HEBER VALLEY AIRPORT MASTER PLAN

2023

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Heber Valley Airport (HCR) Master Plan

HEBER VALLEY AIRPORT (HCR)

HEBER CITY, WASATCH COUNTY, UTAH

AIRPORT MASTER PLAN
AIP PROJECT #3-49-0011-031-2019

APRIL 2023

SUBMITTED TO:
FEDERAL AVIATION ADMINISTRATION
DENVER AIRPORTS DISTRICT OFFICE
AND
UTAH DEPARTMENT OF TRANSPORTATION,
DIVISION OF AERONAUTICS

SUBMITTED BY:
HEBER CITY, UTAH

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Executive Summary

SECTION OVERVIEW

The Airport Master Plan investigated the needs of the Heber Valley Airport and was completed by Ardurra in 2023 on behalf of the Sponsor, Heber City. This document adheres to all applicable rules, standards, and regulations outlined in the Federal Aviation Administration (FAA) Advisory Circulars (ACs) and Orders.

E.S.1 Overview and Findings

This Airport Master Plan commenced in 2019, enduring the lockdowns associated with COVID-19 and amid widespread uncertainty within the aviation industry. Despite these challenges, the Airport Master Plan was completed, yielding results that pave the way for the future of the airport and the development on and around it. The main findings from this planning effort are summarized below, and are based on the planning process and public involvement:

- For this planning period, the airport design is based around a Challenger 350, a mid-size business jet with an ARC of C-II – a change from the previous ARC of B-II.
- The existing runway length of 6,898 feet will be maintained, as it is the best balance of operational capability and adherence to community goals of not having the airport expand.
- The runway will shift to the southwest in order to allow for Runway Protection Zone (RPZ) and Runway Object Free Area (ROFA) clearance of Highway U.S. 189 and the intersection of U.S. 189 and 1300 S.
- Due to the move of the runway closer to the existing developed spaces on the airport, some hangars (including "Hangar Row") will have to be relocated.
- The existing apron will be affected by the runway shift but will be accounted for in the new design.
- The airfield geometry of the runway/taxiway network are to remain the same except for additions for development where needed.
- Space is at a premium to adhere to community goals of no airport expansion; developable areas were split between a light GA area and expansion/relocation of the FBO.
- The existing weather station (ASOS) impedes the space allocated for the future location of the FBO and will be relocated to the southwest.
- Snow storage is an important consideration for the airport and has been accounted for in some multi-purpose open space built into the design.
- More aircraft parking/storage options are acutely in demand at the airport; provisions for additional hangars as well as tie-down locations were coordinated with the Sponsor and incorporated into the future layout.
- Increase of the airport property for protection zones compliance is needed southwest of the airport in several properties in the Town of Daniel.
- The needs of specific user groups such as glider, hot air balloon, and aerial firefighting operations were addressed through open space allowances on request from the Sponsor.

E.S.2 Public Involvement

Traditional public involvement (in-person) during this Airport Master Plan required re-imagining using a blend of virtual and in-person meeting formats to attain an intake of public comments. This was achieved using a series of dedicated public meetings, online comment forms, a Technical Advisory Committee (TAC), a Community Advisory Committee (CAC), and Airport Advisory Board (AAB) meetings. Details are described below:

- TAC/CAC Joint Meeting – November 14, 2019
- TAC/CAC Meetings (held separately) – January 28, 2020
- Public Meeting #1 – January 29, 2020: Kickoff
- Virtual Public Meeting #2 – April 1, 2021: Inventory and Forecast
- TAC Meeting – April 6, 2022: Facility Requirements
- TAC/CAC Joint Meeting – September 21, 2022: Alternatives
- Public Meeting #3 – September 26, 2022: Alternatives
- Extra “Fireside Chat” Public Meeting – October 17, 2022
- Public Meeting #4 – January 9, 2023: Draft Airport Layout Plan

E.S.3 Proposed Development Summary

Major development proposals from the Airport Master Plan are summarized below. Total improvements are estimated to be over $118 million, of which at least $5.5 million is expected to be locally funded.

- Relocate the runway and parallel taxiway to the southwest, widen the runway from 75 feet to 100 feet.
- Expand the light general aviation aircraft storage area, apron, and taxilanes.
- Expand the FBO development area.
- Relocate the AWOS.
- Expand the snow storage area.
- Land acquisition and avigation easements for future protection of the runway ends.

Chapter 1. Airports and Master Plans Introduction

SECTION OVERVIEW

Chapter 1. Airports and Master Plans Introduction provides general concepts and topics that are central to the United States aviation system. This information provides an introductory foundation of knowledge to understand and interpret the remainder of this Master Plan.

1.1 Historical Context

Aviation has been embedded in the United States for more than a hundred years, starting with the Wright brothers' famous 1903 Flight in Kitty Hawk, North Carolina. It did not take long for businesses and government to realize the opportunities offered by controlled, powered flight. From military applications to air-mail, government requirements grew with the burgeoning technology. Private business also pushed the development of faster, safer aircraft incorporating new technology into passenger and cargo transport. Through the war effort during World War II, aviation as an industry truly blossomed.

In the years following the war, some aviation officials estimated that half of all households would own private aircraft. Although that level of aircraft ownership never materialized, the historical period from the end of World War II to the early 1980s is considered the pinnacle of personal aviation. During this period, community airports were expanded, and new ones built regularly. Often a community airport that started as a simple grass runway, found itself needing to develop paved landing areas to accommodate the more sophisticated and demanding aircraft being developed. Some communities realized the economic benefits of a developed "aviation gateway," and invested in full airport facilities.

Since the 1980s, airport use has slowly shifted from private and recreational pilots to business and commercial services. Today, the aircraft frequenting airport facilities are more demanding than ever, both in size and speed. This translates to ever-changing needs at airports, including increased runway lengths, stronger pavements, and larger safety areas.

Heber Valley Airport (HCR) is no exception to this development. The airport facility serves the local citizenry through business traffic, recreational flying, and access to medical evacuations. It also serves area businesses as an economic engine.

1.2 The Federal Aviation Administration

The Civil Aeronautics Authority was created in 1938. It was replaced by the Federal Aviation Agency in 1958. When the United States Department of Transportation (USDOT) was created in 1967, the agency was replaced by the Federal Aviation Administration (FAA). The FAA serves as the national aviation authority. The FAA is a large agency, employing more than 45,000 people and consisting of a myriad of divisions and offices across the country. Pilots most often encounter FAA staff from the Flight Standards District Offices (FSDO). The FSDO group handles topics like low-flying aircraft, accident reporting, air carrier certification and operations, aircraft permits, airmen certification (licensing) for pilots, mechanics, repairmen, dispatchers, and parachute riggers, certification and modification issues, and enforcement of Airmen & Aircraft Regulations.

Another division of the FAA that has direct interaction with airports and pilots is the Air Traffic Organization (ATO). These members write instrument approach procedures. Communication with this group is rare, but very important to the planning and safety of airports.

The Airports Division (ARP) is in charge of airport master planning, facility design, and inspection, and is the group that airport sponsors and airport planning consultants most often interact with for airport development projects and grant funding. This division is split into nine regions, including the Northwest Mountain Region, which is head-quartered in Seattle, Washington. The Northwest Mountain Region covers all of the airports in the states of Colorado, Idaho, Montana, Oregon, Utah, Washington, and Wyoming. The Region office is further split into three Airports District Offices (ADO): Seattle, WA (covering Washington and Oregon), Helena, MT (covering Montana and Idaho), and Denver, CO (covering Utah, Colorado, and Wyoming).

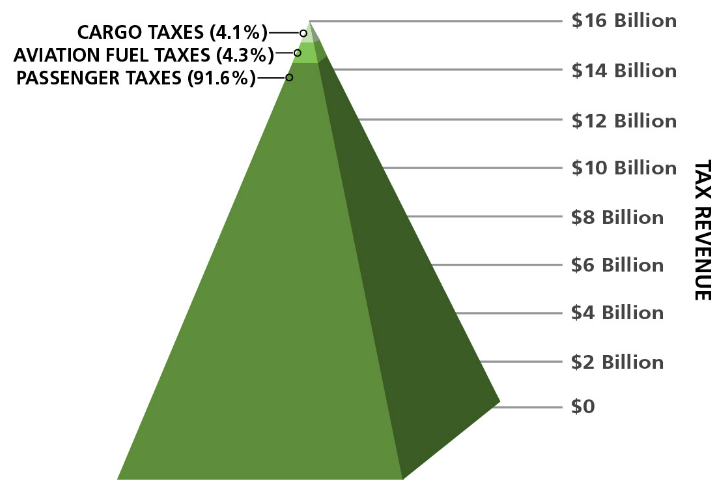
Each ADO is primarily made up of civil engineers and planners. These staff serve as project managers and interact daily with airport sponsors, state officials, and consultants to manage and direct projects that further the overall goals of the national and state aviation systems. Generally, when speaking about airport planning, in this report and related discussions, the terms “FAA” or “federal” are in reference to the FAA Airports Division.

1.3 Funding Airport Projects

The Airport Improvement Program (AIP) was established by the Airport and Airway Improvement Act of 1982 to provide funding to airports on a priority needed basis. The FAA coordinates this program. The AIP is a user-funded program and is not funded by federal income tax dollars. The AIP is primarily funded through the Airport and Airway Trust Fund (AATF). While some of the funds are used for FAA overhead costs, the majority of the money is distributed to community airports through grants. Eligible airports range from small community facilities to the largest commercial airports in the national system. The AATF is funded by three components: passengers (tax on ticket sales), cargo (tax on shipping fees), and fuel (tax on fuels used by aircraft). In 2018, the tax revenue for the AATF was $15.82 billion.[1]

Eligible projects include those improvements that enhance airport safety, capacity, security, and address environmental concerns. Aviation demand at the airport must justify the projects. Eligible projects include pavement maintenance, runway construction, airfield lighting, land acquisition, planning studies, and automated weather observation stations (AWOS). Ineligible projects include such things as landscaping, marketing plans, improvements for commercial enterprises, and maintenance or repairs of buildings.

Figure 1.1 Airport and Airway Trust Fund (2018)



Source: FAA.gov

Entitlements are funds that are apportioned by formula to airports and may generally be used for any eligible airport improvement or planning project. Under the current legislation, a nonprimary entitlement of up to $150,000 per year is granted to smaller general aviation airports, such as Heber Valley Airport. The nonprimary entitlement can be saved for up to three years for larger projects. If a project exceeds that amount, it may be eligible for state apportionment funds (money set aside for the state through the AIP program) for projects. If the project exceeds both the nonprimary and state apportionment funds available, or is a high priority, it can compete on a regional level for discretionary funds through the AIP program.

The Utah Department of Transportation, Division of Aeronautics (UDOT) also contributes to airport development projects. Generally speaking, UDOT funds are allocated to pavement maintenance projects and projects at nonprimary airports. Additionally, local communities provide matching funds for eligible projects, while also supporting the airport with an operations and maintenance budget.

1.4 National Plan of Integrated Airport Systems

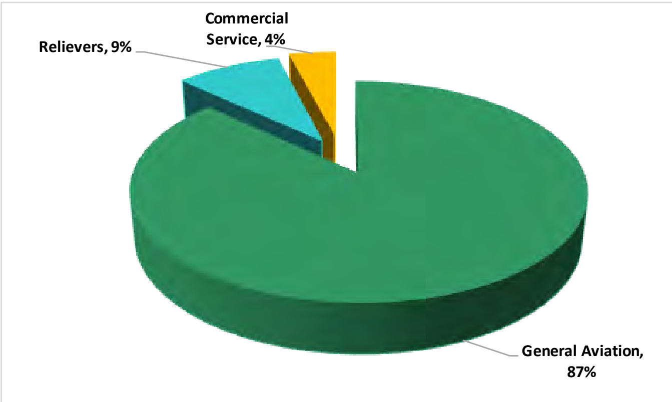
The national infrastructure of public use airports form what the FAA defines as the National Plan of Integrated Airport Systems (NPIAS). The NPIAS was envisioned when civil aviation was in its infancy and has been developed and nurtured by close cooperation with airport sponsors and other local agencies, as well as federal and state agencies. The national airport system is critical to the national transportation system and helps air transportation contribute to a productive national economy and international competitiveness.

To meet the demand for air transportation, the airports and the airport system should have the following attributes:

- Airports should be safe and efficient, located where people will use them, and developed and maintained to appropriate standards.
- Airports should be affordable to both users and government, relying primarily on producing self-sustaining revenue, and placing minimal burden on the general revenues of the local, state, and federal governments.
- Airports should be flexible and expandable, able to meet increased demand, and to accommodate new aircraft types.
- Airports should be permanent, with assurance that they will remain open for aeronautical use over the long term. Airports should be compatible with surrounding communities, maintaining a balance between the needs of aviation, the environment, and the requirements of residents.
- Airports should be developed in concert with improvements to the air traffic control system and technological advancements.
- The airport system should support a variety of critical national objectives, such as defense, emergency readiness, law enforcement, and postal delivery.
- The airport system should be extensive, providing as many people as possible with convenient access to air transportation, typically by having most of the population within 20 miles of a NPIAS airport.

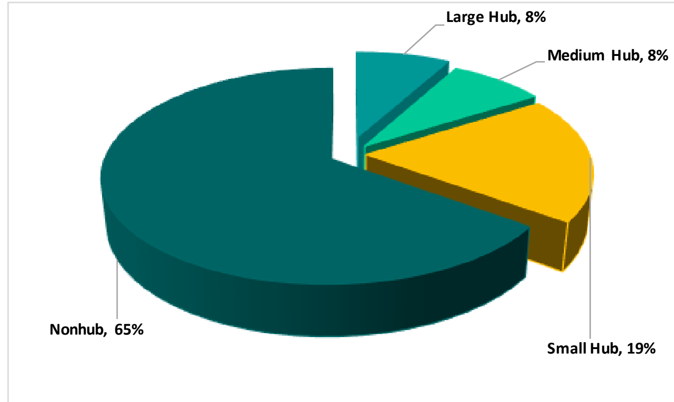
As of September 2018, there were 3,328 airports in the NPIAS: 3,321 existing and seven proposed airports.[2] The seven proposed airports are expected to open within five years. ***Figure 1.2*** shows the distribution of the 2,941 existing nonprimary NPIAS airports across the nation, by airport role, which includes 2,554 general aviation airports. ***Figure 1.3*** shows the distribution of primary NPIAS airports by airport category. Nonprimary airports are general aviation airports and commercial service airports with 2,500 to 10,000 annual enplanements while primary airports are commercial service airports with more than 10,000 annual enplanements (see ***Table 1.1***). An airport is classified as a reliever if it relieves congestion by drawing slower-moving general aviation activity away from congested airports in large metropolitan areas. Each state has many airports in the NPIAS, and to be eligible for AIP funding an airport must be in the NPIAS.

Figure 1.2 NPIAS Nonprimary Airports



Source: FAA.gov

Figure 1.3 NPIAS Primary Airports



Source: FAA.gov

Table 1.1 Categories of Airport Activities

Airport Classifications		Hub Type: Percentage of Annual Passenger Enplanements	Common Name
Commercial Service: Publicly owned airports that have at least 2,500 passenger enplanements each calendar year and receive scheduled passenger service	**Primary**: Have more than 10,000 passenger enplanements each year	**Large**: 1% or more	**Large Hub**
		Medium: At least 0.25%, but less than 1%	**Medium Hub**
		Small: At least 0.05%, but less than 0.25%	**Small Hub**
		Nonhub: More than 10,000, but less than 0.05%	**Nonhub Primary**
	Nonprimary	**Nonhub**: At least 2,500 and no more than 10,000	**Nonprimary Commercial Service**
Nonprimary (Except Commercial Service)		Not Applicable	**Reliever** **General Aviation**

Source: FAA.gov

1.5 Why Airports Are So Important

The aviation system plays a key role in the success, strength, and growth of the U.S. economy. The national airport system is critical to the national transportation system and helps air transportation contribute to a productive national economy and international competitiveness. In 2014, economic activity attributed to civil aviation-related goods and services totaled $1.6 trillion.[3]

General aviation is the manufacturing and operation of any type of aircraft that has been issued a certificate of airworthiness by the FAA, other than aircraft used for scheduled commercial air service (airlines) or operated by the US military. General aviation includes flights related to business or corporate transportation of people or cargo, personal transportation, air ambulance, flight training, and for many unique purposes, such as fire spotting and pipeline patrol. General aviation aircraft enable people, especially those in smaller communities and remote areas, to access the aviation system in order to move quickly and efficiently across the country and around the world for business and pleasure. General aviation is extremely important because it touches so many sectors of the economy - from helicopters transporting accident victims to hospitals, to corporate jets carrying executives to meetings, to single piston engine aircraft flown by enthusiasts.

The Regional Input-Output Modeling System (RIMS-II), a regional economic model created by the US Bureau of Economic Analysis, is a tool used by investors, planners, and elected officials to objectively assess the potential economic impacts of various projects. This model produces multipliers that are used in economic impact studies to estimate the total impact of a project on a region. Based on RIMS-II, every $1.00 generated on a general aviation airport results in an average of $2.53 generated in the community it serves.[4] This is a cascading effect, creating local jobs and payroll. Many airports with fewer than 10,000 annual operations produce economic impacts exceeding the amount of money necessary to operate and maintain their facilities. An operation is the landing, take off, or touch-and-go procedure by an aircraft on a runway at an airport. The general aviation industry, as a whole, generated a total of 1,101,800 jobs, $69.1 billion in payroll, and $218.6 billion in economic output in 2013.[5]

The United States is home to more than 19,000 airports, seaplane bases, heliports, and other landing facilities. The national system of airports, seaplane bases, and heliports was developed to provide communities with access to a safe and adequate public system of general aviation airports. Together these airports create a transportation infrastructure, providing access, goods, and services, unavailable through other means. AIP funding and involvement permits communities to have services that would be otherwise too costly or impossible to provide.

In addition to the economic benefits outlined above, there are many qualitative benefits that contribute to the overall value of airports. These qualitative benefits include activities for which dollar values cannot be readily assigned but are nonetheless valuable to the community because they enhance the quality of life, health, welfare, and safety of its citizens. For example, medical evacuation flights typically use general aviation airports because they are faster, easier on the patient, and less expensive. Helicopters are often used for aeromedical flights, however some of these flights, specifically, for neonatal patients, can only be conducted via fixed-wing aircraft due to the equipment needs. General aviation airports also provide a support network for disaster relief and search and rescue efforts. For example, following the wake of Hurricane Katrina in the southern United States, general aviation airports served as staging areas for the Red Cross, National Guard, and other organizations providing disaster relief. Additionally, following Hurricane Dorian, volunteers from Key West, Florida filled multiple Cessna planes to transport needed supplies to the Bahamas.

In 2009, operators using general aviation airports accounted for an estimated 27 million flights for emergency medical services, aerial firefighting, law enforcement and border control, agricultural functions, flight training, time-sensitive air cargo services, business travel, and scheduled services. Overall, airports grant access to greater markets and provide unique and critical support to the local communities, businesses, and citizens.

1.6 Types of Pilots

There are different types of pilot certificates and ratings; a topic which is confusing to most people. A pilot certificate, which is often referred to as a pilot's license, is different than a rating. There are six types of pilot certificates that can be obtained in the U.S.

Sport Pilot – The easiest and least restrictive certificate to obtain. It is intended for pilots who wish to fly in light aircraft only at low altitudes in their local area. Sport pilots are limited to just one passenger and are prohibited from flying at night, above 10,000 feet, or in congested airspace. A sport pilot certificate only requires 20 hours of training time and most applicants are not required to obtain an FAA medical certificate.

Recreational Pilot – This certificate can be a good option for pilots who want to fly heavier aircraft than those used for sport pilot flying, but who do not necessarily want to move on to more advanced training. The recreational pilot certificate requires at least 30 hours of flight time, including 15 hours of dual instruction. Recreational pilots are limited to flights less than 50 nautical miles from their departure airport, can only fly during the day, and must stay out of controlled airports (congested airspace).

Private Pilot – This is the most common pilot certificate. The training requirements are more intensive than that of the recreational or sport pilot. Private pilots are allowed to do much more, such as fly at night and at controlled airports. Private pilots, like recreational and sport pilots, are not allowed to fly for commercial purposes and must not be compensated for pilot services. Private pilot training consists of multiple maneuvers and at least 40 hours of flight time, 20 of which must be with an instructor.

Commercial Pilot – This certificate allows a pilot to be paid for his/her flying services. Since there are separate regulations for scheduled flights, commercial pilots must also abide by additional federal aviation regulations pertaining to commercial flying operations. Commercial pilots must learn to fly complex aircraft, which have retractable landing gear, flaps, and a controllable-pitch propeller. Commercial flight training also demands more precision and knowledge about professional flight operations.

Figure 1.4 Pilot Certificate

Source: Epic Flight Academy

Flight Instructor – Many pilots choose to become a flight instructor as a way to build experience while getting paid to fly. Becoming a flight instructor involves learning about instructional design, learning theory, and going into all of the commercial pilot topics in much more depth. The flight instructor certificate allows pilots to share their knowledge of flight with others while gaining necessary experience to move on to an airline.

Airline Transport Pilot (ATP) – This is the most advanced pilot certificate that can be obtained and it is necessary for those who want to fly commercial airliners. To become eligible for an ATP certificate, a pilot must have logged at least 1,500 hours and be 23 years old at a minimum. All commercial airlines now require a pilot applicant to have an ATP certificate.

Pilot certificates should not be confused with ratings or endorsements, which are separate training requirements that allow a pilot with a certain type of certificate to perform additional types of flying, such as instrument flying, which allows a pilot to fly by sole reference to the instruments in the flight deck and without any reference to the ground outside. Examples of other ratings include multi-engine, seaplane, and helicopter.

An endorsement is earned when a certified flight instructor states that the pilot has received the required training for a particular task. Examples of endorsements include tailwheel, high performance, complex, and high altitude. In short, a certificate is the main pilot license that permits the privilege of flying a specific category or class of aircraft. Ratings and endorsements provide additional privileges in conjunction with the certificate.

Understanding the different types of pilot certificates, ratings, and endorsements aids in understanding the varying needs of airport users. These needs influence aviation demand, which in turn impacts the facility requirements necessary to meet this demand.

1.7 Airport Master Plans

An Airport Master Plan is a comprehensive study of an airport that describes short, medium, and long term development plans to meet future aviation demand. Master planning studies that address major revisions are referred to as "Master Plans" while those that only change parts of the existing document and require a relatively low level of effort are referred to as "Master Plan Updates." The purpose of this comprehensive Master Plan for Heber Valley Airport is to conduct a detailed study that identifies, evaluates, and documents issues at the airport. These issues are then addressed through proposed development plans for the airport. ***Table 1.2*** lists the previous planning studies completed at Heber Valley Airport.

The elements of the master planning process vary in the level of detail and complexity depending upon the size, function, and problems of the individual airport. Airport Master Plans are prepared to support the creation of a new airport, as well as the modernization and expansion or maintenance of an existing airport. Master Plans present the strategy for the development of the airport by providing a framework to cost-effectively satisfy aviation demand while considering the potential safety, environmental, and socioeconomic impacts.

Table 1.2 Previous Planning Studies Completed at HCR

Year	Document	Consultant
1984	Master Plan and Airport Layout Plan	Horrocks Engineers
2003	Feasibility Study and Terminal Area Drawing	Armstrong Consultants, Inc.
2005	Airport Layout Plan	Armstrong Consultants, Inc.
2013	Terminal Area Drawing Update	Armstrong Consultants, Inc.

Master Plans generally meet the following objectives:

- Document the issues that the proposed development will correct or mitigate;
- Justify the proposed development with technical, economic, and environmental investigation of designs and alternatives;
- Provide an effective graphic representation of the development of the airport and the anticipated land uses in the vicinity of the airport;
- Establish a realistic schedule, especially for the short-term, for the implementation of the development proposed;
- Propose an achievable financial plan to support the implementation schedule;
- Provide sufficient project scope and detail for future environmental evaluations that may be required before the project is approved;
- Provide a plan that adequately addresses the issues and satisfies local, state, and federal regulations;
- Document policies and future aeronautical demand to support municipal or local deliberations on land

use controls, spending, debt, and other policies necessary to preserve the integrity of the airport and its surroundings;
- Establish the framework for continued planning; and
- Provide the necessary Airport Layout Plan (ALP) drawing set.

1.8 Public Involvement

Public input is highly encouraged during the Master Plan process. Each Master Plan includes a public involvement program, and the amount of public involvement typically corresponds to the complexity of the airport and project. Effective public involvement connects numerous parties, including but not limited to: aircraft owners, hangar tenants, staff of the airport and businesses on airport property, public officials, governmental agencies, and the general public. The earlier public input is received, the easier it is to incorporate in the planning process.

Public involvement programs are typically facilitated by the planning consultant and include multiple strategies, such as forming an Airport Master Plan Technical Advisory Committee (TAC) of key stakeholders, local citizens, and decision makers. This group provides insight and input into issues that arise, as well as provides general information. Public workshops are another common public involvement element. These are held at public locations to inform the general public about the status of the airport and Master Plan process and to provide the public with access to the airport consultants and government officials. Other methods used to engage the public are user surveys and public awareness campaigns that utilize flyers, project websites, and newspaper articles. This Master Plan project will incorporate public meetings, public workshops, user surveys, a project website, and news articles into its public involvement program. For more details regarding public involvement efforts pertaining to this Master Plan, refer to Appendix A.

Public involvement is a key portion of any Airport Master Plan. Receiving public input and feedback is critical throughout the entire duration of a Master Plan. Typically, Ardurra will break down the Master Plan process into five chronological phases, each ending with a public meeting. This Master Plan is a more complex project than most Master Plan projects for smaller general aviation airports and will require additional phases to solicit the desired level of public participation. As a result, a public outreach subconsultant will be utilized for the project to facilitate the exchange of information with the public. The public involvement phases of the Heber Valley Airport Master Plan include the following:

Figure 1.5 First Public Meeting for HCR Master Plan

Source: Ardurra

Phase 1: Meet with Sponsor, complete pre-planning documents, establish community advisory committee and technical advisory committee, and analyze socioeconomic and demographic data. Hold 1st public meeting to announce the project.

Phase 2: Conduct physical inventory of airport, research aircraft traffic, interview key users and members of the public, determine proper forecasting methodology, create aviation forecast, present forecast to the community advisory committee and technical advisory committee. Hold 2nd public meeting to present this information to the public. Then submit forecast to FAA for approval.

Phase 3: Determine airport requirements from approved forecast. Share this information with the community advisory committee and technical advisory committee. Design airside and landside alternatives. Hold 3rd public meeting to present initial development alternatives. Allow public input regarding which development alternative(s) should be selected by the Sponsor.

Phase 4: Present a development schedule to the community advisory committee and technical advisory committee, including cost estimates calculated by engineers, to implement the development alternative(s) selected by the Sponsor.

Phase 5: Hold 4th public meeting, incorporate any remaining public comments, finalize design alternatives, and provide draft Airport Layout Plan and draft Master Plan to Sponsor. Submit draft documents to FAA and State Aeronautics for review.

Phase 6: Incorporate final FAA, Aeronautics, and Sponsor review items. Publicly present final documents to Sponsor for signatures during City Council meeting. Submit final documents to FAA, State Aeronautics, and Sponsor.

Phase 7: Hold 5th public meeting to provide details regarding the final documents and explain next steps in the airport development process.

1.9 FAA Design Standards

The FAA has established standards for the design and construction of airport facilities. There are design standards for practically every facet of an airport, ranging from Master Plans and wind cones to runway gradients, presented in a collection of hundreds of documents called Advisory Circulars (AC). Multiple ACs are pertinent to Airport Master Plans, notably AC 150/5070-6B, *Airport Master Plans* and AC 150/5300-13B, *Airport Design*. The first document details the requirements and provides guidance for Airport Master Plans. The second document contains the FAA standards and recommendations for the geometric layout and engineering design of runways, taxiways, aprons, and other airport facilities. The FAA design standards presented in FAA Advisory Circulars guide each Airport Master Plan.

Standards exist for the strength and width of pavements for runways, taxiways, and aprons. Numerous safety areas are defined around these areas, including the Runway Safety Area (RSA), Runway Protection Zone (RPZ), Runway Object Free Area (ROFA), and Taxiway Object Free Area (TOFA). These will be discussed later in relation to HCR.

1.10 Critical Aircraft

An important result of the forecasting chapter within each Airport Master Plan is the identification of the airport's critical (or design) aircraft. This is the most demanding aircraft with at least 500 annual local operations that operates or is expected to operate, at the airport. The critical aircraft of an airport dictates which FAA Design Standards must be applied.

1.11 FAA Codes, Categories, and Groups

The FAA has developed a two part aircraft coding system comprised of the Aircraft Approach Category (AAC) and Airplane Design Group (ADG). The AAC is designated by a letter (A through E) and the ADG by a Roman numeral (I through VI). The combination of the critical aircraft's AAC and ADG (for example, A-I or B-II) signifies the Airport Reference Code (ARC). ***Tables 1.3*** and ***1.4*** list the AAC and ADG categories. The ARC provide insights into the performance, design characteristics, and physical facility requirements of aircraft using components of an airport.

Table 1.3 Aircraft Approach Category

Category	Speed
A	less than 91 knots
B	91 knots or more, less than 121 knots
C	121 knots or more, less than 141 knots
D	141 knots or more, less than 166 knots
E	166 knots or more

Source: FAA

Table 1.4 Airplane Design Group

Group	Tail Height (Feet)	Wingspan (Feet)
I	<20	<49
II	20 - <30	49 - <79
III	30 - <45	79 - <118
IV	45 - <60	118 - <171
V	60 - <66	171 - <214
VI	66 - <80	214 - <262

Source: FAA

1.12 Airport Layout Plan

A key product of an Airport Master Plan is a detailed drawing set called the Airport Layout Plan (ALP). The ALP is intended to provide detailed locations of the major components of an airport (existing, future, and ultimate); taxiways, aprons, runways, and hangar areas, as well as safety areas and other FAA Design Standards. An airport must have an FAA approved ALP on-record to receive AIP funding. Each airport is responsible to keep its ALP updated, per the AIP grant assurance requirements. When airport sponsors accept AIP funds from the FAA, they must agree to certain obligations, or assurances. The ALP provides a blueprint for future airport development needs and ensures that development meets airport standards and safety requirements.

1.13 Airspace and Approaches

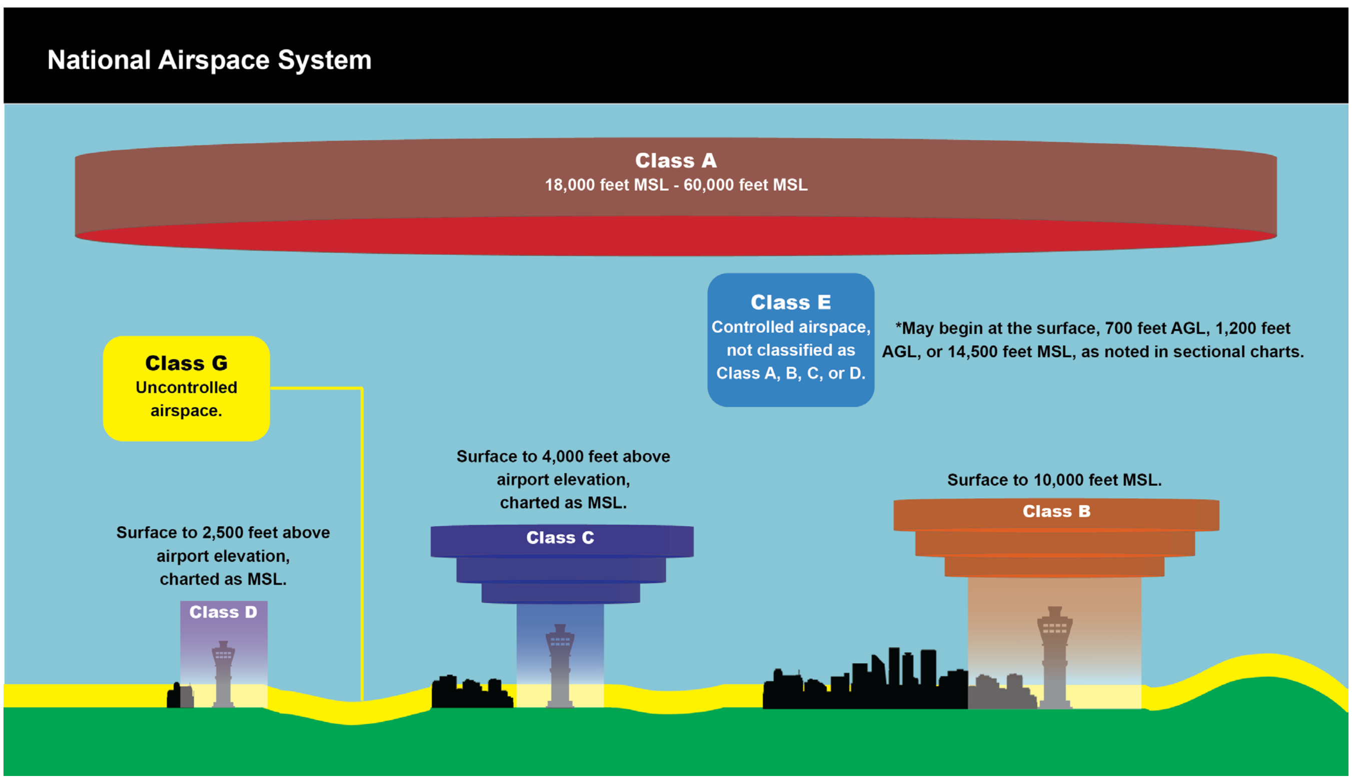
There are four types of airspace: controlled, uncontrolled, special use, and other airspace. Controlled airspace is a generic term that covers the different classifications of airspace and defined dimensions within which air traffic control (ATC) service is provided. Controlled airspace consists of Classes A, B, C, D, and E. Uncontrolled airspace, or Class G airspace, is the portion of airspace that has not been otherwise designated. (In the U.S., there is no Class F airspace.) Special use airspace is the designation for airspace in which certain activities must be confined or where limitations may be imposed on aircraft operations that are not part of those activities. Prohibited areas, such as the White House or Camp David, and military operations areas are examples of special use airspace. Other airspace is a general term referring to the majority of the remaining airspace. It is important that pilots be familiar with the operational requirements for each of the various classes of airspace.

In 2002, the Aircraft Owners and Pilots Association (AOPA) developed a safety advisory entitled *Airspace for Everyone*. According to this publication, all airspace was uncontrolled in the early days of aviation. There were fewer airplanes and none had the instruments necessary to fly in clouds. Traffic density was very low and airplanes flew slowly. There were no standards regarding the specific weather conditions that aircraft could fly in, although it was generally agreed that if a pilot remained clear of clouds and had at least one mile of visibility, other airplanes and terrain could be seen in time to avoid a collision. This was called "see and avoid." It formed the basis for Visual Flight Rules (VFR) flight.

ATC was created when flight instruments made it possible to travel through the clouds. This also led to the creation of Class E airspace. The primary purpose of ATC is to prevent a collision between aircraft and to expedite the flow of air traffic. More stringent weather minimums for VFR operations were established for controlled airspace. In poor weather conditions, pilots and aircraft had to be qualified and equipped for Instrument Flight Rules (IFR) flight, file IFR flight plans, and coordinate their positions with ATC. When weather conditions were good, pilots could still fly on IFR flight plans if they chose, but were responsible to "see and avoid" other aircraft. Controlled airspace does not mean that all flight is controlled; it means that IFR services are available to qualified pilots who choose to use them. Pilots operating under VFR may fly freely in controlled airspace as long as weather conditions meet current regulatory requirements for that airspace. ***Figure 1.6*** illustrates the various classes of airspace. ***Table 1.5*** indicates the basic VFR weather minimums for each airspace classification.

For aircraft operating under IFR, an instrument approach procedure (IAP) should be used. An IAP is a series of predetermined maneuvers for the orderly transfer of an aircraft under instrument meteorological conditions (IMC) from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually. There are two main classifications for IAPs: precision and non-precision. Precision approaches utilize both lateral (localizer) and vertical (glideslope) information. Non-precision approaches provide lateral course information only. Publications depicting instrument approach procedures are called Terminal Procedures. These documents depict the specific procedure to be followed by a pilot for a particular type of approach to an airport. They depict prescribed

Figure 1.6 National Airspace Classifications



Source: Ardurra

Table 1.5 Basic VFR Weather Minimums

	Airspace	Flight Visibility	Distance from Clouds
Class A		Not applicable	Not applicable
Class B		3 statute miles	Clear of clouds
Class C		3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
Class D		3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
Class E	At or above 10,000 feet MSL	5 statute miles	1,000 feet above 1,000 feet below 1 statute mile horizontal
	Less than 10,000 feet MSL	3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
Class G	1,200 feet or less above the surface (regardless of MSL altitude)	*Day - 1 statute mile	Clear of clouds
		*Night - 3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
	More than 1,200 feet above the surface, but less than 10,000 feet MSL	Day - 1 statute mile	1,000 feet above 500 feet below 2,000 feet horizontal
		Night - 3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
	More than 1,200 feet above the surface and at or above 10,000 feet MSL	5 statute miles	1,000 feet above 1,000 feet below 1 statute mile horizontal

**except as provided in section 91.555(b) of 14 Code of Federal Regulations Part 91*

Source: FAA

altitudes and courses to be flown, as well as obstacles, terrain, and potentially conflicting airspace. They list missed approach procedures and commonly used radio frequencies.

There is one non-precision instrument approach published for Heber Valley Airport: an Area Navigation (RNAV) or Global Positioning System (GPS)-A approach. One of the objectives of this Master Plan is to examine the approaches and identify if there are improvements that can be made, resulting in lower minimums.

1.14 Summary

A successful Airport Master Plan provides answers and knowledge to a wide range of audiences, including pilots, government officials, and the general public. A basic understanding of these concepts will help the reader to successfully interpret this Master Plan. Even small general aviation airports are extremely complex entities. To plan for the future, consideration must be given to all aspects that involve an airport: current facilities and infrastructure; users and pilots; local, state, and federal zoning and regulations; regional socioeconomics; national and state aviation systems; approach procedures; and much more.

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Chapter 2. Socioeconomic Overview and Background

SECTION OVERVIEW

Chapter 2. Socioeconomic Overview and Background provides a general depiction of Heber Valley Airport (HCR) and the surrounding area, including Heber City, Wasatch County, and the State of Utah. This is accompanied by a broad description of the airport's history, location, economic impact, and demographics.

2.1 Area and Airport Overview

BRIEF HISTORY

Heber Valley was first discovered by Native Americans of the Timpanogos Utes tribe. The area was mostly used for hunting in the summer. This area was ideal because materials for producing hunting tools were abundant.
In 1858, a bridge was constructed to cross the Provo River by Church of Jesus Christ of Latter-Day Saints (LDS) president, Brigham Young. This bridge allowed settlers to cross the river and begin to build homes in 1859. By 1889, Heber City incorporated as a township and by 1899, the Rio Grande Western Railroad began service from Provo to Heber City with seven connections in between.[1]

HEBER CITY

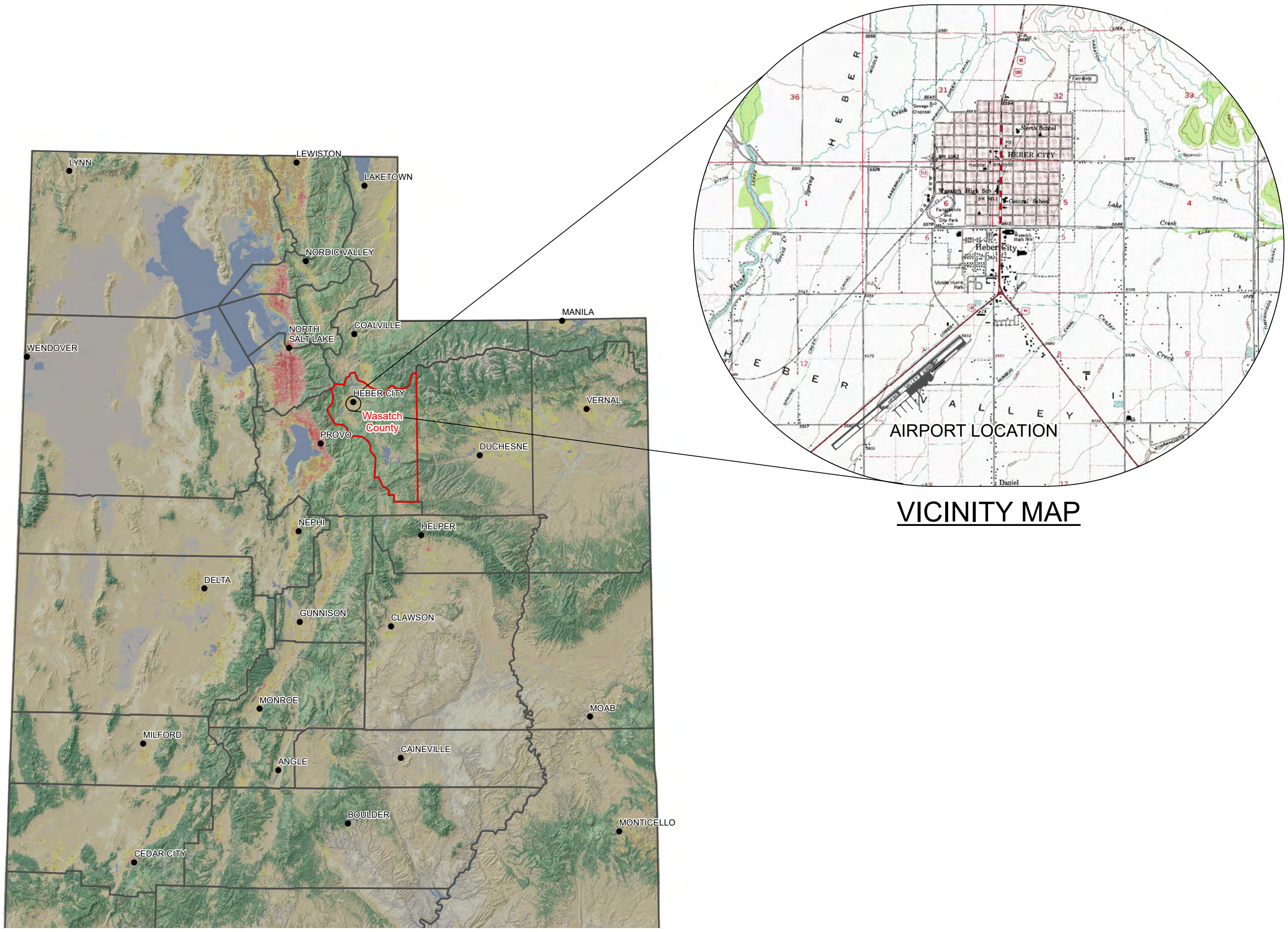
Heber City was founded in the late 1850s by a member of the church and was named after the apostle Heber C. Kimball. Heber City is the largest city and the county seat of Wasatch County. The area where Heber City is located is known as the Wasatch Back, which is the northwestern part of the county.[2]

According to the U.S. Census Bureau, Heber City had a population of 16,400 people as of July 2018. The population of Heber City has increased 43.4% since 2010.[3] Heber City is located at 40°30'24"N, 111°24'44"W with an elevation of 5,604 feet above mean sea level and encompasses 3.5 square miles. The city is 28 miles from Provo and 45 miles away from Salt Lake City.

WASATCH COUNTY

Wasatch County was created in 1862 and is located in the north central region of the state of Utah. The county encompasses 1,206 square miles of land, which includes the cities and towns of Charleston, Daniel, Heber City, Timber Lakes, Independence, Interlaken, Midway, Hideout, and Wallsburg. The county is named after the Wasatch Mountains and has two drainage systems, the Colorado and Great Basin systems. The elevation in Wasatch County ranges from 5,016 to 11, 640 feet above mean sea level and is home to Wasatch Mountain State Park, Jordanelle State Park, Deer Creek State Park, and Mount Timpanogos.[1] According to the U.S. Census Bureau, the population in Wasatch County grew 41.3% from 23,530 in 2010 to 33,240 in 2018.

Figure 2.1 Heber City Location



Source: Ardurra

AIRPORT OVERVIEW

Heber Valley Airport is a public use airport owned by Heber City. It serves the communities of Heber City, Park City, Wasatch County, Summit County, and some portions of traffic from the Uintah Basin, as well as the Wasatch Front. It became operational in November 1947 and is a non-towered airport. The airport encompasses 401 acres of land. Its coordinates are N40°28.91, W111°25.73 and it is located one mile south of Heber City. Its surveyed elevation is 5,636.8 feet above mean sea level. The FAA three-letter identifier for the Heber Valley Airport is HCR. HCR's single runway, 4/22 is asphalt in excellent condition with a strength rating of 89,000 pounds for single wheel gear and 142,500 pounds for dual wheel gear. Runway 4/22 is 6,898 feet long and 75 feet wide with Medium Intensity Runway Edge Lights (MIRLs) and precision markings on Runway 4 and non-precision markings on Runway 22.[4]

The Utah Department of Transportation (UDOT), Division of Aeronautics classifies HCR as a General Aviation Regional Airport. The Fixed Based Operator, OK3 Air, provides numerous services, such as aviation fueling, de-icing, aircraft parking (ramp, tie downs, and hangars), Part 145 repair and maintenance, rental cars, aircraft sales and leasing, passenger terminal, and pilot's lounge.[5]

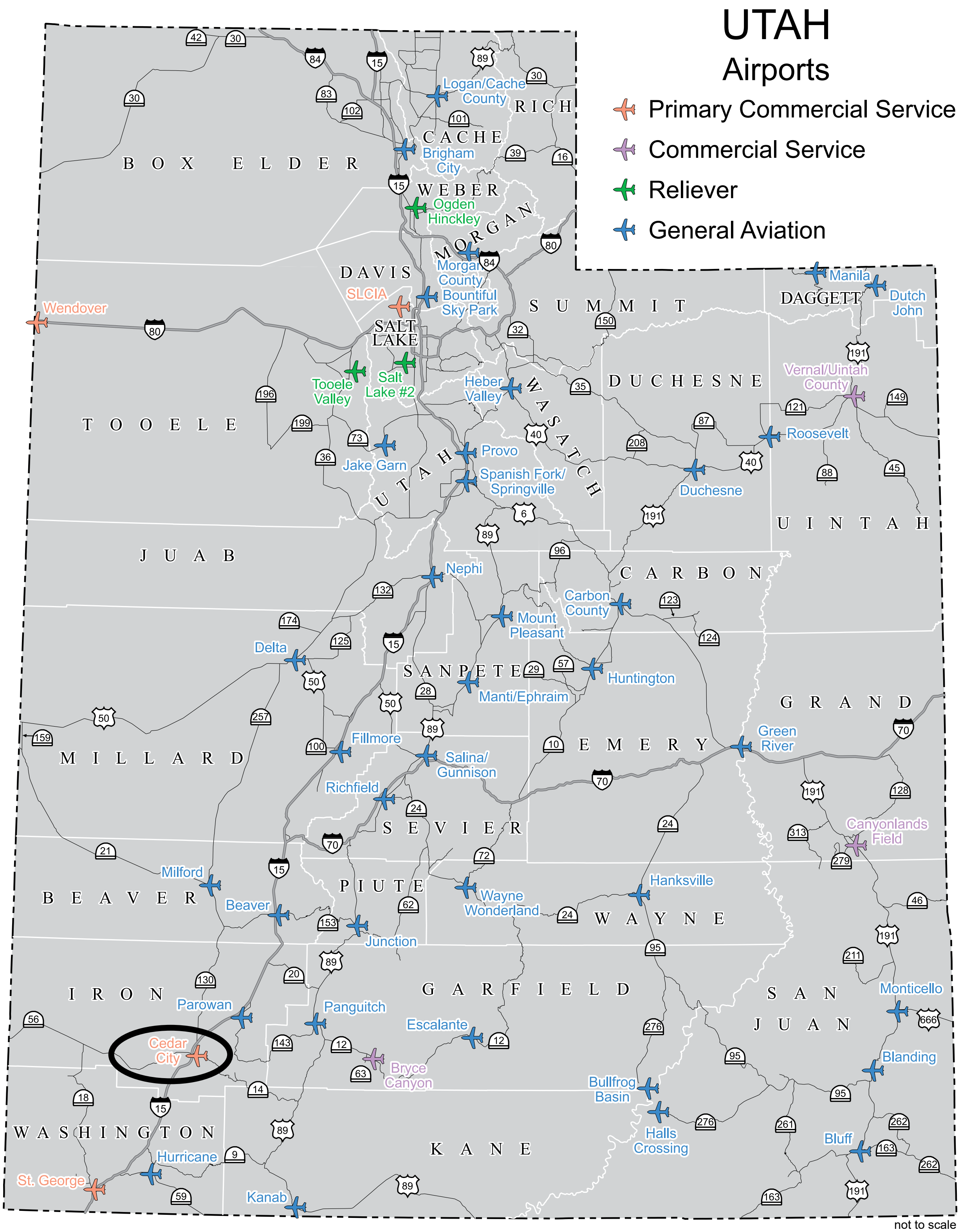
Figure 2.2 Heber Valley Airport

Source: ESRI World Image (Clarity)

UTAH AVIATION DEMAND OVERVIEW

According to the Utah Continuous Airport System Plan, there are 46 public use airports in the state of Utah. Only 36 of those are in the National Plan of Integrated Airport Systems (NPIAS), which identifies nearly 3,400 existing and proposed airports that are significant to air transportation and thus eligible to receive federal Airport Improvement Program (AIP) grants. Of those 36 airports in the NPIAS, five are classified as primary airports, two are classified as nonprimary commercial service airports, 28 are classified as general aviation airports, and only South Valley Regional Airport is classified as a reliever airport.

Figure 2.3 Utah Airports Map



Source: UCASP

2. Socioeconomic Overview and Background

GOVERNANCE

Heber Valley Airport is governed by the Heber City Council. The Council relies on the City Manager, the Airport Manager, and the Airport Advisory Board to provide recommendations and administer day to day management of the airport. The Airport Advisory Board is comprised of airport tenants and City Council members. The main purpose of the board is to review and make recommendations to the City Council on a variety of airport matters. The Airport Manager and the City Manager administer the day to day management of the airport, including federal and state grant administration, maintenance related construction projects, snow removal, and hangar leases, etc.

FBO SERVICES

Fixed Based Operators (FBOs) provide a variety of airport services, such as overnight hangaring, aircraft maintenance, fueling, and flight instruction. The number of FBOs on airports vary widely. Some smaller general aviation airports do not have FBOs. Heber Valley Airport is served by one FBO, OK3 Air is a full-service FBO offering FAA Part 145 aircraft maintenance and many other services, including fueling, de-icing, aircraft parking (ramp, tie downs, and hangars), rental cars, aircraft sales and leasing, passenger terminal, and pilot's lounge.

AREA AIRPORTS

There are several public use airports within 50 nautical miles of Heber Valley Airport, including Provo Municipal Airport (PVU), Spanish Fork Airport Springville-Woodhouse Field (SPK), South Valley Regional Airport (U42) Salt Lake City International Airport (SLC), Bolinder Field Tooele Valley Airport (TVY), and Nephi Municipal Airport (U14).

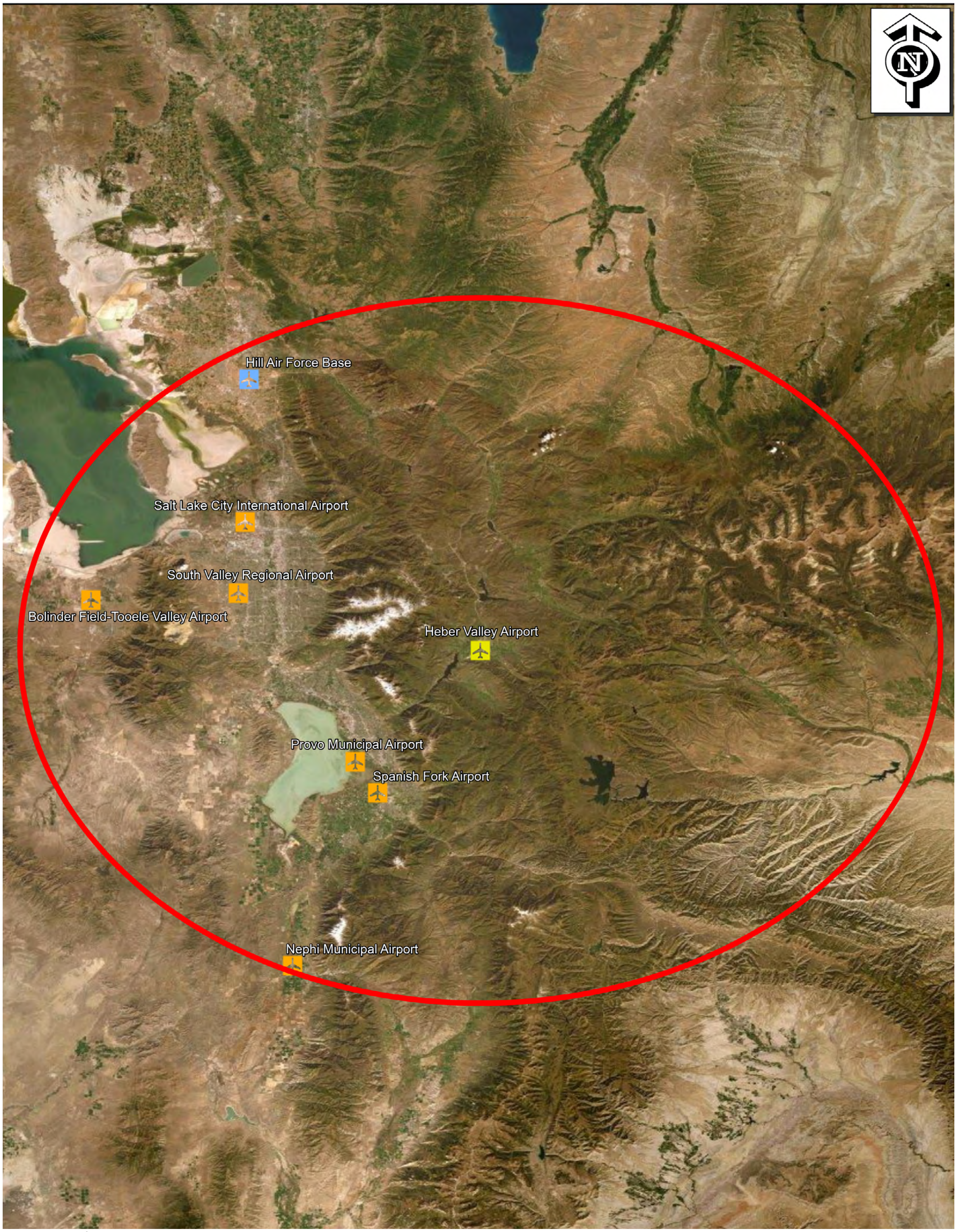
Detailed information regarding each airport is outlined is ***Table 2.1.*** Airports are listed in ascending order of nautical mile distance from HCR.

Table 2.1 Area Airports

Airport	City/County	Miles from HCR	Runway Condition	Runway (Length x Width)	Instrument Approach Procedures	Type of Operations	FBO	Type of Airport
Heber Valley Airport (HCR)	*Heber City, Wasatch County, UT*	-	*Runway 4/22 Asphalt, in excellent condition*	*Runway 4/22 6,898' x 75'*	*RNAV (GPS)-A*	*57% transient GA 35% local GA 8% air taxi *for period ending 01/01/12*	*OK3 Air*	*GA*
Provo Municipal Airport (PVU)	Provo, Utah County, UT	21 SW	Runway 13/31 Asphalt/grooved, in good condition Runway 18/36 Asphalt, in good condition	Runway 13/31 8,6003' x 150' Runway 18/36 6,628' x 150'	ILS or LOC RWY 13 RNAV (GPS) RWY 13 VOR/DME RWY 13	*66% local GA 32% transient GA 2% commercial <1% air taxi <1% military 60% local GA 40% transient GA *for period ending 01/01/19*	TAC Air, Duncan Aviation	P
Spanish Fork Airport Springville-Woodhouse Field (SPK)	Spanish Fork, Utah County, UT	23 SW	Runway 12/30 Asphalt, in good condition	Runway 12/30 6,500' x 100'	RNAV (GPS) Y RWY 12 RNAV (GPS) Z RWY 12 RNAV (GPS)-A	*57% local GA 43% transient GA <1% military *for period ending 01/04/12*	Utah Aviation Services Inc.	GA
South Valley Regional Airport (U42)	Salt Lake City, Salt Lake County, UT	27 W	Runway 16/34 Asphalt, in good condition	Runway 16/34 5,862' x 100'	RNAV (GPS) RWY 34 South Valley One (RNAV)	*64% local GA 25% transient GA 10% military <1% air taxi *for period ending 12/31/13*	South Valley Regional Airport FBO	R
Salt lake City International Airport (SLC)	Salt Lake City, Salt Lake County, UT	31 NW	Runway 16L/34R Asphalt/grooved, in good condition Runway 16R/34L Concrete/grooved, in good condition Runway 17/35 Asphalt/grooved, in good condition Runway 14/32 Asphalt/grooved, in good condition	Runway 16L/34R 12,002' x 150' Runway 16R/34L 12,000' x 150' Runway 17/35 9,596' x 150' Runway 14/32 4,893' x 150'	13 ILS Approaches and 6 RNAV (GPS)	*66% commercial 18% air taxi 12% transient GA 2% military 1% local GA *for period ending 01/01/19*	TAC Air Atlantic	P
Bolinder Field-Tooele Valley Airport (TVY)	Tooele, Tooele County, UT	43 W	Runway 17/35 Asphalt, in good condition	Runway 17/35 6,100' x 100'	ILS or LOC RWY 17 RNAV (GPS) RWY 17	64% transient GA 35% local GA 1% air taxi *60% local GA 40% transient GA *for period ending 01/01/14*	Salt Lake City Dept. of Airports	GA
Nephi Municipal AIrport (U14)	Nephi, Juab County, UT	49.1 SW	Runway 17/35 Asphalt, in excellent condition	Runway 17/35 6300' x 100'	RNAV (GPS) RWY 17 RNAV (GPS) RWY 35	*60% local GA 40% transient GA *for period ending 12/30/11*	Nephi Jet Center	GA

Source: AirNav.com

Figure 2.4 Utah Airports Map

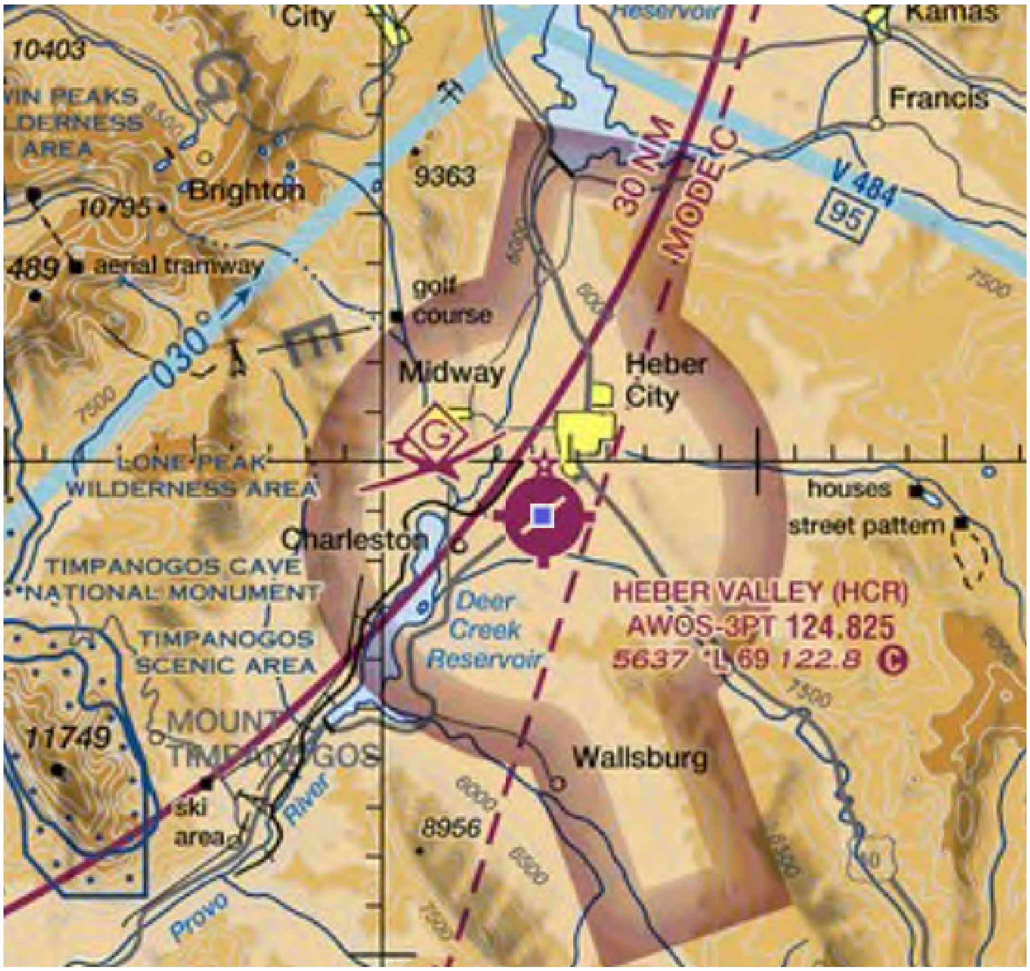


Source: Ardurra

2.2 Airspace and Approaches

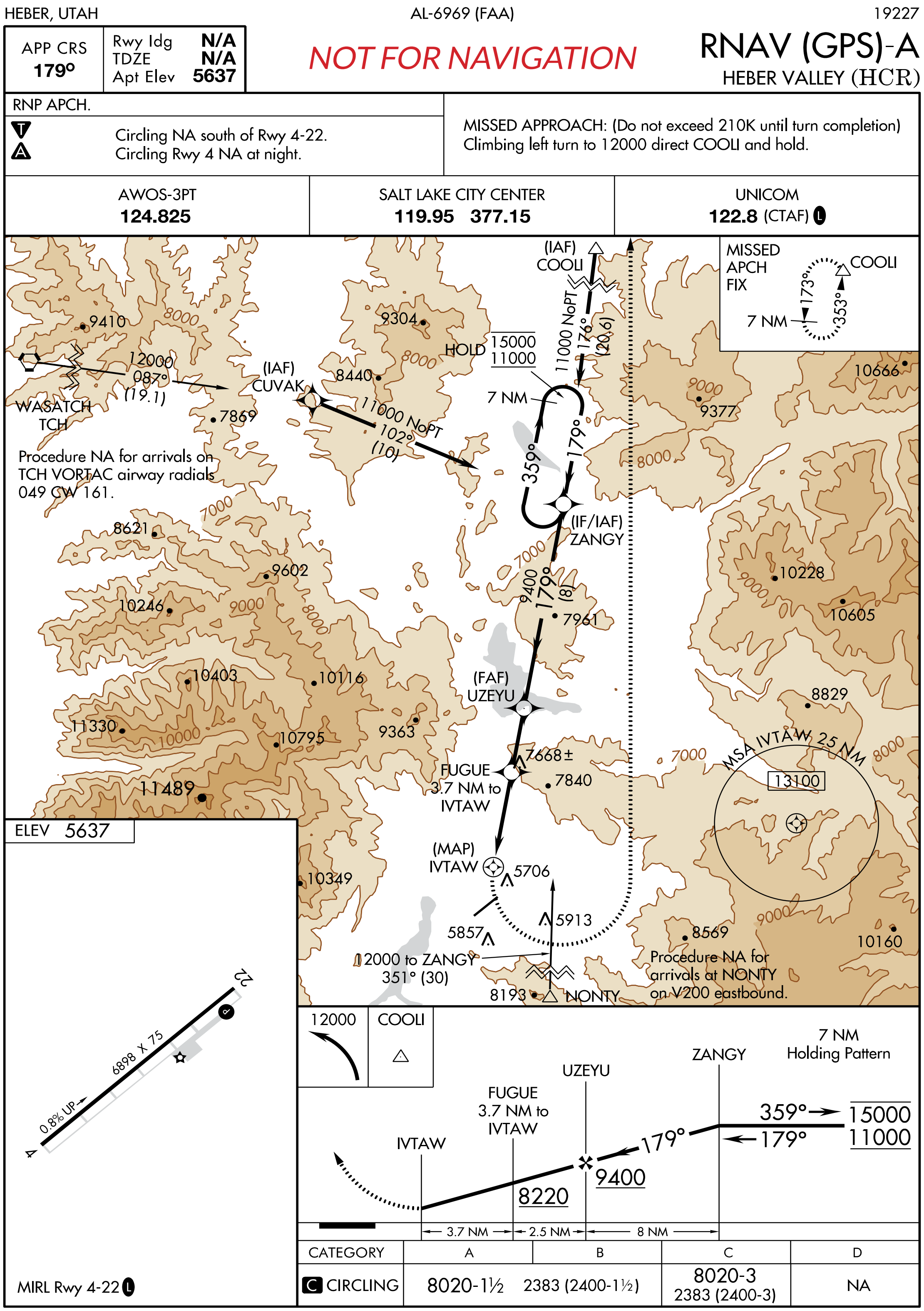
Airspace surrounding Heber Valley Airport is Class G from the surface to 700 feet above ground level (AGL), then becomes Class E airspace. The airspace is depicted in ***Figure 2.5*** *Aeronautical Chart*. There is one Instrument Approach Procedure (IAP) published for the airport: RNAV (GPS)-A (refer to ***Figure 2.6***) and one departure procedure: COOLI SIX (RNAV) (refer to ***Figure 2.7***).[6]

Figure 2.5 Aeronautical Chart



Source: AirNav.com

Figure 2.6 GPS Approach Procedure

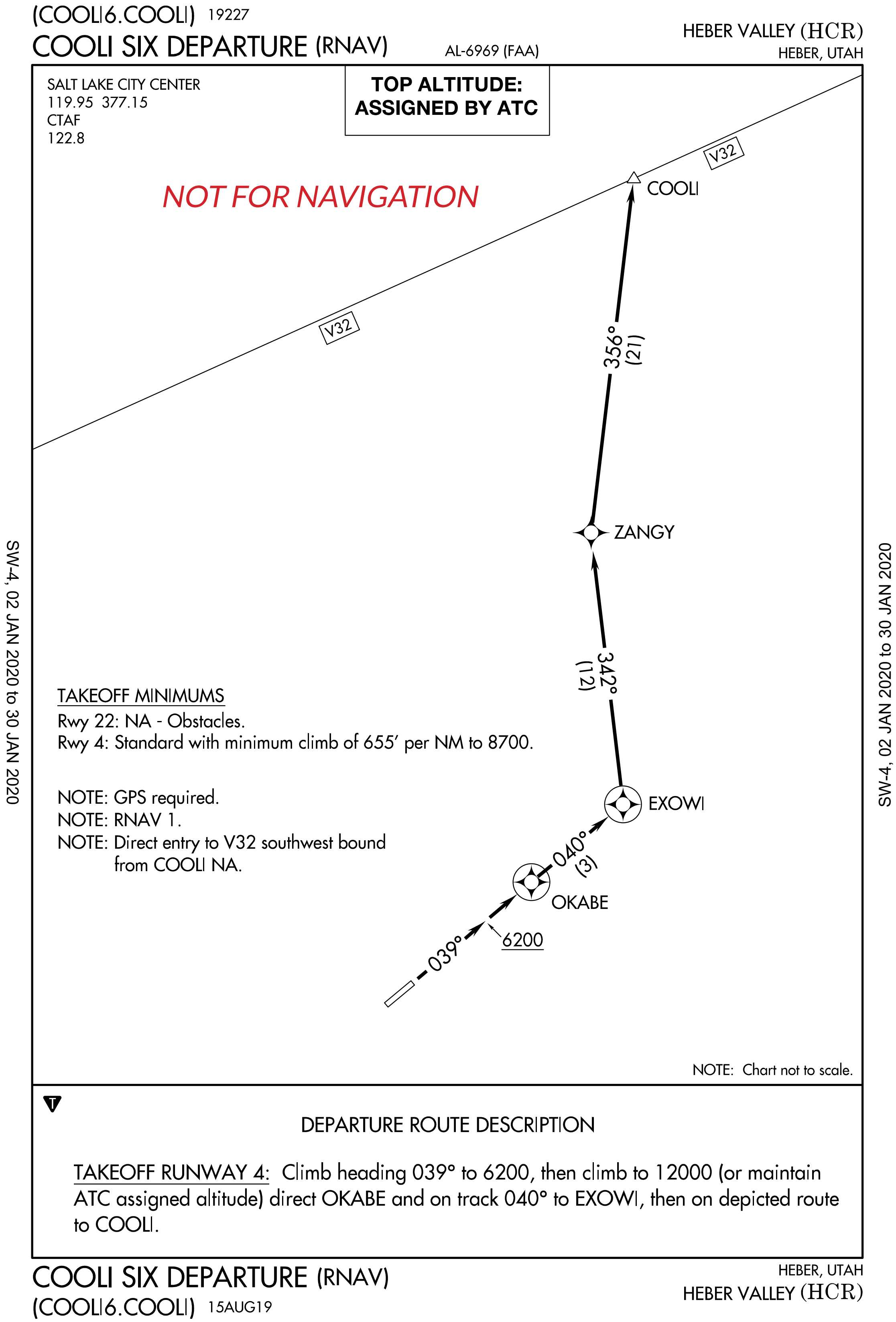


CATEGORY	A	B	C	D
CIRCLING	8020-1½	2383 (2400-1½)	8020-3 2383 (2400-3)	NA

HEBER, UTAH
Amdt 3A 15AUG19
40°29'N-111°26'W
HEBER VALLEY (HCR)
RNAV (GPS)-A

Source: AirNav.com

Figure 2.7 RNAV Departure Procedure



Source: AirNav.com

2.3 Aircraft Accidents

The National Transportation Safety Board (NTSB) is an independent federal agency that investigates every civil aviation accident in the United States and maintain the Aviation Accident Database & Synopses. Using this data base, the data presented in ***Table 2.2*** *Aircraft Accidents* has been compiled since 1993. There have been thirty accidents on record at Heber Valley Airport. Eight resulted in fatalities or serious injuries.

