

RESOLUTION OF THE
RESOURCES AND DEVELOPMENT COMMITTEE
23rd Navajo Nation Council --- Fourth Year, 2018

AN ACTION

RELATING TO RESOURCES AND DEVELOPMENT COMMITTEE; CERTIFYING
IYANBITO CHAPTER'S COMMUNITY-BASED LAND USE PLAN WHICH HAS
REEVALUATED AND READJUSTED IYANBITO CHAPTER'S FIRST COMMUNITY-
BASED LAND USE PLAN

BE IT ENACTED:

SECTION ONE. AUTHORITY

- A. The Resources and Development Committee, pursuant to 26 N.N.C. § 2004(D)(2) shall certify community-based land use plans.
- B. Pursuant to 26 N.N.C. § 2004(D)(2), "Every five years the plan shall be reevaluated and readjusted to meet the needs of the changing community" and such readjustment is subject to the certification of the Resources and Development Committee of the Navajo Nation Council.
- C. Pursuant to 26 N.N.C. § 2004 (B); "Community-Based Land Use Plan. The chapter, at a duly-called chapter meeting shall by resolution, vote to implement a community-based land use plan, after the CLUPC has educated the community on the concepts, needs, and process for planning and implementing a community-based land use plan. The community-based land use plan shall project future community land needs, shown by location and extent, of areas identified for residential, commercial, industrial, and public purposes. The land use plan shall be based upon the guiding principles and vision as articulated by the community; along with information revealed in inventories and assessments of the natural, cultural, human resources, and community infrastructure; and, finally with consideration for the land-carrying capacity. Such a plan may also include the following: 1. An open space plan which preserves for the people certain areas to be retained in their natural state or developed for recreational purposes.

2. A thoroughfare plan which provides information about the existing and proposed road network in relation to the land use of the surrounding area. 3. A community facilities plan which shows the location, type, capacity, and area served, of present and projected or required community facilities including, but not limited to, recreation areas, schools, libraries, and other public buildings. It will also show related public utilities and services and indicate how these services are associated with future land use".

SECTION TWO. FINDINGS

- A. Pursuant to Committee Resolution TCDCAU-35-05, the Transportation and Community Development Committee (predecessor to the Resources and Development Committee; CO-45-12) approved the Iyanbito Chapter's Community-Based Land Use Plan in 2005.
- B. Pursuant to Iyanbito Resolution ICH-67-09/17-001, attached as **Exhibit B**, the Iyanbito Chapter approved the Community-Based Land Use Plan which is attached as **Exhibit A**.
- C. The Resources and Development Committee of the Navajo Nation Council finds it in the best interest of the Navajo Nation to certify the Iyanbito Chapter's Community-Based Land Use Plan which has been reevaluated and readjusted to meet the needs of the changing community.

SECTION THREE. CERTIFICATION OF IYANBITO CHAPTER'S REEVALUATED AND READJUSTED COMMUNITY-BASED LAND USE PLAN

- A. The Resources and Development Committee of the Navajo Nation Council hereby certifies the reevaluated and readjusted Iyanbito Chapter's Community-Based Land Use Plan, attached hereto as **Exhibit A**.
- B. Certification of this Community-Based Land Use Plan shall not delineate adjacent chapter boundaries. Any chapter disputes rest solely with the Courts of the Navajo Nation.

CERTIFICATION

I, hereby, certify that the following resolution was duly considered by the Resources and Development Committee of the 23rd Navajo Nation Council at a duly called meeting at the Navajo Nation Council Chambers, Window Rock, Navajo Nation (Arizona), at which a quorum was present and that same was passed by a vote of 3 in favor, and 0 opposed, on this 3rd day of October 2018.

A handwritten signature in black ink, appearing to read 'B. Bennett', with a long horizontal stroke extending to the right.

Benjamin Bennett, Vice Chairperson
Resources and Development Committee
of the 23rd Navajo Nation Council

Motion: Honorable Davis Filfred
Second: Honorable Leonard Pete

Vice Chairperson Benjamin Bennett not voting.



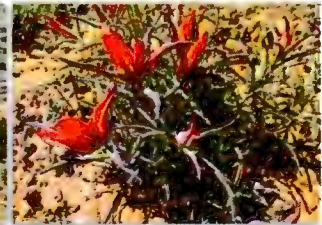
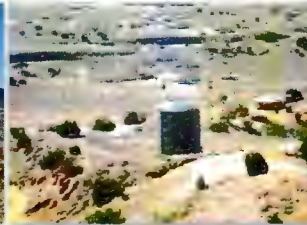
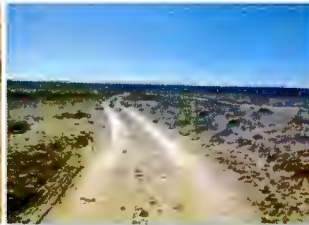
IYANBITO

CHAPTER

LAND USE PLAN

Ayáni bi to' / Tí'izí Iigaii

Also know as former
Fort Wingate Employee Camp
Perea



Iyanbito, New Mexico
Eastern Navajo Agency - The Navajo Nation
AUGUST 2017

ACKNOWLEDGEMENTS

The Iyanbito Chapter and its Land Use Planning Committee extends its sincere appreciation to everyone who contributed to the development of this land use plan. Special thanks to:

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1 INTRODUCTION

This Land Use Plan is an official public document approved by the Iyanbito Chapter membership through Chapter Resolution ICHH67 08/17-0055 (inserted at the beginning of this document).

Title 26 Navajo Nation Local Governance Act (LGA) provides authorization to the chapters to develop a land use plan. With this authorization, Iyanbito Chapter developed its first Land Use Plan in 2001 and it was certified by the Navajo Nation Council Transportation and Community Development Committee in 2003. In November 2012, the Chapter began the process of revising and updating its land use plan. Thus, this Land Use Plan satisfies the land use certification process under the LGA, as amended.

Much of the Land Use Plan flows from the voices of the community's members and its chapter leadership including the elected officials and the Community Land Use Planning Committee (CLUPC). With a unique cultural perspective, the plan incorporates the traditions and customs of the past and articulates the community's overarching goals, objectives, and strategies to guide and coordinate land uses today and in the future.

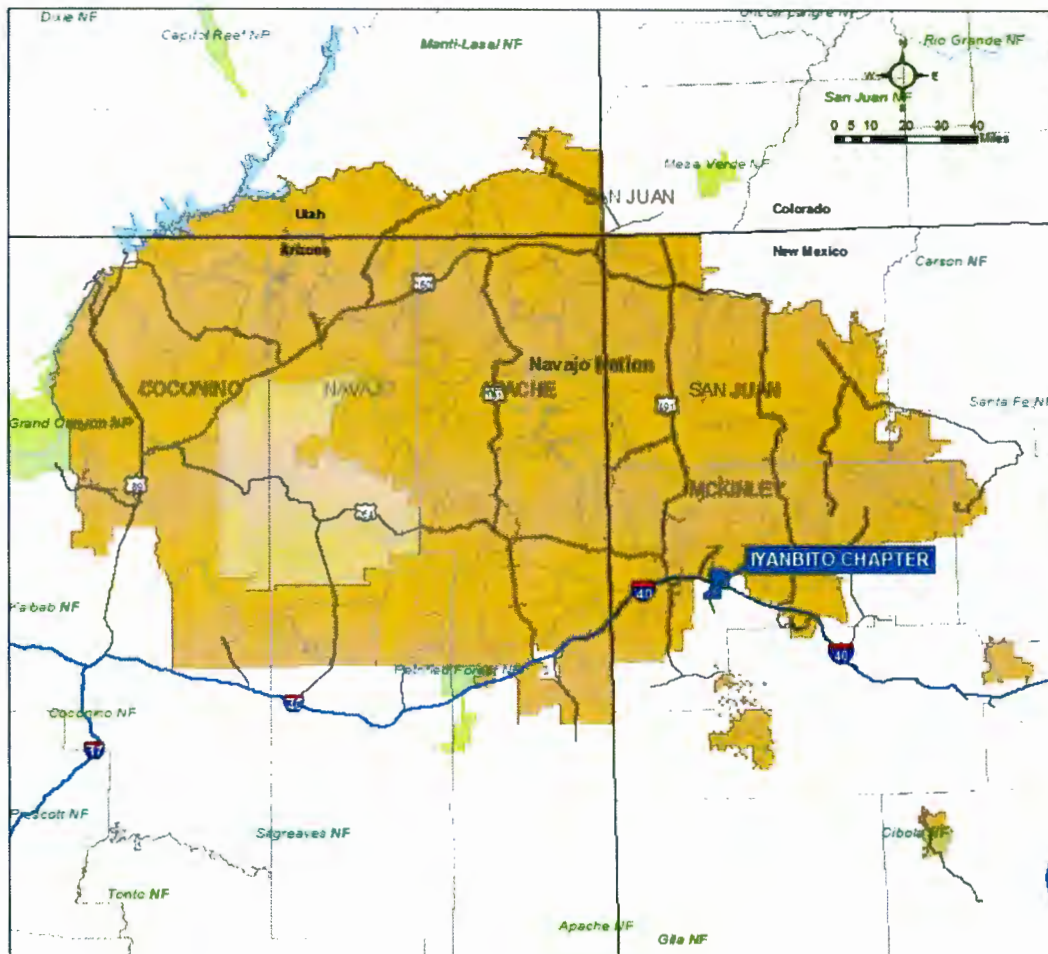
The Land Use Plan is a flexible guide for achieving balanced growth and preserving the unique character of the community. It is meant to provide a general direction for more detailed decisions and function as a practical working plan.

2 COMMUNITY INVENTORY AND ASSESSMENT

2.1 LOCATION

The Iyanbito Chapter is located along Interstate 40 in southwestern New Mexico (**Map 1**). Situated in McKinley County, New Mexico, the Chapter house is located along Iyanbito Road approximately 15 miles east of the Gallup, New Mexico. Thoreau is about 20 miles to the east and Continental Divide is approximately 10 miles to the east. Tribally, the Chapter is part of the Eastern Navajo Agency and is under the Bureau of Indian Affairs (BIA) within Grazing District 16. Neighboring chapters include Churchrock to the west, Pinedale to the north, Thoreau to the east and Baahaali to the southwest.

Map 1. Location of Iyanbito Chapter





2.2 BRIEF CHAPTER HISTORY

The Chapter is recognized and certified as the Iyanbito Chapter within the Navajo Tribal government. The Navajo Tribal Council certified the Chapter on December 5, 1968 pursuant to Resolution No. CM-28-58 (2N.T.C. 1281).

The name Iyanbito means “buffalo’s water” (or springs), which derives from the historic time when buffalo herds gathered at a watering hole located east of the present chapter site. Iyanbito is one of the communities with a small land base and increasing population demands.

An area east of Iyanbito is known as Whitegoat Ranch. Only white goats were bought, sold and traded there by an anglo rancher or trader. Then the BIA set up a Day School in the 1940s. Became known as a Iyanbito Day School. It consisted of the kindergarten and first grade classes. Many community members started their educational journeys from there. There, we experienced our first knowledge of electricity and running water. Along with reading, writing and learning a foreign language (English). (Provided by Glen Charleston, 2016)

The Iyanbito/Fort Wingate/McGaffey area as a whole was part of Diné Bikéyah (Navajoland) and is connected to and embedded in Diné sacred geographies through oral history and continued use up to the time of forced removal by the U.S.



Photo Credit: Alice M. Larry



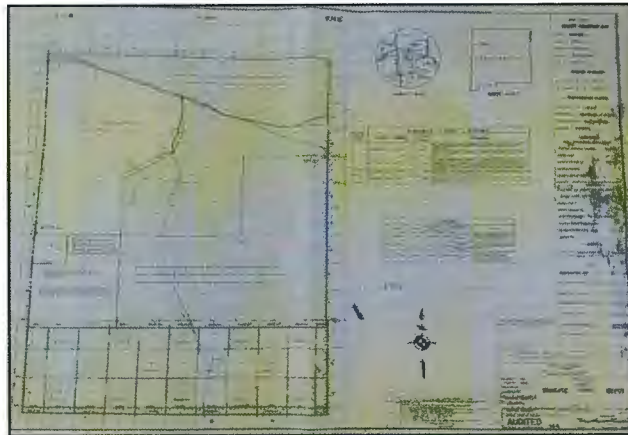
Government. The natural and cultural resources associated with the Diné cultural landscape speak to the significance and integrity of association our people have with the land.

Bear Spring (Shush bi' toh) is sacred to the Navajo. It was one of the dependable water sources in the region. Historical records date use of Bear Springs by the Navajo as early as the 1700's. During early 1800s, Bear Spring became the site of conflicts between the Navajo, Utes, Spanish and U.S. military. The spring also served as a site for peace negotiations (Lawrence).

Official archeological and Navajo DNA indicate the Navajo have been in this area including the Fort Wingate land since time immemorial. Navajos are aboriginal descendants of the land and historical records support the fact the Navajo was the only Indian tribe inhabiting the lands at the time Fort Fauntleroy/Fort Wingate was established.

In 1860, the U.S. government established a military post (Fort Fauntleroy) at Bear Springs to protect westward travelers. Fort Wingate was originally established to ensure the Navajos were "contained." To assure this containment (imprisonment, really), the Navajo's source of food – farm plots and livestock were burned. At that time, the Navajos were left no choice but to surrender – resulting in the Long Walk and ultimate imprisonment.

In 1868, the post was renamed Fort Wingate and became an active military training post until it was abandoned in 1910. In 1914, the fort was temporarily used as a refugee camp for Mexican immigrants. In 1918, the fort became, under the auspices of the Ordnance Department, a warehouse for explosives. Since the 1920s, the fort has continued to serve as a military base for weapons storage, testing and demolition.



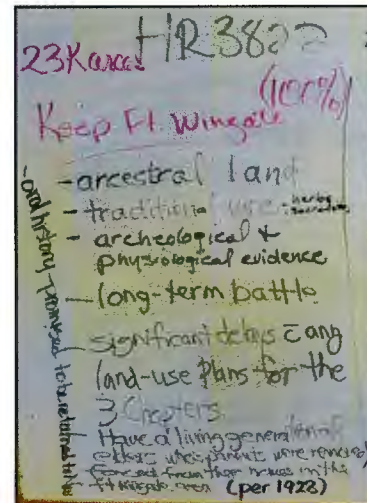
Map showing Fort Wingate Area (Source: BIA)

During World War II, Navajo families were forcibly removed from the area again with the promise that the land would one day be returned. Families left behind hogans, livestock corrals, sweat houses, and religiously significant water features, historical hunting areas, agricultural and herding areas, mineral and plant gathering locations, burial sites, and offering material sites. Some community members had family members that recalled seeing their places burned down.

The base covers an area of approximately 21,812 acres, of which 46% was designated for ammunition storage, demolition activities and administrative purposes. The remainder of the land was set aside for buffer/security zones and undisturbed forest.

The Defense Base Closure and Realignment Act of 1988 closed the military facilities at Fort Wingate in 1993. Since then, the base has remained under U.S. Army caretaker status. The Navajo Nation, the City of Gallup and the Zuni Tribe have attempted to negotiate with the U.S. Army for the return of the land. However, several factors, including the U.S. Army's low priority for cleanup of the site, their reluctance to relinquish the site, and the competing interests of the claimants, led to a breakdown in negotiation.

Claims have been made by the Iyanbito, Bread Springs and Church Rock Chapters. In 1870, by virtue of Executive Order, the land was transferred from the Navajo Nation to the U.S. Army, with the intention that this was a temporary transaction, and that the land would be returned to the Navajo Nation. A resolution by the Navajo Council, Number CMY-20-89, stating the Navajo peoples' ancestral claim and the original conditions of the land transfer, formally requests that the entire Fort Wingate be transferred back to the Navajo Nation.



Tri-Group Meeting Notes

Although a 1994 report, Navajo Nation Economic Reuse Masterplan for Fort Wingate Depot Activity, indicates the transfer of the base to the Navajo Nation could result in significant economic benefit to the Navajo Nation, Iyanbito community supports most of the Fort Wingate Army Depot land to remain as open space.

The report determined that through the commercial and industrial development of the land and through the expansion of 638 contracts (programs affecting the administration of the land), economic benefits would be realized by the tribe within eight years. As summarized in the 1994 report, these benefits would include:

- The creation of 1,520 direct jobs at the Fort Wingate development.
- The creation of 2,660 direct and indirect regional jobs.
- Approximately \$34 million in wages paid to workers at the Fort in the eighth year of the development program.
- Nearly \$70 million in retail/service sales generated by firms and businesses located at the Fort; nearly \$122 million in regional direct and indirect sales generated because of businesses located at the Fort.
- A demand for over 40,000 square feet of retail, commercial and industrial space during the first eight years of development at the Fort.
- Gross lease revenue to the Navajo Nation ranging between \$5.2 and \$7 million per year.
- Another \$700,000 per year in revenue generated by a modest sales tax of 1%.
- Over 600 residential homes developed in eight years for an economic value of over \$48 million to the Navajo Nation and the region.



Photo Credit: Alice Mae Larry

The master plan identifies 21 parcels within Ft. Wingate. In June 2000, the first 15,000-acre parcel was transferred to the Navajo Nation. Another parcel is currently in the process of transfer. Subsequent parcels will be transferred over time. The U.S. Department of the Army first transfers the property to the BIA and then the BIA transfers it to the Navajo Nation.

The BIA schools reside in the area that was formerly home to the original Fort Fauntleroy compound. The 75-year-old buildings, which now make up the elementary school have received National Historic Landmark designation. Many of the housing structures sit vacant but protected.

The U.S. Army Corps' Final Report - *Diné Traditional Cultural Property Inventory at Fort Wingate Depot Activity* prepared by HDR Environmental, Operations and Construction in 2014 provides the following historical information on the schools and the Sheep Lab:



In 1925, part of the old military reserve and abandoned buildings at Bear Spring were transferred to the Bureau of Indian Affairs (BIA) to be used as a boarding school. The following year, the Navajo Council agreed to purchase that part of Fort Wingate, adding 9,502 acres of land and Congress appropriated \$500,000 for the boarding school where approximately 700 children were enrolled within a year. According to Ernest Nelson who began school at Fort Apache, the Fort Wingate School had much better conditions than older schools (Johnson 1977:230). Students were instructed in agriculture and the building arts—some of the earliest students helped renovate the old Army buildings for school use. A four-year high school and day school program were added by 1935 (Jones 1939:53; Kelly 1968:119).

Because sheep were central to the Navajo economy, the BIA, Bureau of Animal Husbandry, and Soil Conservation Service opened a sheep laboratory near Bear Spring in the town of Fort Wingate in 1934. The Southwestern Range and Sheep Breeding Laboratory was established to improve wool production and quality and to address problems of overgrazing, as well as develop sheep that could compete in larger commercial markets outside of the reservation. In addition, better feeder lambs were developed to provide the maximum amount of meat for home consumption. Construction of the laboratory buildings was carried out in large part by local Navajo laborers. One of the breeding experiments was designed to increase the stock of churro sheep, and thereby improve wool quality and local Navajo women weavers were employed to test the various grades of wool produced (Jones 1939:16-17; Lawrence 2002).



Another important connection of the Sheep Lab lands to the Navajo people was made Bureau of Indian Affairs Commissioner John Collier when he instituted an administrative policy of self-determination and preservation of Navajo culture that resulted in the development of day schools, land reclamation, and political institutions. In the Sheep Lab program, Collier and Department of Agriculture Secretary Henry A. Wallace specifically sought to improve Navajo rug and blanket weaving and address the problems of overgrazing of Navajo land (Philp 1977:123). The Navajo market economy that had developed since the early 1900s in Arizona and New Mexico was dependent on wool, lambs, and rugs (Lawrence).

In 2003, Cibola National Forest nominated the *Southwestern Range and Sheep Breeding Laboratory Historic District* to the *National Register of Historic Places*. Excerpts of the narrative submitted states:

The Southwestern Range and Sheep Breeding Laboratory Historic District is located in the Zuni Mountains of west central New Mexico approximately 16 kilometers (10 miles) east of Gallup, New Mexico, and 3.6 kilometers (2.2 miles) southwest of Fort Wingate, New Mexico, on Forest Road 546. It covers an area of approximately 81.84 acres administered by the Cibola National Forest. The focus of the district is the building complex of the current Cibola National Forest Fort Wingate Work Center originally established as the Southwestern Range and Sheep Breeding Laboratory in 1935 by the Bureau of Indian Affairs and the U.S. Department of Agriculture. The district contains 14 contributing buildings, 20 contributing structures, five contributing sites, and two noncontributing buildings and 11 noncontributing structures. The district has three major areas of significance: New Deal Social History Navajo Heritage, and Architecture. Physical characteristics of the district remain largely unchanged since the 1930s.*

In 1935, Commissioner Collier signed a cooperative agreement with the Bureau of Animal Husbandry and the Soil Conservation Service for the establishment of the

Southwestern Range and Sheep Breeding Laboratory. The Bureau of Indian Affairs provided \$75,000 for the facility, and the Bureau of Animal Husbandry provided the staff for its operation (Parman 1976: 128). Though no direct documentation for the Sheep Lab has been found, it appears that the building funds, like funds for other



Navajo New Deal building projects sponsored by the Bureau of Indian Affairs, were awarded to the agency from the Public Works Administration (Threinen 1981:63).

On April 30, 1966, the Southwestern Range and Sheep Breeding Laboratory closed. The Sheep Lab was closed because the USDA, in one of the federal government's cyclical "belt-tightening" phases, required that each of its meat animal research branches close a facility. The Sheep Lab research program was one of the chosen on the rationale that its work did not benefit the national sheep industry, as a whole, but rather only a single ethnic group. Beginning on August 8, 1966, the facilities were used by the USDA Forest Service, as the Gallup District Office of the Cibola National Forest. On November 30, 1967, the Department of Agriculture Research Services transferred control of the facilities and the associated land to the Forest Service (Copeland 1988b:19).

And last, but not least, Iyanbito is the founding capital of the Country western music popularity that exists today on Navajo Nation. Two members of the band "The Wingate Valley Boys" we're from Iyanbito. Ernest Murphy, the lead singer/guitarist and his brother Joe Murphy were two of the original members of the band. And as they say "the rest is Navajo history." (provided by Glen Charleston, 2016).



