactus	Sierra
Escobaria organensis	Organ Mountain pincushion cactus	Doña Ana
Escobaria sneedii var. leei	Lee's pincushion cactus	Eddy
Escobaria sneedii var. sneedii	Sneed's pincushion cactus	Doña Ana
Escobaria villardii	Villard's pincushion cactus	Doña Ana, Otero
Hedeoma todsenii	Todsen's pennyroyal	Otero, Sierra
Helianthus paradoxus	Pecos sunflower	Cibola, Valencia, Socorro, Guadalupe, Chavez
Hexalectris colemanii	Coleman’s coralroot	Hidalgo
Hexalectris nitida	shining coralroot	Eddy, Otero
Hexalectris arizonica	crested coralroot	Sierra, Otero, Hidalgo
Ipomopsis sancti-spiritus	Holy Ghost ipomopsis	San Miguel
Lepidospartum burgessii	gypsum scalebroom	Otero
Lilium philadelphicum	wood lily	Otero, Los Alamos, Sandoval, San Miguel, Santa Fe
Linum allredii	Allred’s flax	Eddy
Opuntia arenaria	sand prickly pear	Doña Ana, Luna, Socorro
Pediocactus knowltonii	Knowlton's cactus	San Juan
Pediomelum pentaphyllum	Chihuahua scurfpea	Hidalgo
Peniocereus greggii	night-blooming cereus	Doña Ana, Grant, Hidalgo, Luna
Penstemon metcalfei	Metcalfe’s beardtongue	Sierra
Polygala rimulicola var. mescalerorum	San Andres milkwort	Doña Ana
Puccinellia parishii	Parish's alkali grass	Catron, Cibola, Grant, Hidalgo, McKinley, Sandoval, San Juan
Sclerocactus cloverae	Clover’s cactus	Rio Arriba, San Juan, Sandoval

Sclerocactus mesae-verdae	Mesa Verde cactus	San Juan
Scophularia macrantha	Mimbres figwort	Grant, Luna
Spiranthes magnicamporum	lady tresses orchid	Bernalillo, Santa Fe, Guadalupe, Rio Arriba
Townsendia gypsophila	gypsum Townsend's aster	Sandoval

NM STATE UNIVERSITY

New Mexico Department of Agriculture
Office of the Director/Secretary
MSC 3189
New Mexico State University
P.O. Box 30005
Las Cruces, NM 88003-8005
575-646-3007

October 19, 2016

MEMORANDUM

TO: General Public

FROM: Director/Secretary Jeff Witte

SUBJECT: New Mexico Noxious Weed List Update

The Director of the New Mexico Department of Agriculture has selected the following plant species *(see attached New Mexico Noxious Weed List)* to be targeted as noxious weeds for control or eradication pursuant to the Noxious Weed Management Act of 1998.

Petitions to add new plant species to the state noxious weed list were solicited and received by the New Mexico Department of Agriculture (NMDA) from Cooperative Weed Management Areas, individuals, agencies, and organizations. The petitions were reviewed by the New Mexico Weed List Advisory Committee using ecological, distribution, impact, and legal status criteria within the State of New Mexico and adjoining states and countries. Based on their extensive knowledge and experience, experts from the New Mexico State University Plant Sciences Department added several species as well.

This list does not include every plant species with the potential to negatively impact the state's environment or economy. Landowners and land managers are encouraged to recognize plant species listed on the federal noxious weed list and other western states' noxious weed lists as potentially having negative impacts and to manage them accordingly.

New Mexico Noxious Weed List

Updated September 2016

Class A Species

Class A species are currently not present in New Mexico, or have limited distribution. Preventing new infestations of these species and eradicating existing infestations is the highest priority.

Common Name	Scientific Name
Alfombrilla	*Drymaria arenariodes*
Black henbane	*Hyoscyamus niger*
Brazillian egeria	*Egeria densa*
Camelthorn	*Alhagi psuedalhagi*
Canada thistle	*Cirsium arvense*
Dalmation toadflax	*Linaria dalmatica*
Diffuse knapweed	*Centaurea diffusa*
Dyer's woad	*Isatis tinctoria*
Giant salvinia	*Salvinia molesta*
Hoary cress	*Cardaria spp.*
Leafy spurge	*Euphorbia esula*
Oxeye daisy	*Leucanthemum vulgare*
Purple loosestrife	*Lythrum salicaria*
Purple starthistle	*Centaurea calcitrapa*
Ravenna grass	*Saccharum ravennae*
Scentless chamomile	*Matricaria perforata*
Scotch thistle	*Onopordum acanthium*
Spotted knapweed	*Centaurea biebersteinii*
Yellow starthistle	*Centaurea solstitialis*
Yellow toadflax	*Linaria vulgaris*

Class B Species

Class B Species are limited to portions of the state. In areas with severe infestations, management should be designed to contain the infestation and stop any further spread.

Common Name	Scientific Name
African rue	*Peganum harmala*
Bull thistle	*Cirsium vulgare*
Chicory	*Cichorium intybus*
Halogeton	*Halogeton glomeratus*
Malta starthistle	*Centaurea melitensis*
Perennial pepperweed	*Lepidium latifolium*
Poison hemlock	*Conium maculatum*

Quackgrass	*Elytrigia repens*
Russian knapweed	*Acroptilon repens*
Spiny cocklebur	*Xanthium spinosum*
Teasel	*Dipsacus fullonum*

Class C Species

Class C species are wide-spread in the state. Management decisions for these species should be determined at the local level, based on feasibility of control and level of infestation.

Common Name	**Scientific Name**
Cheatgrass	*Bromus tectorum*
Curlyleaf pondweed	*Potamogeton crispus*
Eurasian watermilfoil	*Myriophyllum spicatum*
Giant cane	*Arundo donax*
Hydrilla	*Hydrilla verticllata*
Jointed goatgrass	*Aegilops cylindrica*
Musk thistle	*Carduus nutans*
Parrotfeather	*Myriophyllum aquaticum*
Russian olive	*Elaeagnus angustifolia*
Saltcedar	*Tamarix spp.*
Siberian elm	*Ulmus pumila*
Tree of heaven	Ailanthus altissima

Watch List Species

Watch List species are species of concern in the state. These species have the potential to become problematic. More data is needed to determine if these species should be listed. When these species are encountered please document their location and contact appropriate authorities.

Common Name	**Scientific Name**
Crimson fountaingrass	*Pennisetum setaceum*
Meadow knapweed	*Centaurea pratensis*
Myrtle spurge	*Euphorbia myrsinites*
Pampas grass	*Cortaderia sellonana*
Sahara mustard	*Brassica tournefortii*
Syrian beancaper	*Zygophyllum fabago L.*
Wall rocket	*Diplotaxis tenuifolia*