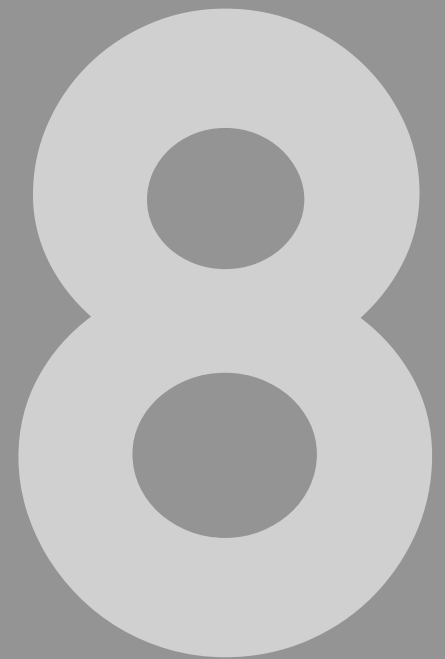


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CHAPTER EIGHT

ENVIRONMENTAL

This chapter presents environmental considerations and factors pertinent to the Cedar City Regional Airport (CDC) that will assist in long-term planning for the airport. The information used in this chapter was compiled from numerous sources; including multiple federal and Utah state agencies.

8.1. Introduction

The purpose of considering environmental factors in airport master planning is to help the airport sponsor evaluate potential development alternatives and expedite future environmental evaluations. Airport planning provides the basis for a project's purpose and need and aids in completing an environmental evaluation to fulfill requirements set forth by the National Environmental Policy Act (NEPA) of 1969.

The NEPA process evaluates the environmental effects of a federal undertaking, including its alternatives. There are three levels of analysis: categorical exclusion (CATEX) determination; preparation of an environmental assessment with a finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS).

Categorical Exclusion

A project may be categorically excluded from a detailed environmental analysis if it meets certain criteria that a federal agency has previously determined as normally having no significant environmental impact.



Environmental Assessment

At the second level of analysis, a federal agency prepares an environmental assessment to determine if a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a finding of no significant impact, which may include measures to mitigate potentially significant impacts.

Environmental Impact Statement

If the environmental assessment determines that the environmental consequences of a proposed federal undertaking may be significant, an environmental impact statement (EIS) is prepared. An environmental impact statement is a more detailed evaluation of the proposed action and alternatives.

8.2. Air Quality

The Clean Air Act (CAA) is the primary statute related to air quality. It regulates air pollutant emissions from stationary and mobile sources and authorized the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These pollutants, known as criteria pollutants, include carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb).¹ Areas where the air quality meets or exceeds the national standard for these criteria pollutants are designated as attainment areas. However, if the air quality does not meet the national standard, the EPA designates the area as a nonattainment area. Nonattainment areas are then required to have a state implementation plan (SIP) that details the emission reduction strategies to bring nonattainment areas into attainment. After the air quality in that area once again meets the national standard, the EPA designates the area as a maintenance area.

According to the EPA Nonattainment and Maintenance Area Dashboard, the airport is in an area that is in attainment for all criteria pollutants.² The Utah Department of Environmental Quality (DEQ) is the state agency delegated by the EPA for issuing permits related to air quality.³ Temporary air quality impacts during construction would be short-term and localized. Emission reduction strategies are recommended to minimize air quality impacts. This includes re-using materials on site, using locally sourced materials to reduce the number of vehicle trips and trip lengths, and using dust control measures during construction.

8.3. Biological Resources

Section 7 of the Endangered Species Act (ESA) applies to the actions proposed or performed by federal agencies and sets forth requirements to determine if the proposed actions may impact endangered or threatened species. In accordance with Section 7 of the Endangered Species Act, the FAA must initiate consultation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) if the FAA determines that an action may affect a threatened or endangered species or designated critical habitat.

8.3.1. Federally-Protected Species and Essential Fish Habitat

The U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) online database provides information regarding federally designated proposed, candidate, threatened, and endangered species, final critical habitats, species of conservation concern, and service refuges that may occur in an identified area or may be affected by proposed activities.⁴

According to this database, the southwestern willow flycatcher (*Empidonax traillii extimus*) is an endangered species that could potentially occur on or near airport property, and the Utah prairie dog (*Cynomys parvidens*) and Ute ladies'-tresses (*Spiranthes diluvialis*) are threatened species that could potentially occur on or near airport property. This database also identified the monarch butterfly (*Danaus plexippus*) as a candidate species that could potentially occur on or near airport property, and the California condor (*Gymnogyps californianus*) as a non-essential experimental population that could potentially occur on or near airport property. The Information for Planning and Consultation report did not identify any designated critical habitats or wildlife refuge lands at the airport.

In accordance with FAA AC 150/5200-33C, *Hazardous Wildlife Attractants on or near Airports*, and FAA CertAlert No. 98-05, *Grasses Attractive to Hazardous Wildlife*, the airport is actively managed to deter wildlife and control vegetation.⁵ The developed areas at the airport have been graded, paved, or contain airport infrastructure while the majority of undeveloped areas contain low-lying grasses and forbs that are regularly mowed. Undeveloped areas around Coal Creek contain various herbaceous vegetation and shrubs that may provide wildlife habitat.

Southwestern Willow Flycatcher

This small bird species is less than six inches from head to tail and nests in dense riparian habitats composed of cottonwood or willow trees and tamarisk shrubs. Saturated soils, standing water, or nearby streams, pools, or isolated, spring-fed wetlands, are a component of nesting habitat.⁶ Coal Creek (described in [Section 8.15, Water Resources](#)) transects the northern portion of the airport, and its watershed contains various herbaceous vegetation, shrubs, and trees such as pinyon pine, juniper, sagebrush, bitterbrush, and cliffrose.⁷ Although not composed of cottonwood or willow trees, Coal Creek may provide the type of riparian habitat required by this species.