All of the accidents occurred during Visual Meteorological Conditions (VMC). VMC represents an aviation flight category in which pilots have sufficient visibility (equal to or greater than 3 miles) to fly the aircraft maintaining visual separation from terrain and other aircraft. Instrument Meteorological Conditions (IMC) represents an aviation flight category that describes weather conditions that require pilots to fly primarily by reference to instruments and therefore, under instrument flight rules (IFR), rather than by outside visual references under visual flight rules (VFR). This usually means flying in the clouds or during bad weather.[7]

2.4 Airport Grant History

Table 2.3 *Airport Improvement Program Grant History* lists historic improvement projects at HCR. Data was provided by the FAA Denver Airports District Office (DEN-ADO). ***Table 2.4*** *UDOT Grant History* provides details of airport development projects at HCR that were funded by UDOT Aeronautics. Descriptions of the projects have been copied verbatim from the provided reports. Usually funding is a combination of federal, state, and local funds. This Airport Master Plan study is one of numerous projects funded by the FAA and UDOT since 1986.

Table 2.2 Aircraft Accidents								
Accident Number	**Event Date**	**Aircraft Damage**	**Purpose of Flight**	**Total Fatal Injuries**	**Total Serious Injuries**	**Total Minor Injuries**	**Weather Condition**	**Broad Phase of Flight**
DEN83LA082	03/21/83	Substantial	Non scheduled Air Taxi	0	0	1	VMC	Maneuvering
DEN83LA162	07/07/83	Substantial	Personal	0	0	1	IMC	Cruise
ADEN85LA018	10/25/84	Substantial	Personal	0	0	0	VMC	Cruise
DEN85FTM03	06/22/85	Destroyed	Personal	1	0	0	VMC	Final Approach
DEN88FA110	05/19/88	Destroyed	Instructional	2	0	0	VMC	Maneuvering & Descent
SEA91LA222	08/26/91	Substantial	Personal	0	0	2	VMC	Landing - Roll
SEA93LA005	10/01/92	Substantial	Personal	0	0	0	VMC	Takeoff - Roll
SEA93LA147	07/02/93	Substantial	Personal	0	0	0	VMC	Approach & Landing
SEA94LA001	10/01/93	Substantial	Personal	0	0	0	VMC	Cruise, Descent and Landing
SEA94FA004	10/03/93	Destroyed	Personal	1	3	0	VMC	Maneuvering
SEA94LA078	03/08/94	Substantial	Instructional	0	0	0	VMC	Takeoff - Roll
SEA94LA172	07/05/94	Substantial	Personal	0	0	0	VMC	Landing - Roll
SEA95LA030	12/17/94	Substantial	Personal	0	0	0	VMC	Landing - Roll
SEA96LA049	02/06/96	Substantial	Personal	0	0	1	IMC	Approach
FTW97LA360	09/23/97	Substantial	Personal	0	0	0	VMC	Landing
DEN99LA153	08/21/99	Substantial	Business	0	0	0	VMC	Landing - Roll
DEN99LA161	09/01/99	Substantial	Personal	0	0	0	VMC	Takeoff - Roll
DEN01LA006	09/25/00	Substantial	Personal	0	0	0	VMC	Landing - Roll
DEN04LA093	06/22/04	Substantial	Personal	0	0	2	VMC	Landing
DEN05LA106	07/09/05	Substantial	Personal	0	1	1	VMC	Approach
SEA06CA020	11/25/05	Substantial	Personal	0	0	0	VMC	Landing - Roll
SEA06FA036	01/02/06	Destroyed	Personal	1	0	1	IMC	Cruise
DEN06FA065	04/17/06	Destroyed	Business	1	0	0	IMC	Cruise
WPR09CA376	07/29/09	Substantial	Personal	0	0	0	VMC	Landing - Roll
WPR11CA041	11/06/10	Substantial	Personal	0	0	0	VMC	Maneuvering
WPR11FA426	09/03/11	Substantial	Sightseeing	0	3	0	VMC	Maneuvering
WPR12LA290	06/24/12	Substantial	Personal	0	0	0	VMC	Landing - Roll
GAA18CA127	02/12/18	Substantial	Business	0	0	0	VMC	Maneuvering
GAA18CA566	09/24/18	Substantial	Personal	0	0	0	VMC	Landing
WPR20LA025	11/16/19	Substantial	Aerial Observation	0	0	0	VMC	Landing

Source: National Transportation Safety Board

Table 2.3 Airport Improvement Program Grant History - FAA

Fiscal Year	Project Number	FAA Contributions	Work Description	Funding Stream
1986	001-1986	$ 638,828	Install apron lighting, rehabilitate runway - 3/21, rehabilitate runway lighting, rehabilitate taxiway	FAA Entitlement & FAA Discretionary
1989	002-1989	$ 134,761	Acquire land for development	FAA Entitlement
1990	003-1990	$ 648,267	Extend runway - 3/21, install runway lighting	FAA Entitlement
1991	004-1991	$ 531,771	Extend taxiway	FAA Entitlement
1992	005-1992	$ 89,364	Acquire land for approaches	FAA Entitlement & FAA Discretionary
1993	006-1993	$ 48,218	Conduct Airport Master Plan study	FAA Entitlement
1994	007-1994	$ 297,601	Acquire land for development, install apron lighting, rehabilitate apron, rehabilitate taxiway	FAA Entitlement
1996	008-1996	$ 808,639	Acquire land for development, expand apron	FAA Entitlement & FAA Discretionary
1997	009-1997	$ 536,562	Acquire land for development, improve airport drainage	FAA Entitlement
1999	010-1999	$ 557,722	Acquire land for approaches, conduct Airport Master Plan study, construct taxiway, install miscellaneous NAVAIDs	FAA Entitlement
2000	011-2000	$ 554,119	Construct apron, install taxiway lighting, rehabilitate taxiway, remove obstructions	FAA Entitlement
2001	012-2001	$ 896,517	Acquire land for approaches, acquire snow removal equipment, expand apron, rehabilitate apron	FAA Entitlement & FAA Discretionary
2002	013-2002	$ 104,548	Update Airport Master Plan study	FAA Entitlement
2002	014-2002	$ 492,631	Acquire land for development, install weather reporting equipment	FAA Entitlement
2003	015-2003	$ 440,496	Acquire land for approaches	FAA Entitlement
2004	016-2004	$ 367,755	Acquire land for approaches	FAA Entitlement
2004	017-2004	$ 563,027	Acquire land for approaches, update Airport Master Plan study	FAA Entitlement
2005	018-2005	$ 535,202	Acquire land for approaches, construct taxiway (design only)	FAA Entitlement
2006	019-2006	$ 884,309	Construct taxiway	FAA Entitlement
2006	020-2006	$ 2,265,743	Construct taxiway, rehabilitate runway - 3/21	FAA Entitlement & FAA Discretionary
2009	021-2009	$ 196,969	Construct snow removal equipment building	FAA Entitlement
2009	022-2009	$ 282,743	Construct snow removal equipment building	FAA Entitlement
2011	023-2011	$ 70,955	Rehabilitate runway - 3/21, rehabilitate runway - 3/21 lighting	FAA Entitlement
2012	024-2012	$ 112,342	Install miscellaneous NAVAIDs	FAA Entitlement

Source: FAA

Table 2.3 Airport Improvement Program Grant History - FAA (continued)				
Fiscal Year	**Project Number**	**FAA Contributions**	**Work Description**	**Funding Stream**
2013	025-2013	$ 255,769.00	Rehabilitate runway - 4/22 (design)	FAA Entitlement
2014	026-2014	$ 3,228,431.00	Rehabilitate runway - 4/22	FAA Entitlement & FAA Discretionary
2016	027-2016	$ 1,269,255.00	Acquire land for approaches, install perimeter fencing	FAA Entitlement
2017	028-2017	$ 150,000.00	Expand apron	FAA Entitlement
2018	029-2018	$ 31,192.00	Expand apron	FAA Entitlement
2019	030-2019	$ 200,000.00	Rehabilitate runway - 4/22	FAA Entitlement
2019	031-2019	$ 540,030.00	Update Airport Master Plan study	FAA Entitlement

Source: FAA

Table 2.4 UDOT Grant History					
Fiscal Year	**Work Description**	**FAA Funds**	**State Funds**	**Sponsor Funds**	***Other Funds***
2010	Lighting rehabilitation	$ 0	$ 14,400	$ 1,600	$ 0
2010	Snow removal building (Phase I)	$ 196,969	$ 0	$ 10,367	$ 0
2010	Snow removal building (Phase II)	$ 299,647	$ 0	$ 15,771	$ 0
2010	Wildlife and security fencing; RSA mitigation	$ 0	$ 27,000	$ 6,650	$ 0
2011	Rehabilitate runway 3/21(lighting), Rehabilitate runway 3/21 (marking)	$ 70,955	$ 0	$ 3,735	$ 0
2011	Taxiway lighting rehabilitation	$ 0	$ 15,300	$ 1,700	$ 0
2012	Crack seal, seal coat and paint (apron and taxiways) (Phase I)	$ 0	$ 78,250	$ 8,686	$ 0
2012	Install miscellaneous NAVAIDs (beacon)	$ 181,444	$ 9,038	$ 9,039	$ 0
2012	Taxiwayy lighting rehabilitaion	$ 0	$ 22,500	$ 2,500	$ 0
2013	Crack seal, seal coat and paint (apron and taxiways) (Phase II)	$ 0	$ 11,250	$ 1,500	$ 2,250
2013	Runway and apron rehabilitation (design)	$ 256,000	$ 12,752	$ 12,753	$ 0
2014	Runway 4/22 and apron rehabilitation	$ 3,513,102	$ 181,605	$ 181,605	$ 0
2016	Acquire land (parcel 7), install fencing	$ 1,305,547	$ 67,489	$ 67,489	$ 0
2017	Aircaft operations counter	$ 0	$ 3,150	$ 350	$ 0
2017	Apron expansion (reimbursement part 1)	$ 150,000	$ 7,754	$ 7,755	$ 0
2018	Apron expansion (reimbursement part 2)	$ 31,192	$ 1,612	$ 1,613	$ 0
2019	Pavement preservation (RWY)	$ 212,074	$ 10,963	$ 10,963	$ 0
2019	Pavement preservation (TWY)	$ 0	$ 137,700	$ 15,300	$ 0
2019	Update Airport Master Plan study	$ 540,030	$ 27,916	$ 27,917	$ 0

Source: UDOT Aeronautics

2.5 Economic Impact

To quantify the benefits derived from Utah's airport system, the Utah Department of Transportation, Division of Aeronautics commissioned an airport economic impact study using data from the calendar year 2003. The study followed an FAA approved methodology to assess the relationship between Utah's system of airports and the state's economy. According to the study, airports create economic impacts in many ways. Airports throughout Utah accommodate a long list of aviation related businesses, including flight schools, commercial airlines, aircraft maintenance and repair shops, air cargo companies, ground transportation providers, concessionaires, and others. There are also on-airport employees who are charged with the day-to-day maintenance, operation, and development of system airports.

Additionally, airports throughout Utah support visitor-related travel. Thousands of visitors come to Utah on a daily basis either on commercial airlines or on privately-owned general aviation aircraft. Once in the state, these visitors spend money on hotels, entertainment, shopping, ground transportation, food, and other items. On-airport businesses and aviation related visitor spending are responsible for many annual economic benefits.

Direct economic benefits related to airport tenants and indirect benefits stemming from visitors were measured as part of the economic impact study. As these first-round benefits are produced, additional multiplier benefits are created. For example, when an airport employee spends his salary on groceries, this spending re-circulates, or multiplies, until the benefits ultimately leak outside of the study area. Secondary benefits for this study were calculated using Utah-specific multipliers. In general, for every $100 spent by aviation-related businesses in Utah, an additional multiplier benefit of nearly $68 is created in supporting industries.

Utah's airports not only support essential transportation services but have a very important role in the statewide and local economies. While Salt Lake City International Airport provides the greatest economic benefit, the national, regional, community, and local airports need to be recognized, as well. The 2004 Utah Airports Economic Impact Study determined that the state's airports (excluding Salt Lake City International) provided 5,098 full-time equivalent jobs with an annual payroll of over $133 million. The total annual economic output of these airports (which includes the goods and services related to aviation) was over $339 million. Excluding Salt Lake City International, in 2004, 27 of the airports had an economic output of $1 million or greater, including HCR.

For the purpose of this economic value inventory, the economic impact data of several airports similar to the Heber Valley Airport were compared. Although each airport is distinct, the Utah airports selected share several similar characteristics. Like HCR, most of the following airports are classified as General Aviation Regional Airports, meaning they serve a wide range of general aviation aircraft users. They also serve and support the local and regional economies and connect them to the state and national economies. However, Brigham City Regional Airport is classified as a GA Local Airport, Canyonlands Field airport is classified as a commercial service airport, and Roosevelt Municipal Airport is classified as a GA Community Airport.

Because each airport is unique, finding comparison airports is not an exact science. In ***Table 2.5*** *Utah Comparison Airports*, an assortment of factors was considered, including 2018 population, lengths and widths of runways, elevation, and annual operations. Those categories that were within 25% of the HCR value are highlighted in blue. As evidenced by this table, no one airport in particular is equivalent to Heber Valley Airport; however, several airports share multiple similar characteristics to HCR. As a result, the total economic benefits of these airports were compared to the total economic benefits of Heber Valley Airport in ***Table 2.6*** For details regarding how the economic benefits of each airport were calculated, refer to the Utah Economic Impact Study Technical Report.[8]

Table 2.5 Utah Comparison Airports							
Airport	City	Population (2018)	Runway Length	Runway Width	Elevation	Annual Operations	UCASP Airport Role
Heber Valley Airport (HCR)	***Heber City***	***16,400***	***6,898 ft***	***75 ft***	***5,636.8 ft***	***38,090***	***GA Regional Airport***
Brigham City Regional Airport (BMC)	Brigham City	19,404	8,900 ft	100 ft	4,229.9 ft	39,500	GA Local Airport
Canyonlands Field Airport (CNY)	Moab	5,322	7,360 ft	100 ft	4,590 ft	19,820	Commercial Service Airport
Nephi Municipal Airport (U14)	Nephi	6,111	6,300 ft	100 ft	5,022 ft	5,800	GA Regional Airport
Carbon County Regional Airport (PUC)	Price	8,232	8,316 ft	100 ft	5,957.6 ft	14,550	GA Regional Airport
Richfield Municipal Airport (RIF)	Richfield	7,908	7,100 ft	100 ft	5, 280 ft	6,500	GA Regional Airport
Roosevelt Municipal Airport (74V)	Roosevelt	7,070	6,501 ft	75 ft	5,176 ft	4,700	GA Community Airport
Spanish Fork Airport Springville-Woodhouse Field (SPK)	Spanish Fork	39,961	6,500 ft	100 ft	4,529 ft	35,000	GA Regional Airport
Bolinder Field-Tooele Valley Airport (TVY)	Tooele	35,251	6,100 ft	100 ft	4,321.8 ft	37,100	GA Regional Airport

Source: AirNav.com, UCASP, and U.S. Census Bureau

Table 2.6 Utah Comparison Airports - Economic Impacts					
Airport	**City**	**Total Employment**	**Total Payroll**	**Total Output**	**Total Output Adjusted for Inflation (2020 Dollars)**
Heber Valley Airport (HCR)	***Heber City***	***112***	***$2,520,000***	***$8,237,300***	***$11,445,236***
Brigham City Regional Airport (BMC)	Brigham City	91	$2,417,700	$8,889,000	$12,350,735
Canyonlands Field Airport (CNY)	Moab	122.5	$3,123,600	$5,938,600	$8,251,330
Nephi Municipal Airport (U14)	Nephi	17.5	$537,400	$2,919,500	$4,056,471
Carbon County Regional Airport (PUC)	Price	49.5	$1,217,900	$3,976,100	$5,524,553
Richfield Municipal Airport (RIF)	Richfield	35.5	$967,600	$3,501,400	$4,864,986
Roosevelt Municipal Airport (74V)	Roosevelt	14.5	$320,400	$1,003,600	$1,394,442
Spanish Fork Airport Springville-Woodhouse Field (SPK)	Spanish Fork	336	$7,219,900	$25,157,400	$34,954,703
Bolinder Field-Tooele Valley Airport (TVY)	Tooele	49	$1,169,900	$4,807,900	$6,680,290

Source: 2003 Utah Airports Economic Impact Study

Based on the information presented in ***Table 2.6***, it is evident that HCR contributes more economic benefit than most of the comparison airports. The exceptions are Spanish Fork Airport and Brigham City Regional Airport. Spanish Fork Airport reports more than twice the number of annual operations and total output, while Brigham City Regional Airport closely mirrors the number of annual operations and total output of HCR.

Of significance is the fact that the economic impact data is approximately 17 years old, therefore, the total output for each airport has been adjusted for inflation. When inflation rates are applied to the total output, these amounts equate to the 2020 dollar amounts listed in the last column of ***Table 2.6***.

Table 2.7 illustrates how annual general aviation visitor expenditures are derived. HCR experiences the most general aviation itinerant operations and transient arrivals of the comparison airports. As such, HCR has the greatest number of annual general aviation visitor expenditures.

Table 2.7 Utah Comparison Airports - General Aviation Expenditures							
Airport	**Total GA Operations**	**GA Itinerant percent**	**GA Itinerant Operations**	**GA Transient Arrivals**	**Est. GA Visitors**	***Total Number of Days Stayed***	***Annual GA Visitor Expenditures (Output)***
Heber Valley Airport (HCR)	***38,090***	***53.4%***	***20,340***	***3,360***	***9,740***	***20,450***	***$1,349,700***
Brigham City Regional Airport (BMC)	39,500	45.5%	17,775	2,930	8,500	***17,850***	***$1,178,100***
Canyonlands Field Airport (CNY)	19,820	94.7%	18,770	3,100	8,990	***18,880***	***$1,246,100***
Nephi Municipal Airport (U14)	5,800	60.3%	3,500	580	1,680	***3,530***	***$233,000***
Carbon County Regional Airport (PUC)	14,550	78.8%	11,460	1,890	5,480	***11,510***	***$759,700***
Richfield Municipal Airport (RIF)	6,500	93.8%	6,100	1,010	2,930	***6,150***	***$405,900***
Roosevelt Municipal Airport (74V)	4,700	69.8%	3,280	540	1,570	***3,300***	***$217,800***
Spanish Fork Airport Springville-Woodhouse Field (SPK)	35,000	25%	8,750	1,440	4,180	***8,780***	***$579,500***
Bolinder Field-Tooele Valley Airport (TVY)	37,100	26%	9,660	1,590	4,610	9,680	$638,900

Source: UDOT Aeronautics

2.6 Socioeconomic and Demographic Review

As stated in FAA Advisory Circular 150/5070-6B, *Airport Master Plans*, the economic characteristics of a community affect the demand for air traffic. The type of industries in an airport's service area also affect aviation demand. For example, manufacturing and service industries tend to generate more aviation activity than resource industries, such as mining. Additionally, the demographic characteristics of an area's population affect the demand for aviation services. Demographics characteristics influence the level, composition, and growth of both local traffic and traffic from other areas. An important demographic characteristic is the level of disposable income, usually measured on a per capita basis, which is a good indicator of propensity to travel, as well as use and purchase of general aviation aircraft.

Socioeconomic status is a measure of an individual, family, or group of people, used to draw comparisons between groups. Socioeconomic status is derived from the relative economic and sociological position compared to other groups, such as income, wealth, education, and occupation. Demographic data is similar but distinct, typically describing a population as a whole, including items such as age and population size. Local socioeconomic conditions and demographics play a considerable role in the demand for air transportation services. As a simple example, the demographics of a large urban area, such as Salt Lake City, indicate large population bases which correlate to a higher demand for commercial air service.

2. Socioeconomic Overview and Background

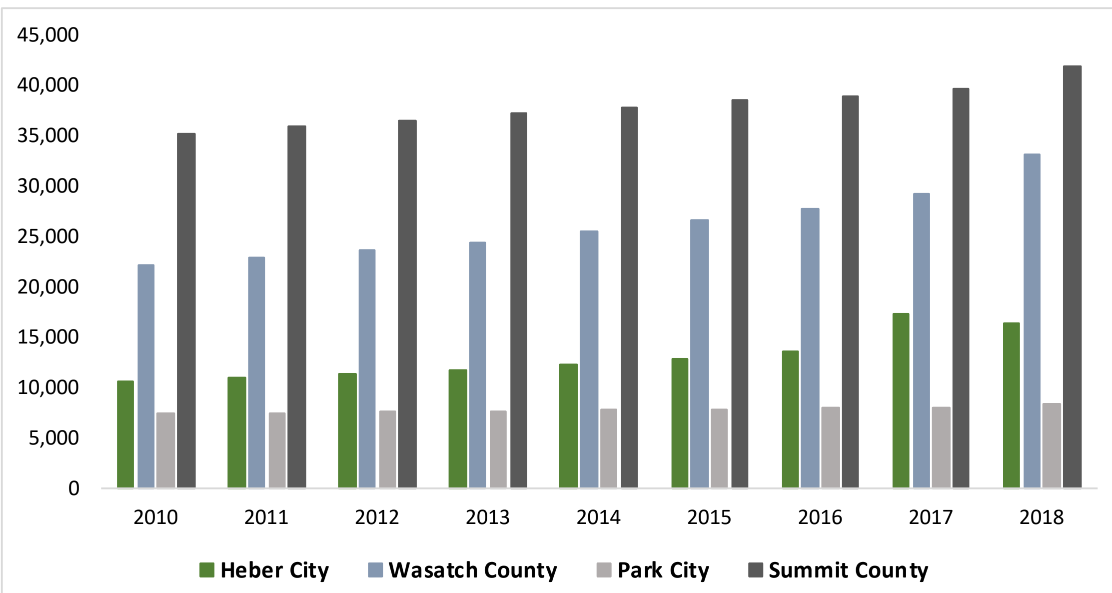
An examination was undertaken to determine whether current trends in social and economic indicators would predict stronger or weaker future aviation demand for the Heber Valley Airport. Heber City or Wasatch County was examined as the focus of socioeconomic conditions, depending on the available data.

The key socioeconomic indicators examined for the purpose of this Master Plan include population, education, household income, per capita income, and employment. These indicators provide insight into the financial strength and well-being of the local economy and historically correlate with the local level of aviation activity and aircraft ownership. Population and employment statistics assist in understanding the number of people and their ability to fulfil the employable positions that exist with businesses in the area. Both of these socioeconomic indicators also give an indication of stability with respect to the cost of living, commerce, and industry. Per capita personal income reflects the average annual monetary wage per head of household. High per capita personal income in an area is usually a good indicator for greater aviation demand as higher income populations are more likely to own and fly aircraft.

Aviation demand in a particular market is often strongly correlated with population. According to the U.S. Census Bureau, the 2018 population estimate for Heber City was 16,400. Heber City is the county seat and largest city in Wasatch County, which had a 2018 population of 33,240.

Figure 2.8 shows *historical populations* of Heber City, Park City, Wasatch County, and Summit County.

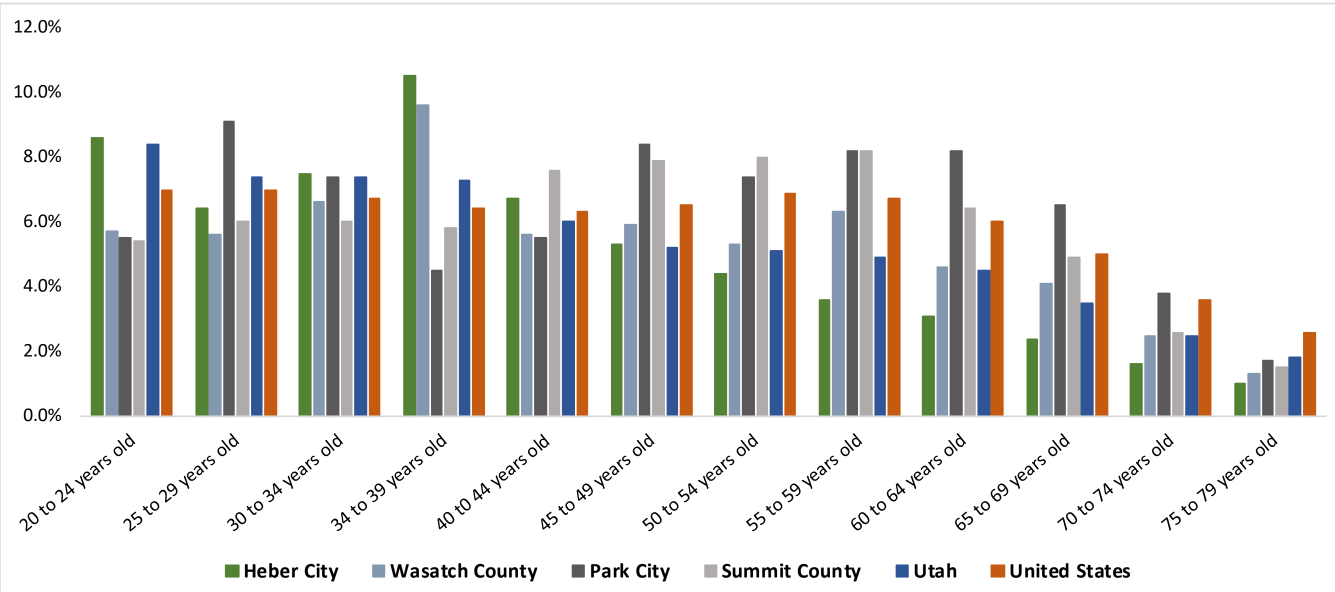
Figure 2.8 Historical Populations



Source: U.S. Census Bureau

The age distribution from Heber City, Wasatch County, Park City, Summit County, Utah, and the United States is compared in ***Figure 2.9*** *Age Distribution*. This data was collected from the 2013-2017 American Community Survey 5-Year Estimates provided by the U.S. Census Bureau. Heber City and Wasatch County's population is comprised of significantly more 34-39 year-olds than that of Park City, Summit County, Utah, and the U.S.. For the purpose of this study, age groups of 0 to 19 years old and 80 years old and over were excluded as their general aviation demand is historically low.

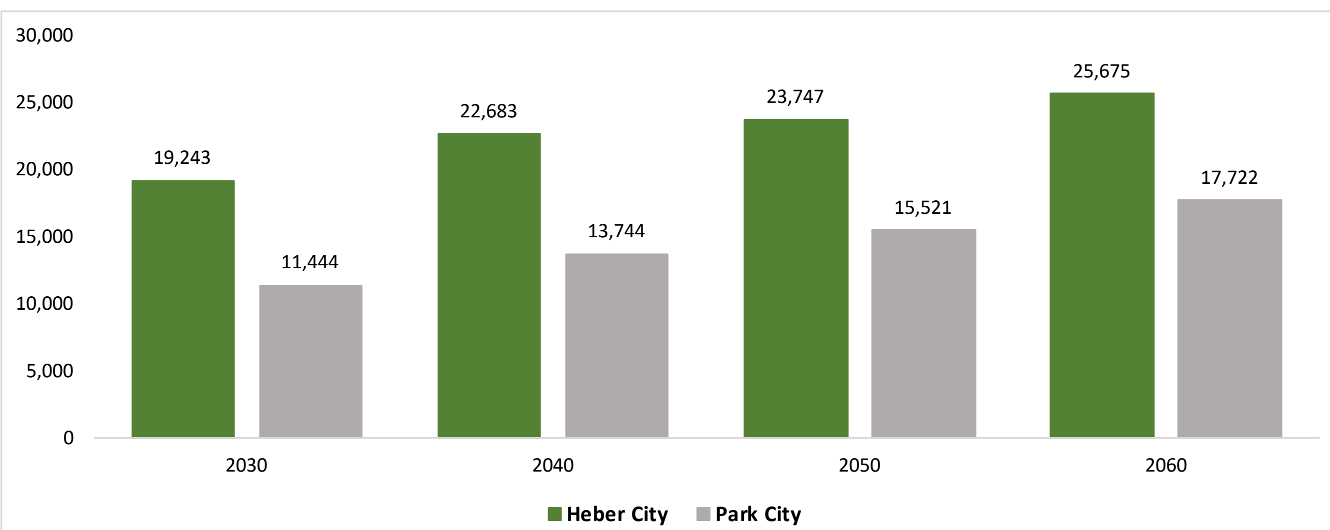
Figure 2.9 Age Distribution



Source: U.S. Census Bureau

According to the Utah's Governor's Office of Management and Budget the population in Heber City and Park City is forecasted to grow over the next 30 years. See ***Figure 2.10*** *Population Projections for Heber City and Park City* for more details.

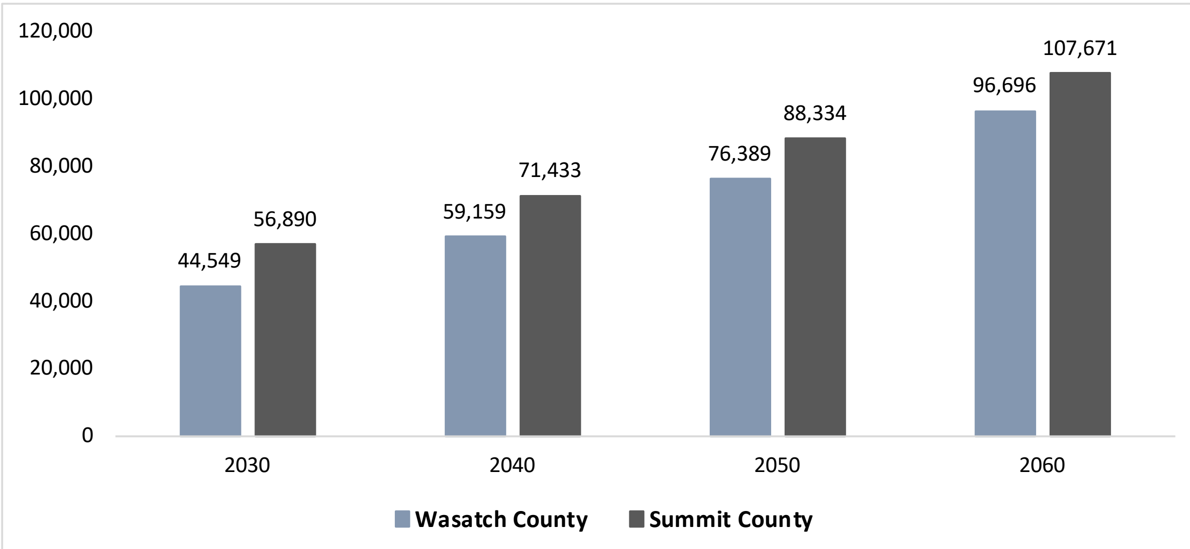
Figure 2.10 Population Projections for Heber City and Park City



Source: 2012 Baseline Projections-Utah Governors Office of Management and Budget

Population projections for Wasatch County and Summit County were derived from the Utah's Governor's Office of Management and Budget. As it is illustrated, the population in these two counties is projected to grow over the next 40 years. ***Figure 2.11*** *Population Projections* for *Wasatch County and Summit County* shows a steady increase in population over the next 40 years.

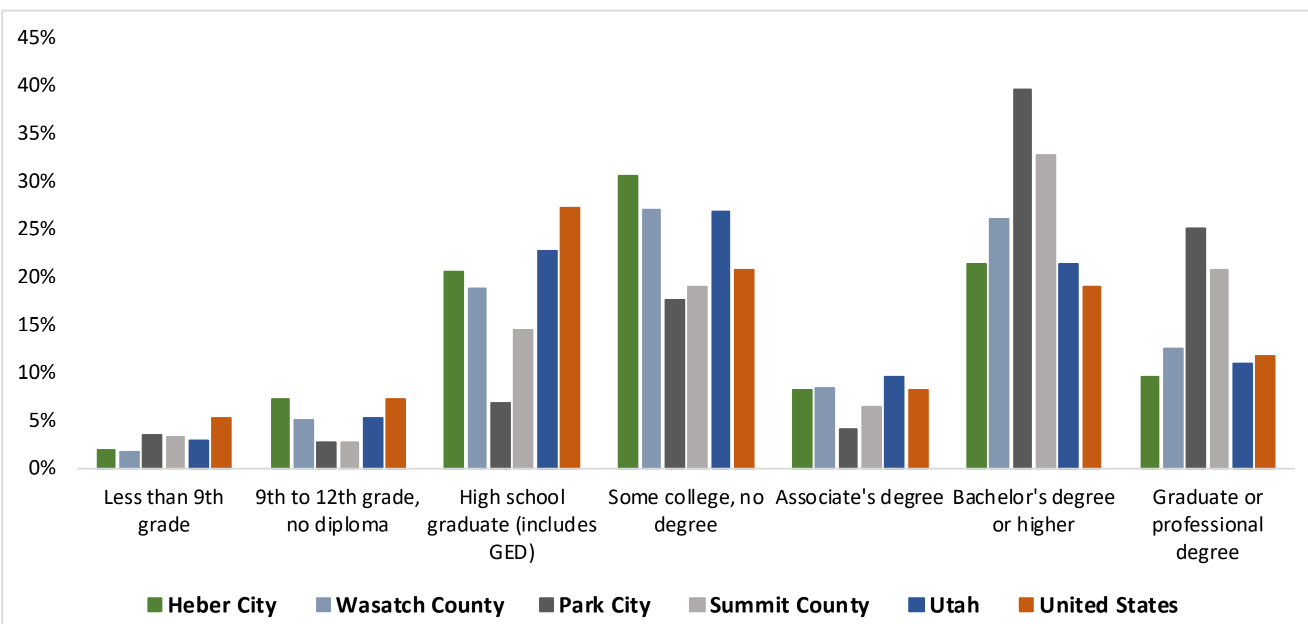
Figure 2.11 Population Projections for Wasatch County and Summit County



Source: 2012 Baseline Projections-Utah Governors Office of Management and Budget

An assessment of educational obtainment for Heber City, Wasatch County, Park City, Summit County, Utah, and the United States is depicted in ***Figure 2.12*** *Educational Attainment.* A higher number of Heber City residents have attended some college compared to the rest.

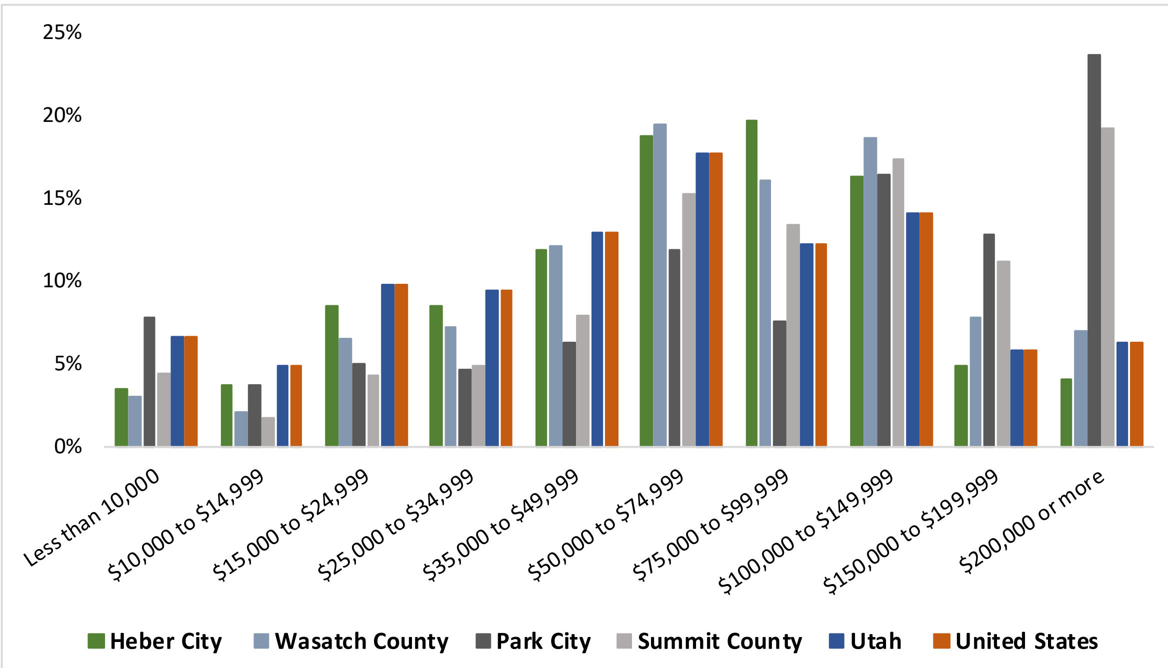
Figure 2.12 Educational Attainment



Source: U.S. Census Bureau

Using the 2013-2017 American Community Survey 5-Year Estimates provided by the U.S. Census Bureau, household incomes were compared between the residents of Heber City, Wasatch County, Park City, Summit County, Utah, and the United States. It is evident that the category with the largest number of Park City residents falls in the $200,000 or more, whereas the largest number of Heber City residents falls in the $75,000 to $99,000 household income range. Household incomes for the state of Utah closely align with those of the rest of the nation.

Figure 2.13 Household Income

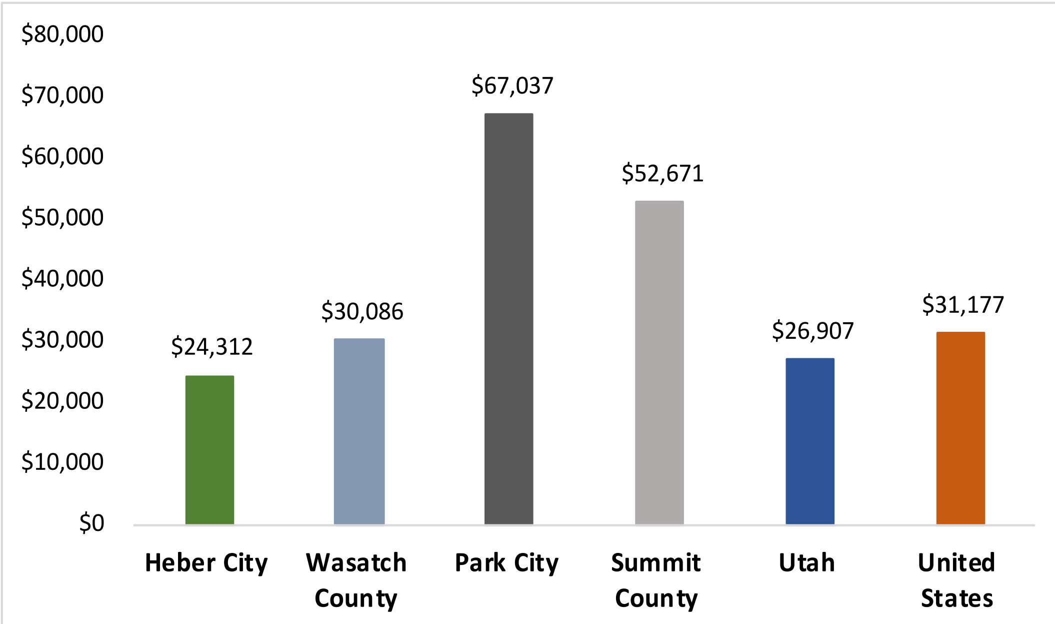


Source: U.S. Census Bureau

Per Capita Income (PCI) is the mean income of the people in an economic unit such as a country or city. It is calculated by taking a measure of all sources of income in the aggregate and dividing it by the total population. PCI is used to gauge the comparative economic well-being of residents in a specified region. Changes over time in per capita growth or decline have economic, social, and political repercussions. Counties with smaller populations are more likely to experience substantial fluctuations for several reasons, including bumper crops, natural disaster, and major state or federal projects.

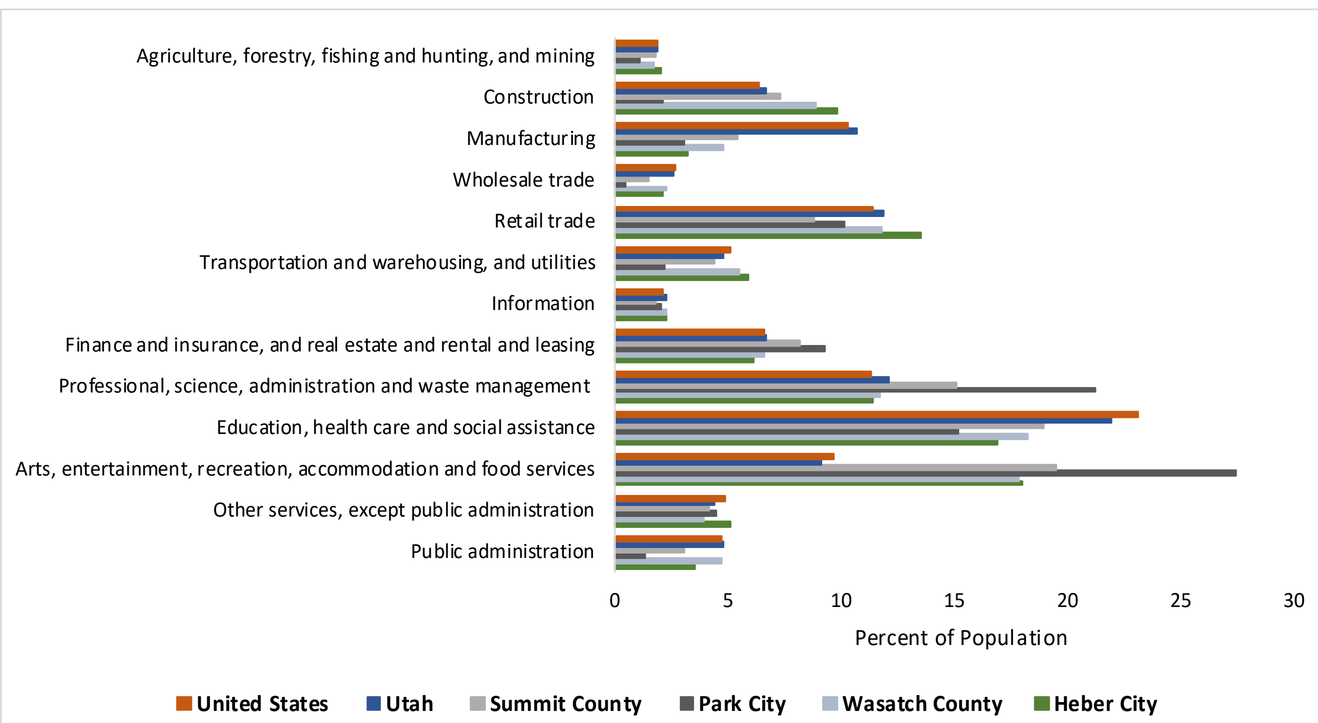
Per Capita Income is one of the most widely used indicators for gauging the economic performance and changing fortunes of local economies. Using the 2013-2017 American Community Survey 5-Year Estimates provided by the U.S. Census Bureau, Per Capita Income in the past 12 months (in 2017 inflation-adjusted dollars) for Heber City, Wasatch County, Park City, Utah, and the United States is illustrated in ***Figure 2.14*** *Per Capita Income*. As shown by the chart, Wasatch County's PCI is slightly higher than the state of Utah while the PCI of Heber City is slightly lower than that of Utah and the rest of the country.

Figure 2.14 Per Capita Income



Source: U.S. Census Bureau

Figure 2.15 Employed Population by Industries



Source: U.S. Census Bureau

2. Socioeconomic Overview and Background

Heber Valley is a popular tourist destination with three state parks, a historic tourism railroad, the 2002 Olympic Village, 90 holes of golfing, and various ski resorts. The mountain range around Heber Valley is nicknamed "Utah's Little Switzerland." According to an article by Livability.com, Heber City was voted number 8 on the 2014 list of 10 Best Small Towns. Heber City's proximity to Salt Lake City, Park City, both the Wasatch Mountain Range and the Uinta Mountains, and Provo also add to the city's appeal.

According to the report *The State of Utah's Travel and Tourism Industry* by the University of Utah, Heber City is listed as number 10 in the state with the most Airbnb listings and number five as highest priced cities for Airbnb listings. In another report entitled *Utah Travel & Tourism Profile - State and Counties 2016-2017* by the Kem C. Gardner Policy Institute of the University of Utah, travel-related sales tax revenues for 2017 from Wasatch County totaled $3,202,856. Leisure and hospitality jobs accounted for 19.6% of total jobs in the county, amounting to total wages of $25,916,209.

With Heber City's many attractions, it is no surprise that 18% of Heber City's working class population over 16 years of age and 17.8% of the workforce in Wasatch County is employed in the arts, entertainment, and recreation and accommodation and food services industries. The industries with the lowest percentages of employees in Heber City are agriculture, forestry, fishing and hunting, and mining (2.0%), followed by wholesale trade (2.1%) and information (2.3%).

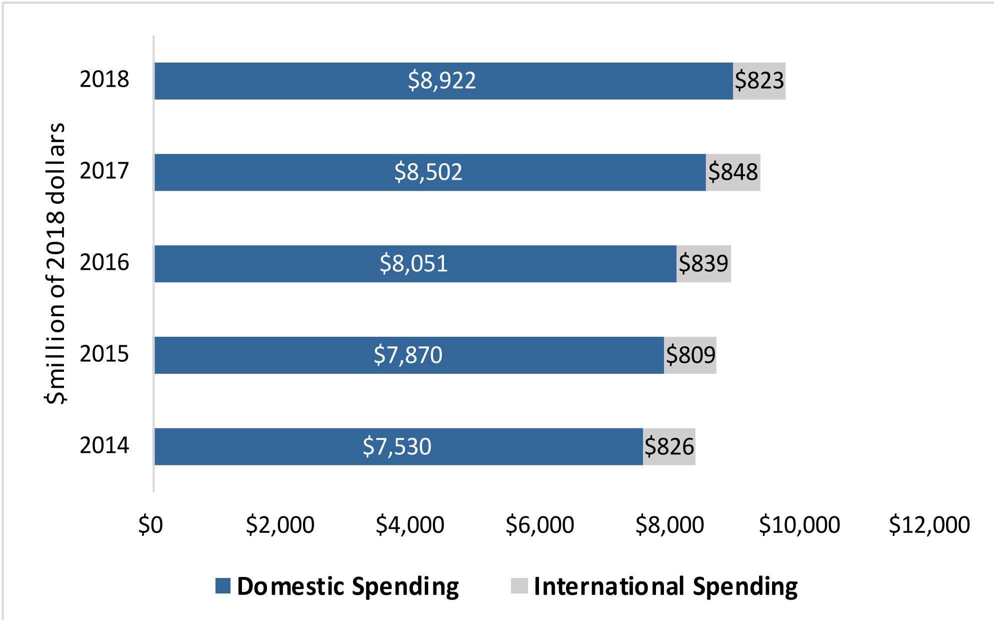
In 2016, travelers spent a record $8.54 billion in Utah, generating an estimated $1.25 billion in total state and local tax revenue. Travel and tourism generated an estimated 146,500 total jobs in 2016 and $5.7 billion in wages. Utah's 14 ski resorts, including the nation's largest ski resort (Park City) and five national parks experienced record visitation. Utah visitors also purchased more hotel rooms and spent more money on arts, entertainment, recreation, and restaurants in Utah than ever before.

The State of Utah's Travel and Tourism Industry study showed:

- Visitors spent a record $9.75 billion in the Utah economy in 2018, which is a 6.5% year-over year increase;
- Utah's travel and tourism industry accounted for an estimated 136,000 total jobs in 2018 and approximately 1 in 11 jobs is supported by visitors spending (directly or indirectly);
- Passenger air industry wages increased 10.5%, food service wages increased 7.8%, and wages in the accommodations sector increased 6.7%;
- Utah's national parks, state parks, and ski resorts experienced record visitation in 2018.

Utah visitors directly spent a record of $9.75 billion in 2018. Domestic visitors contributed close to 90% and international visitors 8% of this total spending amount[9].

Figure 2.16 Direct Visitor Spending

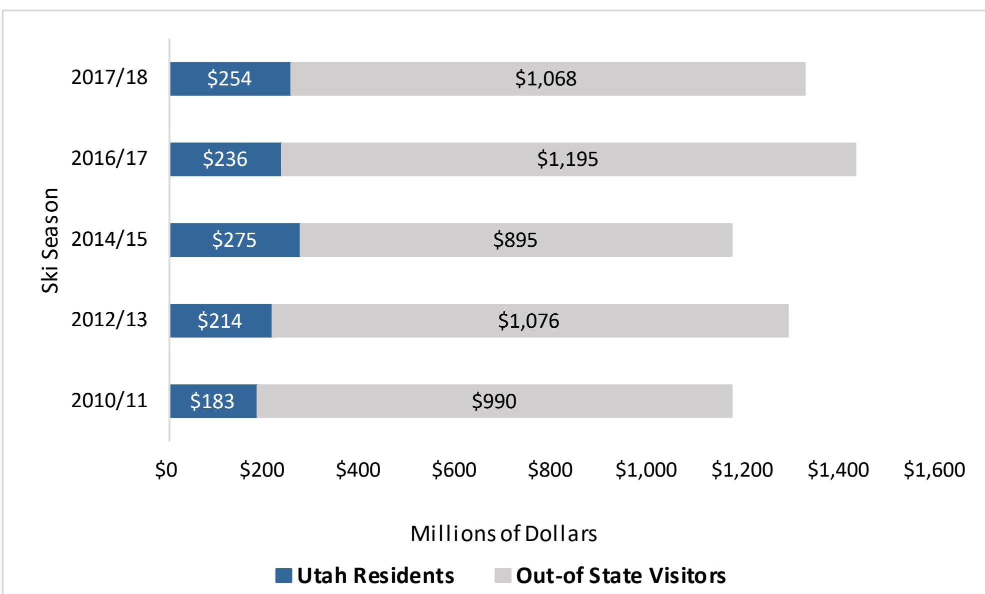


Source: Kem C. Gardner Policy Institute, The State of Utah's Travel and Tourism Industry, 2018

In 2018, Utah ranked 11th in the nation for number of ski resorts/ski areas (14 total). Ski Utah reported a record-setting season in 2018-2019 with an unprecedented 5.1 million skiers per day. During this historic ski season, skiers and snowboarders spent an estimated $1.76 billion in Utah with the largest shares of dollars going to dining, lodging, and lift passes (***Figure 2.18***). [9]

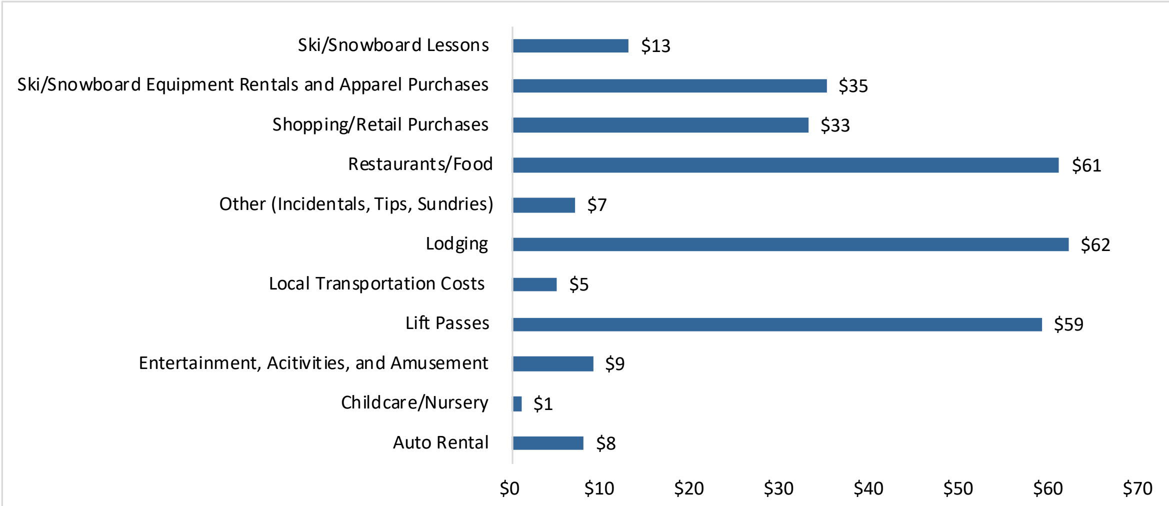
Figure 2.17 shows the Utah skier/snowboarder expenditures and, as depicted, out of state visitors play a big role in the ski/snowboard industry for the state of Utah (Gardner. 2017). [10]

Figure 2.17 Utah Skier/Snowboarder Expenditures



Source: RRC Associates and Kem C. Gardner Policy Institute, The Economic Contributions of Utah's Ski Industry, 2018

Figure 2.18 Average Per Person Per Day Spending by Category, 2017/2018 Ski Season

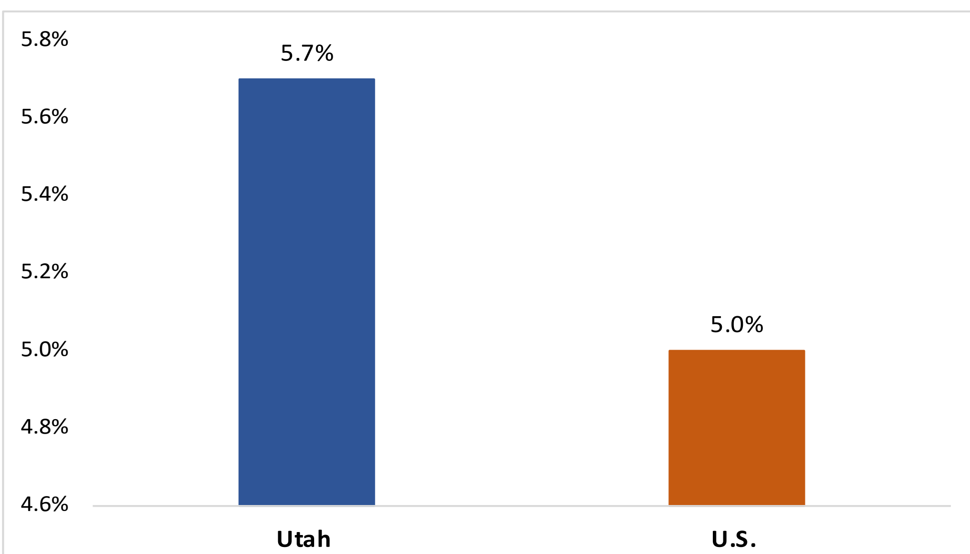


Source: RRC Associates and Kem C. Gardner Policy Institute, The Economic Contributions of Utah's Ski Industry, 2018

In 2018, the $9.75 billion in direct visitor spending, which led to $15.94 billion in total visitor-related spending through indirect and induced spending effects, generated an estimated $1.28 billion in state and local tax revenues. At a county level, Piute, Wasatch, and Rich experienced over 20% revenue increases from the prior year. Piute County and Rich County are the 2nd and 3rd least populous counties in the state so large fluctuations in revenue are likely to occur and may not necessarily mean a trend for those counties.

The technology industry(tech industry), which provides information technology capabilities and support, made significant contributions to Utah's economy in 2018. Tech companies supported one in seven Utah jobs and one-sixth of worker earnings in the state. This economic activity generated over $2.5 billion in tax revenue to help fund schools and government services. Tech companies employ a larger share of the workforce in Utah than nationwide, as ***Figure 2.19*** *Employment in Tech Occupations* illustrates.[11]

Figure 2.19 Employment in Tech Occupations, 2018

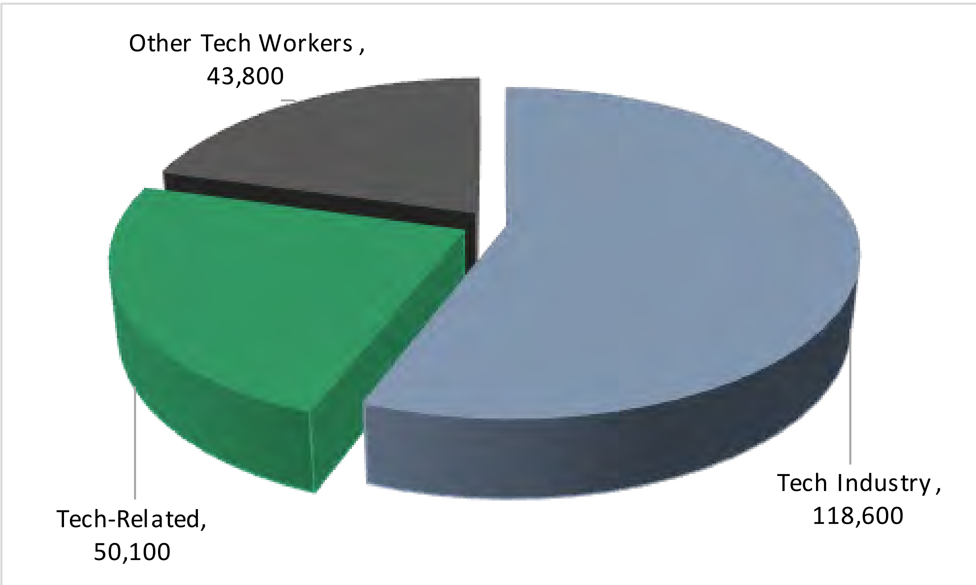


Source: Kem C. Gardner Policy Institute, Utah's Tech Economy, 2019

Salt Lake and Utah Counties provide most of Utah's tech jobs, but the industry creates economic opportunity throughout the state. Tech employment concentration in Wasatch County was 106 jobs and 1.2% of its employment in tech occupations. Counties with the lowest levels of tech industry concentration, in terms of employment shares, were generally those farthest from the Wasatch Front, Logan, and St. George.

In addition to 118,600 Utah jobs in the tech industry itself, tech related firms provided 50,100 jobs that overlapped with aerospace, defense, life science, and other industries. Another 43,800 employees worked in tech occupations for non-tech companies, as ***Figure 2.20*** *Utah Tech Employment Components, 2018* depicts.[11]

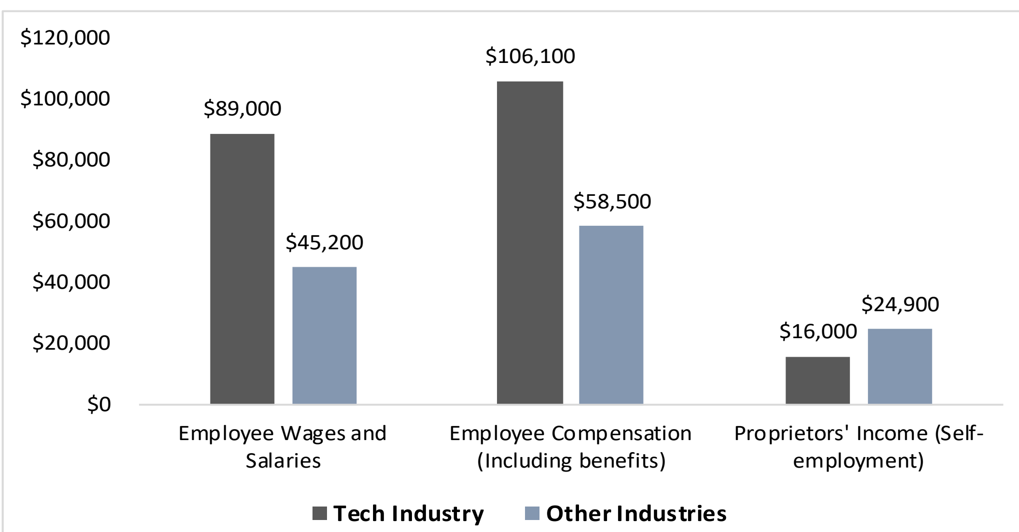
Figure 2.20 Utah Tech Employment Components, 2018



Source: Kem C. Gardner Policy Institute, Utah's Tech Economy, 2019

Tech companies in Utah reported paying $7.5 billion in employee wages and salaries during 2018, excluding benefits, for an average of $89,000 per job, almost double the average wage in other industries in the state, ***Figure 2.21*** *Average Annual Earnings per Job in Utah's Tech Industry, 2018* illustrates this.[11]

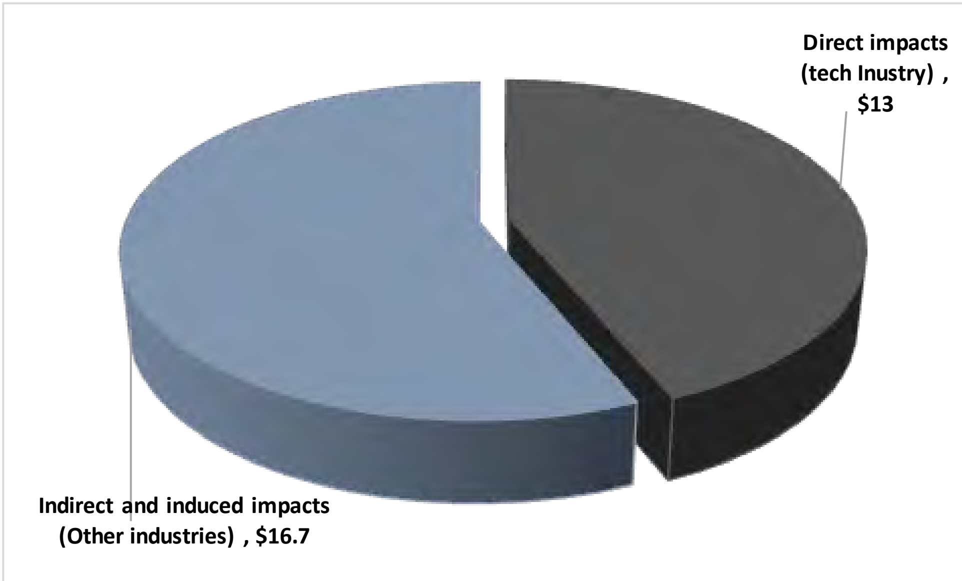
Figure 2.21 Average Annual Earnings per Job in Utah's Tech Industry, 2018



Source: Kem C. Gardner Policy Institute, Utah's Tech Economy, 2019

As it is illustrated in ***Figure 2.22*** *Utah Tech Industry Economic Impact*, the total economic impact of the tech industry in Utah is $29.7 billion.

Figure 2.22 UtahTech Industry Economic Impact, 2018 GDP



Source: Kem C. Gardner Policy Institute, Utah's Tech Economy, 2019

As a percent of each state's economy, the oil and natural gas industry's total value-added impact from its operations ranged from 1.9% (District of Columbia) to 35.5% Louisiana in 2011. The oil and natural gas industry's total value-added impact accounted for 6.9% in Utah.

The top 15 states in terms of the percentage of jobs directly or indirectly attributable to the oil and natural gas industry's operations in 2011 are listed in ***Table 2.8***.

As a percent of each state's total labor income (including wages and salaries and benefits as well as proprietors' income), the labor income from total jobs directly or indirectly supported by the oil and natural gas industry's operations ranged from 1.3 percent (District of Columbia) to 22.9 percent (Oklahoma) in 2011, as it is listed in ***Table 2.9.***[12]

Table 2.8 Percentage of Jobs in Oil and Gas Industry	
State	**Percent of Total Labor Income**
Wyoming	20.4%
Oklahoma	16.8 %
Louisiana	16.2%
Texas	13.6%
North Dakota	12.0 %
Alaska	11.9%
New Mexico	9.9%
West Virginia	8.9%
Kansas	8.1%
Montana	6.7%
Colorado	6.7%
Mississippi	6.6%
Arkansas	5.9%
Utah	4.9%
Pennsylvania	4.7**%**

Source: American Petroleum Institute, Economic Impacts of the Oil and Natural Gas Industry in 2011

Table 2.9 Labor Income from Oil and Gas Industry	
State	**Percent of Total Labor Income**
District of Columbia	1.3%
Oklahoma	22.9 %
Wyoming	21.3%
Louisiana	19.4%
Texas	18.7%
North Dakota	13.1%
Alaska	12.6%
New Mexico	10.3%
West Virginia	8.8%
Kansas	8.6%
Colorado	8.1%
Montana	7.7%
Mississippi	7.4%
Arkansas	6.3%
Utah	**5.3%**
Pennsylvania	5.1%

Source: American Petroleum Institute, Economic Impacts of the Oil and Natural Gas Industry in 2011

Table 2.10 Total Impacts of Oil and Gas Industry's Operations in 2011						
	Employment		Labor Income		Value Added	
	Amount	Percent of State Total	($ Million)	Percent of State Total	($ Million)	Percent of State Total
Utah	79,600	4.9%	$4,091.5	5.3%	$8,376.7	6.9%

Source: American Petroleum Institute, Economic Impacts of the Oil and Natural Gas Industry in 2011

Table 2.11 Economic Impact of Oil and Gas Industry in Utah, 2011					
Sector	Direct	Indirect	Induced	Total	Percent of State Total
Total Operational Impact on Employment	23,560	24,725	31,320	79,605	4.9%
Total Operational Impact on Labor Income	$1,501.0	$1,338.8	$1,251.7	$4,091.5	5.3%
Total Operational Impact on Value Added	$4,126.0	$2,110.8	$2,139.9	$8,8376.7	6.9%

Source: American Petroleum Institute, Economic Impacts of the Oil and Naturan Gas Industry in 2011

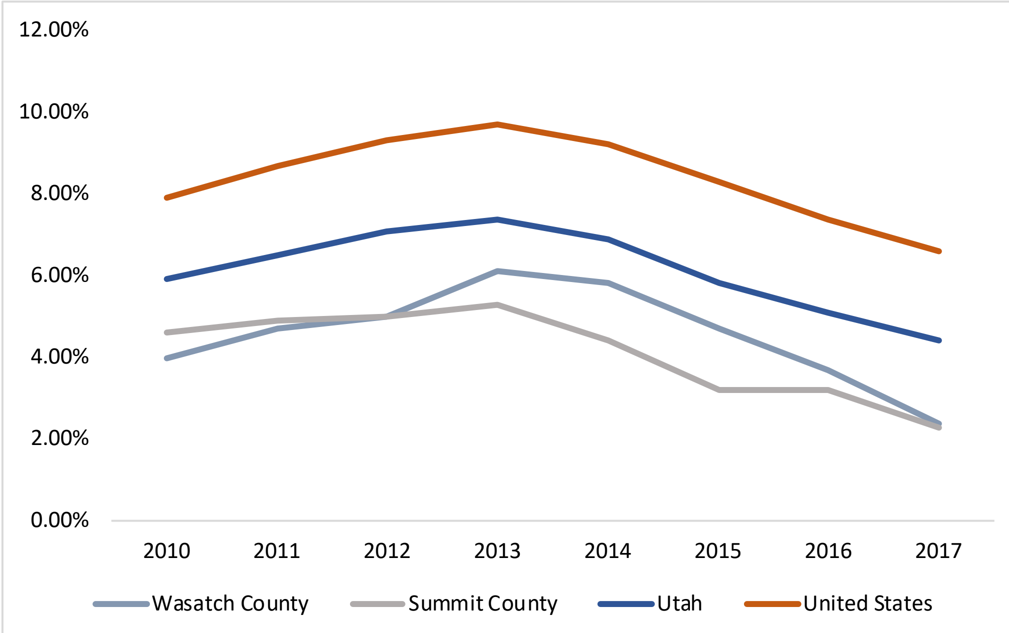
The 2002 Winter Olympic Games clearly provided a significant, though largely transitory, stimulus to Utah's economy. The estimated economic impact of the Olympics results from an estimated $2.1 billion in spending, mostly by the Salt Lake Olympic Organizing Committee (SLOC). However, infrastructure investment, visitors, broadcasting, and federal funds also comprised significant sources of funding for the Olympics. Of $2.1 billion in spending, only about $1.3 billion had a direct economic impact for Utah, since that portion of the total both originated from outside of the state and remained in Utah. The other $800 million flowed out-of-state or represented merely a recirculation of money that was already in Utah. Overall, spending from the Olympics indirectly prompted a total of $4.8 billion in additional output as related government, business, and individual spending materialized in the presence of the catalytic core of outwardly financed, in-state spending.

According to an article published on November 4th, 2019 in the *Salt Lake Tribune* newspaper, there are chances for Salt Lake City to be selected again for the 2030 or 2034 Olympic Games.[13]

Table 2.12 Economic Impact of the Olympics, 1996-2003	
Spending Directly Related to the Olympics	$2.1 billion
Total Output or Sales	$4.8 billion
Employment	35,000 jobs
Labor Income	$1.5 billion
Net Revenue to State and Local Government	$76 million

Source: Center for Public Policy & Administration, University of Utah, Economic Impact of the 2002 Olympic Winter Games

Figure 2.23 Unemployment Rates (2008-2017)



Source: U.S. Census Bureau

The data from Woods & Poole, Inc. depicted in ***Figure 2.17*** *Unemployment Rates* shows that the unemployment rate in Wasatch County and Utah have historically been lower than the unemployment rate of the United States. Until 2014, the unemployment rate in Wasatch County was higher than that the state of Utah. The unemployment rates for Wasatch County and Utah continue at nearly the same rate, which is much lower that the unemployment rate for the rest of the United States.

