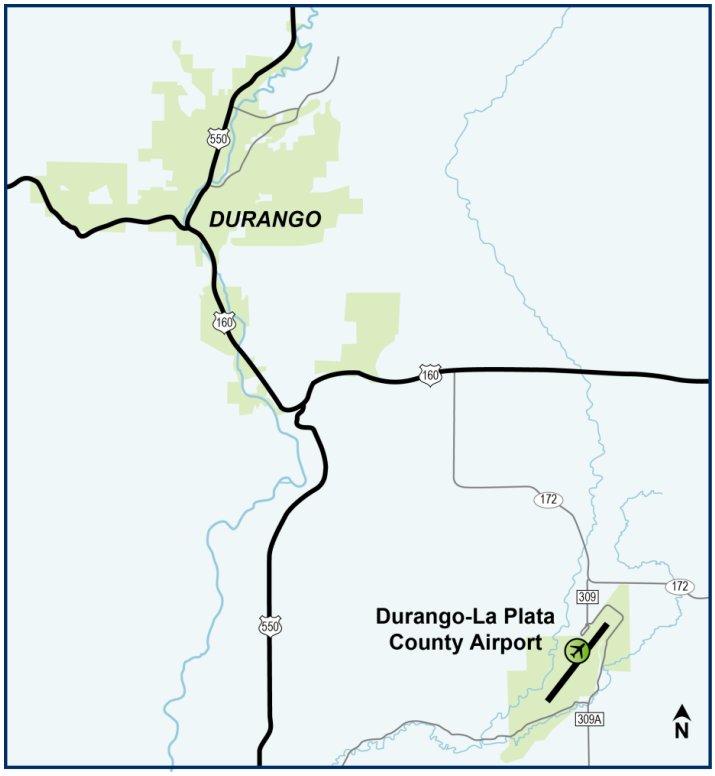
4. AFFECTED ENVIRONMENT

This chapter provides a description of the current physical, natural, and human environment within the Airport study areas defined for this EA. Describing the baseline resources allows further study of the setting and environmental impacts of the alternatives under consideration. The environmental impacts resulting from the alternatives presented in **Chapter 3, Alternatives Analysis** will be discussed in **Chapter 5, Environmental Consequences**.

The Airport is located approximately 14 miles southeast of the Central Business District (CBD) of Durango (**Figure 4-1**) in La Plata County. DRO sits at an elevation of 6,689 feet above MSL and occupies approximately 1,382 acres, which includes all Airport facilities. The Airport's facilities include the airfield (runway, taxiways, and aprons), terminal area, parking areas, navigational/visual aids, Fixed-Base Operator (FBO), and hangars. More specifically, the airfield includes Runway 3/21 (constructed of asphalt, 9,201 feet long by 150 feet wide); parallel Taxiway A and connector Taxiways A1 through A8 and C; and commercial and general aviation aprons.

FIGURE 4-1 – VICINITY MAP

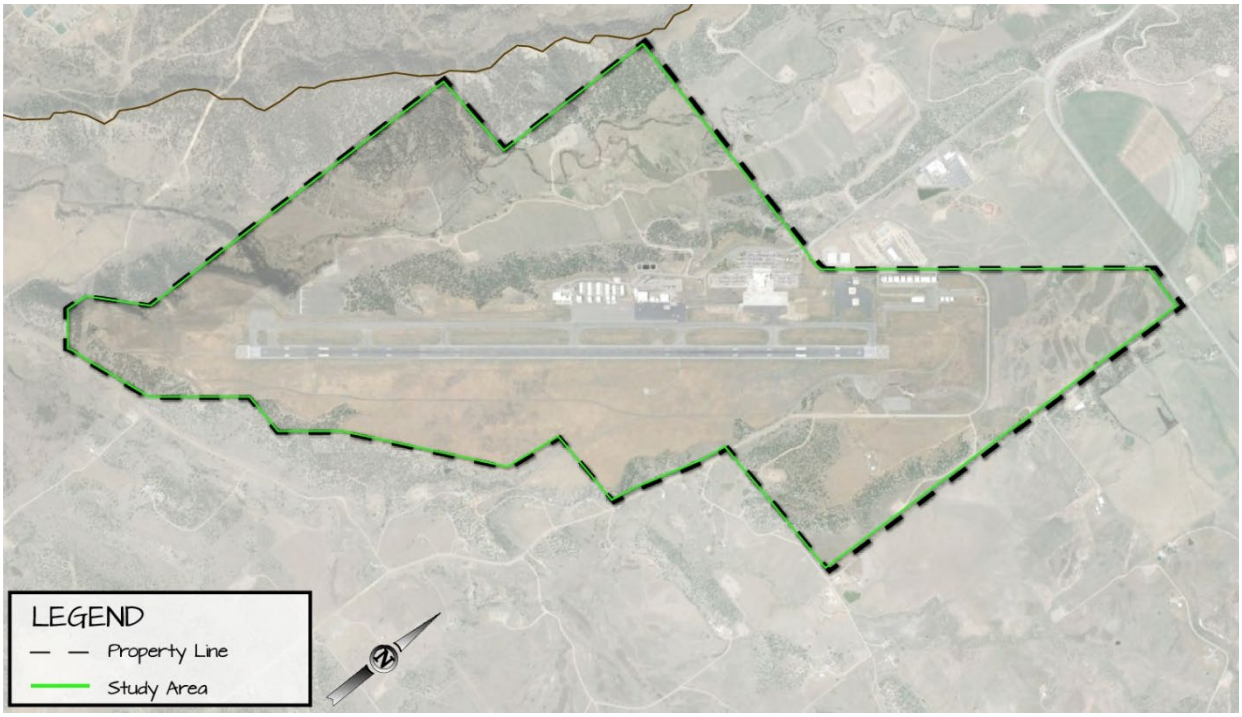


Source: Jviation
Note: Not to scale

For the purposes of describing the existing conditions in the Airport area and comparing the relative impact of the alternatives, a general study area was developed (**Figure 4-2**). The general study area was established through practical planning techniques based on the location of project alternatives, and encompass all areas

required by the NEPA and environmental impact categories described in FAA Orders 1050.1F[1] and 5050.4B[2]. However, each resource category can have a slightly different study area.

FIGURE 4-2 – TERMINAL DEVELOPMENT STUDY AREA (DRO PROPERTY)



Source: Jviation
Note: Not to scale

4.1 Air Quality

The Clean Air Act (CAA), which was last amended in 1990, requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for pollutants considered harmful to public health and the environment. In addition to the CAA, NEPA requires the disclosure of a proposed project's impact on the human environment, including air quality.

4.1.1 Regulatory Agencies

The management of air quality conditions in Colorado is the responsibility of federal, state, regional, tribal and local governmental air quality regulatory agencies. Under the CAA, the EPA establishes the guiding principles and policies for protecting air quality conditions throughout the nation. EPA's primary responsibilities in this area include promulgating the NAAQS, which define ambient concentrations for criteria air pollutants that are considered safe for public health, welfare and the environment, as well as approving State Implementation Plans (SIPs).

On the state level, the Colorado Department of Public Health & Environment Air Pollution Control Division (CDPHE APCD) is responsible for enforcing the CAA including compliance with the NAAQS, the issuance of air emission source permits, monitoring of air quality conditions, and assisting in the preparation of the SIP.

[1] Federal Aviation Administration (FAA), Order 1050.1F, Environmental Impacts: Policies and Procedures, 2015
[2] FAA, Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, 2006

However, DRO is within the exterior boundaries of the Southern Ute Indian Reservation (Reservation). Air quality within the exterior boundaries of the Reservation is under the jurisdiction of the Southern Ute Indian Tribe and the State of Colorado Environmental Commission (Commission). The Southern Ute Air Quality Program is tasked with implementing the programs prescribed by the Commission.

Regionally, the Four Corners Air Quality Task Force (4CAQTF), initiated by the states of Colorado and New Mexico, is an active, productive, and engaging forum for air quality issues affecting Colorado, New Mexico, Utah and Arizona and the tribal nations in the region (i.e., the Navajo Nation, Ute Mountain Ute, Jicarilla Apache, and Southern Ute Indian Tribes). The purpose of the 4CAQTF is to bring together a diverse group of interested parties from the area to learn about and discuss the range of air quality issues and options for improving air quality in the Four Corners Region.

4.1.2 National Ambient Air Quality Standards

Pursuant to the requirements of the CAA, the EPA establishes, enforces, and periodically reviews the NAAQS. The CAA established two types of national air quality standards: Primary Standards (for the protection of public health) and Secondary Standards (for the protection of public welfare). The pollutants of concern are called "criteria pollutants" and include carbon monoxide (CO), sulfur dioxide (SO2), nitrogen dioxide (NO2), ozone (O3), particulate matter less than or equal to 10 microns aerodynamic diameter (PM10), fine particulate matter less than or equal to 2.5 microns aerodynamic diameter (PM2.5), and lead. Because emissions of O3 cannot be calculated directly, volatile organic compounds (VOCs) and oxides of nitrogen (NOx) (the primary precursors to O3 formation) are used as surrogates. The NAAQS are listed in **Table 4-1**.

TABLE 4-1 – NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)	Primary	– 8-hour – 1-hour	– 9 ppm – 35 ppm	Not to be exceeded more than once per year
Lead (Pb)	Primary & Secondary	Rolling 3-month average	0.15 µg/m3 (1)	Not to be exceeded
Nitrogen Dioxide (NO2)	– Primary – Primary & Secondary	– 1-hour – Annual	– 100 ppb – 53 ppb(2)	– 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years – annual mean
Ozone (O3)	Primary & Secondary	8-hour	0.070 ppm(3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particulate Matter 2.5	– Primary – Secondary – Primary & Secondary	– Annual – Annual – 24-hour	– 12 µg/m3 – 15 µg/m3 – 35 µg/m3	– annual mean, averaged over 3 years – annual mean, averaged over 3 years – 98th percentile, averaged over 3 years
Particulate Matter 10	Primary & Secondary	24-hour	150 µg/m3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO2)	– Primary – Secondary	– 1-hour – 3-hour	– 75 ppb(4) – 0.5 ppm	– 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years – Not to be exceeded more than once per year

Source: EPA, National Ambient Air Quality Standards (NAAQS) at http://www.epa.gov/air/criteria.html, February 2016.
Notes: ppb = parts per billion, ppm = parts per million, and µg/m3 = micrograms per cubic meter of air.
(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.
(2) The level of the annual NO2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.
(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.
(4) The previous SO2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2)any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO2 standards or is not meeting the requirements of a SIP call under the previous SO2 standards (40 CFR 50.4(3)), A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the require NAAQS.

On March 2, 2012, the EPA approved the Southern Ute Tribe's Title V Program application, granting the Tribe full authority to implement and administer its 40 CFR Part 70 Operating Program for Title V sources within the exterior boundaries of the Reservation. A Title V source of air pollution is a source that emits or has the potential to emit:

- 100 tons per year or more of any regulated air pollutant;
- 10 tons per year or more of any one hazardous air pollutant (HAPs); or
- 25 tons per year or more of any combination of hazardous air pollutants.

On November 14, 2012, the Commission approved Reservation Air Code Article II, Part 2 and Part 3 to incorporate certain New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants. On July 8, 2013, the EPS approved delegation to the Southern Ute Tribe to implement and enforce the New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants.

4.1.3 Attainment/Nonattainment Status

All areas of the country are required to demonstrate attainment with the NAAQS. The EPA designates areas as either attainment, nonattainment, or maintenance. Attainment areas are areas where pollutant levels do not exceed the NAAQS; an area with pollutant concentrations exceed one or more NAAQS is designated as a nonattainment area. If an area exceeded a NAAQS in the past but currently meets the standards, the area is then designated as maintenance. Ozone nonattainment areas are further classified as extreme, severe, moderate, or marginal. An area is designated as unclassifiable when there is a lack of sufficient data to form the basis of an attainment status determination.

States with regions that are classified as either non-attainment or maintenance are required to have a SIP in place to identify how the region will attain the NAAQS. Maintenance areas are subject to a SIP to ensure continued attainment.

DRO is located in La Plata County which is currently an area designated as "attainment" of all NAAQS.

4.2 Biological Resources

Biological resources include fish, wildlife, plants, and their respective habitats. There are numerous regulations and guidance related to biological resource including, but not limited to, the Endangered Species Act (16 U.S.C. §§ 1531-1544), the Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.), Executive Order 13112 (Invasive Species), as well as various state and local regulations. The US Fish and Wildlife Service (USFWS) is the federal agency responsible for the Endangered Species Act, the Fish and Wildlife Coordination Act and the Migratory Bird Treaty Act. Colorado Parks and Wildlife is the state agency that is responsible for conservation, outdoor recreation and wildlife management within the State of Colorado. The Wildlife Resource Management Division of the Southern Ute Indian Tribe Department of Natural Resources is primarily responsible for managing, protecting, and enhancing the diverse and abundant wildlife and fisheries of the Southern Ute Indian Reservation.