Utah Prairie Dog

Prairie dogs are part of the Sciuridae family of rodents. Utah prairie dogs prefer habitats located in swales where moist vegetation is present for long periods of the growing season. They also require well-drained soils for burrow formation.⁸ Since Coal Creek is perennial, it provides moist vegetation throughout the year that may be a suitable habitat for the Utah prairie dog.

Ute Ladies'-tresses

Ute ladies'-tresses is a perennial herb that is known to occur in moist meadows and floodplains associated with perennial stream terraces, oxbows, lakeshores, and subirrigated or spring-fed abandoned stream channels and valleys typically at elevations between 4,300 and 6,850 feet.⁹ However, this species has been found at elevations ranging from zero to 6,998 feet.¹⁰ At an elevation of 5,622 feet, the airport is within the range where Ute ladies'-tresses occur in Utah. As described in [Section 8.15, Water Resources](#), Coal Creek is a perennial stream that transects the northern portion of the airport. Since the airport contains a perennial stream within the known elevation range for this species, there may be habitat suitable for Ute ladies'-tresses around Coal Creek.

Monarch Butterfly

Consultation with the U.S. Fish and Wildlife Service is not required for candidate species. However, the U.S. Fish and Wildlife Service encourages agencies to take advantage of opportunities to conserve these species.¹¹ The monarch's habitat requirements include prairies, grasslands, roadsides, and wetlands with high-density milkweed stands. Its diet consists of milkweed leaves during the larval caterpillar phase and nectar from a wide range of blooming native plants as adults.¹² As previously noted, most of the undeveloped areas at the airport contain low-lying grasses and forbs that are mowed regularly in accordance with FAA CertAlert No. 98-05, *Grasses Attractive to Hazardous Wildlife*.¹³ This prevents milkweed and other flowering species from propagating. While various vegetation grows along the banks of Coal Creek, there are no documented occurrences of milkweed around Coal Creek. Therefore, the airport does not likely contain habitat suitable for the monarch butterfly.

California Condor

This species roosts on large trees or snags and rocky outcrops or cliffs. Nests are located in caves and ledges of steep rocky terrain or cavities and broken tops of old growth conifers created by fire or wind. Foraging habitat includes open grasslands, oak savanna foothills, and beaches adjacent to coastal mountains.¹⁴ The airport lacks large trees or snags that could provide habitat for this species. Therefore, the California condor is unlikely to occur at the airport.

Essential Fish Habitat

According to the National Marine Fisheries Service Essential Fish Habitat Mapper, Iron County does not contain essential fish habitat protected under the Magnuson-Stevens Fishery Conservation and Management Act.¹⁵

8.3.2. Migratory Birds

Migratory birds are protected by the Migratory Bird Treaty Act (**MBTA**), and the bald eagle and golden eagle are further protected by the Bald and Golden Eagle Protection Act (**BGEPA**). The Migratory Bird Treaty Act prohibits the taking (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the U.S. Fish and Wildlife Service.¹⁶ The Bald and Golden Eagle Protection Act prohibits the taking of bald or golden eagles, including their parts, nests, or eggs; the Bald and Golden Eagle Protection Act defines take as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.”¹⁷ Work that could lead to the take of an avian species protected under the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act should be coordinated with the U.S. Fish and Wildlife Service before any actions are pursued.

The U.S. Fish and Wildlife Service Information for Planning and Consultation report did not identify any migratory birds of conservation concern, bald eagles, or golden eagles within the airport property or its vicinity. While no protected migratory bird species were identified in the Information for Planning and Consultation report, common migratory bird species may occur at the airport or in the vicinity. Undeveloped areas around Coal Creek contain herbaceous vegetation and shrubs that may provide habitat for migratory birds.

8.3.3. Wildlife Hazards

FAA AC 150/5200-33C, *Hazardous Wildlife Attractants on or Near Airports*, recommends a separation distance of 10,000 feet at airports serving turbine-powered aircraft from hazardous wildlife attractants (e.g., wetlands).¹⁸ Hazardous wildlife is defined as “species of wildlife (e.g., birds, mammals, reptiles), including feral and domesticated animals, not under control that may pose a direct hazard to aviation (i.e., strike risk to aircraft) or an indirect hazard such as an attractant to other wildlife that pose a strike hazard or are causing structural damage to airport facilities (e.g., burrowing, nesting, perching).” For all airports, the FAA recommends five statute miles between the farthest edge of the airport’s operating area and hazardous wildlife attractants.

The airport may contain wetlands associated with Coal Creek, as described in [Section 8.15.1, Wetlands](#). However, the FAA notes that some wetlands are not as attractive to hazardous wildlife as others, with factors such as size, shape, location, canopy cover, and vegetative composition being considerations. FAA recommends that due to the variation in wildlife attractiveness of a given wetland, they be reviewed on a case-by-case basis to determine the likelihood of increasing the number of hazardous wildlife.¹⁹ Additionally, a review of the FAA’s Wildlife Strike Database revealed 12 reported aircraft strikes from July 1990 (earliest available data) to December 2023 at the airport. Only three of the strikes damaged an aircraft.²⁰ As of December 2023, the airport has not completed a wildlife hazard assessment (**WHA**), nor is one planned.