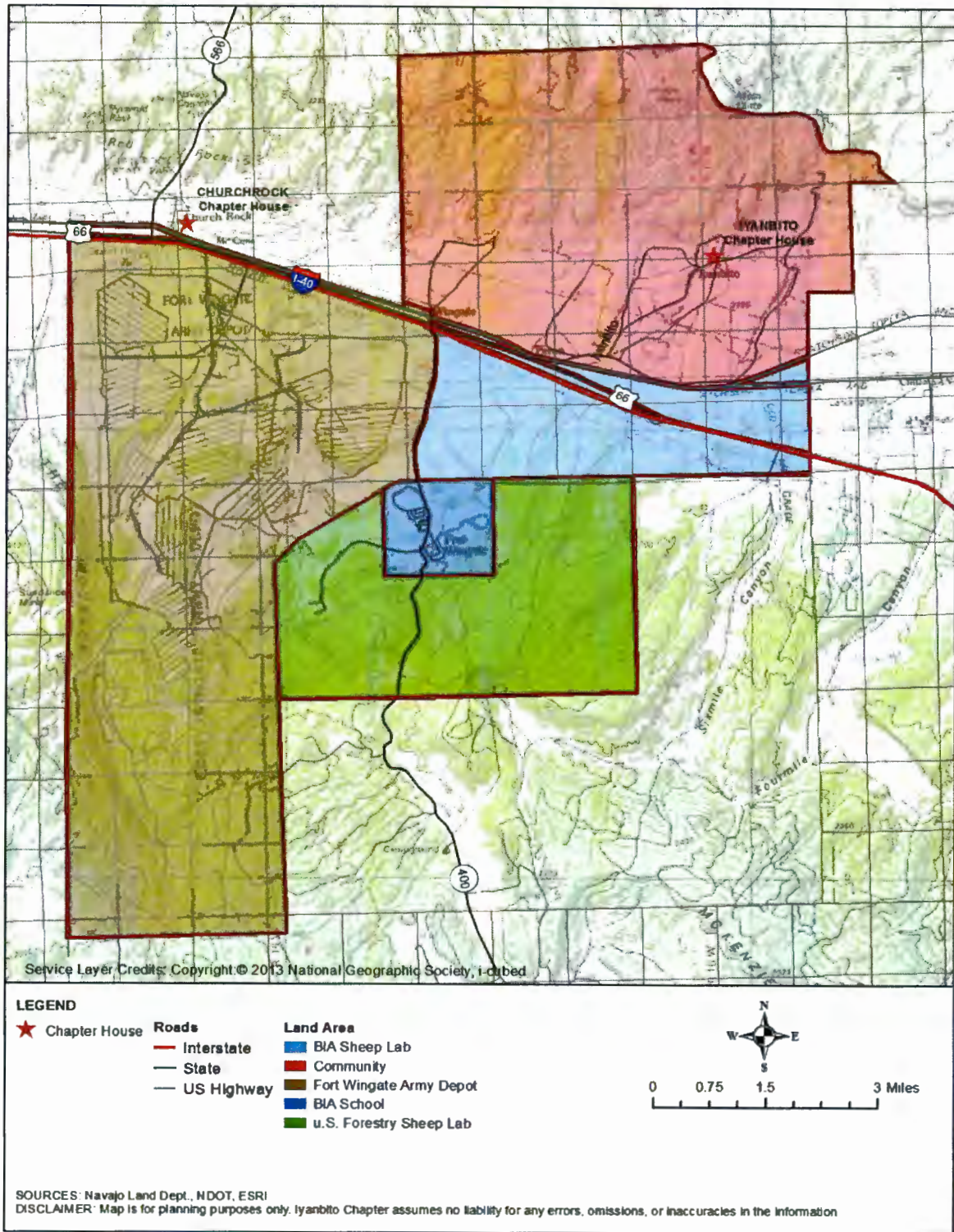
2.3 PLANNING AREA AND LAND STATUS

During planning meetings and public work sessions, the Iyanbito community members set the planning area (**Map 2**), which resembles the previously certified land use plan's planning area. The planning area includes five different places as listed in **Table 1**. The land status for these tracts of land are depicted in **Map 3**.

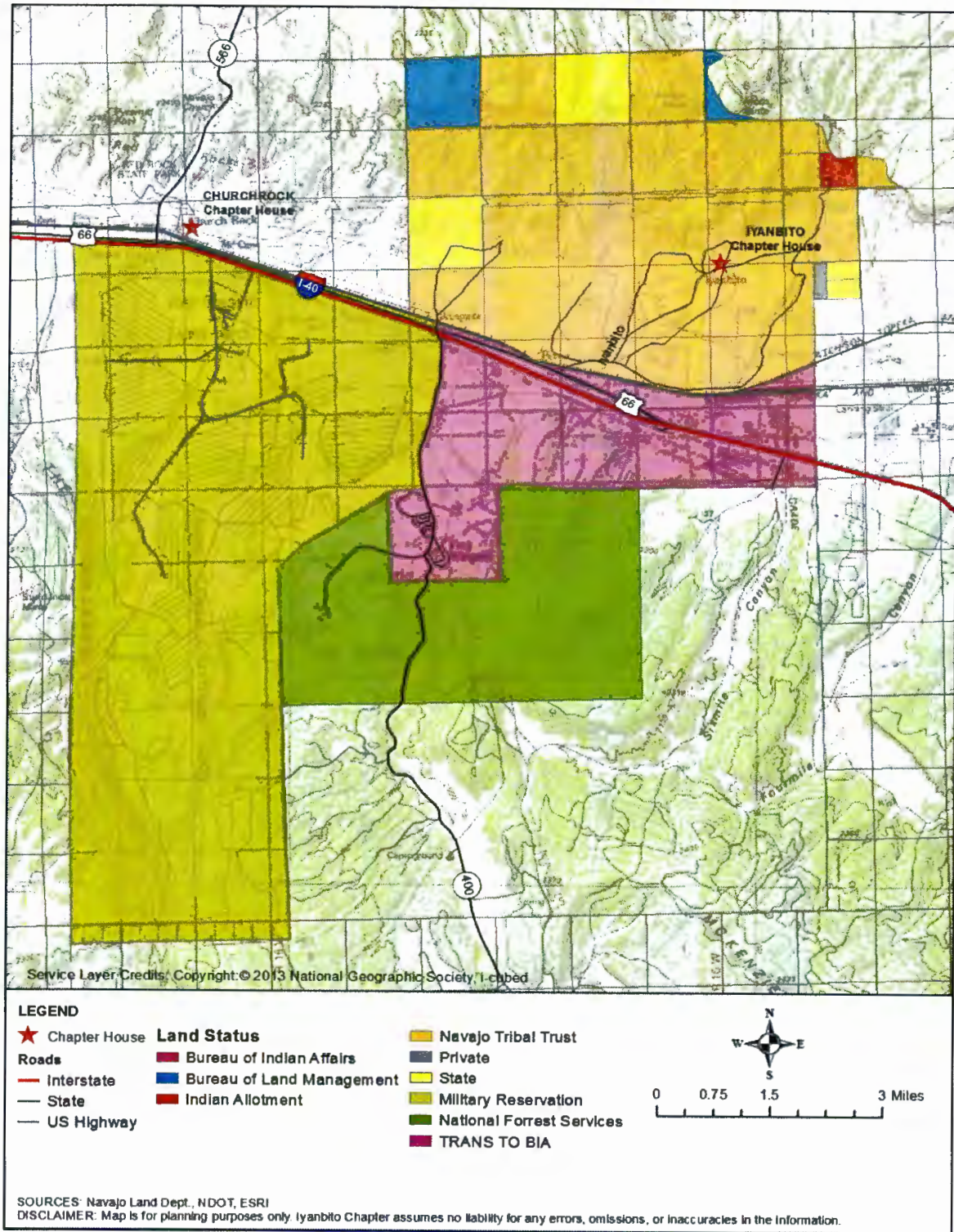
Table 1. Places (Land Tracts) within Planning Area

PLACE/TRACT	DESCRIPTION	Land Status
Community	The area north of the railroad where the chapter house is located and most of the community members reside.	Tribal Trust, BLM, State, Allotment, Private
BIA Schools	Approximately 1,188 acres of BIA land was withdrawn for the BIA schools.	BIA
BIA-Sheep Lab	BIA holds 5,298 acres of land along I-40 and to the south within the chapter boundary. This tract is referred to as Sheep Lab lands.	BIA
Fort Wingate Army Depot	The Fort Wingate lands are the ancestral lands of the chapter members. Many cultural and archeological sites exist in the Fort Wingate area. Fort Wingate Army Depot occupies 21,123 acres.	Department of Army, BIA
U.S. Forestry – Sheep Lab	Sheep Lab played a significant role in the federal government's efforts to improve the Navajo economy, it also served as a pilot project in which to test and refine basic Indian New Deal concepts for their application to other tribes and programs.	Forestry

Map 2. Planning Area



Map 3. Land Status





2.4 NATURAL RESOURCES

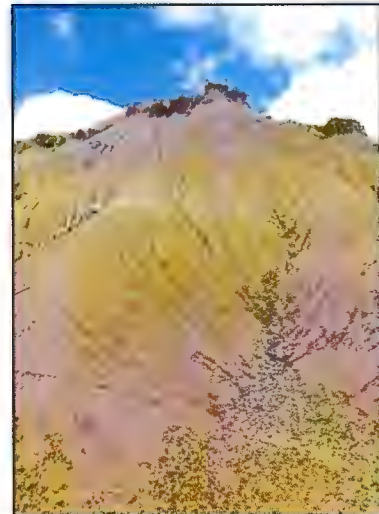
2.4.1 Geology

Iyanbito lies within the Colorado Plateau, along the southern limit of the San Juan Basin. The San Juan Basin is underlain by up to 10,000 feet of sedimentary strata, which generally dip gently from the margins toward the center of the basin. This area is characterized by broad valleys and high mesas, cuestas, and buttes. The flat valley in which Iyanbito is situated is about three miles wide and has an elevation of about 6,800 to 7,200 feet above sea level.

The dominant regional features of the general area are the Zuni Uplift to the south, Nutria Monocline to the west, Wingate Cliffs to the north and the Continental Divide, which crosses the valley about ten miles east of Iyanbito. The southern boundary of the valley is comprised of gently dipping rock of the Zuni Uplift. The east end is open, with gently sloping surface.

2.4.2 Soils

The planning area lies within the U.S. Department of Agriculture, Natural Resources Conservation Service Soils Report Number NM682 entitled *McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties* accessed from the Soil Survey Geographic (SSURGO)



database. According to Soils Report NM682, slopes and soil types in the planning area vary. 41 different soil units are present ranging from clay loam to rock outcrops, and some formations have slopes up to 80 percent (**Table 2**). The component text is included in (**Appendix A**).

A corresponding soils map is presented in **Map 4**. The Dwellings and Small Commercial Buildings soil report generated from the SSURGO data is included in (**Appendix B**).



In the Dwellings and Small Commercial Buildings report, the ratings range from 0.01 (the point at which the soil feature is not a limitation) to 1.00 (the soil feature has the greatest negative impact on the use). The information is not site specific and does not eliminate the need for onsite soil investigation by experienced experts.

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. The soil limitations tables show the degree and kind of soil limitations that affect dwellings and small commercial buildings. Information in these tables are intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction.

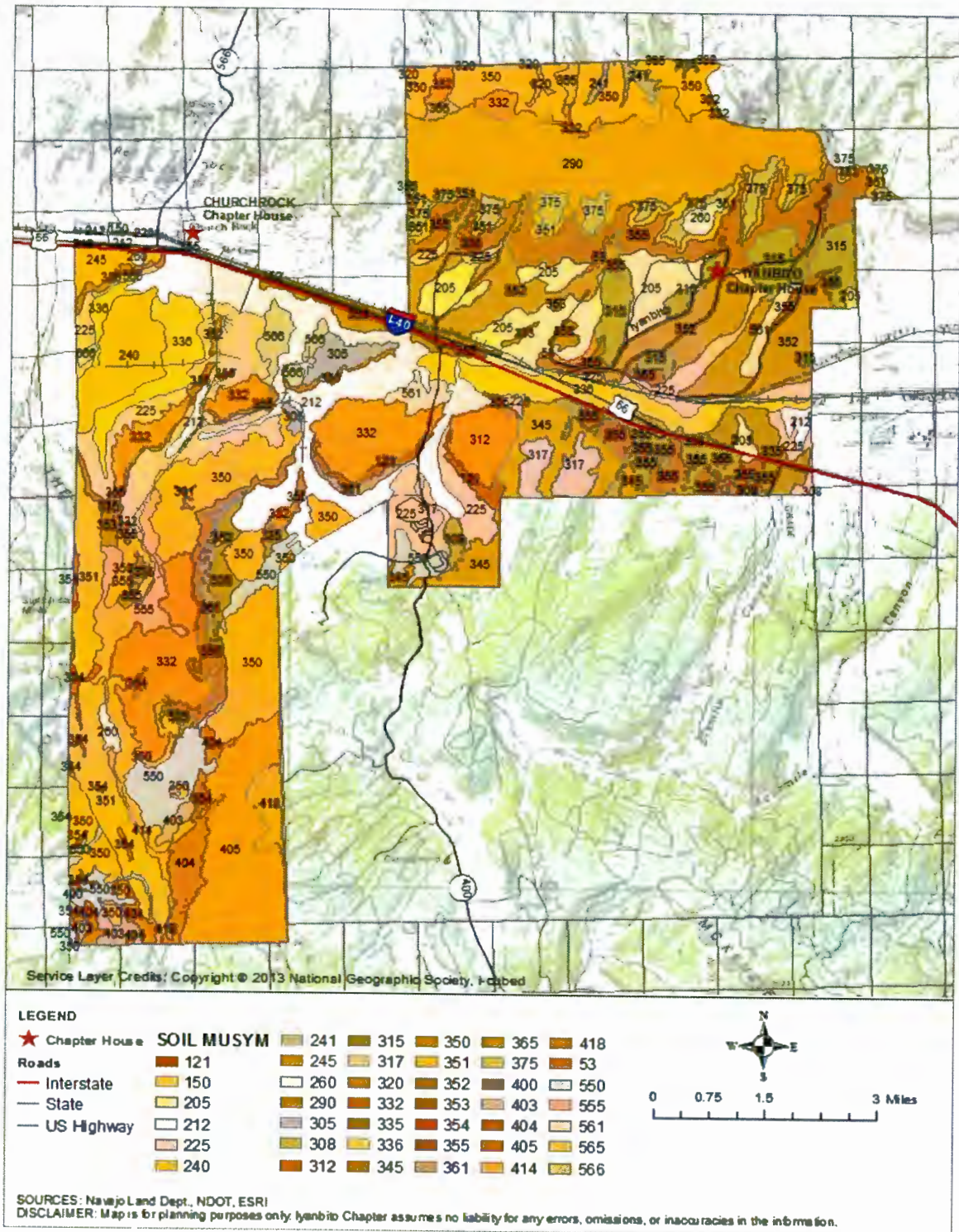
Table 2. Soils

Map Unit	Map Unit Name
53	Hawaikuh clay loam, 0 to 2 percent slopes
121	Badland
150	Riverwash-Escawetter association, 0 to 1 percent slopes
205	Penistaja-Tintero complex, 1 to 10 percent slopes
212	Rehobeth silty clay loam, 0 to 1 percent slopes
225	Aquima-Hawaikuh complex, 1 to 5 percent slopes
240	Breadsprings and Nahodish soils, 0 to 2 percent slopes
241	Mentmore loam, 1 to 8 percent slopes
245	Buckle-Gapmesa-Barboncito complex, 1 to 6 percent slopes
260	Quarries and pits
290	Rock outcrop-Westmion-Skyvillage complex, 30 to 80 percent slopes
305	Celavar-Atarque complex, 1 to 8 percent slopes
308	Fikel-Venzuni complex, 1 to 6 percent slopes
312	Bluewater loam, 0 to 1 percent slopes
315	Flugle-Fragua complex, 1 to 10 percent slopes
317	Highdye-Evpark-Bryway complex, 2 to 20 percent slopes
320	Parkelei-Fraguni complex, 1 to 8 percent slopes

Table 2. Soils

Map Unit	Map Unit Name
332	Evpark-Arabrab complex, 2 to 6 percent slopes
335	Venadito clay, 1 to 3 percent slopes
336	Nuffel-Venadito complex, 1 to 3 percent slopes
345	Rock outcrop-Tuces complex, 20 to 70 percent slopes
350	Toldohn-Vessilla-Rock outcrop complex, 8 to 35 percent slopes
351	Rock outcrop-Vessilla complex, 35 to 70 percent slopes
352	Zia sandy loam, 1 to 5 percent slopes
353	Mido loamy fine sand, 1 to 6 percent slopes
354	Knifehill loam, 1 to 5 percent slopes
355	Rizno-Tekapo-Rock outcrop complex, 2 to 45 percent slopes
361	Monpark silty clay, 2 to 8 percent slopes
365	Vessilla-Rock outcrop complex, 2 to 15 percent slopes
375	Todest-Shadilto complex, 2 to 8 percent slopes
400	Shoemaker-Stozuni complex, 2 to 8 percent slopes
403	Valnor-Techado complex, 2 to 25 percent slopes
404	Rock outcrop-Techado-Stozuni complex, 5 to 60 percent slopes
405	Fortwingate-Owlrock complex, 2 to 8 percent slopes
414	Zunalei-Corzuni loamy fine sands, 2 to 10 percent slopes
418	Asaayi-Osoridge complex, 2 to 15 percent slopes
550	Bryway-Galzuni loams, 1 to 8 percent slopes
555	Parkelei-Evpark fine sandy loams, 2 to 8 percent slopes
561	Flugle-Plumasano association, 2 to 8 percent slopes
565	Plumasano-Rock outcrop complex, 15 to 40 percent slopes
566	Bamac extremely gravelly sandy loam, 5 to 50 percent slopes

Map 4. Soils



2.4.3 Groundwater

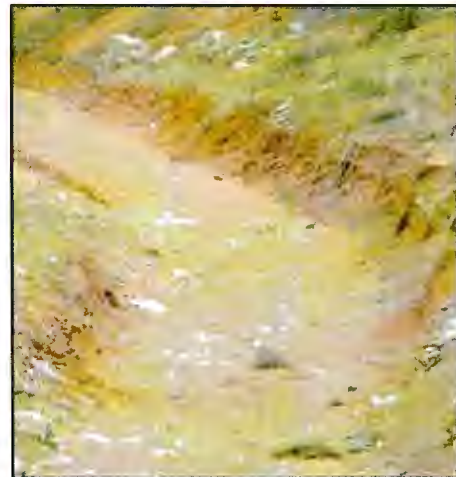
Regional groundwater flows from topographically high outcrop areas toward lower outcrop areas. Much of the recharge to aquifers in New Mexico occurs on the flanks of the Zuni, Chuska, and Cebolleta Mountains. Permian rocks are considered very important as potential aquifers in the area and include the Abo, Yeso, Glorieta, and San Andres Formations. These rocks all crop out in the Zuni Mountains about five to seven miles south of I-40. They are present at depths of about 1,200 feet to 2,500 feet below the surface in the Iyanbito area.

The quality and quantity of water from wells tapping the San Andres-Glorieta aquifer is generally good. The San Andres and Glorieta Formations crop out to the south of Iyanbito, near the southern boundary of Fort Wingate. The aquifer as a unit dips northward into the subsurface, so that its top is about 1,200-1,300 feet below the surface at Iyanbito, with a depth of approximately 150-200 feet. Other sources of groundwater include springs.



2.4.4 Surface Water

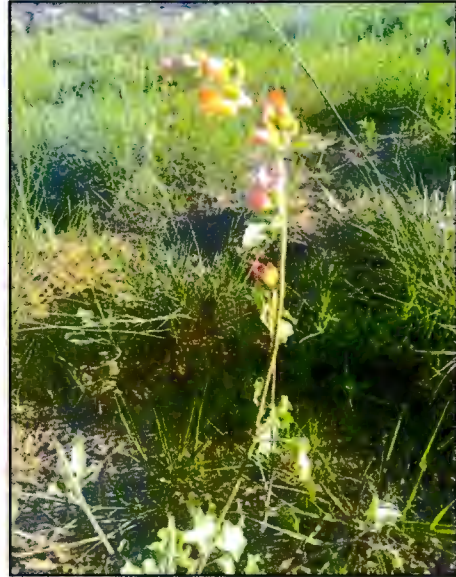
Western New Mexico's semi-arid climate gives the region characteristically high surface evaporation rates. Significant runoff is rarely observed on the proposed housing sites because most of the runoff collects, infiltrates the ground, or evaporates locally. The average annual pan evaporation rate for nearby Gallup, New Mexico is 75 inches. Information on pond evaporation rates varies, but the average is approximately 86 inches per year. Runoff results from rainfall (primarily as monsoon storms from July through September) and snow melt occurring on site and in the sandstone highlands. The surficial drainage is poorly developed in the area, and consists mainly of numerous unnamed ephemeral washes originating in the highland and crossing the area.



There are no perennial streams in the area, but the arroyos can drain large amounts of water from the watershed during intense storms, typically occurring from July through September. The water that doesn't infiltrate the soils or evaporate makes its way to the Rio Puerco, which eventually drains into the Colorado River. The valleys are partially refilled with alluvial material, and the present channels are deeply entrenched into this material.

2.4.5 Vegetation

Within the region, vegetation patterns relate to topography and a semi-arid climate. For example, grasslands and sagebrush cover most of Iyanbito, with greasewood in the lower elevations and piñon/juniper woodlands covering some of the ridges and benches. The grassland vegetation is a combination of mixed prairie, grama-galleta steppe, plains and Great Basin grassland, snakeweed grassland, and the alkali sacaton-saltbrush series of the Great Basin region. The most obvious vegetation elements are grasses, shrubs, and introduced annuals, especially tumbleweed or Russian thistle. Blue grama, alkali sacaton, galleta, squirreltail, and Indian ricegrass are the most abundant grass species. Mixed with these are a number of subshrubs and shrubs including snakeweed, rabbitbrush, four-wing saltbush, and pale wolfberry or desert-thorn.





2.5 ENVIRONMENTALLY SENSITIVE

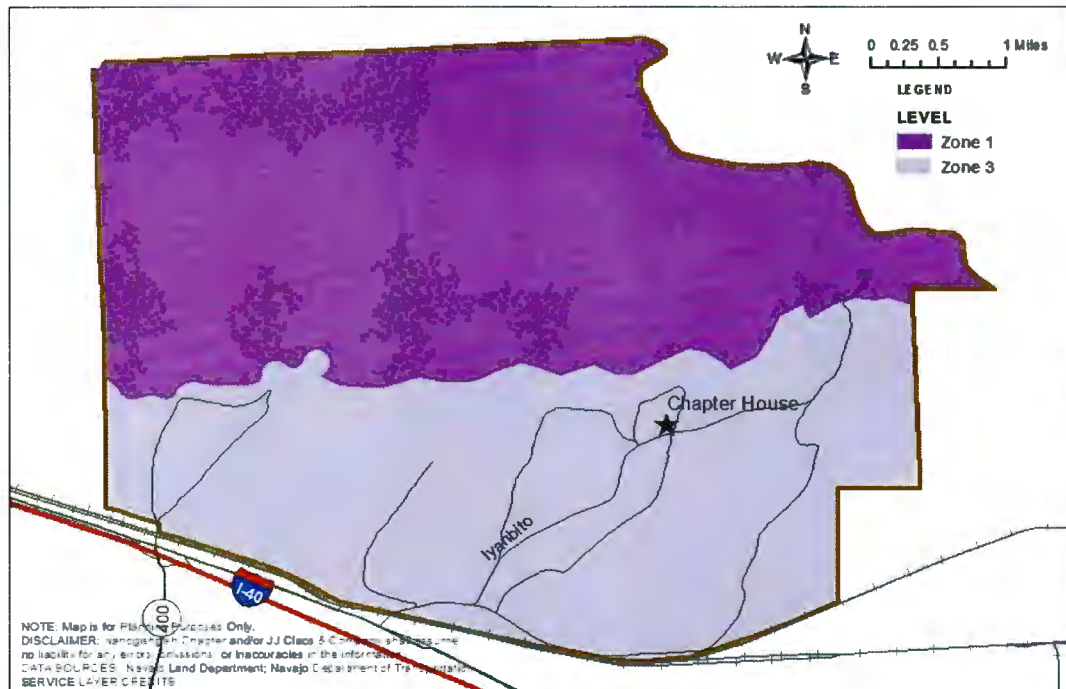
Pursuant to resolution number RCMA-34-03 wildlife areas on the Navajo Nation are rated as areas of high, medium or low sensitivity, in addition to, areas identified for community development, biological preserve and recreational purposes..

In accordance with the resolution, the Navajo Nation Division of Fish and Wildlife (NNDFWL) identifies northern half of Iyanbito's Community tract as Wildlife area 1 as depicted in **Map 5**. Area 1 is designated as a highly sensitive area and the general rule for this area is no development. This wildlife area contains the best habitat for endangered and are plant, animal and game species and the highest concentration of these species on the Navajo Nation.