4.2.1 General Condition

Ecosphere Environmental Services (Ecosphere) conducted a Biological Resource Survey for the Terminal Development study area as part of the 2017 Master Plan (see **Appendix C, Biological Resource Survey**). As stated in the Survey, DRO is located on a mesa above the Florida River with an elevation range of 6,450 to 6,690 feet above mean sea level. The Florida River is located approximately 0.5 miles west of DRO and is the predominant water feature in the vicinity. The existing land use within the vicinity of DRO is largely agricultural/open space with some scattered residences.

The primary vegetation community on the mesa top and the Florida River valley is agriculture with the second-most dominant vegetation community the Colorado Plateau Pinon – Juniper Woodlands, that cover the slopes leading up to the Mesa and the slope along the Florida River valley. The weather in the area is characterized by cold winter temperatures and moderate summer temperatures. The climate is arid with an annual precipitation of 12.6 inches per year.[3]

From this initial Survey, Ecosphere found that numerous species are known to occur or have the potential to occur, as well as the presence of unique habitats within and adjacent to the Airport boundary. As such they recommended additional surveys be completed to determine more exact specie presence. These recommendations included:

[3] Ecosphere Environmental Services, Biological Resource Survey, 2014

- Conduct USFWS protocol surveys by a permitted biologist to determine the presence or absence of any southwestern willow flycatcher (SWF) as potential breeding habitat occurs along CR 309A.
- Conduct USFWS protocol survey for New Mexico meadow jumping mouse (NMMJM) by a permitted biologist as potential habitat for NMMJM occurs at three locations within the survey area and was documented on the Florida River in 2007.
- Monitor the known golden eagle nest beginning this breeding season (January/February).
    - Pedestrian surveys to locate alternate golden eagle nests within the known territory.

Following these initial recommendations, as part of this EA, additional surveys for the SWF and NMMJM were completed as well as a Biological Assessment (BA) (see **Appendix D, Biological Assessment**). These surveys were focused on the east side of DRO as west side of the airport is largely developed and does not contain potential habitat.

4.2.2 Special Status Species

Special status species are those listed, or candidates for listing, as threatened or endangered under the Endangered Species Act (ESA) and species in Colorado designated as endangered, threatened or of special concern. The ESA requires federal agencies to ensure that actions authorized, funded, or carried out by the agency would not jeopardize the continued existence of endangered or threatened species nor result in the destruction or adverse modification of a species' habitat. Coordination with the USFWS consists of requesting information regarding any endangered, threatened, and rare species (ETR species) that may occur within the survey area and nearby, and consequently asking for concurrence with the assessment of potential impacts to species protected by the ESA. "Endangered" is the classification provided to an animal or plant in danger of extinction within the foreseeable future throughout all or a significant portion of its range. The term "threatened species" means any species that is likely to become endangered within the foreseeable future. Although 12 federal and 31 state-listed plant, animal, and insect species are known to occur in La Plata County, (see **Appendix C, Biological Resource Survey**) only the three listed in **Table 4-2** have the potential to occur within the survey boundary (Airport property). The remaining species were eliminated from further review due to lack of habitat in the survey area or because their known range was outside the survey area.

TABLE 4-2 – FEDERAL AND STATE LISTED ENDANGERED AND THREATENED SPECIES

Species	Scientific Name	Federal Status	State Status	Habitat Description
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered	Endangered	Breeds in dense, shrubby riparian habitats, usually in close proximity to surface water or saturated soil.
New Mexico meadow jumping mouse	*Zapus hudsonius luteus*	Endangered	N/A	Herbaceous emergent wetlands, especially dominated by sedges and broad-leaved forbs. Also, may utilize riparian communities containing scrub-shrub wetlands along perennial streams.
Burrowing Owl	*Athene cunicularia*	N/A	Threatened	Dry, open, short-grass plains, usually associated with prairie dog towns.

Source: Ecosphere Environmental Services, Biological Resource Survey, October 2014

The following bullets provide survey details regarding each of the three species with potential to occur on Airport property:

- The southwestern willow flycatcher was listed as an endangered species by the U.S. Fish and Wildlife Service (USFWS) on March 29, 1995. The willow flycatcher is also listed as endangered by the State of Colorado. An area of approximately half an acre on the eastern side of the Airport boundary meets the size and density of habitat needed for willow flycatchers. However, because the area is small, narrow,

and disconnected from other willow habitat, the habitat may be used during migration and less likely for breeding.[4]

- The New Mexico meadow jumping mouse was listed by the USFWS June 10, 2014. Three areas within the Airport boundary were found to be suitable habitat for the mouse:
  - Valley west of the airfield in along the Florida River
  - East side of Airport along wetlands and a tributary that flows into Salt Creek
  - Large wetland area, north of the Runway 21 end
- Burrowing owls are listed as threatened by Colorado but are not federally listed. Burrowing owls often use abandoned prairie dog holes and open grasslands with low vegetation for nesting. Burrowing owls occur infrequently in La Plata County yet they have been confirmed nesting. No burrowing owls have been detected in the survey area during past wildlife surveys.[5] In the survey area, prairie dog colonies are active on and around the runway and terminal, the irrigated fields north of County Road 309A, and the valley adjacent to the Florida River.

4.2.3 Migratory Bird Treaty Act

Migratory birds were also reviewed due to their protection by the Migratory Bird Treaty Act (MBTA). The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to Federal regulations. The migratory bird species protected by the MBTA are listed in 50 CFR 10.13. The Airport is within Bird Conservation Region (BCR) 16, Southern Rocky Mountains/Colorado Plateau. Of the 24 Birds of Conservation Concern (BCC), five are known to occur within the survey area and six have the potential to occur, detailed in **Table 4-3**. Two of the five known to occur, the bald and golden eagles, are also protected under the Bald and Golden Eagle Protection Act.

- A golden eagle nest is in the southwestern section of the survey area in a tree on the slope between the mesa top and the Florida River. This golden eagle territory was first documented in 2006 and has been noted as active in several subsequent years. Airport staff observed golden eagles near the Airport in 2014; a biologist from Ecosphere monitored the nest in early 2014 and determined it was inactive. Ecosphere observed the nest in poor condition during the field review in August 2014.
- Colorado Parks and Wildlife (CPW) identifies the survey area as bald eagle winter concentration with winter roost sites straddling CR 309A. A winter concentration area is defined by CPW as areas within an existing winter range where eagles concentrate between November 15 and April 1. These areas may be associated with roost sites. Roost sites are defined as individual trees or groups of trees that provide diurnal and/or nocturnal perches for less than 15 wintering bald eagles, and includes a buffer zone extending one-quarter of a mile around these sites.[6]
- While conducting surveys of potential wildlife hazards as part of the Wildlife Hazard Assessment (WHA), Ecosphere documented bald eagles roosting in three tree snags in the area in 2011 and 2012.[7] Airport staff have since removed the trees closest to the runway; however, a group of three partially dead cottonwood trees are present in the northeastern portion of the airfield. These trees possess the large, open-branch structure preferred for roosting and are likely to attract eagles. No bald eagle nests are known to occur in the survey area; however, good nesting trees are present along the Florida River in the valley below DRO.[8]

[4] Ecosphere Environmental Services, Biological Resource Review, October 2014.
[5] Ecosphere Environmental Services, Biological Resource Review, October 2014.
[6] Ibid.
[7] Ecosphere Environmental Services, Wildlife Hazard Assessment, 2013.
[8] Ecosphere Environmental Services, Biological Resource Review, October 2014.

- Three ponds were observed in the fields northeast of the runway and across CR 309A. These ponds provide habitat for migratory waterfowl and amphibians, and a potential food source for bald and golden eagles. The irrigated fields northeast of the runway provide suitable nesting habitat for marsh birds such as the American bittern.[9]
- A suspected stick raptor nest was observed in a cottonwood tree in the southeast survey area on August 29, 2014. Raptors commonly re-use nests year to year.

TABLE 4-3 – USFWS BIRDS OF CONSERVATION CONCERN – KNOWN OR POTENTIAL TO OCCUR WITHIN AIRPORT BOUNDARY (SURVEY AREA)

Species	Scientific Name	Habitat Description	Potential to Occur/Known to Occur
American bittern	*Botaurus lentiginosus*	Cattails, rushes, grasses, or sedges of wet meadows or marshes.	Potential to occur. Northeastern, past irrigated fields contains dense and tall marshy habitat.
Bald Eagle	*Haliaeetus leucocephalus*	Found around lakes, reservoirs, and rivers. Large branched trees used for nesting, roosting, and foraging.	Known to occur. Survey area within CPW/a/ defined bald eagle winter concentration area and a known winter roost. Individuals regularly observed in roost trees north of survey area during 2012 surveys conducted for the WHA./b/
Brewer's sparrow	*Spizella breweri*	Sagebrush shrublands, sagebrush obligate species.	Potential to occur. Sagebrush is present east of the runway.
Cassin's finch	*Haemorhous cassinii*	Conifer forests of the high country (8,000 to 11,000 feet), but also will use pinon-juniper woodlands.	Potential to occur. Pinon-juniper woodlands provide habitat.
Ferruginous hawk	*Buteo regalis*	Flat or rolling terrain in grassland, shrub-steppe, and desert habitats.	Potential to occur. Grassland, shrub-steppe, or desert habitats occur in survey area. Prairie dog towns provide prey base.
Golden eagle	*Aquila chrysaetos*	Open habitat with grasslands, shrublands, and farmland for foraging. Nests on cliffs or in trees.	Known to occur. Nest occurs in survey area and prairie dog towns provide foraging.
Grace's warbler	*Setophaga graciae*	Ponderosa pine forest with a scrub oak understory.	Potential to occur. Some ponderosa pine present on the southwestern slopes, but not extensive.
Gray vireo	*Vireo vicinior*	Pinon-juniper woodlands with an open, grassy understory.	Potential to occur. Slopes to the mesa contain pinion-juniper woodlands.
Juniper titmouse	*Baeolophus ridgwayi*	Pinon-juniper woodlands.	Known to occur. Southwestern survey area.
Lewis's woodpecker	*Melanerpes lewis*	Open pine forests, areas with abundant snags and stumps, riparian areas with cottonwoods, and pinon-juniper woodlands.	Known to occur. Northeastern survey area.
Pinon jay	*Gymnorhinus cyanocephalus*	Pinon-juniper woodlands.	Known to occur. Southwestern survey area.

Source: Ecosphere Environmental Services, Biological Resource Review, October 2014
Notes: /a/ CPW = Colorado Parks and Wildlife
/b/ WHA = Wildlife Hazard Assessment

4.2.4 Other Wildlife, Fishes and Plants

Wildlife that may occur at DRO includes a variety of species common to transitional areas where agricultural lands, pinon-juniper woodlands, and sagebrush grasslands are intermingled. Mammal species commonly occurring in these habitats may include desert cottontail, black-tailed jackrabbit, prairie dogs, Botta's pocket gopher, deer mouse, white-throated woodrat. Coyote, striped skunk, mountain lion, mule deer, and elk may

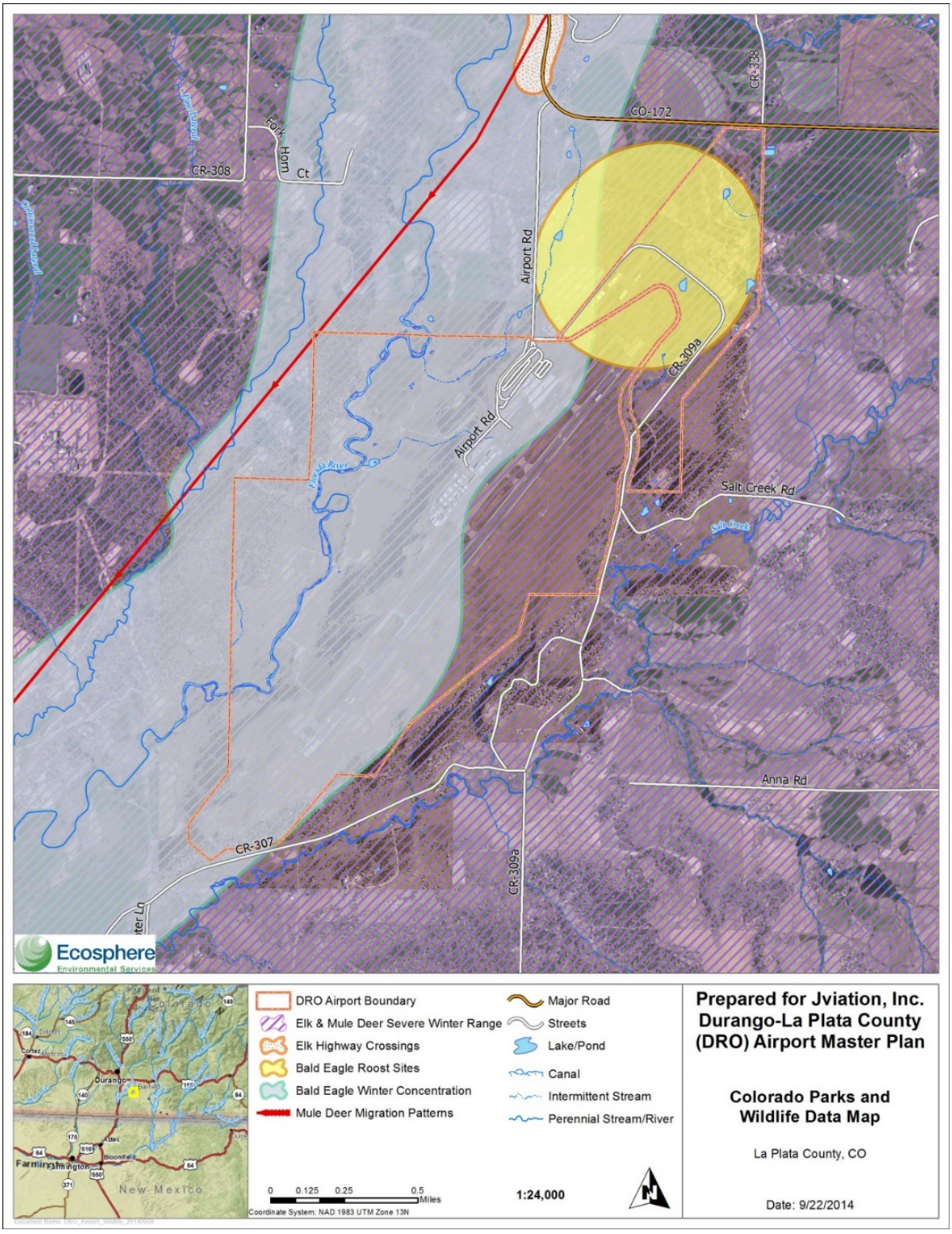
[9] Ecosphere Environmental Services, Biological Resource Review, October 2014.