8.4. Climate

Greenhouse gases are gases that trap heat in the atmosphere and are primarily the result of burning fossil fuels. Greenhouse gases include carbon dioxide (**CO₂**), methane (**CH₄**), nitrous oxide (**N₂O**), and fluorinated gases. The Intergovernmental Panel on Climate Change (**IPCC**) estimates that aviation accounts for 4.1% of greenhouse gas (**GHG**) emissions related to global transportation.²¹ Discussion of potential climate impacts should be documented in a separate section of the NEPA document, under a heading labeled Climate. For FAA project level actions, the project study area should reflect the entire geographic area that could be directly or indirectly affected by the proposed project. For airport actions, the project study area should reflect the full extent of aircraft movements. The FAA’s *Aviation Emissions and Air Quality Handbook*, Version 3, Update 1, provides more information on defining the project study area.²²

According to FAA Order 1050.1F, *Desk Reference*, a qualitative or quantitative assessment of greenhouse gas emissions should be performed where the proposed action or alternatives would increase greenhouse gas emissions.²³ However, FAA Order 1050.1F, *Desk Reference*, states there are currently no significance thresholds for aviation greenhouse gas emissions, and it is not currently useful for the NEPA analysis to attempt to link specific climate impacts to the proposed action or alternatives given the small percentage of emissions aviation projects contribute. Additionally, neither Iron County nor the Utah Department of Environmental Quality currently monitor greenhouse gas emissions. As noted in **Section 8.2, Air Quality**, Iron County is in attainment for all criteria pollutants. While greenhouse gas emissions and criteria pollutants are composed of different types of gases, the combustion of fossil fuels is a common contributor to both.

8.5. Coastal Resources

Cedar City Regional Airport is located in Utah, which is not near a coastal zone, as defined by the Coastal Zone Management Act of 1972, and the airport is not within the Coastal Barrier Resources System, as defined by the U.S. Fish and Wildlife Service.²⁴ There are no coastal resources or coastal zone management plans associated with the airport.

8.6. Department of Transportation Act, Section 4(f)

Section 4(f) of the Department of Transportation Act states that the secretary of transportation will 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 or historic site of national, state, or local significance as determined by the officials having jurisdiction thereof unless there is no feasible and prudent alternative and the project includes all possible planning to minimize harm resulting from the use.²⁵ Additionally, a property must be a significant resource for Section 4(f) to apply. Any part of a Section 4(f) property is presumed to be significant unless there is a statement of insignificance relative to the entire property by the federal, state, or local official having jurisdiction over the property. Except in unusual circumstances, Section 4(f) only protects historic or archaeological properties that are listed or eligible for inclusion on the National Register of Historic Places (NRHP). Any proposed airfield improvements that may directly or indirectly affect eligible resources would be considered a physical or constructive use of Section 4(f) properties, respectively. Avoidance and minimization measures must be considered before mitigation can be pursued.

According to the National Register of Historic Places database, there are no properties listed in the National Register of Historic Places located at the airport.²⁶ The nearest property listed in the National Register of Historic Places is the George H. Wood House located at 432 N Main Street in Cedar City (Reference #78002662), which is approximately two miles east of the airport. However, a cultural resources survey is recommended to verify the presence or absence of Section 4(f) historic resources at the airport. Additionally, no Section 4(f) recreational properties or waterfowl or wildlife refuges are located within or near the airport. The nearest Section 4(f) recreational properties are Bicentennial Park and Sunbow Park, located approximately 1.5 to 1.75 miles east of the airport. The nearest waterfowl or wildlife refuge, Pahrangat National Wildlife Refuge, is located in Nevada and is approximately 113 miles southwest of the airport.²⁷

8.6.1. Land and Water Conservation Fund Act, Section 6(f)

Section 6(f) of the Land and Water Conservation Fund Act establishes a grant program for states and local governments to acquire and develop public outdoor recreation sites and facilities.²⁸ Section 6(f)(3) states, "No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation uses. The Secretary shall approve such conversion only if he/she finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he/she deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location." The closest 6(f) property is Cedar City Canyon Park located 2.75 miles southeast of the airport.²⁹

8.7. Farmlands

The Farmland Protection Policy Act (**FPPA**) regulates federal actions with the potential to convert farmland to non-agricultural uses. Farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. Soil information was obtained from the National Cooperative Soil Survey Web Soil Survey and National Cooperative Soil Survey series descriptions.³⁰ As shown in **Table 8.1**, soils at the airport are comprised of seven different map units.