The remaining area is designated as Wildlife area 3, which is considered a low sensitivity area. Wildlife Area 3 is designated as low sensitivity area containing fragmented or unknown concentrations of species of concern.



Map 5. Environmentally Sensitive Areas



2.5.1 Wildlife

Big game animals are not common in the region.

Mountain lions and black bear have been recorded in the region. These predators range over a large area and could occasionally pass through the area as well.

Coyote and fox, both of which adapt well to arid conditions, may occur in or near Iyanbito. Desert cottontail, black-tailed jackrabbits, small rodents, lizards, and prairie dogs are common in the region. These animals serve as a prey base for medium-sized and large carnivores and predators.



The open grasslands of the region provide good hunting for raptors, such as hawks, falcons, and eagles. The sandstone escarpment could provide nesting habitat or roosting sites, and the scattered piñon-junipers could provide refuge. Songbird diversity is expected to be low because of the sparse nesting cover. Waterfowl and shorebirds may pass through the region during migration. Much of the area is used for grazing cattle, sheep, and/or other domestic livestock.

2.5.2 Threatened and Endangered Species

The following description provides background information regarding plant and animal species that have been afforded protected status by the Navajo Nation and are known to occur in the region. The list of species of concern was provided through a database inquiry with the Navajo Natural Heritage Program (Nelson 2000). Species of concern include protected, candidate, and other rare or otherwise sensitive species, including certain native species and species of economic or cultural significance. For each species, the following tribal and federal statuses are indicated: Navajo Endangered Species List (NESL); federal Endangered Species Act (ESA); Migratory Bird Treaty Act (MBTA); and, Eagle Protection Act (EPA). No legal protection is afforded species with only ESA-candidate or NESL-group 4 status.



Species of concern that could occur are briefly discussed below.

The **Black-Footed Ferret** (ESA-endangered, NESL-group 2) is usually found in association with prairie dog towns in grassland plains and surrounding mountain bases up to 10,500 feet above sea level. A survey for black-footed ferrets is required if a prairie dog town is present and larger than 80 acres (for black-tailed prairie dogs) or 200 acres (for white-tailed and Gunnison's prairie dogs).

Suitable habitat for the **Mexican Spotted Owl** is generally described as a relatively closed canopy of ponderosa pine/mixed conifer forest associated with steep canyons and/or with deciduous vegetation in steep canyons (AGFD 1988). This species is thought to generally require the cool microclimates provided by these types of habitats.

Peregrine Falcons (NESL-group 3, MBTA) are birds of open spaces usually associated with high cliffs and bluffs overlooking rivers and coasts. Recently, many cities with tall buildings have become home to pairs of peregrines. Many populations are migratory (their name means "wandering falcon") and will travel great distances. Their nest is a scrape made on the bare rock of a cliff, where two to four eggs are laid. There are also a few records of tree-nesting peregrine falcons in the eastern United States. Recently, many cities in North America have had peregrines nesting on the ledges of tall buildings or under bridges. The most spectacular of hunters, peregrines feed almost exclusively on birds they take in the air. High-speed dives enable peregrines to catch everything from songbirds to herons and ducks.

The **Golden Eagle** (NESL-group 3, MBTA, EPA) inhabits open country from barren areas to open coniferous forests. They are primarily found in hilly and mountainous regions, but also

in rugged deserts, on the plains, and in tundra. The golden eagle prefers cliffs and large trees with large horizontal branches for roosting and perching. The golden eagle nests on cliff ledges, preferably overlooking grasslands; ten to 100 feet above ground in dead or live trees; in artificial structures; or on the ground. In western mountains, golden eagles nest at elevations of 4,000 to 10,000 feet. Pairs may use the same nest year after year or use alternate nests in successive years. Golden eagles are most likely to use trees for nesting if cliff sites are unavailable. The golden eagle generally forages in open habitats where rabbits and small rodents are available. During the nesting season, the golden eagle usually forages within 4.4 miles (seven kilometers) of the nest. Trees, live or dead, are often used for perches if they are near open areas where prey can be easily seen.

Ferruginous Hawks (NESL-group 3, MBTA) are found in open habitats, such as grasslands, shrub steppes, sagebrush, deserts, saltbush-greasewood shrublands, and outer edges of piñon-pine and other forests. It nests in small trees or rock outcrops or on the ground or haystacks if no other site is available. Generally, they avoid high elevations, narrow canyons, and interior regions of forests. Trees, utility poles and towers, fence posts, rocky outcrops, cliffs, and the ground are perching substrates used by ferruginous hawks.

The **Southwestern Willow Flycatcher** (ESA-endangered, NESL-group 2, MBTA) inhabits thickets, riparian woodlands, pastures, and brushy areas. At low elevations, dense willow, cottonwood, and tamarisk thickets and woodland along streams and rivers are considered habitat, and (at high elevations) pure, streamside stands of Geyer willow are preferred.

The **Zuni Fleabane or Rhizome Fleabane** (NESL-group 4, ESA-threatened) occurs on sandstone slopes and clay banks of Chinle shale and Baca formation outcrops at 7,300 to 8,000 foot elevation in the Zuni, Datil, and Sawtooth Mountains.

The **Acoma Fleabane** (NESL-group 3) is found in sandy soils at the base of sandstone cliffs. Associated plant species include one-seeded juniper (*Juniperus monosperma*), piñon pine (*Pinus edulis*), hairy golden aster (*Chrysopsis villosa*), and mountain mahogany (*Cercocarpus montanus*).

The **Sivinski's Fleabane** (NESL- group 4) occurs in association with Chinle shale outcrops in seleniferous (selenium bearing) soils at 7,300 to 8,000 foot elevation. They are known only from the Zuni Mountains in McKinley County.

Pygmy Sagebrush (an endemic plant) occurs from northern Arizona throughout the Great Basin of Nevada and Utah and the Uinta Basin of Utah and Colorado. Pygmy sagebrush grows in desert grassland, piñon-juniper, and salt desert shrub communities of the Great Basin and Uinta Basin. At some mesic, less saline, salt desert sites, pygmy sagebrush, black sagebrush (*Artemisia nova*) and/or budsage (*Artemisia spinescens*) dominate the plant community.

Zuni Milk-vetch (an endemic plant) occurs in gravelly clay banks and knolls, in dry, alkaline soils derived from sandstone, in piñon-juniper woodlands; 1,890-2,410 meters (6,200-7,900 ft). In the Zuni Mountains, this plant is associated with *Erigeron rhizomatus* (endemic plant).

Astragalus micromerius, also known as Milk-vetch (an endemic plant) is found in Gypseous or limy sandstones in piñon-juniper woodland or Great Basin Desert scrub; 2,000-2,250 meters (6,600-7,300 feet). This diminutive endemic is usually associated with outcrops of sandstone that are blended with Todilto gypsum or limestone. It has a fairly wide range, but is sporadically distributed in isolated populations.



2.6 CULTURAL RESOURCES

Cultural resources are defined as objects, structures, locations, or natural features that reflect the culture of a human group. Protection of cultural resources is granted under several management procedures, laws, statutes, and amendments, including the National Historic Preservation Act of 1966, as amended; the Archaeological and Historic Preservation Act of 1974; the Archaeological Resources Protection Act of 1979; the American Indians Freedom of Religion Act; and the Native American Graves Protection and Repatriation Act. Several important and significant cultural resources area exist within the planning area.

Cultural resources are evaluated by professionals for their potential inclusion in the National Register of Historic Places.

2.6.1 General

Iyanbito has a rich history. Since time immemorial, community members have brought knowledge, traditions to the region.

Traditionally sensitive and culturally significant sites exist throughout the planning area. They include areas where herbs are gathered, areas of archeological importance, or they may be areas that hold other historic or cultural significance for members of the community. To protect these areas, they are not identified nor noted on any public maps or documents. They should be treated with the greatest of respect and



should not be subject to any sort of development (with the exception of building ceremonial structures, etc.).

2.6.2 Fort Wingate Army Depot

In the Final Report Dine Traditional Cultural Property Inventory at Fort Wingate Depot Activity, 2014, it is stated:

There is an important interdependence between story and history. Story is a manifestation of the power of the word to render history and, consequently, human life meaningful.... History lacks meaning without story. Story lacks substance and relevance without history. What distinguishes these traditions and those who bear the traditions is not that one presents history and the other tells stories, for they both tell stories; the distinction is the authority underlying the stories told. For the European-American story tradition the authority is history, even though the story is not strictly historical; for the Native American story tradition the authority is religious and outside of history, even though the story reflects history. (Gill 1987:67-68)



FIGURE 14. LOG HOGAN NEAR FORT WINGATE, CA. 1880s (MATTHEWS 1897:14).

Photo Credit: HDR Report

Today as in the past, the Diné world remains “a spiritual creation put into motion by the gods in their wisdom” (McPherson 1992:11). Each mountain, water body, plant, and animal fashioned by the Diyin Dine’é serves as touchstones that connect the Navajo to their cultural, historical, and ceremonial existence. “Every inch of ground, all vegetation and the fauna on it are considered sacred. There are no places that are holier than others. There are so many stories that go with the land that it would take more than twenty years to tell them” (Mamie Salt quoted in Kelley and Francis 1993:151). Each feature on the landscape is animate, has power, and is inexorably linked to the others, to the Holy People, and to the Diné themselves—each person, place, and thing is interconnected. “Our spirit is in all these things” (Albert Shirley, Interview, 30 March 2012).

Delegate Edmund Yazzie introduced legislation to protect burial sites within Fort Wingate Army Depot. Burial sites are further protected by NHPA and Graves Act.

2.6.3 Southwestern Range and Sheep Breeding Laboratory Historic District

In 2003, Cibola nominated the Southwestern Range and Sheep Breeding Laboratory Historic District to the National Register of Historic Places with the following criteria:

- Designed by the architectural firm of Mayers, Murray, and Phillip;
- Constructed for, moved to, or used by the Wingate Range and Sheepbreeding Laboratory during its period of significance: 1935-1952;
- Constructed or used by Navajo Sheep Lab workers or their families; and/or
- Has potential to contribute information to the history of the Sheep Lab during the period of its significance: 1935-1952.



The Southwestern Range and Sheep Breeding Laboratory Historic District is a complex of 14 Pueblo Revival style buildings and additional structures and sites, most of which are associated with the Lab's operation from 1935 to 1952. All resources in the Historic District have significant information potential.

The resources of the Southwestern Range and Sheep Breeding Laboratory Historic District (Sheep Lab Historic District) comprise a well-preserved cultural landscape, buildings and several water management and Navajo habitation resources, that reflect the philosophy and social intent of this New Deal program to improve sheep breeding and wool production, and to address the problems of overgrazing on Navajo land.

The archeological data awaiting discovery and interpretation in the Historic District have the potential to address questions about the organization, activities,

and subsistence practices of the Sheep Lab employees and residents during the Indian New Deal era. They also have the potential to contribute significant information about activities at a small-scale regionally-focused agricultural research facility. The Navajo hogan and sweathouse remains and associated assemblages hold potential for identifying subsistence and religious practices of seasonal Navajo workers during a period of increasing exposure of the Navajo to Anglo-American society. For example, Breternitz and Ash indicate that small hogans, i.e., those that measure less than 11 (3.5 m) in diameter, are commonly used by herders or seasonal workers. Hogan remains associated with the Sheep Lab occupation appear to be small.

Breternitz and Ash remark, "shelters for Navajo working for wages away from their families are rarely described either archeologically or ethnohistorically" (1984: \ 20). A third area of research involves the use of the sweathouses: Was their use associated with specific ceremonies or events? Can they be dated to a particular period? The Sheep Lab's archeological information could amplify and verify the historic and ethnographic record for Navajo seasonal workers and help refine the techniques and theory of historic aboriginal archaeology in general.

The Historic District's resources also have the potential to provide information important in understanding the operationalization of the Indian New Deal in the American Southwest.

Study of the location, layout, design, materials, and construction of the buildings, animal enclosures, and water control structures can provide information vital to the understanding of the economic, social, scientific, and political dynamics of that era. Moreover, the seven trash concentrations are potential gold mines of information on the details of day-to-day activities that escape the broader brush of written history (Rathje 1992). In sum, the Wingate Range and Sheep Breeding Laboratory is an intact example of a New Deal experiment reflecting a most interesting and poignant era of our nation's history.

2.6.4 Bear Springs: Original Fort Wingate Elementary Site & Fort Wingate

Approximately 500 acres including the original Fort Wingate Elementary site, old cemetery and surrounding area is proposed as a National Monument. BIA has indicated plans to demolish the buildings; however, these are historic buildings and should be restored. Bear Springs was the site of Fort Wingate from 1868 to 1918.



The fort as it appeared in the winter 1893.

Photo Credit: Smithsonian Institute

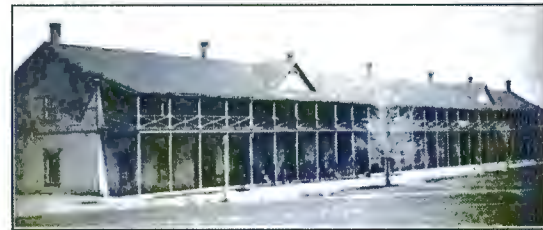
Excerpts from the *New Mexico Geological Society – 18th Field Conference* provide insight:

After 1868 Fort Wingate entered into an era of routine garrison life. Primary duties consisted of patrols, military for southwestern ethnological and archaeological expeditions.

On February 18, 1870, President Ulysses S. Grant declared a 100-square mile military reservation to accompany the site of the fort. On March 26, 1881, the War Department approved an additional 30-square miles to the south. This later tract, which now lies in the reserve of the Zuni National Forest, was added to provide firewood and building materials for the fort.

Most of the early buildings at the fort were destroyed by a disastrous fire that swept through the fort on July 2, 1896. Fort Wingate was deactivated on February 4, 1911 and placed in charge of a caretaker.

For a short period during 1914-15 the fort served as a detention center for 4,000 Mexican Federalist troops and their families who had fled the Pancho Villa Uprising. The Mexicans were the remnants of an army that were routed and chased across the border at Marfa, Texas.



Enlisted men's barracks north of parade ground. Early 1890's.

Photo Credit: National Archives.

The Ordnance Department took command of the military reservation in 1918 as a storage area for excess munitions and high explosives being returned from Europe after World War I. Magazines and revetments were constructed two miles west of the old fort. Between 1918 and 1920 the compound became the largest storage depot of munitions in the world. In 1921 additional magazines were constructed along with barracks and administration buildings. The post was designated Wingate Ordnance Reserve Depot.

In 1925 the grounds containing the old fort were transferred to the Bureau of Indian Affairs for utilization as a boarding school for Zuni and Navajo children. The barracks buildings were used as classrooms and dormitories. Officers Row provided homes for federally staffed personnel. The old parade ground was converted into a baseball field.



Other than the general outline of the fort, there is little to remind today's visitor of the old cavalry activities. Nearly all of the pre-1900 structures were destroyed by the fire of 1896. Portions of Officers Row remained intact up until 1958 when they were razed to make room for additional dormitories. The oldest remaining building constructed for army use was built in 1906 for a post exchange and recreation hall. It has now been converted into a boys dormitory.

A short distance to the northwest of the fort stands the newly constructed Fort Wingate Senior High School. Completed in 1965, at a cost of six million dollars, the modern campus-style school boards and educates nearly one thousand Indian students on the secondary level.





2.7 ROADS, UTILITIES, TRANSMISSION LINES AND RAILROAD

Major roads, utilities, transmission lines and the railroad are shown on **Map 6**.

2.7.1 Roads

There is only one access road leading in and out of the main portion of the community tract. Iyanbito Road extends from Historic Highway 66 (County Road 518), crosses the railroad tracks and winds in a northeasterly direction through the community. On the west end of the community tract, Turtle Butte Road extends from Historic Highway 66 to the north. Other County roads and Navajo routes along with unmaintained roads exist in the community proper.



Historic Highway 66 runs east and west between the railroad and I-40. At exit 33 on I-40, County Road 400 extends south to serve Fort Wingate schools and McGaffey. The Fort Wingate Army Depot has roads within its boundaries.



2.7.2 Railroad

The Burlington Northern Santa Fe Railway's southern transcontinental mainline parallels

I-40. Leaving Gallup, the railroad passes to the north of Fort Wingate and part of the fragmented Cibola National Forest before crossing the North American continental divide at an elevation of 7,275.

2.7.3 Transmission Lines

A major transmission powerline owned by Public Service Company of New Mexico parallels I-40.

Two natural gas transmission pipelines run east and west. Transwestern pipeline is farther north while El Paso Natural Gas pipeline is close to railroad.

2.7.4 Utilities

Electric

Continental Divide Electric Cooperative (CDEC) owns the electric distribution system in the community north of railroad. City of Gallup serves Fort Wingate.

Propane

Although a high pressure natural gas line runs through the community, natural gas service is not available to community members. The community relies on local propane distributors.

Domestic Water

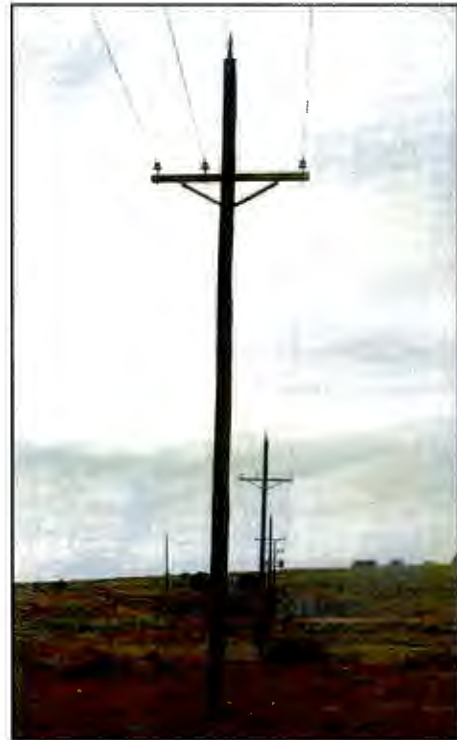
Public water system is owned and operated by the NTUA. Some families rely on individual wells for drinking water. Water hauling is common practice that can be difficult for some community members, particularly the elderly because it requires significant time and effort.

Wastewater Facilities

A sewage lagoon owned and operated by Navajo Housing Authority is in the southeast corner of the community tract. Most homes have septic systems while others rely on outhouses.

2.7.5 Solid Waste Disposal

The Chapter does not have an existing transfer station however, the chapter has a small trash receptor that community members are allowed to use for a small fee. Nearby solid waste disposals sites are in Gallup and Thoreau.

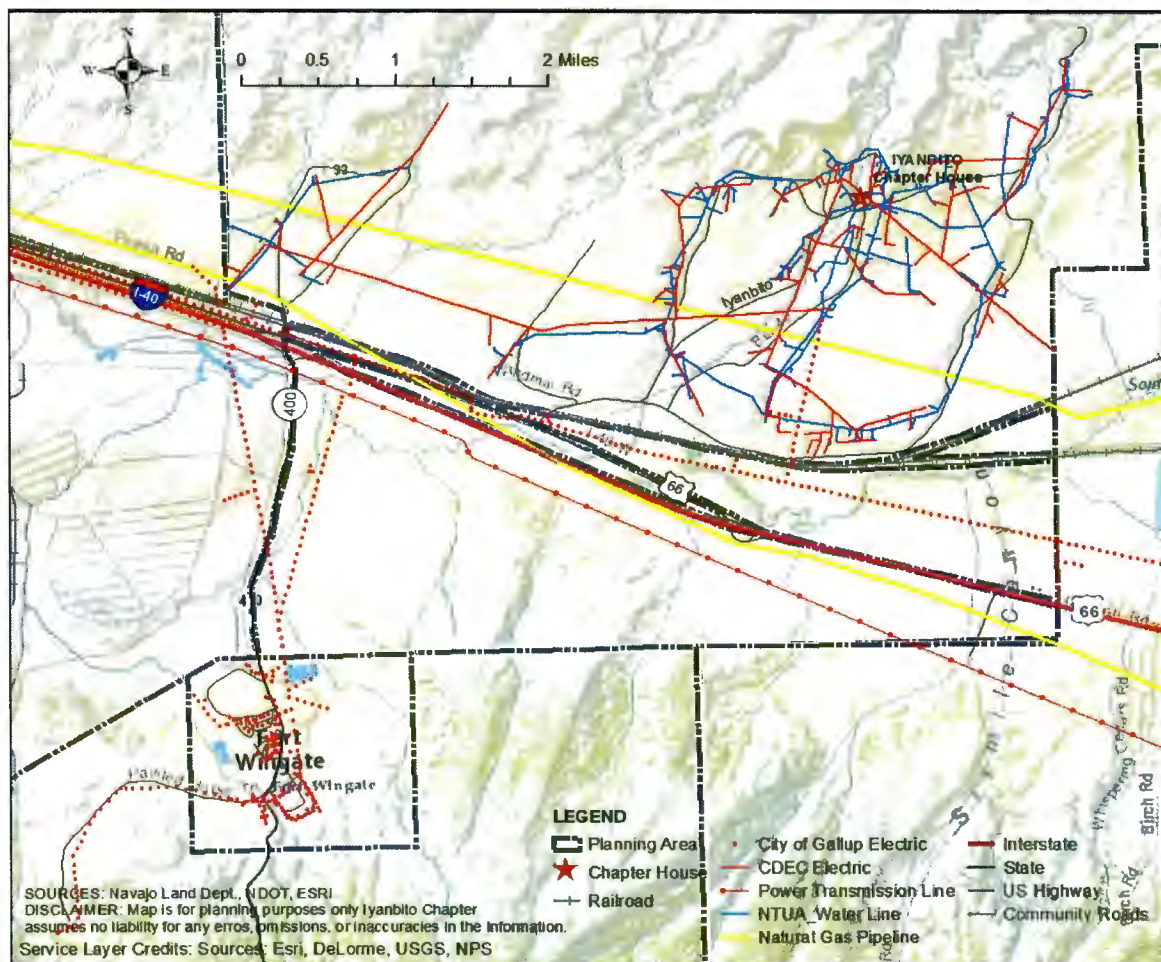


2.7.6 Technology and Communications

Sacred Wind is the primary provider of telephone service. Growing coverage of cellular telephone service across the Navajo Nation has begun to replace the need for landline service in some cases.

Internet service is available via modem and satellite connections. Wireless internet service is available to the public at the Chapter house during regular working hours.

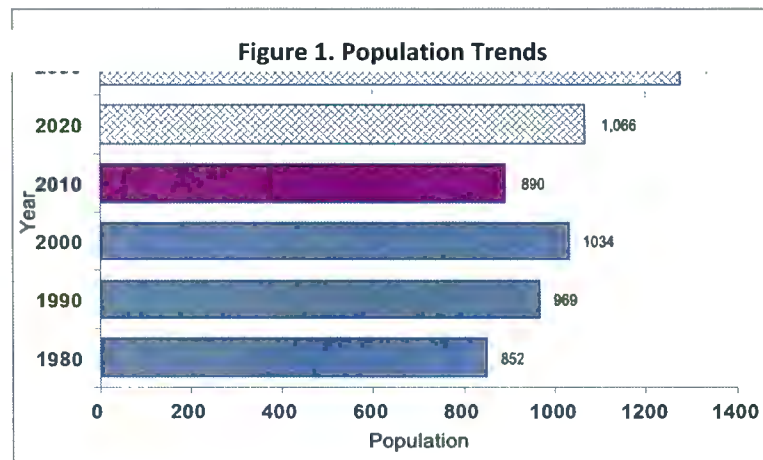
Map 6. Roads, Utilities and Pipelines





2.8 POPULATION TRENDS AND FORECASTS

The population has grown to just almost 900 members in 2010 and is expected to steadily increase (Figure 1). Although, the Chapter's population decreased 13.9 percent from 829 in 2000 to 795 in 2010, it is projected to increase through 2030. This temporary decline may have been partially due to community members not being counted while they were away at work or school. Population projections for 2020 increased to 1,066 based on a 1.82 percent growth rate recorded by the Navajo Nation Division of Economic Development (2006). At this growth rate projections continue to increase to 1,277 for 2030.