also be found in these habitat types. An elk highway crossing, where elk movements traditionally cross roads and present potential animal-vehicle collisions, is also identified near the Airport entrance.[10]

Figure 4-3 depicts the CPW wildlife habitats in and around the Airport and **Figure 4-4** depicts unique wildlife habitats observed during the field review.

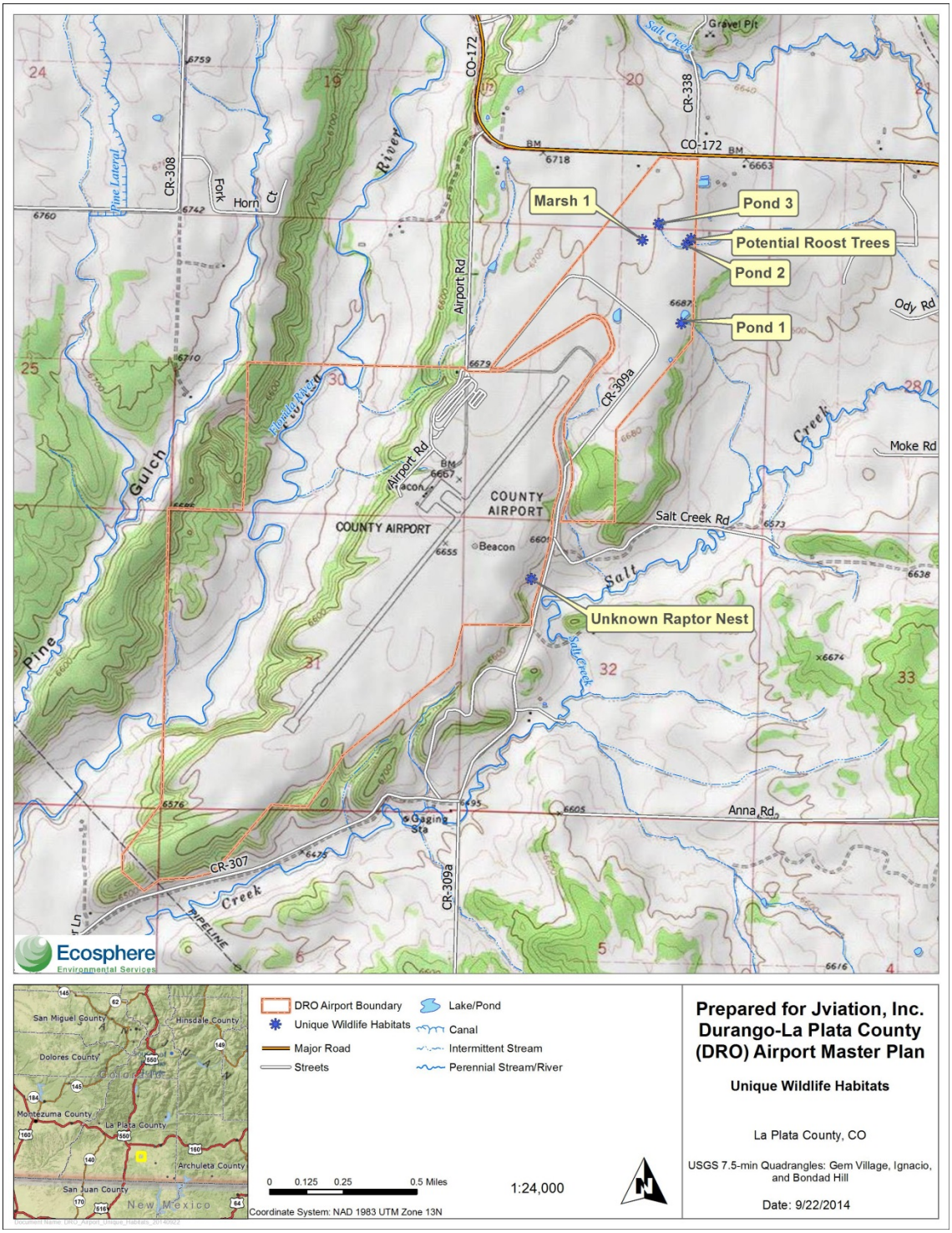
[10] Colorado Parks and Wildlife, http://cpw.state.co.us/, 2013

FIGURE 4-3 – COLORADO PARKS AND WILDLIFE DATA MAP



Source: Ecosphere Environmental Services, Biological Resource Review, October 2014
Note: Not to scale

FIGURE 4-4 – DRO UNIQUE WILDLIFE HABITATS



Source: Ecosphere Environmental Services, Biological Resource Review, October 2014
Note: Not to scale

4.2.5 Invasive Species

The Biological Resource Survey completed in 2014 (see **Appendix C**), observed a variety of invasive weeds present at DRO. Colorado List B species are considered invasive within the state and have mandated control based on local conditions. Species found at DRO include:

- Bull thistle (Cirsium vulgare)
- Canada thistle (Cirsium arvense)
- Houndstongue (Cynoglossum officinale)
- Musk thistle (Carduus nutans)
- Oxeye daisy (Chrysanthemum leucanthemum)
- Russian knapweed (Acroptilon repens)
- Russian-olive (Elaeagnus angustifolia)
- Salt cedar (Tamarix sp.)
- Scotch thistle (Onopordum acanthium)

List C species, which are widespread and common within the state, include:

- Chicory (Cichorium intybus)
- Common mullein (Verbascum thapsus)
- Field bindweed (Convolvulus arvensis)
- Redstem filaree (Erodium cicutarium).

4.3 Climate

Greenhouse gases (GHG) are produced both naturally and through anthropogenic sources, and they include water vapor (H2O), carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and ozone (O3). Research has shown there is a direct correlation between fuel combustion and GHG emissions. According to the EPA aircraft account for 12 percent of all U.S. transportation GHG emissions and three percent of total U.S. GHG emissions.[11] The International Civil Aviation Organization (ICAO) estimates that GHG emissions from aircraft account for roughly three percent of all anthropogenic GHG emissions globally.[12] Climate change due to GHG emissions is a global phenomenon, so the affected environment is the global climate.

The scientific community is continuing efforts to better understand the impact of aviation emissions on the global atmosphere. The FAA is leading and participating in several initiatives intended to clarify the role that commercial aviation plays in GHG emissions and climate. The FAA, with support from the U.S. Global Change Research Program and its participating federal agencies (e.g., NASA, NOAA, EPA, and DOE), has developed the Aviation Climate Change Research Initiative (ACCRI) in an effort to advance scientific understanding of regional and global climate impacts of aircraft emissions. FAA also funds the Partnership for Air Transportation Noise & Emissions Reduction (PARTNER) Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition. Similar research topics are being examined at the international level by the ICAO.

Although there are no federal standards for aviation-related GHG emissions, it is well established that GHG emissions can affect climate. The CEQ has indicated that climate should be considered in NEPA analyses and in

[11] U.S. EPA, Regulations for Greenhouse Gas Emissions from Aircraft, https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-aircraft.
[12] ICAO, Aircraft Engine Emissions, https://www.icao.int/environmental-protection/Pages/aircraft-engine-emissions.aspx.

2016 released final guidance for federal agencies on how to consider the impacts of their actions on global climate change in their NEPA reviews, a Notice of Availability for which was published on August 5, 2016 (81 FR 51866). However, pursuant to Executive Order 13783, "Promoting Energy Independence and Economic Growth," of March 28, 2017, the guidance has been withdrawn for further consideration.

4.4 Coastal Resources

The Coastal Barriers Resources Act (CBRA) of 1982 prohibits federal financial assistance for development located within a Coastal Barrier Resource System that contains undeveloped coastal barriers along the Atlantic and Gulf coasts and the Great Lakes. Because DRO is in Colorado, a state that does not contain any coastal resources, this environmental resource category will not be evaluated further in this EA.

4.5 Department of Transportation Act, Section 4(f)

Section 4(f) of the Department of Transportation Act of 1966 (recodified and renumbered as section 303[c] of 49 U.S.C.), from here on referred to as Section 4(f), provides that the Secretary of Transportation shall not approve any program or project that requires the use of any publicly owned land from a public park, recreation area or wildlife and waterfowl refuge of National, State, or Local significance or land from a historic site of National, State, or Local significance, as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such project includes all possible planning to minimize impact. The project also needs comply with Section 6(f) of the Land and Water Conservation Fund which applies to publicly owned land if the property was acquired or developed with Land and Water Conservation Fund program.

The City of Durango has 33 park and recreation areas, all of which are more than six miles from DRO.[13] According to National Park Service, Land and Water Conservation Fund online data, two projects have been funded with Section 6(f) funds, these include the West Side Park (located within the City of Durango), and the Bodo State Wildlife Area (located one mile south of the City of Durango and west of Highway 160).

Stratified Environmental & Archaeological Services, LLC (SEAS) completed a Cultural Resource Inventory as part of the 2017 Master Plan (see **Appendix E, Cultural Resource Inventory for Phase I of the Durango-La Plata County Airport Master Plan** (2017 Airport Master Plan)) and a second survey in June 2016 to determine eligibility of the identified archaeological sites. From these studies it was determined that none of the identified sites required protection in place, therefore, they are not considered Section 4(f) resources.

4.6 Farmlands

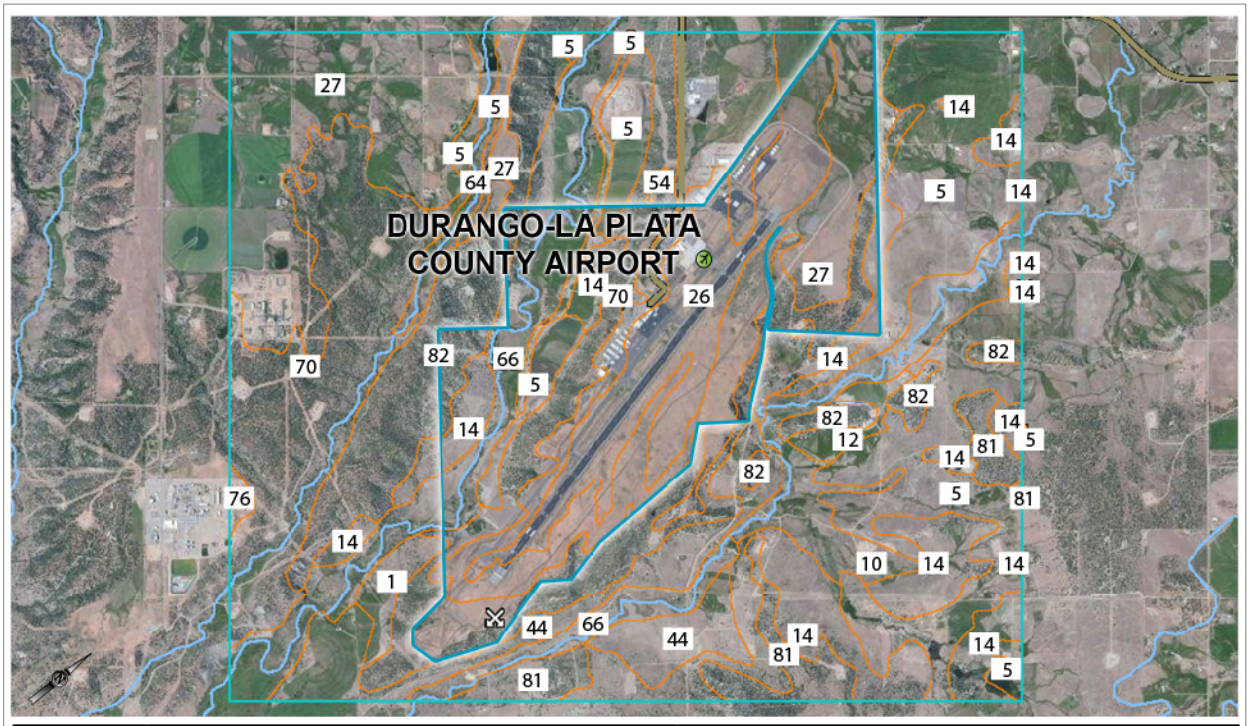
The Farmland Protection Policy Act (FPPA) regulates federal actions with the potential to convert important farmland to non-agricultural uses. Important farmland includes all pasturelands, croplands, and forests considered to be prime, unique, or of statewide or locally important lands. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can include forest land, pastureland, cropland, but not land committed to water storage or development. The Natural Resources Conservation Service (NRCS) Web Soil Survey was used to review soils on and around DRO.