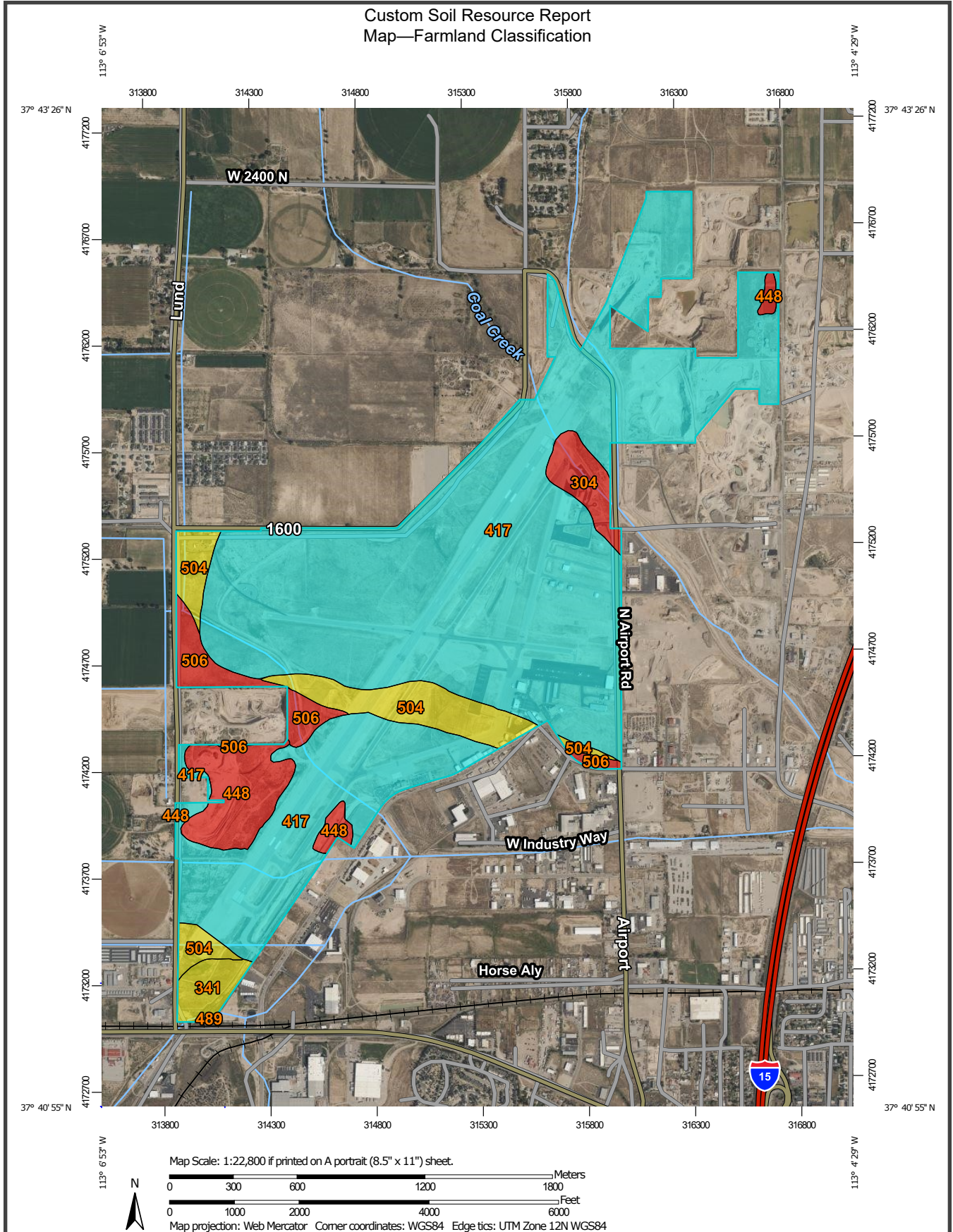
Table 8.1: Soils at Cedar City Regional Airport

Map Unit Symbol	Map Unit Name	Farmland Classification	Number of Acres	Percentage of Property
304	Annabella very gravelly loam, 2–15% slopes	Not prime farmland	21.5	2.2%
341	Calcross loam, 0–2% slopes	Prime farmland if irrigated	17.4	17.4%
417	Medburn sandy loam, 0–2% slopes	Farmland of statewide importance	775.9	80.1%
448	Pits-Dumps complex	Not prime farmland	53.3	5.5%
489	Taylorflat loam, 0–2% slopes	Farmland of statewide importance	0.4	0.0%
504	Wales loam, 0–2% slopes	Prime farmland if irrigated	70.1	7.2%
506	Wales loam, flooded, 0–2% slopes	Not prime farmland	29.6	3.1%

Source: U.S. Department of Agriculture, Natural Resources Conservation Service, November 22, 2023.

According to the Soil Resource Report, approximately 775.9 acres (80.1%) of the airport contains farmland of statewide importance and 87.5 acres (24.6%) of the airport contains prime farmland if irrigated (**Figure 8.1**). Prior to any actions that may impact farmlands, Farmland Conversion Impact Rating Form AD-1006 may be required to be completed and submitted to the local National Cooperative Soil Survey office or U.S. Department of Agriculture (**USDA**) service center to determine the level of impact to farmlands. A total combined score on Form AD-1006 of between 200 and 260 points results in a significant threshold.

Figure 8.1: Natural Resources Conservation Service Farmland Classification Map



Source: U.S. Department of Agriculture, Natural Resources Conservation Service, November 22, 2023.

8.8. Hazardous Materials, Solid Waste, and Pollution Prevention

Federal, state, and local laws, including the Resource Conservation Recovery Act (**RCRA**), the Comprehensive Environmental Response, Compensation, and Liability Act (**CERCLA**), as amended (also known as the Superfund), and the Utah Administrative Code (**UAC**) R315-260 Hazardous Waste Management System, regulate hazardous materials use, storage, transport, and disposal. The Resource Conservation Recovery Act set up a framework for the proper management of hazardous waste. From this authority, EPA established a comprehensive regulatory program to ensure that hazardous waste is managed safely from “cradle to grave” meaning from the time it is created, while it is transported, treated, and stored, and until it is disposed.³¹

The EPA maintains a list of Superfund Sites called the National Priorities List (**NPL**) in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act. These sites have known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. According to the EPA list, there are no superfund sites in Iron County, in which the airport is located.³² The EPA’s My Environment tool was also reviewed to identify any toxic releases to air or land reported at or adjacent to the airport; none were reported.³³