Source: Census 2000 and 2010, SF1; DCD 1996, NNDED 2005-2006.

2.9 DEMOGRAPHICS

2.9.1 Age

According to Census 2010, the Navajo Nation and Iyanbito Chapter have the youngest population of all jurisdictions shown in Table 3. The Chapter's median age is 29.8, which is nearly the same as the Navajo Nation and slightly lower than McKinley County, and over seven years lower than the State of New Mexico and the United States.

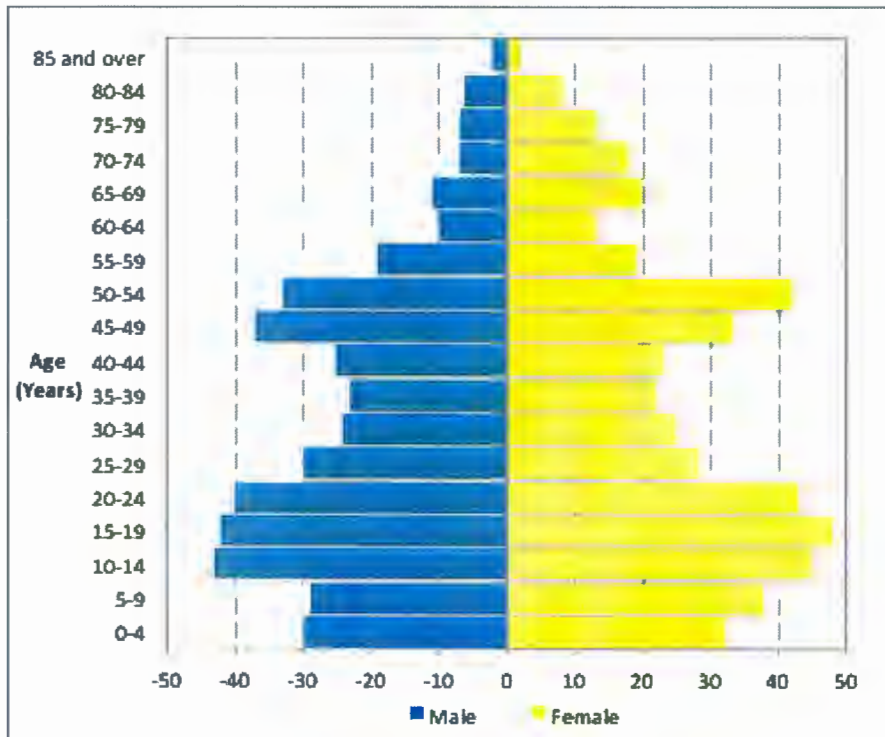
The percent of the school aged population is highest for the Chapter and the Navajo Nation around 28 percent. The next highest is McKinley County followed by the State of New Mexico and the U.S. The senior population across the Navajo Nation and McKinley County are the lowest while the chapter is slightly higher at 10.6 percent. The state and national percentages, are even lower.



Table 3. Age Characteristics: 2010

	2010 Total Population	2010 School Aged 5-19 yrs old (%)	2010 Age 65 or older (%)	2010 Median Age (Years)
United States	308,745,538	20.4	13.0	37.2
New Mexico	2,059,179	21.1	13.2	36.7
Navajo Nation	173,667	28.6	9.5	29.1
Iyanbito Chapter	890	27.5	10.6	29.8
McKinley County	71492	26.4	9.5	30.7
Source: U.S. Census Bureau, 2010 (SF1)				

The age distribution of females and males follow similar trends (Figure 2). Each exhibit increases between the ages of 10–24 and 45–54. The figures for age categories 0 to 24 and those over 50 show a greater number of females; however, the females and males are fairly equal throughout all ages.

Figure 2 Age Distribution

Source: Census 2010 Summary File 1 (SF 1)

2.9.2 Household Size

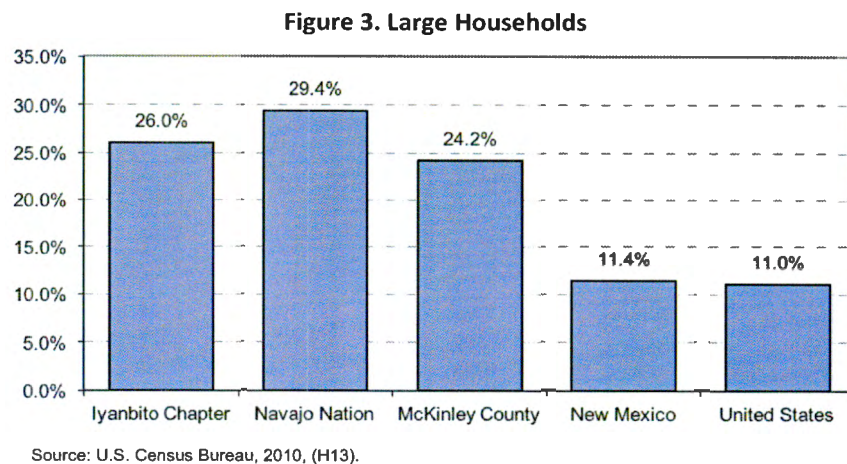
The average household size for the Chapter is 3.36; the second highest among the various geographic regions according to Census 2010 data (Table 4). The Navajo Nation is the highest at 3.46. The average household size decreases for McKinley County to 3.22. The State of New Mexico and the United States round out the bottom with an average household size of 2.5 persons.

Table 4. Households

	<i>Households</i>	<i>Average Households Size</i>
United States	116,716,292	2.58
New Mexico	791,395	2.55
Navajo Nation	49,946	3.46
McKinley County	21,968	3.22
Iyanbito Chapter	265	3.36
Source: U.S. Census Bureau, 2010 (H13; P17)		

2.9.3 Large Families

Large family households have special housing needs due to the lack of adequately sized and affordably priced homes in the community, which results in overcrowding. Large family households are defined as households with five or more persons. Within the Chapter, Census 2010 reports large families comprise 26 percent of the households (Figure 3). The Chapter has a high number of large families among the Navajo Nation and McKinley County. The state and national averages are much lower at around 11 percent.

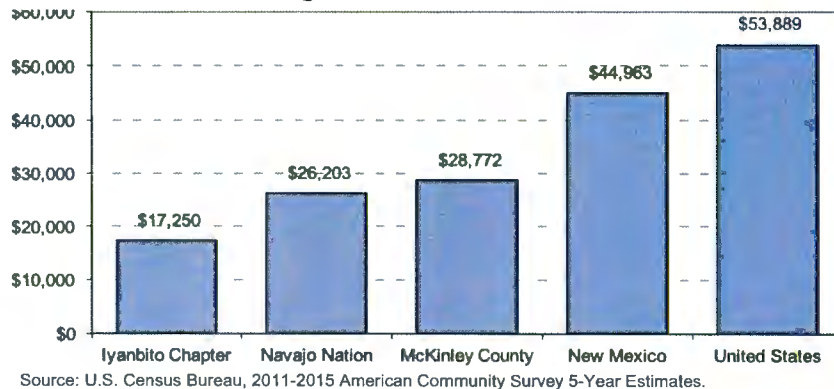


2.9.4 Major Employers

The Chapter house, senior center and head start provide some employment for the community. Most residents work outside of the community. While Fort Wingate and Gallup are the nearest places providing greater employment opportunities, some community members travel greater distances for work. Major employers throughout these areas include the BIA, Navajo Nation, Indian Health Service (IHS) and the City of Gallup.

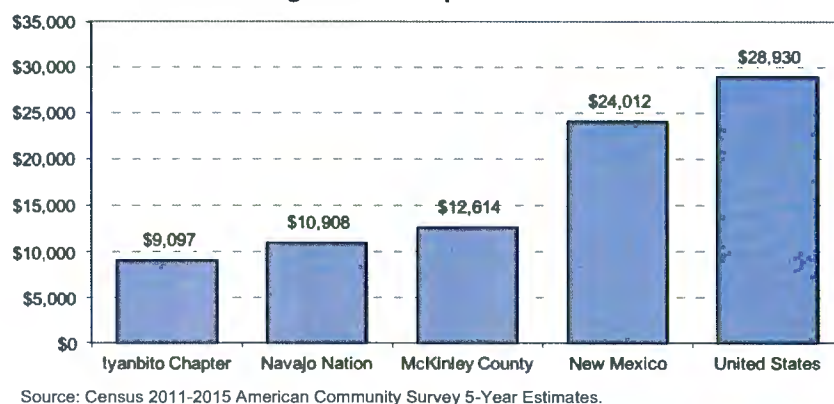
2.9.5 Median Income

According to the American Community Survey, the median household income for Chapter residents is \$17,250. Compared to other regions, this amount is the lowest. The Navajo Nation and McKinley County the next highest. The State of New Mexico's and the United States' median income are more double Iyanbito's median income (Figure 4).

Figure 4. Median Income

2.9.6 Per Capita Income

The per capita income for the Chapter is \$9,097, which is slightly lower than the Navajo Nation (\$10,908) and much lower than McKinley County (\$12,614) as illustrated in Figure 5. The margin continues to significantly increase, (doubling and tripling) with the state of New Mexico and the United States.

Figure 5. Per Capita Income

2.9.7 Unemployment and Poverty

Unemployment rate on the Navajo Nation has always been high, however the 2011-2015 American Community Survey 5-Year Estimates reported a much lower unemployment rate of 21.5 percent for the Navajo Nation and 27.0 percent for Iyanbito Chapter (Table 5). Often correlated with high rates of unemployment are high rates of poverty. An estimated 52.8 percent of the total number of people residing in Iyanbito had income in the past 12 months

below the poverty level as shown in Table 4. Similarly, poverty rates across the broader Navajo Nation Reservation where 41.7 percent of families are classified as impoverished. Poverty levels are the lowest for New Mexico and the United States.

Table 5. Unemployment Rate and Poverty Level		
	Unemployment Rate	Poverty Level
United States	8.3%	15.5%
New Mexico	9.2%	21.0%
Navajo Nation	21.5%	41.7%
Iyanbito	27.0%	52.8%
McKinley	15.5%	37.5%
Source: 2011-2015 American Community Survey 5-Year Estimates		

2.9.8 Housing Count

The number of total housing units within the Chapter decreased from 320 to 308 from 2000 to 2010 (Table 6). The Navajo Nation and McKinley County also showed drops (-6.9 and -3.4 percent, respectively). The decrease in housing units is due to the census criteria for counting homes. Sheds and shacks commonly seen on homesteads on the Navajo Nation were counted as housing units in 2000 while they were excluded in 2010. The state and national areas showed substantial increases ranging from 13.6 to 15.5 percent.

Table 6. Housing Units			
	2000	2010	Percent Change
United States	115,904,641	131,704,730	13.6%
New Mexico	780,579	901,388	15.5%
Navajo Nation	68,744	63,998	-6.9%
Iyanbito	320	308	-3.8%
McKinley	26,718	25,813	-3.4%
Source: Census 2000 and 2010, H1: Housing Units (SF1)			



3 COMMUNITY VISION, GOALS AND PRIORITIES

Community members provided input through public meetings and work sessions to develop the vision, goals and priorities. The community assessment was used to help determine the vision and subsequently plan for future growth and development.

3.1 VISION STATEMENT

Our vision is to be a community with sufficient housing and community facilities, a strong livestock and ranching tradition, excellent educational opportunities and a thriving economy while protecting our sacred land in balance with land conservation, cultural preservation and our heritage.

3.2 GOALS

The goals and objectives reflect the specific desires of our community members. These goals get us ready for the next five years and beyond. They guide our land use planning priorities/initiatives. We begin with planned construction/projects and move into specific priorities established by community members.



General goals determined via a community survey include the following:

- Provide community facilities
- Promote economic development and job opportunities
- Seek diverse revenue sources
- Provide educational facilities and opportunities
- Seek land acquisitions
- Ensure health and well-being of all community members
- Ensure safety
- Provide quality housing
- Revive gardening and farming
- Preserve heritage and traditions
- Promote sound range management and conservation
- Protect cultural sites
- Improve roads and access
- Extend utilities to unserved areas and improve utilities service
- Improve communication lines and provide broadband
- Provide recreational areas
- Water system and drainage
- Stewardship of lands and resources



3.3 PRIORITIES

Through the community survey process, the CLUPC members ascertained important information on what community members felt were top priority. The top ten specific project priorities are:

1. Return Fort Wingate Army Depot lands to the Navajo People
2. Construct new chapter house/multi-use center
3. Improve grazing and range management
4. Develop community trash pick-up system

5. Improve water system and water quality
6. Pave Sweetwater, Turtle Butte Circle, Red Sage Loop, Burnt Corn Roads
7. Improve septic systems, sewer lagoon, and or wastewater facilities
8. Improve fencing along railroad
9. Update rural addressing and assign addresses to new homes
10. Expand senior center property, garden, traditional Hogan, picnic area with benches

3.4 PRIORITY LIST UNDER THE INFRASTRUCTURE CAPITAL IMPROVEMENT (2017-2021)

Capital projects are planned for and built over a period of several years. They are important to the implementation of the land use plan. Iyanbito Chapter has identified the following Infrastructure Capital Improvement (ICIP) projects for the year 2017-2021. These priorities are listed below in priority order and are updated each year:

1. Replace Chapter House
2. Replace Headstart
3. Police Substation
4. Pump House
5. Improve Roads
6. Renew Senior Center
7. Warehouse





4 EXISTING LAND USE

Existing land use provides the setting of the community as it exists today. It shows where homes, major facilities, roads and other infrastructure are located, in addition to, how some areas are used or designated. The following describes the range of land uses for each category.

4.1 RESIDENTIAL HOUSING

Most of the residences in Iyanbito today are traditional homesteads, which include some level of land clearing, hogans, shacks, shade houses, agriculture type uses, site improvements and residential homes. Traditional homesteads have been in family ownership for many generations.

One Navajo House Authority subdivision (51 units, some are duplexes) is located along Sweetwater Road east of the Senior Center.

Fort Wingate community has a residential subdivision, mobile home park as well the BIA housing tract.





4.2 COMMUNITY FACILITIES

The chapter house located on 6.6 acres at the intersection of Iyanbito Road and Burnt Corn Road. The chapter house is the local governance center and provides a central location for meetings, meals and community gatherings.

A senior center is located on Sweetwater Road near the Navajo Housing Authority subdivision. The Headstart is located northwest of the chapter house.

Wingate Elementary and Wingate High School are located along Highway 400. HDR (2013) provided the following history:

In 1925, part of the old military reserve and abandoned buildings at Bear Spring were transferred to the Bureau of Indian Affairs (BIA) to be used as a boarding school. The following year, the Navajo Council agreed to purchase that part of Fort Wingate, adding 9,502 acres of land and Congress appropriated \$500,000 for the boarding school where approximately 700 children were enrolled within a year. According to Ernest Nelson who began school at Fort Apache, the Fort Wingate School had much better conditions than older schools (Johnson 1977:230). Students were instructed in agriculture and the building arts—some of the earliest students helped renovate the old Army buildings for school use. A four-year high school and day school program were added by 1935 (Jones 1939:53; Kelly 1968:119).

Several churches are located throughout the community; most are located in Fort Wingate.

U.S. Post Office is located next to the Trading Post along Highway 400. A volunteer fire station is also located north of Wingate High School along Highway 400.

4.3 COMMERCIAL

One business site lease is located within the community tract. Arviso Construction is located along Dakota Loop. Arviso Construction provides residential and commercial construction on the Navajo Nation and surrounding areas.

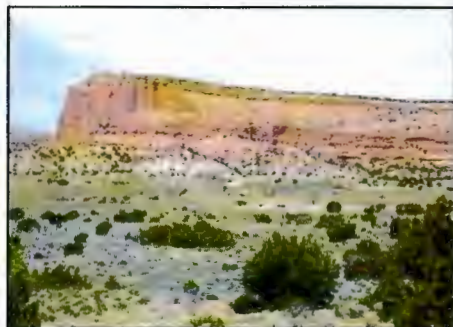
On the BIA Schools tract, is the Fort Wingate Trading Post located along County Road 400. The Army opened the Fort Wingate Trading Post in 1860 as a canteen and commissary. It closed in 1910 and was reopened as a civilian enterprise in 1920. Paul Merrill bought the business in 1946 and operated it until the early 1990s. The town of Fort Wingate grew up around the fort and trading post, and still exists today. The Trading Post had a small store and gas station, however they recently closed.



4.4 INDUSTRIAL

In the past, a couple of gravel pits were in operation within the community tract. They have since been closed.

The Shush Be Toh Industrial Site, comprising 320 acres, is located in southwest part of the community tract. It is one of eight industrial sites on the Navajo Nation. Over the years, several different projects have been proposed, but none have materialized. The land is better suited for grazing. Thus, local grazing permits have voiced interest in transferring the tract to grazing.



4.5 RECREATION

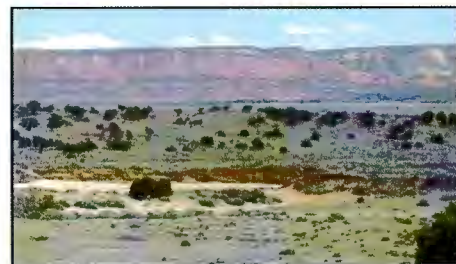
Several basketball courts are located throughout the community tract. A baseball field is located north of the intersection of Dakota Loop and Iyanbito Road.

Several rodeo arenas are located in the community tract. Fort Wingate High School also has rodeo grounds. Trails are located in Fort Wingate area.





Areas designated as open space are those areas that the community has identified as having special significance, and are areas that should be preserved in their natural state without development. The designation as open space does not mean that people cannot use the space for limited grazing, hiking, or other low impact activities, but it does protect the area from mining, building or other forms of development. Grazing in open space areas should not be intensive and should be carefully monitored to ensure that overgrazing does not occur in these areas. The intent of open space is to preserve areas of particular beauty, or natural or cultural significance for future generations to enjoy and respect.



Grazing units are designated by BIA and grazing units are within Grazing District 16. The grazing areas are managed by respective conservation plans prepared by grazing permittees. Conservation Plans assist in land stewardship while continuing and preserving livestock raising for traditional, cultural, business and home use. Implementation of sound grazing management and conservation techniques and practices for optimal production and sustainability of livestock operation are important to land stewardship.

[illegible]

4.8 FARMING

Farming is another important way of life for community members. Several farm plots exist in the community tract. Some community members continue to plant each year while others have not planted in years due to the drought. Nonetheless, these farm plots are still considered active.

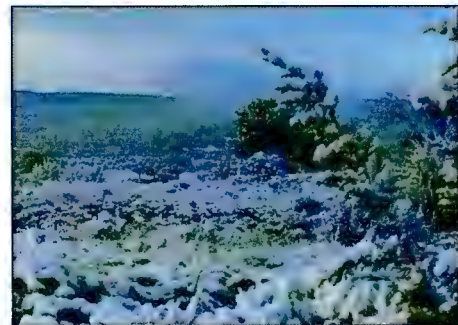
4.9 TRADITIONALLY & CULTURALLY SENSITIVE SITES

Traditionally and culturally sensitive sites are defined as those areas that have been designated by community members as areas that are either used for ceremonies, or have some cultural significance. These areas may be areas where herbs are gathered, areas of archeological importance, or they may be areas that hold other historic or cultural significance for members of the community. These areas should be treated with the greatest of respect and should not be subject to any sort of development (with the exception of building ceremonial structures, etc.).

The purpose of designating these areas is to protect them for the use and respect of community members and future generations. Cultural sites are scattered through all four land tracts within the planning area. Further, traditional sites also exist and many are still in use today. These areas are not identified nor are they mapped because they are protected by law.

4.10 BURIAL SITES

Burial sites are protected under the NHPA, NAGPRA and Executive Order 13007. There are several family burial plots throughout the Chapter. Additionally, many potential unmarked grave sites may be present and should remain undisturbed. The local community members are aware of the locations of these burial sites and have respected them. They are not located on the land use plan map to further protect these sites.





5 COMMUNITY PLACES

Future plans for each of the five community places identified in the planning area are discussed in this section. The community places are:

- 5.1 Community
- 5.2 BIA Sheep Lab Land
- 5.3 BIA Schools
- 5.4 Fort Wingate Army Depot
- 5.5 Forestry Sheep Lab Land

The land uses are intended to show predominate future function and characteristic use. They do not reflect the intended zoning of individual areas but rather generalizes desired future land uses. To achieve appropriate balance among the goals promoted by the land use plan, flexibility in specific decisions is required.

Land use and proposed development plans are based on the wants, needs and desires of the community members. The result of the community joining together has been extremely positive and immensely productive for all parties. The information came directly from the written and spoken words of the families and community members as voiced during work sessions, public meetings and the public hearing.



5.1 COMMUNITY

The Community Place is the area north of the railroad where the chapter house is located and where most of the community members reside. Land ownership is 'checkerboard'; the majority is tribal trust land.

The Iyanbito community is bound together by a strong sense of family, culture and commitment to a prosperous future. Community members support a safe environment for youth, adults and elders alike; family clusters of homes; and agricultural uses.

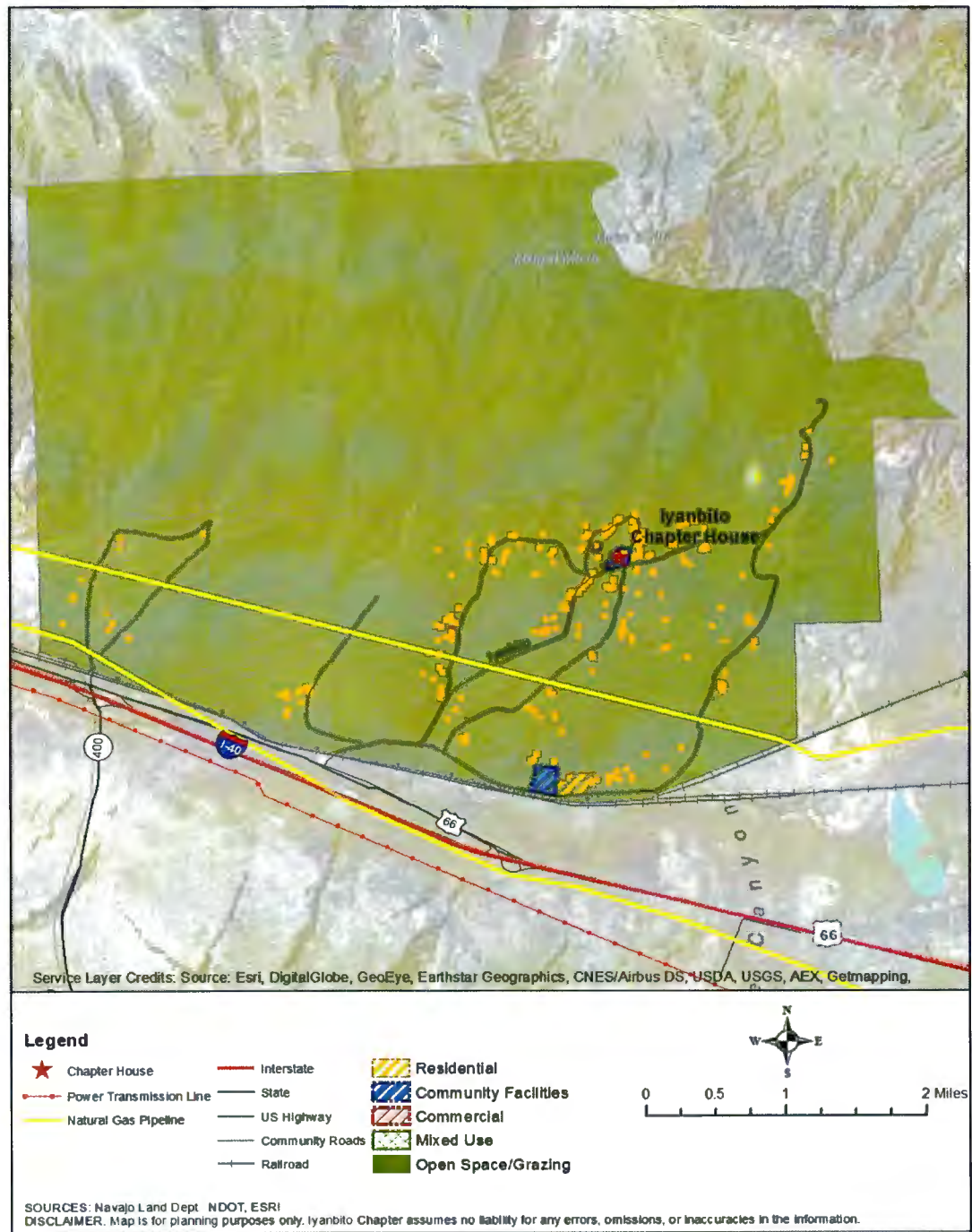
Map 7 illustrates the land use for the Community Space. Open Space/grazing dominate land use. As previously noted, the northern portion is classified as Zone 3, which is environmentally sensitive and also open space/grazing land. The southern portion of the community tract is classified as Zone 2 and it is also mostly open space/grazing lands.