Figure 4-5 details the soil types on Airport property and depicts the map unit symbols of the soil types; only three are classified as prime farmland (1, 26, and 66). However, the FPPA excludes land dedicated to urban use (including aviation) prior to 1982. Map unit symbols 1 and 26 were dedicated prior to 1982 and are therefore

[13] City of Durango Colorado, www.durangogov.org, accessed July 2014

excluded. The area that includes map unit symbol 66, although within the Airport boundary, is dedicated to agricultural use.

FIGURE 4-5 – NRCS SOILS IN TERMINAL DEVELOPMENT STUDY AREA



Map Unit Symbol	Map Unit Name	Farmland Classification
1	Agua Fria Loam	Prime (if irrigated) – *Excluded from FPPA*
5	Arboles clay, 3-12 percent slopes	Not prime
14	Bodot clay, 3-10 percent slopes	Not prime
26	Falfa clay loam, 1-3 percent slopes	Prime (if irrigated) – *Excluded from FPPA*
27	Falfa clay loam, 3-8 percent slopes	Not prime
66	Tefton loam	Prime farmland (if irrigated and either protected from flooding or not frequently flooded during growing season)
70	Ustic Torriorthents-Ustollic Haplargids complex, 12 to 60 percent slopes	Not prime
82	Zyme-Rock outcrop complex, 12-65 percent slopes	Not prime

Source: NRCS, Web Soil Survey, www.websoilsurvey.nrcs.usda.gov, Accessed 2014
Note: Not to scale

4.7 Hazardous Materials, Solid Waste, and Pollution Prevention

The impact area for hazardous material, solid waste and pollution prevention consists of the area that would be directly affected by construction and operation of the Reasonable Alternatives as well as existing activities.

4.7.1 Hazardous Materials

Hazardous materials, also referred to as dangerous goods, are any solid, liquid, or gas that can harm people, other living organisms, property or the environment. These materials may be radioactive, flammable, explosive, toxic, corrosive, a biohazard, an oxidizer, an asphyxiate, a pathogen, an allergen or may have other properties or characteristics that deem it hazardous in specific circumstances. The release of hazardous materials within the study area can come from a variety of sources. Potential sources include, but are not limited to:

- aircraft refueling;
- aircraft maintenance;
- aircraft washing;
- aircraft deicing;
- firefighting aircraft;
- vehicle maintenance;
- chemicals used in field maintenance;
- roadway use; and
- historic leaks and spills.

According to the EPA, no superfund sites or areas requiring EPA oversight during cleanup occur within the boundaries of DRO.[14] However, DRO is considered a small quantity generator and is permitted to discharge small quantities of waste through a National Pollutant Discharge Elimination (NPDES) permit.

DRO maintains a current Storm Water Pollution Prevention Plan (SWPPP) which is regularly updated. The SWPPP includes all required inspection records, training logs, and correspondence regarding the Plan. The Spill Prevention, Control, and Countermeasure Plan (SPCC) for the Airport is maintained within the SWPPP.

The Airport supports aircraft de-icing operations during the winter months. De-icing fluid (glycol) not collected by a glycol sweeper enters two inlet drains southeast of the apron. This flow continues via underground pipes beneath the grass adjacent to Taxiway A, then discharges into a surface ditch near the water treatment facility. The flow passes through a culvert under the road and into the wetland. The Airport's storm water system is permitted by the EPA through its NPDES permit.

The Airport's fuel farm is located south of the terminal building in the fuel farm. The fuel farm has four above-ground storage tanks (AST) that are double-walled with fuel containment; one additional tank (100LL) is located adjacent to the fuel farm. All tanks are owned and maintained by the FBO (AvFlight) and are in excellent condition. A diesel storage tank located adjacent to the aircraft rescue and firefighting (ARFF) building provides fuel for DRO's diesel vehicles and equipment. **Table 4-4** details the sizes and type of fuel in each.

TABLE 4-4 – FUEL STORAGE

Location	Tank Type	Capacity (gallons)	Fuel Type	Condition
Fuel Farm	AST – double-walled	12,000	Jet A	Excellent
Fuel Farm	AST – double-walled	12,000	Jet A	Excellent
Fuel Farm	AST – double-walled	12,000	Jet A	Excellent

[14] U.S. Environmental Protection Agency, https://geopub.epa.gov/myem/efmap/index.html?ve=11,37.273625,-107.879300&pText=Durango,%20Colorado, Accessed October 2017.

Location	Tank Type	Capacity (gallons)	Fuel Type	Condition
Fuel Farm	AST – double-walled	12,000	100 LL	Excellent
Fuel Farm	AST – double-walled	12,000	Gasoline	Excellent
ARFF Building	AST – double-walled	2,000	Diesel	Good

Source: Jviation

Ecosphere completed a Phase I Environmental Site Assessment (ESA) in October 2014 as part of the 2017 Master Plan (see **Appendix F, Phase I Environmental Site Assessment** (2017 Airport Master Plan)). The ESA concluded that DRO has a low environmental risk from potential contamination associated with hazardous substances or petroleum hydrocarbons. The basis for the assigned low-risk level is summarized below:

- Environmental records in the general vicinity did not contain records of active industrial facilities, active remediation, or spills with the ASTM[15] radius of the Airport.
- Current land uses in the general vicinity of the Airport represent a low risk for potential contamination to the property.
- All fuel storage tanks at the Airport are within appropriate secondary containment and are regularly monitored for spills and leaks. The Airport has emergency response staff and equipment to provide immediate and appropriate response to any spills or releases that may occur.

4.7.2 Solid Waste

Solid Waste is defined by the implementing regulations of RCRA generally as any discarded material that meets specific regulatory requirements and can include such items as refuse and scrap metal, spent materials, chemical by-products, and sludge from industrial and municipal waste water and water treatment plants (see 40 CFR § 261.2 for the full regulatory definition). The solid waste landfill in La Plata County is the Bondad Landfill, located at 1500 E. County Road 310-318, approximately nine miles southwest of DRO. The landfill accepts residential, construction, and compacted waste for a fee.

General municipal and other wastes associated with the operation and maintenance of aircraft are generated at DRO. Recycling and solid waste are picked-up on site by the City.

4.7.3 Pollution Prevention

Pollution prevention describes methods used to avoid, prevent, or reduce pollutant discharges or emissions through strategies such as using fewer toxic inputs, redesigning products, altering manufacturing and maintenance processes, and conserving energy. The Pollution Prevention Act (42 U.S.C. §§13101-13109) requires pollution prevention and source reduction to reduce the impact waste has on the environment while in use and after disposal.

The Airport currently collects co-mingled recyclables (mixed paper, corrugated cardboard, plastic, aluminum) throughout the terminal.

4.8 Historical, Architectural, Archeological, and Cultural Resources

The National Historic Preservation Act (NHPA) of 1966, as amended, establishes the Advisory Council on Historic Preservation (ACHP) and the National Register of Historic Places (NRHP) within the National Park

[15] American Society for Testing Materials

Service (NPS). The NHPA instructs federal agencies to preserve and use historic buildings and identify, evaluate, and nominate eligible properties under the control or jurisdiction of the agency to the NRHP.

The Area of Potential Effect (APE) is the area within which an undertaking may directly or indirectly affect a historic property or cultural resource. The APE encompasses areas proposed for disturbance and areas with the potential for noise and/or visual effects, including the view shed (the area the project may visually impact). The APE was determined to be the same as the two study areas identified earlier in this EA.

The NRHP currently lists five districts and eight properties in and near the City of Durango, noted in **Table 4-5** and **Table 4-6**, respectively.

TABLE 4-5 – NATIONAL REGISTER OF HISTORIC PLACES – DISTRICTS IN LA PLATA COUNTY

District Name	Location	Size/Description	Year Added to Registry	Distance from Airport
Durango-Silverton Narrow-Gauge Railroad	Right-of-way between Durango and Silverton	0 acres, 5 buildings, 1 structure	1966	n/a
East Third Avenue Historic Residential District	East Third Avenue between 5th and 15th streets	380 acres, 98 buildings	1984	~15 miles northwest
Main Avenue Historic District	Main Avenue, Durango	340 acres, 86 buildings	1980	~15 miles northwest
Ute Mountain Ute Mancos Canyon Historic District	Address Restricted, Durango	2,080,000 acres	1972	n/a
Spring Creek Archaeological District (Zabel Canyon Indian Ruins)	Address Restricted, Bayfield	33,600 acres	1983	~16 miles northeast

Source: NRHP, www.nationalregisterofhistoricplaces.com, accessed July 2014

TABLE 4-6 – NATIONAL REGISTER OF HISTORIC PLACES – PROPERTIES IN LA PLATA COUNTY

Property Name	Location	Year Added to Registry	Distance from Airport
Colorado Ute Power Plan	14th Street & Animas River, Durango	1983	~15 miles northwest
Denver and Rio Grande Western Railroad Locomotive No. 315	479 Main Avenue, Durango	2008	~15 miles northwest
Durango High School	201 E. 12th Street, Durango	2001	~15 miles northwest
Durango Rock Shelters Archaeology Site	Address Restricted	1985	n/a
Newman Block	801-813 Main Avenue, Durango	1979	~15 miles northwest
Ochsner Hospital	805 5th Avenue, Durango	1995	~14 miles northwest
Rochester Hotel	726 E. Second Avenue, Durango	1996	~15 miles northwest
Smiley Junior High School	1309 E 3rd Avenue, Durango	2002	~15 miles northwest

Source: NRHP, www.nationalregisterofhistoricplaces.com, accessed July 2014

Cultural Resource Survey of Terminal Development Study Area

SEAS completed a Cultural Resource Inventory of Airport property as part of the 2017 Master Plan (see **Appendix E, Cultural Resource Inventory for Phase I of the Durango-La Plata County Airport Master Plan** (2017 Airport Master Plan)). The study was completed to better understand how future development may or may not impact cultural resources and included the documentation of cultural resources over 50 years old and an evaluation of these resources against criteria for inclusion on the NRHP.

The inventory documented 14 new archaeological sites and 28 isolated finds. It was found that none of the isolated finds are considered eligible to the NRHP. Of the 14 new archaeological sites, it was found:

- Sites 5LP 10796, 5LP 10797, and 5LP 10801 were recommended not eligible to the NRHP as they do not meet any criteria.
- Sites 5LP 10799, 5LP 10800, 5LP 10802, 5LP 10803, 5LP 10805, 5LP 10807, and 5LP 10809 were all considered to be potentially eligible (need data) to the NRHP under Criterion D as a surface inspection alone was inadequate for determining the archaeological potential of these aboriginal artifact scatters.
- Sites 5LP 10798, 5LP 10804, 5LP 10806, and 5LP 10808 were recommended NRHP-eligible under Criterion D as the presence of thermal features in association with diverse artifact assemblages suggest these resources contain information important for understanding the prehistory and early history of the region.

As a result of the study finding seven sites potentially eligible due to a lack of information, it was recommended that additional information be gathered for these sites as part of this EA. In June of 2016, SEAS performed limited testing on six of the seven previously recorded archaeological sites (5LP 10799, 5LP 10800, 5LP 10802, 5LP 10803, 5LP 10805, and 5LP 10807) in support of NRHP evaluations for EA. The testing found:

- In the case of 5LP 10809, most of the site extends off the Airport property onto private lands and the portion of the site outside DRO was not documented. The portion of 5LP 10809 within DRO property, a demolished historic farm shed, was found to lack integrity and did not possess any qualities that would contribute to the site's potential NRHP eligibility. Therefore, the small portion of 5LP 10809 within DRO property is not considered further in this study.
- Five of the six sites tested for this project (5LP 10799, 5LP 10800, 5LP 10802, 5LP 10803, and 5LP 10807) were field recommended not eligible to the NRHP as they lack archaeological integrity or any further, meaningful scientific value. No further work was recommended.
- 5LP 10805 was field recommended NRHP-eligible under Criterion D as testing demonstrated the site contains significant intact, subsurface cultural deposits. It was recommended that any proposed earth disturbing activities on DRO should avoid site 5LP 10805 by a minimum of 100 feet.