According to Utah's Continuous Airport System Plan (UCASP), there are numerous factors and trends affecting the demand for airports and air service in the state of Utah. These factors include:

- Transportation Improvements
- Tourism
- Oil/Gas
- Retirement/Second Homes
- Population Growth
- Employment Growth

As per the UCASP, population growth in Utah is forecasted to be greatly experienced in cities along the I-15 corridor. The highest growth rate is forecasted to be experienced in the Wasatch Front Regional and the Southwest area of the state. Salt Lake County is forecasted to have the highest population growth in the state adding over 328,000 new residents by 2025. Tourism is essential to Utah's economy. While only six counties in Utah are tourist destinations, the rest of the state is very dependent on the revenue from tourism. Tourism is a direct economic driver to Utah's airport system, which means it is vital to understand how tourism impacts the economy of the state. With Utah's scenery, the state is a desired destination for year-round indoor and outdoor activities, such as skiing, fishing, recreational flying, and hunting, which rely on Utah's integrated transportation system.

2.7 Socioeconomic and Demographic Conclusion

Residents in Heber City and Wasatch County are younger (34 to 39 years old) compared to Park City, Summit County, Utah, and the United States, while Park City and Summit County hold more higher-level degrees compared to the rest of the state of Utah and the United States. The populations in Heber City, Wasatch County, Park City, and Summit County are expected to continue to increase steadily over the next 30-40 years. Household income and per capita income are higher in Park City than the rest of Utah and the United States while the household income and PCI are lower in Heber City than the rest of the state and country.

Tourism is a significant economic driver in Heber City and Wasatch County, which likely lends itself to the lower unemployment rates that the county experiences, as compared to the rest of the nation.

Accolades of Wasatch County include:

- Heber City voted Utah's Safest City by movoto.com,
- Wasatch County voted #7 in America's Most Fit Communities, and
- Wasatch County voted 7th Fastest Growing Community in the U.S.

The state of Utah has also received numerous accolades, such as "Best State for Millennials" by Realtor.com 2017, "Best State for Business" by CNBC 2016 and Bloomberg 2016, and "Best Place for Young Professionals" by Forbes 2017.

Studies show that economic development in Heber City and Park City are tied together. As it is discussed in the *Housing Assessment Plan* by Park City Municipal Corporation in 2012, Deer Valley owns and leases properties for their seasonal employees which can accommodate 400 persons. [14] A high number of their 400 year-round employees are homeowners with the highest percentage living in Heber. The Wasatch Back Economy Overview, commissioned by Summit County Economic Development in 2019, indicated that Heber City ranks #2 in "Where Talent Lives". [15] The socioeconomics and demographics for Heber City and Wasatch County reveal a steadily increasing population base with a solid economic foundation. These indices point to a growing need and use for aviation, with aviation demand slowly increasing into the future.

Table 2.13 Heber City and Park City in Terms of Housing and Jobs

Where Talent Works			Where Talent Lives		
ZIP	Name	2018 Employment	ZIP	Name	2018 Workers
84060	Park City, UT	13,782	84098	Park City, UT	13,502
84098	Park City, UT	11,173	84032	Heber City, UT	12,163
84032	Heber City, UT	8,361	84036	Kamas, UT	4,683
84049	Midway, UT	2,037	84060	Park City, UT	4,430
84036	Kamas, UT	1,864	84049	Midway, UT	3,118

Source: Wasatch Back Economic Summit, Wasatch Back Economy Overview 2019

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Chapter 3. Inventory of Existing Conditions

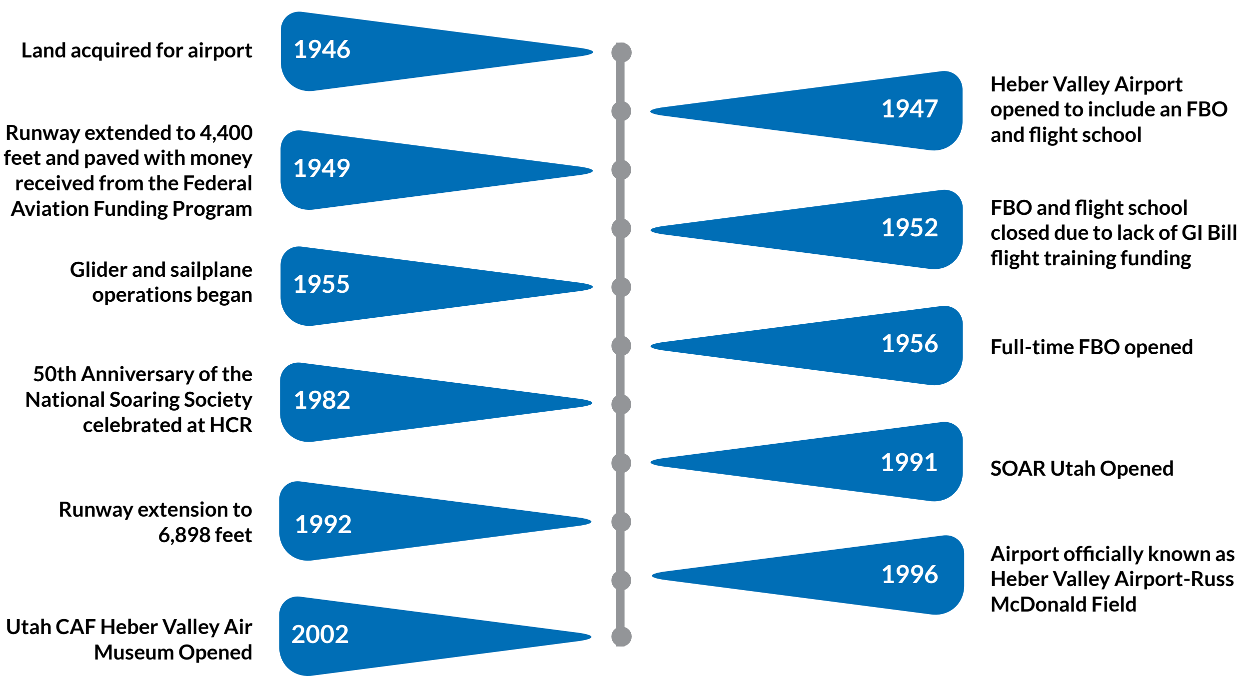
SECTION OVERVIEW

The inventory of existing facilities details the natural and physical environment, as well as the airside and landside facilities of Heber Valley Airport (HCR).

The information herein will provide the essential background information used throughout this Master Plan, and provide basic information which will assist in the development of the forecast and facility requirements.

Information for the existing airport and surrounding area was collected through several sources, including site visits, historical studies, airport personnel, the Fixed Base Operator (FBO), airport tenants and users, the FAA, UDOT, and numerous online research portals.

Figure 3.1 Heber Valley Airport Historic Timeline



3.1 Natural and Physical Environment

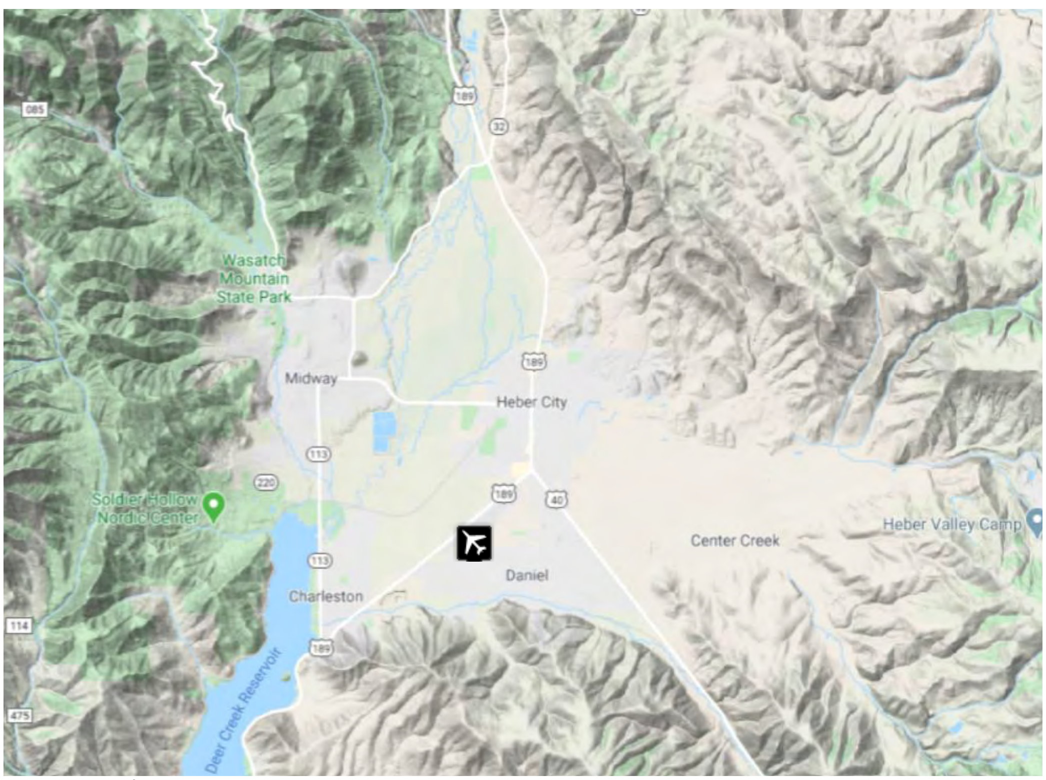
TOPOGRAPHY

An analysis of area topography provides insight to the types of natural and artificial features, which includes the types of surfaces which may be encountered during projects. Topography includes not only the natural landscapes such as bodies of water, mountains, and valleys, but man-made features from dams and roads, to cities and all the support infrastructure. Although topography, by definition, is a study of the surface of the earth, it can influence weather patterns, and help predict seasonal changes in wind and precipitation.

Heber City sits in the unforested Mountain Valley ecoregion as defined by the United States Geological Survey. This region contains terraces, floodplains, alluvial fans, and hills and is further characterized by cold winters and a short growing season (USEPA.2000). [1]

Heber Valley Airport is located towards the south of the valley, with rising foothills of the Wasatch Range just a mile south of the runway. The valley is completely surrounded by rough mountainous terrain which has influenced planning and development of this area throughout its history.

Figure 3.2 Heber Valley Topography



Source: Google Maps

Figure 3.3 Heber Valley Airport Contour Map

Source: Ardurra

GEOLOGY AND SOILS

According to the Natural Resources Conservation Service's (NRCS) Custom Soil Report, the soil at Heber Valley Airport consists primarily of Holmes gravely loam (78.7%) and Holmes cobbly sand loam (18.6%). Other soil types include Henefer silt loam (1.2%) and Kovich loam, deep water table variant (1.5%).

The parent material of Holmes gravely loam consists of alluvium derived from mixed sources. The natural drainage class is well drained, and organic matter content in the surface horizon is about 2%.

The parent material of Holmes cobbly sandy loam consists of alluvium derived from mixed sources. The natural drainage class is well drained, and organic matter content in the surface horizon is about 3 %.

Table 3.1 Heber Valley Airport Soils

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HeA	Henefer silt loam, 1 to 3 percent slopes	2.4	1.2%
Hk	Holmes cobbly sandy loam	39.3	18.6%
Hr	Holmes gravely loam	166.5	78.7%
Km	Kovich loam, deep water table variant	3.3	1.5%
Totals for Area of Interest		211.53	100.0%

Figure 3.4 Heber Valley Airport Soils Map

VEGETATION

Heber City is located in Wasatch County, which has historically been a major agricultural community. According to the U.S. Department of Agriculture (USDA), at one time, more sheep were shipped out of the valley than anywhere else in the nation. There are currently eight active dairies in Wasatch County, and major crops include alfalfa and grass hay, under sprinkler irrigation.

The county has experienced substantial residential growth, which includes Heber City. The city itself is a developed area, completely surrounded by agriculture. The natural vegetation is primarily Great Basin sagebrush.

The vegetation surrounding Heber Valley Airport is rangeland, in addition to game farms, feedlots, and dairy operations.

The 2012 USDA Hardiness Zone Map is the standard by which gardeners and growers can determine which plants are most likely to thrive at a specific location. The USDA identifies Heber City as having a growing zone of 5b, meaning the average minimum temperature extreme is -15°F to -10°F (USDA. 2020). [2]

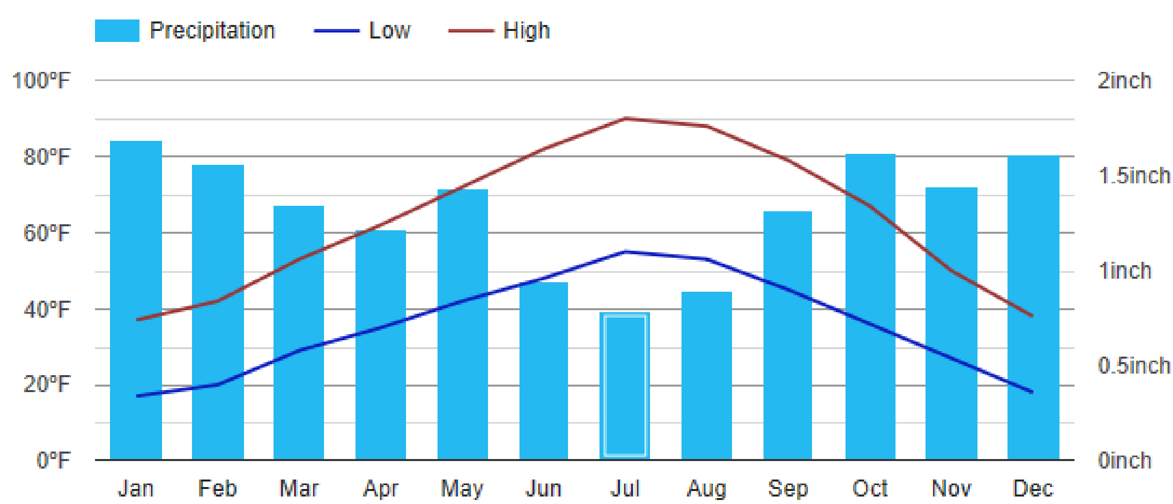
CLIMATE

The climate for this region is defined as warm summer continental climate based on the Köppen Climate Classification system. This means large seasonal temperature variations, with warm to hot and humid summers, and cold to very cold winters.

The average temperature in Heber City is 49.35°F, with the average annual high being 63.3°F, and the average low 35.4°F.

Average annual rainfall is 15.86 inches, and snowfall is 74 inches . As shown in ***Figure 3.5***, the wettest months start in January, taper down through the summer months, then increase again through the fall and winter. [3]

Figure 3.5 Heber City Climate Graph



Source: U.S. Climate Data - Climate Heber City

WIND COVERAGE

The FAA advises that the primary runway at an airport be oriented in the direction of the prevailing wind. The most desirable runway orientation is based on the largest wind coverage with the minimum crosswind. By aligning the runway with the predominant wind there is an increase in operational safety due to the aerodynamic design of an aircraft. A crosswind is a wind which is not parallel with the runway, and wind coverage is the percentage of time a crosswind is below an acceptable speed. Thus, properly aligning a runway provides the best wind coverage and allows for safer operations at individual airports.

A wind analysis is completed to ensure the existing runway meets the FAA defined wind coverage of 95%. If the primary runway does not meet this coverage, a crosswind runway may be recommended.

Aircraft are capable of taking off and landing with a crosswind though this greatly depends on the velocity of the crosswind, the particular aircraft, and the skill of the pilot. Generally, the smaller the aircraft, the more it is affected by a crosswind, and this factor is considered as part of runway orientation and design. The selected AAC and ADG as discussed in Chapter 1, are combined with the runway approach and visibility minimums to form the Runway Design Code (RDC) for a particular runway. The defined RDC drives the design standards for the runway and includes an allowable crosswind component. Therefore, the acceptable crosswind component for a runway is appropriate for the aircraft which regularly use the runway, see ***Table 3.2.***

Table 3.2 Allowable Crosswind Component by Runway Design Code

RDC	Allowable Crosswind Component
A-I and B-I*	10.5 Knots
A-II and B-II	13 Knots
A-III, B-III, C-I through C-III, D-I through D-III	16 Knots
A-IV and B-IV, C-IV through C-VI, D-IV through D-VI	20 Knots

* Includes A-I and B-I Small Aircraft

Source: FAA

On the following page are three wind roses for Heber Valley Airport. A wind rose is a graphical representation of wind in terms of the direction the wind is blowing from, wind strength, and percentage of time. Wind data is unique to a geographical location; therefore, a wind rose represents data collected over a certain period of time, in a particular location.

Wind data used to create these wind roses came from the FAA database, using weather information reported from the on-site AWOS at Heber Valley Airport. The downloaded wind data contained wind direction and speed for every year, for the past 10 years. A total of 127,226 observations were included in the all-weather wind rose, 4,922 for the Instrument Flight Rules (IFR) wind rose, and 122,304 for the Visual Flight Rules (VFR) wind rose. It is important to analyze data for all conditions in order to ensure appropriate runway coverage under all meteorological conditions.

Based on this wind analysis, Runway 4/22 at Heber Valley Airport maintains greater than 95% wind coverage for all weather scenarios and does not exceed the allowable crosswind component for any RDC category.

Figure 3.6 All Weather Wind Rose

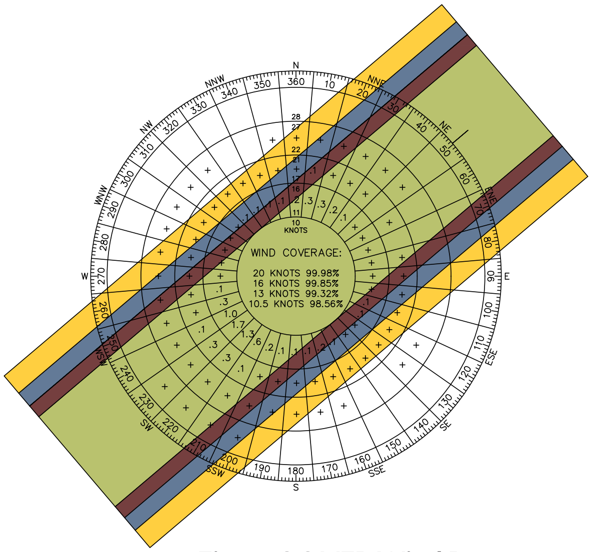


Figure 3.7 IFR Wind Rose

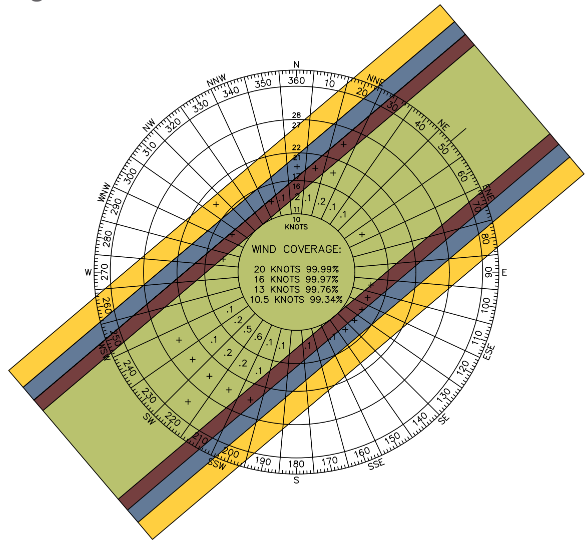
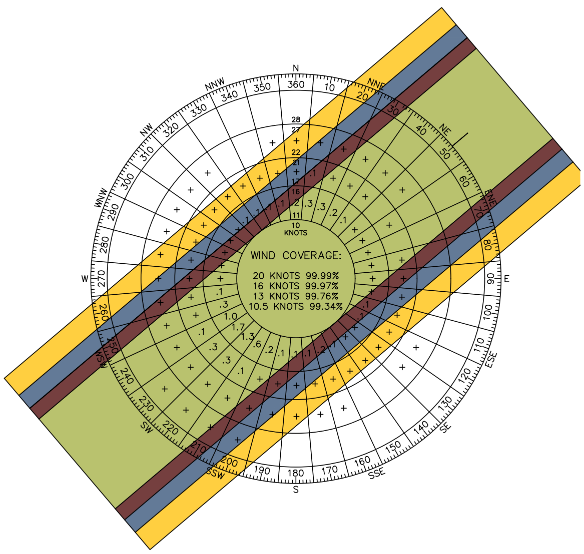


Figure 3.8 VFR Wind Rose



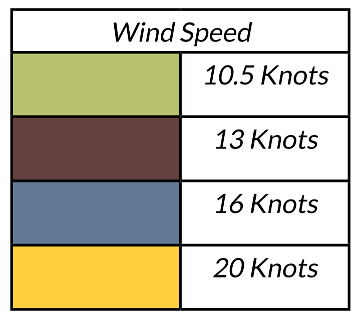


Table 3.3 Wind Coverage		
Weather Condition	**Wind Speed in Knots**	**Runway 4/22 Coverage**
All Weather 127,226 Observations	10.5	98.56%
	13	99.32%
	16	99.85%
	20	99.98%
IFR 4,922 Observations	10.5	98.53%
	13	99.30%
	16	99.85%
	20	99.97%
VFR 122,304 Observations	10.5	99.34%
	13	99.76%
	16	99.97%
	20	99.99%

In addition to the wind roses, the same data was overlaid on a satellite image of Heber Valley Airport. This view offers clarity for wind direction and strength.

The All Weather Overlay, ***Figure 3.9***, includes 127,226 observations and shows the predominant wind blowing directly down Runway 4. Although there is some crosswind from the south, the speed of the crosswind remains within the acceptable limits for the RDC.

Figure 3.9 All Weather Overlay

Figure 3.10 depicts wind information during instrument meteorological conditions (IMC), when visibility is less than three miles. This includes 4,922 observations, and shows that although there is an increase in duration of the crosswind from the south, the strength of the wind does not increase, therefore remains within acceptable limits for the RDC.

Figure 3.10 IFR Overlay

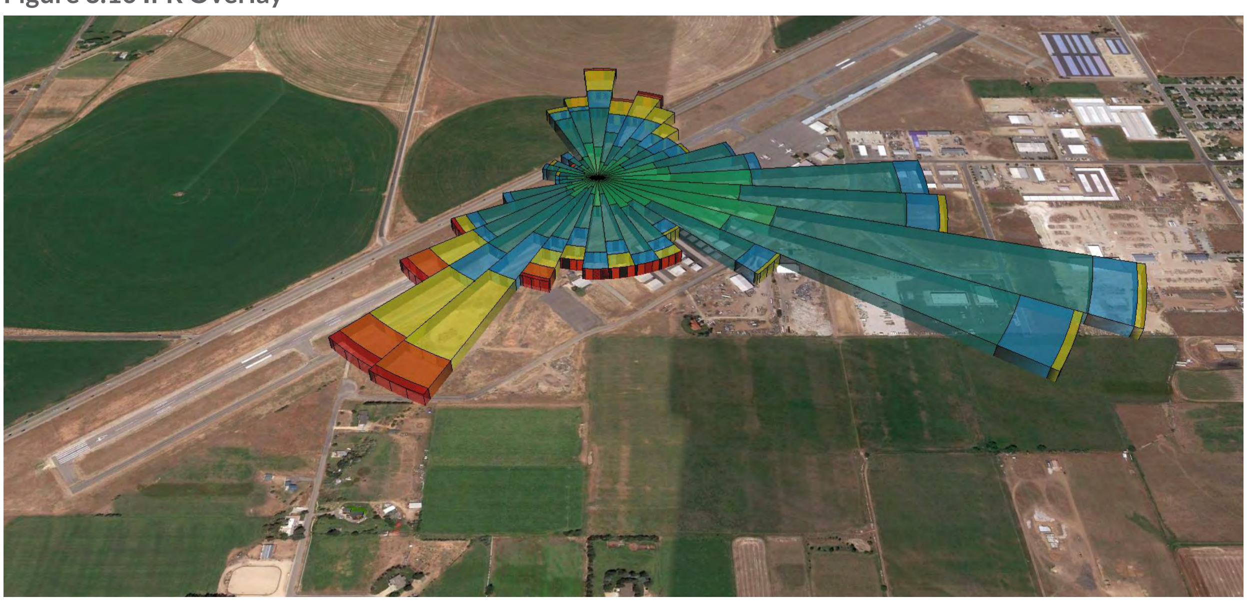


Figure 3.11 depicts wind information during Visual Meteorological Conditions (VMC), when visibility is three miles or greater. This includes 122,304 observations, and is very similar to the All Weather Overlay. Again, the predominant wind blows directly down the runway, with the slight crosswind visible from the south.

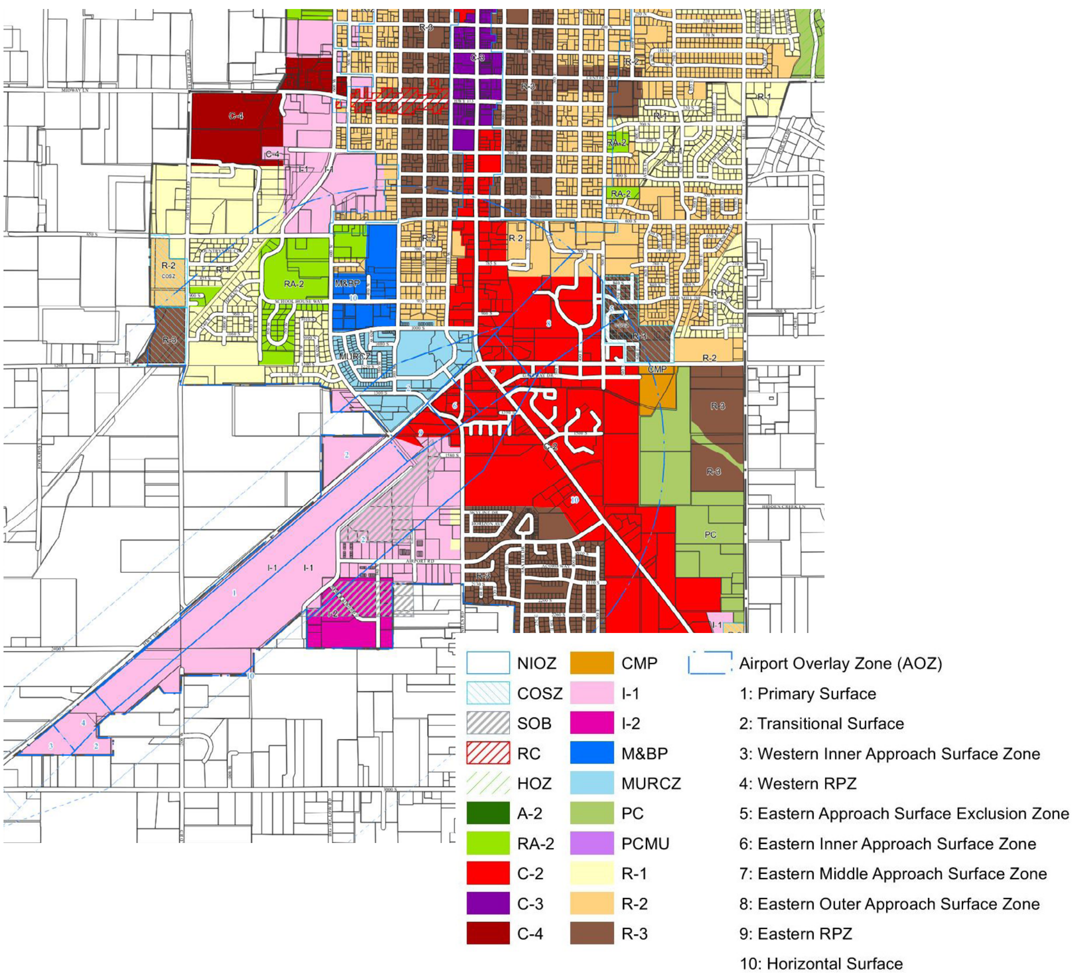
Figure 3.11 VFR Overlay

AIRPORT AREA ZONING

Land use in the vicinity of the airport can have an impact on the operations and growth potential. As stated, the airport is owned by Heber City, therefore, the city is obligated to ensure compatible land use around the airport as required by the Airport Improvement Program (AIP) Grant Assurance #21, Compatible Land Use. By understanding typical issues surrounding the airport, appropriate land use planning can be carried forward through the planning horizon.

Figure 3.12 depicts city zoning around the airport. The airport and adjacent I-2 zone are classified as industrial. This area allows for manufacturing, processing, warehousing and fabrication of goods. The I-1 and I-2 zones permit a mix of establishments, to include manufacturing and agricultural uses, as well as retail and commercial facilities. Commercial zoning, C-2, is intended to reduce the conflict between commercial and residential land uses and allows for a variety of land uses ranging from wholesale establishments, hotels, car lots, and hospitals, to schools, office buildings and some residential. R-3 zoning to the southeast of the airport is zoned for high density residential development to include single family homes, apartment buildings, and related community facilities. [4]

Figure 3.12 Airport Vicinity City Zoning



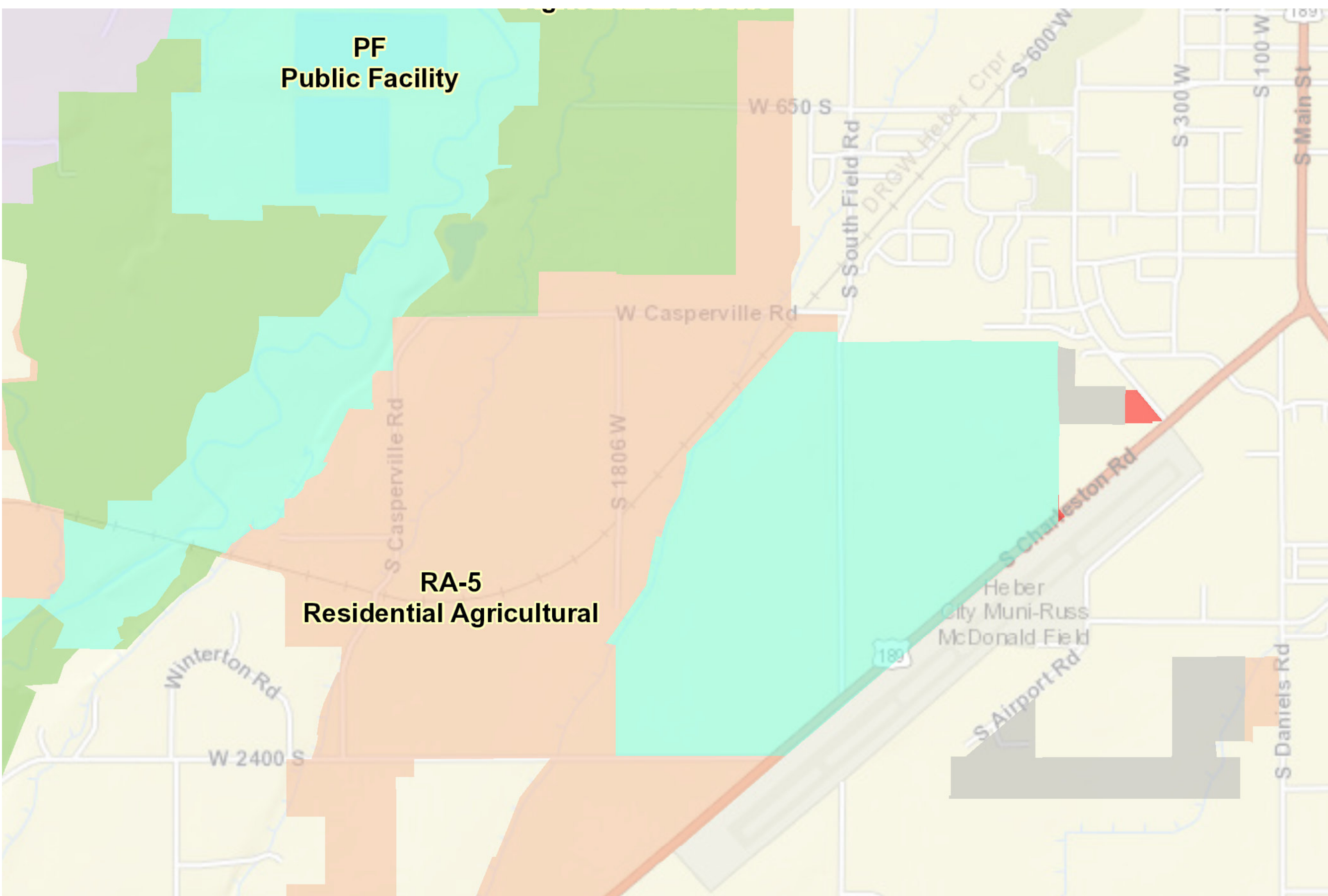
Source: heberut.gov

Though airport property is fully within city limits, the airport is immediately surrounded by county land to the north, and Daniel Town to the south. The city of Charleston is immediately west of the airport. Though Heber City and Charleston do not share a city boundary, they are only slightly separated by city and county property.

As shown in ***Figure 3.13***, the adjacent county zoning is defined as Public Facility (PF) and Residential Agriculture (RA-5). Public Facility zones provide ares for the placement of public facilities that are compatible with the adjoining uses and surroundings. Residential Agricultural zones allow residential development near incorporated areas, while maintaining a rural atmosphere with height and density restrictions. Included, but not pictured, is an established county Airport Overlay Zone. This overlay zone contains an Airport Approach Zone, Airport Transition Zone, and Airport Turning Zone, all of which incorporate specific building and land use regulations to ensure safety, as well as land use compatibility between the community and airport.

Daniel Town to the south has zoned the areas adjacent to Heber Valley Airport as Industrial and Commercial.

Figure 3.13 Wasatch County Zoning



Source: Wasatch County arc.gis.com

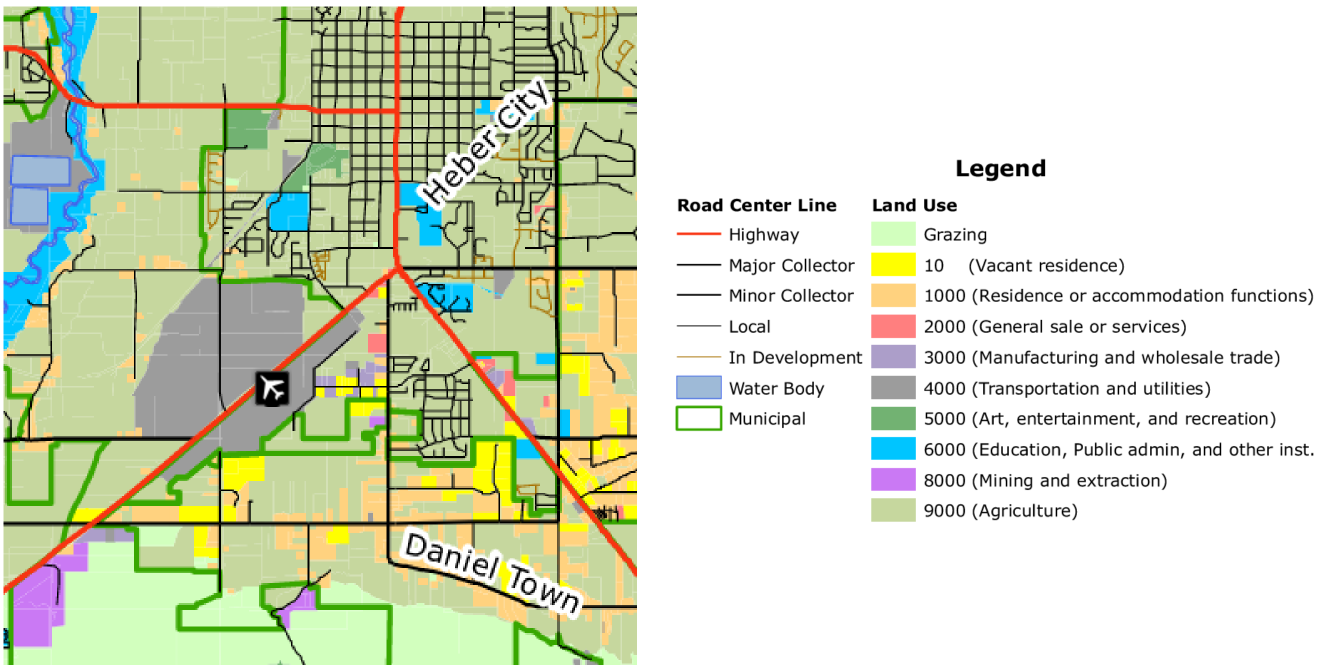
AIRPORT AREA LAND USE

As discussed, although the airport is owned Heber City, there is county-owned land adjacent to the airport, as well as abutting towns in which safety zones penetrate. In order to preserve this land and ensure compatible land use for future operations at the airport, careful coordination between these cities and county takes place.

The Wasatch County General Plan recognizes the need to incorporate appropriate policy in regard to land use planning around the airport. For that reason, only non-noise sensitive land uses are permitted in the spaces adjacent to the airport and include commercial, light industrial, agriculture, or open space zoning.

Wasatch County further protects this surrounding land use by stipulating certain land uses will remain open space in the event it is ever abandoned (for example, the sewer farm on the west side of the airport). The county also recommends the Daniel Planning Area between the airport and Daniel Road be zoned for manufacturing and light industrial activities. Additionally, in recognizing the growth the county is currently experiencing, it is a goal of the county to review the county land use policy every five years in order to ensure policy is being followed, as well as to address changing conditions.[5] See ***Figure 3.14*** for a map of existing land uses surrounding the airport.

Figure 3.14 Airport Area Land Use



Source: Wasatch County

The Utah Department of Transportation, Division of Aeronautics (UDOT Aeronautics) published a planning guide for compatible land use around airports. This publication addresses issues surrounding airports, and its intended use is as a quick reference for these issues. The guide recognizes that authority for airport planning lies with the Sponsor, however, it provides tools and resources for those involved in planning .

The City of Heber is ultimately responsible for planning and surrounding land use development. According to the Heber City General Plan, the surrounding area is intended to be used for industrial, manufacturing, and technology uses.

3.2 Airside Facilities

Airside facilities are defined by the FAA as the portion of the airport that contains the facilities necessary for the operation of aircraft. For Heber Valley Airport, these facilities include: a single runway, taxiway and connectors, aprons and aircraft parking, appropriate airfield markings, Automated Weather Observing System (AWOS), and navigation aids to include a segmented circle, airfield lighting, and a rotating beacon.

RUNWAY

Heber Valley Airport is served by a single runway, 4/22. It is 6,898 feet long, 75 feet wide, and has a weight bearing capacity of 89,000 pounds single wheel and 142,500 pounds dual wheel. The runway is appropriately marked with non-precision markings.

The runway pavement condition number (PCN) is 32/F/B/X/T, The PCN is the way some pavement strengths are classified. The numerical value, in this case 32, represents the load-carrying capacity of a standard single wheel load, at a specified tire pressure. The "F" classifies the pavement type as flexible, meaning there are layers of pavement through which the impact and load is distributed. "B" defines the subgrade strength, "X" represents a high tire pressure category, and "T" means the PCN value was obtained through a technical evaluation.

Figure 3.15 Runway 4 End

Figure 3.16 Runway 22 End

Source: Ardurra

The runway is equipped with Medium Intensity Runway Lights (MIRL). These lights outline the runway and are white for the primary length of the runway, then turn to amber for the last 2,000 feet. The lights marking the end of the runway emit red light toward the runway and emit green light outward from the runway end to indicate the runway threshold for landing aircraft.

The runway lighting is pilot controlled, meaning the lights are defaulted to be off, and pilots have the ability to turn them on from the aircraft. This is done by the pilot clicking the radio transmit button a series of times on the listed frequency and will remain on for 15 minutes once activated.

Figure 3.17 Medium Intensity Runway Lights (MIRL)

Source: Ardurra

Figure 3.18 Precision Approach Path Indicator (PAPI)

Source: Ardurra

PAPI

Runway 22 is equipped with a 4-light Precision Approach Path Indicator (PAPI), ***Figure 3.13*** above. A PAPI is a visual aid for incoming aircraft to assist with obtaining an appropriate approach path, or glide path to the runway. A PAPI uses a combination of white and red lights, which are seen in different combinations at different angles. Four white lights indicates the aircraft is too high on the glide path, two white and two red lights indicate the aircraft is on glide path, and all red indicates the aircraft is below glide path. The PAPI at Heber Valley Airport provides guidance for a slope of 4°, and is usable up to 3.5 nautical miles away from the runway.

TAXIWAY

The airport has a full parallel taxiway on the south side of the runway designated as Taxiway A. There are seven runway connecting points, with appropriate signage. Numbers for the taxiway connectors begin at A1 at runway end 22 and stop at A7 at runway end 4.

Figure 3.19 Taxiway Markings

Source: Ardurra

NAVIGATIONAL AIDS

Airport beacons are rotating omni-directional lights, mounted on tall towers and indicate the location of a lighted airport. In the United States there are different classifications of airports which are identified with different beacon colors and flashing light patterns emitted from the rotating beacon. The airport classifications are land, water, heliport, military, and hospital or emergency services heliport.

At Heber Valley Airport, the rotating beacon flashes alternating white and green identifying it as a lighted, land airport. The beacon is in operation from sunset to sunrise, and when ground visibility is less than three miles.

The airport is equipped with a segmented circle and lighted wind cone located on the north side of the runway, at approximately midpoint of the runway. The segmented circle acts as a central location for easy identification of the wind cone, and aids in controlling the traffic pattern direction for incoming aircraft. The segmented circle identifies a standard left hand traffic pattern for both runway ends.

Figure 3.20 Rotating Beacon

Source: Ardurra

Figure 3.21 Segmented Circle

Source: Google Earth

Figure 3.22 Wind Cone

Source: Ardurra

WEATHER INFORMATION

An Automatic Weather Observing System (AWOS) is located on the south side of the runway, towards the runway end 4. These systems consist of various sensors, a processor, and a computer-generated voice subsystem which transmits minute-by-minute weather data.

Information transmitted includes wind speed, direction and gusts, temperature, dew point, and altimeter setting. The AWOS will also report density altitude if it differs from field elevation by more than 1,000 feet. This particular system at Heber Valley Airport is classified as an AWOS – 3PT, meaning in addition to the above observations, it includes additional information about precipitation type, i.e. rain, snow, and drizzle, as well as thunderstorm/lightning reporting capability (FAA. 2020). [6]

Heber Valley Airport's AWOS can be accessed by pilots on radio frequency 124.825, or via telephone at 435-657-0892.

Figure 3.23 AWOS

Source: Ardurra

PAVEMENT CONDITION

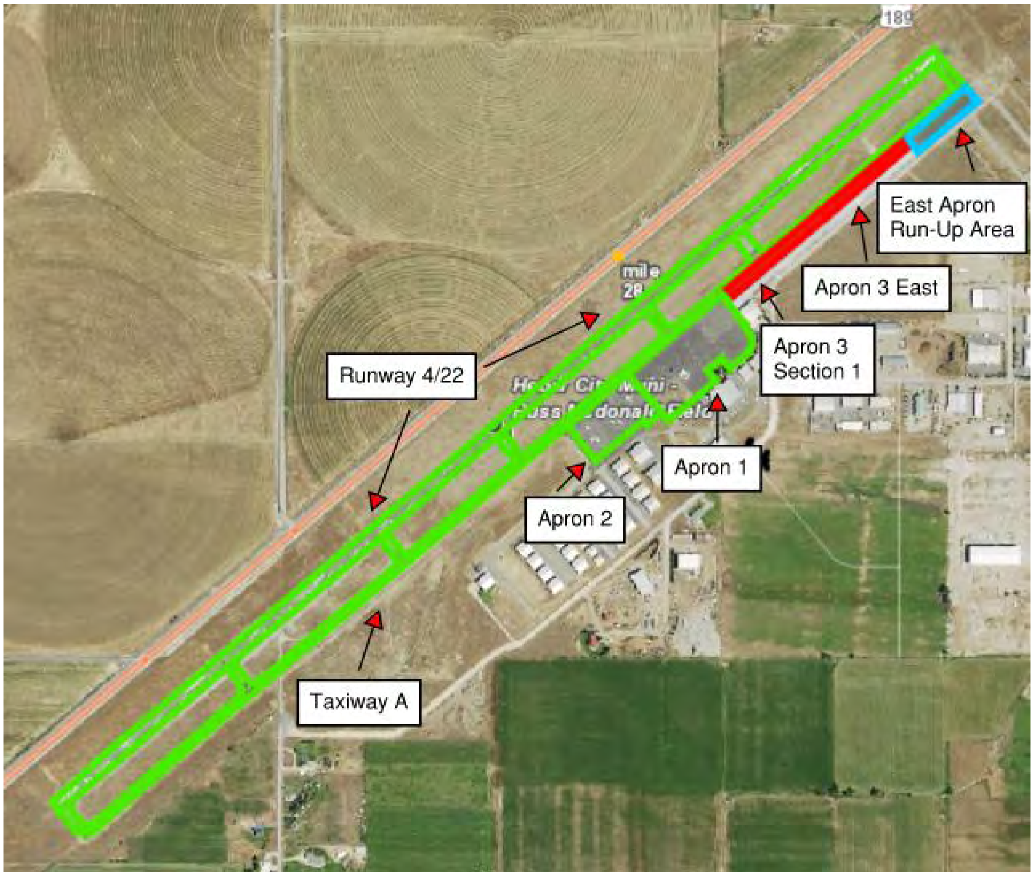
Pavements at airports are routinely surveyed by the state transportation department, and result in a Pavement Condition Index (PCI) score. The PCI scores range from 0-100 with 0 representing failing conditions and 100 identifying perfect conditions. The score acts as a general gauge for operational condition. Typically, the range between 50-80 indicates the window where rehabilitation is needed. A PCI score lower than 50 is no longer a candidate for rehabilitation and requires complete reconstruction.

UDOT Aeronautics tracks pavement conditions of Utah's airports. This allows UDOT to determine priority across the state's airports in determining the need for rehabilitation and maintenance.

The pavements at Heber Valley Airport were last tested in October 2015. Runway 4/22 was given a PCI score of 100, Taxiway A received a 94, the southwest apron (apron 2) received an 86, apron 1 in the center was rebuilt in 2015 and scored 100, apron 3 section 1 to the east of apron 2 scored 32, apron 3 east scored 46, and the east apron run-up area had a score of 62 .

According UDOT pavement engineers, pavement in this area deteriorates at approximately three points a year without any preservation, rehabilitation, or reconstruction. The last inspection was in 2015, with the next inspection scheduled for 2020. ***Figure 3.24*** outlines the pavement areas inspected, and ***Table 3.4*** represents the anticipated pavement conditions at Heber Valley Airport as of October 2020 based on the annual expected deterioration.

Figure 3.24 2015 PCI Scores



Source: UDOT

Table 3.4 Predicted 2020 PCI Scores	
Description	**2020 Calculated PCI Score**
Runway 4/22	85
Taxiway Alpha	79
Apron 2 - South West of Apron 1	71
Apron 1	85
Apron 3 Section 1, East of Apron 2	17
Apron 3 East	31
East Apron Run-Up Area	47

BASED AIRCRAFT

The FAA defines a based aircraft as an aircraft that is operational and airworthy, which is based at a particular facility for the majority of the year. Due to the slight vagueness in this definition, and the constant fluctuation and seasonal variations which naturally occur at the airport, there is some discrepancy in based aircraft numbers at HCR.

According to the FAA 5010 Master Record, as of the last inspection in October 2015, there are 35 based aircraft; 32 single engine, 2 multi-engine, and 1 jet. The FAA Terminal Area Forecast (TAF), issued in January 2020, lists 82 based aircraft. The FAA National Based Aircraft Inventory Program (NBAIP) lists 35 based aircraft, as confirmed in August 2012. In June 2020, hangar owners were contacted to help identify the number of aircraft currently based at the airport. Based on the information received, it has been determined that there are 115 based aircraft at HCR. The breakdown by aircraft type of the based aircraft is 97 single engine, 9 multi-engine, 4 jets, and 5 helicopters. Based on discussions with the FAA, until N numbers have been verified through the NBAIP process, the number of based aircraft to be used for further extrapolation in the forecast is the TAF number - 82.

Table 3.5 Based Aircraft Comparison

	FAA TAF (2020)	FAA 5010 (2015)	NBAIP (2012)	Calls to Hangar Owners (2020)
Based Aircraft	82	35	35	115

3.3 Landside Facilities

AIRPORT ACCESSIBILITY

Figure 3.25 Access Gate

Source: Ardurra

Heber Valley Airport is located on Airport Road, and can be accessed from the City of Heber via South Daniels Canyon Road. A paved vehicle parking lot for general aviation users is located outside the airport security fence, near the Fixed Base Operator (FBO) parking lot. There are 21 marked parking spots in the public use lot, and it is frequently at capacity.

Airport access can be gained through one of three main paved vehicle access gates which require an access card. One vehicle access gate is for FBO use only, and leads to a private lot where FBO courtesy cars are parked. Another gate is located to the west of the general aviation parking lot, and a third gate provides access to the hangars on the east side of the airport. The airport also has several secure man gates, all which require a code or key, as well as additional non-paved vehicle and emergency response access gates. See ***Figure 3.26*** for an Airport Facilities Map.

AIRPORT APRON AND SUPPORT FACILITIES

Hangars at the airport include various sizes of box hangars, and are primarily privately owned with few commercial and city owned hangars. All hangars are located on the south side of the runway. There are 31 hangars in the southwest area of the airport including the museum, 9 in the central area including the 2 leased by the FBO, and 31 hangars in the eastern area of the airport where the glider and sailplanes are located.

Figure 3.26 Airport Facilities Map

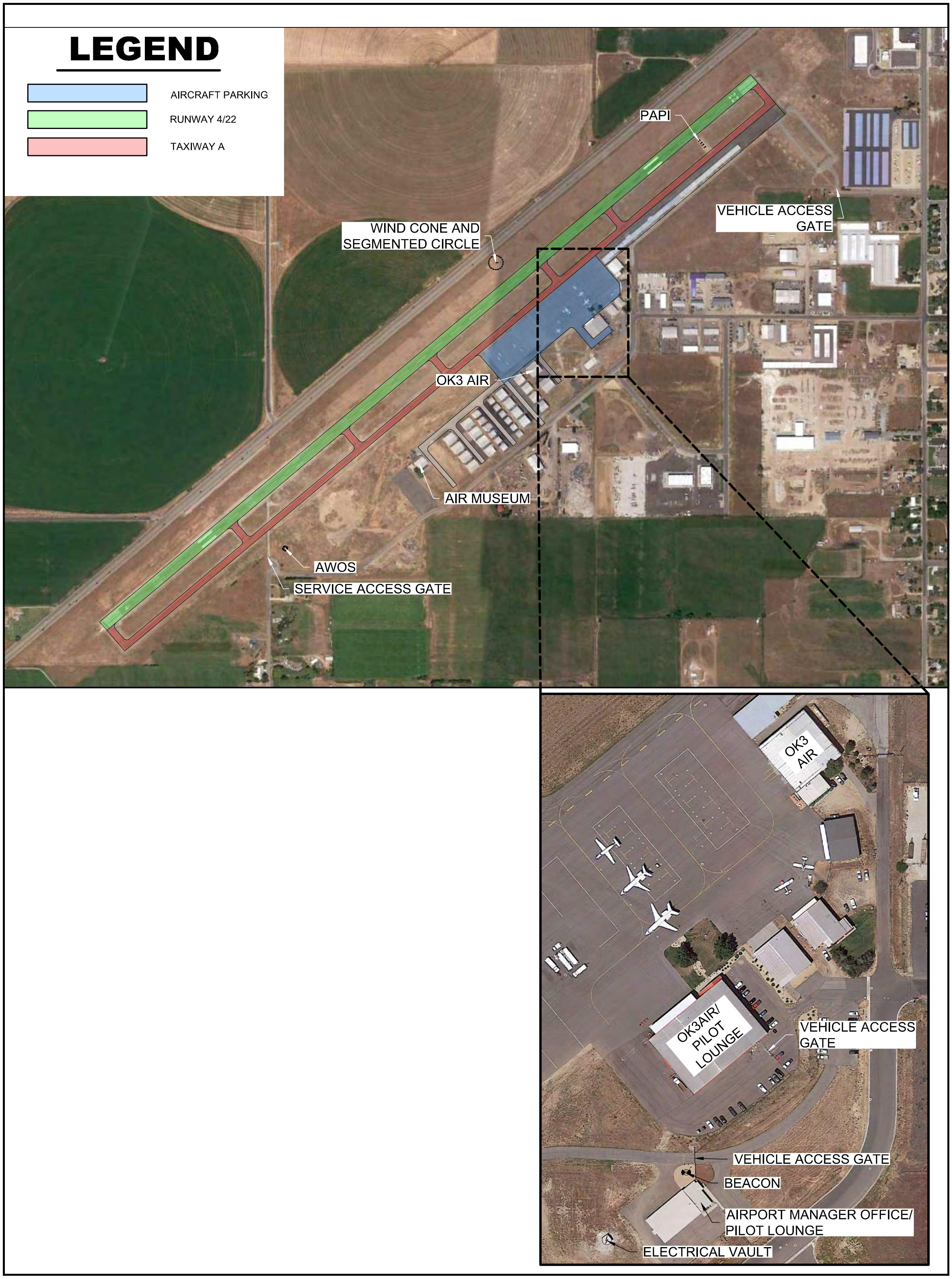


Figure 3.27 Hangars

Source: Ardurra

FIXED BASE OPERATOR

Heber Valley Airport has one fixed base operator (FBO), OK3 Air. The FBO is a full service FBO, meaning they provide line services with 100 LL, and jet A refueling, as well as type I and IV deicing, battery cart and ground power unit (GPU) services. In addition, the FBO has lavatory facilities, oxygen and nitrogen services, and offers crew cars and complimentary beverages.

Figure 3.28 OK3 Air FBO

Source: Ardurra

Figure 3.29 Fuel Island

Source: Ardurra

Additionally, OK3 Air is an FAA Part 145 Certified Repair Station, with trained FAA licensed technicians, and an authorized Pilatus service center. Maintenance and repair services include structural, avionics systems, and aircraft engines. Outside of their line service, OK3 Air offers car rentals, hangar leasing, coordinated hangar selling, and aircraft sales (OK3 Air. 2020). [7]

Figure 3.30 FBO Service Center

Source: Ardurra

OK3 Air leases their three hangars from the City of Heber, which includes the main facility which holds the pilot lounge. The FBO maintains Apron 1, as noted on the Airport Facilities Map (***Figure 3.26***), which includes 20 small tie- downs, 10 larger tie-downs, and 9 designated parking spots for jets.

FENCING

The perimeter fence at Heber Valley Airport circumnavigates the entire airport, though airport property exists outside of the fence line. It is a mix of wildlife fencing and chain link topped with barbed wire. The fencing is in fair to poor condition, and there are areas where the barbed wire needs to be replaced. There are gaps between fence types, as well as fencing in poor condition which allow for wildlife to frequently penetrate fencing.

Figure 3.31 Perimeter Fencing

Source: Ardurra

UTILITIES

Heber Light and Power provides electrical for the airport, and sewer and water is provided by the city. Currently, all hangars and facilities at the airport are equipped with utilities.

VEGETATION MAINTENANCE

The airport has a tractor with a 12 foot wide mower deck, and a smaller zero-turn mower is borrowed from the city for use around lights.

SNOW AND ICE

In order to maintain safe operations throughout the year, Heber Valley Airport maintains a snow and ice control plan which is reviewed on an annual basis. Priority for snow and ice control is first the runway then Taxiway A, followed by the taxiway connectors and taxilanes. The FBO and any commercial operator is responsible for snow removal on their leasehold, and the city is available for snow removal assistance on a contract basis.

The Snow Removal Equipment (SRE) is stored and maintained in the heated SRE building. Equipment includes a dump truck with plow, a loader with plow/box pusher attachments, and snow blower. Additional assistance and equipment can be obtained from Heber City, or other private companies. According to the airport manager, the snow removal equipment is in fair to poor condition and is in need of replacement.

Figure 3.32 Snow Removal Equipment

Source: Ardurra

AIRCRAFT RESCUE AND FIREFIGHTING (ARFF) EQUIPMENT

Heber Valley Airport is not required to maintain an Aircraft Rescue and Firefighting (ARFF) program, therefore, the City responds to all emergencies at the airport and has access to the airport through all of the vehicle access gates.

AIR MUSEUM

Heber Valley Airport is home to the Commemorative Air Force (CAF) Utah Wing Museum. The CAF collects and restores aircraft to an airworthy condition with the goal of honoring military aviation. Aircraft are displayed for the public, as well as available for warbird rides. The museum can be reserved for special events, as well as World War II era photo shoots. The museum maintains a parking lot outside of the hangar, and has access to a gravel lot for large events.

Figure 3.33 Air Museum

Source: Ardurra

FLYING CLUBS

Soaring in the Heber Valley has a long history. In 1964 a group of pilots leased a glider, and with the help of a WWII Glider Instructor Pilot, began the sport. Through the 1970s the vast majority of the airport traffic was gliders with only a few single engine aircraft based at HCR. The airport became known around the country as a first-rate soaring site and attracted many out of state pilots throughout the flying season.

Throughout the 1960s until now, the Utah Soaring Association (USA) has maintained a presence at the Heber Valley Airport. The USA has four locations throughout northern Utah to include Heber Valley Airport. The club provides glider instruction, maintains multiple gliders for member use, and coordinates annual events and competitions. The Association totals over 80 members, and the benefits of membership include inexpensive flying, access to well-maintained aircraft for either instruction or enjoyment, as well as the camaraderie shared between people who enjoy the freedom of flight (Utah Soaring Association. 2020). [8]

Heber Valley has a core group of about 10 USA glider pilots that regularly use the club glider along with flying their own gliders.

Soar Utah Inc. is the business that supports the private flying club and its members at HCR to include the tow operations necessary to get them off the ground.

Figure 3.34 1982 Soaring Society 50th Anniversary

Photo Courtesy of Utah Soaring Association

LEASED LAND

Approximately 20 acres of land west of Runway 4 is leased for agricultural purposes to include alfalfa and hay fields, as well as grazing. South of the hangars, a few acres of land are used to pasture horses. Throughout the airport, the local high school uses portions of the property for various projects as part of the Center for Advanced Professional Studies (CAPS) program. CAPS is a partnership between local high school students, businesses, and industry mentors. The goal is to help students develop critical thinking and problem solving skills by working in collaborative groups to complete real-world projects while being mentored by industry partners.

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Chapter 4. Forecast of Aviation Demand

SECTION OVERVIEW

This chapter will analyze the existing aviation activity at Heber Valley Airport (HCR), and using approved forecasting methodologies, determine a realistic forecast of aviation demand. This analysis will determine a baseline of activity for the year 2020, and forecast short (5-year), medium (10-year), and long (20-year) term projections. The information provided in this chapter will determine the FAA design standards used to for planning and future airport development.

4.1 General

Forecasts of future levels of aviation activity at an airport are the foundation for effective decisions in airport planning and development. The projections are used to determine the need and timing for new and/or expanded facilities or to decommission old facilities. Forecasts are based on the most up-to-date available information and include an analysis of both local and national industry trends. The forecast is then used to determine appropriate time frames or trigger points for phasing of capital investments which ensures the airport avoids unnecessary operating expenses or a loss of economic benefits through the airport for the community.

The forecasting element is focused on two primary objectives to be incorporated in the facility requirements analysis. The first objective is to identify total operations at the airport in order to estimate how busy the airport will be at various milestones during the planning period. This analysis will assist the community in understanding the overall strategic-capacity needs for the airport.

The second objective is to determine the airport's "critical" or "design" aircraft. The critical aircraft sets the dimensional requirements to be used for specific airport elements such as separation distances between taxiways and runways, and the size of defined protection areas. The critical aircraft is the most demanding aircraft type, or family grouping of aircraft with similar characteristics, that make regular use at the airport. Regular use is further defined as 500 annual operations of both itinerant and local operations, excluding touch-and-go operations. An operation is either a takeoff or landing. For determining the critical aircraft the FAA provides guidance in Advisory Circular 150/5000-17, *Critical Aircraft and Regular Use Determination*.

It is important to note that neither the Airport Sponsor nor the community choose the critical aircraft. Through the guidance referenced above, the planning effort determines the aircraft (or combination of aircraft), based on existing operations at the airport. The future critical aircraft is determined by the forecast and the ongoing trends in the aircraft fleet.

The forecast provides a framework to guide the analysis for future development and alternatives at the airport. It should be realized there are always short and long-term fluctuations in an airport's activity due to a variety of factors that cannot be anticipated. Thus, it is important to include flexibility and dynamic strategies within an airport's forecast. Data acquisition for this study occurred during the COVID-19 Pandemic, where the full impacts are yet to be determined on the economy and aviation industry. This forecast is based on the most up-to-date information possible, with the understanding that future activity is volatile as the affects of the pandemic on the economy continue to unfold.

4.2 General Aviation Industry Trends

The aviation industry follows economic trends, and the nature of the industry is cyclical. At the national level, fluctuating trends in GA usage and economic upturns/downturns resulting from the nation's business cycle have impacted GA demand. In general, slow economic recovery and economic uncertainties will impact demand for GA at many airports throughout the U.S., including HCR, over the next several years.

It is important to understand the two main types of aviation present in Utah, commercial service and general aviation. Commercial service consists of those operations which are scheduled and reach a threshold of annual enplanements, and general aviation encompasses all other operations. Heber Valley Airport is a general aviation airport, meaning there are no scheduled services, however, the airport has significant use by business aviation.

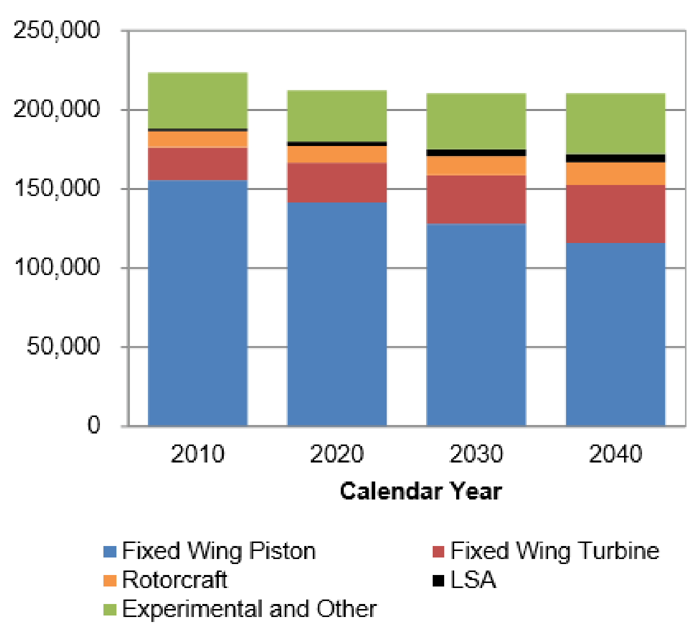
The following section presents trends for the United States, which are intended to provide a general frame of reference. The analysis of the national trends provides an understanding of how aviation activity within the region compares to aviation activity throughout the country. The analysis may also provide a basis for predicting how aviation may be expected to develop in the future.

FAA AEROSPACE FORECAST 2020-2040

The highlights from the FAA Aerospace Forecast 2020-2040 reveal the longterm outlook for commercial air carrier and passenger demand are expected to see continuous growth. It is anticipated global economic growth will accelerate in 2021 following the slump in 2019-2020, as it is expected economies will return to the long-run trend rates of growth.

General aviation will remain relatively stable with continued growth in corporate and business aviation offsetting a decline in traditional and low end fleets. The active GA fleet is expected to decline at 0.9% as fixed wing piston aircraft are being retired and replaced with a more sophisticated turbine powered fleet (***Figure 4.1***). There is an expected increase in experimental and Light Sport Aircraft (LSA) fleets with an associated increase in hours. The increase of turbine, experimental, and LSA fleets remain just below the decline of piston aircraft, thus an overall decline in the active GA fleet. Although the fleet is expected to decrease, the number of hours flown are expected to increase by 16% during the same period as new aircraft are expected to fly more hours. [1]

Figure 4.1 Active GA Aircraft Fleet

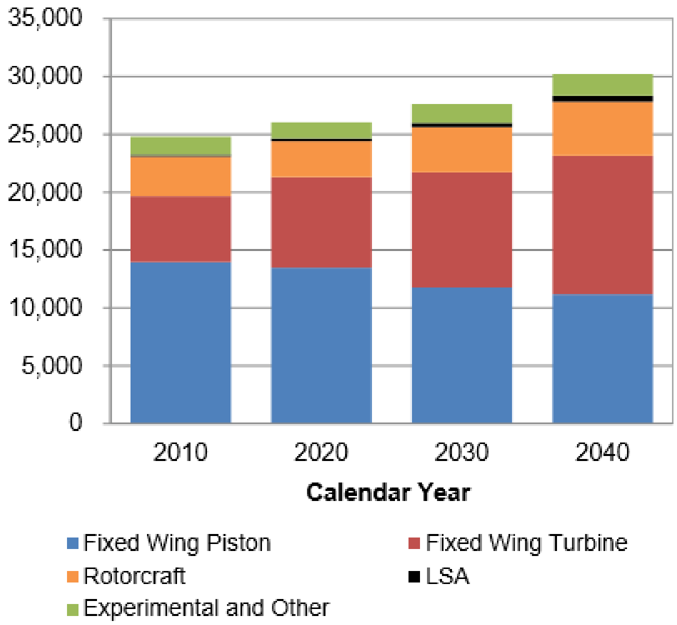


Source: FAA Aerospace Forecast 2020-2040

Fixed wing piston hours are expected to decline at the same rate as fleet decline, with turbine aircraft hours increasing 2.2% annually. GA jet aircraft are expected to account for the greatest increase in hours flown at 2.7% annually throughout the planning period as the business jet fleet increases (***Figure 4.2***).

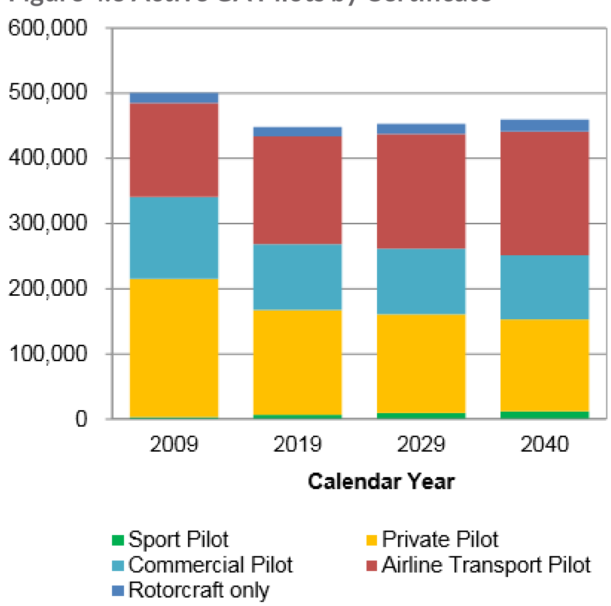
The number of active pilots at the end of 2019 was 664,565 with growth in every certificate type except for rotorcraft and recreational pilot certificates. The number of GA pilots is expected to decrease between 2019 and 2040, except for commercial and air transport pilots (ATP), which are expected to increase over the same forecast period. This follows the aircraft fleet trends and hours flown trends for the types of operations expecting to occur ***(Figure 4.3).***

Figure 4.2. GA Hours Flown (in thousands)



Source: FAA Aerospace Forecast 2020-2040

Figure 4.3 Active GA Pilots by Certificate



Source: FAA Aerospace Forecast 2020-2040

GENERAL AVIATION AIRCRAFT SHIPMENTS

The 2008-2009 economic recession negatively impacted GA aircraft production, and the industry has been slow to recover. The General Aviation Manufacturers Association (GAMA) offers additional optimism in their most recent publication for the continued growth of GA aircraft manufacturing in the near future. ***Table 4.1*** summarizes the historical data related to GA aircraft shipments. [2]

Table 4.1 Annual General Aviation Airplane Shipments

Year	Total	Single Engine Piston	Multi-Engine Piston	Turboprop	Business Jet	% Change from Previous Year
1995	1,251	605	61	285	300	-
1996	1,437	731	70	320	316	15%
1997	1,840	1,043	80	279	438	28%
1998	2,457	1,508	98	336	515	34%
1999	2,808	1,689	112	340	667	14%
2000	3,147	1,877	103	415	752	12%
2001	2,998	1,645	147	422	784	-5%
2002	2,677	1,591	130	280	676	-11%
2003	2,686	1,825	71	272	518	0.3%
2004	2,962	1,999	52	319	592	10%
2005	3,590	2,336	139	375	750	21%
2006	4,054	2,513	242	412	887	13%
2007	4,277	2,417	258	465	1,137	6%
2008	3,974	1,943	176	538	1,317	-7%
2009	2,283	893	70	446	874	-43%
2010	2,024	781	108	368	767	-11%
2011	2,120	761	137	526	696	5%
2012	2,164	817	91	584	672	2%
2013	2,353	908	122	645	678	9%
2014	2,454	986	143	603	722	4%
2015	2,331	946	110	557	718	-5%
2016	2,268	890	129	582	667	-3%
2017	2,325	936	149	563	677	3%
2018	2,441	952	185	601	703	5%
2019	2,658	1,111	213	525	809	9%

Source: GAMA Databook 2019

4.3 Airport Service Area

A vital step in the determination of an airport's aviation demand forecast is to define its service area for various sectors of aviation. The service area for an airport is a geographic region from which an airport can be expected to attract the largest share of its activity. The service area is determined by evaluating the location of contending airports and their capabilities and services, as well as their relative attraction and convenience. The definition of the service area can then be used to identify other factors, such as socioeconomic and demographic trends, which influence aviation demand at an airport.

In determining the aviation demand for an airport, it is necessary to identify the role of the airport, as well as the specific areas of aviation demand the airport is intended to serve. HCR's primary role is accommodating GA demand in north-central Utah. The airport is classified as a public use, regional airport that does not have scheduled passenger service. The NPIAS defines a regional airport as being located in a metropolitan area, serving a relatively large population. Regional airports support regional economies with some interstate and some long-distance flying, and have high levels of activity including some jets and multi-engine propeller aircraft. [3]

Aviation demand can also be impacted by the proximity and strength of aviation services at nearby airports, fuel prices, hangar availability and costs, and local and regional surface transportation networks. The more a facility can offer in terms of services and capabilities, the more viable it will be.