The NEPAassist Tool identifies the location and details of remediation sites and facilities managed by regulatory programs within the EPA’s Waste Management and Remediation Division. The tool did not identify any Brownfields sites or Superfund sites at the airport. The U.S. Forest Service Cedar City Airtanker Base (TRI ID 84720SFRST1635N) located at the airport is identified as a Toxic Release Inventory (**TRI**) site. The last Toxic Release Inventory chemical released was ammonia, which was reported in 2006. No enforcement actions are available and there are no further reports to date. Three Resource Conservation Recovery Act sites were identified at the airport. Two Transportation Security Administration (**TSA**) facilities are listed, one that is classified as a very small quantity generator of hazardous materials (RCRA Handler ID UTR000009514) and the other that has no classification (RCRA Handler ID UTR000007930). Additionally, the FAA Salt Lake Hub Sector Office of Safety Standards (**AFS**) (RCRA Handler ID UT5690590042) is listed as a very small quantity generator of hazardous materials.³⁴

According to AC 150/5100-17, *Land Acquisition and Relocation Assistance for Airport Improvement Program (AIP) Assisted Projects*, as part of the project planning and environmental assessment phases, the project proponent should have an adequate due diligence environmental audit conducted for the presence of hazardous materials and contamination on property needed for a project. Contaminated property must be avoided whenever possible, or its use minimized to avoid excessive project costs for the clean-up and remediation of hazardous materials. These audits include Phase I and Phase II environmental site assessments (**ESA**), which should identify quantities of any hazardous materials located at the proposed project site or in the immediate vicinity of a project site.

Regarding pollution prevention, the CEQ Memorandum *Pollution Prevention and the National Environmental Policy Act* (January 12, 1993) encourages early consideration by federal agencies (for example, during the National Environmental Policy Act scoping process) of opportunities for pollution prevention. In accordance with this guidance, the FAA should, to the extent practicable, include pollution prevention considerations in the proposed action and its alternatives; address pollution prevention in the environmental consequences section; and disclose in the record of decision (**ROD**) the extent to which pollution prevention was considered.³⁵

The Iron County Solid Waste Department’s main landfill, located at 3127 N Iron Springs Road approximately eight miles from the airport accepts non-hazardous solid waste that may include, municipal solid waste, commercial waste, industrial waste, construction and demolition waste, and special waste as defined in Utah Administrative Code R315-301.³⁶ The landfill may accept conditionally exempt small quantity generator hazardous waste as specified in Utah Administrative Code R315-303-4(7)(a)(i)(B) and polychlorinated biphenyls (**PCB**) as specified by Utah Administrative Code R315-315-7(2). Hazardous waste as defined by Utah Administrative Code R315 1 and R315 2 and polychlorinated biphenyls as defined by Utah Administrative Code R315-301-2(53) are excluded from this landfill and would need to be disposed of at an appropriate licensed facility.³⁷

8.9. Historical, Architectural, Archeological, and Cultural Resources

The National Historic Preservation Act (NHPA) established the Advisory Council on Historic Preservation (ACHP) and the National Register of Historic Places (NRHP) list, administered in Utah by the Utah State Historic Preservation Office (SHPO). Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their undertaking on properties on or eligible for inclusion on the National Register of Historic Places.

Any direct or indirect effects to resources eligible for inclusion in the National Register of Historic Places, or contributing resources to a historic district, will require consultation with the Utah State Historic Preservation Office and participating tribes or Tribal Historic Preservation Offices (THPO) for Section 106 compliance. Avoidance and minimization measures must be considered before mitigation can be pursued.

According to the most recent records maintained by the National Register of Historic Places, the airport does not contain any properties listed, or eligible for listing on the National Register of Historic Places. However, unidentified or undiscovered historic or archaeological resources may still be present at the airport. A cultural resource survey is recommended to confirm the presence or absence of properties eligible for inclusion in the National Register of Historic Places.

8.10. Land Use

The FAA has not established a significance threshold for land use. The determination that significant impacts exist in the land use impact category is normally dependent on the significance of other impacts, such as noise and Section 4(f) properties.

According to FAA Order 1050.1F, *Desk Reference*, the FAA requires airport operators to ensure that actions are taken to establish and maintain compatible land uses around airports, such as consistency with state and local land use regulations, land use plans, and zoning laws.³⁸ Airport Improvement Program (AIP) funding for airport development may not be approved unless the secretary of transportation receives written assurance that appropriate action, including the adoption of zoning laws, has been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the vicinity of the airport to activities and purposes compatible with normal airport operations, including takeoff and landing of aircraft.³⁹

The airport is located within Cedar City, with land use information provided by the Cedar City Land Use Map. As identified by the map, the airport is located within an airport influence zone with land uses consisting of residential, mixed-use, commercial, light and heavy manufacturing, municipal uses, and open space.⁴⁰ The closest residence is approximately 500 feet west of the airport.⁴¹

8.11. 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 listed in NEPA documents. Executive Order 13123, *Greening the Government through Efficient Energy Management*, supports the expansion and use of renewable energy within facilities and activities. It also requires federal agencies to reduce petroleum use, total energy use, associated air emissions, and water consumption in facilities. Though specific significance thresholds for natural resource consumption and energy supply have not been established by the FAA, the proposed action should be examined for the potential to cause demand to exceed available or future supplies of these resources.

General construction could temporarily increase the airport's consumption of natural resources and energy. These resources include a variety of construction materials, electricity, fuel, oil, and water (non-potable water may be used for dust control). The transportation of construction materials and operation of heavy machinery may temporarily increase the airport's fossil fuel consumption. These resources are not rare or in short supply. Likewise, general construction activities could marginally increase demands on water, electricity, and natural gas. However, these demands are insignificant and can be met by existing airport infrastructure.

8.12. Noise and Noise Compatible Land Use

Noise associated with airport activity is of specific importance to the FAA in examining a proposed federal action. Airport development projects that have the potential to change an airport's runway configuration, aircraft operations, aircraft types, or aircraft flight characteristics can change future airport-related noise levels.