In addition, the Old Spanish Trail, a network of trails connecting Santa Fe, NM and Los Angeles, CA, ran through the Durango area between 1829 and 1849. The trail was used to carry trade items until the annexation of the Southwest to the United States after the Mexican-American War and the use of the trail ceased due to the availability of more direct routes. Physical evidence of the trail has not been found nor was any evidence of the trail or associated artifacts encountered during the Phase I Cultural Resource Survey completed as part of this EA.

Airport Structures

DRO was constructed in 1973, making all airport-related structures less than 50 years old and would not yet qualify for eligibility for the NRHP. No other structures occur on Airport property.

4.9 Land Use

Compatible land uses around an airport increase safety and aid in minimizing the effects of aircraft noise and environmental impacts. Section 1502.16(c) of the CEQ Regulations requires the discussion of environmental impacts including "possible conflicts between the proposed action and the objectives of Federal, regional, State, and local land use plans, policies and controls for the area concerned." The FAA requires airport operators to ensure that actions are taken to establish and maintain compatible land uses around airports.

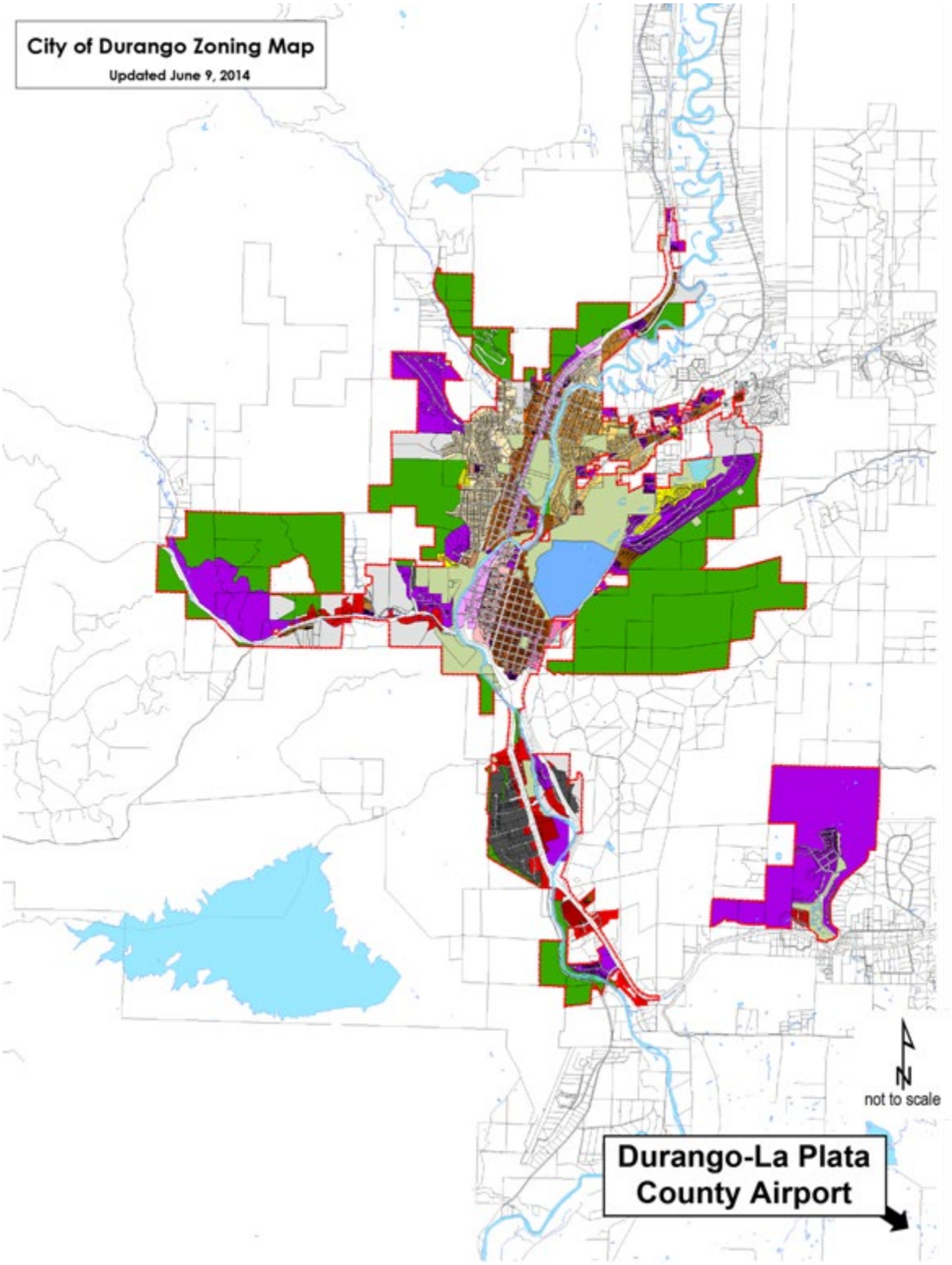
The Airport is outside Durango's zoning limits. DRO is jointly owned and operated by the City of Durango and La Plata County. The County is divided into the 13 planning districts shown on Figure 4-8. The Airport falls within the eastern edge of the Florida Mesa District, with one small southeastern section in the Southeast La Plata District. Figure 4-9 depicts the land use classifications for the Florida Mesa District. As shown, DRO is classified as a Public and Community Facility land use. The areas surrounding DRO are classified as Office/Light Industrial to the north and northwest, and Ag Rural Residential to the west. Small pockets of industrial are to the west and southwest and tribal to the north and northwest. Descriptions of these classifications are:

- Public and Community Facilities: Public and quasi-public uses, such as schools, government facilities, cemeteries, hospitals and churches, trail heads, recreation facilities.
- Ag Rural Residential: Private Land that can be developed at a density of one unit per 10 to 20 acres and are typically served by individual wells and septic systems.
- Office and Light Industrial: Commercial, office, and light industrial uses.
- Industrial: Permits gas refineries, gas compressors, concrete batch plants and manufacturing uses with outdoor.
- Tribal Lands: Southern Ute Tribal lands.

Land use classifications in the neighboring Southeast La Plata District do not exist within this District Plan.[16] However, existing land uses adjacent to DRO and within the Southeast La Plata District are generally open land.

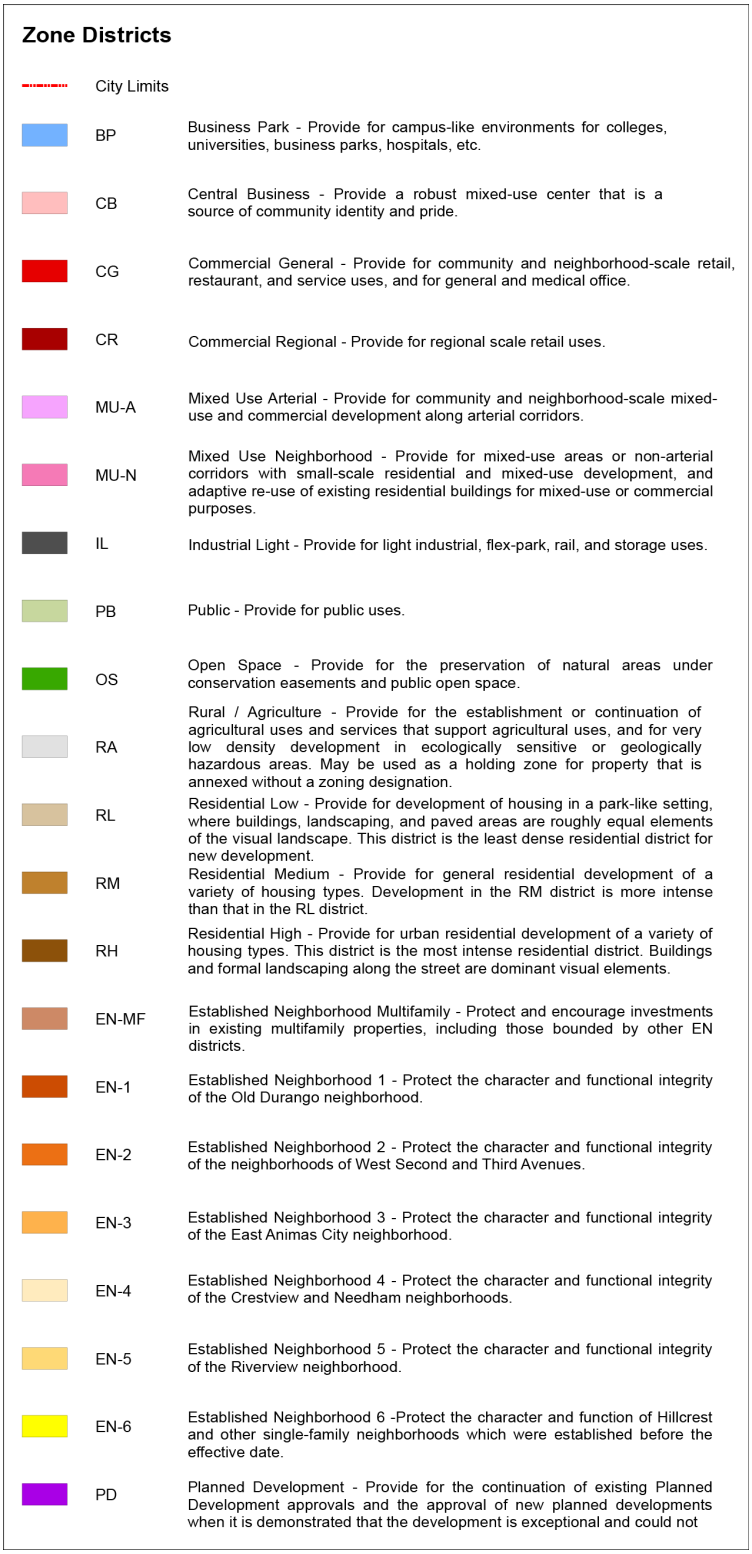
[16] La Plata County, www.co.laplata.co.us, accessed June 2014.

FIGURE 4-6 – DURANGO ZONING MAP



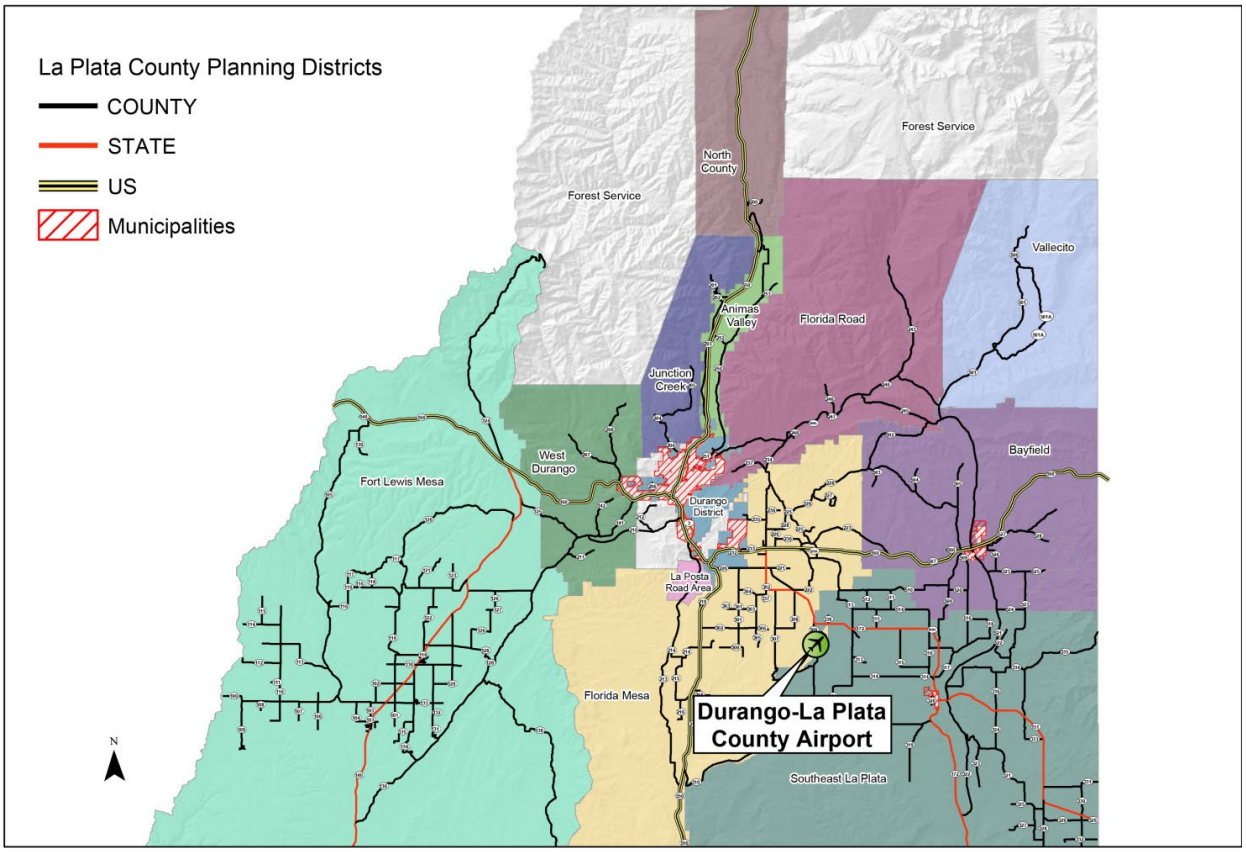
Source: City of Durango, www.durangogov.org, accessed June 2014
Notes: Not to scale