Residential housing sites are scattered throughout the southern portion (Zone 2) area. Three community development areas (chapter house site, headstart and senior center site); one business site lease and infrastructure development complete the land use.

Grazing permittees have conservation plans conveying stewardship of natural resources for a healthy environment and productive range lands for their respective permit areas.

Several proposed development sites and projects within the community tract were voiced by community members. Development projects include chapter house, headstart and senior center sites while road improvements range from paving bus routes to improving driveways to homes. Na'haa'ba'nii Well was also brought up. These projects are presented in the following sections.

Map 7. Community Place Land Use



5.1.1 Chapter House Tract



Location: The chapter house tract is located at the junction of Iyanbito and Sweetwater roads (Map 8).

Acreage: 6.63 acres

Existing Conditions: Existing development includes chapter house and ancillary facilities.

Access: The chapter house site is accessible by Iyanbito Road which is paved. Access is also possible by Burn Corn Road which is currently unpaved.

Utilities: Electric lines and water lines currently provide services to the site. Sacred Wind also provided telephone and internet services.

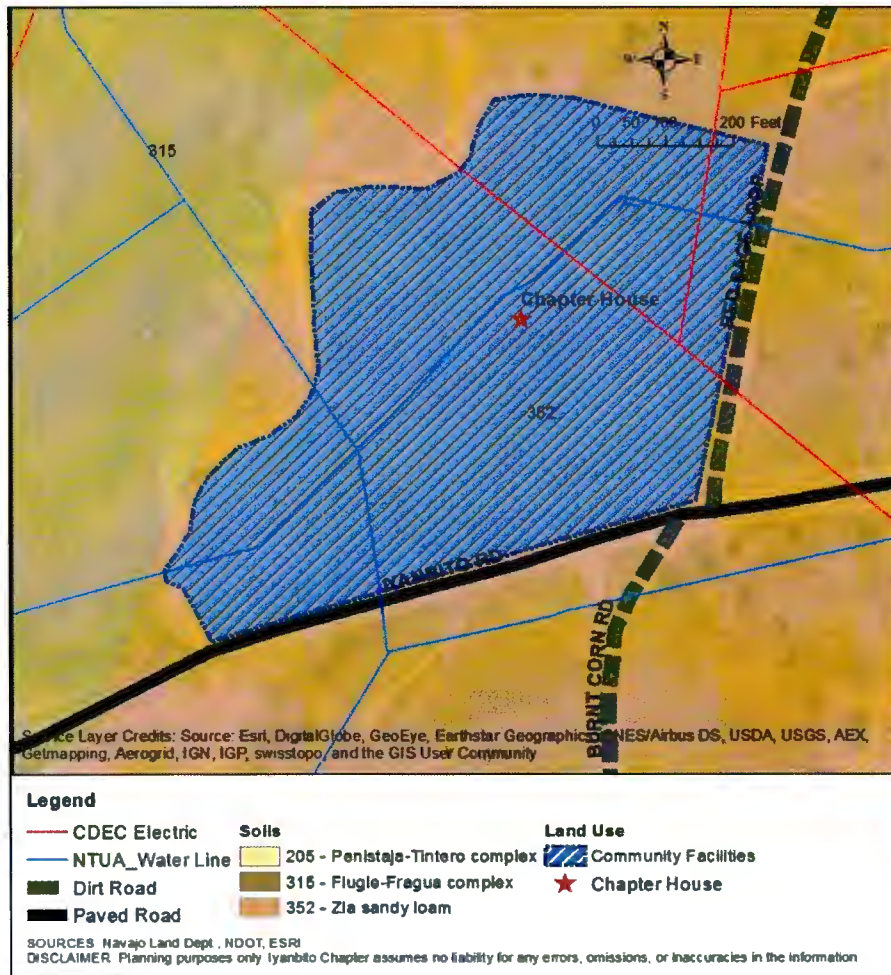
Zone: The site is within the Zone 2 classification made by the Navajo Nation Department of Fish and Wildlife.

Soil: The soil regime is Zia sandy loam (352) for the site. Flugle-Fragua complex (315) is lies to the northwest.

Proposed Land Use Designation: Community Facilities

Goal: Redesign the tract to accommodate a multi-use facility, parking lot sidewalks, additional buildings/facilities and other site improvements. Plans are in progress for a master plan and new multi-use facility within this tract.

Map 8. Chapter House Site Development



5.1.2 Headstart Tract



Location: The existing one-acre headstart tract is located off of Red Sage Loop (Map 9). The new site (four-acres) is located north of the senior center (Map 10).

Acreage: 1 acre (existing)
4 acres (new)

Existing Conditions: The existing site includes the headstart building and playground. Built in the late 1970's, the headstart building is dilapidated and has been cited for health, safety and structural violations/deficiencies by various governmental entities.

The new site is a four-acre tract that has been graded and a waterline installed.

Access: The existing headstart site is accessible by Red Sage Loop, which is an unpaved road. The new site is accessed by a dirt road extending north of Sweetwater Road.

Utilities: Electric lines and water lines currently provide services to the site. Sacred Wind also provided telephone and internet services.

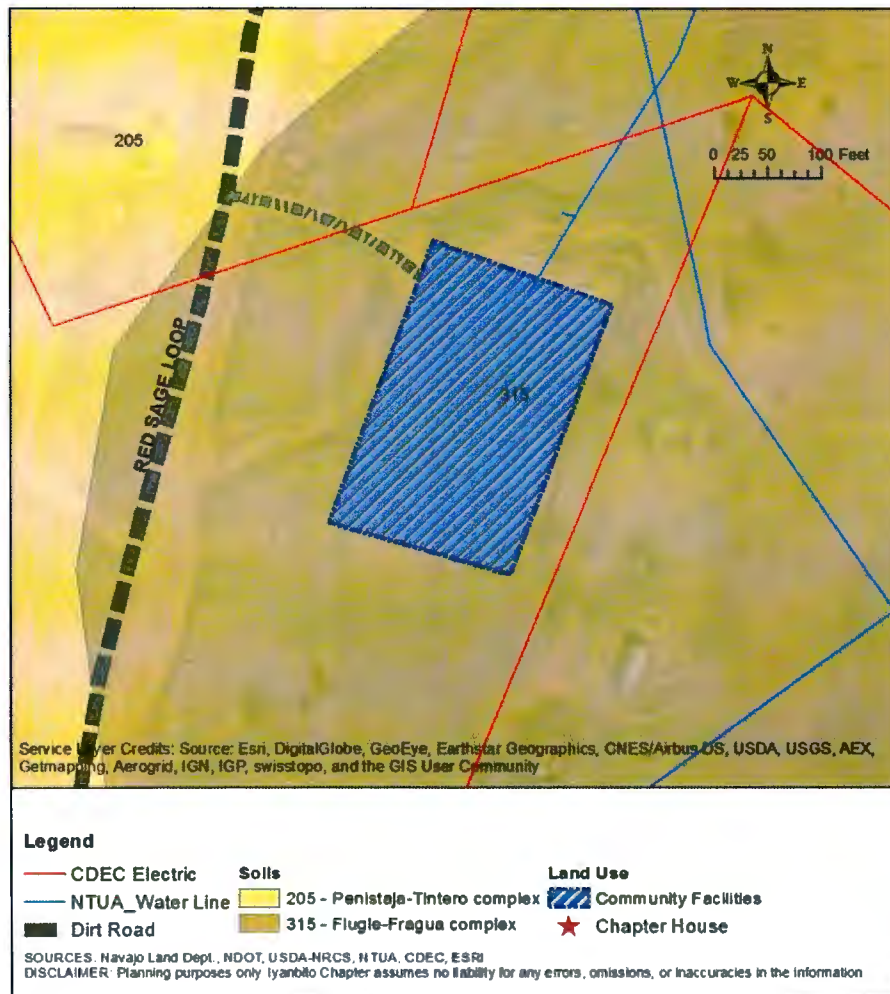
Zone: The new site is within the Zone 2 classification made by the Navajo Nation Department of Fish and Wildlife.

Soil: The soil regime is Aquima-Hawaikuh complex (225) for the new site.

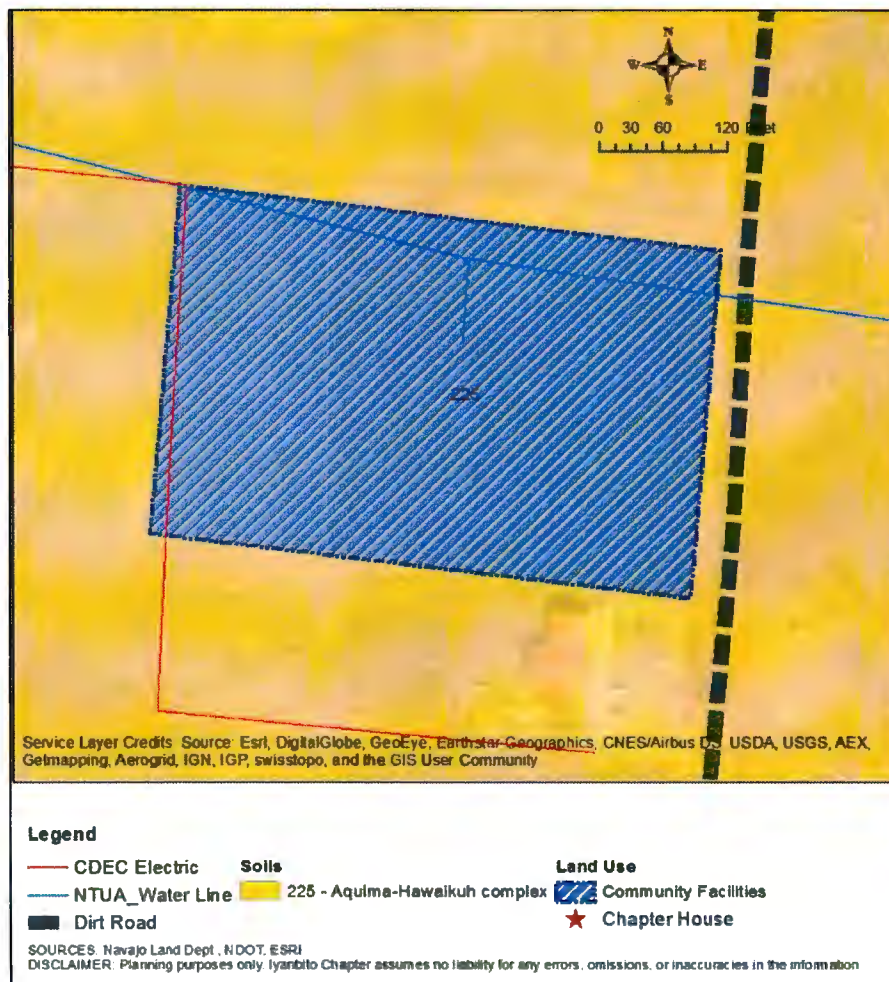
Proposed Land Use Designation: Community Facilities

Goal: Build a new headstart building and support facilities on the new site. The new site, 4 acres, has been withdrawn north of the Senior Center in the southern part of the community.

Map 9. Existing Headstart Location



Map 10. Proposed Headstart Development



5.1.3 Senior Center Tract



Location: The senior center area is located west of the NHA housing subdivision and north of Sweetwater Road (Map 11).

Acreage: 2 acres.

Existing Conditions: Aside from the senior center building, the area to the west is undeveloped.

Access: The site is accessible by a dirt road extending north of Sweetwater Road (paved),

Utilities: Electric lines and water lines currently provide services to the site. Sacred Wind also provided telephone and internet services.

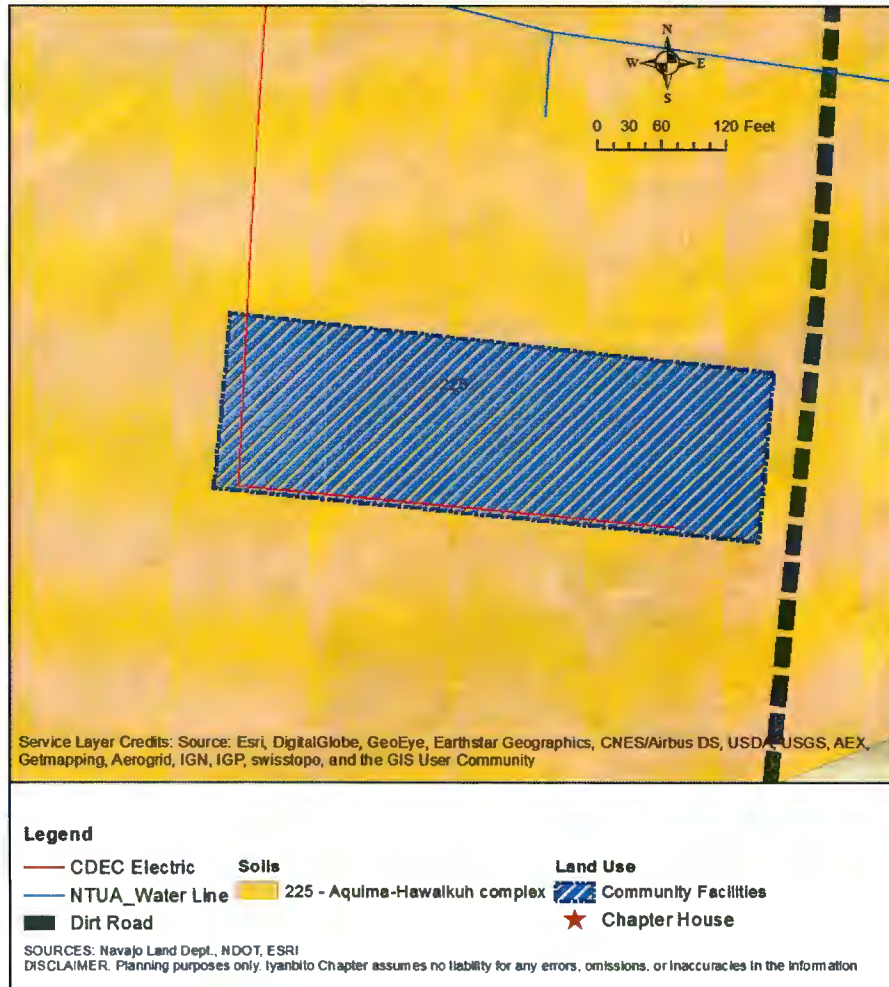
Zone: The site is within the Zone 2 classification made by the Navajo Nation Department of Fish and Wildlife.

Soil: The soil regime is Aquima-Hawaikuh complex (225) for most of the site.

Proposed Land Use Designation: Community Facilities

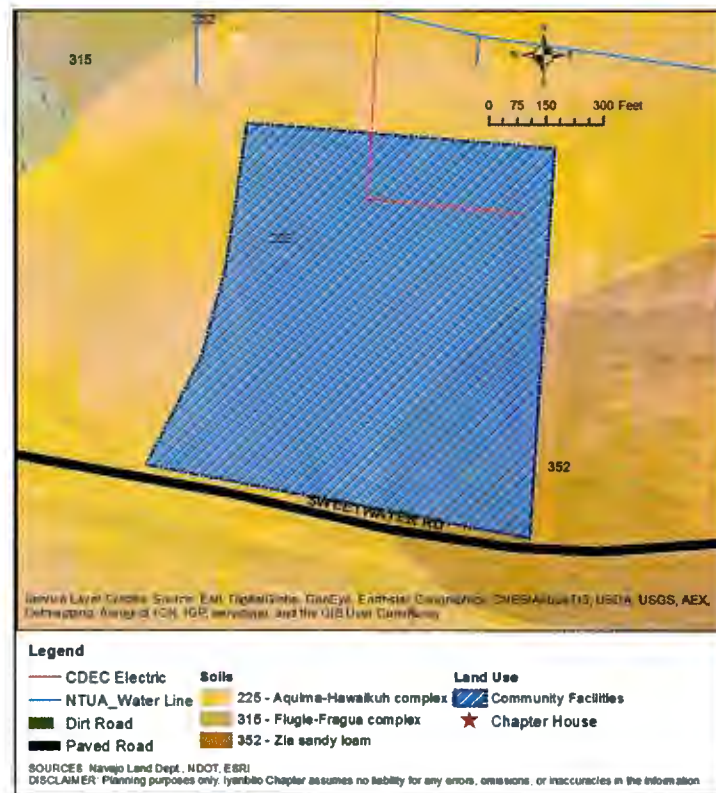
Goal: Plans are in progress for a community garden adjacent to the senior center.

Map 11. Senior Center Site Development



5.1.4 Chapter Development Tract

Map 12. Chapter Development Site



Location: The chapter development area is located west of the NHA housing subdivision and north of Sweetwater Road (Map 12).

Acreage: 50 acres was identified for community facilities. Within this area is the senior center tract consisting of approximately 2 acres.

Existing Conditions: Aside from the senior center tract, the area is undeveloped. A new headstart facility north of the senior center was started but never completed.

Access: The site is accessible by Sweetwater Road which is paved,

Utilities: Electric lines and water lines currently provide services to the site.

Zone: The site is within the Zone 2 classification.

Soil: The soil regime is Aquima-Hawaikuh complex (225) for most of the site. Zia sandy loam (352) covers the southeast corner of the site.

Proposed Land Use Designation: Community Facilities

Goal: Locate community facilities within this site.

5.1.5 Burnt Corn Road Improvement



Location: Burnt Corn Road generally parallels the east side of the wash along Iyanbito Road as shown in Map 13.

Length: Approximately two miles.

Existing Conditions: Burn Corn Road is an unpaved bus route. It connects Sweetwater Road to Iyanbito Road at the chapter house. The road gets extremely muddy and becomes impassable during inclement weather.

Access: The road is accessible from the south by Sweetwater Road which is paved and from the north by Iyanbito Road which is also paved.

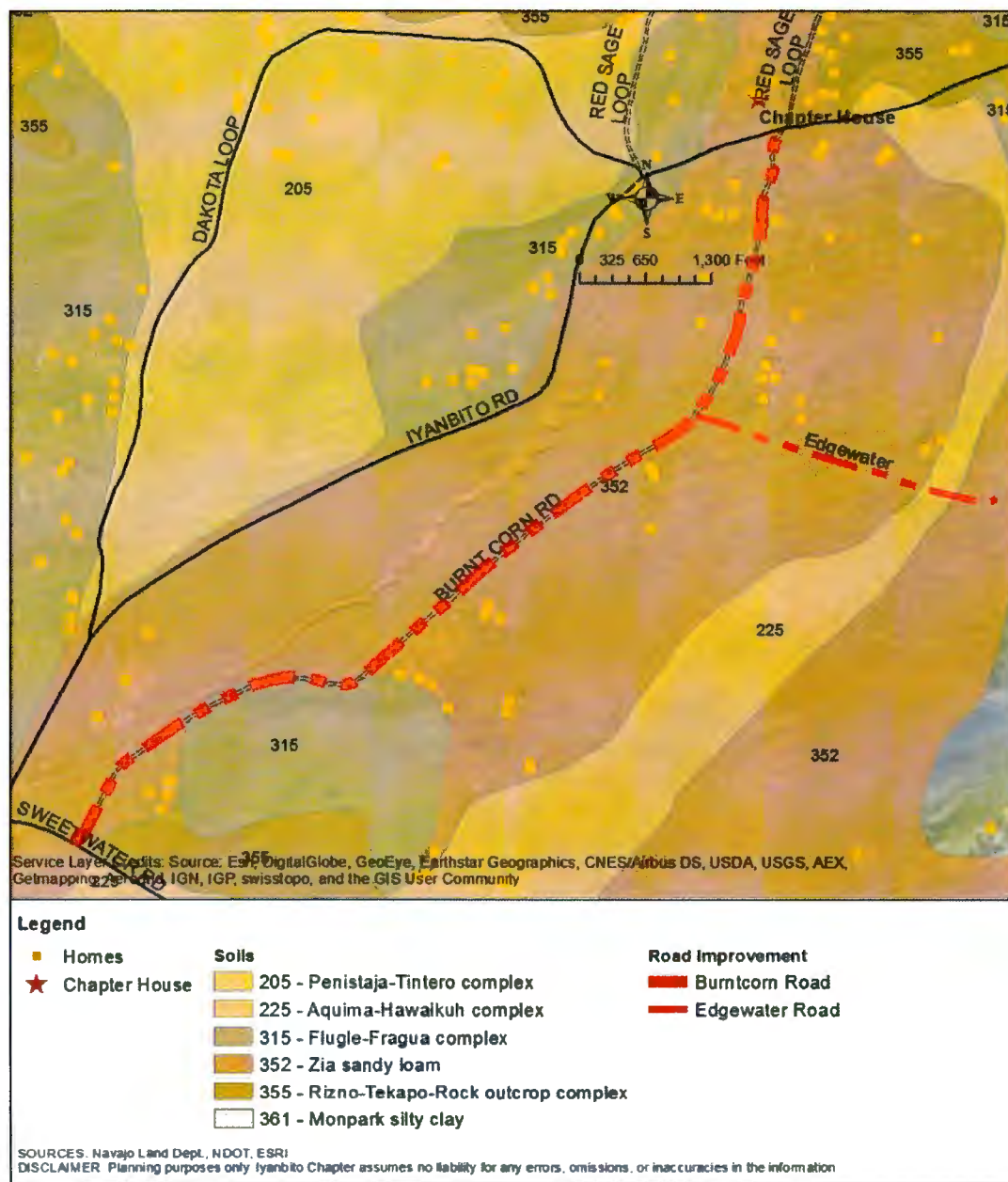
Zone: The site is within the Zone 2 classification made by the Navajo Nation Department of Fish and Wildlife.

Soil: The soil regime is Zia sandy loam (352) along the route.

Proposed Land Use Designation: Major community road

Goal: Improve Pave Burn Corn Road. Continue to use as a bus route. In addition, improve Edgewater Road which extends eastward from Burn Corn Road.

Map 13. Burntcorn Road Improvement



5.1.6 Improve Roads to Homes



During the community assessment, several families indicated they needed improvements to the roads leading to their homes, which we are calling driveways (Map 14). These roads get very muddy making it difficult to drive on.