As a general rule, a GA airport's service area extends for approximately 30 miles. There are three other public-use airports within 30 nautical miles of Heber Valley Airport with instrument approaches and designed to serve GA aircraft. Although Provo Municipal Airport (PVU) offers limited commercial service and is classified as a primary nonhub airport, it is still heavily used by GA aircraft. ***Table 4.2*** summarizes HCR in comparison to competing nearby airports. Notably, Salt Lake City International Airport (SLC) is located 31 nautical miles northwest of HCR. While not a direct competitor to HCR, multiple aircraft divert to SLC during poor weather conditions due to the higher approach minimums at HCR.

Table 4.2 Competing Airports within Primary Service Area

Airport	Distance from HCR (nm)	NPIAS Role	Based Aircraft	Annual Operations	Longest Runway (ft)	Lowest Approach Visibility Minimums (mile)
Heber Valley Airport (HCR)		Regional	82*	12,443*	6,898	1 1/2
Provo Municipal Airport (PVU)	21 NM SW	Primary, Nonhub	111	171,915	6,628	3/4
Spanish Fork Airport Springville-Woodhouse Field (SPK)	23 NM SW	Local	138	27,375	6,500	1 1/4
South Valley Regional Airport (U42)	27 NM W	Regional	219	75,920	5,862	1 1/2
Salt Lake City International Airport (SLC)	31 NM SW	Large Hub	331	344,683	12,002	1/2

Source: airnav.com, FAA 5010 Airport Master Record, NPIAS 2019-2023

**Verified as part of this Master Plan (2020)*

4.4 Airport Reference Code

The FAA has developed an airport coding system referred to as the Airport Reference Code (ARC) which establishes the specific design criteria for facility development. The ARC is determined from the critical aircraft, therefore the design criteria for a facility is appropriate for the types of operations an airport receives.

The ARC is based on two separate components of aircraft design: Aircraft Approach Category (AAC), and Airplane Design Group (ADG). The AAC is designated by a letter (A through E) and associated with the approach speed of the critical aircraft. The ADG is designated by a Roman numeral (I through VI) and represents the dimensional characteristics of tail height and wingspan of the critical aircraft.

Table 4.3 Aircraft Approach Category

Category	Speed
A	less than 91 knots
B	91 knots or more, less than 121 knots
C	121 knots or more, less than 141 knots
D	141 knots or more, less than 166 knots
E	166 knots or more

Source: FAA, AC 150/5300-13B

Table 4.4 Airplane Design Group

Group	Tail Height (Feet)	Wingspan (Feet)
I	<20	<49
II	20 - <30	49 - <79
III	30 - <45	79 - <118
IV	45 - <60	118 - <171
V	60 - <66	171 - <214
VI	66 - <80	214 - <262

Source: FAA, AC 150/5300-13B

4.5 General Aviation Forecast Methodologies

The FAA has several accepted forecasting techniques, including regression analysis, trend analysis, exponential smoothing, and cohort analysis. For regional general aviation airports, like Heber Valley Airport, an "operations per based aircraft" or OPBA methodology is commonly used. However, HCR is a poor candidate for this method given the relatively small local population and number of based aircraft.

Given the limited amount of data sources available for HCR due to not having an Airport Traffic Control Tower (ATCT), a time series analysis will be utilized. A time series analysis is another fundamental technique used to analyze and forecast aviation activity by projecting historical activity without using independent (explanatory) variables. This allows a blend of different statistical methodologies to be used to support and project a time series analysis. In this case, simple growth rates will be applied to the available historical data. These growth rates are derived from a variety of sources.

A summary of the general aviation forecast methodology is as follows:

- Count aircraft operations from motion-activated cameras deployed on airfield in 2019/2020.
- Review data from IFR filed flight plans to supplement photographic operation totals.
- Extrapolate data linearly to create a complete 12-month period of aviation activity.
- Breakdown operation counts by aircraft type (single engine, multi-engine, jet, etc.).
- Convert aircraft type operation totals into aircraft Airport Reference Code (ARC) totals and aircraft mix (itinerant, local, etc.) totals.
- Compare annual operation totals to FAA Terminal Area Forecast (TAF) and Utah system plan forecasts.

4.6 General Aviation Forecast

MOTION ACTIVATED CAMERA DATA

General aviation accounts for all of the traffic at Heber Valley Airport. The forecast is based on photographed operations and IFR filed flight plans. An aircraft operation is defined as a takeoff or landing, with a touch-and-go counting as two operations. This planning forecast covers a 20-year period, beginning in 2021 and ending in 2041.

From 09/26/19 to 04/01/20, all aircraft operations at HCR were photographed and logged using motion-activated cameras. Cameras were located at the taxiway connectors where aircraft typically move slower or stop. Locations of the four cameras are displayed in ***Figure 4.4*** followed by a sample of photographs captured which show the variety of operations occurring at the airport. Hundreds of photographs were examined by the consultant staff in two stages. Each photograph was categorized as either: aircraft traffic, other traffic (e.g., maintenance, snowplow), or other (e.g., animals, joggers, empty picture.) Next, all aircraft traffic was further identified. A spreadsheet was used to log all relevant information, such as the aircraft make, model, N-number, and number of engines. This data helped set the minimum baseline operations number for use in the forecast later in this chapter. Importantly, the cameras also provided evidence of the exact types of aircraft that use the airport.

Based on this information, the number of annual operations performed in 2019 was extrapolated. From 09/26/19 to 04/01/20 (188 calendar days), 4,207 operations were photographed and logged, which is approximately 22 operations per day, and resulted in an estimated 8,030 operations per year.

It is important to note that a flight training school operated at HCR until September 2019. It was reported that approximately 16,000 training flights were being performed annually when the flight training school relocated to a different airport.

Figure 4.4 Motion Activated Camera Placement

Photo Source: Google Earth


SR22T SE Turbo ARC A-I


B-55 ME Piston ARC A-I


SF50 SE Jet ARC A-I


PC-12 SE Turboprop ARC A-II


C-421 ME Piston ARC B-I


C-525A Jet ARC B-II


Gyroplane


Hot Air Balloon


Learjet 60 Jet ARC C-I


CL-600 Jet ARC C-II


Gulfstream IV Jet ARC D-II

TRAFFIC FLOW MANAGEMENT SYSTEM COUNTS (TFMSC) DATA

The number of aircraft flying under Instrument Flight Rules (IFR) at HCR was retrieved from the FAA's Traffic Flow Management System Counts (TFMSC) for calendar years 2016-2020.

Review of the TFMSC data for this same time-period is shown in ***Table 4.5*** and shows the ARC breakdown and totals for the aircraft that flew IFR operations.

Table 4.5 ARC Breakdown

ARC	Total
A-I	168
A-II	155
B-I	221
B-II	974
B-III	10
C-I	99
C-II	256
C-III	22
C-IV	0
D-I	0
D-II	49
D-III	8
Total	**1,962**

Based on this information, the percentage of IFR operations captured by the cameras in 2019 can be calculated: 1,962 total IFR operations / 4,207 total operations = 46.64%. The remaining 53.36%, or 2,245, of the total operations were performed under Visual Flight Rules (VFR).

Using this split between IFR and VFR operations, it was determined that a total of 12,234 operations were conducted at HCR in 2020 (5,706 IFR operations / 46.64% = 12,234 total operations and 6,528 VFR operations). The ARC breakdown totals from the 2020 TFMSC are provided in ***Table 4.6***.

Table 4.6 2020 Total Operations by ARC	
ARC	**2020**
A-I	512
A-II	506
B-I	591
B-II	2,765
B-III	18
C-I	344
C-II	765
C-III	51
C-IV	0
D-I	7
D-II	118
D-III	29
Total	**5,706**

Table 4.7 Total Operations by Operating Rules			
Year	**IFR Operations (46.64%)**	**VFR Operations (53.36%)**	**Total Annual Operations**
2020	5,706	6,528	12,234
2019	3,886	4,446	8,332
2018	3,961	4,532	8,493
2017	3,885	4,445	8,330
2016	3,433	3,928	7,361

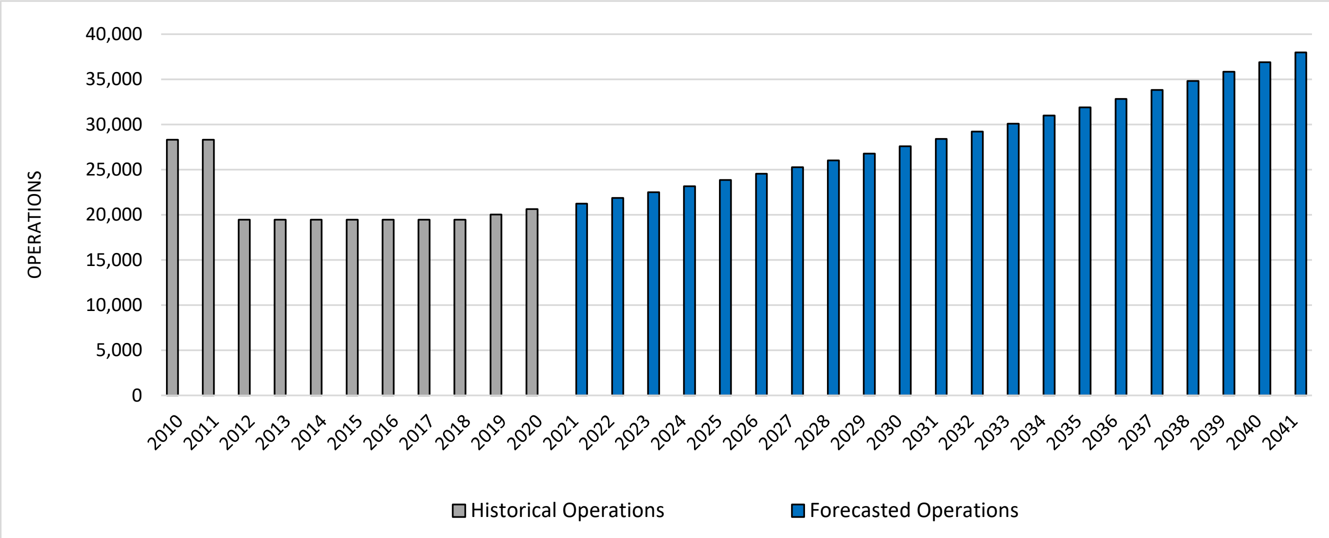
Based on Total IFR Operations (excluding No Data/Unknown Aircraft Type) and 2019 Camera Data

FAA TERMINAL AREA FORECAST (TAF) DATA

The Terminal Area Forecast (TAF) is prepared to assist the FAA with meeting planning, budgeting, and staffing requirements. It is also used by the state aviation authorities as a basis for planning airport improvements. The TAF assumes an unconstrained demand for aviation services based upon national economic conditions, as well as conditions within the aviation industry.

The TAF uses operations at non-towered airports as reported by airport operators on the FAA Form 5010, Airport Master Record. Form 5010 reports on aviation activity at the airport as estimated by FAA inspectors or information provided by airport managers, state aviation activity surveys, and other sources. Based aircraft data is also taken from the FAA Form 5010. The total operations for Heber Valley Airport, from 2010 to 2041, are shown below in ***Figure 4.5***.[4]

Figure 4.5 TAF Total Operations



In 2010 and 2011, the TAF indicated that over 28,000 annual operations were conducted at HCR. In 2012, that number was reduced by approximately 30%, where it remained until 2019 when gradual increases of about 2.9% per year were forecasted. Increases of approximately 2.9% per year continue to be forecasted by the FAA through 2041.

Operations are typically divided into two categories: local operations are performed by aircraft that operate in the local traffic pattern, or within sight of the airport, are known to be operating for or arriving from flight in local practice areas within a 20-mile radius of the airport, or executing simulated instrument approaches or low passes at the airport. Itinerant operations are all aircraft operations other than local operations.

Figure 4.6 depicts the TAF forecasted operations from 2021 through 2041, divided by itinerant and local operations. According to the FAA, 35% of all operations at Heber Valley Airport are forecasted to be local.

Figure 4.6 TAF Total Operations

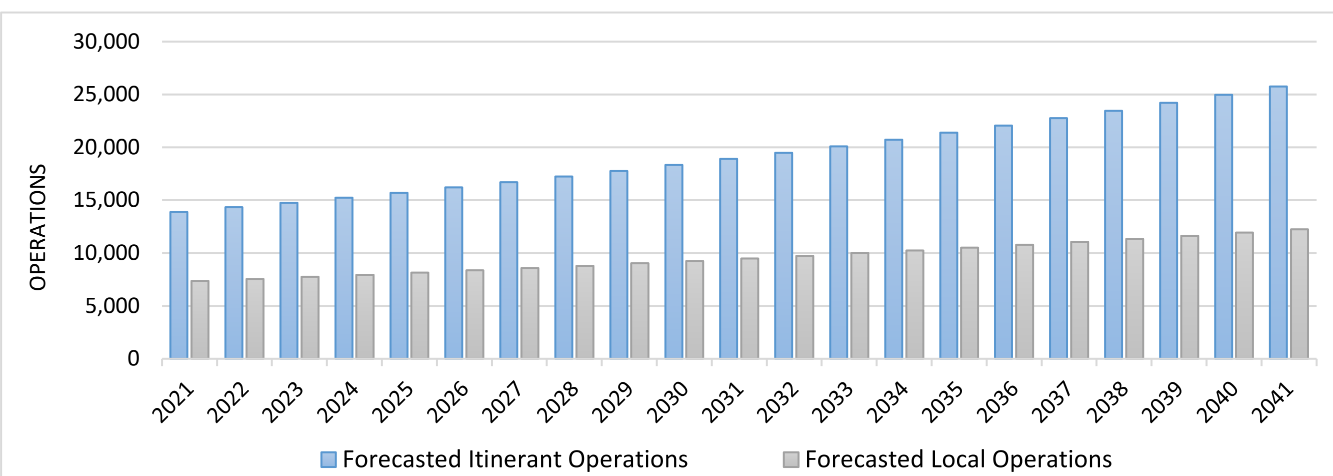


Figure 4.7 shows the historical and forecasted number of operations for Heber Valley Airport from 2010 through 2041. Operations are split between itinerant and local, and then further divided into additional categories: itinerant general aviation, itinerant air taxi and commuter, and local civil. No air carrier or military operations, itinerant or local, are forecasted.

Air carrier operations represent either takeoffs or landings of commercial aircraft with seating capacity of more than 60 seats. Although air taxi and commuter operations are one category, it is important to note their difference. Air taxi operations include takeoffs and landings by aircraft with 60 or fewer seats conducted on non-scheduled or for-hire flights. Commuter operations include takeoffs and landings by aircraft with 60 or fewer seats that transport regional passengers on scheduled commercial flights. Heber Valley Airport does not currently have commuter operations; in this case, this category represents air taxi operations only.

Figure 4.7 TAF Totals by Operation Type

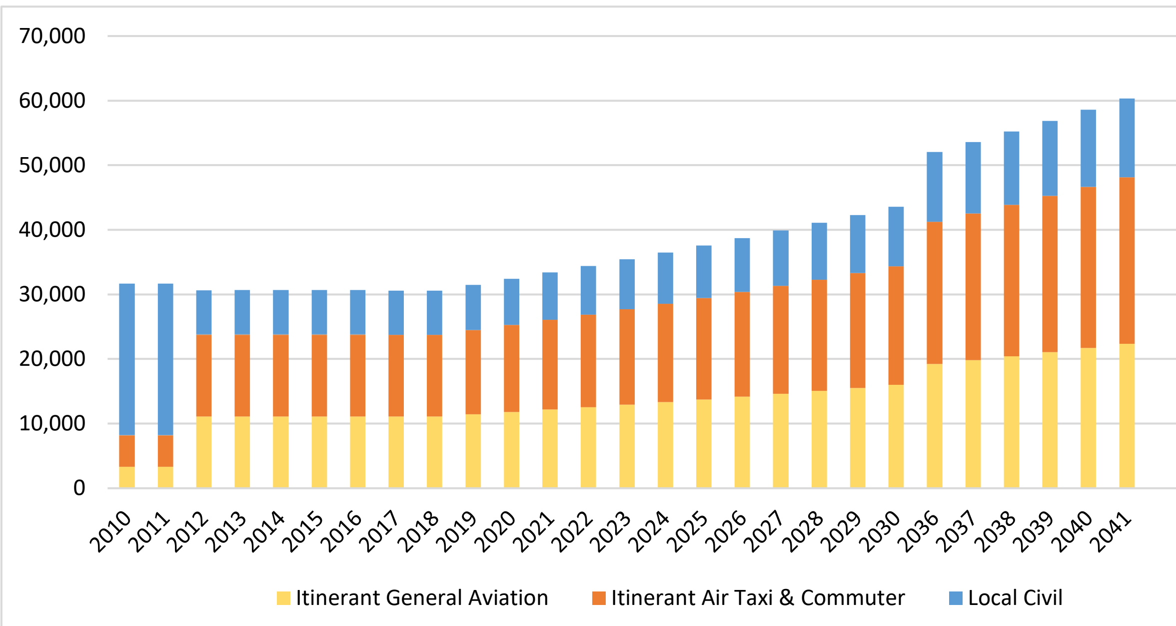
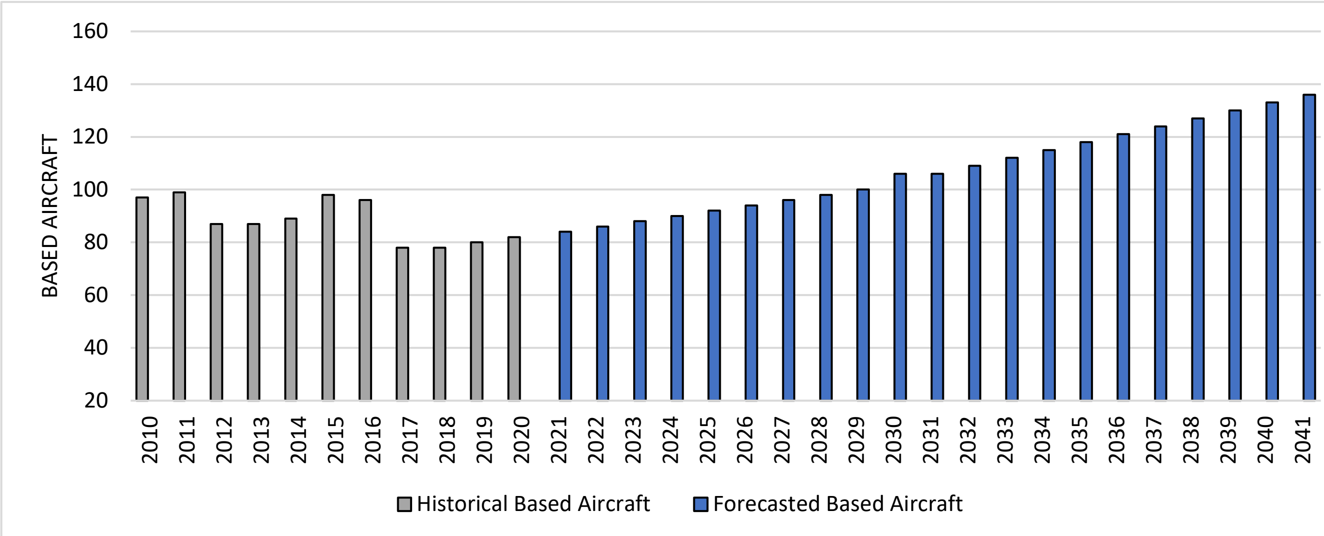


Figure 4.8 graphs the based aircraft at Heber Valley Airport, both historic and forecasted. Historically, the number of based aircraft has varied from 78 to 99 between 2010 and 2020. The FAA forecasted an annual increase of based aircraft between 2% and 3% per year from 2021 to 2041.

Figure 4.8 TAF Based Aircraft

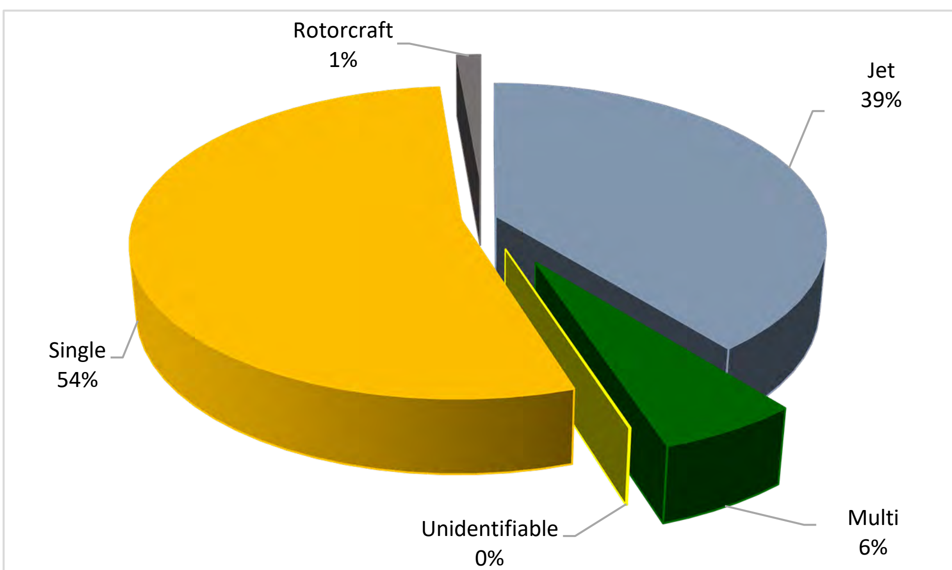


BASELINE FORECAST DATA

Results of the 2019 photographed operations by aircraft type are displayed in ***Figure 4.9***. Unidentifiable operations are those in which the camera captured an aircraft operation, but the specific type of aircraft could not be determined from the image. The single engine category incorporates single engine turboprop, experimental, and sport aircraft operations.

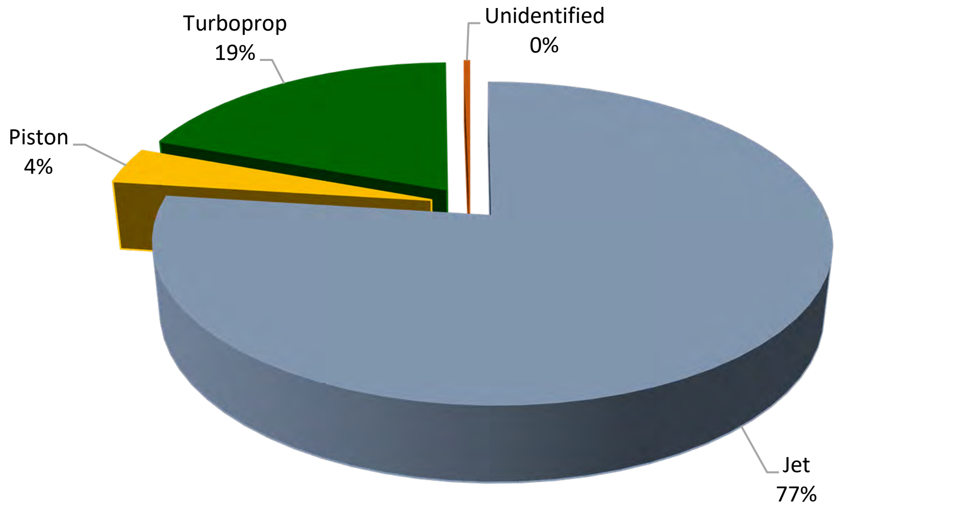
Of the 4,207 operations captured in 2019, 54% were performed by single engine aircraft, 39% were performed by jet aircraft, 6% were performed by multi-engine aircraft, 1% rotorcraft, and 0.05% were unidentifiable.

Figure 4.9 2019 Photographed Operations by Type



As noted previously, IFR flight plans filed with the FAA were examined as part of this Master Plan. The aircraft flying IFR operations at Heber Valley Airport in 2019 were cataloged and are illustrated in ***Figure 4.10***. The majority (77%) of IFR flight plans were filed by jet aircraft, followed by turbine aircraft (19%), and piston aircraft (4%).

Figure 4.10 2019 TFMSC Data by Type



FIXED BASE OPERATOR (FBO) DATA

OK3 Air, the Fixed Base Operator (FBO) at Heber Valley Airport, tracks transient aircraft flying into the airport for the purpose of calculating landing fees. Transient aircraft include aircraft which are not based at the airport. OK3 Air provided data from the company's records reflecting the number of aircraft landings captured during calendar years 2016 through 2020. This data also included the type of aircraft used to perform each landing.

2,427 landings x 2 = 4,854 transient operations in 2020.
1,765 landings x 2 = 3,530 transient operations in 2019.
1,749 landings x 2 = 3,498 transient operations in 2018.
1,467 landings x 2 = 2,934 transient operations in 2017.
1,026 landings x 2 = 2,052 transient operations in 2016.

UTAH STATE AVIATION SYSTEM PLAN 2018 UPDATE DATA

The Utah Department of Transportation, Division of Aeronautics (UDOT-Aero) is in the process of updating Utah's State Aviation System Plan and has provided the preliminary forecast numbers for annual operations and based aircraft at HCR. According to UDOT-Aero, 20,037 aircraft operations were performed at HCR during 2018. Additionally, there were 78 based aircraft at HCR in 2018.

FAA FORM 5010 AIRPORT MASTER RECORD DATA

According to the FAA Form 5010 Airport Master Record, 19,468 operations were performed at HCR for the 12-month period ending 01/01/2012. The TAF uses this number to establish the number of total operations at HCR for the years 2012 through 2018 with zero projected growth.

Both the TAF and the 5010 report that the breakdown of aircraft operations at HCR may be categorized as follows:

Local	35%
Transient	57%
Air Taxi	8%

Based on this information, the data submitted by the FBO was used to calculate the annual operations performed at HCR during 2020 (4,854 transient operations / 57% = 8,516).

Table 4.8 summarizes the estimated number of total annual operations conducted at HCR.

Table 4.8 Estimated Annual Operations at HCR

	FAA TAF (2020)	UDOT System Plan (2018)	FAA 5010 (2012)	Cameras/ TFMSC (2020)	FBO (2020)
Annual Operations	20,628	20,037	19,468	12,234	8,516

The TFMSC data reflects the number of aircraft flying under Instrument Flight Rules (IFR) and does not include any aircraft flying under Visual Flight Rules (VFR), which results in a lower number of annual operations being reported.

The FAA Form 5010 data provides the number of annual operations reported by the airport manager and confirmed by an FAA inspector. It is typically based on information presented in the most recent planning documents, as well as records maintained by the FBO and airport manager. The FAA TAF data used this number as the baseline and then applied the assumed annual growth rate of 2.9% to calculate the total number of operations for 2020. The FAA assumptions are based on unconstrained demand for aviation services and national economic conditions.

The Utah Department of Transportation, Division of Aeronautics used the "operations per based aircraft" method for their calculations. According to FAA Order 5090.5, 250 annual operations per validated based aircraft for basic general aviation airports and 350 annual operations per validated based aircraft for local general aviation airports may be applied to aviation forecasts at non-towered airports. UDOT used the 2018 TAF data for based aircraft (78) and total annual operations (20,037). According to the NPIAS report for years 2020-2025, HCR's role is "regional." However, UDOT has assumed nearly 257 operations per based aircraft (which is very close to the number assigned to basic airports). UDOT is in the process of finalizing their forecast numbers and has not yet published this data.

OK3 Air, the FBO at HCR, tracks transient aircraft flying into the airport to calculate landing fees. Total operations for 2020 utilized percentage of transient operations calculated from the 2012 FAA Form 5010 data and current FBO landing records.

The motion-activated camera data from 2019 provides the preferred calculation because it incorporates physical evidence of actual aircraft operations, which includes both IFR and VFR operations, and depicts a realistic number of annual operations at the airport. Since the motion-activated camera data was collected for a six-month period in 2019, TFMSC data was utilized to calculate the percentage of IFR operations for the same timeframe and then the percentages of IFR and VFR operations were used to calculate the total annual operations in 2020. Using the motion-activated camera data assists in estimating the number of annual operations for the baseline, resulting in a more accurate forecast for the 20-year planning period.

Although there are significant differences in the baseline numbers of annual operations being presented, they are all arguably credible based on an examination of the data sources. Simply stated, the differences result from the fact that each methodology utilizes a different, but valid data source.

GLIDER OPERATIONS

There is a significant amount of glider operations occurring seasonally at the airport. These operations are not tracked through the FAA's TAF, nor do they appear on TFMSC reports. Through conversations with members of the Utah Soaring Association, it was determined that there are approximately 15 single-seat gliders, one two-seat glider, and three self-launching gliders based at the airport. A typical operating season is between May 1st to November 1st each year and consists entirely of VFR operations.

A typical season includes approximately 800 tow operations, accomplished in conjunction with a Piper Pawnee tow airplane (equating to 1,600 total operations), and 80 self-launch operations. Glider operations primarily occur on the northeast end of the airport near the Runway 22 end, with an established tie-down area in the grass beyond the row of hangars.

Due to the extensive pre-takeoff checks required prior to launching, gliders stage on taxiway connector A2 to remain clear of motorized aircraft activity until ready to launch. A2 is the only taxiway connector wide enough to accommodate the staging of gliders, which have a wingspan of approximately 59 feet and a tail height of 6 feet.

HELICOPTER OPERATIONS

Helicopter operations at the airport are also primarily VFR operations, so they are typically not accounted for in the TFMSC data. The airport plays a vital role in supporting aerial firefighting for the Uinta-Wasatch-Cache National Forest. Aircraft are stationed at HCR when there is a fire nearby, and the types of helicopters dispatched are dependent on the intensity of the fire, annual contracts, and aircraft availability. Typical helicopters stationed at HCR range from a small Bell 407 to the much larger helicopters, such as a Boeing CH-47 Chinook or a Sikorsky S-64 Skycrane.

Due to the variable nature of aircraft used for aerial firefighting, total operations are not tracked by agencies. Based on discussions with the Airport Manager, it was determined there were approximately 700 helicopter operations conducted during 2020.

BALLOON OPERATIONS

Balloon operations do occur at the airport; however, they are not incorporated into the forecast analysis. These types of operations do not fall into a category which would require FAA design standards to be applied.

AIRPORT COMPARISON

The percentage of IFR operations performed at four similar airports was calculated and compared to the percentage of IFR operations performed at Heber Valley Airport in 2020. These airports were selected because, like HCR, they serve communities that experience spikes in seasonal traffic as a result of resort activity. However, these airports differ from HCR because they also provide commercial, or air carrier, service. As part of this exercise, air carrier operations were subtracted from the total number of annual operations conducted at each airport as reported on the FAA Form 5010, Airport Master Record. The number of IFR operations performed at each airport was obtained from the TFMSC and then air carrier operations were excluded. The adjusted number of IFR operations was then divided by the adjusted number of total annual operations to determine the percentage of IFR operations performed at each airport during the year. These percentages are listed in ***Table 4.9***.

Table 4.9 Airports Comparison

Airport/City	Population	Elevation (feet)	Total Annual Operations (Excluding Air Carrier Operations - 5010 Form)	IFR Operations (%)	Year
Heber Valley Airport (HCR)/ Heber City, UT	16,400	5,636	12,234	46.64%	2020
Eagle County Regional Airport (EGE)/Gypsum, CO	7,375	6,500	38,257	52.43%	2018
Friedman Memorial Airport (SUN)/Hailey, ID	8,689	5,319	13,144	56.70%	2018
Telluride Regional Airport (TEX)/ Telluride, CO	1,826	9,069	9,370	63.28%	2017
Aspen-Pitkin County Airport (ASE)/Aspen, CO	7,401	7,837	30,723	79.03%	2019

HCR experienced the lowest percentage of annual IFR operations, although EGE and SUN were only about 6% and 10% greater, respectively. The elevations of EGE and SUN are closest to HCR's elevation. TEX has an elevation that is significantly higher than HCR, while the terrain surrounding ASE is especially mountainous. Consequently, a higher percentage of IFR operations is anticipated at those airports. Comparing this data helps to justify the percentage of IFR operations conducted at HCR and used as part of this forecast.

The Compound Annual Growth Rate (CAGR) for the number of jets conducting IFR operations between 2016 and 2020 at HCR and each of the comparison airports was also identified as follows:

HCR	14%
EGE	5%
SUN	8%
TEX	6%
ASE	6%

Further examination of the total number of annual operations for 2019 and 2020 based on the operating rules ratio previously detailed in ***Table 4.7*** *Total Operations by Operating Rules*, indicated a nearly 47% increase in operations from 2019 to 2020. As a result, the IFR/VFR percentage split applied in ***Table 4.7*** was re-evaluated.

The ratios of IFR/VFR operations identified at the comparison airports in ***Table. 4.9*** were reviewed, and the median value was selected as a reasonable, yet conservative, percentage to apply to the 2020 TFMSC data. The median is the middle number in a sorted, ascending or descending, list of numbers and can be more descriptive of that data set than the average. If there is an odd amount of numbers, the median value is the number that is in the middle, with the same amount of numbers below and above. **Using this percentage of IFR operations (56.70%) results in a more realistic growth in total annual operations from 2019 to 2020.**

Further, because of the significant presence of VFR glider operations and the supportive role the airport plays for aerial firefighting, these additional operations were incorporated into the total annual operations to determine the most accurate number for the forecast calculations at HCR (see ***Table 4.10***).

Table 4.10 Total Annual Operations - Baseline

	TFMSC 2019 (from *Table 4.7*)	TFMSC 2020, using IFR/VFR (46.64%/53.36%)	TFMSC 2020, using IFR/VFR (56.70%/43.30%) *	Glider/Helicopter Operations	Total Operations for 2020
Total Annual Operations	8,332	12,234	10,063	2,380	12,443**
Increase (%)	-	46.83%	20.78%		

**using median IFR operations percentage (56.70%) from airports comparison (Table 4.9)*

***Sum of TFMSC 2020, using IFR/VFR (56.70%/43.30%) and glider/helicopter operations [10,063 + 2,380 = 12,443]*

4.7 Based Aircraft Projections

Based aircraft are those aircraft that are permanently stored at an airport. Estimating the number and type of aircraft expected to be based at the airport over the next 20 years impacts the planning for future facility and infrastructure requirements. The number of based aircraft can provide the most basic form of general aviation demand. By developing a based aircraft forecast for an airport, other vital general aviation activity and demand can be projected. The number of based aircraft provided by the FAA TAF for 2021 is 84. This is the number that will be used in computing the forecast.

Scenario 1 - 2018 Utah Continuous Aviation System Plan: This scenario utilizes an annual growth rate of 0.6% for the number of based aircraft at Utah airports between 2018 and 2028.
Scenario 2 - Utah Governor's Office of Management and Budget: This data source projects a growth rate of 1.3% for the population of Heber City through 2060.
Scenario 3 – FAA TAF: This scenario utilizes the TAF's annual growth rate of 2.4% for the number of based aircraft projected at HCR between 2021 and 2041.

Table 4.11 presents the three different projections.
The results of these forecasting methodologies were compared, and the growth rate of the Utah Governor's Office of Management and Budget methodology was chosen as the preferred based aircraft projection. This is the preferred

Table 4.11 Based Aircraft Projections

Growth Rate	Base Year 2021	2026	2031	2036	2041
2018 Utah Continuous Aviation System Plan					
0.6%	84	87	89	92	95
Utah Governor's Office of Management and Budget					
1.3%	84	90	96	102	109
FAA Terminal Area Forecast					
2.4%	84	95	106	120	135

method because it incorporates the longest planning period (40 years) into the projections. Additionally, the average of the three different growth rates (1.4%) is closest to the growth rate applied by the Utah Governor's Office of Management and Budget. This methodology also conservatively captures the community's steadily increasing population and solid economic foundation.

4.8 General Aviation Operations

Different factors impact the number of operations at an airport, including but not limited to the total based aircraft, area demographics, activity and policies of neighboring airports, and national trends. These factors were examined, and three methodologies were used to develop the general aviation operation projections.

Scenario 1 - 2018 Utah Continuous Aviation System Plan: This scenario utilizes an annual growth rate of 0.3% for the number of general aviation operations performed each year at Utah airports between 2018 and 2028.
Scenario 2 – Utah Governor's Office of Management and Budget: This data source projects a growth rate of 1.3% for the population of Heber City through 2060.
Scenario 3 – FAA TAF: This scenario utilizes the TAF's annual growth rate of 3.0% for the number of annual operations projected at HCR between 2021 and 2041.

Table 4.12 lists the three different projections. As detailed previously, it was determined that 12,443 aircraft operations were conducted at HCR in 2020. **In order to be able to use 2021 as the base year in these projections, each growth rate was also applied to the 2020 count of 12,443 total operations.**
The results of these forecasting methodologies were compared, and, again, the Utah Governor's Office of Management and Budget growth rate was chosen for the preferred general aviation operations projection because it incorporates the longest planning period (40 years) and is closest to the average of the three growth rates (1.5%). As noted previously, this methodology also conservatively captures the community's steadily increasing population and solid economic foundation.

The most recent Master Plans for the airports listed in the airports comparison table (***Table 4.9***) were examined so

Table 4.12 General Aviation Annual Operations Projections					
Growth Rate	**Base Year 2021**	**2026**	**2031**	**2036**	**2041**
2018 Utah Continuous Aviation System Plan					
0.3%	12,480	12,669	12,860	13,054	13,251
Utah Governor's Office of Management and Budget					
1.3%	12,605	13,446	14,343	15,299	16,320
FAA Terminal Area Forecast					
3.0%	12,816	14,858	17,224	19,967	23,148

that the growth rates applied to the forecasts for each of those facilities could be compared to the growth rates applied to the HCR forecast.

	Based Aircraft	GA Annual Operations
EGE	2.0%	1.0%
SUN	1.54%	1.54%
TEX	1.26%	2.4%
ASE	1.23%	1.35%

Review of this information indicates that the growth rate of 1.3% applied to the based aircraft and general aviation annual operations for HCR is within the range of those applied to similar airports by other aviation consultants.

4.9 General Aviation Forecast By Aircraft Type

In ***Figure 4.9***, the 2019 camera data was broken down by aircraft type. These same percentages were initially applied to the forecasted annual operations. However, because the 2020 total annual operations number used to calculate the 2021 baseline for total annual operations specifically included 1,680 single engine aircraft from the glider operations and 700 rotorcraft operations, the percentages had to be modified to ensure that these aircraft were not counted twice in the calculations. As a result, the percentages listed in ***Table 4.13*** are slightly different from the percentages depicted in ***Figure 4.9***. ***Table 4.13*** lists the forecast by aircraft type based on the growth rate established by the Utah Governor's Office of Management and Budget for Heber City population projections through 2060.

4.10 General Aviation Forecast by Airport Reference Code

The ARC is determined based on the most demanding aircraft (or combination of aircraft) that uses the airport, referred to as the critical or design aircraft. The FAA provides guidance on determining the critical aircraft in FAA AC 150/5000-17, *Critical Aircraft and Regular Use Determination*. This AC requires that an aircraft (or family grouping of aircraft) perform at least 500 annual itinerant operations to be established as the critical aircraft. An operation is further defined as a takeoff or departure either itinerant or local, but excluding touch-and-go operations. Additionally, when a category or group of aircraft approach the threshold of 350 annual operations, an airport should begin to prepare for a shift in ARC, and plan for the greater FAA design requirements.

As noted previously, local operations are aircraft that are known to be departing or arriving from flight in local

Table 4.13 General Aviation Forecast by Aircraft Type

Aircraft Type	2021	2026	2031	2036	2041	Percentage
Single Engine	7,185	7,664	8,175	8,720	9,303	57%
Jet	4,034	4,303	4,590	4,896	5,222	32%
Multi-Engine	630	672	717	765	816	5%
Rotorcraft	756	807	861	918	979	6%
Unidentified	0	0	0	0	0	0%
Total	**12,605**	**13,446**	**14,343**	**15,299**	**16,320**	**100%**

practice areas or aircraft executing practice instrument approaches at the airport. At airports with air traffic control towers, local traffic also includes aircraft that are operating within sight of the tower. All aircraft operations other than local operations are considered itinerant. Itinerant operations are essentially takeoffs and landings of aircraft going from one airport to another.

The development of airport facilities is impacted by both the demand for those facilities and the type of aircraft that are expected to use those facilities. Generally, airport infrastructure components are designed to accommodate the critical or design aircraft, which will utilize the facilities on a regular basis.

Based on 2020 IFR data only (as outlined in ***Table 4.6***), HCR experienced a total of 1,314 category C or larger operations and a total of 4,252 group II or larger operations. This data is based solely on the number of aircraft performing IFR operations at HCR in 2020; conceivably, these numbers may be even higher in the event that aircraft in these categories or groups canceled an instrument flight plan prior to arriving at HCR or performed operations without filing an instrument flight plan prior to departing HCR.

Additionally, the 2019 camera data log included the ARC for each aircraft operation. This data is listed in ***Table 4.14.*** Based on camera data only, HCR experienced a total of 1,064 category C or larger operations and a total of 3,410 group II or larger operations n 2019. Again, these numbers may be even higher in the event the motion-activated cameras failed to capture every operation performed.

Solid evidence found through both instrument flight plans filed with the FAA and captured photographs indicates Heber Valley Airport is a C-II facility based on exceeding the FAA defined regular use threshold of 500 annual operations by these aircraft. There were at least 1,064 category C or larger operations and 3,410 group II or larger operations conducted annually at HCR in 2019.

The total annual operations forecast was then broken down by Aircraft Approach Category (AAC). First, the

Table 4.14 Airport Reference Code Totals for 2019 Camera Data	
Airport Reference Code	**2019**
A-I	4,179
A-II	410
B-I	420
B-II	2,123
B-III	0
C-I	186
C-II	634
C-III	121
C-IV	0
D-I	0
D-II	123
D-III	0
Rotorcraft	115
Total	**8,310***

**Does not equal the number of total annual operations (8,332) because there is no ARC data for some of the operations.*

same percentages identified in the 2019 camera data (see ***Table 4.14***) were applied to the total annual operations. However, because the 2020 total annual operations number used to calculate the 2021 baseline for total annual operations specifically included 1,680 category A aircraft from the glider operations, as well as 700 rotorcraft operations, the percentages were modified to ensure that these aircraft were not counted twice in the calculations. ***Table 4.15*** shows the total annual operations forecast by AAC.

Per FAA guidance, FAA data sources were used to establish AAC for operations at HCR. Those data sources included the aircraft characteristics database, as well as publications from the Aircraft Certification Branch.
The total annual operations forecast was then broken down by Airplane Design Group (ADG). Since the 2020 total annual operations number used to calculate the 2021 baseline for total annual operations specifically included 800 A-I and 880 A-II aircraft from the glider operations, as well as 700 rotorcraft operations, the percentages were modified to ensure that these aircraft were not counted twice in the calculations. ***Table 4.16*** provides the total annual operations forecast by ADG.
In analyzing the forecast data in *Tables 4.15* and *4.16*, it is clear HCR is a C-II facility, and is expected to remain C-II throughout the 20-year planning period.

4.11 General Aviation Forecast by Mix

Table 4.15 General Aviation Forecast by Aircraft Approach Category						
Aircraft Approach Category (AAC)	2021	2026	2031	2036	2041	Percentage
A	7,312	7,799	8,319	8,873	9,466	58%
B	3,151	3,362	3,586	3,825	4,080	25%
C	1,260	1,344	1,434	1,530	1,632	10%
D	126	134	143	153	163	1%
Rotorcraft	756	807	861	918	979	6%
Total	**12,605**	**13,446**	**14,343**	**15,299**	**16,320**	**100%**

Table 4.16 General Aviation Forecast by Airplane Design Group						
Airplane Design Group (ADG)	2021	2026	2031	2036	2041	Percentage
I	6,681	7,126	7,602	8,108	8,650	53%
II	4,916	5,244	5,594	5,967	6,365	39%
III	252	269	287	306	326	2%
IV	0	0	0	0	0	0%
Rotorcraft	756	807	861	918	979	6%
Total	**12,605**	**13,446**	**14,343**	**15,299**	**16,320**	**100%**

**Numbers may not add up due to rounding.*

The FAA TAF reports that the 2020 fleet mix operating at Heber Valley Airport was as follows:

Itinerant GA	57%
Local GA	35%
Air Taxi	8%
Air Carrier	0%
Military	0%

These percentages were applied to HCR's forecasted annual operations totals as listed in ***Table 4.17***.

4.12 General Aviation Forecast Comparison

For approval of an aviation planning forecast, the FAA requires a comparison to the TAF. When the 5- or 10-year forecast exceeds 100,000 total annual operations or 100 based aircraft, the FAA prefers the forecasts differ by less than 10% from the 5-year period and 15% from the 10-year period. While Heber Valley Airport is not projected to reach those numbers during this planning period, it still forms a good basis for a sound and defendable forecast.

The Master Plan forecast numbers for total general aviation operations are between 41% and 57% less than the FAA

Table 4.17 General Aviation Forecast by Operations Mix						
Itinerant Operations	**2021**	**2026**	**2031**	**2036**	**2041**	**Percentage**
Air Carrier	0	0	0	0	0	0%
Air Taxi/Commuter	1,008	1,076	1,147	1,224	1,306	8%
General Aviation	7,185	7,664	8,175	8,721	9,302	57%
Military	0	0	0	0	0	0%
Local Operations	**2021**	**2026**	**2031**	**2036**	**2041**	**Percentage**
General Aviation	4,412	4,706	5,021	5,354	5,712	35%
Military	0	0	0	0	0	0%
Total	**12,605**	**13,446**	**14,343**	**15,299**	**16,320**	**100%**

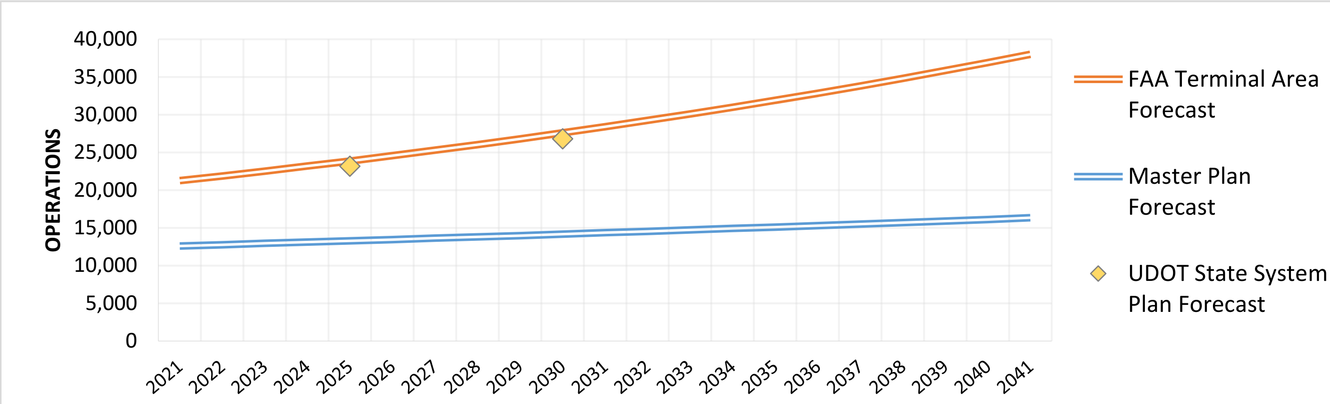
TAF projections. This vast difference is due to the Master Plan baseline number of operations being considerably lower than the TAF baseline number of operations and the fact that the Master Plan applied a significantly lower annual growth rate during the forecast period.

The Master Plan forecast numbers for based aircraft from 2026 forward are between 4% and 20% less than the FAA TAF projections. This difference is a result of the Master Plan utilizing a lower annual growth rate than the TAF. ***Figure 4.11*** is a comparison of annual forecasted operations from this Master Plan, the FAA TAF, and the 2018 Utah Continuous Aviation System Plan. The period covers 20 years, from 2021 through 2041.

Overall, the Master Plan analysis forecasts substantially fewer operations than the TAF and the system plan. The Master Plan forecasts a slight increase year to year, while the TAF operations grow at a much greater pace. The Master Plan analysis forecasts 12,605 operations in 2021 up to 16,320 operations in 2041. The TAF forecasts 21,237 operations in 2021 up to 37,993 operations in 2041. The state system plan forecast is nearly identical to the TAF and forecasts 23,170 operations in 2023 up to 26,785 operations in 2028.

Table 4.18 General Aviation Forecast Comparison					
Annual Operations	**2021**	**2026**	**2031**	**2036**	**2041**
Master Plan Forecast	12,605	13,446	14,343	15,299	16,320
FAA TAF	21,237	24,556	28,393	32,841	37,993
% Difference	41%	45%	49%	53%	57%
Based Aircraft	**2021**	**2026**	**2031**	**2036**	**2041**
Master Plan Forecast	84	90	96	102	109
FAA TAF	84	94	106	121	136
% Difference	0%	4%	9%	16%	20%

Figure 4.11 Forecast Comparison



Motion-activated cameras were also placed on the airfield from 01/13/15 to 09/09/15. Similar to the process applied in 2019, all aircraft operations at HCR were photographed and all relevant information, including the aircraft make, model, N-number, and number of engines, was logged and reviewed. These results were then compared to the 2019 camera data.

The percentage of IFR operations performed at HCR based on the 2015 TFMSC and camera data was substantially lower than the percentage of IFR operations performed at HCR based on the 2019 TFMSC and camera data. However, this difference may be attributed to two major factors: 1) the camera data was collected during different times of the year (the 2015 data was captured during January through September and the 2019 data was captured during September through April; the 2019 data included several months of the year during which inclement weather conditions and IFR operations are more likely), and 2) the 2015 data was collected when the flight training school was actively performing operations at HCR; the 2019 data was collected immediately following the flight training school's departure from HCR, which resulted in an abrupt decline in VFR and total operations at the airport.

Review of the ARC for each aircraft operation captured in 2015 indicated that HCR experienced at least 518 C-II operations that year. As noted previously, these numbers may be even higher in the event the motion-activated cameras failed to capture every operation performed.

4.13 General Aviation Forecast Summary

The forecast of general aviation demand for Heber Valley Airport is summarized in ***Table 4.19.***

4.14 Critical Aircraft

The development of airport facilities is driven by both the demand for those facilities and the types of aircraft expected to make use of those facilities. The critical aircraft is the most demanding aircraft with at least 500 annual operations at the airport, and determination of the critical aircraft is an important aspect of the forecast as it defines the FAA standards used for planning and design. An accurate determination of the critical aircraft ensures appropriate development of airport facilities, including runway, taxiway, and apron areas.

The critical aircraft is not a decision to be made, but a determination based on actual operations at the airport. The forecast of aviation demand and critical aircraft determination are approved by the FAA based on information presented and industry trends.
Instrument flight plans filed with the FAA and photographs from motion-activated cameras indicated that Heber

Table 4.19 General Aviation Forecast Summary

Operations (Total)	2021	2026	2031	2036	2041
Total	12,605	13,446	14,343	15,299	16,320
Operations (Aircraft Type)	**2021**	**2026**	**2031**	**2036**	**2041**
Single Engine	7,185	7,664	8,175	8,720	9,303
Jet	4,034	4,303	4,590	4,896	5,222
Multi-Engine	630	672	717	765	816
Rotorcraft	756	807	861	918	979
Operations (Aircraft ARC)	**2021**	**2026**	**2031**	**2036**	**2041**
A-I	5,925	6,320	6,741	7,190	7,671
A-II	1,387	1,479	1,578	1,683	1,795
B-I	504	538	574	612	653
B-II	2,647	2,824	3,012	3,213	3,427
B-III	0	0	0	0	0
C-I	252	269	287	306	326
C-II	756	806	860	918	980
C-III	252	269	287	306	326
C-IV	0	0	0	0	0
D-I	0	0	0	0	0
D-II	126	134	143	153	163
D-III	0	0	0	0	0
Operations (Mix)	**2021**	**2026**	**2031**	**2036**	**2041**
Itinerant	8,193	8,740	9,323	9,945	10,608
Local	4,412	4,706	5,020	5,354	5,712
Based Aircraft	**2021**	**2026**	**2031**	**2036**	**2041**
Total	84	90	96	102	109

Valley Airport operations in the ARC C-II category exceed the FAA defined regular use threshold of 500 annual operations. The 2019 camera data showed 634 annual operations being performed by C-II category aircraft (***Table 4.14***). This forecast showed 756 operations by aircraft in the C-II category in 2021, which increases to 980 operations in 2041 (***Table 4.19***).

The critical aircraft for Heber Valley Airport was determined to be the Bombardier Challenger 350 (or CL350), a C-II business jet aircraft which was captured over 100 times by the motion-activated cameras placed on the airfield. Additionally, FBO landing records and TFMSC data verified the CL350's regular use of the airport. (Regular use being defined by the FAA as at least 500 annual operations.) The specifications for this aircraft can be seen in ***Table 4.20***.

In addition to conducting frequent operations at the airport, the CL350 is among the top ten aircraft for domestic business jet operations with steadily increasing numbers, according to FAA Business Jet Reports.[5] Because the airport is expected to remain an ARC C-II facility throughout the planning period, the CL350 is both the existing and future critical aircraft.

The FAA approved this forecast, including the critical aircraft determination, in July 2021. A copy of the FAA forecast approval letter is included in **Appendix B**.

4.15 Forecast Conclusion

The critical aircraft determination is an important aspect of airport planning and design for federally obligated airports. It sets dimensional requirements on an airport, such as the separation distance between taxiways and runways, and the size of certain areas protecting the safety of aircraft operations and passengers. An accurate critical aircraft determination helps ensure proper development and appropriate federal investment in airport facilities. Additionally, an accurate critical aircraft determination matches aircraft operational area dimensions to the most demanding aircraft (or group of aircraft) that regularly uses the runway, taxiways, and apron areas. Regular use is defined by the FAA as at least 500 annual operations.

This forecast examined a variety of data sources to identify current and projected aircraft traffic levels and types at the Heber Valley Airport in the short, medium, and long terms, taking into consideration industry trends, **local socioeconomic and demographic conditions, and national and state forecasts. This study determined that HCR is currently an ARC C-II airport and that it will remain a C-II facility throughout the 20-year planning period.**

A designation of ARC C-II is an ARC upgrade the ARC of B-II established in previous planning studies. ***Table 4.21*** provides a summary of airport design element affected by this upgrade, which will be discussed in greater detail in the following chapter.

Figure 4.12 Bombardier Challenger 350 (CL350)

Source: Ardurra

Table 4.20 Aircraft Characteristics	
Specification	**Bombardier Challenger 350 (CL350)**
Wingspan	69 feet
Tail Height	20 feet
Approach Speed	125 knots
Maximum Takeoff Weight	40,600 pounds
Aircraft Approach Category (AAC)	C
Airplane Design Group (ADG)	II

Source: FAA Aircraft Characteristics Database

Table 4.21 ARC Upgrade FAA Design Standards	
ARC Upgrade	**Changes in Airport Design Standards**
B-II to C-II	• Increase in crosswind component • Increase runway separation standards • Increase Runway Protection Zone (RPZ) dimensions • Increase runway design standards • Increase surface gradient standards

Source: FAA AC 150/5300-13B, Airport Design

References

1 FAA Aerospace Forecast 2020-2040, accessed August 2020 at https://www.faa.gov/data_research/aviation/aerospace_forecasts/

2 GAMA 2019 Databook, accessed August 2020 at https://gama.aero/wp-content/uploads/GAMA_2019Databook_Final-2020-03-20.pdf

3 FAA, NPIAS Report 2019-2023, accessed August 2020 at https://www.faa.gov/airports/planning_capacity/npias/reports/media/NPIAS-Report-2019-2023-Narrative.pdf

4 FAA TAF Data, accessed August 2020 at https://www.faa.gov/data_research/aviation/taf/

5 FAA, Business Jet Report, September 2020 Issue, accessed September 2020 at https://aspm.faa.gov/apmd/sys/bjpdf/b-jet-202009.pdf

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Chapter 5. Facility Requirements

SECTION OVERVIEW

The Facility Requirements chapter identifies airport needs to accommodate the forecasted operations. The FAA's design standards are detailed throughout this chapter relative to the existing and future airport design elements. They are driven by the identified existing and future FAA Airport Reference Code (ARC) C-II designation.

5.1 General

This chapter compares the ability of the existing conditions at Heber Valley Airport to support the forecast demand. The comparison will identify any forecasted condition which triggers the need for facility additions or improvements, specifically concerning FAA dimensional standards presented in FAA Advisory Circular (AC) 150/5300-13B, *Airport Design*.

The inventory chapter outlines the existing airport conditions, including buildings, pavements, navigational aids (NAVAIDS), and other infrastructure items. The socioeconomic overview and background chapter describe the economies of Heber City, Wasatch County, and Utah, and the state's goals for airport development. These factors led the Master Plan through the forecast, in which the current and future operations were identified by total, type, and, most importantly, by ARC.

5.2 Emerging Trends

Changes in the aviation industry affect the size, quantity, and types of airport facilities needed to accommodate future demand. The rapid pace of industry change is expected to continue, and airports need to take a proactive approach to support local developmental needs.

On a broad scope, the Next Generation Air Transportation System, or NextGen, is an FAA-led modernization program of the air transportation system. This program is part of the ongoing efforts of the FAA's commitment to ensure that America continues to have the safest, most efficient airspace system possible through modernization. NextGen programs are being implemented across the industry to improve communication, navigation, and surveillance in the National Airspace System (NAS). As programs are planned and implemented, Sponsors must evaluate if programs apply to their airports and consider what actions may be required.

Other enhancements in industry technology include the increasing number of Unmanned Aircraft Systems (UAS) and Urban Air Mobility (UAM) programs. UAS consists of the unmanned aircraft platform and its associated elements, including communication links, sensors, software, and power supply, required for the safe operation in

the NAS. UAM is being developed as a transportation system within urban areas for small package delivery and other UAS services, supported by a mix of onboard/ground-piloted and increasingly autonomous operations.
Finally, sustainability initiatives are pushing for more energy-efficient and environmentally responsible operations through long range airport planning. Sustainable actions reduce environmental impacts, help maintain stable levels of economic growth, and establish organizational goals consistent with the needs and values of the community.

The emerging industry trends revolve around safety using technology to enhance efficiency and sustainability. These influences will continue to drive the infrastructure needs of airports and expand revenue streams beyond the traditional aviation related activities. Therefore, airport sponsors need to continually assess their airport's role and potential with these trends as they become prevalent in their communities.

5.3 FAA Classification System

The FAA has an in-depth system of defining requirements for airports based on an aircraft classification system. Understanding the components that comprise the classification system is required to understand the correlation between the classification system and airport design.

AIRPORT REFERENCE CODE (ARC)

The FAA aircraft coding system is comprised of two elements: Aircraft Approach Category (AAC) and Airplane Design Group (ADG). The AAC is designated by a letter (A through E) and ADG by Roman numeral (I through VI).

Each airport has a critical aircraft, typically defined as the most demanding aircraft (or combination of aircraft) that performs at least 500 annual operations. The ARC is derived by combining the critical aircraft's AAC and ADG (for example, A-I or B-II).

Table 5.1 Airport Reference Code (ARC) Aircraft Approach Category

Category	Speed
A	less than 91 knots
B	91 knots or more, less than 121 knots
C	121 knots or more, less than 141 knots
D	141 knots or more, less than 166 knots
E	166 knots or more

Source: FAA AC 150/5300-13B

The FAA recommends a Sponsor start planning for development once operations of a subsequent ARC begin to trend over 350 annual operations.

RUNWAY DESIGN CODE (RDC)

Runways receive a combined AAC and ADG designation for approach and departure operations called the Runway Design Code (RDC). The RDC contains a third component based on a particular runway's instrument approach visibility minimums measured in Runway Visual Range (RVR) (for example, B-II-5,000). These categorizations are applied to individual runways for design criteria, meaning multiple runways at a single airport may have different RDCs. A runway that does not have an instrument approach is classified as a visual runway and does not have an associated RVR value.

Table 5.2 Airport Reference Code (ARC) Airplane Design Group (ADG)

Group #	Tail Height (Feet)	Wingspan (Feet)
I	<20	<49
II	20 - <30	49 - <79
III	30 - <45	79 - <118
IV	45 - <60	118 - <171
V	60 - <66	171 - <214
VI	66 - <80	214 - <262

Source: FAA AC 150/5300-13B

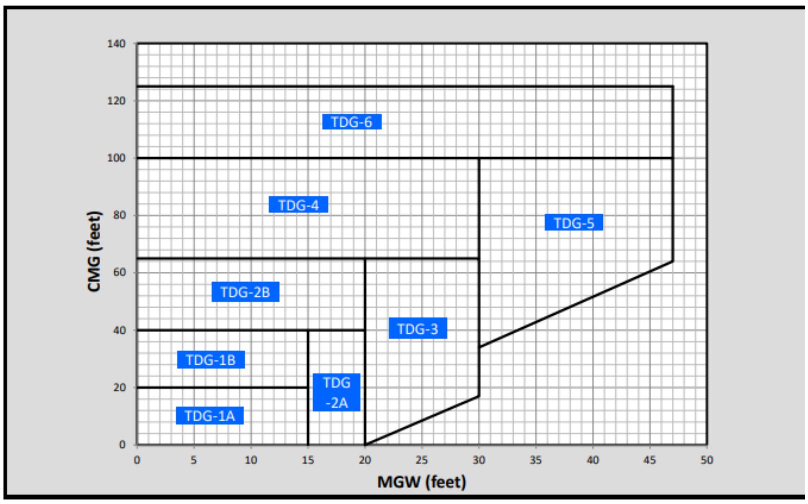
TAXIWAY DESIGN GROUP (TDG)

For taxiway design, the FAA utilizes a Taxiway Design Group (TDG), which is a classification for aircraft determined by outer-to-outer Main Gear Width (MGW) and Cockpit to Main Gear (CMG) distance. Taxiways are designed for "cockpit over centerline" taxiing, meaning the pavement is sufficiently wide enough to allow a certain amount of wander. The MGW and CMG represent the critical aircraft's undercarriage dimensions to determine the appropriate standard for taxiway design. The categories range from TDG 1A for the smallest dimensions up to TDG 6.

Table 5.3 Runway Visibility Range	
RVR Value (Feet)	**Visibility Minimum**
1,200	<1/4 mile
1,600	1/4 mile - <1/2 mile
2,400	1/2 mile - <3/4 mile
4,000	3/4 mile - <1 mile
5,000	1 mile
VIS	Visual Approach Only

Source: FAA AC 150/5300-13B

Figure 5.1 Taxiway Design Group (TDG)



Note: Values in the graph are rounded to the nearest foot. 1 foot = 0.305 meters.

CRITICAL AIRCRAFT SPECIFICATIONS

Chapter 4. Aviation Demand Forecast identified the Bombardier Challenger 350 (CL350) as the critical aircraft at Heber Valley Airport. The CL350 is an ARC C-II, large aircraft with a TDG of 1B. See ***Table 5.4*** for aircraft specifications.

Table 5.4 design Aircraft Specifications	
Bombardier Challenger 350 (CL350)	
Specification	
Wingspan	69 feet
Tail height	20 feet
Approach speed (flaps down)	125 knots
Cockpit to main gear	27.75 feet
Main gear width	12.64 feet
Maximum takeoff weight	40,600 lbs
Applicable FAA Design Standards	
Aircraft Approach Category (AAC)	C
Airplane Design Group (ADG)	II
Taxiway Design Group (TDG)	1B
Weight classification	Large

WEIGHT CLASS

For planning purposes, the FAA uses aircraft weight classes for defining additional design parameters. The weight classifications for aircraft are "small," with a Maximum Gross Takeoff Weight (MGTOW) of 12,500 pounds or less, "large," with an MGTOW greater than 12,500 up to and including 300,000 pounds, and "heavy," for aircraft weighing more than 300,000 pounds. Like the AAC, weight classes receive an alphabetical classification, so it is important to understand the distinction between the two, see ***Table 5.5***.

Table 5.5 Aircraft Weight Classifications

Aircraft Class	Maximum Gross Takeoff Weight	Number of Engines	Wake Turbulence Classification*
A	12,500 lbs. or less	Single	Small
B		Multi	
C	12,500 – 300,000 lbs.	Multi	Large
D	Over 300,000 lbs.	Multi	Heavy

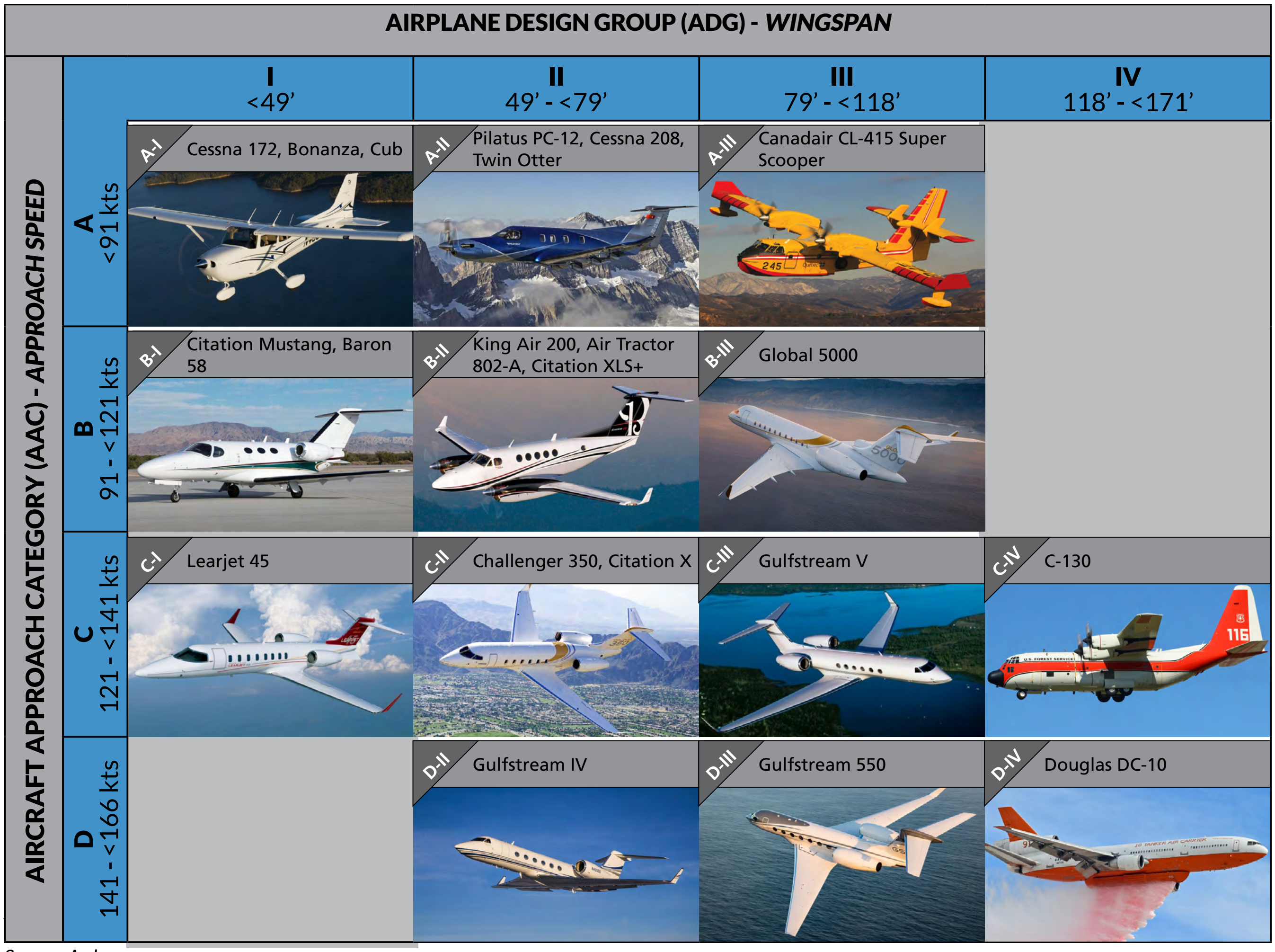
**Wake turbulence is a measure of weight and its capacity to disturb the air.*

Source: FAA AC 150/5060-5 Airport Capacity and Delay, Table 1-1.

EXAMPLE AIRCRAFT

Figure 5.2 shows a small selection of common aircraft and their respective ARC.

Figure 5.2 Representative Aircraft



Source: Ardurra

5.4 Airfield Capacity

Demand and capacity represent the relationship between an airport's forecast demand and the physical ability to accommodate that demand in accordance with FAA standards. The purpose of a demand and capacity analysis is to assess the airport's ability to efficiently accommodate its day-to-day and long-term demands without undue delays or compromises to safety. The analysis also assists in determining when improvements are needed to meet specific operational demands.

At lower activity airports (less than 100,000 annual operations), airfield capacity often exceeds the anticipated level of demand. FAA AC 150/5060-5, *Airport Capacity and Delay*, explains how to compute hourly airport capacities and the Annual Service Volume (ASV). The ASV is defined as the reasonable estimate of an airport's annual capacity. It accounts for differences in runway use, aircraft mix, and weather conditions encountered over the year. Airport capacity is calculated based on the number and layout of runways and annual operations by aircraft of certain weight classes.

For calculating capacity, a "mix index" is established. The mix index is a mathematical expression representing the percentage of annual operations by aircraft of the specified weight classifications. Specifically, the mix index is the percent of weight class C aircraft, plus 3 times the percent of weight class D aircraft. Thus, it is written (C+3D)%.