FIGURE 4-7 – DURANGO ZONING MAP LEGEND



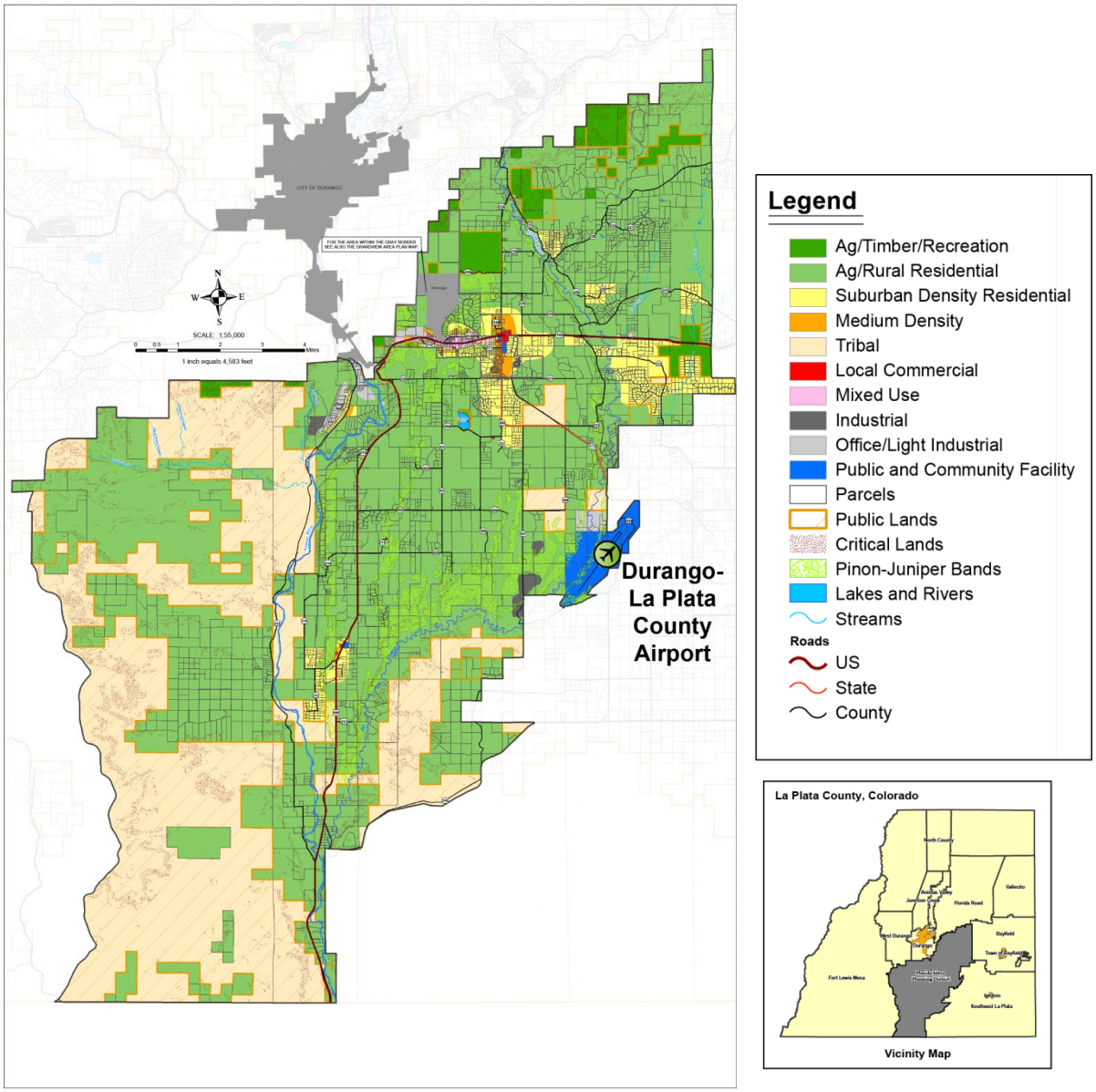
Source: City of Durango, www.durangogov.org, accessed June 2014

FIGURE 4-8 – LA PLATA COUNTY PLANNING DISTRICTS



Source: La Plata County, www.co.laplata.co.us, accessed June 2014
Note: Not to scale

FIGURE 4-9 – FLORIDA MESA DISTRICT LAND USE CLASSIFICATIONS



Source: La Plata County, www.co.laplata.co.us, accessed June 2014
Note: Not to scale

4.10 Natural Resources and Energy Supply

Sections 1502.16(e) and (f) of the CEQ Regulations require that Federal agencies consider energy requirements, natural depletable resource requirements, and the conservation potential of alternatives and mitigation measures in NEPA documents. FAA Order 1050.1F states that, while the FAA has not established a threshold for significance relative to natural resources and energy supply, the proposed action should be examined for the potential to cause demand to exceed available or future supplies of these resources.

An airport's effects on natural resources and energy supply are primarily related to the amount of energy and resources required to keep the Airport safely operating. Energy is primarily needed for aircraft, ground support vehicles, airport and airfield lighting, terminal and hangar buildings, and motor vehicle traffic. DRO utilizes three sources of natural resources and energy supply: natural gas, electricity, and water supply.

- Natural gas is supplied by Black Hills Energy and is supplied to DRO via a high-pressure gas line owned by Excel Energy. Natural gas is used in the existing terminal building and is available at the north development area, commercial apron, and south development area.
- Electricity is supplied by La Plata Electric Association and provides power to all developed areas on Airport property.
- Lastly, the Airport has two waters sources, a natural spring and surface runoff water. DRO also has rights to water from the East Tyner ditch. The rights currently allow DRO a share of 1.0 cubic foot per second (c.f.s) during irrigation season, 0.10 c.f.s absolute and 0.84 c.f.s conditional as a winter water source, and 0.25 c.f.s conditional year-round source. Additionally, a 0.25 cubic foot per minute conditional surface water share is available from the Florida River.

  DRO's onsite water system consists of a raw water holding tank, a water treatment system, and two treated water holding tanks. The system provides approximately 12,000 to 15,000 gallons of water per day to DRO, with the capacity to provide up to 30,000 gallons per day.

In addition to these three primary sources of natural resources and energy, DRO also uses fuel for aircraft (AvGas and Jet Fuel) and surface vehicles (gasoline and diesel) and various construction materials such as asphalt, aggregate and wood.

4.11 Noise and Compatible Land Use

Noise is measured by the Day-Night Sound Level (DNL), the logarithmic average of sound levels in decibels (dB) and based on a 24-hour Equivalent Sound Level (Leq). The levels are time-weighted, such that noise events occurring during sensitive time periods (from 10pm to 7am) are penalized (i.e., weighted more heavily than those occurring from 7am to 10pm). This penalty accounts for the greater sensitivity to noise during nighttime hours and the decrease in background noise levels during these hours. Determining DNL provides a means of measuring and mapping the potential impacts from airport noise relative to the land uses surrounding an airport. Compatible land uses around an airport increase safety and aid in minimizing the effects of aircraft noise and environmental impacts.

Noise contours and noise exposure levels for the current year are used as the baseline noise exposure in **Chapter 5, Environmental Consequences** of this EA. The contours were generated using the FAA's latest noise model, Aviation Environmental Design Tool (AEDT) version 2.0b.

4.12 Socioeconomic, Environmental Justice, and Children's Environmental Health and Safety Risks

Airport activity can impact the growth, movement, and development patterns of communities. 49 CFR Part 24, *Uniform Relocation Assistance and Real Property Acquisition Policies* Act of 1970, Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* regulate development actions that have the potential to create social impacts, health and safety risks to children, and socioeconomic impacts including moving homes or businesses; dividing or disrupting established communities; changing surface transportation patterns; disrupting orderly, planned development; and creating a notable change in employment.

4.12.1 Demographics

Demographic information including employment, population, and minority population is detailed in the following sections.

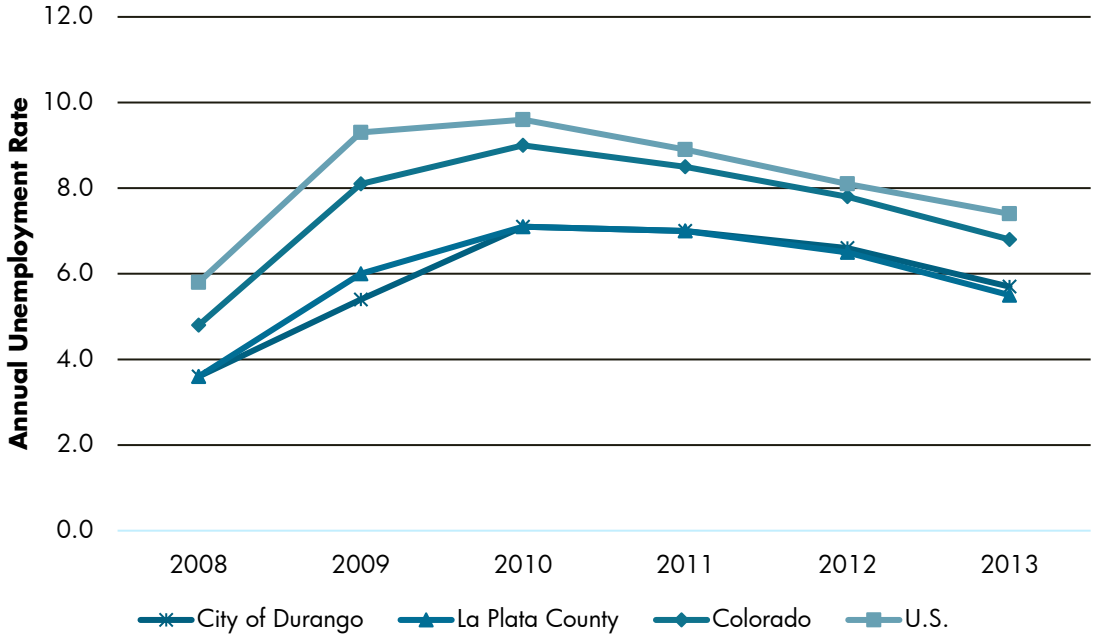
Employment

The 2017 Master Plan collected employment information as part of the study. It was found that the five-year (2008-2012) estimate for the number of civilians employed in La Plata County was approximately 27,400, roughly 52 percent of the population in 2012. The top five industries include:

- Educational services, and health care and social assistance (19 percent)
- Arts, entertainment, and recreation, and accommodation and food services (14 percent)
- Retail trade (12 percent)
- Construction (11 percent)
- Professional, scientific, and management, and administrative and waste management services (11 percent)

The Bureau of Labor Statistics reports that La Plata County's unemployment rate has historically been lower than that of Colorado and the nation. The most recently reported (2013) unemployment rate for La Plata County was 5.5 percent, a significant decrease from 2010, when the County's unemployment rate peaked at 7.1 percent. The County's current unemployment rate remains below Colorado's and the U.S. unemployment rates. In comparison, the City of Durango's unemployment rate has maintained a similar rate to La Plata County, depicted in **Figure 4-10**.

FIGURE 4-10 – FIVE-YEAR HISTORICAL UNEMPLOYMENT RATES



Source: U.S. Bureau of Labor Statistics and Economagic.com (City of Durango)

Population

Durango's population has followed a similar growth trend to that of La Plata County and the state of Colorado from 2005 to 2014 (see **Table 4-7**). Of the three districts, Durango had the largest growth rate from 2005 to 2014 with a 15.1 percent increase. La Plata County increased by 13.8 percent and Colorado grew by 14.8 percent.

TABLE 4-7 – HISTORICAL POPULATION

	2005	2010	2014
Durango	15,501	16,827	17,834
% Change	-	8.6%	6.0%
La Plata County	47,452	51,338	53,989
% Change	-	8.2%	5.2%
Colorado	4,665,177	5,048,575	5,355,866
% Change	-	8.2%	6.1%

Source: U.S. Census Bureau, Population Division, Accessed November 2015

The minority populations and percent of persons in poverty in Durango, La Plata County, and Colorado are shown in **Table 4-8**. It is presumed that the adjacent landowners to DRO are comprised of a similar demographic mix to that of La Plata County. The largest minority population in all three districts is Hispanic or Latino. The percent of persons in poverty is also similar for all three districts, with 12.4 percent of the population of Durango and La Plata County being in poverty. This is slightly higher than Colorado's 12.0 percent. Lastly, DRO is located within the Southern Ute Indian Reservation. The largest minority population is again Hispanic or Latino (17%); American Indian and Alaska Native is the second largest minority population at 12%.