Noise is measured by the day-night sound level (**DNL**), the logarithmic average of sound levels in decibels (**dB**), and is based on a 24-hour equivalent sound level (**Leq**). The levels are time-weighted, such that noise events occurring during sensitive time periods (between 10 p.m. and 7 a.m.) are penalized 10 dB (i.e., weighted more heavily than those occurring between 7 a.m. and 10 p.m.). 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. The FAA considers a noise impact significant if an action would cause noise sensitive areas to experience an increase in noise of DNL 1.5 dB or more at or above the DNL 65 dB noise contour when compared to the no action alternative. Noise sensitive areas include indoor locations such as residential, educational, medical, and religious structures or sites as well as outdoor locations such as parks and recreational areas, wilderness areas and wildlife refuges, or cultural and historical sites.

The area surrounding the airport consists of residential, mixed-use, commercial, light and heavy manufacturing, municipal uses, and open space land uses. Noise sensitive land uses near the airport are limited to residential properties. The closest residence is approximately 500 feet west of the airport. A noise contour analysis is recommended to determine the impact noise from proposed development alternatives could have on the surrounding properties.

8.13. Socioeconomics, Environmental Justice, and Children's Health & Safety Risks

8.13.1. Socioeconomics

Socioeconomics is a term used to describe aspects of a project that are social or economic in nature. A socioeconomic analysis evaluates how elements of the human environment such as population, employment, housing, and public services might be affected by the proposed action.

The airport is located in Cedar City, which has a population of 34,426 according to data from the 2021 U.S. Census Bureau American Community Survey. The median age is 25.5 years.⁴² In Cedar City, approximately 5% of the population is unemployed and 41% are considered low-income.⁴³

Airport operations and ongoing development are not expected to have any significant socioeconomic impact on the residents of Cedar City. If acquisition of real property or displacement of persons is involved, 49 CFR part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended, must be met for federal projects and projects involving federal funding.

8.13.2. Environmental Justice

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, ethnicity, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations*, which was signed into law February 11, 1994, directs federal agencies to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. As shown in [Table 8.2](#), the population of Cedar City is predominantly white (87.1%) with minorities accounting for 12.9% of the population.⁴⁴ Airport operations and ongoing development are not expected to disproportionately impact environmental justice or minority populations.

Table 8.2: Cedar City Race and Ethnicity Data

Race	Population	Percentage
Total Population	34,246	100%
One race	32,406	94.6%
White	29,841	87.1%
Black or African American	388	1.1%
American Indian and Alaska Native	843	2.5%
Asian	451	1.3%
Native Hawaiian and Other Pacific Islander	85	0.2%
Other Race	798	2.3%
Two or more races	1,840	5.4%

Source: U.S. Census Bureau, 2021: ACS 5-Year Estimates Data Profiles.

8.13.3. Children’s Health and Safety Risks

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires agencies to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children. According to data from the 2021 U.S. Census Bureau American Community Survey, approximately 28.9% of the population of Cedar City is less than 18 years old.⁴⁵ The nearest school to the airport is Iron Springs Elementary School, which is approximately one mile to the southwest. The school serves students in kindergarten through fifth grade. The closest children’s healthcare facility is Premier Pediatrics, which is approximately 1.25 miles east of the airport. All schools, daycares, children’s health clinics, or similar child-friendly facilities are well outside the airport property boundaries. The FAA has not established a significance threshold related to impacts to children’s environmental health and safety. However, airport operations and ongoing development are not anticipated to significantly affect air quality, climate, hazardous materials, noise, water resources, or other environmental resources that could affect children’s health and safety. Mitigation measures may be appropriate to reduce or eliminate impacts, such as those used to mitigate other impact categories, such as air and water.

8.14. Visual Effects

Visual effects deal broadly with the extent to which the proposed action or alternatives would either produce light emissions that create annoyance or interfere with activities; or contrast with, or detract from, the visual resources or the visual character of the existing environment. Visual effects can be difficult to define and assess because they involve subjectivity. Proposed aerospace actions do not commonly result in adverse visual effects, but these effects may occur in certain circumstances. For clarity and uniformity, visual effects fall under two categories: light emission effects or visual resources and visual character.⁴⁶

Light emissions include any light that emanates from a light source into the surrounding environment. Examples of sources of light emissions include airfield and apron floodlighting, navigational aids, terminal lighting, parking facility lighting, and roadway lighting. Glare is a type of light emission that occurs when light is reflected off a surface (e.g., window glass, solar panels, and reflective building surfaces).⁴⁷

Visual resources include buildings, sites, traditional cultural properties, and other natural or manmade landscape features that are visually important or have unique characteristics. Visual resources may include structures or objects that obscure or block other landscape features. In addition, visual resources can include the cohesive collection of various individual visual resources that can be viewed at once or in concert from the area surrounding the site of the proposed action or alternatives. In unique circumstances, the nighttime sky may be considered a visual resource.⁴⁸

Visual character refers to the overall visual makeup of the existing environment where the proposed action and alternatives would be located. For example, areas in close proximity to densely populated areas generally have a visual character that could be defined as urban, whereas less developed areas could have a visual character defined by the surrounding landscape features, such as open grass fields, forests, mountains, or deserts.⁴⁹

There are no special purpose laws or requirements for visual effects, and there are no federally required consultation processes, permits, or other approvals related to visual effects. Additional laws protecting resources that may be affected by visual effects include Section 106 of the NHPA, Section 4(f) of the Department of Transportation Act, Wild and Scenic Rivers Act, and Coastal Zone Management Act as well as state and local regulations, policies, and zoning ordinances that apply to visual effects.⁵⁰

Various lighting features currently illuminate airport facilities at the airport, such as the airfield (e.g., runways and taxiways), buildings, access roadways, automobile parking areas, and the apron area for the safe and secure movement of people and vehicles. Structures at the airport include hangars and maintenance buildings. The visual sight of aircraft, aircraft contrails, and aircraft lights at night is consistent with normal airport operations. The land surrounding the airport consists of residential, mixed-use, commercial, light and heavy manufacturing, municipal, and open space uses. The closest residence is approximately 500 feet west of the airport. Although this residence has a direct line of sight to the airport, the lighting and structures associated with the airport are consistent with that of an airport. No known historic properties are located within the airport or the vicinity.