Table 5.6 Runway and Crosswind Runway Use Configuration
Source: FAA AC 150/5060-5, Airport Capacity and Delay, Table 2-1 Configuration No. 1

Mix Index % (C+3D)*	Hourly Capacity Ops/Hr		Annual Service Volume
	VFR	IFR	Ops/yr
0 to 20	98	59	230,000
21 to 50	74	57	195,000
51 to 80	63	56	205,000
81 to 120	55	53	210,000
121 to 180	51	50	240,000

*C= Percent of airplanes over 12,500 pounds but not over 300,000 pounds
*D= Percent of airplanes over 300,000 pounds

For HCR, the following assumptions were made to calculate the mix index:

1. All aircraft with an ARC of B-I and smaller weigh less than 12,500 pounds (weight class A and B);
2. Half of the operations by B-II aircraft and all aircraft of larger ARC weigh greater than 12,500 pounds and less than 300,00 pounds (weight class C);
3. There are no operations by aircraft weighing over 300,000 pounds (weight class D).

When applying the assumptions to the equation, the resultant mix index is 21%. For a mix index of 21%, the AC provides an airfield capacity of 195,000 annual aircraft operations. The existing annual operations were 12,605 in 2021 and are forecasted to reach 16,320 operations in 2041. This equates to 6.5% in 2021, increasing to 8.4% in 2041 of the available capacity being used at HCR.

For planning purposes, 60% of ASV is the threshold for capacity improvements to begin. At 80% of ASV, planning for capacity improvements should be complete, and construction should begin. At 100% of ASV, the airport has reached capacity, and capacity improvement should be made to avoid delays.

Over the 20-year planning horizon, demand at HCR will remain well below 60% of ASV; therefore, capacity improvements are not anticipated over the 20-year planning period.

5.5. Runway Requirements

The FAA has established design standards for nearly every aspect of airports, including relevant navigable airspace, airside facilities, and landside facilities. Once the existing and future airport design classifications are determined, the FAA provides the applicable design standards to provide an acceptable level of safety on airports. These standards are outlined in FAA AC 150/5300-13B, and include dimensions for runway width, safety areas, separation distances from fixed or movable objects, and many more facets of the airport layout.

Sponsors receiving federal funds are obligated by federal grant assurances to comply with FAA design standards, and identifying these standards is a core concept for every Airport Master Plan. Applying FAA standards ensures that airport safety and design are congruent with the types of aircraft operations occurring at the airport.

Each design criteria includes associated safety area dimensional standards. Safety areas and object free areas surrounding a runway protect both airport operations and the community. Safety areas limit the accessibility and functionality of the property within the safety areas, establishing a protective buffer around the airport's operating surfaces. The following definitions describe the safety areas associated with a runway and their functionality.

Runway Object Free Area (ROFA): A ROFA is an area on the ground centered about the runway centerline. The ROFA enhances the safety of aircraft operations by requiring the area to be free of objects, except for objects that need to be located in the ROFA for air navigation or aircraft ground maneuvering purposes. Such objects that need to be located in the ROFA must either be less than three inches in height or on a frangible coupling for easy break-away.

Runway Obstacle Free Zone (ROFZ): A ROFZ is a volume of airspace centered above the runway centerline, above the surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline. The ROFZ must be clear of objects, except frangible visual NAVAIDs that need to be located in the OFZ because of their function.

Runway Protection Zone (RPZ): An RPZ is trapezoidal in shape and centered about the extended runway centerline. The function of an RPZ is to enhance the protection of people and property on the ground by limiting incompatible land use and precluding activities involving congregations of people. Further coordination with the FAA would be required should land use within an RPZ incorporate fuel storage, hazardous materials, wastewater treatment facilities, above-ground utility infrastructure, or other uses.

Runway Safety Area (RSA): An RSA is centered on the runway centerline and is a defined surface surrounding the runway that is prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot/overshoot, approach, or excursion from the runway.

HCR was previously designed as an ARC B-II airport. However, the FAA-approved forecast completed as part of this Airport Master Plan determined the airport is currently an ARC C-II designation and will remain so throughout the 20-year planning period.

Table 5.7 Runway Design Standards			
Design Criteria	**Existing Runway 4/22 (B-II)**	**FAA C-II Standards**	**Standard Met With Existing Condition?**
Runway length	6,898 feet	See Section 5.7	
Runway width	75 feet	100 feet	No
Runway Safety Area (RSA) length beyond runway end	300 feet	1,000 feet	No
Runway Safety Area (RSA) width	150 feet	500 feet	No
Runway Object Free Area (ROFA) length beyond runway end	300 feet	1,000 feet	No
Runway Object Free Area (ROFA) width	500 feet	800 feet	No
Runway Obstacle Free Zone (ROFZ) length beyond runway end	200 feet	200 feet	Yes
Runway Obstacle Free Zone (ROFZ) width	400 feet	400 feet	Yes
Runway 4/22 Approach & Departure Runway Protection Zone (RPZ) length	1,000 feet	1,700 feet	No
Runway 4/22 Approach RPZ inner width	500 feet	500 feet	Yes
Runway 4/22 Approach RPZ outer width	700 feet	1,010 feet	No

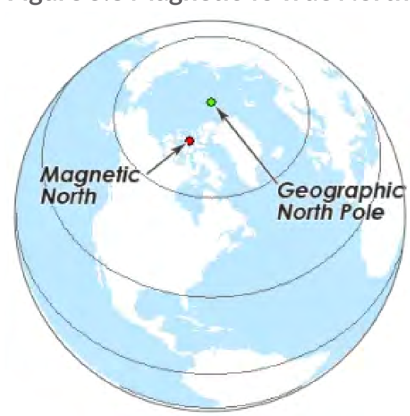
Table 5.7 lists the existing runway conditions at HCR in comparison to ARC C-II FAA design standards. The standards associated with the runway are ARC C-II, visibility not less than 1 mile, or RDC C-II-5,000.

5.6 Runway Orientation and Markings

Runway orientation is primarily a function of wind coverage. As discussed in the wind analysis in Chapter 3, the runway at HCR provides greater than the FAA minimum coverage of 95% in all-weather scenarios.

Runways are designated based on magnetic azimuth. When considering directions or headings, there are two definitions for what constitutes north. First, magnetic north is the location where the earth's magnetic field leaves the earth. Second, true north is the physical, geographical location of the North Pole. These two poles do not coincide, and the magnetic poles are constantly wandering.

Figure 5.3 Magnetic vs True North



Source: GISGeography.com

The measured difference in angle between the two poles is called magnetic declination or variation, which changes depending on geographical location. It is important to distinguish between the two when talking about runway alignment, as they are designated based on magnetic azimuth.

Because the magnetic pole is constantly changing, it is reassessed every five years to accurately provide declination. At some facilities, shifting in the magnetic pole has resulted in runway renumbering. The FAA advises airports to update their runway designation and markings when the magnetic heading changes by more than 5° from the existing runway marking. A review of the published azimuth compared to magnetic is provided in ***Table 5.8.*** Based on this information, it is not necessary to update the runway designation at HCR.

Table 5.8 Runway 4/22 Orientation

Runway	4	22
Latitude	40°28'32.48"N	40°29'16.49"N
Longitude	111°26'17.76"W	111°25'09.63"
Elevation	5,582.99 feet	5,636.79 feet
Geodetic Heading (true)	049°	229°
Magnetic Heading	039°	219°
Magnetic Declination	10° 54' E Changing 6' (0.11°) west per year	
Updated Runway Designation	Not Applicable	

5.7 Runway Length Analysis

Runway length is an FAA recommendation, not a design standard. It is up to the pilot operating under the unique meteorological conditions and demands of a particular flight to determine the safety of the operation with the available runway length.

Many factors determine the suitability of runway length for airplane operations. These factors include the airport elevation, temperature, wind direction and velocity, airplane operating weight and configurations, runway surface condition (dry or wet), effective runway gradient, presence of obstructions in the vicinity of the airport, and any locally imposed noise abatement restrictions. A given runway length may not be suitable for all aircraft operations.

FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design*, provides a process for determining the FAA recommended runway lengths for the design of civil airports. According to the AC, the recommended runway length accommodates the airport's ultimate development plan, thus ensuring a runway appropriate for the forecasted critical aircraft. FAA grant assurance obligations do not require an airport sponsor to lengthen a runway, even where a longer runway is recommended to better support the forecast critical aircraft; however, it is important to consider the FAA's recommended runway length in a federally funded master planning effort.

The AC provides progressive steps to determine the FAA recommended runway length, beginning with identifying the critical aircraft, then applying the method summarized in ***Table 5.9***.

<table>
<tr><th colspan="5">Table 5.9 Runway Length Analysis</th></tr>
<tr><th colspan="3">Airplane Weight Category
Maximum Certificated Takeoff Weight (MTOW)</th><th>Design Approach</th><th>Location of Design Guidelines</th></tr>
<tr><td rowspan="4">12,500 pounds (5,670 kg) or less</td><td colspan="2">Approach Speeds less than 30 knots</td><td>Family grouping of small airplanes</td><td>Chapter 2; Paragraph 203</td></tr>
<tr><td colspan="2">Approach Speeds of at least 30 knots but less than 50 knots</td><td>Family grouping of small airplanes</td><td>Chapter 2; Paragraph 204</td></tr>
<tr><td rowspan="2">Approach Speeds of 50 knots or more</td><td>with less than 10 Passengers</td><td>Family grouping of small airplanes</td><td>Chapter 2; Paragraph 205 Figure 2-1</td></tr>
<tr><td>With 10 or more Passengers</td><td>Family grouping of small airplanes</td><td>Chapter 2; Paragraph 205 Figure 2-2</td></tr>
<tr><td colspan="3">Over 12,500 pounds (5,670 kg) but less than 60,000 pounds (27,200 kg)</td><td>Family grouping of large airplanes</td><td>Chapter 3; Figures 3-1 or 3-2* and Tables 3-1 or 3-2</td></tr>
<tr><td colspan="3">60,000 pounds (27,200 kg) or more Regional Jets**</td><td>Individual large airplane</td><td>Chapter 4; Airplane Manufacturer Websites (Appendix 1)</td></tr>
</table>

** When the design airplane's APM shows a longer runway than what is shown in figure 3-2, use the airplane manufacturer's APM. However, users of an APM are to adhere to the design guidelines found in Chapter 4.*
*** All regional jets regardless of their MTOW are assigned to the 60,000 pounds (27,200 kg) or more weight category.*

Source: Table 1-1 AC 150/5325-4B

The critical aircraft for HCR, identified in Chapter 4, Aviation Demand Forecast, the CL350, has a maximum takeoff weight of 40,600 pounds. In following the methodology outlined in FAA AC 150/5325-4B for determining the FAA recommended runway length, the design guidelines described in Chapter 3 were applied, which are based on performance curves. ***Table 5.10*** is derived from FAA software, FAA Airport Design, which emulates the tables and graphs in the AC.

Table 5.10 Runway Length Recommendations	
Airport Elevation: 5,634 feet	
Mean Daily Maximum Temperature of the Hottest Month: 90° F	
Maximum Difference in Runway Centerline Elevation: 54 feet	
12,500 pounds or less with less than 10 passenger seats	
75% of fleet	4,960 feet
95% fleet	7,030 feet
100% fleet	7,030 feet
12,500 pounds or less with 10 or more passenger seats	7,030 feet
Over 12,500 pounds but less than 60,000 pounds	
75% of fleet at 60% useful load	7,510 feet
75% of fleet at 90% useful load	9,150 feet
100% of fleet at 60% useful load	11,550 feet
100% of fleet at 90% useful load	11,550 feet
More than 60,000 pounds	Approximately 6,990 feet

The percentage of fleet refers to Tables 3-1 and 3-2 within the AC, which list specific aircraft identified for those fleet percentages. The CL350 is in the listing of aircraft that make up 75% of the fleet.

Mathematically, the useful load factor is the difference between the maximum allowable structural gross weight of the aircraft and the operating empty weight. Therefore, the useful load is the aircraft's capacity for fuel, passengers, and cargo (baggage). Thus, the percent useful load is a direct correlated to weight which is the primary consideration for calculating take-off and landing distances for individual aircraft operations.

The AC provides only two load factor curves for calculating runway length, 60%, and 90%. The 60% or 90% application is a condition unique to each airport and depends on the types of operations occurring. The percent useful load is determined by the haul length and service needs of the aircraft, where the haul length relates to fuel loading, and the service needs relate to passengers and baggage.

The FAA Traffic Flow Management System Count (TFMSC) report for HCR shows average arrival and departure seating. For the CL350, the average arrival and departure seats were approximately six in 2019 and 2020, increasing to seven in 2021. The maximum available seating for the CL350, depending on configuration, is 10. There are no statistics to assist in determining cargo loading; therefore, it is assumed there is a direct relation between passengers and baggage. For HCR, it is assumed the useful load for an aircraft operating within the weight range between 12,500 and 60,000 pounds is 60%, meaning the aircraft would not likely be at full capacity for passengers and baggage.

The FAA recommended runway length for large airplanes 60,000 pounds or less, 75% of fleet at 60% useful load is 7,510 feet. The FAA recommended runway length is approximately 612 feet longer than the current runway condition. However, the Sponsor is under no obligation to lengthen the runway to accord with FAA's recommended length.

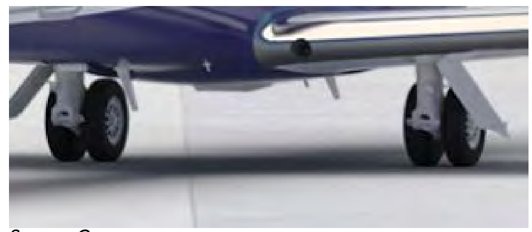
5.8 Pavement Design Strength

To meet the design life-cycle goals of an airport's infrastructure, airside pavements must be designed to physically withstand the weight of arriving, taxiing, and departing aircraft. The required pavement design strength, or weight-bearing capacity, is an estimate based on average activity levels and is limited in terms of aircraft landing gear type and geometry (i.e., load distribution). The pavement design strength is not the maximum allowable weight; however, operations by aircraft which exceed the weight-bearing capacity should be limited to avoid accelerating pavement deterioration.

Figure 5.4 Single Wheel Gear

Source: Cessna

Figure 5.5 Dual Wheel Gear



Source: Cessna

The runway Pavement Condition Number (PCN) is the way pavement strengths are classified. The PCN for Heber Valley Airport is 32/F/B/X/T. The numerical value, 32, represents the load carrying capacity of a standard single wheel gear (SWG) load at a tire pressure of 181 pounds per square inch (PSI). The "F" classifies the pavement type as flexible, meaning there are layers of pavement through which the impact and load are distributed. The "B" identifies a medium subgrade strength, and "X" represents a high tire pressure, up to 254 PSI. Finally, the "T" means the PCN value was obtained through a technical evaluation. In addition to the PCN, the published weight bearing capacity of the runway is 89,000 pounds for a SWG aircraft and 142,500 for a dual wheel gear (DWG).

The maximum takeoff weight of the CL350 is 40,600 pounds, and it has a DWG. Therefore, the pavement strength of the runway at HCR is sufficient for existing and forecast conditions.

5.9 Runway Gradient

The FAA maximum allowable longitudinal runway grade for category C aircraft is 1.5%; however, grades may not exceed plus or minus 0.8% in the first and last quarter, or first and last 2,500 feet (whichever is less) of the runway length. For HCR, this would be the first and last quarter, with a length of approximately 1,724 feet.
The gradient for the first quarter of Runway 4 is approximately 0.89% [(5,598.46-5,582.99)/1,724.5) = .0089].
The gradient for the first quarter of Runway 22 is 0.7 2% [(5,636.79-5,624.25)/1,724.5) = .0072]. The total runway gradient is 0.77% [(5,636.79-5,582.99)/6,898)=.0077]. Therefore, the overall runway gradient is within FAA limits; however, the first quarter of Runway 4 exceeds limits.

5.10 Runway Line of Sight

The runway line of sight requirements facilitates coordination among aircraft and between aircraft and vehicles operating on active runways. This allows departing and arriving aircraft to verify the location and actions of other aircraft and vehicles on the ground that could create a conflict. Along individual runways with a full parallel taxiway, like HCR, the FAA standard is that any point five feet above the runway centerline must be mutually visible with any other point five feet above the runway centerline that is located at a distance that is less than one half the length of the runway. The runway line of sight at HCR meets this requirement.

5.11 Runway Separation Standards

The FAA specifies separation distances between the runway and other airport facilities, also determined by the design aircraft. ***Table 5.11*** outlines the runway separation standards for a C-II facility, along with the existing conditions at HCR.

Table 5.11 Runway Separation Standards

Design Criteria	Existing Runway 4/22	ARC C-II Standards	Standard Met With Existing Condition?
Runway centerline to parallel taxiway/ taxilane centerline	240 feet	300 feet	No
Runway centerline to aircraft parking area	250 feet	400 feet	No
Runway centerline to holding position	200 feet	250 feet	No

5.12 Taxiway Requirements

A taxiway is a defined path established for the taxiing of an aircraft from one part of an airport to another. Taxiways at airports provide a designated route for aircraft to use for access to and from the runway. Like the runway, taxiways have designated safety areas and design standards based on the ARC. AC 150/5300-13B provides the standards for taxiway design.

Again, taxiways are designed for "cockpit over centerline" taxiing, which means pavement is sufficiently wide enough to allow a certain amount of wander. The allowance for wander is provided by the Taxiway Edge Safety Margin (TESM), which is measured from the outside of the design landing gear to the edge of the taxiway. Dimensional taxiway design standards are established based on the Taxiway Design Group (TDG).

Like runways, taxiway design includes associated safety and object free areas to provide a safety buffer around movement areas and are determined based on the taxiway's design standard.

Taxilane: A taxiway designed for low speed and precise taxiing. Taxilanes are usually, but not always, located outside the movement area, providing access from taxiways (usually an apron taxiway) to aircraft parking positions and other terminal areas.

Taxiway Safety Area (TSA): The TSA is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane if unintentionally departing the taxiway.

Taxiway/Taxilane Centerline to Fixed or Movable Object Separation: The minimum distance between the centerline of a taxiway or taxilane to a fixed or movable object. Objects that are fixed-by-function, such as Precision Approach Path Indicators (PAPIs), are allowed within this area.

Taxiway/Taxilane Safety Area (TSA): A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an aircraft deviating from the taxiway.

Taxiway/Taxilane Object Free Area (OFA): An area on the ground centered on a taxiway/taxilane centerline provided to enhance the safety of aircraft operations by remaining free of objects, except for objects that must be located in the OFA for air navigation or aircraft ground maneuvering purposes.

The TDG associated with the identified critical aircraft at HCR is TDG 1B. The FAA states that different critical aircraft may be identified to define separate elements of airport design. This is common for GA airports which support business jet operations, which typically have a narrow body design. Although this critical aircraft drives the design standards for the runway, there is often a separate aircraft with a more demanding taxiway requirement.

In 2021, the TFMSC reported 849 operations by TDG 2 aircraft, which does not include the roughly 1,600 operations by gliders, which require the wider taxiway for staging and launch operations. Because of the significant operations by aircraft requiring TDG 2 design standards (greater than 500), this becomes the standards for taxiway design at the Airport.

Table 5.12 outlines the existing conditions at HCR compared to the FAA design standards for an ADG-II, TDG 2, taxiway design.

Table 5.12 Taxiway Standards

Taxiway Protection			
Design Criteria	**Existing (ADG II)**	**ADG II Standard**	**Standard Met With Existing Condition?***
Taxiway Safety Area (TSA) Width	79 feet	79 feet	Yes
Taxiway Object Free Area	131 feet	131 feet	Yes
Taxilane Object Free Area	115 feet	115 feet	Yes
Taxiway Centerline to Fixed or Moveable Object	65.5 feet	65.5 feet	Yes
Design Criteria	**Existing (TDG 2)**	**TDG 2 Standard**	**Standard Met With Existing Condition?***
Taxiway Width	35 feet	35 feet	Yes
Taxiway Edge Safety Margin	7.5 feet	7.5 feet	Yes
Taxiway Shoulder Width	15 feet	15 feet	Yes

* While existing conditions satisfy ADG II standards, these standards may not be maintained under the airports current configuration were the runway geometry will need to be modified to meet standards. Runway and taxiway alternatives will be explored in Chapter 6.

5.13 Electronic, Visual, and Satellite Aids to Navigation

Navigational aids (NAVAIDS) can be visual or electronic and include Communications, Navigation, Surveillance, and Weather (CNSW) facilities enhancing safety for airport operations. Visual systems can consist of markings or a light source, and electronic NAVAIDS emits a signal either for an aircraft or an Air Traffic Controller (ATC).

NAVAIDS provide pilots with information to assist in locating the airport, update weather conditions, and identify the landing direction. Some NAVAIDS provide horizontal and vertical guidance during landing. Instrument NAVAIDS permit properly equipped aircraft to access the airport during poor weather conditions and include ground-based and satellite systems.

HCR is equipped with a segmented circle and lighted wind cone, runway and taxiway lighting, a 4-light Precision Approach Path Indicator (PAPI) on Runway 22, a beacon, and an Automated Weather Observing System (AWOS) for weather reporting. The AWOS is operational; however, there are some components that are old and in need of replacement and upgrade. The other listed NAVAIDS are in good condition.

There are no ground-based navigational systems at the airport; however, there is one satellite-based instrument approach. The NAVAIDS at HCR are appropriate for existing and future operations at the airport, and there are no improvements being recommended as part of this Airport Master Plan.

5.14 Airspace Requirements

Ensuring an airport's operational airspace is planned and protected is necessary for ensuring existing and future safety compliance. This section provides an airspace analysis that includes elements relevant to FAA AC 150-5300-13B and Title 14 of the Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*.

14 CFR PART 77 IMAGINARY SURFACES

CFR Part 77 establishes standards for determining obstructions in navigable airspace. Part 77 describes imaginary surfaces surrounding airports and are specific to individual runways based on runway category and instrument approach.

The most precise existing or proposed instrument approach for the specific runway end determines the slope and dimensions of each approach surface. Any object, natural or man-made, that penetrates these imaginary surfaces is considered to be an obstruction. ***Figure 5.5*** illustrates these surfaces.

Primary Surface: A rectangular area, symmetrically located along the runway centerline, and extends 200 feet beyond each runway threshold. The elevation of the Primary Surface is the same as the corresponding runway elevation. The most demanding existing or planned instrument approach for either runway end determines the Primary Surface width. In all cases, the width equals the inner width of the approach surface.

Horizontal Surface: An oval-shaped, level area situated 150 feet above the airport elevation. The perimeter is established by swinging arcs of specified radii from the center of each end of the Primary Surface of each runway and connecting the adjacent arcs by lines tangent to those arcs. The arcs at either end will have the same value.

Conical Surface: A sloping area whose inner perimeter conforms to the shape of the horizontal surface.

Transitional Surface: An area beginning at the edge of the Primary Surface and slopes at a ratio of 7:1 (horizontal: vertical) until it intersects the Horizontal Surface.

Approach Surface: A surface that begins at the ends of the Primary Surface and slopes upward, and flares outward horizontally at a predetermined ratio. The width and elevation at the inner Approach Surface conform to the

Figure 5.6 Part 77 Imaginary Surfaces

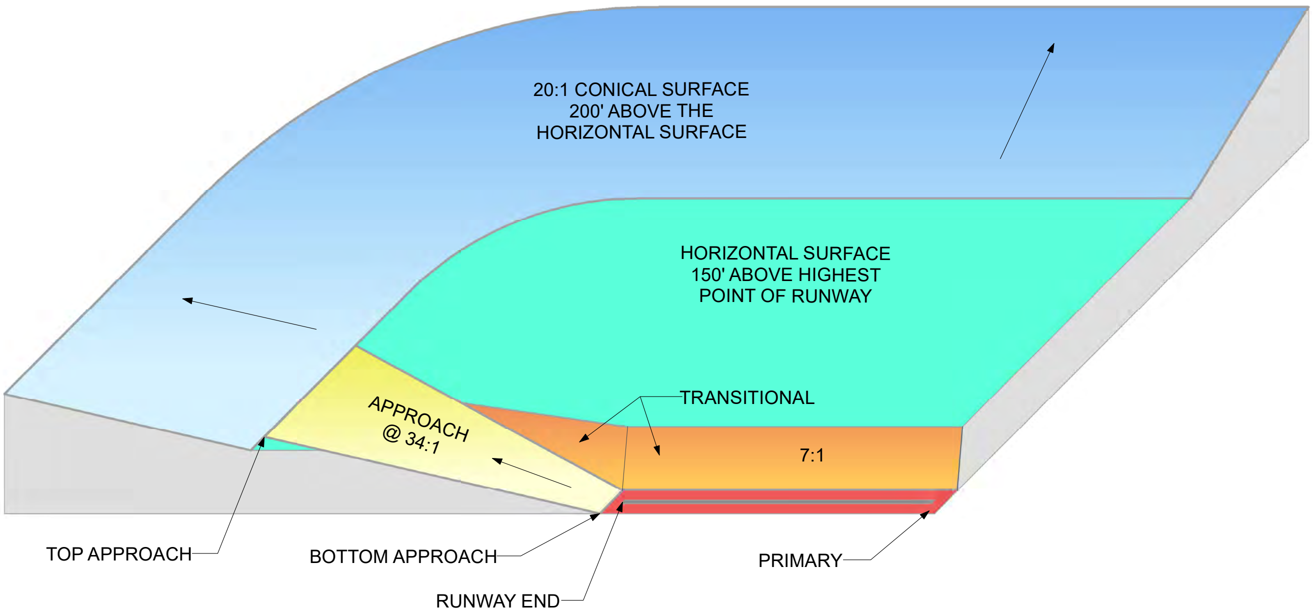


Table 5.13 Part 77 Dimensions	
	HCR
Conical Surface	
Length	4,000’
Slope	20:1
Transitional Surface	
Slope	7:1
	Runway 4/22
Primary Surface	
Width	500’
Length Beyond Runway End	200’
Horizontal Surface	
Height Above Airport Elevation	150’
Radius Arc	10,000’
Approach Surface	
Inner Width	500’
Outer Width	3,500’
Length	10,000’
Slope	34:1

Primary Surface. Slope, length, and width of the outer ends are governed by the runway service category, existing or proposed instrument approach procedure, and approach visibility minimums.

OBSTRUCTION ANALYSIS

The FAA recommends that obstructions penetrating the Part 77 imaginary surfaces be mitigated or removed if possible. The approach zones and RPZs are the busiest areas around an airport and the statistical locations for a higher probability of an aircraft accident. Every effort should be made to minimize obstructions within these areas; however, there are times when this is not possible with existing infrastructure or surrounding terrain.

HCR currently has no obstructions to safety areas or Part 77 surfaces. As discussed in section 5.15, planning coordination should continue between the City and surrounding jurisdictions to ensure appropriate land use and development around the airport.

INSTRUMENT APPROACHES

Heber Valley Airport has a single satellite-based instrument approach procedure, which serves both runway ends by way of a circling approach. The RNAV (GPS) – A approach has a published minimum visibility of 1 1/2 miles with a minimum descent altitude of 8,020 feet. There are no expected changes to the instrument approach procedures; therefore, the airspaces defined in ***Table 5.13*** will remain the same throughout the planning period.

5.15 Land Use Planning

Effective compatible land use planning around airports addresses airspace, safety, and noise considerations. In many instances, the community's willingness to take a proactive approach in establishing land use policies around the airport prevents the need to be reactive and mitigate more severe conflicts in the future. Comprehensive land use compatibility plans consider and incorporate both height restrictions and basic land use restrictions via zoning. Coupled with other proactive measures, such as voluntary noise abatement programs and selective fee simple land acquisition, proactive planning around the airport protects both the airport and the surrounding community.

The Heber City Master Plan, Envision Heber 2050, acknowledges the need for appropriate land use planning to preserve the character and setting of the community. The goal of the City Master Plan is to retain the distinction between communities, enabling Heber residents to embrace the nearby mountains and maintain a more rural sense of community. To achieve this vision, the future land use zoning aims at maintaining the agricultural and rural residential zoning as a buffer around the city. The future land use zoning map protects the airport through appropriate zoning consisting of Airport, surrounded by Agricultural Preservation, and Industrial zoning.

Effective land use planning is also a priority of the County and identified as such in the Wasatch County General Plan. The goal for land use planning around the Heber Valley Airport is that it be compatible with the airport and to implement policies to protect the open space, agricultural, and industrial zones to ensure future land use compatibility.

The 2007 Utah Continuous Airport System Plan, the most current plan available, identified some recommended actions for Heber Valley Airport regarding land use planning. These recommendations include the development and implementation of Part 77 zoning ordinances, implementation of flight path/noise abatement procedures, acquisition of land or easements to protect airport operations, development or adoption of a formal land use compatibility plan, and implementation of overlay zones for flight paths, height, noise, and land use.

The Sponsor should take a proactive approach with land use planning around the airport to ensure zoning, ordinances, and policy continues to align with the compatibility of existing and future operations. Such actions will reduce conflicts that could potentially constrain the airport or lead to safety hazards.

5.16 General Aviation Requirements

General Aviation (GA) encompasses a wide range of activities, such as recreational, business, commuter, flight training, agriculture applications, emergency medical services, and more. GA aircraft fleet mix includes a number of different aircraft types, including jets and propeller driven aircraft, as well as helicopters, gliders, and balloons. GA needs include aircraft storage facilities, transient parking aprons, terminal facilities, automobile parking areas, and vehicle access. As such, a general aviation airport should accommodate the types of GA operations occurring at the airport.

HANGARS/AIRCRAFT STORAGE

There is an assortment of hangar types and sizes at the airport, all of which are occupied. As of March 2021, there were approximately 250 people on the waiting list to either build or lease hangar space at the airport. Hangar size needs range from small 40 by 40-foot hangars for single engine piston aircraft to large 100 by 100 -foot hangars to support larger business jets.

According to Utah's 2020 Aviation Development Strategy, it is recommended that airports plan for sufficient hangars to accommodate 70% of the based aircraft fleet. In 2021, there were 84 based aircraft at HCR. This number is forecasted to increase to 109 by 2041. At the present time, Heber Valley Airport should have enough hangars/aircraft storage to accommodate approximately 59 aircraft, with this number increasing to approximately 77 aircraft by the year 2041.

As noted in ***Chapter 3***, there were 71 hangars at the airport in 2020. If 25% of the people on the waiting list follow through on their requests for hangars, an additional 63 hangars would be needed, for a total of 134 (71 + 63). By applying the guidelines outlined in the 2020 Aviation Development Strategy and the need to accommodate 25% of the people on the waiting list, the airport would need a minimum of 51 additional hangars [(59 + 63) – 71] in 2021 and 69 additional hangars [(77 + 63) – 71] by 2041.

TRANSIENT AIRCRAFT PARKING

According to the 2020 Utah Aviation Development Strategy, the airport should be able to accommodate 75% of the daily transient aircraft with transient aircraft parking positions. Based on this information, Heber Valley Airport should have 17 transient aircraft parking positions (8,193 transient operations / 365 days = 22 transient operations per day x 75%) available in 2021 and 22 aircraft parking positions (10,608 transient operations / 365 days = 29 transient operations per day x 75%) available in 2041.

The existing transient aircraft parking spaces, which vary in size, total 48 and are located on the FBO apron. While this number of transient aircraft parking spaces is adequate under the formula suggested by the 2020 Aviation Development Strategy, it is notable that the airport experiences several peak periods (e.g., the annual Sundance Film Festival) throughout the year where transient aircraft parking is at capacity. Accordingly, it is recommended that additional transient aircraft parking space be developed at the airport to accommodate peak demand.

BASED AIRCRAFT PARKING

The 2020 Aviation Development Strategy recommends that the airport have sufficient based aircraft parking spaces to accommodate 25% of the facility's based aircraft. In 2021, there were 84 based aircraft at HCR, which is forecasted to increase to 109 by 2041. As of 2021, there is a need for 21 based aircraft parking spaces, growing to 27 by 2041.

Currently, there are no aircraft parking spaces at Heber Valley Airport specifically designated for based aircraft. The FBO offers short and long term leasing of aircraft parking positions; however, lease of these parking positions to based aircraft reduce the parking available for transient parking. It is recommended that apron space be developed to specifically accommodate based aircraft parking. Development of recommendations and alternatives will be explored in ***Chapter 6***.

GENERAL AVIATION FACILITIES

The airport maintains a GA pilot lounge, in addition to the pilot lounge available through the FBO. These facilities include a waiting area, restrooms, vending, and planning areas. This facility is considered sufficient, and no other GA amenities are being recommended.

5.11 Support Facilities

DEICING

The FBO, OK3 Air, provides aircraft deicing. Services include deicing and anti-icing capabilities with type I and type IV fluids. The need for additional facilities or services is not apparent; therefore, no further deicing services are being recommended at this time.

FUEL AND GROUND SERVICES

Fuel services and accessibility at an airport are essential for attracting and maintaining based aircraft and itinerant aircraft to an airport. Fuel service is typically provided by an FBO; however, some airports maintain their own fuel facilities provided by the sponsor. Both 100 low lead (LL), or aviation gasoline (avgas), and Jet A fuel are available at HCR through the FBO. The FBO also maintains a self-service fuel facility available to airport users. Additional ground services are also available through the FBO, such as a Ground Power Unit (GPU), battery cart, and oxygen.

The fuel farm maintain by the FBO is presently located toward the center of the FBO-leased apron, which location is not ideal for the safety and efficient of airport operations. In addition, the FBO has indicated to the sponsor that the fuel farm facilities are nearing the end of their useful life. It is recommended that the fuel farm be reconstructed at more suitable location on the Airport. Additionally, it is recommended that suitable facilities be developed for the storage of mobile refueling equipment and other GSE during winter conditions.

Several airport users have indicated a desire for additional FBO services which cater to light general aviation aircraft, provide competitive self-service fueling facilities, and/or other competitive services. It is recommended that space be identified and/or developed at the Airport for the provision of these additional aeronautical services.

Similarly, some airport users have expressed a desire to conduct self-fueling. The airport's minimum standards currently require that fuel associated with self-fueling activities be stored with the FBO or in a self-service storage facility constructed in a centrally located fuel storage area. The airport does not currently have a designated centrally located fuel storage area for these purposes.

Provisions for these facilities will be explored further in the alternatives analysis.

MAINTENANCE

The FBO provides maintenance and repair services, including structural, avionics systems, and aircraft engines. The need for additional facilities or services is not apparent; therefore, no further services are being recommended at this time.

SNOW REMOVAL EQUIPMENT (SRE) AND STORAGE

FAA AC 150/5220-20A, *Airport Snow and Ice Control Equipment*, provides guidance on selection and procurement for various SRE. The equipment selection process is based on snow removal clearance times and the square footage and priority of pavement to be cleared. For a general aviation airport with greater than 10,000 operations but less than 40,000, such as HCR, the recommended clearance time for priority 1 areas is three hours.

For HCR, the priority 1 areas are defined in the Snow and Ice Control Plan and include Runway 4/22, Taxiway A, and the fuel and service areas. Priority 2 areas include Taxiway A-3 connector followed by the other connectors and taxilanes. Priority 3 areas are the parking lots, secondary entrances gates, and all other hard surface areas in and around the airport.

The AC recommends that an airport be able to clear the defined priority 1 areas of 1 inch of snow within the recommended time. Based on this criteria, HCR, which receives an average of approximately 74 inches of snow a year, is recommended to have a minimum of one high-speed rotary snow plow, supported by two snow plows of equal snow removal capacity.

The existing fleet of SRE consists of a dump truck with plow, a loader with plow/box pusher attachment, and a snowblower. This equipment is in poor condition. Therefore, in following the AC guidance, it is recommended that the airport procure a class 1 rotary plow and replace the existing fleet to maintain the airport during winter conditions.

The airport's Snow and Ice Control Plan dictates that all SRE will be stored and maintained in the heated SRE building. Should the SRE fleet expand, it would be necessary to ensure that the equipment has appropriate storage space within the facility and expanded SRE storage may be necessary.

VEHICLE PARKING

According to the 2020 Aviation Development Strategy, there should be one vehicle parking space for each based aircraft plus an additional 50% for employees/visitors. As previously noted, there are 84 based aircraft at HCR in

2021. Based on information contained in the 2020 Utah Statewide Airport Economic Impact Study Technical Report, total employment for Heber Valley Airport was 170; therefore, HCR should have a total of 169 vehicle parking spaces [(170 x 50%0 + 84].

The existing vehicle parking lot for general aviation users currently has 21 marked spots and is often at capacity. It is recommended that additional automobile parking spaces be constructed to accommodate hangar complexes and airport areas removed from the FBO and main entrance.

Table 5.14 Summary of Required Modifications to Satisfy FAA Design Standards

Design Criteria	Existing	C-II Standard
Longitudinal Runway Gradient	Full runway gradient = 0.77% First quarter RWY 4 = 0.89% First quarter RWY 22 = 0.72%	Full Runway Gradient = 1.5% max First Quarter RWY 4 = 0.8% max First Quarter RWY 22 = 0.8% max
Runway width	75 feet	100 feet
Runway Safety Area (RSA) length beyond runway end	300 feet	1,000 feet
Runway Safety Area (RSA) width	150 feet	500 feet
Runway Object Free Area (ROFA) length beyond runway end	300 feet	1,000 feet
Runway Object Free Area (ROFA) width	500 feet	800 feet
Runway 4/22 Approach & Departure Runway Protection Zone (RPZ) length	1,000 feet	1,700 feet
Runway 4/22 Approach RPZ Outer width	700 feet	1,010 feet
Runway centerline to parallel taxiway/ taxilane centerline	240 feet	300 feet
Runway centerline to general aviation aircraft parking area	250 feet	400 feet
Runway centerline to holding position markings (all)	200 feet	250 feet

5.12 Facility Requirements Summary

Increased utilization of the airport by C-II aircraft requires the Sponsor, consistent with the federal grant assurance obligations, to enhance the safety of such operations by meeting FAA design standards for C-II aircraft. These design standards exist to ensure uniform safety and facility development across the nation's network of airports. For HCR, the enhanced standards primarily relate to the runway and runway protection areas. The existing condition is compared to the C-II FAA design standards in ***Table 5.14***, where the FAA standards must be met.
In addition to the FAA design standards, ***Table 5.15*** summarizes recommendations determined as part of this planning study. Recommendations are not regulatory; however, they present development that should be considered to accommodate the needs of the users and facility upkeep.

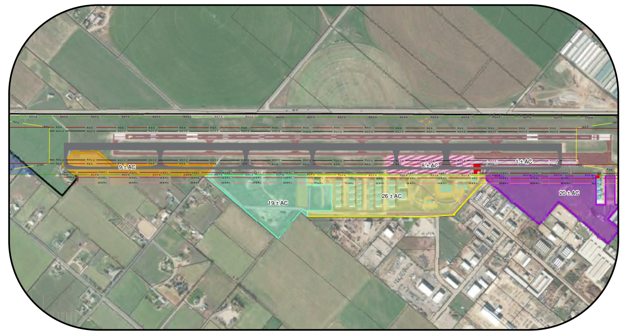
Table 5.15 General Aviation, Terminal Area, and Facility Recommendations

Facility	Existing	Recommendation
Fuel Facility	FBO provides fuel services, including avgas and jet A	Relocate and modernize fuel farm; identify areas for additional services.
Hangars/Aircraft Storage	71 hangars of various sizes, including the museum and two leased by the FBO	Construct an additional 51 hangars minimum
Tiedown Space	Transient: 48 spaces of various sizes available on FBO apron. Based: No designated spaces.	Transient: Additional parking spaces. Based: Designated based aircraft apron.
SRE Equipment	Dump truck with plow, loader with plow/box attachment, snow blower.	Procure a Class 1 high-speed rotary plow, and replace the existing fleet with two snow plows of equal snow removal capacity
SRE Facility	Three-bay facility	Expand the SRE facility to accommodate the upgraded fleet
Automobile Parking	Single paved lot with 21 designated spaces.	Provide additional automobile parking spaces

Chapter 6. Development Alternatives

SECTION OVERVIEW

This section identifies and evaluates the preliminary and preferred alternative(s) to meet the requirements of the FAA, and the needs of the Airport Sponsor and users. The evaluation addresses identified deficiencies, with the preferred alternative ultimately selected by the Airport Sponsor.



6.1 General

The Airport Master Plan up to this point has outlined the existing airport infrastructure, identified the current and future airport users, deficiencies to FAA design standards and recommendations, and other Sponsor and user needs. The alternatives chapter combines that background information to investigate future development options which will address the identified issues and best support the airport's future condition.

The following criteria was used in evaluating multiple development alternatives at the airport:

- **Existing Infrastructure:** Described in Chapter 3. *Inventory of Existing Conditions*, conceptual alternatives weighed the condition or lack of existing facilities at the airport.
- **Future Aviation Activity:** Detailed in Chapter 4. *Forecast of Aviation Demand*, conceptual alternatives considered the forecasted number of operations and types of aircraft for the next 20 years.
- **FAA Design Standards:** Outlined in Chapter 5. *Facility Requirements*, alternatives adhered to applicable FAA design standards and recommendations.
- **Community and Airport Goals:** Future improvements to the airport should support long-term community and economic goals. Conceptual alternatives were designed to adhere to the Airport Sponsor's approved vision, mission, values, and goals guidance for the Master Plan process. These items are a direct reflection of the priorities for the airport and the community it serves.
- **Compatible Land Use:** Alternatives were designed to maximize compatible and environmentally-friendly land use, including potential noise impacts to the surrounding community.
- **Efficiency:** Alternatives aimed to utilize existing space as efficiently as possible while still maintaining the community and airport goals.
- **Reasonable and Justified:** Only alternatives that progressed towards a reasonable and justified goal were evaluated.
- **Utah State System Plan:** Design of alternatives incorporated Utah Continuous Airport System Plan goals and objectives.

6.2 Sponsor and User Input

Public involvement is a critical element of any Airport Master Plan process. As such, the alternatives described in this chapter required input and feedback from the Airport Sponsor, airport staff, the Technical Advisory Committee (TAC) and Community Advisory Committee (CAC), airport users/tenants, members of the community, and the FAA. Public meetings, open houses, and advisory committee meetings provided the main avenue of stakeholder input and feedback.

6.3 Needed Improvements Summary

A shift in Airport Reference Code (ARC) from B-II to C-II, causes the FAA design standards relating to the runway to increase in size. The deficiencies are complex and required in-depth analysis to determine the most appropriate alternative to adopt. ***Table 6.1*** presents a summary of the actions each alternative will analyze.

Table 6.1 HCR Needed Improvement Summary

Element	Design Criteria	Action
Runway ARC C-II Design Standards	Runway Width	Increase runway width from 75' to 100'.
	Runway Safety Area (RSA)	Increase length beyond runway from 300' to 1,000' and increase the width from 150' to 500'.
	Runway Object Free Area (ROFA)	Increase length beyond runway from 300' to 1,000' and increase the width from 500' to 800'.
	Runway Protection Zone (RPZ)	Increase RPZ length from 1,000' to 1,700' and increase the outer width from 700' to 1,010'.
	Runway Length (not a design standard)	An alternative with an extended runway will be analyzed.
Taxiway TDG 2A Design Standards	All	The existing conditions meet standards; however, each runway alternative will have an associated taxiway geometry appropriate to the scenario.
Airspace and Approaches	All	For each alternative, the airspace and instrument approach will be evaluated to identify potential conflicts.
Other Recommendations	Fuel Facility	Alternatives for these recommendations will be identified.
	Hangars and Aircraft Storage	
	Tiedown Storage	
	SRE Facility	
	Automobile Parking	

6.4 Runway Alternatives

As with most alternatives analysis processes, airport development depends on the selected runway alternative. In the case of the Heber Valley Airport, the location of the airport presents unique challenges. Correcting the identified runway deficiencies will alter the layout of the airport and drive design for follow on projects in future years. The alternatives will discuss the boundaries of the expanded safety areas, existing infrastructure or incompatible land uses which would be incorporated in a safety area, and how each alternative compares with the existing airport property boundary.

Presented below the numbered runway alternatives are several preliminary alternatives, so named because they were investigated through the process and were quickly dismissed due to several prohibitive factors. These preliminary alternatives did not proceed past initial thinking and did not have an official design generated.

NO ACTION RUNWAY ALTERNATIVE

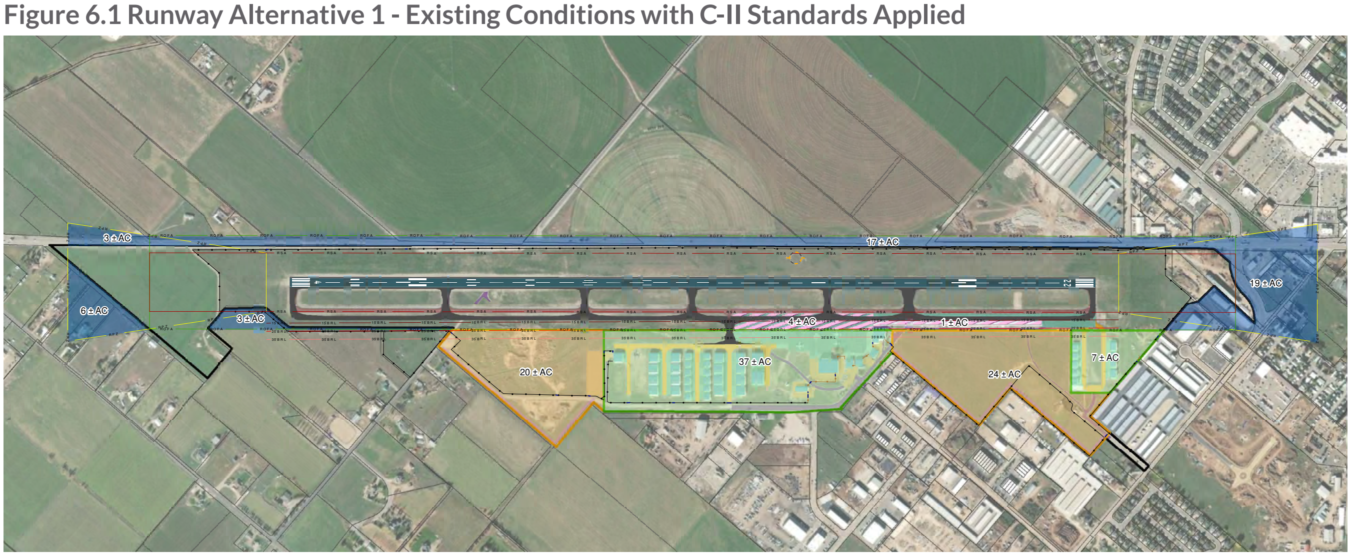
A no-action alternative maintains the existing runway and airport as it is today with B-II design standards. As discussed in previously, airports receiving federal funding are obligated by grant assurances which the Airport Sponsor must comply with to maintain federal funding opportunities. Grant Assurance 19, Operations and Maintenance, states that the airport shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards as may be required or prescribed by the applicable governing agency.

As was determined in the forecast chapter, and approved by the FAA, the airport is currently, and forecasted to continue to be, an ARC C-II airport. This is driven by the existing and forecasted fleet of aircraft using the airport. The airport is obligated by grant assurances to maintain a facility that is safe for these types of aircraft to operate. By not upgrading to the required FAA design standards, future funding opportunities at the airport would be compromised. Because of this, the no-action alternative was not considered a viable option and was not investigated further.

ALTERNATIVE 1 - EXISTING CONDITIONS WITH C-II STANDARDS APPLIED

Alternative 1 maintains the existing runway location/length and applies the required C-II design standards and width increase, as illustrated in ***Figure 6.1***.

Figure 6.1 Runway Alternative 1 - Existing Conditions with C-II Standards Applied



Alternative 1 advantages:

- Minimizes easements and/or land acquisitions of private property.
- Preserves approximately 44 acres of airport property for economic development.
- Preserves a majority of the open apron space currently in use.

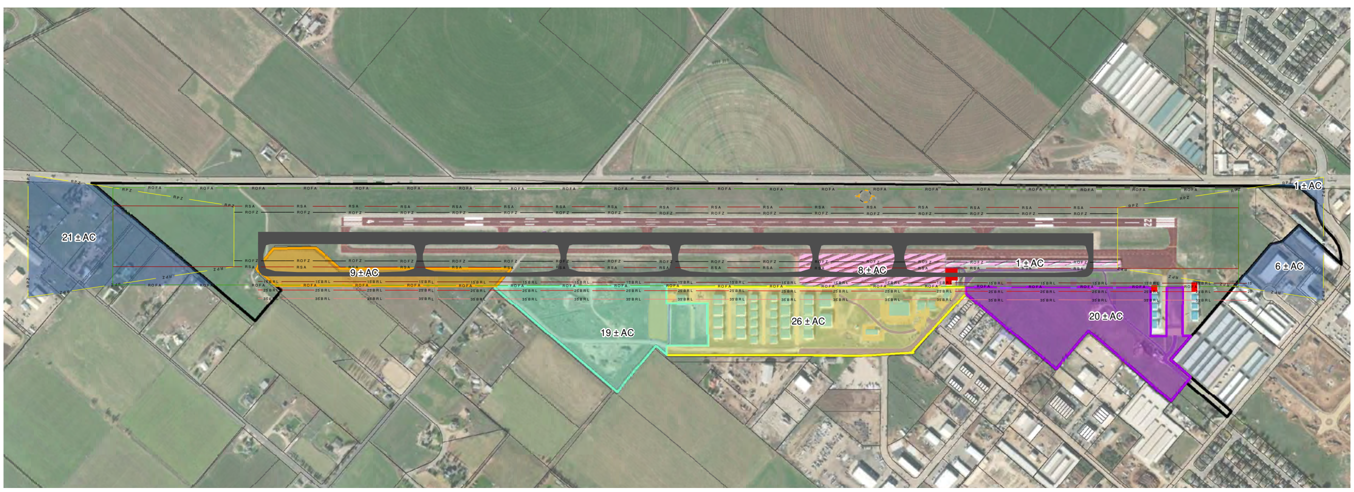
Alternative 2 disadvantages:

- Requires U.S. 189 to be relocated.
- Requires the intersection of U.S. 189 and 1300 S. to be relocated.
- Requires Hangar Row structures to be relocated.
- Reduces current apron space.
- Requires land acquisition and acquisition of easements off both ends of the runway.
- Displaces residents off the Runway 22 end.

ALTERNATIVE 2 - RUNWAY SHIFT TO THE SOUTHWEST

Alternative 2 presents a shift in the runway to the southwest, maintains the existing length, increases the width to 100 feet, and applies C-II design standards. A shifted runway would also require a shift in the taxiway, which would be designed to TDG 2A standards, as illustrated in ***Figure 6.2***.

Figure 6.2 Runway Alternative 2 - Runway Shift to the Southwest



Alternative 2 advantages:

- Removes U.S. 189 impacts and considerations.
- Minimizes RPZ impacts off of the Runway 22 approach end.
- Does not displace residents off of the Runway 22 approach end.
- Minimizes land acquisition requirements.
- Moves the flight path away from downtown Heber.

Alternative 2 disadvantages:

- Two hangars near Runway 22 approach end need to be relocated.
- Requires Hangar Row structures to be relocated.
- Removes most of the existing apron space.
- Reduces the amount of land available for future economic development.
- Impacts large off-airport acreage off of the Runway 4 approach end.

PRELIMINARY ALTERNATIVE 1 - RUNWAY SHIFT TO THE NORTHWEST

Preliminary Alternative 1 shifts the runway to the northwest, across U.S.189. This preliminary alternative was deemed nonviable due to it's incompatibility with U.S. 189 (both current and re-route alternatives being presented by UDOT). This option also does not align with the community goals of not expanding the airport footprint.

Figure 6.3 Preliminary Alternative 1 - Runway Shift to the Northwest

PRELIMINARY ALTERNATIVE 2 - REDUCED RUNWAY LENGTH

Preliminary Alternative 2 presents a reduced runway length for a runway shifted to the same location as Alternative 2. This preliminary alternative was deemed nonviable due to analysis conducted of both current and forecasted future users of the airport in both dry and wet surface conditions needing at least the full current field length for flight operations. This option would negatively impact the level of service to current users of the airport and would lead to a similar reduction in economic viability.

Figure 6.4 Preliminary Alternative 2 - Reduced Runway Length

PRELIMINARY ALTERNATIVE 3 - RECOMMENDED RUNWAY LENGTH

Preliminary Alternative 3 presents an increased runway length from the existing length. The field length "recommended" was based upon analysis of both current and forecasted users of the airport in dry and wet surface conditions. Performance data for the critical aircraft (Challenger 300/350) yielded a wet surface conditions field length of around 8,594' compared to the current length of 6,898'. Overall, this was deemed nonviable due to a number of factors including significant land/community impacts, proximity to terrain around the airport, and the failure to align with community goals to not expand current facility.

Figure 6.5 Preliminary Alternative 3 - Recommended Runway Length

PRELIMINARY ALTERNATIVE 4 - AIRPORT RELOCATION

Preliminary Alternative 4 was an exercise to demonstrate the difficulties of an airport relocation to parties who would wish to pursue such a move. In past airport master plans, this topic was discussed but was noted as being dismissed quickly. An airport relocation was deemed nonviable for this master plan due to the facility requirements being able to be addressed at the current airport site, leading to the likely scenario that it would not be federally supported. A relocation would be financially viable without federal funding, particularly because a suitable other site for the airport is not readily apparent in the Heber Valley.

6.5 Selection of Preferred Runway Alternatives

While a comparison of alternatives is usually done between several viable options, there proved to be a sole viable alternative once all listed options were analyzed. When comparing all of the alternatives against each other, Alternative 2 has the lease impact to the majority of the community and gains the most compliance with FAA design standards, while also adhering as closely as possible to community goals for the airport.

The runway shift that Alternative 2 presents allows the RPZ off of the Runway 22 end (the most populated/ developed area adjacent to the airport) to be brought onto current or attainable future airport property. This shift also provides a compliant ROFA and RSA in comparison to the existing runway location when C-II standards are applied. The primary culprit with interfering with ROFA is U.S. 189, which Alternative 2's shift negates.

6.6 Development Alternatives Conclusion

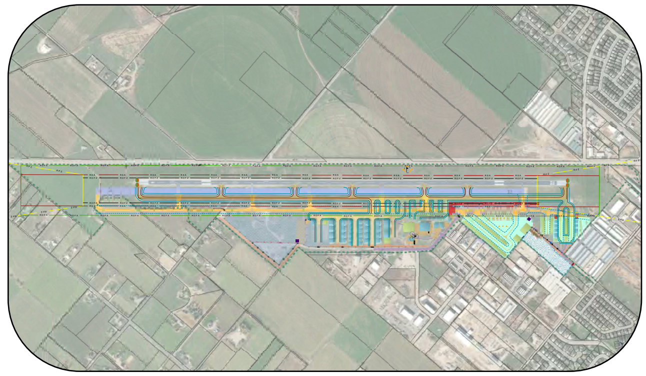
Each airport is unique and comes with a distinct set of aviation activity, community goals, terrain, weather, and financial capability. As a result, planning of aviation facilities cannot be done with a cookie-cutter approach. Ultimately, through collaboration with the community and Sponsor, a reasonable alternative was able to be developed to address the short- and long-term needs of Heber Valley Airport. Some aspects of the process were specifically done to allow flexibility in design while other aspects are much more specific and rigid based upon the circumstances surrounding this project and the airport community.

After evaluating the process and the requirements that needed to be met on the current airport site, the Sponsor has selected Alternative 2. This alternative will provide a plan to accommodate the needs of the airport, airport users, and the community over the long-term future planning period.

Chapter 7. Airport Layout Plan

SECTION OVERVIEW

The Airport Layout Plan is a drawing set that depicts the current airport facilities and proposed developments based upon the previously determined aviation demand forecast, facility requirements, and selected alternatives. This chapter describes each drawing included in the set.



7.1 General

An approved Airport Layout Plan (ALP) is necessary for an airport to receive financial assistance under the terms of the Airport and Airway Improvement Act of 1982. An airport must keep its ALP current and follow the plan as part of AIP grant assurance requirements and previous airport improvement programs. The ALP creates a blueprint for airport development by depicting proposed facility improvements and a guideline to ensure development meets airport design standards and safety requirements.

The ALP is a set of planning drawings and is intended to provide locations of the major components of an airport; runways, taxiways, aprons, and hangar areas. The various parts of the airport are all interconnected and need to be looked at as a whole. For this reason, the full ALP set is vetted through multiple divisions of the FAA. Each division analyzes the existing airport and planned improvements for overall compatibility with the national system of airports (such as airspace and planned approaches) and for on-airport compliance. After the ALP is approved, minor changes by the Sponsor are allowed, such as slight relocation of a hangar or taxiway, but FAA design standards and overall use of the land and space as planned must be followed, otherwise the airport drawings must be submitted to the FAA for approval again.

This chapter describes, in detail, the drawings of the Heber Valley Airport (HCR) ALP and gives a description of the proposed improvements for the airport. The airport and vicinity impact areas are graphically represented within the drawing set. All layout drawings appropriate to the project were produced in accordance with FAA standards as defined in AC 150/5070-6B, *Airport Master Plans,* and AC 150/5300-13B, *Airport Design.* The following drawings were produced on 24” x 36” sheets and on 11” x 17” sheets:

- Title Sheet
- Airport Data Sheet with Wind Rose
- Airport Layout Plan Sheet - Existing and Future
- Airport Airspace
- Inner Portion of the Approach Surface - Runway Detail
- Inner Portion of the Approach Surface - Runway 4 - Existing and Future
- Runway Departure Surface - Runway 4/22
- Terminal Area - Existing and Future

- Land Use
- Photo and Contours
- Airport Property Exhibit 'A'
- Airport Property Exhibit 'A' Tables

7.2 Title Sheet

The Title Sheet lists the drawings within the set, with approval signature blocks for the Sponsor and UDOT Aeronautics and designated space for the FAA acceptance letter. This sheet also includes the location and vicinity map, showing HCR, Heber City, and Wasatch County in relation to the State of Utah. The project name, AIP number, and airspace case number are also included.

7.3 Airport Data Sheet

The data sheet includes the following information:

- Wind rose(s) including data source, time period covered, and coverage percentages for the runway.
- Airport Data Table, existing and future, including airport elevation, Airport Reference Point data, mean maximum temperature, Airport Reference Code, and design aircraft.
- Runway Data Table, existing and future, including percent effective gradient, percent wind coverage, maximum elevation above MSL, runway length and width, runway surface type, runway strength, 14 CFR Part 77 approach category, approach type, approach slope, runway lighting, runway marking, navigational and visual aids, and RSA dimensions.
- FAA Approved Airport Modification to Standards Table, including approved date.
- Declared Distances Table, existing and future, including Takeoff Run Available, Takeoff Distance Available, Accelerated Stop Distance Available, and Landing Distance Available.

7.4 Airport Layout Plan Sheet

A set of drawings has been described as an ALP, but the main sheet of the set is also called the Airport Layout Plan. This sheet is the core of the set and is the overall representation of the existing and planned airport. The existing facility is depicted to show the actual improvements. The surfaces presented, like the Runway Safety Areas and Object Free Areas, include dimensions to indicate they meet FAA design standards. If a surface falls short of standards, a note in the appropriate table and/or on the drawing will point out the deficiency.

A very important function of the ALP sheet is to show the planned development areas. These may be runways, extensions, taxiways, apron areas, or other aviation use on the airside of the facility. The development shown meets appropriate FAA design and safety standards. This is particularly important for aircraft movement areas and separation dimensions. The Heber Valley Airport ALP sheet shows the airport currently does not meet ARC C-II design standards. The need to meet design standards drove all of the development items shown in the HCR ALP.

The ALP depicts the existing and future airport facilities and includes facility identifications, description labels, imaginary surfaces, safety areas, and data tables. The ALP includes the following items:

- North Arrow showing True and Magnetic North and the year of the magnetic declination.
- Airport Reference Point (ARP), existing and future.
- Elevations, existing and future, for runway ends, touchdown zones, intersections, runway high and low points, structures on the airport, and roadways where they intersect the RPZ.

- Building limit lines.
- Runway details, existing and future, including dimensions, orientation, markings, threshold lighting, runway safety areas, and end coordinates.
- Taxiway details, existing and future, including widths and separations from the runway centerlines, parallel taxiway, aircraft parking, and objects.
- RPZ details, existing and future, including dimensions.
- Approach slope ratio.
- Sponsor and UDOT Aeronautics plan acceptance and FAA conditional approval signature blocks.

7.5 Airport Airspace

The airport airspace drawing identifies all penetrations to surfaces, for the full extent of all airport development, as defined by 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. A primary function of the Part 77 drawing is to provide local planners and governments a means to check for potential obstructions from other planned development. A prime example of this would be an application to build a cellular tower near the airport. By using the Part 77 drawing, planners can check obstruction impacts to airport safety surfaces prior to any construction degrading the airspace or approach procedures. This drawing is one of two that addresses land use protections near the airport, the other, discussed later, is the Land Use Plan. Items in the Part 77 drawing include:

- Plan view of all 14 CFR Part 77 surfaces, based on the future runway lengths.
- Small scale profile views of future approaches.
- Obstruction data tables, including terrain and significant items, obstruction identification number and description, the amount of the approach surface penetration, and the proposed disposition of the obstructions.
- Contoured base map, runway end numbers, 50-foot elevation contours on all slopes, most demanding surfaces more darkly shaded, and top elevations of objects that penetrate any surface.
- Runway ends, existing and future, with latitude, longitude, and elevation coordinates.
- North Arrow showing True and Magnetic North and the year of magnetic declination.
- Obstruction notes listing applicable airspace protection regulations and obstruction survey completion date.
- Vertical buffer notes.

7.6 Inner Portion of Approach Surface and Runway Departure Surface Drawings

The Inner Portion of Approach Surface sheet contains: 1) a top-down view of the inner approach for both runway ends with an aerial image with contoured background, 2) profile drawing that displays the center line ground profile detail and critical ground profile for the inner approach of both runway ends, and 3) obstructions to Part 77 surfaces.

The Runway Departure Surface contains: 1) a top-down view of the entire approach and departure surface for both runway ends with a topographical background with contours, 2) an oblique view of the same area with contours shaded, and 3) a profile that displays the center line ground profile and critical ground profile beyond the runway ends for approximately 10,000 feet, as well as all surfaces, to determine obstructions.

In summary, these drawings include:

- Large scale plan views of inner portions of approaches for each runway, usually limited to the RPZ areas.
- Large scale projected profile views of inner portions of approaches for each runway, usually limited to the RPZ areas.
- Plan View Details including aerial photos for base maps, numbering system to identify obstructions, property

line, existing and future physical end of the runways with runway end numbers and elevation, and ground contours.

- Profile View Details including terrain and significant items and obstructions with numbers on the plan view.
- Approach Profile Details including a depiction of the ground profile along the extended runway centerline representing the composite profile, based on the highest terrain across the width and along the length of the approach surface.
- The Approach Profile Details also includes the identification of all significant objects within the approach surfaces, regardless of whether or not they are obstructions and the existing and future runway ends and 14 CFR Part 77 approach slopes.

7.7 Terminal Area

The Terminal Area plan is a detailed view of the apron that allows sufficient scale to present dimensions and show imaginary surfaces. When the Sponsor is approached for new hangar development, this drawing should be referenced for available space, location, and appropriate restrictions to meet the design standards, thus ensuring a safe environment.

The Terminal Area plan presents large-scale depictions of highlighted areas with existing and future building development opportunities and facilities. The FAA, during the airspace review, ensures that existing and planned building development will not impact instrument approach procedures or hamper improvements to the approaches. Depicted on the drawing is the Building Restriction Line (BRL), which represents where a 35-foot building can be located without penetrating 14 CFR Part 77 surfaces. The Terminal Area drawing presents the following information:

- Large scale plan views of the area or areas where aprons, buildings, hangars, and parking lots are located.
- A building and data table that lists structures and shows pertinent information including a numbering system to identify structures, top elevations of structures, and existing and planned obstruction markings.
- Existing and future airport facility and building list.
- Title and revision blocks.

7.8 Land Use

The next drawing used for local protection of the airport is Land Use. This drawing focuses on particular uses of the land near the airport, whereas the Part 77 drawing dealt with height obstructions. Non compatible land use can degrade the value of the public investment in the airport and/or heighten the exposure of danger to greater numbers of the public. Studies have shown that generally, aircraft have a greater potential of crashing near the ends of the runway on both takeoff and landing. This heightened potential for risk has caused the FAA to develop safety areas off of the runway ends and develop guidance and standards to preclude congregations or gatherings of people in these zones. Land uses such as hospitals, schools, high density residential (apartment complexes), and other places that have a greater potential for loss of life if an accident were to occur are prohibited or strongly discouraged in these areas.

Additional concerns with particular land uses near the airport are wildlife attractants and pilot interference. Limiting the amount of attractive natural ground is important to reduce the potential of wildlife impacts. Obvious problem areas are animal attractants, such as golf courses and parks (goose attractant), certain farming activities (mammal and bird attractants), landfills (bird attractant), and other uses like high cover that offer sanctuary to wildlife. Natural occurring attractants should be minimized when possible and man-made attractants should be avoided. Land uses that might interfere with pilot or aircraft operations must be avoided, including power plants or industrial uses that create steam columns/clouds or other visual obstructions. Uses that may cause interference with compasses or radios need to be avoided as well.

The land use and zoning photograph and map display the airport and a large surrounding area. Defined airport safety zones are overlaid. These drawings include:

- Aerial base map.
- Legend with symbols and land use descriptions.
- Airport and nearby communities.

7.9 Airport Photo and Contours

The Airport Photo and Contours depicts the terrain contours, using five-foot and two-foot contours, of land around the airport. General contours such as these are used for multiple purposes, including to highlight possible terrain obstructions and penetrations for approach and departures surfaces. Contours are also used in planning construction and earthwork. The existing airport and proposed facilities, as well as the airport property boundary and safety areas are included for reference against terrain contours.

7.10 Airport Property Map (Exhibit A)

The airport property map, also called the Exhibit 'A' if prepared in accordance with AC 150/5100-17, *Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects*, depicts the various tracks of land that were acquired to develop the airport and the method of acquisition. It displays easements beyond the airport boundary. The airport property map includes the following information:

- Parcel Data Table with a numbering or lettering system to identify tracts of land, the date the property was acquired, the Federal Aid project number under which it was acquired, the type of ownership, and existing and future airport features that would indicate a future aeronautical need for airport property.

To qualify as an Exhibit 'A' (AC 150/5100-17, Figure 1.2), the drawing must:

- Identify the outside airport property boundary.
- All property parcels of the entire airport must be shown and numbered. In addition, parcels that were once airport property must also be shown.
- Show and/or directly reference parcel information including: Grantee (selling owner), type of interest acquired, acreage, public land record references such as book and page and date of recording.
- For each property parcel show FAA project number if acquired under a grant; Surplus Property Transfer or AP-4 Agreement if applicable; and type of easement (clearing, avigation, utility, ROW, etc.); and if released, date of FAA approval.
- Show the purpose of acquisition (current aeronautical, noise compatibility, or future development) and current use if different or in interim use pending development.
- Show runway protection zones, runway configurations, and building restriction lines.
- Show magnetic and true north arrows per standard drafting practices.
- The Exhibit 'A' must be dated and amended whenever there is a change to any airport property.

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Chapter 8. Environmental Overview and Considerations

SECTION OVERVIEW

This chapter presents an overview of environmentally sensitive features and land uses on and surrounding Heber Valley Airport that should be considered as airport development alternatives are identified. Known or readily visible environmental resource categories were assessed in conformance with applicable Federal Aviation Administration (FAA) environmental guidance and applicable federal, state, and local regulations.

8.1 General

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/ finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS).

- CATEX: An undertaking 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.
- EA/FONSI: At the second level of analysis, a federal agency prepares an EA to determine if a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a FONSI, which may include measures to mitigate potentially significant impacts.
- EIS: If the EA determines that the environmental consequences of a proposed federal undertaking may be significant, an environmental impact statement (EIS) is prepared. An EIS is a more detailed evaluation of the proposed action and alternatives.

The environmental resources and conditions presented in this chapter were identified primarily through a review of current Geographic Information Systems (GIS) data, available published documents, and agency database searches. This chapter also uses previous surveys or NEPA documents from the following actions:

- Documented Categorical Exclusion Land Swap, July 27, 2021
- Documented Categorical Exclusion Daniels Hangar Area, April 2018
- Documented Categorical Exclusion Horseshoe Hangar Area, April 2018
- Phase 1 Environmental Site Assessment in support of Fixed-Base Operator (FBO) siting, February 8, 2019

No field studies were performed to supplement this data.

This chapter also identifies resources or issues that will require more detailed screening and evaluation prior to project approvals. This overview does not constitute a formal biological/habitat assessment, wildlife hazard site visit, or wetlands delineation, and does not fulfill the NEPA review requirements for the proposed projects.

The following environmental resources or issue areas were considered to conform with future reviews governed by NEPA and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*:[1]

- Air Quality
- Biological Resources (Fish, Wildlife, and Plants)
- Climate
- Coastal Resources
- Compatible Land Use
- Department of Transportation Act, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archeological, and Cultural Resources
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomics; Environmental Justice; Children's Environmental Health and Safety Risks
- Visual Effects (Light Emissions)
- Water Resources (Surface Water, Groundwater, Floodplains, Wetlands, and Wild and Scenic Rivers)

Construction impacts and secondary impacts are also considered within each resource category, where relevant.

8.2 Air Quality

Aircraft, ground support vehicles, traffic, shuttle buses and vans, ground support equipment (GSE), auxiliary power units (APU), stationary airport power sources, and construction equipment produce emissions near and around the airport.