TABLE 4-8 – MINORITY AND LOW-INCOME POPULATIONS

Race	Durango	La Plata County	Colorado
White Alone	85.1%	86.8	81.3%
Black or African American	0.6%	0.4%	4.0%
American Indian and Alaska Native	6.3%	5.8%	1.1%
Asian	0.8%	0.6%	2.8%
Native Hawaiian and Other Pacific Islander	0%	0.1%	0.1%
Two or More Races	3.0%	3.1%	3.4%
Hispanic or Latino	12.3%	11.8%	20.7
Persons in poverty	12.4%	12.4%	12.0%

Source: U.S. Census Bureau, Population Division, Accessed November 2015

TABLE 4-9 – SOUTHERN UTE INDIAN RESERVATION DEMOGRAPHICS

Race	% Population
White	82%
Black or African American	1%
American Indian and Alaska Native	12%
Asian	1%
Native Hawaiian and Other Pacific Islander	0%
Some other race	3%
Two or more races	2%
Hispanic or Latino (of any race)	17%

Source: U.S. Census Bureau, My Tribal Area, Accessed October 2018

4.12.2 Surface Traffic

Felsburg, Holt, & Ullevig (FHU) conducted Preliminary Traffic Analyses as part of this EA (see **Appendix G, Preliminary Traffic Analyses**). Existing traffic volume data was gathered on June 9-11, 2016 (Thursday-Saturday); this is a higher-than-average time of year for DRO traffic according to historical monthly enplanement, deplanement, and parking revenue data provided by the Airport. Daily traffic volumes were recorded along nine roadway segments near DRO. Weekday AM and PM peak and Saturday peak hour turning movements were recorded at the intersections of SH-172 and both CR-309 and CR-338. The main airport access intersection of CR-309 with CR-309A was also recorded, allowing for clear identification of main terminal, general aviation, and local office traffic.

Traffic operations within the study area were evaluated according to techniques documented in the *Highway Capacity Manual* (Transportation Research Board, 2010) using the existing traffic volumes, intersection geometry, and traffic control. Level of Service (LOS) is a qualitative measure of traffic operational conditions based on roadway capacity and vehicle delay. LOS is described by a letter designation ranging from A to F, with LOS A representing almost free-flow travel, while LOS F represents congested conditions. For stop-sign controlled intersections, LOS is calculated for each movement that must yield the right-of-way. LOS D is typically considered to be acceptable for peak hour intersection operations.

It was found that movements at each of the three analyzed intersections currently operate at LOS A or B during peak hours, which is an acceptable level of service.

4.12.3 Children's Environmental Health and Safety

The nearest school to the study areas is Ignacio Junior High School, located approximately five miles east of the Airport. The nearest daycare facility to the study areas is Florida Mesa Child Care Center located approximately five miles north of the Airport. There are approximately 35 residences within a half mile of DRO. The demographics of these homes varies and some include families with children.

4.13 Visual Effects

The FAA defines visual effects as those impacts involving "light emissions; and visual resources and visual character" in FAA Order 1050.1F. Federal regulations do not specifically regulate airport light emissions; however, the FAA does consider airport light emissions on communities and properties in the vicinity of airports. Visual effects deal broadly with the extent to which the proposed alternatives would either: 1) produce light emissions that create annoyance or interfere with activities; or 2) contrast with, or detract from, the visual resources and/or the visual character of the existing environment. A significant portion of light emissions at airports are a result of safety and security equipment and facilities.

DRO has six primary sources of light:

- Runway/Taxiway Lighting: lights outlining the runway and taxiways; classified by the intensity or brightness the lights can produce.
- REILs: two synchronized flashing lights located one on each corner of the runway landing threshold.
- PAPIs/VASIs: system of lights on the side of an airport runway threshold that provides visual descent guidance information during approach.
- MALSR: a combination of threshold lamps, steady burning light bars and flashers (that provide visual information to pilots on runway alignment), height perception, role guidance, and horizontal references.
- Airport Beacon: a rotating light used to locate the airport.
- Apron/Parking Lights: pole lighting on aprons and parking areas.

All sources of light aid in the safety of operations at DRO and produce an insignificant amount of light on the surrounding area.

4.14 Water Resources

Water resources include both surface waters and ground waters as well as floodplains and wetlands. All four sources function together as a single integrated system. Water resources provide drinking water and support recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems.

4.14.1 Wetlands

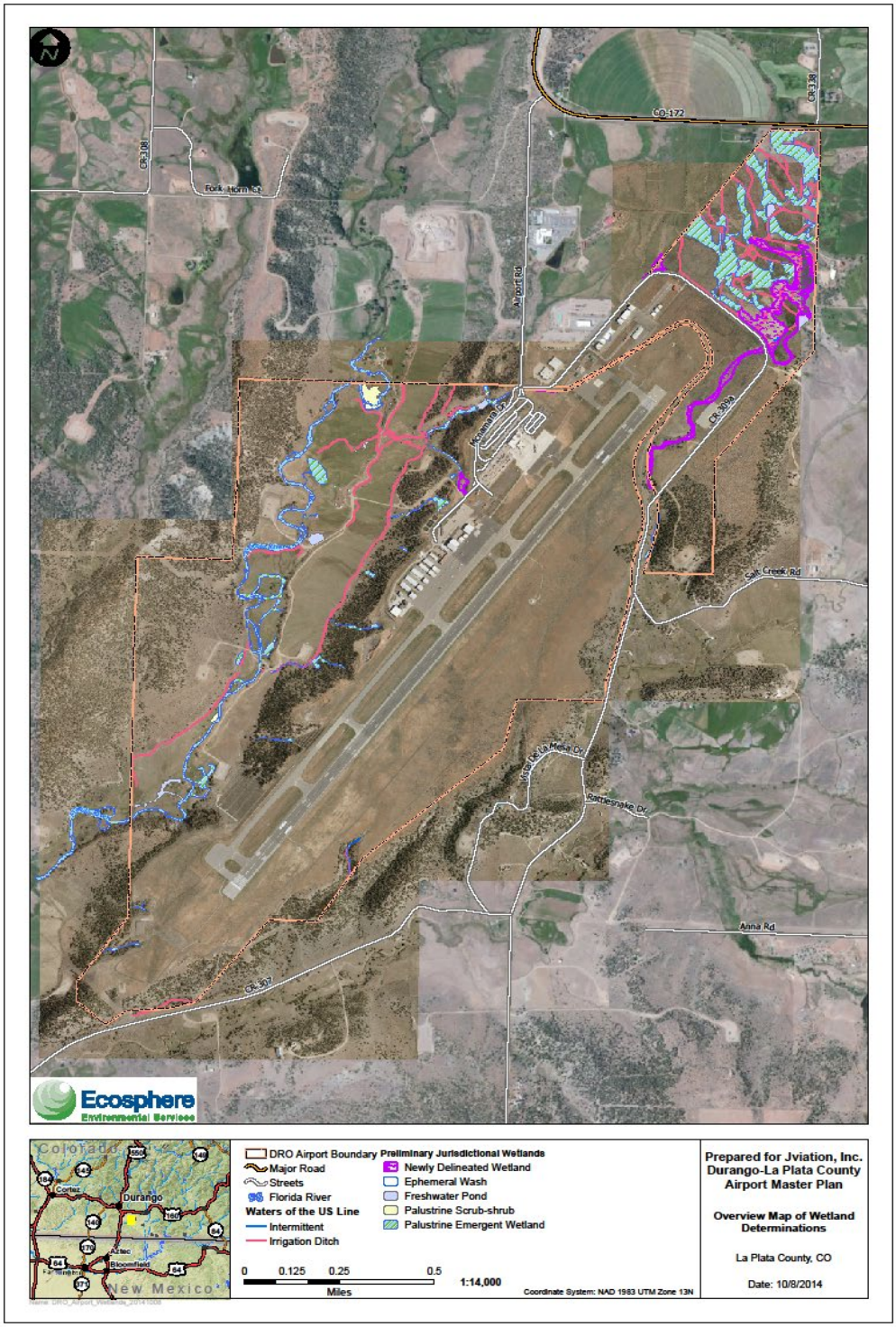
Executive Order 11990, Protection of Wetlands, require Federal agencies to avoid and minimize the impact of construction projects on wetlands. Wetlands are defined as areas inundated by surface or groundwater with a frequency sufficient to support vegetation or aquatic life requiring saturated or seasonally saturated soil conditions for growth and reproduction. Waters of the US are within the jurisdiction of the US Army Corps of Engineers (USACE) pursuant to the CWA. Waters of the US include wetlands, ponds, lakes, territorial seas, rivers, tributary streams, including any definable intermittent waterways, and some ditches below the Ordinary High Water Mark. Manmade water bodies are also included, such as quarries and ponds no longer actively being mined or constructed.

Ecosphere conducted a wetland delineation of DRO property as part of the 2017 Master Plan **(Appendix H, Wetland and Waters of the U.S. (WUS) Preliminary Jurisdictional Delineation Report** [2017 Airport Master Plan]**)**. Six wetland verification areas were delineated as depicted on **Figure 4-11**. Other wetlands within the study area, totaling approximately 37 acres, were identified using the National Wetland Inventory (NWI) classification method[17]. In total, approximately 57 acres of potentially jurisdictional wetlands were delineated and mapped in the study area. It was recommended that the potentially jurisdictional wetlands within the EA study area be further evaluated for final determination.

Ecosphere completed an Aquatic Resources Findings Report in November 2016. The report refines wetland boundaries previously delineated near the originally proposed new access road. Approximately 1.6 acres of wetlands are delineated in the report as shown in **Figure 4-12**. It was found that the wetlands in this area likely developed over time as irrigation waste water from adjacent agriculture lands entered abandoned ditches.

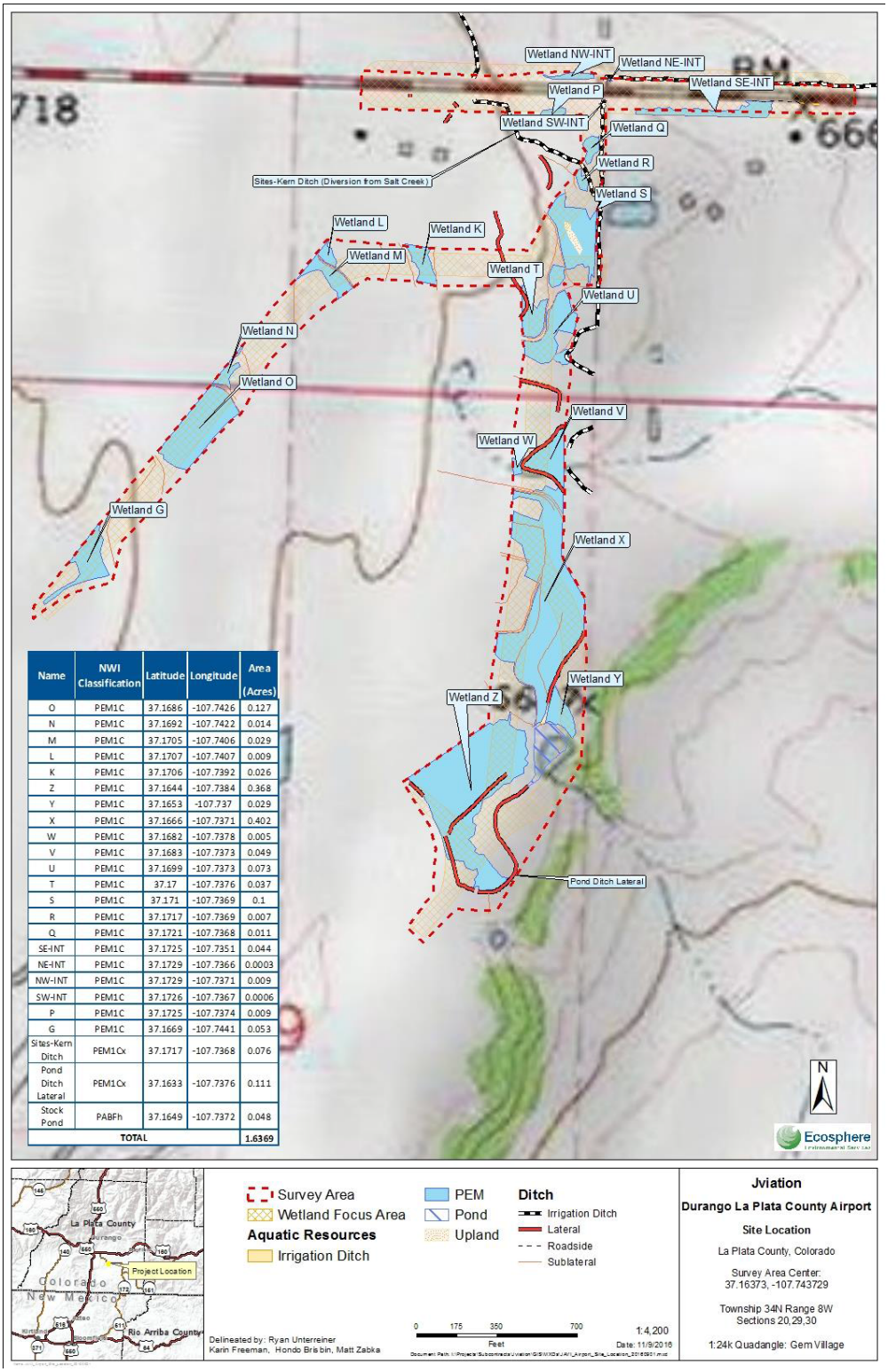
[17] See Appendix H, Wetland and Waters of the U.S. Preliminary Jurisdictional Delineation Report, Section 3. Methodology, page 4, October 2014.