Location: Roads throughout the community need improvement. Several are:

- Driveways from Edge Water Road
- Driveways from Turtle Butte Road
- Driveways from Windmill Road
- Driveways from Dakota Loop
- Driveways from Iyanbito Road
- Driveways from Sweetwater Road
- Driveways from Red Sage Loop

Existing Conditions: These driveways are dirt. They get extremely muddy and becomes impassable during inclement weather.

Access: The driveways are accessible via other main roads.

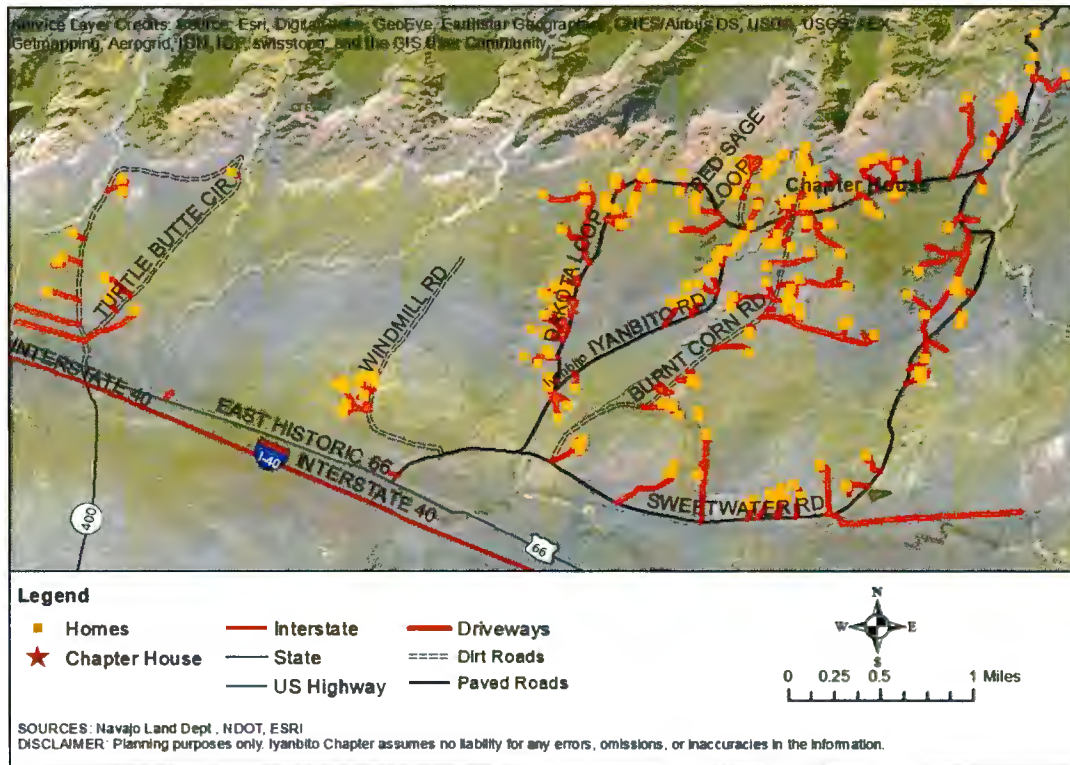
Zone: The site is within the Zone 2 classification made by the Navajo Nation Department of Fish and Wildlife.

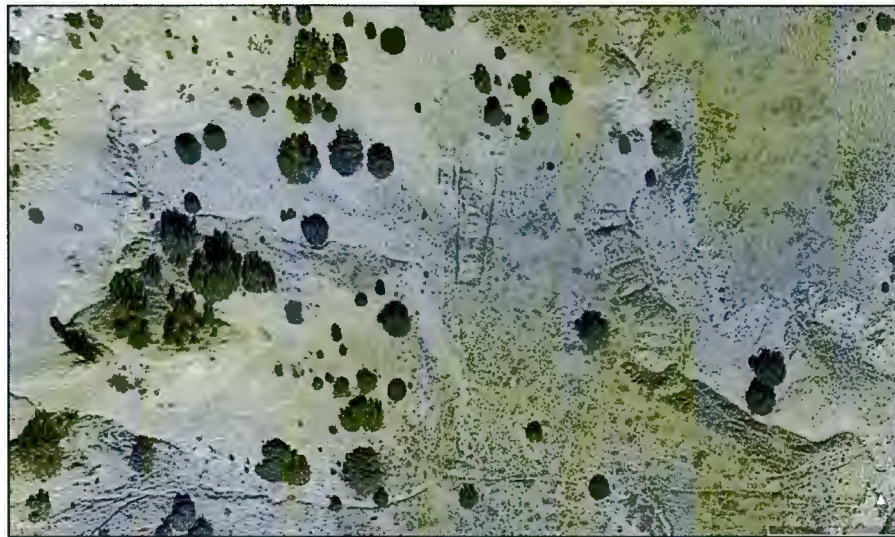
Soil: The soil regimes vary from location to location.

Proposed Land Use Designation: Roads – driveways.

Goal: Improve driveways by grading, installing culverts, some graveling and fixing drainage channels.

Map 14. Roads (Driveways) to Homes





5.1.7 Family Burial Plots

During the community assessment, several families indicated they desired to keep their family burial plots as they have been used for generations.

Location: Family burial plots exist throughout the community. Several are:

- Red Sage Loop Area
- Turtle Butte Area
- Burntcorn Area
- Iyanbito/Sweetwater Areas
- Windmill Area

Existing Conditions: Burial plots have been in existence for generations.

Access: Access is limited and should be kept that way.

Zone: The site is within the Zone 2 & 3 classification made by the Navajo Nation Department of Fish and Wildlife.

Soil: The soil regimes vary from location to location.

Proposed Land Use Designation: Family burial plots.

Goal: Recognize, respect and keep family burial plots as they have been used for generations.

5.1.8 Na'haa'ba'nii Artesian Well



Location: Located eastern edge of the community north of Sweetwater Road.

Existing Conditions: The well continuously flows with above ground structure shown in above photo.

Access: Dirt road extends east of Sweetwater road.

Zone: The site is within the Zone 2 classification made by the Navajo Nation Department of Fish and Wildlife.

Soil: The soil regime is Millett-Blanding-Strych Association (310).

Proposed Land Use Designation: Open Space.

Goal: Protect well and use for livestock and other agricultural uses.

5.2 BIA – SHEEP LAB LAND



BIA – Sheep Lab Place is the area south of the railroad and east of Highway 400. BIA has jurisdiction over these lands. Map 15 shows a topographic map with section numbers of the Sheep lab lands. The chapter's future plan includes several proposed development sites and projects; they are presented in the following sections.

Location: Located east of Highway 400 and south of the Santa Fe Railroad in Township 15 North, Range 15 & 16 West, NMPM.

Acreage: 5,298 acres (more or less).

Existing Conditions: The sheep lab lands are primarily undeveloped. There is church at the railroad crossing towards the Iyanbito Chapter community. The land known as the Perea store was also previously developed and is currently vacant.

Access: Access to the site from Highways 400 and 218.

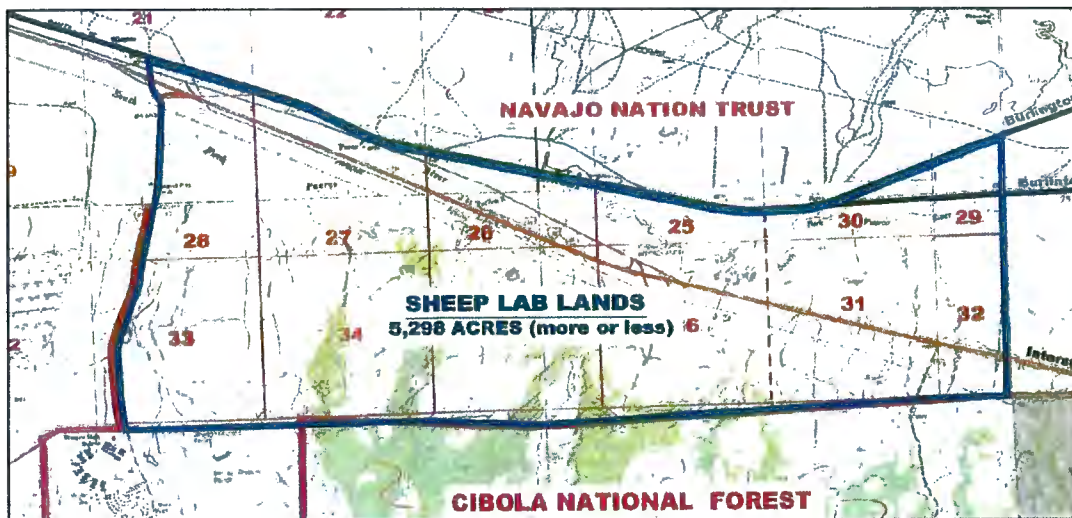
Zone: BIA

Soil: The soil regime varies.

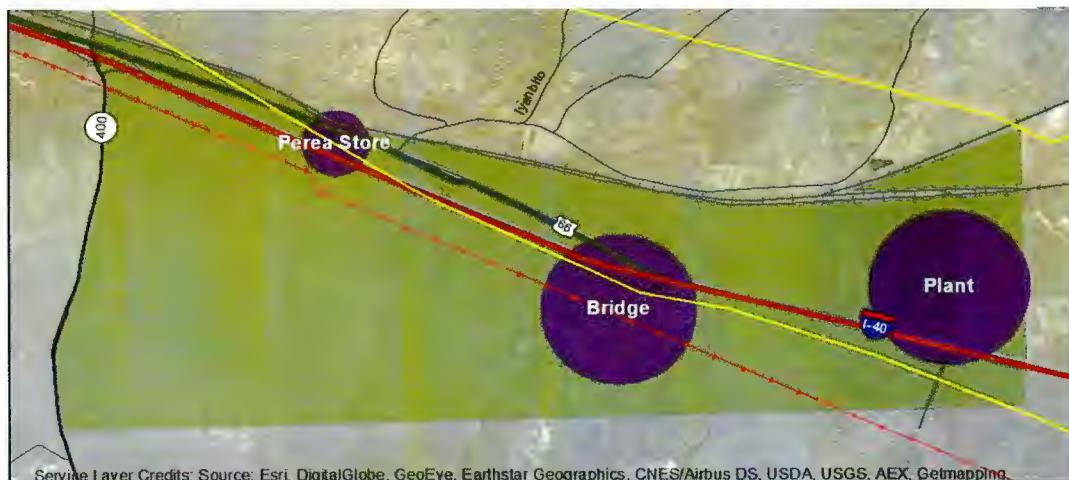
Proposed Land Use Designation: Development areas are proposed at the Iyanbito Overpass (Exit 36), Perea store, and near the Cineza Plant as depicted in Map 16. Other areas within these lands are proposed to remain as open space for grazing, recreation and scenic areas.

Goal: Transfer land back to Iyanbito Chapter of which BIA has jurisdiction. Additionally, develop the three areas: Perea Store, Overpass and Plant sites.

Map 15. BIA Sheep Lab Place



Map 16. Proposed Development Areas in BIA Sheep Lab Place

**Legend**

- Power Transmission Line
- Natural Gas Pipeline
- Proposed Development Sites



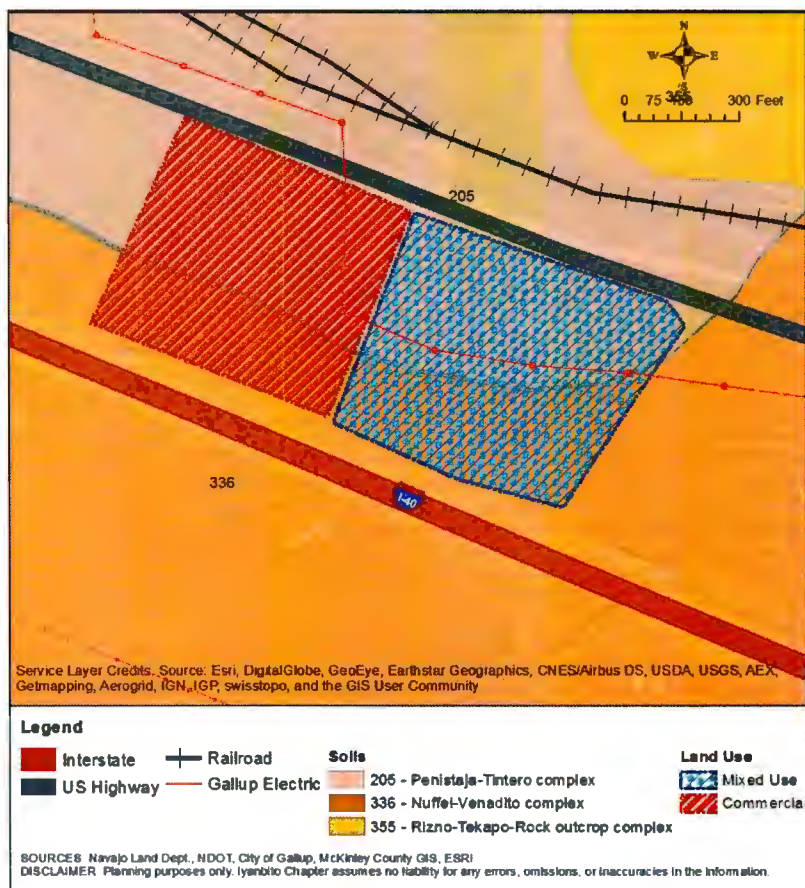
0 0.25 0.5 1 Miles

SOURCES: Navajo Land Dept., BIA, NDOT, ESRI

DISCLAIMER: Map is for planning purposes only. Iyanbito Chapter assumes no liability for any errors, omissions, or inaccuracies in the information.

5.2.1 Perea Store Development

Map 17. Perea Store Development



Location: Located along Highway 218 between the Santa Fe Railroad and I-40 as shown in Map 17.

Acreage: 15 acres (more or less).

Existing Conditions: The sheep lab lands are primarily undeveloped. Remnants of previous development at the old Perea Store still stand. The land is currently vacant.

Access: Access to the site from Highways 400 and 318.

Zone: BIA

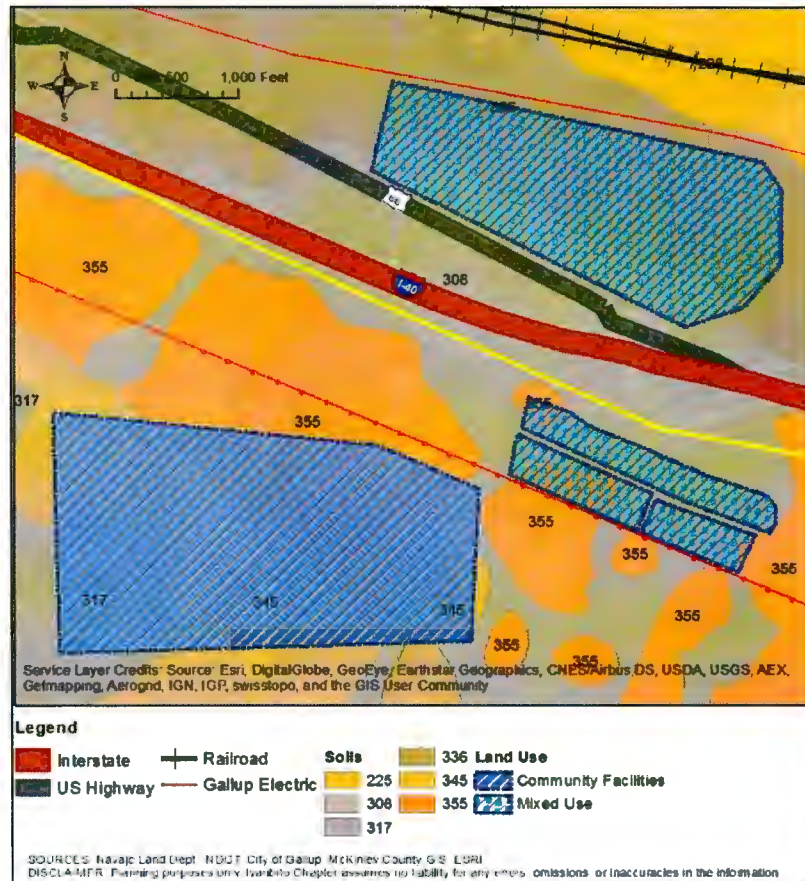
Soil: The soil regime is Penistaja-Tintero complex (205) and Rizno-Tekapo-Rock outcrop complex (335).

Proposed Land Use Designation: Commercial and Mixed-use development areas proposed in this strip.

Goal: Develop commercial, housing and community facilities and other mixed-use development within this strip.

5.2.2 Bridge Development

Map 18. Bridge Development



Location: Located along Highway 218 between the Santa Fe Railroad and I-40 as shown in Map 18.

Acreage: 5,298 acres (more or less).

Existing Conditions: The sheep lab lands are primarily undeveloped. There is church at the railroad crossing towards the Iyanbito Chapter community. The land known as the Perea store was also previously developed and is currently vacant.

Access: Access to the site from Highways 400 and 218.

Zone: BIA

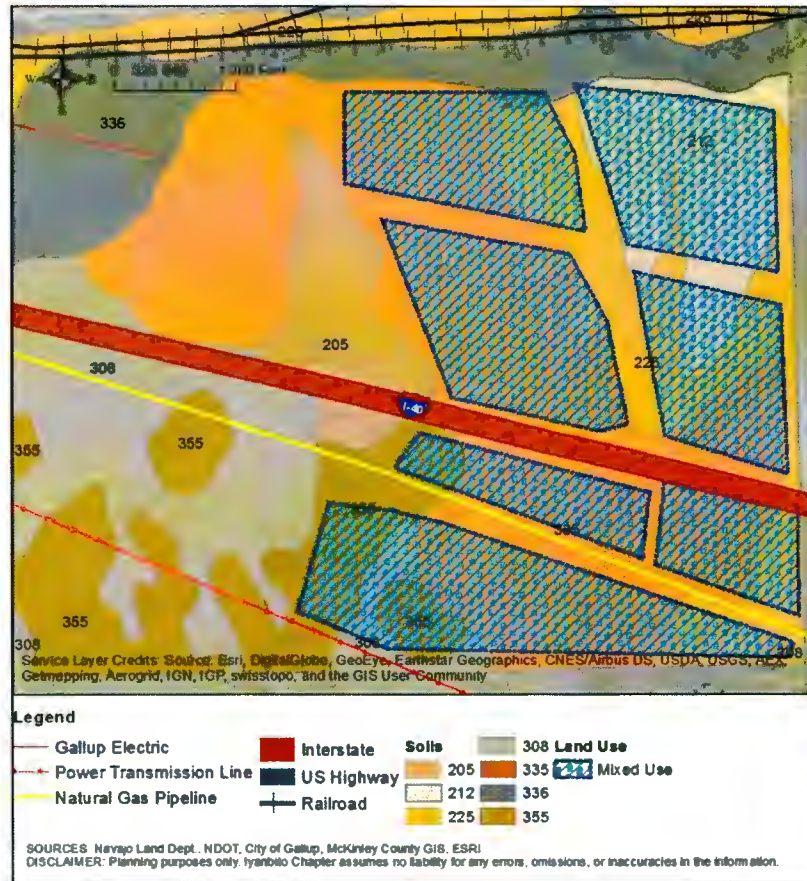
Soil: The soil regime varies

Proposed Land Use Designation: Mixed-use development areas proposed in this strip.

Goal: Develop commercial, housing and community facilities within this strip.

5.2.3 Plant Development

Map 19. Plant Development



Location: Located west of the Cineza plant along I-40 as shown on Map 19.

Acreage: varies acres (more or less).

Existing Conditions: The proposed area is undeveloped.

Access: Access to the site from Exit 39 off of I-40.

Zone: BIA

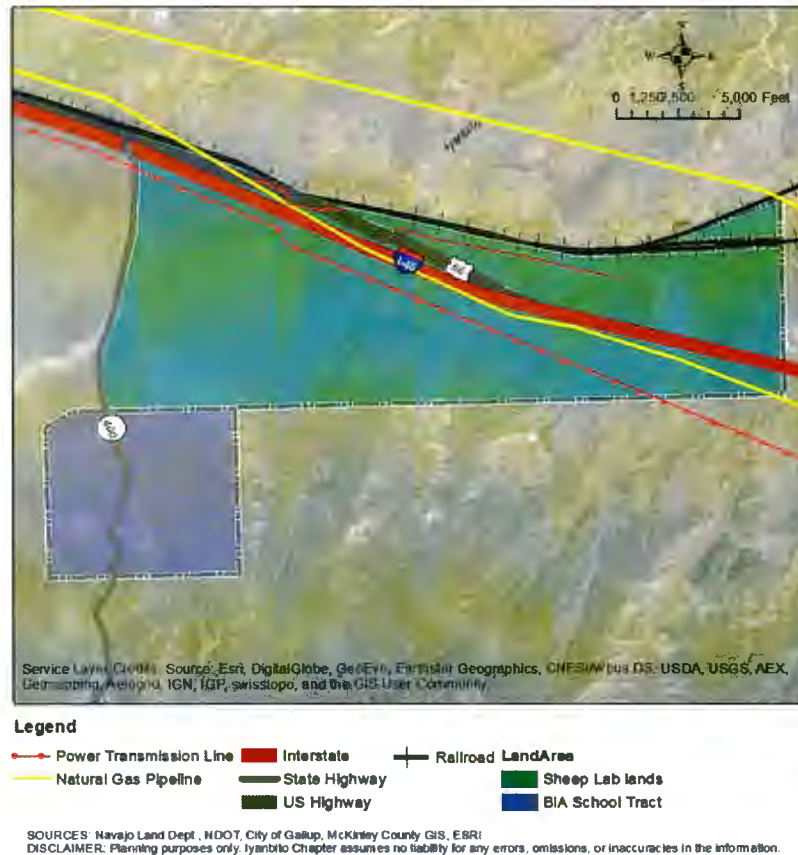
Soil: The soil regime varies.

Proposed Land Use Designation: Mixed-use development areas are proposed.

Goal: Consider this place for development where viable and feasible. Possibly commercial and/or industrial; however, a feasibility study is the first goal.

5.2.4 Community Cemetery

MAP 20. Community Cemetery



Location: The specific location is intended to be within the BIA sheep lab or BIA school tract (Map 20). Discussions included a site next to the existing historical cemetery near the old Fort Wingate Elementary School; or the east end of the sheep lab lands near the truck stop.

Acreage: 500 acres (more or less).

Existing Conditions: The sheep lab lands are primarily undeveloped. There is church at the railroad crossing towards the Iyanbito Chapter community. The land known as the Perea store was also previously developed and is currently vacant.

Access: Access to the site from Highways 400 and 218.