Under the Clean Air Act of 1970 (CAA), the Environmental Protection Agency (EPA) regulates levels of certain pollutants that in high enough concentrations affect air quality and can harm human health, affect crops and vegetation, and cause property damage. When determining air quality impacts, it is important to determine whether a project study area is in an attainment or nonattainment area for the National Ambient Air Quality Standards (NAAQS). These standards are governed by the EPA, which identifies standards for six pollutants known as criteria air pollutants:

- Carbon Dioxide (CO_2)
- Particulate Matter (PM10 and $PM_{2.5}$)
- Sulfur Dioxide (SO_2)
- Lead (Pb)
- Carbon Monoxide (CO)
- Ozone (O_3)
- Nitrogen Dioxide (NO_2)

Areas that are classified as attainment areas meet NAAQS and no further action is required. Nonattainment and maintenance areas include those in which the concentrations of pollutants exceed NAAQS. Wasatch County is in attainment for all criteria pollutants.[2]

FAA Order 1050.1F requires the FAA or airport sponsors to evaluate the potential air quality effects of project-related construction and operation. Proposed changes at HCR are intended to meet the needs of current critical aircraft and existing and forecasted operations. They are not anticipated to cause significant increases or changes to air traffic. Modeling will be conducted during the NEPA process but impacts of proposed projects on air quality are not anticipated to be significant.

8.3 Biological Resources (Fish, Wildlife, and Plants)

Biological resources include federal and state-listed species of plants and animals and their habitats, including wetlands and migratory corridors that contribute to the overall health and productivity of an ecosystem.

Section 7(a)(2) of the Federal Endangered Species Act (ESA) of 1973, as amended, proposes to protect and recover endangered species and the ecosystems in which they live. Airport sponsors seeking FAA approvals or funding must coordinate with U.S. Fish and Wildlife Service (USFWS) regarding the presence of listed or candidate species and the potential effects of proposed projects on these species or their critical habitats.

The USFWS Information for Planning and Consultation tool (IPaC) lists the following listed species that potentially exist in the area:[3]

- Canada lynx (threatened)
- Yellow-billed cuckoo (threatened)
- Monarch butterfly (candidate)

Canada lynx typically inhabit moist, boreal forests with cold, snowy winters. Yellow-billed cuckoos primarily inhabit areas near water that contain dense stands of mature trees such as cottonwoods. Monarch butterflies live mainly in prairies, meadows, grasslands and along roadsides where milkweed is present.

Airport property and potential alternative areas consist of mostly developed land consisting of landscaping, asphalt, gravel, grass, and weedy species. Vegetation management, such as mowing, limits grass height and does not allow plant species like milkweed to occur. There are no natural wetlands or riparian areas on airport property, and there are no designated critical habitats in or near HCR. Due to lack of suitable habitat, projects in and around airport property are likely to have "no effect" on the Canada lynx, yellow-billed cuckoo, or monarch butterfly. Consultation with the USFWS will need to occur during the NEPA process to confirm this finding.

Additionally, eight Birds of Conservation Concern protected under the Migratory Bird Treaty Act have been documented in the area, along with bald eagles, which are protected under the Bald and Golden Eagle Protection Act. Bald eagles generally prefer habitats located near open water with large trees available for nesting and perching sites. Airport property contains no nesting or foraging habitat for the bald eagle, and the airport environs are generally developed with high levels of human activity. There is also a lack of trees, shrubs, and other suitable habitats for other bird species within the airfield environment and the airport property: therefore, proposed projects at HCR will likely have “no effect” on the bald eagle and birds protected by the Migratory Bird Treaty Act.

The western (boreal) toad, Columbia spotted frog, smooth green snake, bald eagle, bobolink, grasshopper sparrow, northern goshawk, greater sage-grouse, Lewis's woodpecker, long-billed curlew, and Townsend's big-eared bat are listed as a Sensitive Species for the Bureau of Land Management for Wasatch County, and many of these species are also found in the Utah Species of Greatest Conservation Need list.[4] No sensitive plant species cataloged by the Bureau of Land Management (BLM) are known to be found in the county.[5] Generally, the airport environment does not provide adequate habitat for sensitive and state-listed species, but further consultation may be needed during NEPA review.

8.4 Climate

The Clean Air Act, as amended, also helps regulate greenhouse gas (GHG) emissions from transportation and power generating sources because the increasing amount of GHG emissions in the atmosphere affects the global climate. GHG emissions are made up the following gasses:

- Carbon CO_2
- Methane (CH_4)
- Nitrous oxide (N_20)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur Hexafluoride (SF_6)

The Council on Environmental Quality (CEQ) requires global climate change considerations in a NEPA analysis. Analyses performed to support NEPA compliance should identify the extent to which GHGs could be produced during construction and operation of proposed master plan projects. Proposed changes at HCR are intended to meet the needs of current critical aircraft and are not anticipated to cause significant increases or changes to air traffic, so are unlikely to result in significantly increased GHG emissions. However, analysis of GHGs may be required as part of formal environmental analysis undertaken to comply with NEPA.

8.5 Coastal Resources

HCR is not within a Coastal Management Zone, and Utah does not have a coastline. Coastal Resources will not apply in future NEPA analysis for any alternatives.

8.6 Compatible Land Use

Compatible land uses are essential for the protection of airports and the health, safety, and welfare of the surrounding communities. Noise and other potential impacts of aviation activities on surrounding land uses should be assessed while considering alternatives.

HCR is within the city limits of Heber City, bordered to the north by U.S. Highway 189, designated the Provo Canyon Scenic Byway by the State of Utah. Much of the land north and west of the airport is agricultural along with rural residences. Land uses near the east side of the airport, which borders the more developed area of Heber City, are a mix of industrial, commercial, and residential.[6] The Wasatch County High School is within one mile northeast of the existing Runway 22 end aligned with the extended centerline, and the east side of the airport abuts a more developed area than the west side. A sand and gravel pit is located approximately 3,500 feet southwest of the existing Runway 4 end, and the Wasatch County Public Works facilities are located approximately 2,700 feet southwest of the Runway 4 end along the extended centerline.

Within Heber City, HCR is found within an Airport Overlay Zone[7] that protects airspace surrounding the airport and within the approach surfaces. This zone overlays existing zoning districts with additional land use restrictions. These additional restrictions include structure height limits and limitations on outdoor lighting, glare, emissions, wildlife attractants, and other potential hazards. Additionally, this overlay restricts the Runway Protection Zone, a trapezoidal surface extending beyond each runway end, from containing any above ground structure, public assembly, or potential fire or explosion hazards. Land use and development guidelines are also in place for approach surfaces. Wasatch County also has an Airport Overlay Zone primarily concerned with height limitations.

Shifting Runway 4/22 approximately 700 feet to the southwest will require revising the airport zoning to shift protected areas in alignment with new runway ends. This may impact the land uses available on parcels affected by a runway shift, and any new easements or land acquisition will require compliance with federal and state laws regarding relocation if the acquisition displaces people from homes, businesses, or farms.

Shifting the runway to the southwest will also introduce W 3000 Street into the shifted Runway 4 RPZ; therefore, further environmental analysis may be needed during the NEPA process regarding the disposition of the road and any impacts of a potential relocation on the surrounding residents and businesses. Ultimately, the proposed shift will increase the distance of Runway 22 from the developed areas within Heber City, which may increase overall land use compatibility.

8.7 Department of Transportation Act Section 4(f)

Section 4(f) of the Department of Transportation Act prohibits approval of any project requiring the use of land from a public park, recreation area, wildlife refuge, or historic site unless there is no alternative to the use of the land.

There are no known sites listed in the National Register of Historic Places (NRHP) on airport property.[8] The nearest Section 4(f) resource is the Wasatch County Veterans Memorial Park located 0.8 miles north of HCR. The Uinta National Forest is located to the east, south, and west of the airport at approximately 5.8 miles away at the nearest point. Deer Creek State Park and Deer Creek Reservoir are located approximately 2 miles southwest of HCR and the Wasatch Mountain State Park is located 2 miles to the west. Projects occurring at HCR are unlikely to impact or indirectly use Section 4(f) resources in the area. While the preferred runway alternative will bring Uinta National Forest slightly closer to the Runway 4 end, this is not anticipated to have a negative impact on this resource.

8.8 Farmlands

According to the 1050.1F Desk Reference, the FAA defines farmland as those agricultural areas considered important and protected by federal, state, and local regulations. Important farmlands include all pasturelands, croplands, and forests considered to be prime, unique, or of statewide or local importance. Projects impacting farmland require coordination with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), including submittal of USDA Farmland Conversion Impact Rating Form AD-1006. These actions are necessary to follow the guidelines set forth in the Farmland Protection Policy Act (FPPA) of 1984. FPPA is intended to minimize unnecessary and irreversible conversion of farmland to non-agricultural use by federal actions.

Protected farmland does not include vacant land already in or committed to urban development, even if currently cultivated. While HCR is within Heber City limits, FAA Order 1050.1F Desk Reference notes that land in urban development refers to lands designated as urbanized areas in U.S. Census Bureau maps. The 2010 Urban Cluster Map for Heber, Utah does not include airport property.[9] The 2020 Census boundaries are scheduled to be released in May 2023.

According to the NRCS Farmland Classification Map accessed through the Web Soil Survey, the primary soil types present on and around HCR are Holmes cobbly sandy loam and Holmes gravelly loam.[10] Both soil types are considered farmland of statewide importance. Consultation with the NRCS to score the impact of farmland conversion should occur during the NEPA process. This consultation will consider direct conversion through changing land use, and indirect conversion such as limiting access to a parcel or unfarmable remnants resulting from a project.

8.9 Hazardous Materials, Solid Waste, and Pollution Prevention

Hazardous materials are substances or materials that can pose unreasonable risks to health, safety, and property. Hazardous materials include both hazardous wastes and hazardous substances, as well as petroleum and natural gas substances and materials.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments Reauthorization Act (SARA) of 1986 and the Community Environmental Response Facilitation Act (CERFA) of 1992, implements the clean-up of abandoned or uncontrolled superfund sites, otherwise known as hazardous-waste sites, along with any types of accidents, spills or emergency release of pollutants into the environment. The Resource Conservation and Recovery Act (RCRA), as amended, provides the EPA with the power to regulate the generation, transportation, treatment, storage, and the disposal of hazardous waste. The RCRA establishes the guidelines for the management of hazardous and non-hazardous waste in the United States.

A Phase 1 Environmental Site Assessment (ESA) was conducted in 2019 by Budinger & Associates, Inc. for a portion of the airport located southwest of the existing hangar development area between Airport Road and the existing parallel taxiway. This site was identified as an abandoned unpermitted landfill. The ESA concluded that the landfill site is an environmental risk because the extent of the materials is unknown and could possibly include hazardous materials. Further assessment is necessary to better classify the extent of the material. This investigation could include drilling, sampling and monitor well installation to evaluate the thickness of the landfill and evaluate potential impacts to groundwater. Prior to implementing projects potentially affecting this area, the airport should consult with the Utah Department of Environmental Quality regarding appropriate mitigation based on the type of anticipated development. In the case of paving, such as with the proposed shifted parallel taxiway that intersects the site, the project could potentially be designed to cap the landfill.

The ESA's record search and the EPA's Enviro Atlas did not show any other sites storing or generating hazardous materials on or adjacent to airport property, nor any current underground storage tanks.[11] Prior to future property acquisition, the FAA will require an ESA as part of the NEPA and due diligence processes.

8.10 Historical, Architectural, Archaeological, and Cultural Resources

Historical, architectural, and cultural resources are defined as sites, structures, objects, districts, and properties with cultural significance and community value. Federal law requires agencies using federal funds to assess the potential impacts projects may have on historic properties. Section 106 of the National Historic Preservation Act (NHPA), as amended, requires that state historic preservation programs be established in every eligible state and U.S. territory. The NHPA focuses on identifying the historical and archaeological properties and whether they are eligible for the National Register of Historic Places (NRHP). Under Section 106, the FAA will determine whether a project will have impacts to historical and cultural resources and consult with the State Historic Preservation Office (SHPO) and relevant tribal governments for their comments or concurrence. The airport is located approximately 11 miles northwest of the Uintah and Ouray Reservation that is occupied by the Northern Ute tribe who may have an interest in cultural resources on and around HCR.

Wasatch County has 36 historic buildings listed on the NRHP, 14 of which are in Heber City. None of these resources are on or adjacent to airport property or potential project areas. Most of HCR has been previously disturbed, paved, and graded for airport infrastructure such as the airfield and adjacent hangar and apron areas. Some areas likely to be disturbed by development alternatives are grassy areas or under agricultural production. During the NEPA process, these areas may need to be surveyed by an archeologist to determine the presence or absence of underground cultural materials. Additionally, buildings and other structures that may be affected by proposed projects will likely require review and SHPO consultation if they are old enough to be potentially eligible for the NRHP (50 years old or more).

8.11 Natural Resources and Energy Supply

The CEQ regulations implementing NEPA at 40 CFR § 1502.16(e)-(f) require consideration of a proposed project's energy requirements and natural resource requirements in NEPA documents. Airport construction projects can change an airport's demand on local energy and natural resource supplies either during construction or ongoing operations. The NEPA process considers impacts in the following categories:

- Impacts of the proposed action on local electric, gas, and water utilities
- Construction material required for the proposed action, and its availability from local suppliers
- Impact of the proposed action on aircraft and ground vehicle fuel use

Temporary increases in energy including fuel and use of other consumable materials during any type of construction are anticipated, but not in quantities that would exceed local supply. No increase in operations above current use is anticipated because of any proposed projects.

8.12 Noise

The Aviation Safety and Noise Abatement Act of 1979 directed the FAA to establish a system for measuring noise and exposure to noise, and to identify land uses compatible with different exposure levels. According to the FAA 1050.1F Desk Reference, noise is defined as unwanted sound that can disturb routine activities like sleep or conversation. Certain land uses, such as residential areas are more sensitive to airport noise than others. In many cases, the FAA requires a noise analysis during environmental review. The FAA Office of Environment and Energy recognizes that the environmental consequences stemming from aircraft operations – primarily noise, emissions, and fuel consumption – are highly interdependent and occur simultaneously throughout all phases of flight.

The Aviation Environmental Design Tool (AEDT) is the FAA-approved software system that dynamically models aircraft performance in space and time to produce fuel burn, emissions, and noise estimates. AEDT is designed to estimate the long-term effects of noise using average annual input conditions. The model uses the Federal Aviation

Regulations (FAR) Part 150 (14 CFR Part 150) yearly day-night average sound level (DNL) metric, which is measured in decibels. DNL is a cumulative noise metric that represents the average daily noise level, accounting for the added intrusiveness of noise at night. A nighttime penalty (equivalent to increasing decibel levels by ten) for increased annoyance is added to flights occurring between 10:00 p.m. and 7:00 a.m. The FAA, EPA, and U.S. Department of Housing and Urban Development have established the 65-decibel DNL contour as the threshold indicating significant cumulative noise impacts over noise sensitive areas.

The baseline operations count and forecast operations estimates were used to develop noise contours, which were then used to identify expected future aircraft noise impact areas. AEDT Version 3c, the most up-to-date version of the software at the time the environmental review was initiated, was used to model the noise exposure contours. The following scenarios were evaluated:

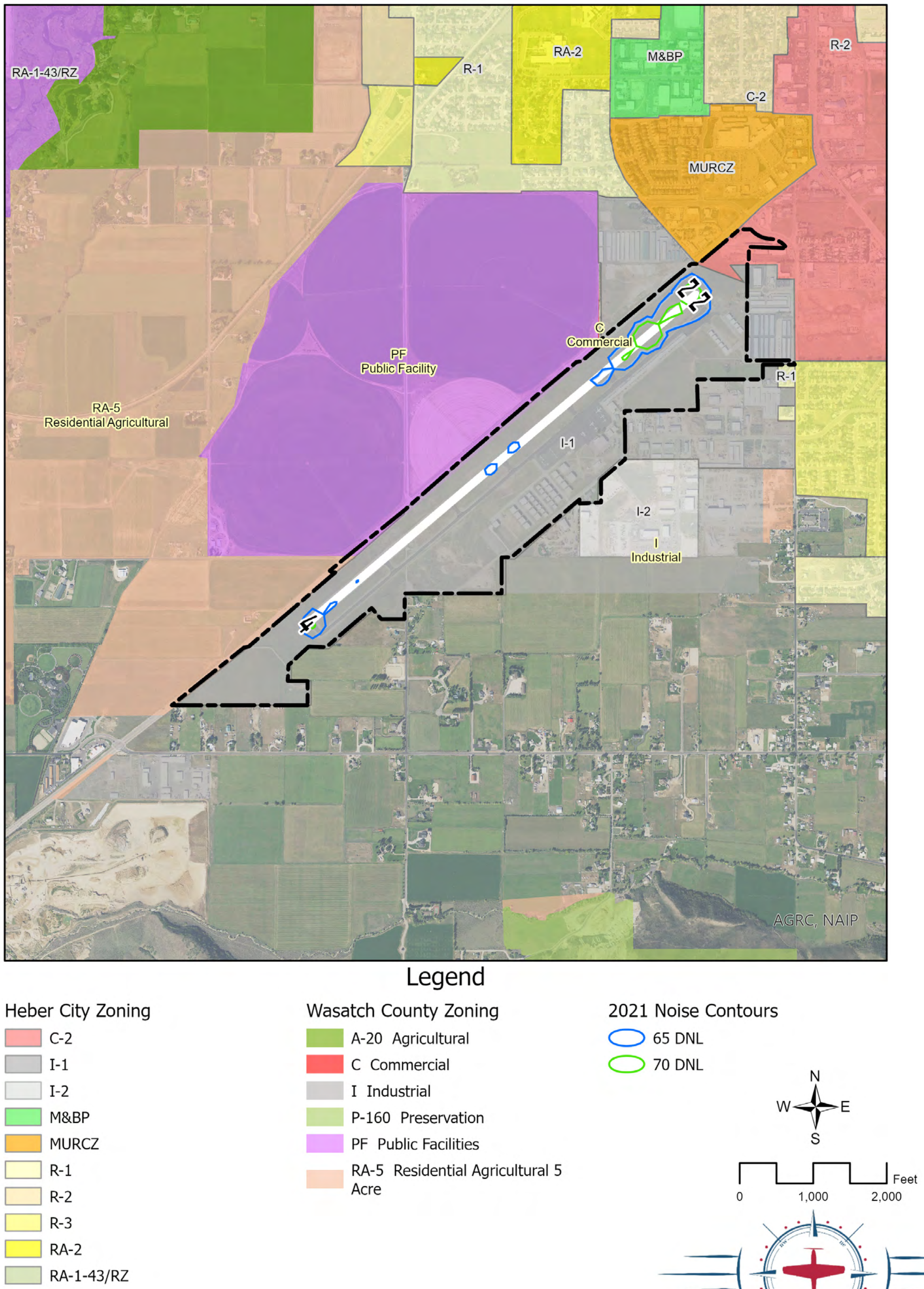
1. Baseline 2021 – no project
2. Preferred Alternative 2041 – future condition (runway shifted to the southwest)

The baseline 2021 65 DNL contour, shown on ***Figure 8.1***, is located on airport property and does not affect any noise sensitive land uses such as residential areas or educational campuses.

The preferred alternative is not expected to cause additional operations at HCR; therefore, the overall noise level is not expected to change. Future noise contours for the preferred alternative in 2041, shown in ***Figure 8.2***, will shift to the southwest coinciding with the change in the Runway 4/22 threshold locations. These changes are not anticipated to affect noise-sensitive land uses, and the 65 DNL contour is expected to remain on airport property.

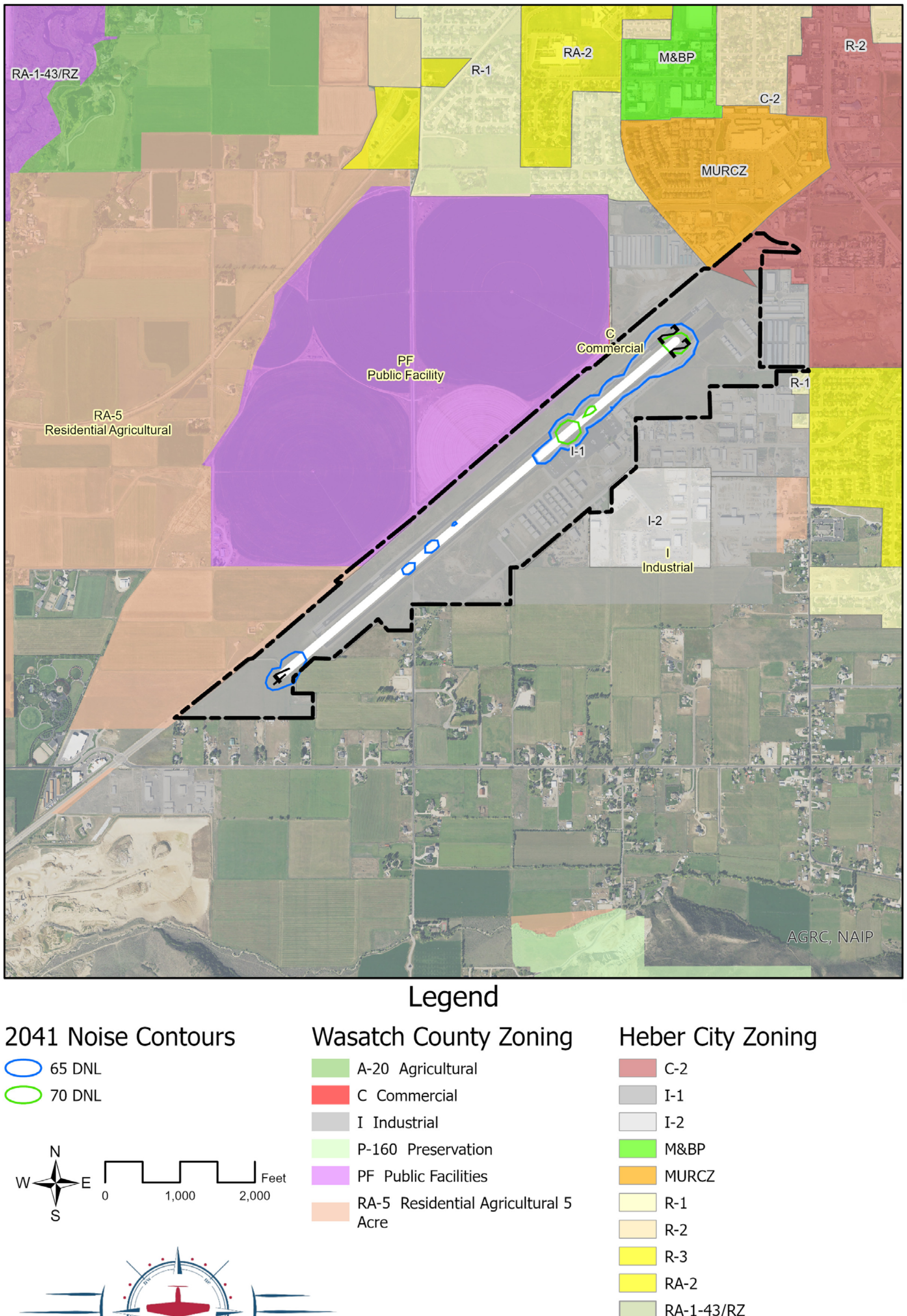
Temporary noise will occur due to construction equipment. Construction staging areas should not be placed near noise sensitive land uses, and most activity will take place on airport property or in open lands; areas not normally considered sensitive to noise impacts.

Figure 8.1 Existing Noise Contours at HCR



Source: Mead & Hunt

Figure 8.2 Future Noise Contours at HCR



EST. 1947
HEBER VALLEY AIRPORT

Source: Mead & Hunt

8.13 Socioeconomics; Environmental Justice; Children's Environmental Health and Safety Risks

SOCIOECONOMICS

FAA Order 1050.1F Desk Reference offers factors to consider when analyzing the context and magnitude of potential socioeconomic impacts. These include whether the proposed action has the potential to:

- Induce substantial economic growth in an area
- Disrupt or divide the physical arrangement of an established community
- Cause extensive relocation of residences
- Disrupt traffic patterns and reduce the level of service of roads serving a surrounding community
- Substantially change a community's tax base

The proposed projects are not expected to significantly influence economic activity in the area, nor are they anticipated to cause any relocation of the established community. Land purchased for proposed projects must comply with the Uniform Relocation Assistance and Real Property Acquisition Policy Act. Any land acquisition may slightly decrease the tax base; however, these impacts would not be significant within the context of the activity occurring in the larger area.

ENVIRONMENTAL JUSTICE

Environmental justice, as defined by the EPA, is the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Certain demographic groups often experience more exposure to environmental stressors than the general population. Executive Order 12898 defines environmental justice populations as minority populations, low-income populations, and indigenous peoples. FAA Order 1050.1F and CEQ Guidance from 1997 further define minority as, "individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic." A minority population exists if, "either (a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis."

An understanding of baseline demographic and socioeconomic conditions through the EPA's EJ Screen tool helps determine whether environmental justice populations exist near HCR.[12] Within a five-mile radius of the airport, the population reporting as people of color is 16 percent, 55 percent of households make over $75,000 annually, and 86 percent of the population speaks only English. There are no significant EJ populations near HCR and the proposed airport projects are unlikely to have environmental justice impacts; however, as a part of the NEPA documentation process, federally funded projects will require further assessment.

CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY

Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks 62 Federal Register 19885, as amended in 1997, directs federal agencies to assess and identify any potential health and safety risks that could affect children. The FAA is required to identify any potential health risks that could affect children.

The Wasatch County High School is located within the Airport Overlay Zone and the Runway 22 approach path. The preferred alternative, shifting Runway 4/22 to the southwest, will increase the distance of the runway threshold from the school.

8.14 Visual Effects (Light Emissions)

Airport-related lighting facilities and activities have the potential to affect light-sensitive areas such as residential neighborhoods, parks, and recreational facilities. According to FAA Order 1050.1F, a light emissions analysis should consider the degree to which proposed projects have potential to create annoyance or interfere with normal activities and to affect the visual character of the area.

The introduction of a new or relocated existing airport lighting facility will be analyzed for effect on residential or other light sensitive areas under a NEPA analysis on a project-by-project basis. Construction activities may also introduce temporary light impacts. Additionally, U.S. Highway 189 is designated by the State of Utah as a scenic byway in the area near HCR. However, the airport is already a visual feature seen from the highway and future projects are unlikely to change the visual character of the roadway.

8.15 Water Resources

SURFACE WATERS

Surface waters occur above ground and include streams, rivers, lakes, ponds, estuaries, and oceans. The Clean Water Act (CWA) establishes the structure for regulating pollutants in these waters.

Nearby surface waters include Deer Creek Reservoir which is located 3 miles southwest of HCR. An unnamed canal/ditch is located 0.03 miles northwest of the property boundary on the northwest side of U.S. Highway 189. This canal hydraulically connects Daniels Creek and Lake Creek. Another canal, the Humbug Canal, is located approximately 0.3 miles south of the airport. The Provo River is approximately 1.75 miles northwest of HCR.

Direct impacts to surface waters are not anticipated by any potential airport projects. Best management practices to control erosion, sediment, and runoff that can impact a watershed will be in use at HCR any time a construction project is ongoing to minimize indirect impacts from construction activities. Further analysis and discussion of required permits will occur during the NEPA review for the proposed projects.

GROUNDWATER

The Safe Drinking Water Act prohibits federal agencies from funding actions that contaminate an EPA-designated sole source aquifer or its recharge area. HCR is located on the Colorado Plateaus aquifers which is not a sole source aquifer, and airport activities and construction are not anticipated to impact the aquifer.

FLOODPLAINS

Executive Order 11988, Floodplain Management (May 24, 1977), defines floodplains as “the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year.” Executive Order 11988 bans federal actions in a floodplain unless no practicable alternative exists and requires measures to minimize unavoidable short-term and long-term impacts if the proposed action occurs in a floodplain.

HCR is in an area of minimal flood hazard according to the Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer.[13] Potential development projects at HCR will have no impact on floodplains.

WETLANDS

Executive Order 11990, Protection of Wetlands, as amended, defines a wetland as an area inundated by water which may support vegetative or aquatic life. This Order requires that federal agencies take preventative measures to avoid adverse impacts to wetlands through destruction or modification.

The USFWS National Wetlands Inventory (NWI) online mapping system identifies potential wetlands.[14] One riverine wetland, a manmade ditch or canal, is shown just south of the existing parallel taxiway, but no other known wetlands are present within the airport boundary. A field survey will likely be required to confirm the presence or absence of wetlands and delineate their boundaries during the NEPA review process for projects on undeveloped land.

WILD AND SCENIC RIVERS

The closest Wild and Scenic River to HCR is the Green River in Utah, approximately 100 miles to the southeast.

8.16 Environmental Overview and Considerations Conclusion

Any development affecting resource areas has the potential to result in impacts. Environmentally sensitive features at and around HCR are limited, but several resources categories warrant further investigation during a complete NEPA review process, including:

- Airport Zoning discussed in Section 8.6
- Potential property acquisition discussed in Section 8.6
- Farmland conversion discussed in Section 8.8
- The former landfill and potentially hazardous materials discussed in Section 8.9
- Potential underground cultural resources discussed in Section 8.10
- Potential wetlands as discussed in Section 8.15

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Chapter 9. Implementation Plan & Financial Feasibility

SECTION OVERVIEW

This chapter reviews planned capital projects for Heber Valley Airport, in conjunction with the Federal Aviation Administration (FAA) Capital Improvement Plan (CIP). The Airport's revenues and expenses are compared to describe the financial feasibility and commitment of the proposed projects for the Sponsor.

9.1 General

The facilities implementation plan provides guidance on how to implement the findings and recommendations of the planning effort. The plan must balance funding constraints, project sequencing limitations, environmental requirements, agency and tenant approvals, and coordination processes, business issues (leases and property acquisition), and Sponsor preferences. Additionally, the plan must coordinate with the Airport Layout Plan (ALP) and the airport's financial plan. The plan should be implemented on an as-needed basis that is consistent with the financial capability and needs of the airport and community.

9.2 Capital Improvement Plan

Capital projects differ from operations and maintenance (O&M) projects in that capital projects often require substantial funding, can occur over multiple years and must be planned several years in advance. Operations and maintenance projects consist of short-term expenses related to the routine maintenance, operation, and management of the airport. Capital projects are normally large infrastructure improvements and can include runways, runway extensions, taxiways, and aprons. Certain types of equipment, such as snow removal equipment, firefighting/rescue trucks, and their associated storage buildings, may also be eligible for FAA and/or state funding assistance. Capital projects often require substantial funding and must be planned for several years in advance.

Airport Master Plans are usually completed every seven to ten years at general aviation airports. Larger development items are determined to be needed and are justified through these planning efforts. Once planning identifies a needed project, it is added to the CIP by the Airport Sponsor during the annual CIP review by the state and FAA. Typically, during the review, completed projects are removed, pending projects are refined, and new needs are added for future years. Once a project is on the CIP, it may take years to schedule (program) the funding depending upon the priority of the project. Runways and safety areas have top priority and projects related to safety, such as wildlife fencing, also have high priority.

This facilities implementation plan addresses the airport's planned capital projects, including those not associated with the recommendations of the Master Plan to ensure adequate resources are available.

9.3 Master Project Schedule

The master schedule is intended to help establish relationships between projects, determine a sequence to minimize conflicts, and to help ensure that the sequence is maintained throughout the implementation plan. The implementation of projects is typically driven by future demand; however, in some cases, there are projects which can be undertaken at any point in the planning period.

Projects with significant costs may take years to receive funding. There are always more needs than funding available, so it is important for the Airport Sponsor to plan ahead and program needs well in advance before projects become urgent. Planning helps ensure funding is available from the FAA, state, and the Airport Sponsor. For sponsors who struggle with obtaining matching funds this level of planning is increasingly important.

The cost estimates provided in ***Table 9.1*** include adjustments for inflation. The FAA and Airport Sponsor share of the total costs are presented in the estimates. For HCR, the current FAA share is 90.63% of the total cost of eligible improvements under the AIP grant program. The state's match for eligible items is 4.685%, leaving the local community with the remaining 4.685%. The numbers in the table may not add up perfectly due to rounding.

Other projects may be funded entirely by the Airport Sponsor, private funds from monetary donations, or work performed on private structures. Federal participation is usually available for eligible runway, taxiway, and apron improvements. Other projects such as access roads are eligible, but not a high priority in the federal model. Automobile parking areas, hangars, fuel-storage facilities, and utilities are generally ineligible to receive federal funding.

IMPROVEMENT PROJECTS AND COSTS

Table 9.1 lists the proposed capital improvement projects identified by this Master Plan for Heber Valley Airport along with projects programmed in the CIP. Projects that are already on the CIP are included, though timing may be shown differently on the table than what is currently scheduled due to recommendations in this Master Plan. Although state projects are not eligible for FAA funding, some still require a sponsor match and need to be considered for financial feasibility. Cost estimates are an approximation and are designed to provide a general starting point. Many factors may affect these estimates, especially inflation or changes in the unit process over the 20-year period. Cost estimates are updated annually as projects are programmed into the CIP. ***Figure 9.1*** illustrates proposed improvements over the 20-year planning period. The ultimate development plan will occur on an as-needed basis as more private hangars are funded and built. This is expected to occur beyond the planning horizon; however, this is depicted on the ALP for planning purposes.

The Coronavirus Aid, Relief, and Economic Security (CARES) act was awarded in 2020 as economic relief to eligible U.S. airports affected by the COVID-19 pandemic. The grant provided funds to increase the federal share to 100 percent for Airport Improvement Program and supplemental discretionary grants already planned for the fiscal year 2020. Additional grants were provided in support of combating COVID-19 and as economic stimulus for airports and include the Coronavirus Response and Relief Supplemental Appropriation Act (CRRSAA) of 2020, and the American Rescue Plan Act (ARPA), of 2021.

On November 6, 2021, the U.S.House of Representatives passed the Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Bill (BIL) that will create millions of jobs aimed at modernizing infrastructure, increasing equity in transportation, fighting climate change, and strengthening the supply chain.

FAA funding under the BIL is a 5-year disbursement of 25 billion dollars. Of that $25 billion, $5 billion is allocated towards replacing and updating air traffic control facilities, $15 billion is allocated for airport infrastructure projects that increase safety and expand capacity, and $5 billion is allocated to replace aging terminals and airport-owned towers, increase terminal energy efficiency and accessibility. Under the BIL, airports in Utah will receive $181 million for infrastructure development with an additional $5 billion in discretionary funding available. BIL funds are from the General Treasury, and the local match for airport infrastructure grants (AIG) is the same as the sponsor's AIP grant match. For fiscal year 2023, AIG funding amount for HCR is $1 million, and is assumed to remain the same throughout the 5-year disbursement. For simplicity, BIL funding is incorporated into the FAA share of funding in ***Table 9.1.***

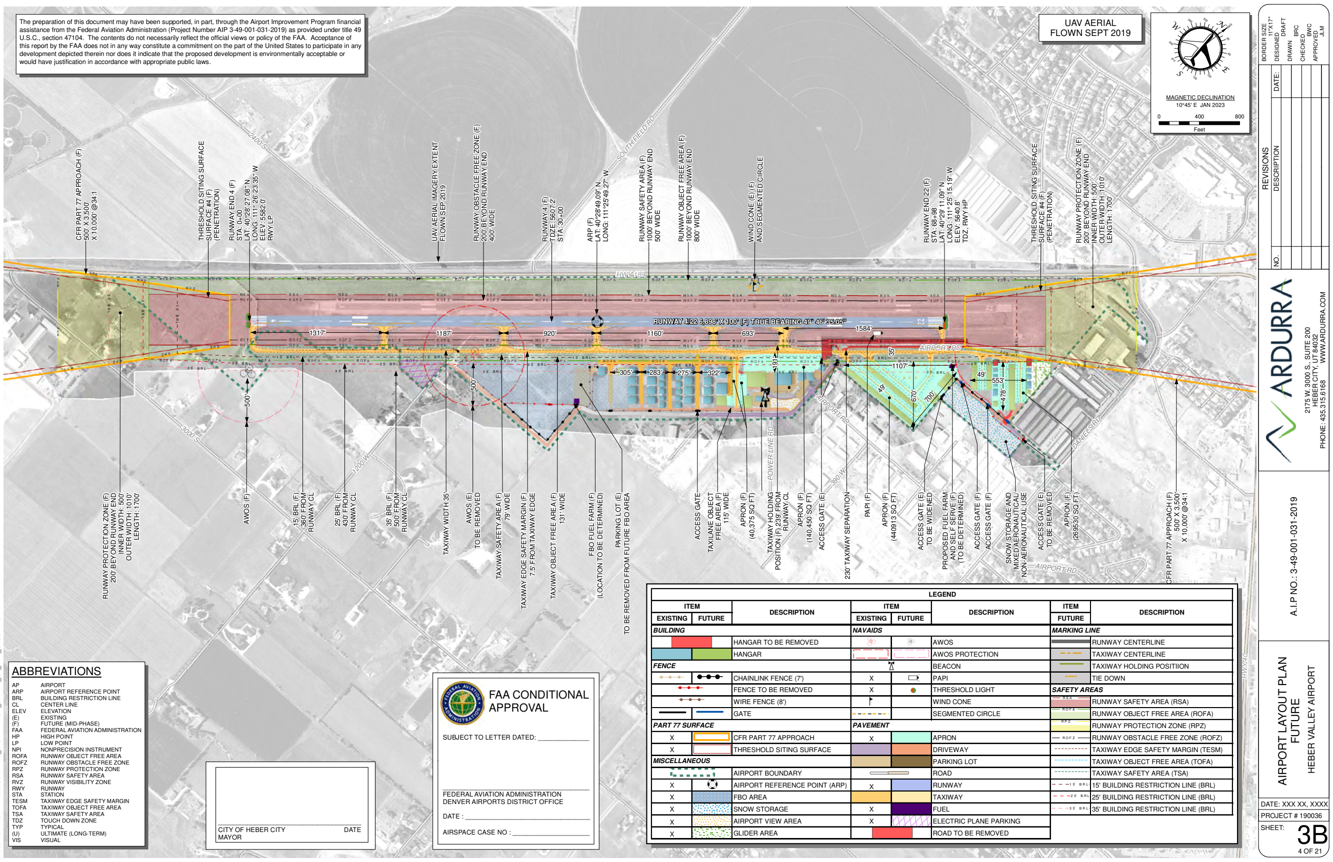
Table 9.1 Development Plan Cost Estimates

Phase	Proposed Development	FAA 90.63%	Utah 4.685%	Heber 4.685%	Total
		Phase 1 (1-5 Years)			
FY23	Master Plan Approval	$-	$-	$-	$-
1-1 (FY24)	T-Hangar Development (Private)	$-	$-	$-	$327,000
1-2 (FY24)	Glider Campus Development (Private)	$-	$-	$-	$23,000
1-3 (FY24)	Runway Seal Coat (FAA)	$360,707	$18,646	$18,646	$398,000
1-4 (FY24)	Pavement Maintenance (State)	$ -	$229,500	$25,500	$255,000
1-5 (FY25)	AWOS Relocation	$359,801	$18,599	$18,599	$397,000
1-6 (FY25)	Environmental Assessment	$599,971	$31,015	$31,015	$662,000
1-7 (FY25)	Phase 2 Environmental Site Assessment, South Campus	$40,784	$2,108	$2,108	$45,000
1-8 (FY26)	Acquire SRE	$456,775	$23,612	$23,612	$504,000
1-9 (FY27)	Land Acquisition and Easements	$4,670,164	$241,418	$241,418	$5,153,000
1-10 (FY28)	Runway Seal Coat (FAA)	$389,709	$20,146	$20,146	$430,000
1-11 (FY28)	Pavement Maintenance (State)	$-	$249,300	$27,700	$277,000
	Phase 1 Total	$6,877,911	$834,345	$408,745	$8,471,000

Table 9.1 Development Plan Cost Estimates (Continued)					
Phase	**Proposed Development**	**FAA 90.63%**	**Utah 4.685%**	**Heber 4.685%**	**Total**
Phase 2 (6-10 Years)					
2-1 (FY29)	Construct Perimeter Fence	$2,202,309	$113,846	$113,846	$2,430,000
2-2 (FY29)	Construct Airport Access Road	$1,944,014	$100,493	$100,493	$2,145,000
2-3 (FY30)	Taxilane Extension	$626,253	$32,373	$32,373	$691,000
2-4 (FY31)	Construct North Campus Apron	$16,933,309	$875,345	$875,345	$18,684,000
2-5 (FY31)	Construct South Campus Apron	$17,501,559	$904,720	$904,721	$19,311,000
2-6 (FY33)	Runway Seal Coat (FAA)	$428,680	$22,160	$22,160	$473,000
2-7 (FY33)	Pavement Maintenance (State)	$-	$277,200	$30,800	$308,000
2-8 (FY33)	Construct North Campus Hangars	$612,659	$31,671	$31,671	$676,000
	Phase 2 Total	$40,248,783	$2,357,808	$2,111,409	$44,718,000
Phase 3 (11-20 Years)					
3-1 (No Later Than FY38)	Relocate Taxiway	$20,690,829	$1,069,586	$1,069,586	$22,830,000
3-2 (No Later Than FY38)	Relocate Runway	$37,140,174	$1,919,913	$1,919,913	$40,980,000
3-3	Acquire SRE	$679,725	$35,138	$35,138	$750,000
3-4	Runway Seal Coat (FAA)	$389,709	$20,146	$20,146	$430,000
3-5	Pavement Maintenance (State)	$-	$315,000	$35,000	$350,000
	Phase 3 Total	$58,900,437	$3,359,782	$3,079,782	$65,340,000

Table 9.2 Cost Estimate Summary					
Phase	**FAA (90.63%)**	**Utah (4.685%)**	**Heber (4.685%)**	**Private (100%)**	**Total**
Phase 1	$6,877,911	$834,345	$408,745	$350,000	$8,471,000
Phase 2	$40,248,783	$2,357,808	$2,111,409	$-	$44,718,000
Phase 3	$58,900,437	$3,359,782	$3,079,782	$-	$65,340,000
Total	$106,027,130	$6,551,934	$5,599,935	$350,000	$118,529,000

Figure 9.1 Proposed Improvements at HCR



9.4 Revenue Diversion

The City of Heber, as the Airport Sponsor, agrees to 25 state grant assurances in addition to the 39 federal grant assurances as part of accepting AIP and state grant funds. Grant assurance 25 mandates that all revenues generated by the airport will be expended for capital improvement, operating costs, marketing, and other airport related expenditures. Additionally, all funds generated by an airport and related aviation activities must be used for airport needs, according to Airport and Airway Improvement Act of 1982 (Public Law 97-248).

Redirecting such funds to other sources is referred to as "revenue diversion," which is defined as "the use of airport revenue for purposes other than airport capital or operating costs." As stated in FAA Order 5190.6B, *Airport Compliance Manual*, revenue diversion is strictly prohibited, and it is the responsibility of all parties involved in an airport's financial planning to be aware of this requirement and monitor for any such activity. It is permissible to spend airport revenue on the capital and operating costs of the airport, the local airport system, and other directly related aviation facilities and costs.

9.5. Airport Funding Sources

Data in this section is derived from the Airport Finance Report to Congressional Committees entitled Information on Funding Sources and Planned Capital Development submitted by the U.S. Government Accountability Office (GAO) dated February 2020. This information is intended to provide a general overview of viable funding sources, not all of which apply to Heber Valley Airport.

U.S. airports are important contributors to the U.S. economy, providing mobility for people and goods, both domestically and internationally. About 3,300 airports in the United States are part of the national airport system and eligible to receive federal AIP grants to fund infrastructure projects.

The United States has more than 19,000 airports, which vary substantially in size and the type of aviation services they support. Of these, roughly 3,300 airports are designated by FAA as part of the national airport system and are therefore eligible for federal assistance for airport capital projects. From fiscal years 2013 through 2017, U.S. airports received an average of over $14 billion annually for infrastructure projects. The three largest funding sources include:

- Funding from federal AIP grants, which has remained relatively constant at an annual average of $3.2 billion.
- Revenue from federally authorized Passenger Facility Charges (PFC), a per passenger fee charged at the ticket's point of purchase, increased by 9%, with an annual average of $3.1 billion.
- Airport-generated revenue (e.g., concessions and airline landing fees) increased by 18 percent, with an annual average of $7.7 billion.

In addition to these sources, some airports obtained financing by issuing bonds secured by airport revenue or PFCs. According to FAA data, larger airports were able to generate more bond proceeds than smaller airports in part because larger airports are more likely to have a greater, more certain revenue stream to repay debt.

AIRPORT IMPROVEMENT PROGRAM (AIP)

National system airports are eligible to receive federal funding from AIP grants for infrastructure development. AIP funds are first authorized in FAA reauthorization acts, and Congress then appropriates funds for AIP grants from the Airport and Airway Trust Fund, which is supported by a variety of aviation-related taxes, such as taxes on tickets, cargo, general aviation gasoline, and jet fuel. The FAA Reauthorization Act of 2018 authorized annual AIP grant levels at $3.35 billion annually through fiscal year 2023 and authorized additional amounts for supplemental discretionary funding each year from 2019 through 2023, starting at $1.02 billion and increasing each year thereafter. The Consolidated Appropriations Act of 2019 provided $500 million from the general fund to the AIP discretionary grant program. Non-primary entitlement (NPE) funds offer general aviation airports listed in the published NPIAS that show needed airfield development an additional source of revenue. GA airports with an identified need are eligible to receive annually the lesser value of either 20% of the 5-year cost of their current NPIAS value, or $150,000. Non-primary entitlements are available to use the year it becomes available and the following three fiscal years. Sponsors may choose to delay using their entitlement the first, second, or third year, and use all of the money in the final year in order to fund larger projects. Unused funds expire after four years unless the sponsor obligates the funds under a grant or transfers the funds to another NPIAS airport. Sponsors can use the funds on most airfield capital improvements and limited maintenance work, in addition to limited revenue-generating areas such as terminals, hangars, and fuel farms. Eligible maintenance projects include airfield pavement maintenance. Funds are not to be used for normal airport costs including salaries, mowing equipment, and supplies.

PASSENGER FACILITY CHARGES

Revenue from Passenger Facility Charges (PFCs) is another means of support for airport infrastructure projects. PFCs are federally authorized fees which were established in 1990 to help pay for infrastructure at commercial service airports. Although PFCs are local funds subject to the airport's control, the FAA oversees the PFC program and approves applications by airports to collect PFC revenues. Heber Valley Airport does not have commercial service; therefore, the airport does not collect PFCs and it is not an available funding source.

COVID-19 RELIEF PROGRAMS

The COVID-19 pandemic placed a substantial financial burden on airports during 2020 due to lockdowns and travel restrictions. To assist airports, the federal government passed three laws which injected stimulus funding into the airport system – the Coronavirus Aid, Relief, and Economic Security (CARES) Act in 2020, the Coronavirus Response and Relief Supplemental Appropriation Act (CRRSAA) in 2020, and the American Rescue Plan Act of 2021 (ARPA) in 2021. These federal laws allowed federal funding to be used for items not eligible under AIP, such as operations, personnel, and maintenance costs, rent relief, payment of debt service, cleaning, and sanitation. CARES, CRRSAA, and ARPA grant funding came from the U.S. Treasury's General Fund, rather than the Airport and Airway Trust Fund (AATF).

AIRPORT GENERATED REVENUE

Airport generated revenue consists of both aeronautical revenues derived from the operation and landing of aircraft, passengers, or freight, as well as non-aeronautical revenues derived from terminal concessions and parking fees. Of the $103 billion in national airport generated revenue over 5-year time period (2013 through 2017), 54% came from aeronautical revenues and 46% came from non-aeronautical revenues. Commercial service airline rates and charges— which include passenger airline's landing fees and passenger arrival fees, rents, and utilities—made up 75% of the total $55.9 billion in aeronautical revenue. The remainder came from a variety of other fees and taxes paid by airlines, general aviation, the military, and other aeronautical sources. Of the non-aeronautical revenues, parking and ground transportation accounted for the greatest portion (41%), followed by rental cars operations revenue (19%). Aeronautical revenues increased by 11% and non-aeronautical revenues increased by 16% over the time period.

BOND PROCEEDS

Airports can also obtain financing for airport infrastructure projects by issuing bonds. Airport bonds entail leveraging future funding to pay for projects. This financing mechanism enables airport authorities to borrow money up front to finance infrastructure projects; this money can then be paid back with interest over a longer time period. U.S. airports may qualify for tax-exempt bonds to support airport projects for federal tax purposes because the airports are owned by states, counties, cities, or public authorities. The tax-exempt status enables airports to issue bonds at lower interest rates than taxable bonds, thus reducing a project's financing costs. FAA officials said that because airports use some PFCs and airport generated revenue to pay off debt service, not all revenue generated from these two sources is available for additional infrastructure investment. From fiscal years 2013 through 2017, airports had averaged $84.6 billion in total bond debt per year.

STATE GRANT AND LOAN PROGRAMS

Nearly all states provide financial assistance to airports, primarily in the form of grants used as matching funds for federal AIP grants or as separate grants. States fund their grant programs through a variety of sources, including aviation fuel and aircraft sales taxes, highway taxes, bonds, and general fund appropriations.

In general, UDOT Aeronautics assists airport sponsors with the required match on federal grants at general aviation airports until they reach the status of primary commercial service airport and begin receiving the annual one million entitlement from the FAA. At this point, UDOT Aeronautics no longer contributes to the match and airports must use their entitlement funds to schedule maintenance and other projects.

LOCAL FUNDING

Local funds are those derived from income generated from the operation of the airport through leases and user fees, or contributions by the sponsoring agency, in this case the City of Heber, from general or other funds. Local funds are used to match grants that do not cover 100% of project costs, and to fund operations, maintenance, and administration of the airport.

PRIVATE FUNDING

Private funding for airport improvements typically comes in the form of investors who are intending to make extensive use of the airport through development of hangars or an airport business, such as an FBO. Such endeavors may require substantial infrastructure improvements that ultimately benefit the public use portions of the airport, but obligate the investor with a significant financial commitment. Financial commitments of this magnitude require long-term agreements between the private entity and airport sponsor to make it palatable for investors.

OTHER FEDERAL LOAN PROGRAMS

Other sources of funding can be applied for through the U.S. Department of Agriculture (USDA), and the U.S. Economic Development Administration (USEDA). The USDA Rural Development program is for communities with a population less than 20,000 people. The mission is to create economic prosperity and improve the quality of life in rural areas, where access to financing is more challenging. Funding for Rural Development programs are for projects which enhance community infrastructure, and spur economic growth by providing quality jobs, and attract new businesses.

Under the Rural Development program is the Community Facilities Loan Program, specifically for transportation infrastructure, such as airports. Funding may be used for terminals, hangars, runways, parking areas, roadway, curbside, and administrative facilities. Additionally, USDA Community Facility loans may be used as the community match for FAA funding. The average direct loan size is four million, though much larger loans are available. The Community Facilities Program has funded projects greater than one hundred million dollars. The interest rates may be fixed or variable and are determined quarterly and posted publicly. The repayment period is limited to the useful life of the facility, or any statutory limitation on the applicant's borrowing authority.

9.6 Financial Feasibility Analysis

The purpose of this section is to demonstrate the Airport Sponsor's ability to fund the projects as described in the Airport Master Plan. The majority of project monies come from federal AIP funding, UDOT, and the City of Heber. Internal revenue goes to the operating and maintenance budget (personnel, supplies, equipment maintenance/repair, and other incidental costs).

Financial and administrative management are key functions of small airport management. Airports should strive to be as self-sustaining as possible through revenue generation and good fiscal management of expenditures through budgeting. Appropriate lease documents, establishment of rates and charges, maximizing grant funding, if eligible, and minimizing risk through insurance are also important fiscal management tools.

RATES AND CHARGES

The current fee schedule for Heber Valley Airport was adopted via Resolution 2022-23 on September 6, 2022 and is described in ***Table 9.3.***

Table 9.3 Heber Valley Airport Fee Schedule

Service	Fee
Aviation Trailers, i.e. Glider Trailers	$60.00 per year, effective 01/01/2021
Airport Hangar Ground Lease - Lease Entered Into After Feb. 2015	$0.356 per sq. ft. = Annual Mountain Plaines CPI Increase - Effective 01/01/2021
Landing Fees (Transient Aircraft)*>8,000 lbs. MTOW	$4.00 per 1,000 lbs. MTOW over 8,000 lbs. Effective 01/01/2021
Landing Fees (Transient Aircraft)*<8,000 lbs. MTOW	$4.00
Proximity Gate Access Card	$0.00 - Hangar owners - (Additional requested access $40/yr, i.e. employees) $40.00/yr - Subtenants & Non-Hangar Owners (i.e. glider pilots, balloon pilots, etc.) $20.00 - Short-term access (i.e. contractors, air attack crews, etc.) $60.00 - Lost gate card/replacement (Registered based aircraft 1/2 off) Effective 01/01/2021
Special Service Operator Fee (Gross Sales)	1% Gross Income Effective 01/01/2021

* An aircraft that is not owned by a person having a lease or license agreement with the City is considered a transient aircraft.
Source: Heber City Municipal Code

AIRPORT REVENUE AND EXPENSE

To assist with the general operating and maintenance costs, Heber City General Fund includes a portion allocated to the airport to cover expenses not covered by the airport's annual revenue. See ***Tables 9.4*** and ***9.5*** for a breakdown of HCR's revenue and expense from 2020 through 2023, as stated in the 2022-2023 Heber City budget.

According to the most recent budget, the greatest revenue sources are from hangar ground leases, aviation fuel sales, and landing fees. The greatest expenses come from personnel and legal costs.

Table 9.4 Heber Valley Airport Revenues

Revenue Source	2020 Actual	2021 Actual	2022 Budget	2022 Projected	2023 Budget
Beginning Fund Balance	**$17,597**	**$72,563**	**$201,302**	**$201,302**	**$293,377**
State Grants	$-	$69,000	$-	$-	$-
Airport Business FBO/SSO Fees	$12,468	$20,259	$19,750	$20,727	$21,250
Airport Hangar Ground Lease	$205,809	$191,176	$185,883	$188,201	$201,000
Aviation Fuel	$47,871	$100,587	$113,336	$105,000	$100,000
Airport Landing Fees	$128,912	$269,525	$218,634	$300,000	$250,000
Hangar Transfer Fees	$9,650	$19,480	$2,000	$8,500	$8,000
Hangar Pad Fees	$-	$-	$2,550	$-	$-
Farm Lease	$2,000	$2,678	$3,000	$3,300	$3,400
Gate Access Cards	$-	$-	$350	$4,850	$5,000
Interest Income	$871	$664	$15,000	$-	$-
Miscellaneous Income	$6,571	$40,004	$-	$2,000	$100
Contributions from Capital Imp.	$175,000	$-	$-	$-	$-
Contributions from Op. Surplus	$-	$-	$-	$-	$3,135
Total Revenue	**$589,152**	**$713,373**	**$560,503**	**$632,578**	**$591,885**
Source: Heber City 2022-2023 Annual Budget, Airport Special Revenue Fund					

Table 9.5 Heber Valley Airport Expenses					
Expense	**2020 Actual**	**2021 Actual**	**2022 Budget**	**2022 Projected**	**2023 Budget**
Salaries & Wages	$8,379	$3,019	$-	$-	$-
On Site Payroll - Managers	$68,628	$87,547	$102,500	$102,500	$111,000
Employee Benefits	$4,452	$3,383	$-	$-	$-
Employee Benefits - Managers	$37,191	$40,627	$56,500	$56,500	$69,500
Uniform Allowance	$262	$-	$700	$700	$700
Books, Subscriptions, Membership	$34	$-	$975	$975	$1,180
Public Notices	$39	$44	$300	$300	$300
Travel	$2,735	$-	$2,000	$2,000	$3,450
Office Supplies	$507	$466	$500	$500	$500
Equipment Maintenance	$4,066	$2,300	$4,500	$4,500	$4,000
Utilities	$6,552	$7,192	$7,250	$7,250	$7,500
Telephone	$2,102	$2,021	$2,300	$2,300	$2,480
Gasoline	$1,643	$1,374	$1,800	$1,800	$2,700
Professional & Technical Services	$15,886	$26,354	$14,385	$14,385	$19,385
Training	$484	$-	$2,000	$2,000	$2,750
Legal	$273,662	$294,563	$221,093	$221,093	$150,000
Special Supplies	$9,658	$11,922	$10,000	$10,000	$15,000
Insurance	$3,703	$3,589	$3,800	$3,800	$3,800
Snow Removal	$8,629	$8,638	$20,000	$-	$12,000
Building	$221	$6	$2,500	$2,500	$3,000
Improvements other than Building	$213	$3,620	$7,000	$7,000	$2,000
Equipment	$-	$2,576	$6,900	$6,900	$6,900
Internal Service Charge	$1,571	$-	$-	$-	$8,740
Transfer to GF - Indirect Salaries	$59,226	$61,626	$65,000	$65,000	$80,000
Transfer to GF - Indirect Benefits	$23,129	$23,767	$28,500	$28,500	$35,000
Total Expenses	**$534,187**	**$584,634**	**$560,503**	**$540,503**	**$541,885**
Transfer to Capital Imp.	$-	$-	$-	$-	$(50,000)
Transfer from Capital Imp.	$-	$-	$-	$-	$-
Total Transfers in/(out)	$-	$-	$-	$-	$(50,000)
Total Expenses	**$534,187**	**$584,634**	**$560,503**	**$540,503**	**$591,885**
Net Resources	$54,965	$128,739	$-	$92,075	$-
Ending Fund Balance	**$72,563**	**$201,302**	**$201,302**	**$293,377**	**$290,242**

Source: Heber City 2022-2023 Annual Budget, Airport Special Revenue Fund

9.7 Summary

Heber Valley Airport has several revenue streams with potential for others. Therefore, there are many opportunities for the airport to invest and establish more sources of revenue. Plans for additional hangar space would result in subsequent hangar or land lease rent, which would ultimately increase the airport revenues. Chapter 6, *Development Alternatives*, shows alternatives for additional hangars and apron space. It is unlikely that the airport will become financially self-sufficient, especially given that capital improvement projects are typically very high dollar; however, the Sponsor should continue to be open to new ideas which will continue to improve their financial condition.

Chapter 10. Planning for Compliance

SECTION OVERVIEW

The FAA has published the FAA Airport Compliance Manual, Order 5190.6B. This chapter provides a brief overview of planning needs for compliance with some of these standards.

10.1 General

The FAA published Order 5190.6B, *Airport Compliance Manual*, in September 2009 that provides guidance on interpreting and administering the various continuing commitments Airport Sponsors make to the U.S. Government when they accept grants of federal funds or federal property for airport purposes. The Airport Compliance Program was developed to ensure that Airport Sponsors comply with federal obligations in the form of grant assurances, surplus and nonsurplus obligations, or other applicable federal laws.

10.2 Sources of Obligations

The federal obligations an Airport Sponsor assumes by accepting FAA administered airport development assistance are mandated by federal statute. These obligations are incorporated in the grant agreements and property conveyance instruments entered into by the Airport Sponsor and the U.S. Government. The sources of Airport Sponsor federal obligations include:

- Grant agreements issued through airport development grant programs including:
  - Federal Aid to Airports Program (FAAP)
  - Airport Development Aid Program (ADAP)
  - Airport Improvement Program (AIP)
- Grant agreements and instruments of nonsurplus conveyance issued under the:
  - 1946 Airport Act
  - 1970 Airport Act
  - Airport and Airway Improvement Act of 1982 (AAIA)
- Surplus property instruments of transfer issued under the provisions of Section 13(g) of the Surplus Property Act of 1944, as amended
- Deeds of conveyance issued under section 16 of the 1946 Airport Act, Section 23 of the 1970 Airport Act, and Section 516 of the AAIA
- AP-4 agreements authorized by various acts between 1939 and 1944
- Exclusive Rights under section 303 of the Civil Aeronautics Act of 1938, as amended and section 308(a) of the FAA Act, as amended
- Commitments in environmental documents prepared in accordance with current Federal Aviation

Administration requirements that address the National Environmental Policy Act of 1969 (NEPA) and the AAIA
- Separate written agreements between the Sponsor and the FAA, including settlement agreements resulting from litigation.

The emerging industry trends revolve around safety using technology to enhance efficiency and sustainability. These influences will continue to drive the infrastructure needs of airports and expand revenue streams beyond the traditional aviation related activities. Therefore, airport sponsors need to continually assess their airport's role and potential with these trends as they become prevalent in their communities.

10.3 Federal Grant Obligations

The following list of assurances and deed restrictions are those most commonly encountered in compliance cases.

a. Exclusive Rights Prohibition:
   1) Applies to airports subject to: Any federal agreement or property conveyance.
   2) Obligation: To operate the airport without granting or permitting any exclusive right to conduct any aeronautical activity at the airport. (Aeronautical activity is defined as any activity which involves, makes possible, or is required for the operation of an aircraft, or which contributes to or is required for the safety of such operations; i.e., air taxi and charter operations, aircraft storage, sale of aviation fuel, etc.)
   3) Duration of obligation: For as long as the property is used as an airport.

b. Maintenance of the Airport:
   1) Applies to airports subject to: FAAP/ADAP/AIP agreements, surplus property, conveyances, and certain section 16/23/516 conveyances.
   2) Obligation: To preserve and maintain the airport facilities in a safe and serviceable condition. This applies to all facilities shown on the approved ALP which are dedicated for aviation use, and includes facilities conveyed under the Surplus Property Act.
   3) Duration of obligation: Standard.[1]

c. Operation of the Airport:
   1) Applies to airports subject to: FAA/ADAP/AIP agreements and surplus property conveyances.
   2) Obligation: To operate the aeronautical and common use areas for the benefit of the public and in a manner that will eliminate hazards to aircraft and persons.
   3) Duration of obligation: Standard.[1]

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[1] Standard means:
   1) <u>Grant agreements for development other than land purchase.</u> Pavement and other facilities built to FAA standards are designed to last at least 20 years, and the duration of the obligation should generally be assumed to be 20 years. The duration may be shorter for grants made exclusively for certain equipment, such as a vehicle, that clearly has a useful life shorter than 20 years.
   2) <u>Grant agreements for land purchase.</u> AIP grant agreements for purchase of land provide that obligations do not expire, since the useful life of land does not end or depreciate. However, FAAP and ADAP grants did not always contain this language, and the grant documents should be reviewed to determine whether the obligations expire in 20 years or continue indefinitely. Also, grants to a private operator of a public-use general aviation airport provide for a defined duration of the obligations attached to the grant, and the grant documents should be reviewed to determine the actual obligations that apply.
   3) <u>Surplus property deeds and nonsurplus land conveyance documents.</u> Documents conveying federal land and property interests for airport use generally have no expiration date, and obligations continue indefinitely until the Sponsor is formally released from the obligation by the FAA. Obligations run with the land and bind subsequent owners.

d. Protection of Approaches:
    1) Applies to airports subject to: FAAP/ADAP/AIP agreements and surplus property conveyances.
    2) Obligation: To prevent, insofar as it is reasonably possible, the growth or establishment of obstructions in the aerial approaches to the airport. (The term "obstruction" refers to natural or man-made objects which penetrate the imaginary surfaces as defined in FAR Part 77, or other appropriate citation applicable to the specific agreement or conveyance document.)
    3) Duration of obligation: Standard.[1]
e. Compatible Land Use
    1) Applies to airports subject to: FAAP (after 1964)/ADAP/AIP agreements.
    2) Obligation: To take appropriate action, to the extent reasonable, to restrict the use of lands in the vicinity of the airport to activities and purposes compatible with normal airport operations.
    3) Duration of obligation: Standard.[1]
f. Availability of Fair and Reasonable Terms:
    1) Applies to airports subject to: Any federal agreement or property conveyance.
    2) Obligation: To operate the airport for the use and benefit of the public to make it available to all types, kinds, and classes of aeronautical activity on fair and reasonable terms and without unjust discrimination.
    3) Duration of obligation: Twenty years from the date of execution for grant agreement prior to 1964. For grants executed subsequent to the passage of the Civil Rights Act of 1964, the statutory requirement prohibiting discrimination remains in effect for as long as the property is used as an airport. The obligation runs with the land for surplus property and section 16/23/516 conveyances.
g. Adherence to the Airport Layout Plan:
    1) Applies to airports subject to: FAAP/ADAP/AIP agreements.
    2) Obligation: To develop, operate, and maintain the airport in accordance with the latest approved Airport Layout Plan. In addition, airport land depicted on the latest property map (Exhibit "A") cannot be disposed of or otherwise encumbered without prior FAA approval.
    3) Duration of obligation: Standard.[1]
h. Utilization of Surplus Property:
    1) Applies to airports subject to: Surplus property conveyances.
    2) Obligation: Property conveyed under the Surplus Property Act must be used to support the development, maintenance and operation of the airport. If not needed to directly support an aviation use, such property must be available for use to produce income for the airport. Such property may not be leased or rented at a discount or for nominal consideration to subsidize nonairport objectives. Airport property cannot be used, leased, sold, salvaged, or disposed of for other than for airport purposes without FAA approval.
    3) Duration of obligation: Standard.[1]
i. Utilization of Section 16/23/516 lands:
    1) Applies to airports subject to: Section 16/23/516 conveyances.
    2) Obligation: Property must be used for airport purposes; i.e., uses directly related to the actual operation or the foreseeable aeronautical development of the airport. Incidental use of the property must be approved by the FAA.
    3) Duration of obligation: Standard.[1]
j. Sale or Other Disposal of Property Acquired Under FAAP/ADAP/AIP:
    1) Applies to airports subject to: FAAP/ADAP/AIP agreements.
    2) Obligation: To obtain FAA approval for the sale or other disposal of property acquired under FAAP/ADAP/AIP, as well as approval for the use of any net proceeds realized.
    3) Duration of obligation: Standard.[1]
k. Utilization of Airport Revenue:
    1) Applies to airports subject to: Any federal agreement or property conveyance.

2) Obligation: To use all airport revenues for the capital or operating costs of the airport, the local airport system, or other local facilities which are owned or operated by the owner or operator of the airport, and directly related to the actual air transportation of passengers or property.
3) Duration of obligation: Standard for grants and conveyances executed prior to October 1, 1996. For airports receiving assistance on or after that date, the obligation continues as long as the facility is used as a public-use airport.
4) Special Conditions Affecting Noise Land and Future Aeronautical Use Land: Apply interim revenue derived from noise land or future aeronautical use land to projects eligible for grants under the AIP. This income may not be used for the matching share of any grant.

l. National Emergency Use Provision:
1) Applies to airports subject to: Surplus property conveyances (where Sponsor not released from this clause.)
2) Obligation: That during any war or national emergency, the government has the right of exclusive possession and control of the airport.
3) Duration of Obligation: Runs with the land (unless released from this clause by the FAA, with concurrence of the Department of Defense.)

m. Fee and Rental Structure:
1) Applies to airports subject to: FAAP/ADAP/AIP agreements.
2) Obligation: To maintain a fee and rental structure of the facilities and services being provided to the airport users which will make the airport as self-sustaining as possible. (Note: Fair and reasonable for aeronautical activities and fair market value for nonaeronautical activities.)
3) Duration of obligation: Standard.[1]

n. Preserving Rights and Powers:
1) Applies to airports subject to: FAAP/ADAP/AIP agreements.
2) Obligation: To not enter into any transaction which would operate to deprive it of any of the rights and powers necessary to perform any or all of the Sponsor assurances without FAA approval, and to act promptly to acquire, extinguish or modify any outstanding rights or claims of right of others that would interfere with such performance by the Sponsor. To not dispose of or encumber its title or other interests in the site and facilities for the duration of the terms, conditions, and assurances in the grant agreement without FAA approval.
3) Duration of Obligation: Standard.[1]

o. Environmental Requirements:
1) The AAIA requires that for certain types of project, an environment review be conducted. The review can take the form of either an environmental assessment or an environmental impact statement. These environmental documents often contain commitments related to mitigation of environmental impacts. FAA approval of environmental documents containing such commitments has the effect of requiring that these commitments be fulfilled before FAA grant issuance or as part of the grant.

p. Other Obligations:
1) The above obligations represent the more important obligations assumed by an airport Sponsor. Other obligations that may be found in grant agreements include:
   - Use of government Aircraft
   - Land for Federal Facilities
   - Standard Accounting Systems
   - Reports and Inspections
   - Consultation with Users
   - Terminal Development Prerequisites

- Construction Inspection and Approval
- Minimum Wage Rates
- Veterans Preference
- Audits, Audit Reports and Record Keeping Requirement
- Local Approval
- Civil Rights
- Construction Accomplishment
- Planning Projects
- Good Title
- Sponsor Fund Availability

10.4 Grant Assurances

There are 39 Grant Assurances that are briefly described here. Complete descriptions and requirements are located within Appendix A of FAA Order 5190.6B.

1. General Federal Requirements - The Sponsor must comply with all applicable federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance, and use of federal funds for the project.
2. Responsibility and Authority of the Sponsor - The Sponsor must have legal authority to apply for the grant and to finance and carry out the proposed project and comply with all terms, conditions, and assurances of the grant agreement. As applicable, a resolution, motion, or similar action must be duly adopted or passed as an official act of the applicant's governing body authorizing the filing of the application.
3. Sponsor Fund Availability - The Sponsor must have sufficient funds available for the portion of the project costs that will not be paid by the U.S. Government. Sufficient funds must also be available to assure operation and maintenance of items funded under the grant agreement.
4. Good Title - The Sponsor must show that good title is held or will be acquired by the Sponsor, public agency, or federal government. The Sponsor must hold good title or obtain good title for noise compatibility program projects.
5. Preserving Rights and Powers - The Sponsor will not take or permit any action which would deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in the grant agreement. The Sponsor will not sell, lease, encumber, or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A or properties for which noise compatibility program funds have been expended. The Sponsor must enter into an agreement with the property owner for noise compatibility programs that are not on airport property.
6. Consistency with Local Plans - The project should be reasonably consistent with plans of public agencies that are authorized by the State to plan for area development existing at the time of application submission.
7. Consideration of Local Interest - The Sponsor should give fair consideration to the interest of communities located in or near the project location.
8. Consultation with Users - The Sponsor must undertake reasonable consultations with parties that use the airport.
9. Public Hearings - The Sponsor must give opportunities for public hearings for projects involving the location of an airport, an airport runway, or a major extension of the runway.