Mitigation measures to minimize visual effects of any new light sources include the use of shielding and baffles, angular adjustment of light fixtures, and application of architecture and landscaping design features to enhance the aesthetics and uniqueness of a proposed project.

The development of airport infrastructure could change the visual character of the area. It is recommended that any development projects be consistent with the style and uses of existing structures at the airport to minimize impacts to the visual resources in the vicinity or visual character of the airport.

8.15. Water Resources

Water resources are important in providing drinking water and in supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems. Surface water, groundwater, floodplains, and wetlands do not function as separate and isolated components of the watershed, but rather as a single, integrated natural system. Disruption of any one part of this system can have consequences for the functioning of the entire system. The analysis should include potential disruption of the system as well as potential impacts to the quality of the water resources. Because of the close and integrated relationship of these resources, their analysis is conducted under the all-encompassing impact category of water resources. Wild and Scenic Rivers are included because impacts to these rivers can result from obstructing or altering the free-flowing water of a designated river. This section discusses wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers.

8.15.1. Wetlands

The Clean Water Act (CWA) describes wetlands as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.⁵¹ Wetlands generally include swamps, marshes, bogs, and similar areas. Jurisdictional wetlands are federally protected under Section 404 of the CWA, which regulates the discharge of dredged or fill material into Waters of the United States, including wetlands.⁵²

According to the National Wetland Inventory (NWI), 14 wetland features are within, or partially within, the airport property boundary.⁵³ As shown in [Figure 8.2](#), these include eight freshwater ponds located in the northern portion of the airport, three located in the southeast portion of the property, and seven riverine wetland segments belonging to three contiguous riverine wetland features that transect the airport in the south and the north of the property.

A riverine wetland in the northern portion of the airport is associated with Coal Creek, which is a perennial stream that flows from south to north across the property. Another riverine wetland is associated with a seasonally flooded irrigation ditch that travels along the northeastern boundary of the airport. Four riverine wetlands in the southern portion of the property correspond with semi-permanently flooded ditches that flow in a south-to-north and east-to-west direction. Two of the ditches carried water historically but were filled several years ago.

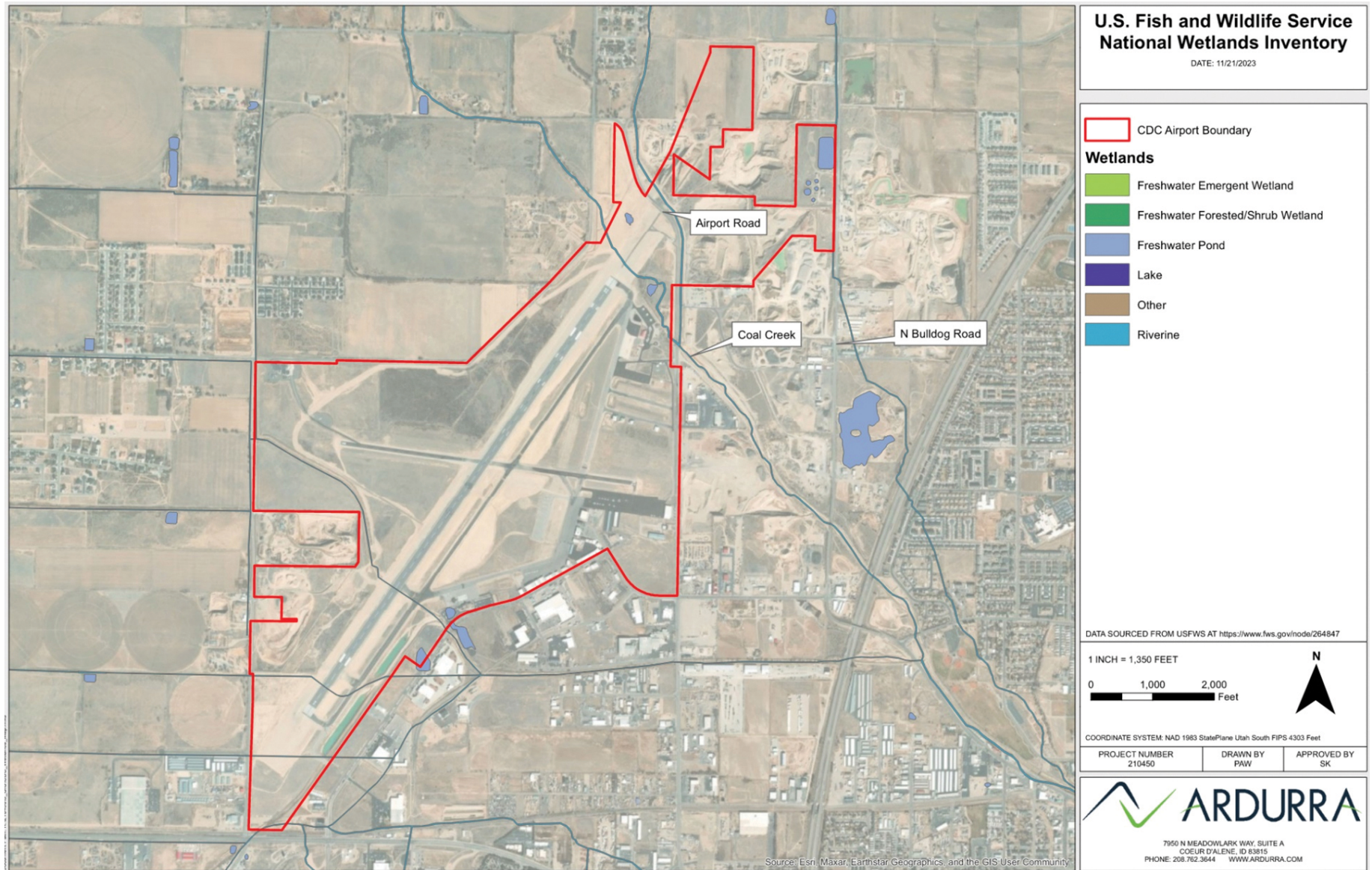
In the northeastern portion of the property, directly adjacent to North Bulldog Road, there are six freshwater pond wetlands identified as being permanently flooded. According to the Iron County Assessor's office, this portion of the airport property is currently leased to Western Rock Products and is not associated with aeronautical uses.⁵⁴ Most of the freshwater pond wetlands are associated with manmade circular structures, while one appears to be associated with a drainage sump that is part of the facility.