Zone: BIA

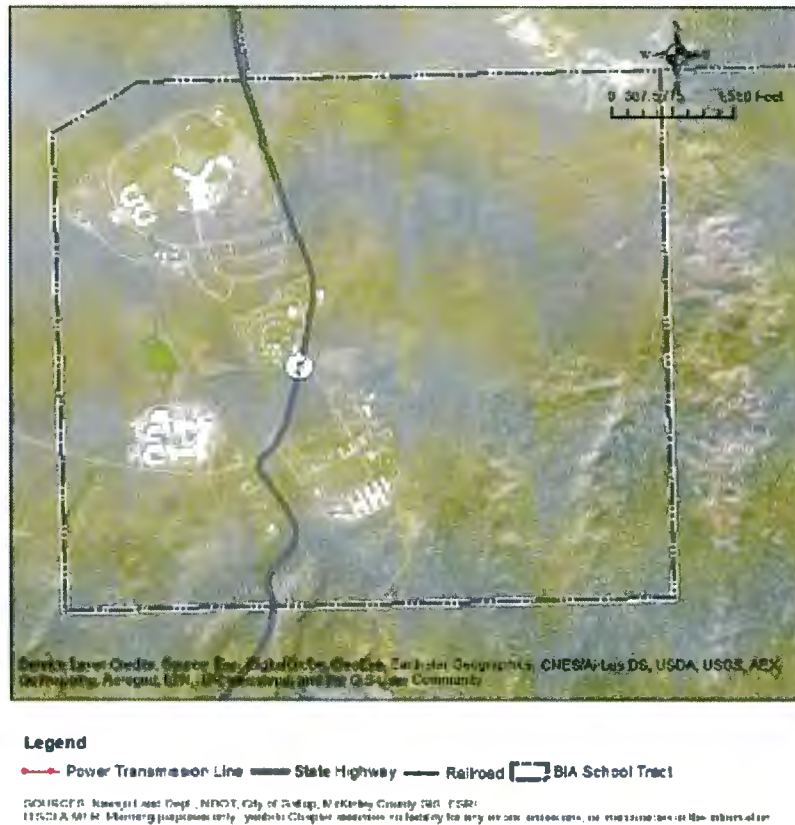
Soil: The soil regime varies

Proposed Land Use Designation: Community Cemetery and a Veterans Cemetery.

Goal: Designate an area for a community cemetery and a veterans cemetery.

5.3 BIA SCHOOL TRACT

MAP 21. BIA School Tract

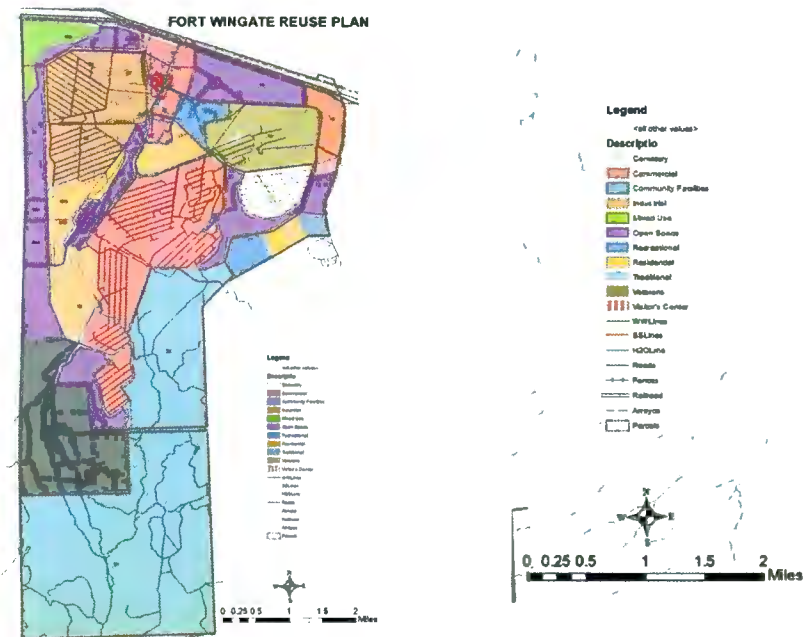


Map 21 shows the BIA tract.

Development is proposed as the east end of the tract. These proposed sites are designated for mixed use.

5.4 FORT WINGATE ARMY DEPOT LANDS

MAP 22. FORT WINGATE ARMY DEPOT LAND USE



Location: Located south of I-40 and west of Highway 400 as shown on Map 22.

Acreage: 21,598 acres (more or less).

Existing Conditions: The area is a former military installation. The site has igloos, buildings, roads, utilities and other structures.

Access: Access to the site from Highways 400 and 218.

Soil: The soil regime varies.

Proposed Land Use Designation: Mixed-use development areas proposed as shown in Map 22. The southern portion is designated for traditional use.

Goal: Develop commercial, housing and community facilities within this strip.

Many of the returning Navajos never reached the forts to receive rations and livestock, choosing instead to drop off at their old occupation areas along the way. Others joined with Navajos who had escaped removal and remained in the remote reaches of Diné Bikéyah. Regardless of the reservation boundaries set in the 1868 treaty, Navajos reoccupied areas they had previously lived on including the lands surrounding Bear Spring. Although the new Fort Wingate encompassed the original 100 square miles of the earlier fort, many Navajos

reoccupied former settlements within the boundaries of the fort. The 1970 Land Claim Commission later determined that at the time of their return, the Navajo held aboriginal title to lands that included the Puerco River of the West and the Wingate Valley, including the Fort Wingate reserve. The Navajo set about rebuilding hogans, herds, and population, and experienced a florescence in material culture as well. Conflicts with age-old enemies and settlers, as well as dissatisfaction with Indian agents, led to occasional problems; but for the most part the Navajo enjoyed an extended period of growth and economic stability through the early twentieth century (Bailey 1997:x; Iverson 2002:69; Perlman 1997:16; U.S. Army, n.d.:18-20).

Fort Wingate served as a gathering area, distribution center, and sometimes social center for Navajo people. Navajo farmers who settled around the fort supplied meat and produce for the army and traded at the post for coffee, flour, and sugar. Monthly rations were distributed at Fort Wingate for some years after 1868.

5.5 FORESTRY – SHEEP LAB LAND

MAP 23. Forestry Sheep Lab Land



Map23 shows the land use plan for the Sheep Lab tract. The land is currently part of U.S. Forestry. Plans are to request for this land to be transferred to Navajo.

This area would continue to be preserved for with no development beyond recreational trails, picnic areas and open space including grazing.



6 CAPITAL IMPROVEMENT PROJECTS

Capital projects are planned for and built over a period of several years. They are important to the implementation of the land use plan.

6.1 NAVAJO ICIP

Under the Navajo Nation, the Infrastructure and Capital Improvement Plan (ICIP) is a list of priority projects showing the estimated costs and source of revenue and funding for selected projects over a six year period. Eligible projects pursuant to the Navajo Nation Infrastructure and Capital Improvement Guidelines and Procedures include:

- The construction, renovation(s) repair or expansion of public facilities. i.e., Chapter House, Senior Citizens Centers, Headstart/Preschool buildings, Recreation facilities, Cemeteries, Fire Stations, Solid Waste facilities, Airports, Streets & Lights, Bridges, Warehouses and Storage buildings.
- Major equipment purchases such as road maintenance equipment, farm equipment, fire-fighting equipment, vehicles, school playground equipment, office equipment and furnishings that support new buildings.
- Acquisitions of manufactured buildings, aircraft, land and/or lease of thereof.
- The cost for the development of infrastructure such as electric power line, water line, sewer lagoons, waste water treatment facilities, communication and transportation systems, roads and parking lots, Erosion Control Systems, and Irrigation Systems.

- The installation of bathroom additions and electrical housewiring required as a precedent to planned or current waterline extensions or electrical powerline extensions for the same project.

6.1.1 Iyanbito ICIP

Iyanbito's ICIP Plan 2016-2021 covers projects for Fiscal Year 2017 thru 2021. A project summary is as follows:

PROJECT TITLE

New Iyanbito Headstart Center

New Iyanbito Multi-Use Facility

Upgrade Roads: Burnt Corn, Red Sage, Turtle Butte

Solid Waste Disposal

Evaluate Water and Drainage System

Senior Center Hogan/Heating System

Land Acquisition

Cemetery

Veterans Housing

Land Conversation

Alternate Emergency Route

Youth Center

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APPENDIX A

Soil Component Text

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

[Only those components that have entries for the selected text kinds and categories are included in this report]

Map unit: 53 - Hawaikuh clay loam, 0 to 2 percent slopes

Componet: Hawaikuh

Text kind/Category: Nontechnical description/GENSOIL

The Hawaikuh component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on valleys, stream terraces. The parent material consists of stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XA128NM Clayey ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 2s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 121 - Badland

Componet: Badland

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Badland is a miscellaneous area.

Map unit: 150 - Riverwash-Escawetter association, 0 to 1 percent slopes

Componet: Riverwash

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Riverwash is a miscellaneous area.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 150 - Riverwash-Escawetter association, 0 to 1 percent slopes

Componet: Escawetter

Text kind/Category: Nontechnical description/GENSOIL

The Escawetter component makes up 25 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains, valleys. The parent material consists of stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during March, April, May, June, July, August, September. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XB273AZ Sandy Bottom 6-10" P.z. ecological site. Nonirrigated land capability classification is 7c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Map unit: 205 - Penistaja-Tintero complex, 1 to 10 percent slopes

Componet: Penistaja

Text kind/Category: Nontechnical description/GENSOIL

The Penistaja component makes up 45 percent of the map unit. Slopes are 1 to 5 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits and slope alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XA112NM Loamy ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Componet: Tintero

Text kind/Category: Nontechnical description/GENSOIL

The Tintero component makes up 40 percent of the map unit. Slopes are 1 to 10 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits and slope alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XA113NM Sandy ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 212 - Rehobeth silty clay loam, 0 to 1 percent slopes

Component: Rehobeth

Text kind/Category: Nontechnical description/GENSOIL

The Rehobeth component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains, valleys. The parent material consists of stream alluvium derived from gypsum. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is occasionally flooded. It is frequently ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R036XB010NM Salty Bottomland ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 9 within 30 inches of the soil surface.

Map unit: 225 - Aquima-Hawaikuh complex, 1 to 5 percent slopes

Component: Aquima

Text kind/Category: Nontechnical description/GENSOIL

The Aquima component makes up 40 percent of the map unit. Slopes are 1 to 5 percent. This component is on uplands, alluvial fans. The parent material consists of fan alluvium over stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XC312AZ Loamy Wash 10-14" P.z. ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 5 within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 225 - Aquima-Hawaikuh complex, 1 to 5 percent slopes

Component: Hawaikuh

Text kind/Category: Nontechnical description/GENSOIL

The Hawaikuh component makes up 40 percent of the map unit. Slopes are 1 to 5 percent. This component is on uplands, fan remnants. The parent material consists of fan alluvium over stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XC307AZ Clay Loam Upland 10-14" P.z. ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 240 - Breadsprings and Nahodish soils, 0 to 2 percent slopes

Component: Breadsprings

Text kind/Category: Nontechnical description/GENSOIL

The Breadsprings component makes up 35 percent of the map unit. Slopes are 0 to 2 percent. This component is on valleys, stream terraces. The parent material consists of stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is rarely flooded. It is rarely ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 0 percent. This component is in the R036XB010NM Salty Bottomland ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 3 within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 240 - Breadsprings and Nahodish soils, 0 to 2 percent slopes

Componet: Nahodish

Text kind/Category: Nontechnical description/GENSOIL

The Nahodish component makes up 35 percent of the map unit. Slopes are 0 to 2 percent. This component is on stream terraces, valleys. The parent material consists of stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is rarely flooded. It is rarely ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R036XB010NM Salty Bottomland ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 5 within 30 inches of the soil surface.

Map unit: 241 - Mentmore loam, 1 to 8 percent slopes

Componet: Mentmore

Text kind/Category: Nontechnical description/GENSOIL

The Mentmore component makes up 85 percent of the map unit. Slopes are 1 to 8 percent. This component is on uplands, cuestras. The parent material consists of fan and slope alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R036XB006NM Loamy ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface.

Componet: Atrac

Text kind/Category: Nontechnical description/GENSOIL

The Atrac component makes up 10 percent of the map unit. Slopes are 1 to 8 percent. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. This component is in the R035XA112NM Loamy ecological site. This soil does not meet hydric criteria.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 245 - Buckle-Gapmesa-Barboncito complex, 1 to 6 percent slopes

Componet: Buckle

Text kind/Category: Nontechnical description/GENSOIL

The Buckle component makes up 35 percent of the map unit. Slopes are 1 to 6 percent. This component is on cuestas, uplands. The parent material consists of eolian deposits over fan and slope alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R036XB006NM Loamy ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 7 percent. There are no saline horizons within 30 inches of the soil surface.

Componet: Gapmesa

Text kind/Category: Nontechnical description/GENSOIL

The Gapmesa component makes up 30 percent of the map unit. Slopes are 1 to 3 percent. This component is on cuestas, uplands. The parent material consists of eolian deposits over alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R036XB006NM Loamy ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface.

Componet: Barboncito

Text kind/Category: Nontechnical description/GENSOIL

The Barboncito component makes up 25 percent of the map unit. Slopes are 1 to 3 percent. This component is on cuestas, uplands. The parent material consists of eolian deposits over slope alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R036XB006NM Loamy ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 260 - Quarries and pits

Componet: Quarries and pits

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Quarries and pits is a miscellaneous area.

Map unit: 290 - Rock outcrop-Westmion-Skyvillage complex, 30 to 80 percent slopes

Componet: Rock outcrop

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Componet: Westmion

Text kind/Category: Nontechnical description/GENSOIL

The Westmion component makes up 30 percent of the map unit. Slopes are 30 to 50 percent. This component is on uplands, cuerdas. The parent material consists of slope alluvium and colluvium over residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 5 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XA131NM Foothills ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 3 within 30 inches of the soil surface.

Componet: Skyvillage

Text kind/Category: Nontechnical description/GENSOIL

The Skyvillage component makes up 15 percent of the map unit. Slopes are 30 to 40 percent. This component is on cuerdas, uplands. The parent material consists of eolian deposits over slope alluvium derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XG121NM Shallow Sandstone ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 305 - Celavar-Atarque complex, 1 to 8 percent slopes

Component: Celavar

Text kind/Category: Nontechnical description/GENSOIL

The Celavar component makes up 50 percent of the map unit. Slopes are 1 to 8 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits over slope alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F035XG001NM Pinus Edulis-juniperus Monosperma/artemisia Nova-atriplex Canescens/pascopyrum Smithii ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Atarque

Text kind/Category: Nontechnical description/GENSOIL

The Atarque component makes up 35 percent of the map unit. Slopes are 1 to 8 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits over slope alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XG121NM Shallow Sandstone ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent. There are no saline horizons within 30 inches of the soil surface.

Map unit: 308 - Fikel-Venzuni complex, 1 to 6 percent slopes

Component: Fikel

Text kind/Category: Nontechnical description/GENSOIL

The Fikel component makes up 50 percent of the map unit. Slopes are 2 to 6 percent. This component is on uplands, fan remnants. The parent material consists of fan alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XA128NM Clayey ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 7 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 308 - Fikel-Venzuni complex, 1 to 6 percent slopes

Componet: Venzuni

Text kind/Category: Nontechnical description/GENSOIL

The Venzuni component makes up 40 percent of the map unit. Slopes are 1 to 6 percent. This component is on stream terraces. The parent material consists of stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is rarely flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XA128NM Clayey ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 6 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 3 within 30 inches of the soil surface.

Map unit: 312 - Bluewater loam, 0 to 1 percent slopes

Componet: Bluewater

Text kind/Category: Nontechnical description/GENSOIL

The Bluewater component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on stream terraces. The parent material consists of stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is rarely flooded. It is not ponded. A seasonal zone of water saturation is at 36 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 4 percent. This component is in the R036XB008NM Meadow ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 3s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 23 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 315 - Flugle-Fragua complex, 1 to 10 percent slopes

Componet: Flugle

Text kind/Category: Nontechnical description/GENSOIL

The Flugle component makes up 50 percent of the map unit. Slopes are 1 to 5 percent. This component is on fan remnants, uplands. The parent material consists of eolian deposits over fan and slope alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F035XG001NM Pinus Edulis-juniperus Monosperma/artemisia Nova-atriplex Canescens/pascopyrum Smithii ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Componet: Fragua

Text kind/Category: Nontechnical description/GENSOIL

The Fragua component makes up 40 percent of the map unit. Slopes are 1 to 10 percent. This component is on fan remnants, uplands. The parent material consists of eolian deposits over fan and slope alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R036XB111NM Sandy Slopes ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Map unit: 317 - Highdye-Evpark-Bryway complex, 2 to 20 percent slopes

Componet: Highdye

Text kind/Category: Nontechnical description/GENSOIL

The Highdye component makes up 35 percent of the map unit. Slopes are 2 to 20 percent. This component is on cuestas, uplands. The parent material consists of eolian deposits and slope alluvium derived from sandstone over residuum weathered from shale. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F035XG134NM Pinus Edulis-juniperus Monosperma/quercus Gambelii/bouteloua Gracilis ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 317 - Highdye-Evpark-Bryway complex, 2 to 20 percent slopes

Componet: Evpark

Text kind/Category: Nontechnical description/GENSOIL

The Evpark component makes up 30 percent of the map unit. Slopes are 2 to 8 percent. This component is on cuestas, uplands. The parent material consists of eolian deposits over slope alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XA112NM Loamy ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface.

Componet: Bryway

Text kind/Category: Nontechnical description/GENSOIL

The Bryway component makes up 20 percent of the map unit. Slopes are 2 to 8 percent. This component is on uplands, cuestas. The parent material consists of slope alluvium derived from sandstone over residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XA112NM Loamy ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent.

Map unit: 320 - Parkelei-Fraguni complex, 1 to 8 percent slopes

Componet: Parkelei

Text kind/Category: Nontechnical description/GENSOIL

The Parkelei component makes up 45 percent of the map unit. Slopes are 1 to 8 percent. This component is on fan remnants, uplands. The parent material consists of eolian deposits over fan and slope alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F035XG134NM Pinus Edulis-juniperus Monosperma/quercus Gambelii/bouteloua Gracilis ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 6 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 320 - Parkelei-Fraguni complex, 1 to 8 percent slopes

Componet: Fraguni

Text kind/Category: Nontechnical description/GENSOIL

The Fraguni component makes up 40 percent of the map unit. Slopes are 1 to 8 percent. This component is on uplands, fan remnants. The parent material consists of eolian deposits over fan and slope alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F035XG134NM Pinus Edulis-juniperus Monosperma/quercus Gambelii/bouteloua Gracilis ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent.

Map unit: 332 - Evpark-Arabrab complex, 2 to 6 percent slopes

Componet: Evpark

Text kind/Category: Nontechnical description/GENSOIL

The Evpark component makes up 50 percent of the map unit. Slopes are 2 to 6 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits over slope alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XA112NM Loamy ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria.

Componet: Arabrab

Text kind/Category: Nontechnical description/GENSOIL

The Arabrab component makes up 40 percent of the map unit. Slopes are 2 to 6 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits and slope alluvium over residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F036XA001NM Pinus Edulis-juniperus Monosperma/artemisia Tridentata ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 335 - Venadito clay, 1 to 3 percent slopes

Componet: Venadito

Text kind/Category: Nontechnical description/GENSOIL

The Venadito component makes up 85 percent of the map unit. Slopes are 1 to 3 percent. This component is on uplands, alluvial fans. The parent material consists of fan alluvium over stream alluvium derived from shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is occasionally flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R035XA119NM Clayey Bottomland ecological site. Nonirrigated land capability classification is 6w. Irrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. The soil has a very slightly saline horizon within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 8 within 30 inches of the soil surface.

Map unit: 336 - Nuffel-Venadito complex, 1 to 3 percent slopes

Componet: Nuffel

Text kind/Category: Nontechnical description/GENSOIL

The Nuffel component makes up 45 percent of the map unit. Slopes are 1 to 3 percent. This component is on flood plains, valleys. The parent material consists of stream alluvium derived from shale and siltstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XA118NM Bottomland ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 336 - Nuffel-Venadito complex, 1 to 3 percent slopes

Componet: Venadito

Text kind/Category: Nontechnical description/GENSOIL

The Venadito component makes up 35 percent of the map unit. Slopes are 1 to 3 percent. This component is on uplands, alluvial fans. The parent material consists of fan alluvium over stream alluvium derived from shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is frequently flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XA119NM Clayey Bottomland ecological site. Nonirrigated land capability classification is 6w. Irrigated land capability classification is 4w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 8 within 30 inches of the soil surface.

Componet: Escawetter

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major components. The Escawetter soil is a minor component.

Map unit: 345 - Rock outcrop-Tuces complex, 20 to 70 percent slopes

Componet: Rock outcrop

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 345 - Rock outcrop-Tuces complex, 20 to 70 percent slopes

Componet: Tuces

Text kind/Category: Nontechnical description/GENSOIL

The Tuces component makes up 40 percent of the map unit. Slopes are 20 to 70 percent. This component is on escarpments, uplands. The parent material consists of slope alluvium and colluvium derived from sandstone over residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F035XG134NM Pinus Edulis-juniperus Monosperma/quercus Gambelii/bouteloua Gracilis ecological site. Nonirrigated land capability classification is 8. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 6 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 350 - Toldohn-Vessilla-Rock outcrop complex, 8 to 35 percent slopes

Componet: Toldohn

Text kind/Category: Nontechnical description/GENSOIL

The Toldohn component makes up 35 percent of the map unit. Slopes are 8 to 35 percent. This component is on ridges, uplands. The parent material consists of slope alluvium over residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 5 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F035XG134NM Pinus Edulis-juniperus Monosperma/quercus Gambelii/bouteloua Gracilis ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Componet: Vessilla

Text kind/Category: Nontechnical description/GENSOIL

The Vessilla component makes up 30 percent of the map unit. Slopes are 8 to 15 percent. This component is on uplands, ridges. The parent material consists of eolian deposits over slope alluvium derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XF618AZ Sandy Upland 13-17" P.z. Moderately Deep ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 350 - Toldohn-Vessilla-Rock outcrop complex, 8 to 35 percent slopes

Componet: Rock outcrop

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Map unit: 351 - Rock outcrop-Vessilla complex, 35 to 70 percent slopes

Componet: Rock outcrop

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Componet: Vessilla

Text kind/Category: Nontechnical description/GENSOIL

The Vessilla component makes up 30 percent of the map unit. Slopes are 35 to 70 percent. This component is on uplands, cuestras. The parent material consists of eolian deposits over slope alluvium derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R036XB014NM Shallow Loam ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 352 - Zia sandy loam, 1 to 5 percent slopes

Componet: Zia

Text kind/Category: Nontechnical description/GENSOIL

The Zia component makes up 80 percent of the map unit. Slopes are 1 to 5 percent. This component is on alluvial fans, uplands. The parent material consists of eolian deposits over fan and stream alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XA113NM Sandy ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 353 - Mido loamy fine sand, 1 to 6 percent slopes

Componet: Mido

Text kind/Category: Nontechnical description/GENSOIL

The Mido component makes up 90 percent of the map unit. Slopes are 1 to 6 percent. This component is on dunes, uplands. The parent material consists of eolian deposits derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XA115NM Deep Sand ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 354 - Knifehill loam, 1 to 5 percent slopes

Componet: Knifehill

Text kind/Category: Nontechnical description/GENSOIL

The Knifehill component makes up 80 percent of the map unit. Slopes are 1 to 5 percent. This component is on fan remnants, uplands. The parent material consists of fan alluvium over stream alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R036XB008NM Meadow ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 3c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface.

Map unit: 355 - Rizno-Tekapo-Rock outcrop complex, 2 to 45 percent slopes

Componet: Rizno

Text kind/Category: Nontechnical description/GENSOIL

The Rizno component makes up 35 percent of the map unit. Slopes are 2 to 20 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits over residuum weathered from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XG121NM Shallow Sandstone ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface.

Componet: Tekapo

Text kind/Category: Nontechnical description/GENSOIL

The Tekapo component makes up 30 percent of the map unit. Slopes are 10 to 45 percent. This component is on uplands, cuestas. The parent material consists of slope alluvium and colluvium derived from siltstone over residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 5 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XA130NM Shale Hills ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 355 - Rizno-Tekapo-Rock outcrop complex, 2 to 45 percent slopes

Componet: Rock outcrop

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Map unit: 361 - Monpark silty clay, 2 to 8 percent slopes

Componet: Monpark

Text kind/Category: Nontechnical description/GENSOIL

The Monpark component makes up 80 percent of the map unit. Slopes are 2 to 8 percent. This component is on uplands, hills. The parent material consists of slope alluvium over residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XA128NM Clayey ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 6 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 4 within 30 inches of the soil surface.