10. Metropolitan Planning Organization - Projects involving the location of an airport, an airport runway, or a major runway extension at a medium or large hub airport, the sponsor has made available to and has provided upon request to the metropolitan planning organization in the area in which the airport is located, if any, a copy of the proposed amendment to the airport layout plan to depict the project and a copy of any airport master plan in which the project is described or depicted.
11. Pavement Preventative Maintenance - The Sponsor assures or certifies that an effective pavement-maintenance management program has been implemented.
12. Terminal Development Prerequisites - The Sponsor must show that all required safety equipment, security equipment, and access to the passenger enplaning and deplaning areas have been provided for projects which include terminal area development.
13. Accounting System, Audit, and Record Keeping - All project accounts and records must be kept and be available for inspection.
14. Minimum Wage Rates - Contracts in excess of $2,000 that involve labor must have provisions establishing minimum wage rates to be paid.
15. Veterans Preference - The employment of labor preference shall be given to Veterans of the Vietnam era and disabled veterans. The preference does not apply to executive, administrative, and supervisory positions and only applies where individuals are available and qualified.
16. Conformity to Plans and Specifications - The project must be executed subject to FAA approved plans, specifications, and schedules.
17. Construction Inspection and Approval - The Sponsor must provide and maintain competent technical supervision at the construction site throughout the project to assure that the work conforms to the FAA approved plans, specifications, and schedules.
18. Planning Projects - Planning projects must be completed in an approved method. The material must be made available for examination. The plan may not be copyrighted and approval of the plan does not constitute or imply any assurance or commitment to approve any future airport grants.
19. Operations and Maintenance - The airport and all facilities that are necessary to serve the aeronautical users of the airport shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards that may be required. The Sponsor may not cause or permit any activity or action that would interfere with its use for airport purposes.
20. Hazard Removal and Mitigation - The Sponsor must take actions to ensure that terminal airspace as required to protect instrument and visual operations to the airport will be adequately cleared and protected by mitigating existing airport hazards and by preventing the creation of future hazards.
21. Compatible Land Use - The Sponsor must take appropriate action, to the extent reasonable, to restrict the use of land adjacent to and in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations. If the project is for noise compatibility program implementation, the Sponsor will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility with respect to the airport or the noise compatibility program measures.
22. Economic Nondiscrimination - The Sponsor must make the airport available for public use on reasonable terms and without unjust discrimination to all types, kinds, and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.

23. Exclusive Rights - The Sponsor may not permit an exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public. There may be a single FBO serving the airport that would not be considered an exclusive right if certain conditions exist.
24. Fee and Rental Structure - The Sponsor must maintain a fee and rental structure for the facilities and services at the airport that will make the airport as self-sustaining as possible under the circumstances existing at the particular airport.
25. Airport Revenues - All revenues generated by the airport and any local taxes on aviation fuel will be expended for the capital or operating costs of the airport, the local airport system, or other local facilities that are owned or operated by the owner or operator of the airport and that are directly and substantially related to the actual air transportation of passengers or property. The revenues can also be used for noise mitigation purposes on or off the airport.
26. Reports and Inspections - Annual operations reports, airport development project records and documents, and noise compatibility program records must be maintained and be available for inspection.
27. Use by Federal Government Aircraft - The Sponsor must make all of the facilities of the airport developed with federal financial assistance and all those usable for landing and takeoff of aircraft available to the United States for use by government aircraft in common with other aircraft at all times without charge. If use by governmental aircraft is substantial, a reasonable and proportional charge for the cost of operating and maintaining the facilities may be charged.
28. Land for Federal Facilities - The Sponsor must furnish without cost land or water areas to the federal government for the use in connection with any air traffic control, air navigation activities, weather-reporting, and communication activities related to air traffic control.
29. Airport Layout Plan - The Sponsor must keep the Airport Layout Plan up to date at all times. Changes or alterations made on the airport that are not shown on an approved airport layout plan may be subject to elimination or relocation at the Sponsor's expense.
30. Civil Rights - The Sponsor must comply with existing rules to ensure that no person is excluded on the grounds of race, creed, color, national origin, sex, age, or disability from participating in any activity conducted with or benefiting from funds received.
31. Disposal of Land - Land no longer used for airport noise compatibility purposes or airport development purposes must be properly disposed of following existing guidelines.
32. Engineering and Design Services - All contracts or sub-contracts for services must be awarded in a qualifications-based method.
33. Foreign Market Restrictions - The Sponsor will not allow funds provided under the grant to be used to fund any project that uses any product or service of a foreign country when that country is listed by the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.
34. Policies, Standards, and Specifications - The Sponsor must carry out the project in accordance with the FAA approved policies, standards, and specifications.
35. Relocation and Real Property Acquisition - The Sponsor must follow Subparts B, C, D, and E of 49 CFR Part 24.
36. Access by Intercity Buses - The airport owner will permit, to the maximum extent practicable, intercity buses or other modes of transportation to have access to the airport. There is no obligation by the airport owner to fund special facilities.

37. Disadvantaged Business Enterprises (DBE) - The grant recipient shall not discriminate on the basis of race, color, national origin, or sex in the award of any DOT-assisted contract, in the administration of its DBE program, or the requirements of 49 CFR Part 26. Implementation of the DBE program is a legal obligation.
38. Hangar Construction - The airport owner must grant a long term lease that may be subject to terms and conditions for hangars constructed on the airport at the aircraft owner's expense.
39. Competitive Access - Applies to medium or large hub airports.

The FAA has published additional guidance in a document entitled *Airport Sponsor and Airport User Rights and Responsibilities*. This 10-page booklet features a handful of key grant assurances in simplified terms. Notably, Grant Assurances 5, 22, 23, 24, and 25 are highlighted in this publication.

10.5 Complaint Resolution

Under 14 Code of Federal Regulations (CFR) 13.1, any person who knows of a violation of federal aviation laws, regulations, rules, policies, or orders may report the violation to the FAA informally as a "report of violation." Under this section, airport users may report allegations of grant assurance violations to the FAA. This is commonly referred to as an "informal complaint." Individuals seeking to file informal complaints are encouraged to do so in writing. Alleged violations are investigated by the FAA's local Airports District Office (ADO) or Regional Airports Division.

14 CFR 16, commonly referred to as Part 16, outlines a formal complaint process. In order to file a formal complaint under Part 16, complainants must be "directly and substantially affected" by any alleged noncompliance. Part 16 includes regulatory time frames and detailed procedures associated with the process. The Part 16 Decision Database contains copies of final FAA determinations. Because complaints often focus on similar issues, an understanding of how the FAA has decided a case in the past may be beneficial.

Most violations of Airport Sponsor federal obligations are not a deliberate attempt to circumvent federal obligations. Generally, violations occur because Sponsors do not understand specific requirements or how a requirement applies to a specific circumstance. The Airport Compliance Program works to ensure Sponsors are fully informed of their federal obligations and of the applicability of those obligations to the circumstances at a given airport. Informal resolution is the preferred course of action when it comes to addressing complaints of violations.

10.6 Compatible Land Use

Land use planning is important to ensure that airport investments are not affected by incompatible land uses adjacent to and in the immediate vicinity of the airport. Incompatible land uses at or near airports may result in the creation of hazards to air navigation, reductions in airport utility resulting from obstructions to flight paths, or noise-related incompatible land use resulting from residential areas too close to the airport.

Zoning is an effective method of meeting the federal obligation to ensure compatible land use and to protect airport approaches. According to 5190.6B, restricting residential development near the airport is essential in order to avoid noise-related problems. Residential developments can also be incompatible for safety reasons. The development of public facilities such as schools, churches, public health facilities, and concert halls should also be avoided near the airport due to noise incompatibility.

Compatibility of land use is attained when the use of property adjacent to and near the airport neither adversely affects flight operations from the airport nor is itself adversely affected by the flight operations. Land uses that adversely affect flight operations are ones that create or contribute to a flight hazard. These can include tall structures, features that inhibit pilot visibility such as light or smoke, produce electronic aberrations in navigational guidance systems, or that attract birds.

Order 5190.6B states the FAA's position in regard to several variations on residential properties on or near airports. Airpark developments allow aircraft owners to reside and park their aircraft on the same property with immediate access to an airfield. The FAA considers residential use by aircraft owners to be no different from any residential use and finds it incompatible with the operation of a public use airport (20.4.b).

Permitting development of a residential airpark near a federally obligated airport, through zoning approval or otherwise, would be inconsistent with Grant Assurance 21 (20.4.b). Any residential use existing on the airport or any residential use granting "through-the-fence" access is an incompatible land use (20.4.a).

A "through-the-fence" operation is defined by the FAA as any activity or use of real property of an aeronautical or nonaeronautical nature that is located outside (or off) of airport property but has access to the airport's runway and/or taxiway system. Airport property is property owned by the airport Sponsor and shown on an FAA approved Airport Layout Plan (ALP). "Through-the-fence" operations occur from property that is immediately adjacent to the airport, but which is owned by corporations, businesses, or private parties. These properties are not under control in any manner by the airport Sponsor.

Off-airport residential airparks are privately owned and maintained residential facilities. The FAA does not consider them to be aeronautical facilities eligible for reasonable access to a federally obligated airport. Therefore, the Sponsor is under no federal obligation to allow "through-the-fence" access for privately owned residential airparks. Allowing access could be an encumbrance on the airport in conflict with Grant Assurance 5. Residential hangars with "through-the-fence" access are considered incompatible land uses at federally obligated public use airports.

Other non-residential "through-the-fence" activities may be allowed, but the Sponsor must make sure that the use agreement does not violate any of the grant assurances.

The most common improper and noncompliant land uses include nonaeronautical leaseholds being located on designated aeronautical use land without FAA approval (not shown on the ALP) or on property not released by the FAA. Another common noncompliant land use is allowing dedicated aeronautical property to be used for nonaeronautical uses. This includes using hangars to store vehicles, using property and buildings for animal control facilities, nonairport vehicle and maintenance equipment storage, aircraft museums, and municipal administrative offices.

Some common incompatible land uses include the introduction of a wildlife attractant or failure to take adequate steps to mitigate hazardous wildlife at the airport. Other incompatible land uses include wastewater ponds, municipal flood control channels and drainage basins, sanitary landfills, solid waste transfer stations, electrical power substations, water storage tanks, golf courses, and other bird attractants. Towers or buildings that penetrate Part 77 surfaces or are located within a runway protection zone (RPZ), runway object free area (ROFA), object free zone (OFZ), and clearway or stopway are also incompatible uses.

10.7 Conclusion

According to FAA Order 5190.6B, the FAA Airport Compliance Program is contractually based; it does not attempt to control or direct the operation of airports. Rather, the program is designed to monitor and enforce obligations agreed to by Airport Sponsors in exchange for valuable benefits and rights granted by the United States in return for substantial direct grants of funds and for conveyances of federal property for airport purposes. The Airport Compliance Program is designed to protect the public interest in civil aviation. Grants and property conveyances are made in exchange for binding commitments (federal obligations) designed to ensure that the public interest in civil aviation will be served. The FAA bears the important responsibility of seeing that these commitments are met. The FAA considers all federal airport obligations important. However, the most important objective in the FAA's oversight of the compliance program is to ensure and preserve safety at all federally obligated airports.

Chapter 11. Sustainability and Recycling

SECTION OVERVIEW

The purpose of this section is to provide a general overview of sustainability, as well as define the Airport Recycling, Reuse, and Waste Reduction Plan (Plan). The Plan is used to enhance airport recycling and waste minimization efforts at Heber Valley Airport, and comply with FAA requirements.

11.1 Sustainability

WHAT IS SUSTAINABILITY?

The United Nations convened the Brundtland Commission to address the growing concern about the deterioration of natural resources. In its 1987 report, the commission defined sustainability as, "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*." The Airports Council International-North America (ACI-NA) took the approach one step further by incorporating operations into the definition, "*a holistic approach to managing an airport so as to ensure the integrity of the economic viability, operational efficiency, natural resource conservation and social responsibility (EONS) of the airport*." Based on these definitions, Airport Master Plans should evaluate how programs and initiatives impact airport users, the surrounding community, and natural environment by integrating sustainability into the airport planning process.

Each airport should consider a unique definition of sustainability relating to variable circumstances of the airport and its role in the community. This definition will set the groundwork for future planning and implementation. Accordingly, Heber Valley Airport will adopt the EONS approach to sustainability, as defined above.

WHY BE SUSTAINABLE?

Along with improving the community and the natural environment, sustainability makes good business sense. Airports that have adopted sustainable practices have reported experiencing tangible benefits including, but not limited to, the following:

- Greater utilization of assets;
- Reduced operating and maintenance costs;
- Improved work environment for employees;
- Reduced energy consumption, waste, and emissions;
- Improved water quality; and
- Positive community relationships.

HOW DOES SUSTAINABILITY RELATE TO HEBER VALLEY AIRPORT?

Airport Sponsors have the ability to incorporate sustainability into their Airport Master Plans, based on the needs and resources of each facility. Like any initiative, sustainability measures need to be formally documented and tracked to measure progress. As a core part of the Airport Master Plan process, sustainability initiatives and activities will be identified and documented. One of the practices that contribute to sustainability is a recycling and waste reduction plan. Areas of recycling and solid waste management can be split into multiple categories - those over which the airport has direct control, those over which the airport has influence, and those over which the airport has little or no control or influence.

11.2 Recycling, Reuse, and Waste Reduction Plan

The term solid waste is defined in accordance with the Resource Conservation and Recovery Act, of 1976 (RCRA) but is generally, non-soluble, discarded solid materials, including sewage, municipal garbage, industrial wastes, agricultural refuse, demolition wastes, and mining residues. Sanitary sewer wastes are not considered solid wastes.

LEGISLATIVE BACKGROUND

The FAA Modernization and Reform Act of 2012 (FMRA), which amended Title 49, United States Code (U.S.C.), included several changes to the Airport Improvement Program (AIP). Two of these changes are related to recycling, reuse, and waste reduction at airports.

a. FMRA Section 132 (b)) of the FMRA expanded the definition of airport planning to include “developing a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable State and local recycling laws, including the cost of a waste audit.”

b. Section 133 of the FMRA added a provision requiring airports that have or plan to prepare a master plan, and that receive AIP funding for an eligible project, to ensure that the new or updated master plan addresses issues relating to solid waste recycling at the airport. This includes:

1. The feasibility of solid waste recycling at the airport;
2. Minimizing the generation of solid waste at the airport;
3. Operation and maintenance requirements;
4. Review of waste management contracts; and
5. The potential for cost savings or the generation of revenue.

For the purpose of this Plan, “recycling” refers to any program, practice, or opportunity to reduce the amount of waste disposed in a landfill. This includes reuse and waste reduction as well as the recycling of materials.

TYPES OF SOLID WASTE GENERATED AT AIRPORTS

Airports generate various types of solid waste. This Plan addresses the recycling, reuse, and reduction of municipal solid waste (MSW) and other materials that can be legally disposed of in a 42 U.S.C. §§ 6941-6949a landfill or equivalent state-permitted facility.

Any reference to MSW for recycling, reduction, or reuse in this plan includes construction and demolition (C&D) debris, organic compostable material such as food and yard waste, and deplaned waste. Definitions of these terms are provided below. Airports can recycle, reuse, or minimize many of the materials described on the next page.

This plan does not address other types of solid waste such as hazardous waste, universal waste (i.e., batteries, fluorescent bulbs, electronics, etc.), or industrial waste. These materials are often subject to federal, state, and local laws with specific disposal and recycling requirements. The plan applies to the following:

- Municipal Solid Waste (MSW) consists of everyday items that are used and discarded. Recyclable MSW at airports includes, but is not limited to, aluminum and steel, glass bottles and containers, plastic bottles and containers, packaging, bags, paper products, and cardboard.
- Construction and Demolition (C&D) Debris is generally categorized as MSW. C&D debris is any non-hazardous solid waste that results from land clearing, excavation, or construction, demolition, renovation, or repair of structures, roads, and utilities.
- C&D debris includes, but is not limited to, concrete, wood, metals, soil, bricks and masonry material, asphalt, rock, stone, gravel, sand, roofing materials, drywall, carpet, plastic, pipe, rocks, earthwork, land-clearing debris, cardboard, and salvaged building components. In some instances, C&D debris requires special handling and may be subject to special requirements. Examples include tar-impregnated roofing materials and asbestos-containing building materials. Materials that may be subject to special requirements are not addressed in this Plan.
- Compostables, Green Waste, and Food Waste are also categorized as MSW. Green waste consists of tree, shrub, grass clippings, leaves, weeds, small branches, seeds, pods, and similar debris generated by landscape maintenance activities. Food waste is food that is not consumed or generated during food preparation activities and discarded.
- Deplaned Waste is MSW that is removed from passenger aircraft. These materials include bottles and cans, newspaper and mixed paper, plastic cups and utensils, food waste, food-soiled paper, magazines, unconsumed or surplus food, and paper towels. Waste that comes off airplanes after flights can represent 20% of an airport's total MSW stream. The composition is roughly 30% each of paper, compostable food material, and non-recyclable materials, with the balance consisting of cups and beverage containers. Except for Canada, waste from international flights must be processed separately, as this waste can introduce plant pests and diseases. The United States Department of Agriculture regulates international waste. It must be handled in accordance with procedures in the Manual for Agricultural Clearance. Therefore, waste from international flights is not discussed in this plan

11.3 Contents of an Airport Recycling, Reuse, and Waste Reduction Plan

The content and scope of an airport recycling, reuse, and waste reduction plan will vary depending on the unique conditions at each airport. For airports that already have recycling programs, certain tasks (such as a new waste audit) may not need to be completed.

Document scope is governed by the extent and accuracy of available information. This includes information on the airport's current recycling program, the types and amounts of airport waste, and factors that influence the scope of the program. Plans for small, low activity airports may also be less detailed. Though certain tasks may not need to be completed to prepare a plan, review and documentation of each of the five elements listed in the FMRA is required in airport master plans and master plan updates (including sustainability master plans) (see also 49 U.S.C. § 47106(a)(6)).

SOURCES AND PATHWAYS OF AIRPORT WASTE

Each airport activity has its own set of factors, resource requirements, and waste stream. Any plan to implement a recycling program must consider all the activities and waste streams at the facility. The list below describes the typical airport waste streams associated with smaller commercial and general aviation airports.

- **Airfields:** Predominantly runways, taxiways, and infields. Waste produced from aircraft operations consists mostly of rubber from aircraft tires, green waste from mowing, and debris from sweeping and plowing.
- **Aircraft**: Maintenance of aircraft and ground support equipment produces waste, including oil, grease, chemicals, plastic, wastewater, universal waste, and vehicle waste, such as tires and fluids. The party responsible for aircraft and ground support equipment waste varies, typically by whomever owns the vehicle or performs the maintenance. The amount of aircraft waste correlates with the number of operations at the airport. The FBO and maintenance shop are responsible for waste associated with maintenance at the airport. Some waste associated with maintenance is considered hazardous waste and must be handled in accordance federal regulations.
- **Terminals and Pilot Lounges:** Typically, generated waste includes food, paper, plastic, aluminum cans, trash, and deplaned waste.
- **Administration Offices**: Offices produce waste, such as paper, plastic, aluminum cans, food, and universal waste. Office waste is usually solid or compostable and is fairly steady throughout the year.
- **Airport Construction:** Construction at the airport corresponds with programmed Capital Improvement Program (CIP) projects. Construction activities have the potential to create a large amounts of waste, including concrete, asphalt, wood, soil, and metal. These waste streams increase during warmer months, as that is when construction usually occurs. Airport construction wastes are typically solid or C&D. The contractor is contractually responsible for waste associate with airport construction.

11.4 Recycling Feasibility

Many airports currently implement solid waste recycling programs. However, program scope varies considerably. This variability may occur due to the size and location of different airports, the amount of waste being produced, and external factors that affect the scope of recycling programs. Variables include, but are not limited to:

- Local markets for recyclable commodities;
- Cost for transport and processing recyclables;
- Local recycling infrastructure;
- Identify willingness of an airport and its tenants to implement recycling programs;
- The nature of the airport's waste stream;
- Competition between recycling and landfilling firms; and
- Airport layout and logistics

REVIEW OF WASTE MANAGEMENT CONTRACTS AT HEBER VALLEY AIRPORT

Under the current waste management and recycling program, the FBO and individual hangar owners pay for their own trash service provided by Waste Management, while the airport covers the cost of recycling. Recyclops picks up recycling from the airport once every other week and Waste Management picks up trash once per week or as needed. The FBO takes care of recycling fluids associated with aircraft maintenance.

POTENTIAL FOR COST SAVINGS OR REVENUE GENERATION

Currently, there is not enough recyclable material generated at the airport to produce any significant revenue generation or cost savings.

AIRPORT OPERATIONS AND MAINTENANCE REQUIREMENTS

Waste generated from mowing and weeding is composted on-site. After the snow season, the city brings a sweeper truck to clear the airfield pavement which is disposed of off-site with other municipal sweeper truck waste. There is no rubber removal performed at the airport, and there are no catering vendors based at the airport that would generate food waste.

PLAN TO MINIMIZE SOLID WASTE GENERATION

The ACI-NA Policy Handbook provides a waste decision hierarchy that shows - in order of decreasing priority - what constitutes the best overall waste management choices: to **avoid**; to **reduce**; to **reuse**; to **recycle**; and finally, to **dispose** with the ultimate goal of eliminating waste going to landfills. By this decision hierarchy, the first consideration should be given to minimize the generation of waste at the airport and include opportunities for cost savings through improved management of waste, the feasibility of waste recycling at the airport, and the potential for generation of revenue from airport waste.

The FAA compiled a list of 10 steps, shown in ***Table 11.1***, to assist with designing and implementing an effective recycling/waste minimization program, noting that each airport is unique and faces its own issues. Heber Valley Airport will explore the following steps while planning for a more sustainable future:

1. Establish a commitment from management to support a recycling/waste minimization program;
2. Include lease/contract language that supports recycling/waste minimization;
3. Provide additional containers and/or space for recycling;
4. Educate airport staff and users on the importance of recycling and waste minimization.

Table 11.1 Steps to Recycling & Waste Minimization

Step	*Description*
1	Commitment from Management
2	Program Leadership
3	Waste Identification
4	Waste Collection and Hauler
5	Waste Management Plan Development
6	Education and Outreach
7	Monitor and Refine
8	Performance Monitoring
9	Promote Success
10	Continuous Improvements

Source: FAA Recycling, Reuse and Waste Reduction at Airports, A Synthesis Document, April 24, 2013

11.5 Conclusion

Heber Valley Airport has opportunities to enhance airport sustainability, recycling, and waste minimization at the airport by establishing formal policies and procedures. One opportunity to enhance sustainability is the addition of electric aircraft charging stations. Any program established at the airport should include a commitment from management to support sustainability, recycling, education and outreach, setting performance targets, monitoring progress, and seeking continuous improvement. Benefits gained from establishing a recycling and waste minimization program include:

1. Reduced operating costs.
2. Prolonged use of limited landfill space.
3. Reduced environmental liability.
4. Improved public perception of the airport.

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Chapter 12. Glossary

AC: Advisory Circular
AAC: Aircraft Approach Category
ADG: Airplane Design Group
ADO: Airports District Office
ADS-B: Automated Dependent Surveillance - Broadcast
ACN: Aircraft Classification Number
AGL: Above Ground Level
AIP: Airport Improvement Program
ALP: Airport Layout Plan
ALS: Approach Lighting System
AMSL: Above Mean Sea Level
AOA: Airport Operations Area
AOPA: Aircraft Owners and Pilots Association
APMS: Airport Pavement Management System
ARC: Airport Reference Code
ARFF: Aircraft Rescue and Fire Fighting
ASDA: Accelerate-Stop Distance Available
ASL: Above Sea Level
ASOS: Automated Surface Observation System
AT: Air Traffic
ATC: Air Traffic Control
ATCT: Airport Traffic Control Tower
AVGAS: Aviation Gasoline
AWOS: Automated Weather Observation System

BARO: Barometric
BLM: Bureau of Land Management
BMP: Best Management Practices
BRL: Building Restriction Line
BVLOS: Beyond Visual Line of Sight

CAT: Category
CATEX: Categorical Exclusion
CEQ: Council on Environmental Quality
CFI: Certified Flight Instructor
CFR: Code of Federal Regulations
CIP: Capital Improvement Program
CTAF: Common Traffic Advisory Frequency
DEQ: Department of Environmental Quality
DME: Distance Measuring Equipment
DNL: Day/Night Equivalent Sound Level (see also Ldn)
DOI: Department of Interior
DOT: Department of Transportation
DTWG: Dual Tandem Wheel Gear
DWG: Dual Wheel Gear

EA: Environmental Assessment
EIS: Environmental Impact Statement
EPA: Environmental Protection Agency

FAA: Federal Aviation Administration
FAAP: Federal Aid Airport Program
FAR: Federal Aviation Regulation
FBO: Fixed Base Operator
FEMA: Federal Emergency Management Agency
FIRM: Flood Insurance Rate Maps
FONSI: Finding of No Significant Impact
FPPA: Farmland Protection Policy Act

GA: General Aviation
GIS: Geographic Information System
GPS: Global Positioning Satellite or System
GSE: Ground Support Equipment

HF: High Frequency
HIRL: High Intensity Runway Lights

IAP: Instrument Approach Procedure
IFR: Instrument Flight Rules
ILS: Instrument Landing System
IMC: Instrument Meteorological Conditions

LAAS: Local Area Augmentation System
Ldn: Day/Night Noise Levels
LIRL: Low Intensity Runway lights
LNAV: Lateral Navigation
LOC: Localizer
LPV: Localizer Performance with Vertical Guidance

MALS: Medium Intensity Approach Lighting System
MDA: Minimum Descent Altitude
ME: Multi-Engine Aircraft
MGW: Maximum Gross Weight
MGTW: Maximum Gross Takeoff Weight
MIRL: Medium Intensity Runway Lights
MOA: Military Operations Area
MSL: Mean Sea Level

NAS: National Airspace System
NAAQS: National Ambient Air Quality Standards
NAVAIDS: Navigational Aids
NBAA: National Business Aviation Association
NDB: Non-Directional Beacon
NEPA: National Environmental Policy Act
NM: Nautical Mile
NOAA: National Oceanic and Atmospheric Administration
NOTAM: Notice to Air Missions
NPIAS: National Plan of Integrated Airport Systems
NRCS: National Resources Conservation Service
NTSB: National Transportation Safety Board
NWI: National Wetland Inventory
NWS: National Weather Service

OFA: Object Free Area
OFZ: Obstacle Free Zone
OTS: Out of Service

PAPI: Precision Approach Path Indicator (Visual Approach Aid)
PCI: Pavement Condition Index
PCN: Pavement Classification Number

RDC: Runway Design Code
REIL: Runway End Identifier Lights
RNAV: Area Navigation
RNP: Required Navigation Performance
ROD: Record of Decision
ROFA: Runway Object Free Area
RPZ: Runway Protection Zone
RSA: Runway Safety Area

RW: Runway
SE: Single Engine Aircraft
SHPO: State Historical Preservation Office
SID: Standard Instrument Departure
STAR: Standard Terminal Arrival
SWG: Single Wheel Gear

TAC: Technical Advisory Committee
TACAN: Tactical Air Navigation System (See VORTAC)
TAF: Terminal Area Forecast
TAP: Terminal Area Plan
TCS: Tribal Cultural Specialist
TDG: Taxiway Design Group
THPO: Tribal Historical Preservation Office
TODA: Takeoff Distance Available
TOFA: Taxiway Object Free Area
TORA: Takeoff Run Available
TFMSC: Traffic Flow Management System Counts
TSA: Taxiway/Taxilane Safety Area and Trasnportation Security Administration

UAM: Urban Air Mobility
UAS: Unmanned Aerial System
UAV: Unmanned Aerial Vehicle
UNICOM: Universal Communications
USACE: U.S. Army Corps of Engineers
USDA: U.S. Department of Agriculture
USFWS: U.S. Fish and Wildlife Service
USGS: U.S. Geological Survey
UTM: Unmanned Aircraft System Traffic Management

VASI: Visual Approach Slope Indicator
VFR: Visual Flight Rules
VHF: Very High Frequency
VOR: VHF Omnidirectional Range
VORTAC: VHF Omnidirectional Range and Tactical Air Navigation System
VMC: Visual Meterological Conditions
VNAV: Vertical Navigation
VTOL: Vertical Takeoff and Landing

WAAS: Wide Area Augmentation System
WHA: Wildlife Hazard Assessment
WHMP: Wildlife Hazard Management Plan
WHSV: Wildlife Hazard Site Visit
WX: Weather

12. Glossary

COMMON TERMS

Above Ground Level (AGL): Altitude expressed as feet above terrain or airport elevation (see MSL).

Access Road: The right-of-way, the roadway and all improvements constructed thereon connecting.

Accelerate-Stop Distance Available (ASDA): The runways plus stopway length declared available and suitable for the acceleration and deceleration of an aircraft aborting a takeoff.

Access Taxiway: A taxiway that provides access to a particular location or area.

Active Aircraft: Aircraft registered with the FAA and reported or estimated to have been flown at least one hour during the preceding year.

Active Runway: The runway at an airport that is being used for landing, taxiing or takeoff operations.

Actual Runway Length: The length of a full-width usable runway from end to end of full strength pavement where those runways are paved.

Advisory Circular (AC): External publications issued by the FAA consisting of non-regulatory material providing for the recommendations relative to a policy, and guidance and information relative to a specific aviation subject.

Air Taxi: An aircraft operated under an air taxi operating certificate for the purpose of carrying passengers, mail, or cargo for revenue in accordance with FAR Part 121 and FAR Part 135.

Air Traffic Control: The control of aircraft traffic, in the vicinity of airports from control towers, and in the airways between airports from control centers.

Aircraft Approach Category (AAC): A grouping of aircraft based on 1.3 times their stall speed in their landing configuration at their maximum certificated landing weight. The categories are Category A through Category E and range from a speed of less than 91 knots to 166 knots or more.

Aircraft Classification Number (ACN): expresses the relative effect of an aircraft at a given configuration on a pavement structure for a specified standard subgrade strength.

Aircraft Mix: The type of aircraft which are to be accommodated at the airport.

Aircraft Operation: The landing, takeoff or touch-and-go procedure by an aircraft on a runway at an airport.

Aircraft Tiedowns: Positions on the ground surface that is available for securing aircraft.

Aircraft: A device that is used or intended to be used for flight in the air (FAR Part 1).

Airplane Design Group (ADG): A grouping of aircraft based on wingspan and/or tail height. When an airplane is in two categories, the most demanding category should be used.

Airport Beacon: A visual navigation aid displaying alternating white and green flashes to indicate a lighted airport or white flashes only for an unlighted airport.

Airport Capital Improvement Plan (ACIP): The planning program used by the Federal Aviation Administration to identify, prioritize and distribute funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.

Airport Elevation: The highest point of an airport's usable runways measured in feet above mean sea level (MSL).

12. Glossary

Airport Improvement Program (AIP): The Airport Improvement Program of the Airport and Airways Improvement Act of 1982 as amended by the Airport and Airway Safety and Capacity Expansion Act of 1987. Under this program, the FAA provides funding assistance for the planning, design and development of airports and airport facilities.

Airport Layout Plan (ALP): A scaled drawing (or set of drawings), in either traditional or electronic form, of current and future airport facilities that provides a graphic representation of the existing and long-term development plan for the airport and demonstrates the preservation and continuity of safety, utility, and efficiency of the airport to the satisfaction of the FAA.

Airport Master Plan: The planner's concept of the long-term development of an airport.

Airport Obstruction Chart: A scaled drawing depicting the 14 Code of Federal Regulations (CFR) Part 77 surfaces, a representation of objects that penetrate these surfaces, runway, taxiway, and ramp areas, navigational aids, buildings, roads and other detail in the vicinity of an airport.

Airport Operation Area (AOA): The area of the Airport bounded by a fence to which access is otherwise restricted and is primarily used or intended to be used for landing, takeoff, or surface maneuvering of aircraft and related activities.

Airport Reference Code (ARC): An airport designation that signifies the airport's highest Runway Design Code (RDC), minus the third (visibility) component of the RDC. The ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely on the airport.

Airport Reference Point (ARP): The latitude and longitude of the approximate center of the airport.

Airport Sponsor: The entity that is legally responsible for the management and operation of an airport including the fulfillment of the requirements of laws and regulations related thereto. Often an Airport Sponsor is a City or County.

Airport: An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

Annual Service Volume (ASV): The number of annual operations that can reasonably be expected to occur at the airport based on a given level of delay.

Approach Area: The defined area the dimensions of which are measured horizontally beyond the threshold over which the landing and takeoff operations are made.

Approach Lights: High intensity lights located along the approach path at the end of an instrument runway. Approach lights aid the pilot as he transitions from instrument flight conditions to visual conditions at the end of an instrument approach.

Approach Slope Ratio: The ratio of horizontal to vertical distance indicating the degree of inclination of the approach surface.

Approach Surface: A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.

Apron: A specified portion of the airfield used for passenger, cargo or freight loading and unloading, aircraft parking, and the refueling, maintenance and servicing of aircraft.

12. Glossary

Automatic Dependent Surveillance - Broadcast (ADS-B): A primary technology which shifts aircraft separation and air traffic control from ground-based radar to satellite-derived positions. It broadcasts an aircraft's WAAS-enhanced GPS position to the ground. It's also transmitted to aircraft with ADS-B receivers, either directly or relayed by ground stations, increasing the pilot's situational awareness.

Automated Surface Observing System (ASOS): Equipment that is designated to support weather forecast activities and aviation operatins and gathers nationwide weather data .

Automated Weather Observing System (AWOS): Equipment that automatically gathers weather data from various locations on an airport and transmits the information directly to pilots by means of computer generated voice messages over a discrete frequency.

Avigation Easement: A land use easement permitting the unlimited operation of aircraft in the airspace above the land area involved and restricting incompatible development of areas.

Avionics: Airborne navigation, communications, and data display equipment required for operation under specific air traffic control procedures.

Based Aircraft: The total number of active general aviation aircraft which use or may be expected to use an airport as a home base.

Beyond Visual Line of Sight (BVLOS): Flying an unmanned aerial system aircraft beyond the remote pilot in command's direct sight of the aircraft.

Building Area: An area on an airport to be used, considered, or intended to be used, for airport buildings or other airport facilities or rights-of-way, together with all airport buildings and facilities located thereon.

Building Restriction Line (BRL): A line which identifies suitable building area locations on airports.

Capital Improvement Plan (CIP): The planning program used by the Federal Aviation Administration to identify, prioritize and distribute Airport Improvement Program funds for airport development and the needs of the National Airspace System to meet specified national goals and objectives.

Categorical Exclusion (CATEX): At the first level, an undertaking 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.

Commercial Service: Commercial service airports are public use airports which receive scheduled passenger service aircraft, and which annually enplane 2,500 or more passengers.

Common Traffic Advisory Frequency (CTAF): A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an airport without an operating control tower. The CTAF may be a UNICOM, Multicom, FSS, or tower frequency and is identified in appropriate aeronautical publications.

Conical Surface: A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

Controlled Airspace: Airspace in which some or all aircraft may be subject to air traffic control to promote safe and expeditious flow of air traffic.

Critical (Design) Aircraft: The most demanding aircraft (or combination of aircraft) with at least 500 annual operations that operates, or is expected to operate, at the airport.

Crosswind Component: A wind component that is at a right angle to the longitudinal axis of the runway or the flight path of the aircraft.

Crosswind Runway: A runway additional to the primary runway to provide for wind coverage not adequately provided by the primary runway.

Crosswind: A wind that is not parallel to a runway centerline or to the intended flight path of an aircraft.

Decibel (dB): A unit of measurement used for defining a noise level or an exposure level.

Displaced Threshold: A threshold that is located at a point on the runway other than the physical beginning. Aircraft can begin departure roll before the threshold, but cannot land before it.

Distance Measuring Equipment (DME): Equipment used to measure, in nautical miles, the distance of an aircraft from the DME navigational aid located on the airport.

Environmental Assessment (EA): An environmental analysis performed pursuant to NEPA to determine whether an action would significantly affect the environment and thus require a more detailed environmental impact statement.

Environmental Impact Statement (EIS): A document required of federal agencies by NEPA for major projects or legislative proposals affecting the environment. It is a tool for decision-making describing the positive and negative effects of a proposed action and citing alternative actions.

Federal Aviation Administration (FAA): Created by the act that established the Department of Transportation. Assumed all of the responsibilities of the former Federal Aviation Agency including aircraft safety, movement, and controls.

Finding of No Significant Impact (FONSI): A public document prepared by a federal agency that presents the rationale why a proposed action will not have a significant effect on the environment and for which an environmental impact statement will not be prepared.

Fixed Base Operator (FBO): An individual or company located at an airport, and providing general aviation services such as fuel, maintenance, and storage.

Flight Plan: Specified information relating to the intended flight of an aircraft, which is filed orally or in writing with air traffic control. (FAR Part 1)

Fuel Flowage Fees: Fees levied by the airport operator per gallon of aviation gasoline and jet fuel sold.

General Aviation (GA): The segment of aviation that encompasses all aspects of civil aviation except certified air carriers and other commercial operators such as airfreight carriers.

General Aviation Airports: Those airports with fewer than 2,500 annual enplaned passengers and those used exclusively by private and business aircraft not providing common carrier passenger service.

Glide Slope (GS): Generally, a 3-degree angle of approach to a runway established by means of airborne instruments during instrument approaches, or visual ground aids for the visual portion of an instrument approach and landing.

Global Positioning System (GPS): A satellite based radio positioning, navigation, and time-transfer system.

Hangar: A building used to store aircraft, and/or conduct aircraft maintenance.

High Intensity Runway Lights (HIRL): These lights are used to outline the edges of runway during periods of darkness or restricted visibility conditions. HIRL system has variable intensity controls.

Horizontal Surface: An imaginary obstruction-limiting surface defined in FAR Part 77 that is specified as a portion of a horizontal plane surrounding a runway located 150 feet above the established airport elevation. The specific horizontal dimensions of this surface are a function of the types of approaches existing or planned for the runway.

Instrument Approach: An approach to an airport, with intent to land, by an aircraft flying in accordance with an IFR flight plan, when the visibility is less than 3 miles and/or when the ceiling is at or below the minimum initial altitude.

Instrument Flight Rules (IFR): Procedures for the conduct of flight in weather conditions below VFR weather minimums. The term IFR is often also used to define weather conditions and the type of flight plan under which an aircraft is operating.

IFR Conditions: Weather conditions below the minimum for flight under visual flight rules.

Instrument Landing System (ILS): A precision instrument approach system which provides in the aircraft, the lateral, longitudinal, and vertical guidance necessary for a landing.

Instrument Meteorological Conditions (IMC): Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorogical conditions.

Itinerant Operations: Operations by aircraft that leaves the local airspace.

Jet Noise: The noise generated externally to a jet engine in the turbulent jet exhaust.

Land Use Plan: Shows on-airport land uses as developed by the airport sponsor under the master plan effort and off-airport land uses as developed by surrounding communities.

Landing Gear: That part of an aircraft which is required for landing. Gear may be configured as Single Wheel Gear (SWG), Dual Wheel Gear (DWG), or Dual Tandem Wheel Gear (DTWG).

Landing Roll: The distance from the point of touchdown to the point where the aircraft can be brought to a stop, or exit the runway.

Large Aircraft: Aircraft of more than 12,500 pounds maximum certificated takeoff weight.

Local Operations: Aircraft operations performed by aircraft that are based at the airport and that operate in the local traffic pattern or within sight of the airport, that are known to be departing for or arriving from flights in local practice areas within a prescribed distance from the airport, or that execute simulated instrument approaches at the airport.

Localizer (LOC): A navigational aid that consists of a directional pattern of radio waves modulated by two signals which, when receding with equal intensity, are displayed by compatible airborne equipment as an "on-course" indication, and when received in unequal intensity are displayed as an "off-course" indication.

Low Intensiy Runway Lights (LIRL): These lights are used to outline the edges of runway during periods of darkness or restricted visibility conditions. LIRLs normally have one intensity setting.

Marking: On airports, a pattern of contrasting colors placed on the pavement, turf, or other usable surface by paint or other means to provide specific information to aircraft pilots and sometimes to operators of ground vehicles, on the movement areas.

Mean Seal Level (MSL): Altitude expressed as feet above sea level, rather than above local terrain.

Medium Descent Altitude (MDA): The lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circle-to-land maneuvering in execution of a standard instrument approach procedure where no electronic glide slope is provided.

Medium Intensity Runway Lights (MIRL): These lights are used to outline the edges of runway during periods of darkness or restricted visibility conditions. MIRL system has variable intensity controls.

12. Glossary

Minimums: Minimum altitude a pilot can descend to when conducting an instrument approach. Also refers to the minimum visibility a pilot must have to initiate an instrument approach.

Multi-Engine Aircraft: Aircraft having more than one engine.

National Environmental Policy Act (NEPA): Federal legislation that establishes environmental policy for the nation. It requires an interdisciplinary framework for federal agencies to evaluate environmental impacts and contains action-forcing procedures to ensure that federal agency decision makers take environmental factors into account.

National Plan of Integrated Airport Systems (NPIAS): A plan prepared by the FAA which identifies, for the Congress and the public, the composition of a national system of airports together with the airport development necessary to anticipate and meet the present and future needs of civil aeronautics, to meet requirements in support of the national defense, and to meet the special needs of the postal service. The plan includes both new facilities and qualitative improvements to existing airports to increase their capacity, safety, technological capability, etc.

Nautical Mile Per Hour (Knot): Most common measure of aircraft speed. One knot is equal to one nautical mile per hour (1.15 knots = 1 mile).

Nautical Mile (NM): Most common distance measurement in aviation, equivalent to the length of one minute of latitude along the earth's equator or 6076.115 feet.

Navigable Airspace: Airspace at and above the minimum flight altitudes prescribed in the FARs, including airspace needed for safe takeoff and landing. (14 CFR Part 1)

Navigational Aid (NAVAID): Any facility used as, available for use as, or designed for use as an aid to air navigation, including landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio direction-finding, or for radio or other electronic communication, and any other structure or mechanism having similar purpose and controlling flight in the air or the landing or takeoff of aircraft.

Noise Contour: A line connecting equal points of noise exposure. Usually color coded by decibels.

Non-Directional Beacon (NDB): Signal that can be read by pilots of aircraft with direction finding equipment. Used to determine bearing and can "home" in or track to or from the desired point.

Non-Precision Approach: Provides course guidance without vertical path guidance.

Non-Precision Instrument Approach Aid: An electronic aid designed to provide an approach path for aligning an aircraft on its final approach to a runway. It lacks the high accuracy of the precision approach equipment and does not provide descent guidance. The VHF Omni range (VOR) and the non-directional beacon (NDB) are two examples of non-precision instrument equipment.

Non-Precision Instrument Runway: A runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance for which straight-in non-precision instrument approach procedure has been approved.

Notice to Air Missions (NOTAM): A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure) of, or hazard in the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

12. Glossary

Object Free Area (OFA): An area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

Obstacle Free Zone (OFZ): The OFZ is required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function, in order to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches. The OFZ is divided into the Runway OFZ, the Inner-Approach OFZ, and the Inner-Transitional OFZ.

Obstruction: An object which penetrates an imaginary surface described in the 14 Code of Federal Regulations (CFR) Part 77.

Operation: The landing, takeoff or touch-and-go procedure by an aircraft on a runway at an airport.

Parallel Taxiways: Two taxiways which are parallel to one another which allow traffic to move simultaneously in different directions at busy airports.

Parking Apron: An apron intended for parked aircraft.

14 Code of Federal Regulations (CFR) Part 77: A federal regulation, titled "Safe, Efficient Use, and Preservation of the Navigable Airspace," that establishes standards for determining obstructions and their potential effects on aircraft operations. Objects are considered to be obstructions to air navigation if they exceed certain heights or penetrate certain imaginary surfaces established in relation to airport operations.

14 Code of Federal Regulations (CFR) Part 135: A federal regulation, titled "Operating Requirements: Commuter and on Demand Operations and Rules Governing Persons on Board Such Aircraft," that defines a set of rules with more stringent standards for commuter and on demand operations.

14 Code of Federal Regulations (CFR) Part 139: A federal regulation, titled "Certification of Airports," requires the FAA to issue airport operating certificates to airports that meet a specific set of requirements, including those that serve scheduled and unscheduled air carrier aircraft with more than 30 seats and those that serve scheduled air carrier operations in aircraft with more than 9 seats but less than 31 seats. Commonly associated with commercial service airports.

Pavement Structure: The combination of runway base and subbase courses and surface course which transmits the traffic load to the subgrade.

Pavement Sub-Grade: The upper part of the soil, natural or constructed, which supports the loads transmitted by the runway pavement structure.

Peak Hour: An estimate of the busiest hour in a day. Also known as the design hour.

Precision Approach Path Indicator (PAPI): A system of lights on an airport that provides visual guidance to the pilot of an aircraft approaching a runway.

Precision Approach: A standard instrument approach using a precision approach procedure. See precision approach procedure.

Precision Approach Procedure: A standard instrument approach procedure in which an electronic glide slope is provided, such as ILS and PAR.

Precision Instrument Runway: A runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS), or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system is planned and is so indicated by an FAA approved airport layout plan; a military service approved military airport layout plan; any other FAA planning document, or military service military airport planning document.

12. Glossary

Primary Surface: An imaginary obstruction limiting surface defined in 14 CFR Part 77 that is specified as a rectangular surface longitudinally centered about a runway. The specific dimensions of this surface are a function of the types of approaches existing or planned for the runway.

Public Airport: An airport for public use that is publicly owned and under control of a public agency.

Ramp: A defined area, on a land airport, intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance. Also known as an apron.

Rotating Lighted Beacon: An airport aid allowing pilots the ability to locate an airport while flying under VFR conditions at night.

Runway Bearing: The magnetic or true bearing of the runway centerline as measured from magnetic or true north.

Runway Configuration: Layout or design of a runway or runways, where operations on the particular runway or runways being used at a given time are mutually dependent. A large airport can have two or more runway configurations operating simultaneously.

Runway Designation: A whole number to the nearest tenth of the magnetic bearing of the runway and measured in degrees clockwise from magnetic north.

Runway End Identifier Light (REIL): An airport lighting facility in the terminal area navigation system consisting of one flashing white high intensity light installed at each approach end corner of a runway and directed toward the approach zone, which enables the pilot to identify the threshold of a usable runway.

Runway Environment: The runway threshold or approach lighting aids or other markings identifiable with the runway.

Runway Gradient (Effective): The average gradient consisting of the difference in elevation of the two ends of the runway divided by the runway length may be used provided that no intervening point on the runway profile lies more than 5 feet above or below a straight line joining the two ends of the runway. In excess of 5 feet, the runway profile will be segmented and aircraft data will be applied for each segment separately.

Runway Lights: Lights having a prescribed angle of emission used to define the lateral limits of a runway. Runway light intensity may be controllable or preset, and are uniformly spaced at intervals of approximately 200 feet.

Runway Markings: (1) Basic marking-markings on runways used for operations under visual flight rules, consisting of centerline marking and runway direction numbers, and if required, letters. (2) Instrument marking-markings on runways served by nonvisual navigation aids and intended for landings under instrument weather conditions, consisting of basic marking plus threshold marking. (3) All weather marking- markings on runways served by nonvisual precision approach aids and on runways having special operational requirements, consisting of instrument markings plus landing zone marking and side strips.

Runway Orientation: The magnetic bearing of the centerline of the runway.

Runway Protection Zone (RPZ): A trapezoidal area at ground level under the control of the airport for the purpose of protecting the safety of approaches and keeping the area clear of the congregation of people. The runway protection zone begins at the end of each primary surface and is centered upon the extended runway centerline.

Runway Safety Area (RSA): A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.

12. Glossary

Runway Strength: The assumed ability of a runway to support aircraft of a designated gross weight for each of single-wheel, dual-wheel, and dual-tandem-wheel gear types.

Runway: A defined rectangular area at an airport designated for the landing and taking-off of an aircraft.

Segmented Circle: A system of visual indicators designed to provide traffic pattern information at an airport.

Shoulder: As pertaining to airports, an area adjacent to the edge of a paved surface so prepared to provide a transition between the pavement and the adjacent surface for aircraft running off the pavement, for drainage and sometimes for blast protection.

Small Aircraft: Aircraft of 12,500 pounds or less maximum certificated takeoff weight.

Socioeconomic: Information dealing with population or economic characteristics of a region.

Stopway (SWY): A defined rectangular surface beyond the end of a runway prepared or suitable for use in lieu of runway to support an airplane, without causing structural damage to the airplane, during an aborted takeoff.

Straight-In Approach (IFR): An instrument approach wherein final approach is commenced without first having executed a procedure turn (not necessarily completed with a straight-in landing).

Straight-In Approach (VFR): Entry into the traffic pattern by interception of the extended runway centerline without executing any other portion of the traffic pattern.

Taxilane: The portion of the aircraft parking area used for access between taxiways and aircraft parking positions.

Taxiway: A defined path, usually paved, over which aircraft can taxi from one part of an airport to another without interfering with takeoffs or landings.

Taxiway Design Group (TDG): A classification of airplanes based on outer to outer Main Gear Width (MGW) and Cockpit to Main Gear distance (CMG).

Taxiway/Taxilane Safety Area (TSA): A defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway.

Terminal Area Forecast (TAF): The official forecast of aviation activity, both aircraft and enplanements, at FAA facilities. This includes FAA-towered airports, federally contracted towered airports, non-federal towered airports, and many non-towered airports.

Terminal Area: The area used or intended to be used for such facilities as terminal and cargo buildings, gates, hangars, shops and other service buildings; automobile parking, airport motels and restaurants, and garages and vehicle service facilities used in connection with the airport; and entrance and service roads used by the public within the boundaries of the airport.

T-Hangar: An aircraft hangar in which aircraft are parked alternately tail to tail, each in the T-shaped space left by the other row of aircraft or aircraft compartments.

Threshold Lights: Lighting arranged symmetrically about the extended centerline of the runway identifying the runway threshold. They emit a fixed green light.

Threshold: The designated beginning of the runway that is available and suitable for the landing of aircraft.

Total Operations: All arrivals and departures performed by military, general aviation, and air carrier aircraft.

Touch-and-Go: An operation by an aircraft that lands and departs on a runway without stopping.

12. Glossary

Touchdown Zone: The area of a runway near the approach end where airplanes normally land.

Touchdown: (1) The point at which an aircraft first makes contact with the landing surface. (2) In a precision radar approach, the point on the landing surface toward which the controller issues guidance instructions.

Traffic Flow Management System Counts (TFMSC): Provide information on traffic counts by airport or by city pair for various data grouping such as aircraft type or by hour of the day. It includes data for flights that fly under IFR and are captured by the FAA's enroute computers. Most VFR and some non-enroute IFR traffic is excluded.

Traffic Pattern: The traffic flow that is prescribed for aircraft landing at, taxiing on, and taking off from an airport (FAR Part 1). The usual components of a traffic pattern are upwind leg, crosswind leg, downwind leg, base leg, and final approach.

Transient Operations: Operations or other activity performed by aircraft not based at the airport.

Transitional Surface: These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

Transportation Security Administration (TSA): Regulates aviation security and operates airport screening checkpoints.

Turning Radius: The radius of the arc described by an aircraft in making a self-powered turn, usually given as a minimum.

UNICOM: Frequencies authorized for aeronautical advisory services to private aircraft. Only one such station is authorized at any landing area. The frequency 123.0 MHz is used at airports served by airport traffic control towers, and 122.8 MHz is used for other landing areas. Services available are advisory in nature, primarily concerning the airport services and airport utilization.

Utility Runway: A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds gross weight and less.

Very High Frequency (VHF) Omni directional range (VOR): A ground based electronic navigation aid transmitting navigation signals for 360 degrees orientated from magnetic north. VOR is the historic basis for navigation in the national airspace system.

VFR Airport: An airport without an authorized or planned instrument approach procedure.

Visual Approach Aid: Any device, light, or marker used to provide visual alignment and/or descent guidance on final approach to a runway. Also see REIL, VASI.

Visual Approach Slope Indicator (VASI): An airport lighting facility in the terminal area navigation system used primarily under VFR conditions that provides vertical visual guidance to pilots during approach and landing, by radiating a pattern of red and white focused light beams, which indicate to the pilot that they are above, on, or below the glide path.

Visual Approach: An approach wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of a radar facility and having an air traffic control authorization, may deviate from the prescribed instrument approach procedure and proceed to the airport of destination, served by an operational control tower, by visual reference to the surface.

12. Glossary

Visual Flight Rules (VFR): Procedures for the conduct of flight in weather conditions above Visual Flight Rules (VFR) weather minimums. The term VFR is often also used to define weather conditions and the type of flight plan under which an aircraft is operating.

Visual Runway: A runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan, a military service approved military airport layout plan, or by a planning document submitted to the FAA by competent authority (FAR Part 77).

VORTAC: Very High Frequency Omni Range Facility (VOR co-located with a Tactical Air Navigation (TACAN) facility.)

VOR/DME: Refers to associated VOR and DME systems. VOR and DME are the international Civil Aviation Organization (ICAO) standard for navigation.

Wind Cone or Wind Sock: A free-rotating fabric truncated cone which when subjected to air movement indicates wind direction and wind force.

Wind Rose: A diagram for a given location showing relative frequency and velocity of wind from all compass directions.

Visual Meteorological Conditions (VMC): Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima.

Wind Tee: A visual device in the shape of a “T” used to determine wind direction.

12. Glossary

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EST. 1947

HEBER VALLEY AIRPORT

FLIGHTPATH

PLANNING A SHARED COURSE FOR OUR FUTURE

Airport Master Plan Objectives

1. **Document airport issues** and outline proposed development that will address those issues.
2. **Justify proposed development** through technical, economic, and environmental investigation of concepts and alternatives.
3. **Provide graphic representation** of the development of the airport and anticipated land uses in the vicinity through the required Airport Layout Plan (ALP) drawing set.

Airport Master Plan Objectives

4. **Establish realistic schedule** for the implementation of the development proposed, particularly the short-term capital improvement program.
5. **Propose achievable financial plan** to support the implementation schedule.
6. **Provide sufficient project definition** and detail for subsequent environmental evaluations that may be required before the projects are approved.

Airport Master Plan Objectives

7 **Satisfy local, state, and federal regulations** with a plan that adequately addresses all.

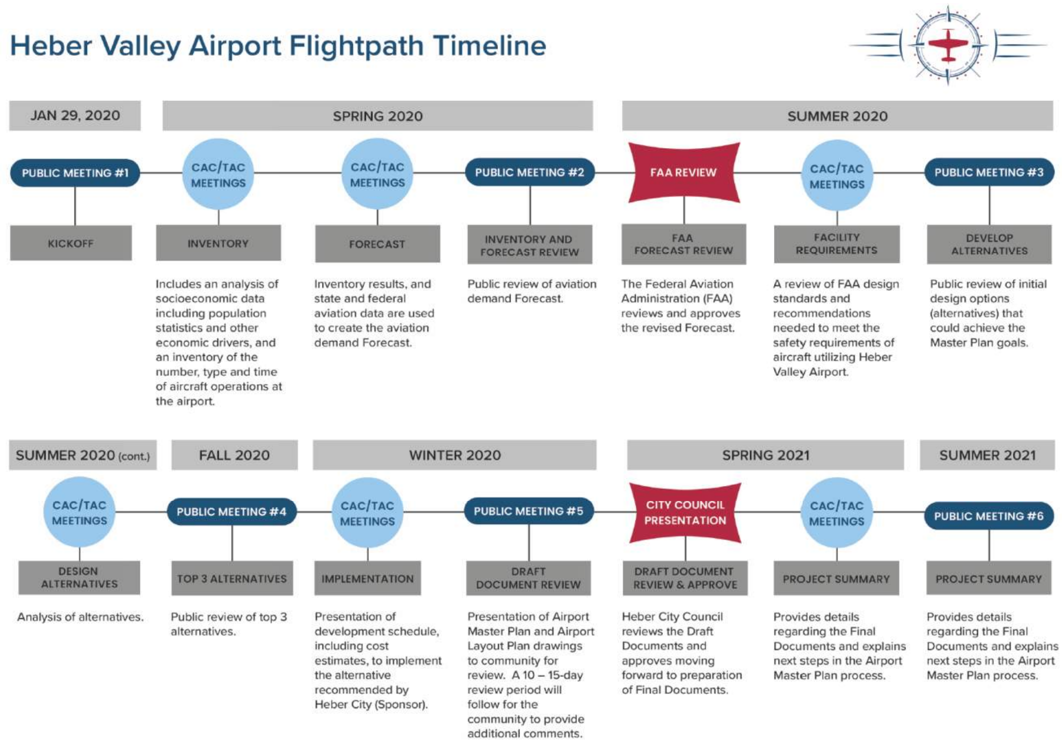
8 **Document policies and future demand** to support local deliberations on spending, debt, land use controls, and other policies necessary to preserve the integrity of the airport and its surroundings.

9 **Set the stage for future planning process** by helping establish framework to monitor key conditions and permit changes in the plan recommendations as required.

How Many Steps and Where are We?

Airport Master Plan has 10 steps:

1. **Pre-Planning** – Development of scope, negotiation of contract, application for funding.
2. **Public Involvement** – Establish public involvement program, document key issues of various stakeholders.
3. **Environmental Considerations** – Document clear understanding of environmental requirements needed to move forward with each identified project.
4. **Existing Conditions** – Inventory of pertinent data for use in subsequent plan.
5. **Aviation Forecast** – Forecasts of aeronautical demand for short, medium, and long-term time frames (5,10, 20 years).
6. **Facility Requirements** – Assess ability of existing airport to support the forecasted demand.
7. **Alternatives Development & Evaluation** – Identify options to meet projected facility requirements. Determine a recommended development alternative.
8. **Airport Layout Plans** – Produce set of drawings that provides a graphic representation of long-term development plan.
9. **Facilities Implementation Plan** – Provide summary description of recommended improvements and associated costs.
10. **Financial Feasibility Analysis** – Create financial plan for the airport, describe how the Sponsor will finance recommended projects.



How Will I Be Informed and How Can I Be Heard?

An effective public involvement program should provide these stakeholders with an early opportunity to comment, before major decisions are made; provide adequate notice of opportunities for their involvement; and should provide regular forums throughout the study. - AC 150/5070-6B ch.4 excerpt

To Learn:

- ***Public Meetings***
- ***Committee Meetings***
- ***Project Website***
- ***Social Media***

To Be Heard:

- ***Public Comment Forms***
- ***Website Comment Submissions***
- ***Social Media Comments***

Questions?

We want to hear from you!

info@hebervalleyflightpath.com

www.hebervalleyflightpath.com

Airport System

- National Plan of Integrated Airport Systems (NPIAS)
- 3,300+ airports
- Integrated system
  - Efficiency
  - Standardization
- Two major airport types:
  - Commercial Service
  - Nonprimary (General Aviation)

Commercial Service

- Five categories, based on number of passengers
  - Large Hub
  - Medium Hub
  - Small Hub
  - Nonhub
  - Nonprimary

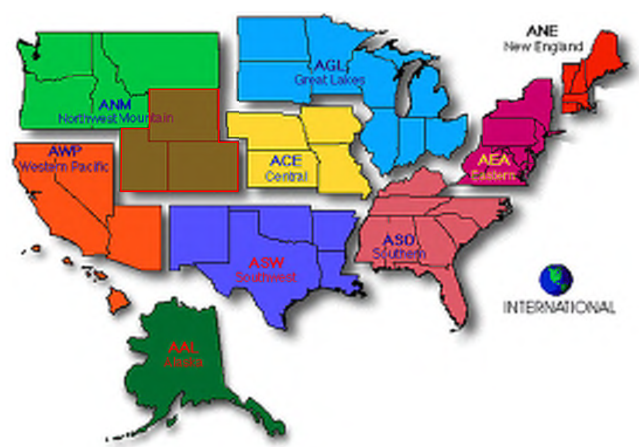
Nonprimary Airports

- General Aviation or "GA"
- No scheduled passenger service
- Vary greatly in size
- Heber City

Federal Aviation Administration (FAA)

"The mission of the FAA is to provide the safest, most efficient aerospace system in the world."

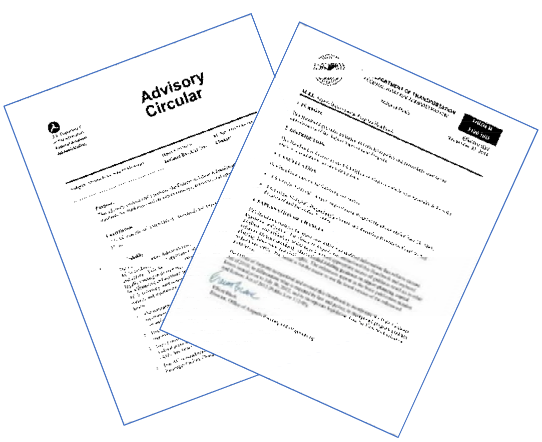
- Several "lines of business"
  - Air Traffic
  - Aviation Safety
  - Airports
  - Etc.
- Airports
  - NPIAS
  - Airport Improvement Program



Airport Improvement Program

- Grant Program
  - Planning
  - Design
  - Construction
- Funded primarily by aviation fuel taxes and other user fees
- 90% federal participation
- Available to "sponsors" of NPIAS airports

Airport Improvement Program



There are strings attached.

Rules
- AIP Handbook
  - Eligibility
- Advisory Circulars
  - Advisory vs. Mandatory
  - Mandatory:
    - Commercial service airports
    - If using AIP funds
  - AC 150/5070-6B, *Airport Master Plans*

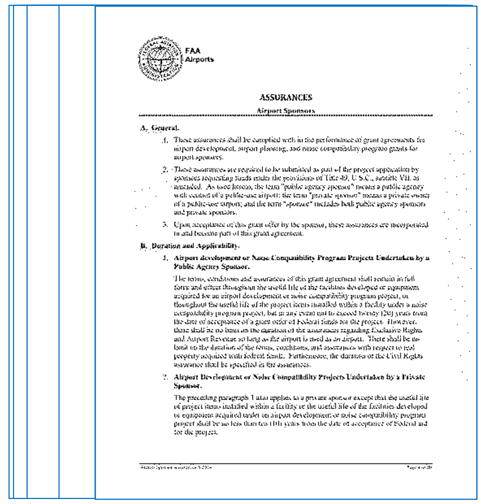
Airport Improvement Program

There are strings attached.

Grant Assurances

- 20 pages
- 39 total assurances

- By taking a grant, the sponsor agrees to operate the airport as a public use facility


FAA Airports

ASSURANCES

Airport Sponsors

A. General.

B. Duration and Applicability.

Grant Assurance 29

29. **Airport Layout Plan.**

a. It will keep up to date at all times an airport layout plan of the airport showing

1) boundaries of the airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the sponsor for airport purposes and proposed additions thereto;

2) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars and

Airport Sponsor Assurances 3/2014 Page **14** of **20**

- The ALP must be current
- A Master Plan develops a current ALP
- Recommended every 10 years, or when significant changes in operations take place

FAA's Role In Your Master Plan

1. Provide funding through an AIP grant
2. Provide guidance (Advisory Circulars)
3. Approve Forecast and accept ALP only

Summary

Heber City is part of the national airport system.

AIP exists to support airports in the NPIAS, like yours.

This support comes with strings.

The FAA is involved in the Master Plan, but they only approve certain elements.

This is the City's plan.

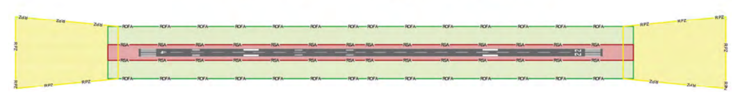
HEBER VALLEY AIRPORT
FLIGHTPATH
PLANNING A SHARED COURSE FOR OUR FUTURE

OPERATIONAL STANDARDS

The FAA categorizes aircraft by their wingspan and approach speed. Each category of aircraft requires different safety standards to protect the pilot, passengers, and people on the ground.

Aircraft Approach Category (AAC) - Approach Speed	Airplane Design Group (ADG) - Wingspan: I, <49'	II, 49'-<79'	III, 79'-<118'	IV, 118'-<171'
A, <91 kts	A-I Cessna 172, Bonanza A-36, Vans RV-6A	A-II Pilatus PC-12, Cessna 208, Aero Commander 500	A-III Dash 8, Fairchild F-27, Douglas DC-3	
B, 91 - <121 kts	B-I Piper Navajo, Cessna 421, Beech Baron 58	B-II EMB Brasilia, King Air 350, Air Tractor 802-A	B-III Boeing B-17, Douglas DC-4	
C, 121 - <141 kts	C-I Lear Jet 35 & 45, Israel Westwind	C-II Gulfstream III, Challenger 600, Citation X	C-III Gulfstream 550, Global 6000, MD-81	C-IV Boeing 757 & 767, Boeing KC-135
D, 141 - <166 kts		D-II Gulfstream IV	D-III Boeing 737-800, Douglas CD-9	D-IV Boeing 767, Douglas DC-10

Heber Valley Runway Safety Areas



Runway Safety Areas

- RSA
- ROFA
- RPZ
- RUNWAY

Heber Valley Runway Safety Dimensions	Runway 4/22	
Runway Design Code (RDC)	B-II-5000	C-II-5000
Visibility Minimums	NO < 1 Mile	NO < 1 Mile
Runway Safety Area (RSA) Width	150'	500'
Runway Safety Area Length Off Ends	300'	1000'
Runway Protection Zone (RPZ) Dimensions (Length/In/Out)	1000'/500'/700'	1700'/500'/1010'
Runway Object Free Area (ROFA) Width	500'	800'
Runway Object Free Area Length Beyond Runway End	300'	1000'


FLIGHTPATH

Appendix A. Public Involvement

Questions asked during Public Meeting #1 at the Methodology Station

Who is on the project team?
Is expansion part of the plan?
Is there talk of a passenger service?
Are private jets considered commercial?
When is the next public meeting? Will we be notified? How?
Will the runway be extended?
Who are we (T-O Engineers)?
How do we (T-O Engineers) fit in?
What are the issues with the current airport?
Who is currently using the airport?
Is the majority of use from people going to Park City?
How do we find out who is on the committees (CAC and TAC)?
How were the committees selected?
Who is representing the "regular" people of the valley? (People who don't use the airport)
Does the website reference why each person was selected for the committee?
If we allow larger jets, will they all use the same flightpath (taking off to the east)?

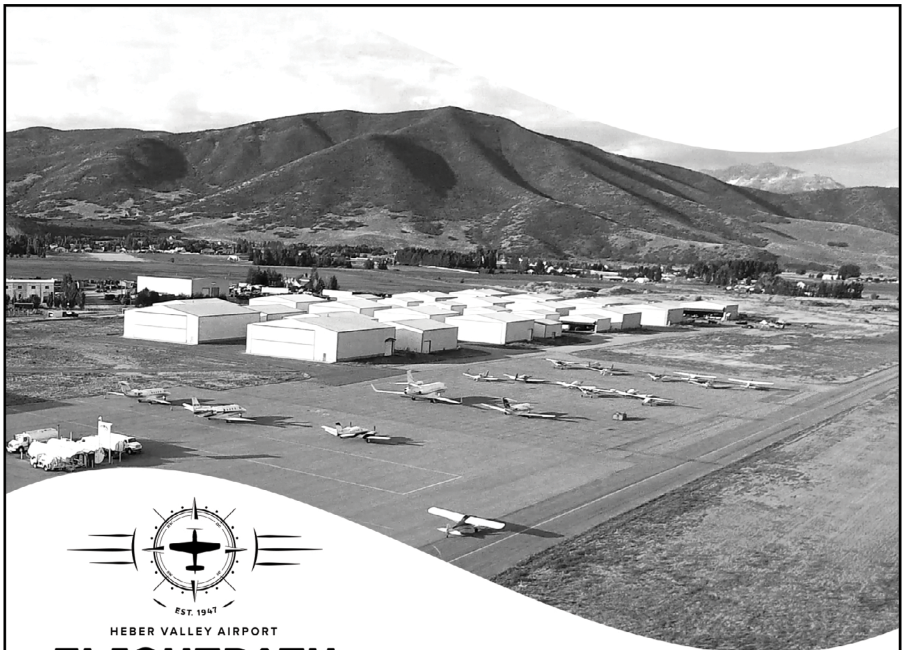
Concerns voiced during Public Meeting #1 at the Methodology Station

The smaller airports are not subject to search, concerns are about drug and sex trafficking.
Since we are surrounded by mountains, expanding the runway seems to be a huge safety concern.
The people that were selected for the committees have a personal stake in the airport, they are only watching out for themselves.
The selected committee members will have a large influence over the city council members.
We (the citizens of the valley) are paying for bad decisions that were made 20 years ago.
Major concern of noise and air pollution.
There is a lot of resentment against the people bringing these large planes in.
It's not Heber residents that are using the airport.
Because we live in a valley, the mountains trap the noise. Larger planes mean more noise.
Love the small aircraft, keep those. Make the large jets go away.
Concerned about the planes taking off to the east; planes are taking off over the high school, care centers for the elderly, condo buildings.

What can we do to move the airport? What would it take?
Surrounding cities: how will they be impacted?
Why do we need to be concerned about what other airports are doing in the surrounding area?
Is the proximity of schools to the flight path of jet traffic being considered in the Master Plan?
Is the Transfer Station location in the RPZ being considered in the Master Plan?
Is there any way to keep HCR small without shutting it down?
If my house needs to move will I get compensation?
How safe is the airport? Have there been many accidents?
What safety considerations will be made for surrounding area?