Two semi-permanently flooded freshwater pond wetlands are located 500 to 1,000 feet north of Runway 2/20. Neither wetland feature has recently contained water according to historic Google Earth imagery. The presence of ponded water can be seen in the imagery as recently as June 1993. One of the freshwater pond wetlands was directly adjacent to Coal Creek before the creek alignment was altered and directed through a culvert. After the culvert was constructed, ponded water in the area of this wetland feature is no longer visible. Ponded water in the other freshwater pond was also present during June 1993 but is no longer visible afterward.

In the southeastern portion of the airport property, there are three semi-permanently flooded freshwater pond wetlands. The outline of these features can be seen in Google Earth imagery as recently as June 1993, although no water was present. The area of these NWI-mapped wetlands is now mostly developed with impervious surfaces and water is not present.

Some of the aforementioned aquatic resources likely contain wetlands along their borders. An aquatic resource delineation will be required to confirm the presence or absence of the aforementioned wetlands and to define their boundaries. Avoidance and minimization measures, U.S. Army Corps of Engineers (USACE) Section 404 permitting, and mitigation practices may be required for any impacts to wetlands associated with the airport.

Figure 8.2: National Wetland Inventory Map



Source: U.S. Fish and Wildlife Service, National Wetlands Inventory, November 21, 2023.

8.15.3. Surface Waters

Surface waters include areas where water collects on the surface of the ground, such as streams, rivers, lakes, ponds, estuaries, and oceans. The Clean Water Act established the basic structure for regulating the discharge of pollutants into Waters of the United States, specific sections include Section 303(d), Section 404, and Section 401 (refer to wetland section), and Section 402, which establishes the National Pollutant Discharge Elimination System (**NPDES**) permitting program. Section 303(d) sets forth the process to identify impaired waters and to establish the maximum amount of pollutant allowed in a waterbody, known as the total maximum daily load, necessary to assess current conditions and project impacts. If project activities have the potential to discharge pollutants into Waters of the United States through a point source, an NPDES permit will likely be required.

Surface waters at or in the vicinity of the airport include a creek and several ditches. Coal Creek, which is a perennial stream associated with the NWI riverine wetland in the northern portion of the airport, flows from south to north across the property. The stream forks just prior to entering the airport property, with an approximately 530-foot segment of the south fork of the stream traveling through a culvert. The north fork of the stream flows east of, and directly adjacent to Airport Road. Other surface waters include an intermittently flowing irrigation ditch that travels along the northeastern boundary of the airport. Four ditches corresponding to mapped NWI riverine wetlands transect the southern portion of the property, flowing in a south-to-north and east-to-west direction. The most northern of these ditches travels through a culvert under the airport runway and taxiway. The next two ditches south of the previous ditch are filled and do not contain surface water. The fourth, and most southern ditch flows intermittently and transects a small portion of the most southeastern portion of the property.

A USACE Section 404 permit and Utah Department of Environmental Quality stormwater permit may be required for any direct, or indirect impacts to surface waters. Further, construction activities should use best management practices (**BMP**) to protect surface waters.

8.15.4. 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 to wells, springs, and other water sources. The Safe Drinking Water Act prohibits federal agencies from funding actions that would contaminate an EPA-designated sole source aquifer or its recharge area.⁵⁷

According to the EPA, the airport is not located in a sole source aquifer.⁵⁸ The nearest sole source aquifer, the Eastern Snake River Plain Aquifer, is more than 280 miles north of the airport.

The Groundwater Monitoring Portal provided by the Utah Geological Survey identified zero groundwater wells at the airport.⁵⁹ The two nearest groundwater wells are located north and south of the airport, approximately 1.25 miles and two miles away, respectively. The northern well has a recorded borehole depth of 216 feet, while the southern well has a depth of 590 feet. According to the Natural Resources Conservation Service Web Soil Survey and National Cooperative Soil Survey, the depth of the water table at the airport is more than 80 inches.

8.15.5. Wild and Scenic Rivers

According to the Wild and Scenic Rivers interactive map provided by the National Parks Service (**NPS**), the nearest Wild and Scenic River is Virgin River, located approximately 16 miles south of the airport in Zion National Park.⁶⁰

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