Map unit: 365 - Vessilla-Rock outcrop complex, 2 to 15 percent slopes

Componet: Vessilla

Text kind/Category: Nontechnical description/GENSOIL

The Vessilla component makes up 55 percent of the map unit. Slopes are 2 to 15 percent. This component is on cuestas, uplands. The parent material consists of eolian deposits derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XF618AZ Sandy Upland 13-17" P.z. Moderately Deep ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 365 - Vessilla-Rock outcrop complex, 2 to 15 percent slopes

Component: Rock outcrop

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Map unit: 375 - Todest-Shadilto complex, 2 to 8 percent slopes

Component: Todest

Text kind/Category: Nontechnical description/GENSOIL

The Todest component makes up 60 percent of the map unit. Slopes are 2 to 8 percent. This component is on cuestras, uplands. The parent material consists of eolian deposits derived from sandstone over slope alluvium derived from limestone. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R035XG127NM Savanna ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 60 percent.

Component: Shadilto

Text kind/Category: Nontechnical description/GENSOIL

The Shadilto component makes up 25 percent of the map unit. Slopes are 2 to 8 percent. This component is on cuestras, uplands. The parent material consists of eolian deposits derived from sandstone over residuum weathered from limestone. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 0 percent. This component is in the R035XG116NM Shallow ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 60 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 400 - Shoemaker-Stozuni complex, 2 to 8 percent slopes

Componet: Shoemaker

Text kind/Category: Nontechnical description/GENSOIL

The Shoemaker component makes up 45 percent of the map unit. Slopes are 2 to 8 percent. This component is on cuestras, uplands. The parent material consists of eolian deposits over alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the F039XA007NM Pinus Ponderosa-pinus Edulis/muhlenbergia Montana-bouteloua Curtipendula ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria.

Componet: Stozuni

Text kind/Category: Nontechnical description/GENSOIL

The Stozuni component makes up 35 percent of the map unit. Slopes are 2 to 8 percent. This component is on uplands, cuestras. The parent material consists of eolian deposits over slope alluvium derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XH002NM Mountain Grassland ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map unit: 403 - Valnor-Techado complex, 2 to 25 percent slopes

Componet: Valnor

Text kind/Category: Nontechnical description/GENSOIL

The Valnor component makes up 50 percent of the map unit. Slopes are 2 to 15 percent. This component is on uplands, hills. The parent material consists of slope alluvium derived from shale. Depth to a root restrictive layer, bedrock, paralithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F039XA007NM Pinus Ponderosa-pinus Edulis/muhlenbergia Montana-bouteloua Curtipendula ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 403 - Valnor-Techado complex, 2 to 25 percent slopes

Componet: Techado

Text kind/Category: Nontechnical description/GENSOIL

The Techado component makes up 30 percent of the map unit. Slopes are 5 to 25 percent. This component is on hills, uplands. The parent material consists of slope alluvium and colluvium over residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F039XA007NM Pinus Ponderosa-pinus Edulis/muhlenbergia Montana-bouteloua Curtipendula ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Map unit: 404 - Rock outcrop-Techado-Stozuni complex, 5 to 60 percent slopes

Componet: Rock outcrop

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Componet: Techado

Text kind/Category: Nontechnical description/GENSOIL

The Techado component makes up 35 percent of the map unit. Slopes are 5 to 60 percent. This component is on uplands, cuestas. The parent material consists of slope alluvium and colluvium over residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 10 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F039XA002NM Pinus Ponderosa-pseudotsuga Menziesii/quercus Gambelii-cercocarpus Montanus/poa Fendleriana ecological site. Nonirrigated land capability classification is 8. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 404 - Rock outcrop-Techado-Stozuni complex, 5 to 60 percent slopes

Componet: Stozuni

Text kind/Category: Nontechnical description/GENSOIL

The Stozuni component makes up 25 percent of the map unit. Slopes are 5 to 15 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits over slope alluvium derived from sandstone. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F039XA002NM Pinus Ponderosa-pseudotsuga Menziesii/quercus Gambelii-cercocarpus Montanus/poa Fendleriana ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent.

Map unit: 405 - Fortwingate-Owlrock complex, 2 to 8 percent slopes

Componet: Fortwingate

Text kind/Category: Nontechnical description/GENSOIL

The Fortwingate component makes up 50 percent of the map unit. Slopes are 2 to 8 percent. This component is on cuestas, uplands. The parent material consists of slope alluvium over residuum weathered from limestone, sandstone, and shale. Depth to a root restrictive layer inches, bedrock, lithic,. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 65 percent. Below this thin organic horizon the organic matter content is about 2 percent. This component is in the F039XA007NM Pinus Ponderosa-pinus Edulis/muhlenbergia Montana-bouteloua Curtipendula ecological site. Nonirrigated land capability classification is 6c. There are no saline horizons within 30 inches of the soil surface.

Componet: Owlrock

Text kind/Category: Nontechnical description/GENSOIL

The Owlrock component makes up 35 percent of the map unit. Slopes are 2 to 8 percent. This component is on uplands, cuestas. The parent material consists of residuum weathered from limestone and dolomite. Depth to a root restrictive layer, bedrock, lithic, is 5 to 20 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F039XA007NM Pinus Ponderosa-pinus Edulis/muhlenbergia Montana-bouteloua Curtipendula ecological site. Nonirrigated land capability classification is 7s. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 414 - Zunalei-Corzuni loamy fine sands, 2 to 10 percent slopes

Componet: Zunalei

Text kind/Category: Nontechnical description/GENSOIL

The Zunalei component makes up 50 percent of the map unit. Slopes are 2 to 10 percent. This component is on uplands, fan remnants. The parent material consists of eolian deposits over fan alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F039XA007NM Pinus Ponderosa-pinus Edulis/muhlenbergia Montana-bouteloua Curtipendula ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Componet: Corzuni

Text kind/Category: Nontechnical description/GENSOIL

The Corzuni component makes up 40 percent of the map unit. Slopes are 2 to 10 percent. This component is on fan remnants, uplands. The parent material consists of eolian deposits over fan alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 65 percent. Below this thin organic horizon the organic matter content is about 2 percent. This component is in the F039XA007NM Pinus Ponderosa-pinus Edulis/muhlenbergia Montana-bouteloua Curtipendula ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Map unit: 418 - Asaayi-Osoridge complex, 2 to 15 percent slopes

Componet: Asaayi

Text kind/Category: Nontechnical description/GENSOIL

The Asaayi component makes up 40 percent of the map unit. Slopes are 2 to 15 percent. This component is on cuestas, uplands. The parent material consists of slope alluvium derived from sandstone and shale. Depth to a root restrictive layer inches, bedrock, lithic,. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 65 percent. Below this thin organic horizon the organic matter content is about 1 percent. This component is in the F039XB101NM Pinus Edulis-juniperus Scopulorum/quercus Gambelii ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 418 - Asaayi-Osoridge complex, 2 to 15 percent slopes

Componet: Osoridge

Text kind/Category: Nontechnical description/GENSOIL

The Osoridge component makes up 35 percent of the map unit. Slopes are 2 to 15 percent. This component is on cuestas, uplands. The parent material consists of slope alluvium derived from sandstone over residuum weathered from shale. Depth to a root restrictive layer inches, bedrock, lithic,. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F039XA007NM Pinus Ponderosa-pinus Edulis/muhlenbergia Montana-bouteloua Curtipendula ecological site. Nonirrigated land capability classification is 7s. This soil does not meet hydric criteria.

Map unit: 550 - Bryway-Galzuni loams, 1 to 8 percent slopes

Componet: Bryway

Text kind/Category: Nontechnical description/GENSOIL

The Bryway component makes up 50 percent of the map unit. Slopes are 2 to 8 percent. This component is on uplands, cuestas. The parent material consists of slope alluvium derived from sandstone over residuum weathered from shale. Depth to a root restrictive layer inches, bedrock, paralithic,. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is high. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XA112NM Loamy ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent.

Componet: Galzuni

Text kind/Category: Nontechnical description/GENSOIL

The Galzuni component makes up 35 percent of the map unit. Slopes are 1 to 8 percent. This component is on uplands, fan remnants. The parent material consists of eolian deposits over slope alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R036XB002NM Clayey ecological site. Nonirrigated land capability classification is 6c. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 555 - Parkelei-Evpark fine sandy loams, 2 to 8 percent slopes

Componet: Parkelei

Text kind/Category: Nontechnical description/GENSOIL

The Parkelei component makes up 45 percent of the map unit. Slopes are 2 to 8 percent. This component is on cuestas, uplands. The parent material consists of eolian deposits over slope alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F035XG134NM Pinus Edulis-juniperus Monosperma/quercus Gambelii/bouteloua Gracilis ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 3 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Componet: Evpark

Text kind/Category: Nontechnical description/GENSOIL

The Evpark component makes up 35 percent of the map unit. Slopes are 2 to 8 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits over slope alluvium derived from sandstone and shale. Depth to a root restrictive layer, bedrock, lithic, is 20 to 40 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R035XA112NM Loamy ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 5 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 561 - Flugle-Plumasano association, 2 to 8 percent slopes

Componet: Flugle

Text kind/Category: Nontechnical description/GENSOIL

The Flugle component makes up 50 percent of the map unit. Slopes are 2 to 8 percent. This component is on uplands, fan remnants. The parent material consists of eolian deposits over fan and slope alluvium derived from sandstone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the F035XG134NM Pinus Edulis-juniperus Monosperma/quercus Gambelii/bouteloua Gracilis ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Componet: Plumasano

Text kind/Category: Nontechnical description/GENSOIL

The Plumasano component makes up 40 percent of the map unit. Slopes are 2 to 8 percent. This component is on cuestas, uplands. The parent material consists of eolian deposits over slope alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F035XG134NM Pinus Edulis-juniperus Monosperma/quercus Gambelii/bouteloua Gracilis ecological site. Nonirrigated land capability classification is 6c. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. There are no saline horizons within 30 inches of the soil surface.

Map unit: 565 - Plumasano-Rock outcrop complex, 15 to 40 percent slopes

Componet: Plumasano

Text kind/Category: Nontechnical description/GENSOIL

The Plumasano component makes up 65 percent of the map unit. Slopes are 15 to 40 percent. This component is on uplands, cuestas. The parent material consists of eolian deposits over slope alluvium derived from sandstone. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the R036XB111NM Sandy Slopes ecological site. Nonirrigated land capability classification is 7e. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map unit: 565 - Plumasano-Rock outcrop complex, 15 to 40 percent slopes

Componet: Rock outcrop

Text kind/Category: Nontechnical description/GENSOIL

Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Map unit: 566 - Bamac extremely gravelly sandy loam, 5 to 50 percent slopes

Componet: Bamac

Text kind/Category: Nontechnical description/GENSOIL

The Bamac component makes up 90 percent of the map unit. Slopes are 5 to 50 percent. This component is on uplands, ridges. The parent material consists of eolian deposits over slope alluvium derived from sandstone and conglomerate. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F035XG002NM Juniperus Monosperma-pinus Edulis/artemisia Nova/pascopyrum Smithii ecological site. Nonirrigated land capability classification is 8. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 10 percent. There are no saline horizons within 30 inches of the soil surface.

Component Text

This report provides a means for the customer to print out text notes that are stored in the underlying soil survey database for map unit components of the selected map units. When the report is initiated, the customer is presented with a choice list of type(s) of text notes stored. The customer must select one type at a time for the report to finish.

APPENDIX B

Dwellings and Small Commercial Buildings

Dwellings and Small Commercial Buildings

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potential limitation. The columns that identify the rating class and limiting features show no more than five limitations for any given soil. The soil may have additional limitations]

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
53: Hawaikuh	80	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
121: Badland	90	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
150: Riverwash	65	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.88	Very limited Flooding	1.00
Escawetter	25	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
205: Penistaja	45	Not limited		Not limited		Not limited	
Tintero	40	Not limited		Not limited		Somewhat limited Slope	0.13
212: Rehobeth	90	Very limited Ponding Flooding Shrink-swell Subsidence risk	1.00 1.00 1.00 0.28	Very limited Ponding Flooding Shrink-swell Subsidence risk	1.00 1.00 1.00 0.28	Very limited Ponding Flooding Shrink-swell Subsidence risk	1.00 1.00 1.00 0.28
225: Aquima	40	Not limited		Somewhat limited Shrink-swell	0.01	Not limited	
Hawaikuh	40	Somewhat limited Shrink-swell	0.35	Somewhat limited Shrink-swell	0.06	Somewhat limited Shrink-swell	0.35
240: Breadsprings	35	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00

Dwellings and Small Commercial Buildings

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
240:							
Nahodish	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.59	Shrink-swell	0.08	Shrink-swell	0.59
		Subsidence risk	0.01	Subsidence risk	0.01	Subsidence risk	0.01
241:							
Mentmore	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.78	Shrink-swell	0.78	Shrink-swell	0.78
Atrac	10	Not rated		Not rated		Not rated	
245:							
Buckle	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.33	Shrink-swell	0.01	Shrink-swell	0.33
Gapmesa	30	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.35	Depth to hard bedrock	1.00	Depth to hard bedrock	0.35
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
Barboncito	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
260:							
Quarries and pits	100	Not rated		Not rated		Not rated	
290:							
Rock outcrop	45	Not rated		Not rated		Not rated	
Westmion	30	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
Skyvillage	15	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
305:							
Celavar	50	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.35	Shrink-swell	0.50	Depth to hard bedrock	0.35

Dwellings and Small Commercial Buildings

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
305:							
Atarque	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
308:							
Fikel	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Venzuni	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
312:							
Bluewater	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.95	Shrink-swell	0.50
				Shrink-swell	0.80		
315:							
Flugle	50	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.09			Shrink-swell	0.09
Fragua	40	Not limited		Not limited		Somewhat limited Slope	0.13
317:							
Highdye	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.37	Slope	0.37	Slope	1.00
Evpark	30	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.90	Depth to hard bedrock	1.00	Depth to hard bedrock	0.90
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.13
Bryway	20	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.95	Slope	0.13
320:							
Parkelei	45	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.25	Shrink-swell	0.50

Dwellings and Small Commercial Buildings

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
320: Fraguni	40	Not limited		Not limited		Not limited	
332: Evpark	50	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.06	Shrink-swell	0.50	Depth to hard bedrock	0.06
Arabrab	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.22	Shrink-swell	0.22	Shrink-swell	0.22
335: Venadito	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
336: Nuffel	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.05	Shrink-swell	0.17	Shrink-swell	0.05
Venadito	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
Escawetter	1	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
345: Rock outcrop	40	Not rated		Not rated		Not rated	
Tuces	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.90		
350: Toldohn	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Shrink-swell	1.00
		Depth to soft bedrock	0.50	Slope	1.00	Depth to soft bedrock	1.00

Dwellings and Small Commercial Buildings

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
350:							
Vessilla	30	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
351:							
Rock outcrop	60	Not rated		Not rated		Not rated	
Vessilla	30	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00
352:							
Zia	80	Not limited		Not limited		Not limited	
353:							
Mido	90	Not limited		Not limited		Not limited	
354:							
Knifehill	80	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
355:							
Rizno	35	Very limited Depth to hard bedrock Slope	1.00 0.16	Very limited Depth to hard bedrock Slope	1.00 0.16	Very limited Depth to hard bedrock Slope	1.00 1.00
Tekapo	30	Very limited Slope Depth to soft bedrock	1.00 0.50	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Slope Depth to soft bedrock	1.00 1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
361:							
Monpark	80	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to soft bedrock	1.00 0.71	Very limited Shrink-swell	1.00
365:							
Vessilla	55	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock Slope	1.00 1.00

Dwellings and Small Commercial Buildings

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
365:							
Rock outcrop	35	Not rated		Not rated		Not rated	
375:							
Todest	60	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
		Shrink-swell	0.01	Shrink-swell	0.01	Slope	0.13
						Shrink-swell	0.01
Shadilto	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	0.13
400:							
Shoemaker	45	Somewhat limited		Very limited		Somewhat limited	
		Depth to hard bedrock	0.64	Depth to hard bedrock	1.00	Depth to hard bedrock	0.64
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
						Slope	0.13
Stozuni	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	0.13
403:							
Valnor	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.16	Slope	1.00
Techado	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Slope	1.00	Slope	1.00
404:							
Rock outcrop	35	Not rated		Not rated		Not rated	
Techado	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	1.00	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Slope	1.00	Slope	1.00
Stozuni	25	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Slope	0.16	Slope	0.16	Slope	1.00

Dwellings and Small Commercial Buildings

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
405:							
Fortwingate	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	0.84	Depth to hard bedrock	1.00	Depth to hard bedrock	0.84
						Slope	0.13
Owlock	35	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Large stones	1.00	Large stones	1.00	Large stones	1.00
						Slope	0.13
414:							
Zunalei	50	Not limited		Not limited		Somewhat limited	
						Slope	0.13
Corzuni	40	Not limited		Not limited		Somewhat limited	
						Slope	0.13
418:							
Asaayi	40	Very limited		Very limited		Very limited	
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Slope	1.00
						Shrink-swell	0.50
Osoridge	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Depth to hard bedrock	1.00	Depth to hard bedrock	1.00	Depth to hard bedrock	1.00
						Slope	1.00
550:							
Bryway	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.29		
Galzuni	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.99	Shrink-swell	0.89	Shrink-swell	0.99
555:							
Parkelei	45	Not limited		Not limited		Somewhat limited	
						Slope	0.13
Evpark	35	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to hard bedrock	1.00	Shrink-swell	0.50
		Depth to hard bedrock	0.10	Shrink-swell	0.50	Slope	0.13
						Depth to hard bedrock	0.10

Dwellings and Small Commercial Buildings

McKinley County Area, New Mexico, McKinley County and Parts of Cibola and San Juan Counties

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
561:							
Flugle	50	Not limited		Not limited		Somewhat limited Slope	0.13
Plumasano	40	Not limited		Not limited		Somewhat limited Slope	0.13
565:							
Plumasano	65	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop	20	Not rated		Not rated		Not rated	
566:							
Bamac	90	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Dwellings and Small Commercial Buildings

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. This table shows the degree and kind of soil limitations that affect dwellings and small commercial buildings.

The ratings in the table are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. "Not limited" indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. "Somewhat limited" indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

"Dwellings" are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

"Small commercial buildings" are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Information in this table is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this table. Local ordinances and regulations should be considered in planning, in site selection, and in design.



**RESOLUTION
OF THE
IYANBITO CHAPTER
THE NAVAJO NATION
No. ICH 67-09/17-001**

**Approving the Revised and Updated Iyanbito Chapter Community-Based Land Use Plan and
Requesting the Resources Development Committee to Certify, in Accordance with the 5-year
Review Recommendation Stated in 26 N.N.C., Navajo Nation Local Governance Act**

WHEREAS:

1. Pursuant to Navajo Tribal Council Resolution W-30-55, and reaffirmed by Resolution CMY-23-79, certifies and authorizes the Iyanbito Chapter; and
2. Pursuant to 26 N.N.C., Section 1, (B)(1)(2) and Section 103, the Iyanbito Chapter is recognized as a local government entity and delegated certain authorities and responsibilities with respect to local matters consistent with Navajo Nation laws; and
3. Pursuant to 26 N.N.C., all chapters shall develop and implement a Community-Based Land Plan and every five years the plan shall be reevaluated and readjusted to meet the needs of the changing community; and
4. Pursuant to 26 N.N.C., Iyanbito Chapter established by resolution a Community Land Use Planning Committee (CLUPC) to oversee all land use planning activities; and
5. Pursuant to 26 N.N.C., the CLUPC led the development of the first Community-Based Land Use Plan in 2001; the Chapter subsequently approved this plan and the Navajo Nation Council Transportation and Community Development Committee Resolution TCDCAU-35-05 certified the Iyanbito Community-Based Land Use Plan on August 25, 2005; and
6. In 2017, Iyanbito Chapter revised and updated its 2005 certified Community-Based Land Use Plan to meet the needs of the changing community; and
7. The Iyanbito Chapter Community-Based Land Use Plan was revised and updated in the best interest of the community and in accordance with all applicable laws, attached hereto as Exhibit "A".

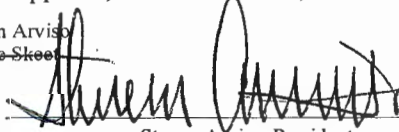
NOW THEREFORE BE IT RESOLVED THAT:

1. The Iyanbito Chapter hereby approves the revised and updated Iyanbito Chapter Community-Based Land Use Plan and requesting the Resource Development Committee to certify, in accordance with the 5-year review recommendation stated in 26 N.N.C., Navajo Nation Local Governance Act.
2. Further, the revised and updated Iyanbito Community-Based Land Use Plan shall supersede the 2005 certified version.

CERTIFICATION

We hereby certify the foregoing resolution was duly considered by the Iyanbito Chapter at a duly called Regular Chapter meeting at Iyanbito, Navajo Nation, New Mexico, at which a quorum was present and that the same was passed by a vote of 25 in favor, 00 opposed, and 02 abstained, this 11th day of September 2017.

Moved by: Anson Arviso
Seconded: Eunice Skeet


Steven Arviso, President


Ricky Smith, Vice-President


W. Wanda Arviso, Secretary/Treasurer

**RESOLUTION OF THE
TRANSPORTATION AND COMMUNITY DEVELOPMENT COMMITTEE
OF THE NAVAJO NATION COUNCIL**

20th NAVAJO NATION COUNCIL—Third Year, 2005

AN ACTION RELATING TO COMMUNITY DEVELOPMENT AND LOCAL GOVERNANCE, CERTIFYING IYANBITO CHAPTER'S COMMUNITY-BASED LAND USE PLAN

BE IT ENACTED:

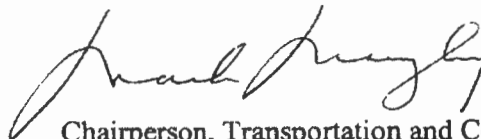
1. The Navajo Nation certifies Iyanbito Chapter's Community-Based Land Use Plan, attached hereto as "Exhibit A."

2. The chapter shall amend the Community-Based Land Use Plan every five years, and such amendment is subject to the certification of the Transportation and Community Development Committee of the Navajo Nation Council, pursuant to 3 N.N.C. §423(C)(2).

3. Certification of this Community-Based Land Use Plan shall not be used to delineate adjacent chapter boundaries. The settlement of chapter boundaries is a matter resting solely with the Navajo Nation courts.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Transportation and Community Development Committee of the Navajo Nation Council at a duly called meeting at Iyanbito, Navajo Nation (New Mexico), at which a quorum was present and the same was passed by a vote of 7 in favor and 0 opposed, this 25th day of August, 2005.



Chairperson, Transportation and Community
Development Committee

Motion: Willie Tracey
Second: Leslie Dele

ORIGINAL

RESOURCES AND DEVELOPMENT COMMITTEE
Regular Meeting

October 3, 2018

ROLL CALL
VOTE TALLY SHEET:

Legislation # 0311-18: An Action Relating to Resources and Development Committee, Certifying Iyanbito Chapter's Community-Based Land Use Plan Which Has Reevaluated and Readjusted Iyanbito Chapter's First Community-Based Land Use Plan *Sponsor: Honorable Edmund Yazzie; Co-Sponsor: Honorable Jonathan Perry*

Main Motion: Davis Filfred Second: Leonard Pete Vote: 3-0-1 (VCNV)
YEAS: Davis Filfred, Leonard Pete, and Jonathan Perry
NAYS:
EXCUSED: Alton Joe Shepherd and Walter Phelps



Benjamin Bennett, Vice-Chairperson
Resources and Development Committee



Shammie Begay, Legislative Advisor
Resources and Development Committee