FIGURE 4-11 – WETLANDS



Source: Ecosphere Environmental Sciences, Wetland and Waters of the U.S. (WUS) Preliminary Jurisdictional Delineation Report, 2014
Note: Not to scale

FIGURE 4-12 – 2016 WETLAND DELINEATION



Name	NWI Classification	Latitude	Longitude	Area (Acres)
O	PEM1C	37.1686	-107.7426	0.127
N	PEM1C	37.1692	-107.7422	0.014
M	PEM1C	37.1705	-107.7406	0.029
L	PEM1C	37.1707	-107.7407	0.009
K	PEM1C	37.1706	-107.7392	0.026
Z	PEM1C	37.1644	-107.7384	0.368
Y	PEM1C	37.1653	-107.737	0.029
X	PEM1C	37.1666	-107.7371	0.402
W	PEM1C	37.1682	-107.7378	0.005
V	PEM1C	37.1683	-107.7373	0.049
U	PEM1C	37.1699	-107.7373	0.073
T	PEM1C	37.17	-107.7376	0.037
S	PEM1C	37.171	-107.7369	0.1
R	PEM1C	37.1717	-107.7369	0.007
Q	PEM1C	37.1721	-107.7368	0.011
SE-INT	PEM1C	37.1725	-107.7351	0.044
NE-INT	PEM1C	37.1729	-107.7366	0.0003
NW-INT	PEM1C	37.1729	-107.7371	0.009
SW-INT	PEM1C	37.1726	-107.7367	0.0006
P	PEM1C	37.1725	-107.7374	0.009
G	PEM1C	37.1669	-107.7441	0.053
Sites-Kern Ditch	PEM1Cx	37.1717	-107.7368	0.076
Pond Ditch Lateral	PEM1Cx	37.1633	-107.7376	0.111
Stock Pond	PABFh	37.1649	-107.7372	0.048
TOTAL				1.6369

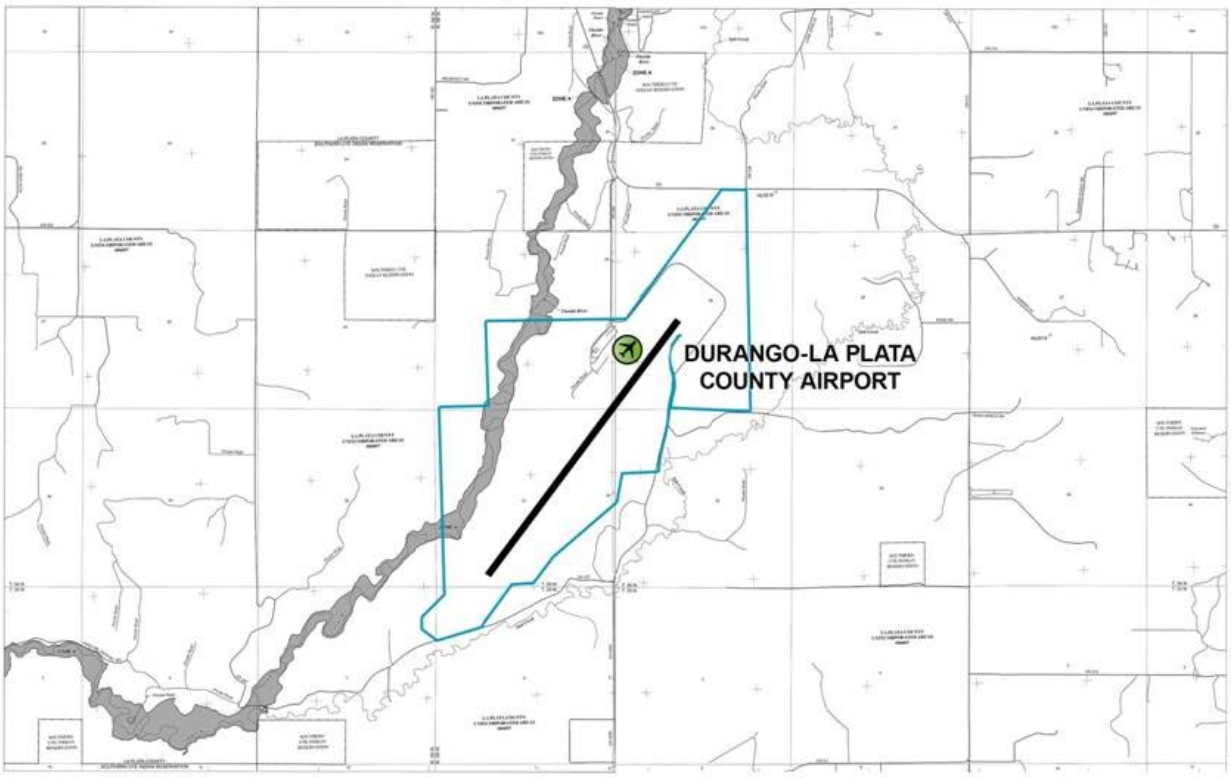
Source: Ecosphere Environmental Sciences, Wetland and Waters of the U.S. (WUS) Preliminary Jurisdictional Delineation Report, 2014
Note: Not to scale

4.14.2 Floodplains

Executive Order 11988, *Floodplain Management*[18] directs federal agencies to "avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative." Floodplains are those areas subject to a one percent or greater chance of flooding in any given year.

The Airport falls on two Flood Insurance Rate Map (FIRM) Panels, 08067C0720F and 08067C0740F, both with effective dates of August 19, 2010. The majority of Airport property is not within a flood hazard area; however, the western most portion of the property is located in Zone A (no base flood elevations determined), a Special Flood Hazard Area (SFHA) subject to inundation by the one percent annual flood, as shown on Figure 4-13. This SFHA follows the Florida River that runs along the west side of DRO.

FIGURE 4-13 – FLOOD INSURANCE RATE MAP



Source: FEMA, Flood Insurance Rate Map, Panels 08067C0720F and 08067C0740F, August 19, 2010
Note: Not to scale

4.14.3 Surface Waters

Surface waters include streams, rivers, lakes, ponds, estuaries, and oceans. DRO is located on a mesa above the Florida River, a tributary of the Animas River, and the predominant water feature in the area. The Airport has water rights in two basins to meet its potable and non-potable irrigation water needs. DRO is located on the edge of the Florida River watershed and the airport facilities use Florida River water rights to provide potable water supply for domestic, commercial, and industrial uses as well as non-potable irrigation needs.[19]

[18] Executive Order 11988, *Floodplain Management*, 1977
[19] Wright Water Engineers, Inc, *Durango-La Plata County Airport Water and Wastewater Master Plan*, 2014

The Airport is also located in the Pine River basin and uses the water for non-potable irrigation needs. As discussed previously, DRO has rights to water from the East Tyner ditch.

4.14.4 Groundwater

Groundwater is subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geologic layers that store or transmit groundwater, such as to wells, springs, and other water sources. According to the 2017 La Plata County Comprehensive Plan, the south-central portion of La Plata County, **which includes both the terminal development and land acquisition study areas**, sits upon the Florida Mesa aquifer. This aquifer gets its recharge from farm and ranch irrigation water and typically has good water quality and yield. The groundwater in this area is consumed through water wells and is a source of municipal and domestic water supply, irrigation and stock water, and water for industrial uses.[20]

4.14.5 Wild and Scenic Rivers

Rivers identified in the Nationwide Rivers Inventory and protected under The Wild and Scenic Rivers Act of 1968, as amended21, are classified as wild, scenic, or recreational. **Table 4-10** describes each classification. However, regardless of classification, each river in the National System is administered with the goal of protecting and enhancing the values that caused it to be designated. A designated river is neither prohibited from development nor does it give the federal government control over private property. Protection of the river is provided through voluntary stewardship by landowners and river users and through regulation and programs of federal, state, local, or tribal governments. In most cases, not all land within boundaries is, or will be, publicly owned, and the Act limits how much land the federal government can acquire from willing sellers.[22]

TABLE 4-10 – WILD & SCENIC RIVER CLASSIFICATIONS

Classification	Description
Wild	Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.
Scenic	Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
Recreational	Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

Source: National Wild and Scenic Rivers System, www.rivers.gov, accessed July 2014

The terminal development area is in the Four Corners Region, the locations of wild and scenic rivers in Colorado, Utah, New Mexico, and Arizona were reviewed. **Table 4-11** lists the four nearest wild and scenic rivers to the study areas. Figure 4-14 depicts designated rivers in the four states and those closest to DRO.

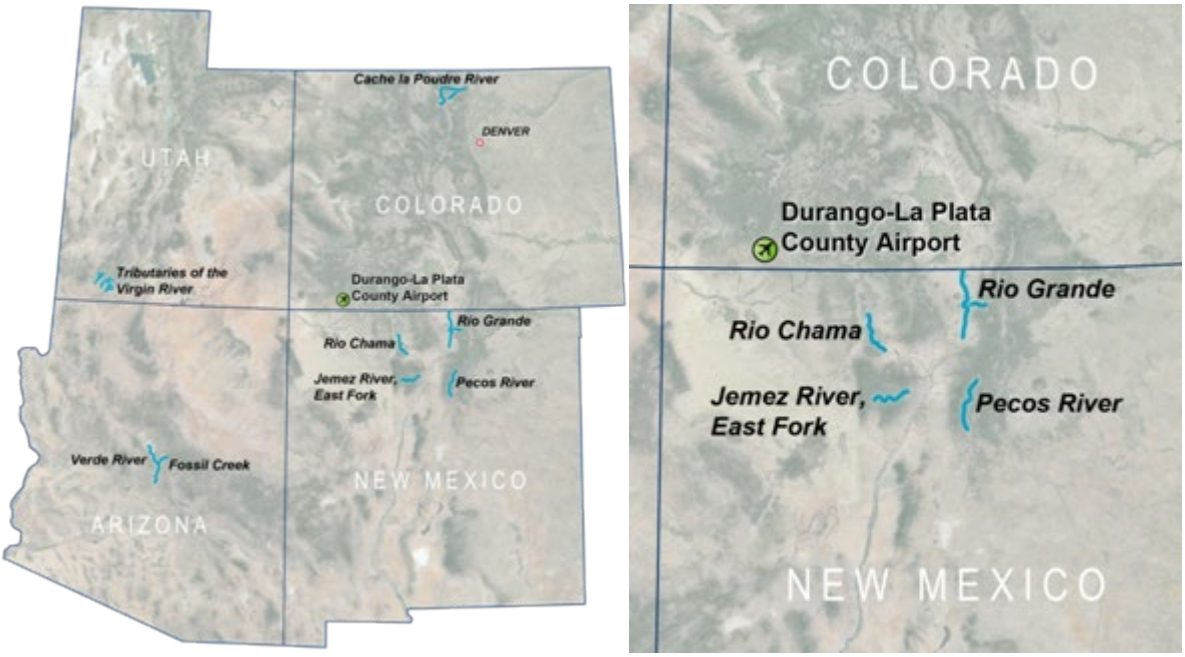
[20] La Plata County Community Development Services, Comprehensive Plan, May 2017
[21] U.S. Code, The Wild and Scenic Rivers Act of 1968, 16 USC 1271-1287, 1977
[22] National Wild and Scenic Rivers System, www.rivers.gov, accessed July 2014

TABLE 4-11 – WILD & SCENIC RIVERS

River	State	Miles Designated	Nautical Miles from DRO
Rio Chama	NM	24.6 (21.6 wild; 3.0 scenic)	~73
Jemez River, East Fork	NM	11.0 (4.0 wild; 5.0 scenic; 2.0 recreational)	~100
Rio Grande[/a/]	NM	68.2 (54.9 wild; 12.5 scenic; 0.8 recreational	~108
Pecos River	NM	20.5 (13.5 wild; 7.0 recreational)	~122

Source: National Wild and Scenic Rivers System, www.rivers.gov, accessed July 2014
Note: [/a/]Portion of designated river is in southern Texas

FIGURE 4-14 – WILD AND SCENIC RIVER LOCATIONS IN RELATION TO STUDY AREAS



Source: National Wild and Scenic Rivers System, www.rivers.gov, accessed July 2014
Note: Not to scale