If we're upgrading safety, does that mean we're currently unsafe?
Are there any protection measures in place to prevent contraband from entering from the airport?
What kind of noise considerations will be made?
Will the louder traffic increase after the Master Plan is complete?
Can we instate a noise curfew/limits?
What is the environmental impact of increased air traffic?
What is the air pollution from small craft compared to larger jets?
How much fuel is burned from large craft?
A lot of the aviation demand is outside the sponsor. Should we consider input from more than Heber City?
Does anyone else contribute to operating the airport?
Was there a previous vote about expanding the airport?
Concerns voiced about council members supporting "expansion" against campaign promises.
Why has the mayor said this is a County issue and now the City is pushing it?
Why not put it to a vote for all in the Heber Valley to have a say?
Can the city even exercise eminent domain outside city limits? If we don't want eminent domain, can the FAA make us?
Does HCR or the FAA get the final say on if the airfield needs expanded?
When can Heber City take complete control of the airport back from the Government?
Are we considered the "most complained about airport" and will the Master Plan address this?
Is HCR catering to outside traffic over local users?
Is the City going to lobby UDOT to move 189?
Why do we even need an airport? Explain its value.
How many jobs does the airport provide?
What is the economic impact of the airport on the region—direct and indirect?
What kinds of strings are attached with FAA money? What strings have already been attached?
What does it mean if we don't expand (re: costs)?
Is the government going to pay for the cost of hangars that could be displaced?
How does the FBO fit in to the airport's revenue?
Can the airport be privatized?
What is the process for the City to get reimbursed? How do they get paid from the FAA and State?
Where does the FAA get the money from for their match?
Where does Heber get the money for their 5% match?
Where do you pay for your landing fees? How are those collected?
How much does it cost taxpayers to operate the airport?
Why does Heber spend so much money on lawyers?
Is commercial service coming to the airport?
Are private jets considered commercial?
How common are NetJets at the Heber Airport?
Cargo aircraft: what does that look like at HCR? Will it benefit the community more than trucking?
What does expansion mean in terms of this project? Does it mean increasing traffic? Acquiring more land?
Are they putting in a control tower?
If larger planes use the airfield for emergency situations at the same time as smaller craft, who dictates the air traffic considering the difference in approach speeds?
Is the data for operations made available?

What are the current dimensions of HCR's runway?
Who sets regulations for the size, speed, and noise of air traffic operations in and out of HCR?
What do BII and CII mean? What is HCR rated as now?
Are aircraft at or above C2 landing at HCR currently?
Which classification of aircraft is the loudest?
Why does small traffic normally depart from one end of the RW and the jets from the other?
Who dictates the approach and departure patterns?
If we allow larger jets, will they all use the same flightpath (taking off to the east)?
Is a Master Plan required?
Will the Master Plan facilitate growth? Is expansion part of the plan?
Do you have copies of other Master Plans that you could provide?
Why was the 2003 Master Plan study not acted on at the time?
Does the AMP look at future business development?
When is the final decision going to be made?
What comes after the Master Plan?
What are the issues with the current airport?
Who is currently using the airport?
What does the forecast process look like?
Can the numbers be manipulated to show growth that might not take place? Could that facilitate more traffic from larger craft that would not otherwise be able to land at HCR?
How much can the forecast change?
Will evaluating minimums be part of the AMP?
If "larger jets" are already coming in, where does the expansion to accommodate them end?
Are there any alternative approaches that we're not using now?
Is one of the alternatives to "just say no" to expansion after the study is complete?
If the airport goes to a C-II, at what point does the airport shut down and the runway is torn up?
Who is on the project team? What are their roles?
How do we find out who is on the committees (CAC and TAC)?
How were the committees selected?
When is the next public meeting? Will we be notified? How?



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PLANNING A SHARED COURSE FOR OUR FUTURE

AIRPORT MASTER PLAN PUBLIC MEETING

SAVE THE DATE

Thursday, April 1, 6:00 p.m.

Hosted by Heber Valley Airport

The Heber Valley Airport and the City of Heber invite the community to attend a Virtual Open House for the Airport Master Plan update. Learn what has been accomplished during the update process, what remains to be done, and how you can help shape the future of our airport.

This virtual meeting will also have a Q&A component with subject-matter experts. Please submit your questions ahead of the meeting, to info@hebervalleyflightpath.com.

We hope you'll join us!

HeberValleyFlightpath.com

facebook.com/HeberValleyAirport

instagram.com/goflyhebervalley

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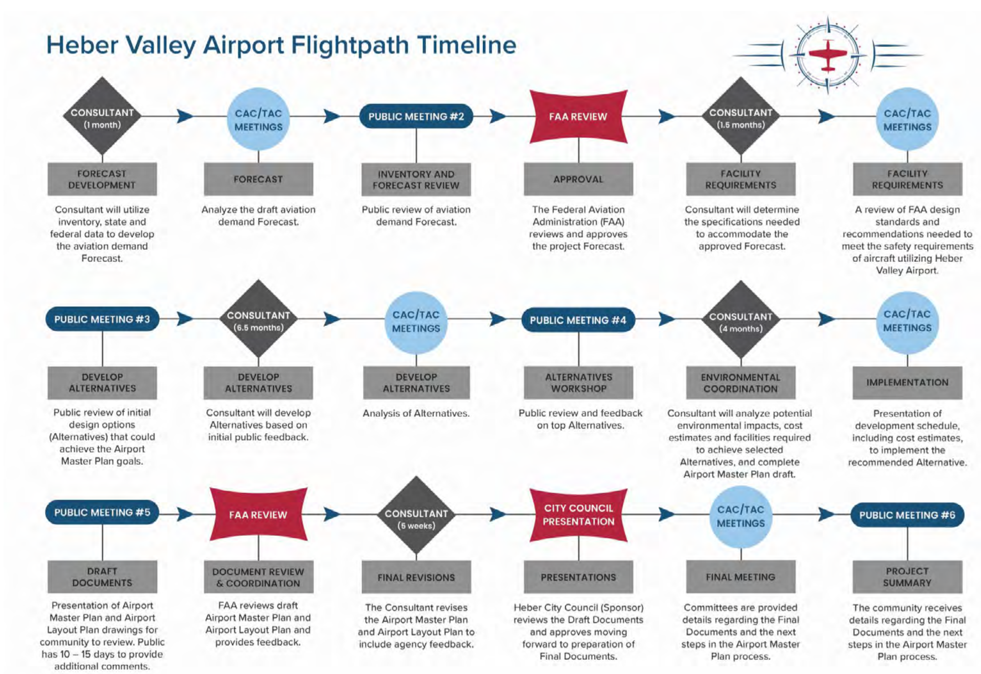


Facility Requirements

What we have and what we need. The purpose of this step is to assess the ability of the existing facility to meet current and future demand.

Determining the right size. HCR is unique and identifying its specific needs will require a thorough evaluation and input from many stakeholders.

Important Factors

1 **Broad Focus:** Facility requirements should not be so narrowly defined that they point to a single solution.

2 **Strategic Vision:** This is the time for the Sponsor to solidify the strategic direction you want to take at the airport and what the needs are to accomplish that. Needs typically include a strategic business plan, mission statement, or similar efforts that define what needs to be addressed at the airport.

3 **Modifications or Deviations:** The requirements for new or expanded facilities reflect the unique circumstances of this airport. If there are existing or proposed modifications to standards, those need to be reviewed with the reasoning that led to adjustments.

Facility Requirement Specifics

Runway & Taxiway Requirements: dimensional criteria, orientation, width, pavement design strength, length, intersections, operational efficiency, capacity analysis

General Aviation Requirements: aircraft storage facilities, transient parking aprons, terminal facilities

Support Facilities: aircraft rescue and firefighting (ARFF), airport maintenance, aircraft maintenance, fuel storage, deicing

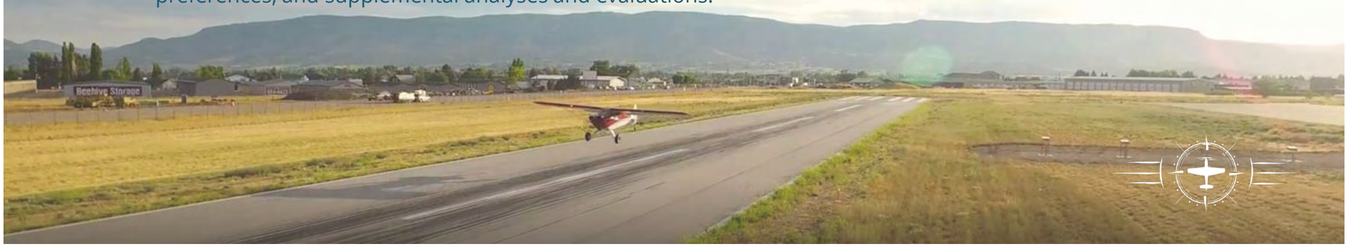
Other Considerations: infrastructure needs, revenue generating needs

Alternatives Development

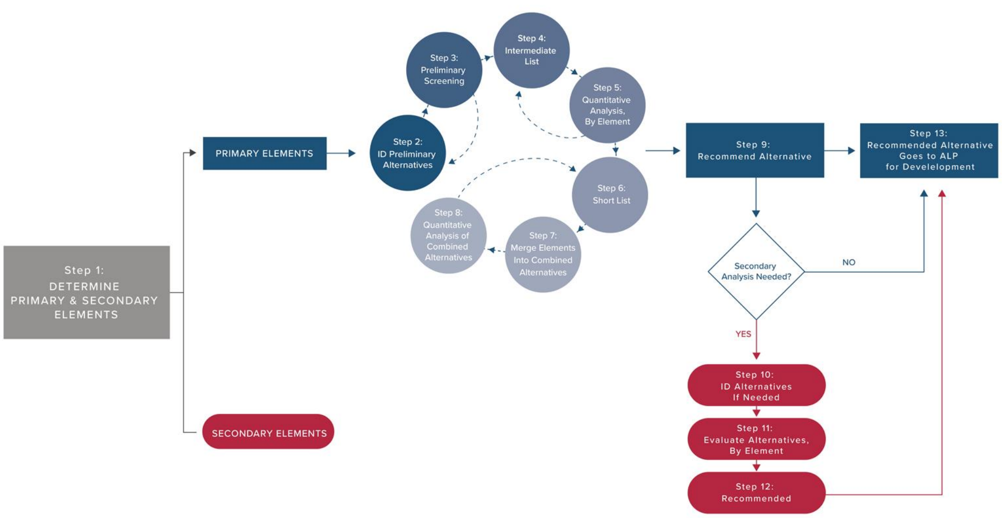
Alternatives Identification and Addressing Facility Requirements: Identification of different ways to address previously identified facility requirements.

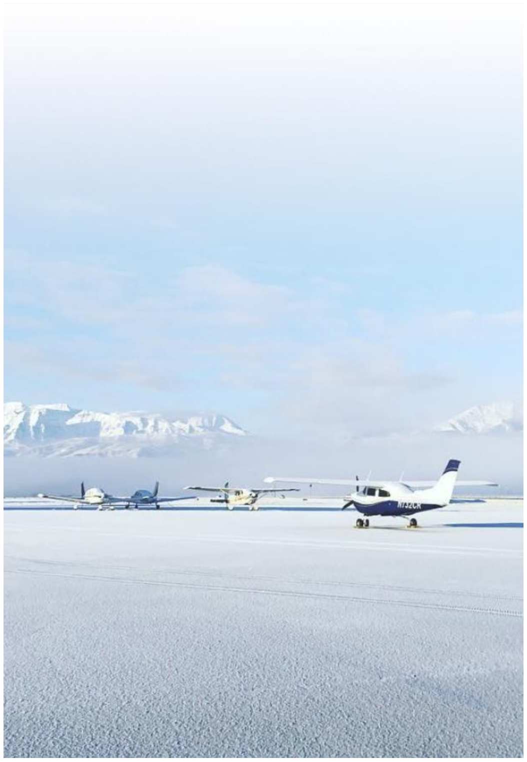
Evaluation of Alternatives: Planners gain a thorough understanding of the strengths, weaknesses, and other implications of each alternative both individually and collectively.

Recommended Alternative: Usually based on a combinations of efforts, including summation of alternative evaluation criteria, stakeholder input through public involvement process, sponsor preferences, and supplemental analyses and evaluations.



ALTERNATIVES ANALYSIS PROCESS





Evaluation of Alternatives

Operational Performance:

1. Capacity – runway, taxiway capacities to accommodate current and future use
2. Capability – test for capability to meet functional objectives such as design aircraft, adequate parking, adequate space for maneuvering
3. Efficiency – test how well alternatives work as a system by combining various elements

Best-Planning Tenets and Other Factors:

1. Conformance to best practices for safety and security
2. Conformance to applicable FAA design standards and other planning guidelines
3. Provides highest & best use for on and off airport land use
4. Conforms to Airport Sponsor's strategic vision
5. Conforms to local, regional, and state transportation plans and other applicable plans
6. Technically feasible
7. Provides flexibility to adjust to unforeseen changes
8. Socially and politically feasible
9. Satisfies user needs

Environmental and Fiscal Factors:

1. Evaluation of noise, wetlands, social impacts
2. Cost estimation for financial feasibility
    a. e.g., comparing a green-field site to the redevelopment of an existing site

Selecting a Recommended Alternative

Selection: The selection of an airport sponsor's recommended alternative will usually be based on a combination of efforts, including summation of the alternative evaluation criteria, supplemental analyses and evaluations, stakeholder input through the public involvement process, and Sponsor preferences. Because this effort relies heavily on the analysis of the planning team, care must be taken to ensure the process is clear and understood by the airport Sponsor and its community.

Consideration: The planner should ensure that the process used to select a recommended alternative is comprehensive, logical, well documented, and has meaningful public participation. Our commitment is to continue to be transparent, inclusive, and informative.

Questions?

We want to hear from you!

info@hebervalleyflightpath.com

www.hebervalleyflightpath.com

Critical Aircraft – Challenger 350

Runways and Taxiways


Safety and Land Control


General Aviation Facilities

Support Facilities

Other Considerations

Facility Requirements Summary

- Critical aircraft and forecast require some changes to meet standards
- Alternatives are limited based on constraints
- Full facility requirements will not be met

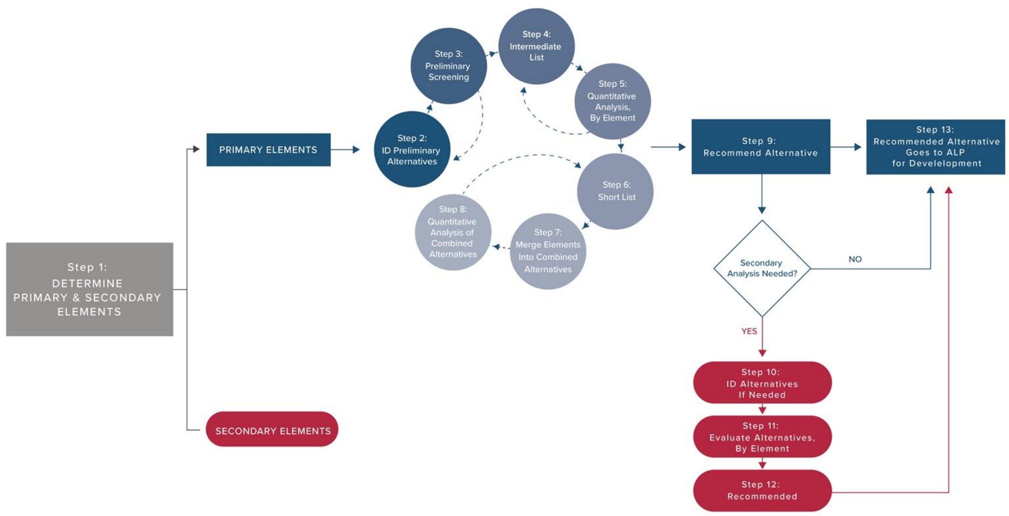
Critical Considerations

1. **The Airport must meet all C-II safety standards to be considered compliant and continue to be eligible for federal funding.**
C-II safety standards does not increase the airport's capacity. Compliance increases the ability to safely accommodate current and forecasted traffic.

2. **Strong community sentiment to limit geographic size and capacity of airport has been central to preliminary alternatives analyses.**
Options being considered limit all future land acquisitions to a minimum and oppose any runway lengthening. Further preference to move the flightpath away from downtown and the high school have been given strong consideration.

3. **Airport alternatives must be viable with future bypass considerations even though they are not determined at this time.**
Airport boundaries along existing US-189 right-of-way are assumed to stay the same.

ALTERNATIVES ANALYSIS PROCESS

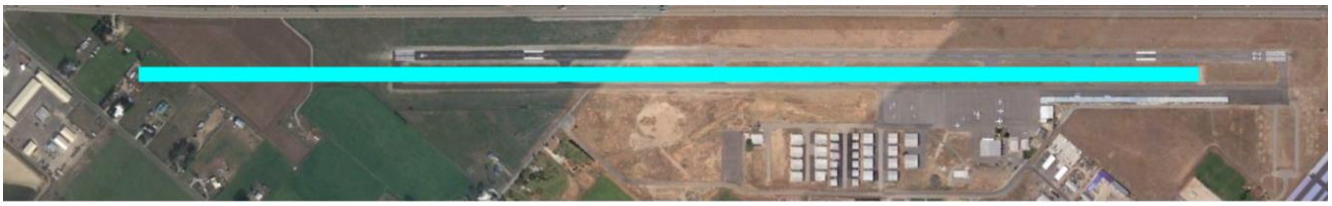


Alternatives – Preliminary Alternatives

1) Runway shift to Northwest

Alternatives – Preliminary Alternatives

2) Recommended Runway Length (Aircraft performance based)

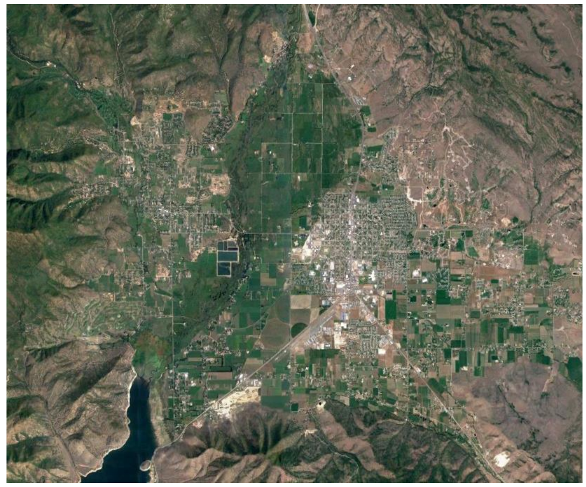


Alternatives – Preliminary Alternatives

3) Reduced Runway Length

Alternatives – Preliminary Alternatives

4) Airport Site Relocation



Alternative – Existing Layout with C-II standards implemented

Alternative – Runway Shift to Southwest

Next Steps

- Council will consider all stakeholder input and select a recommended alternative
- Recommended alternative will be incorporated into a draft Airport Layout Plan (ALP)
- Environmental impacts (noise, light, etc.) of recommended alternative will be evaluated
- Financial feasibility including potential phasing for implementation will be drafted
- Master Plan including ALP will be presented in draft to Council for approval
- Once approved by Council, draft Master Plan will be submitted to the FAA for acceptance
- After approval by Council and acceptance by FAA, Master Plan will be finalized

Questions/Comments

- Exhibit items located around room
  - Facility Requirements / Critical Aircraft
  - Preliminary Alternatives
  - Existing Layout with C-II standards implemented
  - Runway Shift to Southwest
- Community and technical experts available to answer questions at each exhibit
- Public feedback information available at back of room

Facility Requirements: Standards

Changes need to meet federal design standards

Design Criteria	Existing	C-II Standard
Longitudinal Runway Gradient	Full runway gradient = 0.77% First quarter RWY 4 = 0.89% First quarter RWY 22 = 0.72%	Full runway gradient = 1.5% First quarter RWY 4 = 0.8% First quarter RWY 22 = 0.8%
Runway Width	75 feet	100 feet
Pavement Strength	89,000 lbs. (SWG) 142,500 lbs. (DWG)	<= 89,000 Lbs. (SWG) <= 142,500 Lbs. (DWG)
Runway Safety Area (RSA) length beyond runway end	300 feet	1,000 feet
Runway Safety Area (RSA) width	150 feet	500 feet
Runway Object Free Area (ROFA) length beyond runway end	300 feet	1,000 feet
Runway Object Free Area (ROFA) width	500 feet	800 feet
Runway 4/22 Approach Runway Protection Zone (RPZ) length	1,000 feet	1,700 feet
Runway 4/22 Approach RPZ outer width	700 feet	1,010 feet
Runway centerline to parallel taxiway/taxilane centerline	240 feet	300 feet
Runway Centerline to GA aircraft	250 feet	Out of all OFAs

Critical Design Aircraft

Aircraft Approach Category (AAC)	
Category	**Speed**
A	Less than 91 Knots
B	91 Knots or More, Less than 121 Knots
C	**121 Knots or More, Less than 141 Knots**
D	141 Knots or More, Less than 166 Knots
E	166 Knots or More

Airplane Design Group (ADG)		
Group	**Tail Height (Feet)**	**Wingspan (Feet)**
I	<20	<49
II	**20 - <30**	**49 - <79**
III	30 - <45	79 - <118
IV	45 - <60	118 - <171
V	60 - <66	171 - <214
VI	66 - <80	214 - <262

Specification	Bombardier Challenger 350 (CL35)
Wingspan	69 Feet
Tail Height	20 Feet
Approach Speed	125 Knots
Maximum Takeoff Weight	40,600 Pounds
Aircraft Approach Category (AAC)	C
Airplane Design Group (ADG)	II

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PLANNING A SHARED COURSE FOR OUR FUTURE

What We Have Accomplished

1. **Community involvement:** additional meetings held to gather community input on goals associated with airport layout. Presentation to County-wide Interlocal leaders.
2. **Preferred alternative:** City Council approved to proceed forward with runway/taxiway layout developed through Alternatives analysis process.
3. **Airport tenant groups:** Met with current airport user representatives from tenant groups for feedback prior to the process of drafting an Airport Layout Plan began.
4. **Draft Airport Layout Plan created:** the drafted plan incorporates user/tenant/Sponsor input identified through community/tenant involvement.

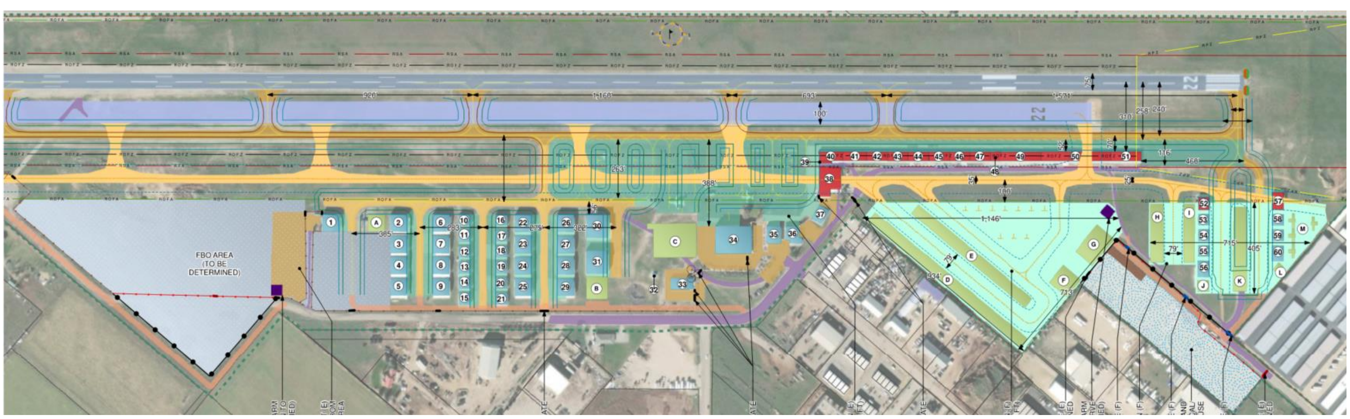
Critical Considerations

1. **The ALP must provide for compliance with Federal regulations.**
   Airport development is restricted to those locations where possible on airport property outside of specific runway and taxiway safety areas.
2. **Limit all development to existing airport boundary.**
   Only land necessary for open space, safety buffers considered for acquisition through fee simple or easements.
3. **Prioritize the needs of existing airport users in development considerations.**
   Identify and meet with existing users. Plan must accommodate users ahead of future development considerations.

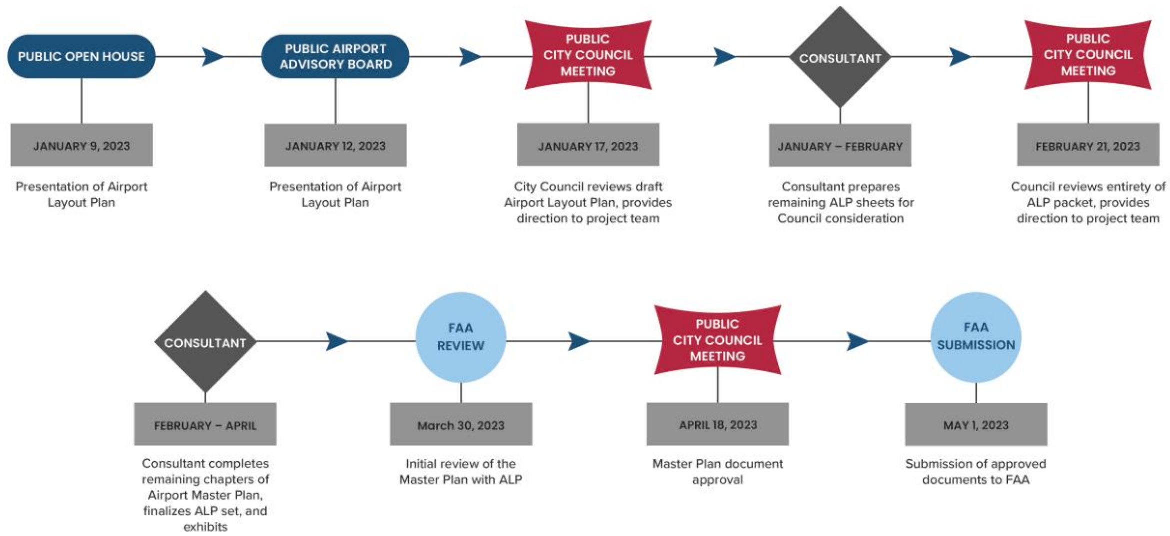
Existing Stakeholder Input

- Some stakeholder groups impacted:
  - Hangar Row tenants
  - FBO
  - Hot Air Balloons
  - Glider Operations
- Needs identified include:
  - Additional open ramp space
  - Self-serve fuel
  - Space for limited-service FBO
  - Separation of light GA from business class jet traffic services and parking
- Identify areas for:
  - future CAF Museum
  - Seasonal Aerial Firefighting operations
  - Aircraft Tie Downs
  - Additional Hangar Development

Airport Layout Plan – Terminal Area



Project Timeline and Next Steps



Project Resources

1 **The Website:** The Flightpath website (hebervalleyflightpath.com) shares all historical documents, Frequently Asked Questions/Answers, FAA guidelines, and draft documents. Read for yourself.

2 **The Blog:** The Flightpath team regularly shares news articles, program updates, and airport events. Get information delivered to your inbox.

3 **Public Input Opportunities:** Master Plan timeline includes four more opportunities for public input/discourse. Stay involved.

Tonight

- Exhibit items
    - Full ALP layout
    - Terminal Area showing airport development concepts
- Community and technical experts available to answer questions at the exhibits
- Comment form, questionnaire, and packet available at back of room

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Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important   b. Slightly important   c. Not important

2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   Auto Gas Pumps, Instruction, Maintenance

3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important   b. Slightly important   c. Not important

4. What are your thoughts on the proposed hangar layout?
   I think it will work - Would Rather See the jets parked where you are Planning for Light Duty A/C. Move new Hangers to the South + MAKE that the GA Small plane Area

5. What are your thoughts on the number of T hangars versus box hangars?
   Less T hangers, More Box Hangers

6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes   b. No   Move em S. of CAF

7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important   b. Slightly important   c. Not important

8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important   b. Slightly important   c. Not important

9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important   b. Slightly important   c. Not important

10. Are there any additional aeronautical uses that you would like to see added to this plan?
    A GRASS Airstrip AREA AVAILABLE for Pilots to Practice Soft field operations

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PLANNING A SHARED COURSE FOR OUR FUTURE

Non-Aeronautical

11. How important is it to you that the airport has a restaurant open to the public? Circle one.
    a. Very important b. Slightly important c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important b. Slightly important c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important b. Slightly important c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important b. Slightly important c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes b. No

Thank you for providing your feedback during the Airport Master Plan update process. Comments may be submitted anonymously, but if you would like a response from the project team, please provide your contact information.

Name ____________________ Phone Number ____________________

Email Address ____________________ :ontact me via (circle) Email Phone

☒ Check here to be added to the Flightpath update list

You may also mail this form to Heber Valley Airport, attn: Travis Biggs, 630 Airport Rd, Heber City, UT 84032, or email it to info@hebervalleyflightpath.com. Thank you for your participation!

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Aeronautical

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   a. Very important b. Slightly important c. Not important

2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   I DO NOT KNOW ENOUGH TO COMMENT.

3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important b. Slightly important c. Not important

4. What are your thoughts on the proposed hangar layout?
   APPEARS ADEQUATE. I AM NOT A PILOT OR USER OF THE AIRPORT CURRENTLY.

5. What are your thoughts on the number of T hangars versus box hangars?

6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes b. No

7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important b. Slightly important c. Not important – HELICOPTERS CAN SET UP ANYWHERE TO SMALL FOR THE LARGER PLANES.

8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important I HAVE NEVER SEEN A "LAUNCH" FROM THE AIRPORT.
   LANDING ?

9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

10. Are there any additional aeronautical uses that you would like to see added to this plan?

HEBER VALLEY AIRPORT

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Email Address ____________________ Contact me via (circle) Email Phone

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Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important   b. Slightly important   c. Not important

   This is a glider Airport designed for WWII Aircraft.

2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   maintanance & Environmental compliance air quality

3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important   b. Slightly important   c. Not important

4. What are your thoughts on the proposed hangar layout?
   too close to School Bus terminal

5. What are your thoughts on the number of T hangars versus box hangars?
   No more accomodating larger aircraft at a WWII glider Airport

6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes   b. No

7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important   b. Slightly important   c. Not important

8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important   b. Slightly important   c. Not important

9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important   b. Slightly important   c. Not important

10. Are there any additional aeronautical uses that you would like to see added to this plan?
    Noise & Environmental impact of more Pollution in this small Valley should be Priority 1 for local Residents)

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HEBER VALLEY AIRPORT

FLIGHTPATH

PLANNING A SHARED COURSE FOR OUR FUTURE

Non-Aeronautical

11. How important is it to you that the airport has a restaurant open to the public? Circle one.
    a. Very important b. Slightly important c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important b. Slightly important c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important b. Slightly important c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important b. Slightly important c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes b. No

too much pavement. Noise & Light pollution in our local environment already

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HEBER VALLEY AIRPORT
FLIGHTPATH
PLANNING A SHARED COURSE FOR OUR FUTURE

Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important b. Slightly important c. Not important

2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   ____

3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important b. Slightly important c. Not important

4. What are your thoughts on the proposed hangar layout?
   ____

5. What are your thoughts on the number of T hangars versus box hangars?
   ____

6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes b. No

7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important b. Slightly important c. Not important

8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

10. Are there any additional aeronautical uses that you would like to see added to this plan?
    ____
    ____

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FLIGHTPATH
PLANNING A SHARED COURSE FOR OUR FUTURE

Non-Aeronautical

11. How important is it to you that the airport has a restaurant open to the public? Circle one.
    a. Very important b. Slightly important c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important b. Slightly important c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important b. Slightly important c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important b. Slightly important c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes b. No

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Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important b. Slightly important c. Not important
2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   wish list
   maintenance, flight school, fuel, (cafe.)
3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important b. Slightly important c. Not important
4. What are your thoughts on the proposed hangar layout?
   Good plan
5. What are your thoughts on the number of T hangars versus box hangars?
   Which ever satisfies demand.
6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes b. No
7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important b. Slightly important c. Not important
8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important
9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important
10. Are there any additional aeronautical uses that you would like to see added to this plan?
    Advanced Air Mobility - charging stations

HEBER VALLEY AIRPORT

FLIGHTPATH

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Non-Aeronautical

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    a. Very important
    b. Slightly important
    c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important
    b. Slightly important
    c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important
    b. Slightly important
    c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important
    b. Slightly important
    c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes
    b. No

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Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important b. Slightly important c. Not important

2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?

3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important b. Slightly important c. Not important

4. What are your thoughts on the proposed hangar layout?
   WOULD LIKE TO SEE LIMITED GROWTH.

5. What are your thoughts on the number of T hangars versus box hangars?
   HAVE NONE

6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes b. No

7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important b. Slightly important c. Not important

8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important
   SAFETY, TRAFFIC

9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

10. Are there any additional aeronautical uses that you would like to see added to this plan?
    NONE - CONSERNED ABOUT AIR WATER
    SAFETY CONTROLS POLLUTION, WILDLIFE NOISE
    TRAFFIC

HEBER VALLEY AIRPORT
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    a. Very important b. Slightly important c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important b. Slightly important c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important b. Slightly important c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important b. Slightly important c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes b. No

EXPANSION = EFFECTS QUALITY OF LIFE LIVING SPACE
Pollution, NOISE, loss OF OPEN FIEIDS IMPACT ON wildlife

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Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important b. Slightly important c. Not important
2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   Fuel, Flight Training, Piston Maintenance, Tie Downs, Hangar Space
3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important b. Slightly important c. Not important
4. What are your thoughts on the proposed hangar layout?
   Looks Good
5. What are your thoughts on the number of T hangars versus box hangars?
   They will all be used, and we will wish there were more of both
6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes b. No
   Probably never going to be enough space, but we will do the best we can
7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important b. Slightly important c. Not important
8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important
9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important
10. Are there any additional aeronautical uses that you would like to see added to this plan?
    STOL, Big Tire Grass Runway?
    Compass Rose
    Welcoming Park to encourage Aircraft watching
    Place for Electronic signs

HEBER VALLEY AIRPORT
FLIGHTPATH
PLANNING A SHARED COURSE FOR OUR FUTURE

Non-Aeronautical

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    a. Very important b. Slightly important c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important b. Slightly important c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important b. Slightly important c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important b. Slightly important c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes b. No

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Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important b. Slightly important c. Not important

2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   GA fuel

3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important b. Slightly important c. Not important

4. What are your thoughts on the proposed hangar layout?
   Looks good. Too bad there isn't more room.

5. What are your thoughts on the number of T hangars versus box hangars?
   At least the same number as there are now. More if possible.

6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes b. No

7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important b. Slightly important c. Not important

8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

10. Are there any additional aeronautical uses that you would like to see added to this plan?
    No

HEBER VALLEY AIRPORT

FLIGHTPATH

PLANNING A SHARED COURSE FOR OUR FUTURE

Non-Aeronautical

11. How important is it to you that the airport has a restaurant open to the public? Circle one.
    a. Very important   b. Slightly important   c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important   b. Slightly important   c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important   b. Slightly important   c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important   b. Slightly important   c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes   b. No

Thank you for providing your feedback during the Airport Master Plan update process. Comments may be submitted anonymously, but if you would like a response from the project team, please provide your contact information.

Name [illegible]   Phone Number ________

Email Address ________   Contact me via (circle)   Email   Phone

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Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important b. Slightly important c. Not important

2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   100LL, Restaurant, Food, Hangar Space, Pilot Lounge

3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important b. Slightly important c. Not important

4. What are your thoughts on the proposed hangar layout?
   Not enough.

5. What are your thoughts on the number of T hangars versus box hangars?
   Not enough

6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes b. No

7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important b. Slightly important c. Not important

8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

10. Are there any additional aeronautical uses that you would like to see added to this plan?
    More Hangars

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Non-Aeronautical

11. How ~~important is it to~~ you that the airport has a restaurant open to the public? Circle one.
    a. Very important b. Slightly important c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important b. Slightly important c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important b. Slightly important c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important b. Slightly important c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes b. No

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Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important b. Slightly important c. Not important

2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   AVGAS, ANNUALS, O2, FLIGHT PLANNING COMPUTER W/RADAR, TIE-DOWNS

3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important b. Slightly important c. Not important

4. What are your thoughts on the proposed hangar layout?
   NEED MORE HANGARS

5. What are your thoughts on the number of T hangars versus box hangars?
   NONE

6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes b. No

7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important b. Slightly important c. Not important

8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

10. Are there any additional aeronautical uses that you would like to see added to this plan?

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Non-Aeronautical

11. How important is it to you that the airport has a restaurant open to the public? Circle one.
    a. Very important b. Slightly important c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important b. Slightly important c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important b. Slightly important c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important b. Slightly important c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes b. No

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Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important   b. Slightly important   c. Not important
2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   maintenance, tool
3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important   b. Slightly important   c. Not important
4. What are your thoughts on the proposed hangar layout?
   Nice
5. What are your thoughts on the number of T hangars versus box hangars?
   OK
6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes   b. No
7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important   b. Slightly important   c. Not important
8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important   b. Slightly important   c. Not important
9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important   b. Slightly important   c. Not important
10. Are there any additional aeronautical uses that you would like to see added to this plan?

HEBER VALLEY AIRPORT
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PLANNING A SHARED COURSE FOR OUR FUTURE

Non-Aeronautical

11. How important is it to you that the airport has a restaurant open to the public? Circle one.
    a. Very important
    b. Slightly important
    c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important
    b. Slightly important
    c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important
    b. Slightly important
    c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important
    b. Slightly important
    c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes
    b. No

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Airport Layout Plan Questionnaire

Aeronautical

1. How important do you think it is to separate jet fuel users from general aviation users? Circle one.
   a. Very important b. Slightly important c. Not important

2. If a second limited-use FBO were to begin operating at HCR, what types of services would you anticipate them providing?
   fuel maintenance

3. How important would it be to you if a new limited-use FBO had a pilots lounge? Circle one.
   a. Very important b. Slightly important c. Not important

4. What are your thoughts on the proposed hangar layout?
   Good

5. What are your thoughts on the number of T hangars versus box hangars?
   Good

6. Does the space provided to relocate Hangar Row meet your expectations? Circle one.
   a. Yes b. No

7. How important is it to you that we preserve an area for firefighting aircraft at our airport? Circle one.
   a. Very important b. Slightly important c. Not important

8. How important is it to you that launching areas for hot air balloons remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

9. How important is it to you that launching areas for gliders remain at the airport? Circle one.
   a. Very important b. Slightly important c. Not important

10. Are there any additional aeronautical uses that you would like to see added to this plan?
    a courtesy car for visiting GA pilots

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Non-Aeronautical

11. How important is it to you that the airport has a restaurant open to the public? Circle one.
    a. Very important b. Slightly important c. Not important

12. How important is it to you that the airport has a viewing area or park? Circle one.
    a. Very important b. Slightly important c. Not important

13. How important is it to you that the airport has a community room available for booking small events or conferences? Circle one.
    a. Very important b. Slightly important c. Not important

14. How important is it to you to continue to provide a sufficiently large public gathering area (i.e., museum events, fly-ins, dances, other public events)? Circle one.
    a. Very important b. Slightly important c. Not important

15. Overall, do you feel that this airport layout plan balances the needs of the airport users with the expectations of the community? Circle one.
    a. Yes b. No

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HEBER VALLEY AIRPORT
FLIGHTPATH
PLANNING A SHARED COURSE FOR OUR FUTURE

Heber Valley Airport Flightpath Public Comment Form

Thank you for providing your feedback during the Airport Master Plan update process. Comments may be submitted anonymously, but if you would like a response from the project team, please provide your contact information.

Noise Light Fuel Dump and Construction
Dust → it Burdens the Local Envionment
with Noise Light and Fuel Pollution
constantly under construction! FBO pursues
Never ending Law suits that crush
our elected officals in Legal suits
Local Residents have no way of
combatting Deep Pockets of the "Jet Setters"
No way to protect Migratory Bird population
High Voltage Electrical Line make the
Approching Jet Traffic steep over Hotels & High School

Name ____________________ Phone Number ____________________

Email Address ____________________ Contact me via (circle) Email Phone

☑ Check here to be added to the Flightpath update list

You may also mail this form to Heber Valley Airport, attn: Travis Biggs, 630 Airport Rd, Heber City, UT 84032, or email it to info@hebervalleyflightpath.com. Thank you for your participation!

HEBER VALLEY AIRPORT

FLIGHTPATH

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THIS DESIGN PLAN APPEARS TO BE A SHROUDED ATTEMPT AT CREATING COM-MERCIAL AIR SERVICE.

COMMERCIAL AIR SERVICE WOULD BENEFIT SUMMIT COUNTY'S SKI AREAS AND HOTELS. THERE IS NO LARGE PAYOFF FOR WASATCH COUNTY.

Name ______ Phone Number ______

Email Address ______ Contact me via (circle) Email Phone

☒ Check here to be added to the Flightpath update list

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I AM a Private Pilot w/a CESSNA 182 BASED AT Heber. We Need Way More Hangers than what you are planning. I personally would NOT use A T hanger up here w/ the winter weather
We need A 2ND Reasonable FBO to provide affordable fuel & offer AUTO GAS.
A ON AIRPORT RESTERAUNT would be a benefit to increase activity @ the AIRPORT. FLY INS - etc.
It would be nice to have a camping area - Move small GA South of CAF + have some campsites for Fly in Pilots

Name ______________________ Phone Number ______________________

Email Address ______________________ Contact me via (circle) Email Phone

☒ Check here to be added to the Flightpath update list

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Thank you for providing your feedback during the Airport Master Plan update process. Comments may be submitted anonymously, but if you would like a response from the project team, please provide your contact information.

I think all usable space should be dedicated to SMALL Hangar space for example hangar A, B, proposed should be better designed for multiple rows of small hangars

Name ______________________ Phone Number ______________________

Email Address ______________________ Contact me via (circle) Email Phone

☐ Check here to be added to the Flightpath update list

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HEBER VALLEY AIRPORT
FLIGHTPATH
PLANNING A SHARED COURSE FOR OUR FUTURE

Heber Valley Airport Flightpath Public Comment Form

Thank you for providing your feedback during the Airport Master Plan update process. Comments may be submitted anonymously, but if you would like a response from the project team, please provide your contact information.

The team is doing a great job on the Airport Master Plan. Thanks for all your efforts.

Name [illegible] Phone Number

Email Address Contact me via (circle) Email Phone

☐ Check here to be added to the Flightpath update list I'm on the list

You may also mail this form to Heber Valley Airport, attn: Travis Biggs, 630 Airport Rd, Heber City, UT 84032, or email it to info@hebervalleyflightpath.com. Thank you for your participation!

EST. 1947

HEBER VALLEY AIRPORT

FLIGHTPATH

PLANNING A SHARED COURSE FOR OUR FUTURE

Public Meeting Attendance Sheet

01/09/23

NAME	EMAIL ADDRESS (OPTIONAL)	HOW DID YOU HEAR ABOUT TODAY'S MEETING?
J Blotter		edy
Darryl Bosshardt		
Art Pollard		
Jeremy Cook		
Dan Kendall		
Mike Johnston		
Kendall [illegible]		
Bob Baird		

Thank you for coming!

O

HEBER VALLEY AIRPORT
EST. 1947
FLIGHTPATH
PLANNING A SHARED COURSE FOR OUR FUTURE

Public Meeting Attendance Sheet
01/09/23

NAME	EMAIL ADDRESS (OPTIONAL)	HOW DID YOU HEAR ABOUT TODAY'S MEETING?
Jay Townsend		EAA
GARY PUGMIRE		INTERNET POST
Todd Cusick		
Kelly Jarvis		.com News/Wave
Laurie Wynn		The Wave.
wants emailed info — Dan Ford		.com City

Thank you for coming!

EST. 1947

HEBER VALLEY AIRPORT

FLIGHTPATH

PLANNING A SHARED COURSE FOR OUR FUTURE

Public Meeting Attendance Sheet

01/09/23

NAME	EMAIL ADDRESS (OPTIONAL)	HOW DID YOU HEAR ABOUT TODAY'S MEETING?
Tim Glenn		EAA
Eric Bunker		
[illegible]		HEBER
Kelli Gomez		
Toni Piva		Friend
Linda Middleton		News letter in our utility bill
Reed Freestone		
Rebecca Freest		
Bill Tew		
Rene Wood		newsletter
Jeff Findeale		TV
Ruth Jarvis		Wave
Michael Peterson		Friend

Thank you for coming!

HEBER VALLEY AIRPORT

FLIGHTPATH

PLANNING A SHARED COURSE FOR OUR FUTURE

EST. 1947

Public Meeting Attendance Sheet
01/09/23

NAME	EMAIL ADDRESS (OPTIONAL)	HOW DID YOU HEAR ABOUT TODAY'S MEETING?
Sam Phillips		mail. com
Ron Phillips		il.com Notice
Amy Steele		internet.
Barry Dixon		?
Lynne Shinkwiler		nal internet
Jim Morgan		mail EAA
Jim christensen		il.com Internet
Barbara Barnes		
Scot Lythgoe		
Merry Duggin		online
Natalie & Steve He		o text / email
Taylor Larson		City website
Julie Lundskog		wave

Thank you for coming!

HEBER VALLEY AIRPORT
FLIGHTPATH
PLANNING A SHARED COURSE FOR OUR FUTURE

Public Meeting Attendance Sheet
01/09/23

NAME	EMAIL ADDRESS (OPTIONAL)	HOW DID YOU HEAR ABOUT TODAY'S MEETING?
Bob Kowallis		Wave
Steven Ost		
John Ackerson		Travis B
Pam Skinner		Facebook
Randy Christ		Email
Jay Shindler		@gmail.com
Bill Matthews		Neighbor
Susan Corc		radio
Dave Cor		radio
Lance Nelson		EAA
Shawn Taylor		pissed off people
Doug Miller		
Dave Bates		Pilot

Thank you for coming!

Appendix B. Forecast Approval

July 14, 2021

Travis Biggs
Heber Valley Airport
630 W Airport Road, Box 2
Heber, UT 84032

Heber Valley Airport
Heber, UT
AIP: 3-49-0011-031-2019
Forecast Approval

Dear Mr. Biggs:

The Federal Aviation Administration (FAA) reviewed forecast information for the subject airport. The forecast was received June 24, 2021. FAA approves the attached forecast. The FAA also approves the Challenger 350 for the existing and future critical aircraft. We found the forecast to be supported by reasonable planning assumptions and current data. Your forecast appears to be developed using acceptable forecasting methodologies.

The approval of the forecast and critical aircraft does not automatically constitute a commitment on the part of the United States to participate in any development recommended in the master plan or shown on the ALP. All future development will need to be justified by current activity levels at the time of proposed implementation. [*See FAA Order 5100.38D, Airport Improvement Program, Paragraph 3-12, for ADO options.*] Further, the approved forecasts may be subject to additional analysis or the FAA may request a sensitivity analysis if this data is to be used for environmental or Part 150 noise planning purposes.

This forecast was prepared at the same time as the evolving impacts of the COVID-19 public health emergency. Forecast approval is based on the methodology, data, and conclusions at the time the document was prepared. However, consideration of the impacts of the COVID-19 public health emergency on aviation activity is warranted to acknowledge the reduced confidence in growth projections using currently-available data.

Accordingly, FAA approval of this forecast does not constitute justification for future projects. Justification for future projects will be made based on activity levels at the time the project is requested for development. Documentation of actual activity levels meeting planning activity levels will be necessary to justify AIP funding for eligible projects.

If you have questions, please call me at 303-342-1263.

Sincerely,

John Sweeney,
Community Planner
Denver ADO

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2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT
HEBER CITY, UT
AWOS RELOCATION

4/3/2023

Item No.	Item Description	Qty	Unit	Unit Cost	Total Cost
C-105	Mobilization	1	LS	$ 26,000.00	$ 26,000.00
C-102	Temporary Air and water Pollution, Soil Erosion, and Siltation Control	1	LS	$ 4,000.00	$ 4,000.00
	AWOS IIIPT System	1	LS	$ 160,000.00	$ 160,000.00
A-105	Utility Locate	1	LS	$ 1,000.00	$ 1,000.00
A-110	Construction Survey	1	LS	$ 5,000.00	$ 5,000.00
P-152a	Unclassified Excavation	15	CY	$ 35.00	$ 525.00
P-152b	Subgrade Preparation	100	SY	$ 1.50	$ 150.00
P-154	Subbase course	50	CY	$ 75.00	$ 3,750.00
T-902	Hydroseeding	1	AC	$ 2,500.00	$ 2,500.00
L-108	Underground Power cables for airports	1,000	LF	$ 2.00	$ 2,000.00
L-110	Airport underground Duct Banks and Conduits	1,000	LF	$ 25.00	$ 25,000.00
L-126	AWOS Site Preparation	1	LS	$ 60,000.00	$ 60,000.00

		Total:	$	289,925.00
		Subtotal:	$	289,925.00
		Contingency (5%):	$	14,496.25
		Engineering Design (15%):	$	45,663.19
		Construction Engineering (8%):	$	24,353.70
		Legal and Administrative:	$	3,000.00
	Years	%/Year		
Inflation	1	5.0%	$	18,871.91
		TOTAL:	$	396,310.04
		FOR ESTIMATE:	$	397,000.00

2023 MASTER PLAN
HEBER VALLEY AIRPORT
HEBER CITY, UTAH
ARC UPGRADE ENVIRONMENTAL ASSESSMENT

4/3/2023

Item No.	Item Description	Qty	Unit	Unit Cost	Total Cost
1	ENVIRONMENTAL ASSESSMENT	1	LS	$ 600,000.00	$ 600,000.00
				Subtotal:	$ 600,000.00

			Subtotal:	$ 600,000.00
			Contingency (N/A):	$ -
			Engineering Design (N/A):	$ -
			Construction Administration (N/A):	$ -
			Sponsor's Legal & Admin Costs	$ -
	Years	%/Year		
Inflation	2	5.0%		$ 61,500.00
			TOTAL:	$ 661,500.00
			FOR ESTIMATE:	$ 662,000.00

2023 Master Plan Cost Estimates
HEBER VALLEY AIRPORT
HEBER CITY, UT
Phase II ESA of South Campus

4/3/2023

Bid Schedule 1 –Environmental Study

Item No.	Item Description	Qty	Unit	Unit Cost	Total Cost
1	Phase II ESA	1	LS	$ 40,000.00	$ 40,000.00

Bid Schedule 1 Environmental Study Total:	$	40,000.00
Total:	$	40,000.00
Contingency (N/A):	$	-
Environmental Services (N/A):	$	-
Legal and Administrative:	$	-

	Years	%/Year		
Inflation	2	5.0%	$	4,100.00

TOTAL:	$	44,100.00
FOR ESTIMATE:	$	45,000.00

Assumptions:

Based on estimate from Budinger in 2021

2023 MASTER PLAN
HEBER VALLEY AIRPORT
HEBER CITY, UT
LAND ACQUISTIONS AND AVIGATION EASEMENTS

4/3/2023

Item No.	Item Description	Acres	Unit	Unit Cost	Total Cost
1	Parcel 20-4527	2.8	LS	$ 851,321.00	$ 312,821.36
2	Parcel 20-4528	5.3	LS	$ 827,400.00	$ 318,000.00
3	Parcel 20-4536	1	LS	$ 5,000.00	$ 5,000.00
4	Parcel 08-7952	1.67	LS	$ 5,000.00	$ 8,350.00
5	Parcel 20-2403	2.57	LS	$ 5,000.00	$ 12,850.00
6	Parcel 20-4525	7.15	LS	$ 496,890.00	$ 496,890.00
7	Parcel 20-4526	3	LS	$ 556,363.00	$ 556,363.00
8	Parcel 20-9922	0.5	LS	$ 30,000.00	$ 30,000.00
9	Parcel 20-9921	2	LS	$ 120,000.00	$ 120,000.00
10	Parcel 20-4533	2	LS	$ 612,051.00	$ 612,051.00
11	Parcel 20-4532	5	LS	$ 671,839.00	$ 671,839.00
12	Parcel 20-4531	5	LS	$ 664,597.00	$ 664,597.00
13	Parcel 21-5932	1.72	LS	$ 5,000.00	$ 8,600.00
14	Parcel 20-7520	2.23	LS	$ 5,000.00	$ 11,150.00
15	Parcel 20-7521	1.18	LS	$ 5,000.00	$ 5,900.00
16	Parcel 20-7522	0.30	LS	$ 5,000.00	$ 1,500.00
17	Parcel 09-1095	0.73	LS	$ 5,000.00	$ 3,650.00
18	Parcel 20-9614	0.85	LS	$ 10.00	$ 10.00
19	Parcel 20-9450	1.46	LS	$ 10.00	$ 10.00
20	Parcel 20-9592	0.33	LS	$ 10.00	$ 10.00
21	Parcel 20-6888	0.05	LS	$ 10.00	$ 10.00
22	Parcel 21-0465	0.34	LS	$ 10.00	$ 10.00
				Land Purchase Total:	$ 3,839,611.36

		Land Purchase Total:	$	3,839,611.36
		Land Acquisition Services (10%):	$	383,961.14
		Legal and Administrative:	$	15,000.00
	Years	%/Year		
Inflation	4	5.0%	$	913,438.87
		TOTAL:	$	5,152,011.37
		FOR ESTIMATE:	$	5,153,000.00

Assumptions:

Estimates are based current market value of Parcels from January 2022 based on County website linked herein.
Avigation Easement was assumed to be $5,000 per acre, Real cost would need to be determined on a case by case basis
Assumption of the amount of a parcel that would be purchased was based on the location of the RPZ and RSA. If a residence was in the acquired location it was assumed the purchase would be for the entire parcel.

2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT 4/3/2023
HEBER CITY, UT
PERIMETER FENCE REPLACEMENT

Item No.	Item Description	Qty	Unit	Unit Cost	Total Cost
C-105	Mobilization	1	LS	$ 145,600.00	$ 145,600.00
C-102	Temporary Erosion Control	1	LS	$ 6,346.25	$ 6,346.25
F-162a	Chain Link Fence	6,400	LF	$ 80.00	$ 512,000.00
F-162b	16' Chainlink Fence Gate	8	EA	$ 4,000.00	$ 32,000.00
F-162c	4' Manual Gate	3	EA	$ 2,500.00	$ 7,500.00
F-162d	Weed Control	17,900	LF	$ 0.60	$ 10,740.00
F-162e	16ft Hydraulic Vertical Pivot Gate	4	EA	$ 65,000.00	$ 260,000.00
F-164a	Wildlife Fence	17,900	LF	$ 30.00	$ 537,000.00
F-164b	Wildlife Fence Brace	46	EA	$ 850.00	$ 38,930.00
P-101a	Demolish Existing Fence	21,500	LF	$ 2.00	$ 43,000.00
P-151	Clearing and Grubbing	1	LS	$ 6,346.25	$ 6,346.25
T-901	Seeding	1.00	AC	$ 500.00	$ 500.00
T-908	Mulching	1.00	AC	$ 1,000.00	$ 1,000.00

Total: $ 1,455,362.50

Subtotal: $ 1,455,362.50
Contingency (5%): $ 72,768.13
Engineering Design (8%): $ 122,250.45
Construction Administration (10%): $ 152,813.06
Legal/Admin: $ 10,000.00

	Years	%/Year	
Inflation	6	5.0%	$616,659.42

TOTAL: $ 2,429,853.56

FOR ESTIMATE: $ 2,430,000.00

2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT
HEBER CITY, UT
AIRPORT ACCESS ROAD DEVELOPMENT

4/3/2023

Item No.	Item Description	Qty	Unit	Unit Cost	Total Cost
C-100	Contractor Quality Control Program	1	LS	$ 50,500.00	$ 50,500.00
C-102	Erosion Control and SWPPP Implementation	1	LS	$ 10,100.00	$ 10,100.00
C-105b	Mobilization	1	LS	$ 101,000.00	$ 101,000.00
P-101a	Demolish Old Road	4,300	SY	$ 6.00	$ 25,800.00
P-151a	Utility Locate & Identify	1	LS	$ 3,500.00	$ 3,500.00
P-151b	Topsoil Stripping	701	CY	$ 3.00	$ 2,103.50
P-152a	Unclassified Excavation	3,360	CY	$ 11.00	$ 36,960.00
P-152c	Subgrade Prep	22,400	SY	$ 1.50	$ 33,600.00
	Crusher Run Subbase	8,800	CY	$ 35.00	$ 308,000.00
	Crushed Base	3,800	CY	$ 65.00	$ 247,000.00
	Hot Plant Mix	5,100	Ton	$ 67.00	$ 341,700.00
	Tack Coat	2,300	GAL	$ 4.00	$ 9,200.00
T-901	Seeding	1	AC	$ 500.00	$ 500.00
T-908	Mulching	1	AC	$ 1,000.00	$ 1,000.00
				Total:	$ 1,170,963.50

		Subtotal:	$ 1,170,963.50
		Contingency (10%):	$ 117,096.35
		Engineering Design (12%):	$ 154,567.18
		Construction Administration (12%):	$ 154,567.18
		Legal/Admin:	$ 3,000.00
	Years	%/Year	
Inflation	6	5.0%	$544,219.08
		TOTAL:	$ 2,144,413.29
		FOR ESTIMATE:	$ 2,145,000.00

2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT
HEBER CITY, UT
DANIEL HANGARS TAXILANE EXTENSION

4/3/2023

Item No.	Item Description	Qty	Unit	Unit Cost	Total Cost
C-100	Contractor Quality Control Program	1	LS	$ 15,700.00	$ 15,700.00
C-102	Erosion Control and SWPPP Implementation	1	LS	$ 3,200.00	$ 3,200.00
C-105b	Mobilization	1	LS	$ 31,400.00	$ 31,400.00
P-151a	Utility Locate & Identify	1	LS	$ 3,500.00	$ 3,500.00
P-151b	Topsoil Stripping	700	CY	$ 3.00	$ 2,100.00
P-152a	Unclassified Excavation	555	CY	$ 11.00	$ 6,105.00
P-152c	Subgrade Prep	3,700	SY	$ 1.50	$ 5,550.00
P-154	Subbase Course	1,500	CY	$ 70.00	$ 105,000.00
P-209	Crushed Aggregate Base Course	700	CY	$ 95.00	$ 66,500.00
P-401	Asphalt Surface Course	900	Ton	$ 135.00	$ 121,500.00
P-603	Emulsified Tack Coat	400	GAL	$ 5.00	$ 2,000.00
P-620b	Temporary Marking and Layout	300	SF	$ 1.00	$ 300.00
P-620c	Permanent Marking	300	SF	$ 1.00	$ 300.00
T-901	Seeding	0.10	AC	$ 500.00	$ 50.00
T-908	Mulching	0.10	AC	$ 1,000.00	$ 100.00
				Total:	$ 363,305.00

Subtotal:	$ 363,305.00
Contingency (10%):	$ 36,330.50
Engineering Design (10%):	$ 39,963.55
Construction Administration (12%):	$ 47,956.26
Legal/Admin:	$ 3,000.00

	Years	%/Year	
Inflation	7	5.0%	$199,705.27

TOTAL: $ 690,260.58

FOR ESTIMATE: $ 691,000.00

2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT
HEBER CITY, UT
NORTH CAMPUS RAMP

4/3/2023

Item No.	Item Description	Qty	Unit	Unit Cost	Total Cost
	Hangar Acquisition	63000	SF	$ 85.00	$ 5,355,000.00
	FBO Building Acquisition	12000	SF	$ 125.00	$ 1,500,000.00
	Prepare Hangar Pads	77000	SF	$ 1.50	$ 115,500.00
C-100	Contractor Quality Control Program	1	LS	$ 68,300.00	$ 68,300.00
C-102	Erosion Control and SWPPP Implementation	1	LS	$ 22,800.00	$ 22,800.00
C-105b	Mobilization	1	LS	$ 136,500.00	$ 136,500.00
P-151a	Utility Locate & Identify	1	LS	$ 3,500.00	$ 3,500.00
P-151b	Topsoil Stripping	4,700	CY	$ 3.00	$ 14,100.00
P-152a	Unclassified Excavation	4,230	CY	$ 11.00	$ 46,530.00
P-152c	Subgrade Prep	28,200	SY	$ 1.50	$ 42,300.00
P-154	Subbase Course	11,000	CY	$ 70.00	$ 770,000.00
P-209	Crushed Aggregate Base Course	4,700	CY	$ 95.00	$ 446,500.00
P-401	Asphalt Surface Course	6,400	Ton	$ 135.00	$ 864,000.00
P-603	Emulsified Asphalt Tack Coat	2,900	GAL	$ 5.00	$ 14,500.00
P-620b	Temporary Marking and Layout	3,600	SF	$ 1.00	$ 3,600.00
P-620c	Permanent Marking	3,600	SF	$ 1.00	$ 3,600.00
P-629	Aircraft Tie-Downs	30	Each	$ 1,000.00	$ 30,000.00
F-162a	Chain Link Fence	1,000	LF	$ 25.00	$ 25,000.00
F-162b	Fence Removal	900	LF	$ 2.00	$ 1,800.00
F-162c	Airport Gate	2	Each	$ 4,000.00	$ 8,000.00
T-901	Seeding	0.50	AC	$ 500.00	$ 250.00
T-908	Mulching	0.50	AC	$ 1,000.00	$ 500.00
				Total:	$ 9,472,280.00

		Subtotal:	$ 9,472,280.00
		Contingency (15%):	$ 1,420,842.00
		Engineering Design (8%):	$ 871,449.76
		Construction Administration (8%):	$ 871,449.76
		Legal/Admin:	$ 10,000.00
	Years	%/Year	
Inflation	8	5.0%	$6,037,911.82
		TOTAL:	$ 18,683,933.34
		FOR ESTIMATE:	$ 18,684,000.00

Additional Assumptions

Hangars and fueling system will be privately funded and is omitted from this estimate.

2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT
HEBER CITY, UT
SOUTH CAMPUS RAMP

4/10/2023

Item No.	Item Description	Qty	Unit	Unit Cost	Total Cost
C-100	Contractor Quality Control Program	1	LS	$ 255,900.00	$ 255,900.00
C-102	Erosion Control and SWPPP Implementation	1	LS	$ 85,300.00	$ 85,300.00
C-105b	Mobilization	1	LS	$ 511,800.00	$ 511,800.00
P-151a	Utility Locate & Identify	1	LS	$ 3,500.00	$ 3,500.00
P-151b	Topsoil Stripping	10,600	CY	$ 3.00	$ 31,800.00
P-152a	Unclassified Excavation	9,510	CY	$ 11.00	$ 104,610.00
P-152c	Subgrade Prep	63,400	SY	$ 1.50	$ 95,100.00
P-154	Subbase Course	31,700	CY	$ 70.00	$ 2,219,000.00
P-209	Crushed Aggregate Base Course	17,600	CY	$ 95.00	$ 1,672,000.00
P-401	Asphalt Surface Course	32,100	Ton	$ 135.00	$ 4,333,500.00
P-603	Emulsified Asphalt Tack Coat	6,400	GAL	$ 5.00	$ 32,000.00
P-620b	Temporary Marking and Layout	3,600	SF	$ 1.00	$ 3,600.00
P-620c	Permanent Marking	3,600	SF	$ 1.00	$ 3,600.00
P-629	Aircraft Tie-Downs	30	Each	$ 1,000.00	$ 30,000.00
T-901	Seeding	0.50	AC	$ 500.00	$ 250.00
T-908	Mulching	0.50	AC	$ 1,000.00	$ 500.00

		Total:	$ 9,382,460.00
		Subtotal:	$ 9,382,460.00
		Contingency (20%):	$ 1,876,492.00
		Engineering Design (8%):	$ 900,716.16
		Construction Administration (8%):	$ 900,716.16
		Legal/Admin:	$ 10,000.00
	Years	%/Year	
Inflation	8	5.0%	$6,240,526.15
		TOTAL:	$ 19,310,910.47
		FOR ESTIMATE:	$ 19,311,000.00

Assumptions:

Hangars and fueling system will be privately funded and is omitted from this estimate.
This Estimate does not include any Non-AIP eligible items that may be constructed at the same time.
Items related to the fence are included in the fencing project
All marking and tiedowns assumed to be in the same quantities as the North Apron

2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT 4/3/2023
HEBER CITY, UT
NORTH CAMPUS BOX HANGAR DEVELOPMENT

Item No.	Item Description	Qty	Unit	Unit Cost	Total Cost
C-100	Contractor Quality Control Program	1	LS	$ 13,000.00	$ 13,000.00
C-102	Erosion Control and SWPPP Implementation	1	LS	$ 2,600.00	$ 2,600.00
C-105b	Mobilization	1	LS	$ 25,900.00	$ 25,900.00
P-151a	Utility Locate & Identify	1	LS	$ 3,500.00	$ 3,500.00
P-151b	Topsoil Stripping	500	CY	$ 3.00	$ 1,500.00
P-152a	Unclassified Excavation	100	CY	$ 11.00	$ 1,100.00
P-152d	Subgrade Prep	3,000	SY	$ 1.50	$ 4,500.00
P-154	Subbase Course	1,200	CY	$ 80.00	$ 96,000.00
P-208	Aggregate Base Course	500	CY	$ 105.00	$ 52,500.00
P-401	Asphalt Surface Course	700	Ton	$ 135.00	$ 94,500.00
P-603	Emulsified Asphalt Tack Coat	300	GAL	$ 5.00	$ 1,500.00
P-620b	Temporary Marking and Layout	1,100	SF	$ 1.00	$ 1,100.00
P-620c	Permanent Marking	1,100	SF	$ 1.00	$ 1,100.00
T-901	Seeding	0.50	AC	$ 500.00	$ 250.00
T-908	Mulching	0.50	AC	$ 1,000.00	$ 500.00
				Total:	$ 299,550.00

		Subtotal:	$ 299,550.00
		Contingency (10%):	$ 29,955.00
		Engineering Design (15%):	$ 49,425.75
		Construction Administration (10%):	$ 32,950.50
		Legal/Admin:	$ 3,000.00
	Years	%/Year	
Inflation	10	5.0%	$260,916.59
		TOTAL:	$ 675,797.84
		FOR ESTIMATE:	$ 676,000.00

2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT
HEBER CITY, UT
PARALLEL TAXIWAY RELOCATION WITH LIGHTING

4/3/2023

Item No.	Item Description	Qty	Unit	Unit Cost	Cost
SP-1	Special Provision No. 33: Construction Safety and Phasing	1	LS	$30,000.00	$30,000.00
C-100	Contractor Quality Control Program (CQCP)	1	LS	$85,000.00	$85,000.00
C-102a	Temporary Erosion Control	1	LS	$6,500.00	$6,500.00
C-102b	Installation and Removal of Erosion Control Logs	30	EA	$50.00	$1,500.00
C-105a	Mobilization	1	LS	$387,203.43	$387,203.43
P-101a	Pavement Removal	39,200	SY	$3.00	$117,600.00
P-101e	Remove and Dispose of Airfield Light (Taxiway & Connectors)	19	EA	$100.00	$1,900.00
P-101h	Remove and Dispose of Airfield Sign, Complete	7	EA	$1,000.00	$7,000.00
P-101k	Recycled Asphalt Millings	3266	CY	$14.25	$46,540.50
P-101l	Duct Bank Pothole and Survey	1	LS	$2,000.00	$2,000.00
P-152a	Unclassified Excavation	30,059	CY	$11.00	$330,649.00
P-152b	Subgrade Preparation	45,088	SY	$1.50	$67,632.00
P-152c	Embankment	75,147	CY	$15.00	$1,127,205.00
P-154a	Subbase Course	22,544	CY	$80.00	$1,803,520.00
P-154b	Geogrid	25,050	SY	$2.50	$62,625.00
P-209	Crushed Aggregate Base Course	7,515	CY	$95.00	$713,925.00
P-401-8.1	Asphalt Surface Course	10,145	TN	$135.00	$1,369,575.00
P-603	Emulsified Asphalt Tack Coat	4,509	Gal	$5.00	$22,545.00
P-620-5.2a	Marking	6,680	SF	$0.70	$4,676.00
P-620-5.3b	Reflective Media	3,000	LB	$5.00	$15,000.00
D-705b	6-inch Perforated Edge Drain Pipe	13,000	LF	$45.00	$585,000.00
D-705c	Edge Drain Cleanout	10	EA	$700.00	$7,000.00
D-705d	Edge Drain Outlet to Daylight	3	EA	$1,000.00	$3,000.00
D-705e	Edge Drain Outlet to Storm Inlet	3	EA	$800.00	$2,400.00
L-108a	Airfield Lighting Cable	17,000	LF	$2.00	$34,000.00
L-108b	Voltage Circuit Wires, Installed in Ductbank or Conduit	5,000	LF	$5.00	$25,000.00
L-108c	Counterpoise Wire Installed in Separate Trench	4,600	LF	$5.00	$23,000.00
L-108d	Counterpoise Wire Installed above New Conduit/Ductbank	15,000	LF	$2.00	$30,000.00
L-108e	Counterpoise Ground Rods	18	EA	$200.00	$3,600.00
L-108f	Temporary Airfield Circuits	1	LS	$5,700.00	$5,700.00
L-109a	Demolition of Vault Electrical Equipment	1	LS	$3,000.00	$3,000.00
L-109c	10 KW Constant Current Regulator	1	EA	$18,000.00	$18,000.00
L-109e	Distribution Panel	1	EA	$2,500.00	$2,500.00
L-109f	4" x 4" Wireway	35	LF	$90.00	$3,150.00
L-109g	Miscellaneous Electrical Vault Work	1	LS	$15,000.00	$15,000.00
L-110a	One 2-Inch Conduit, Direct Buried (D.B.)	15,000	LF	$10.00	$150,000.00
L-110b	One 2-Inch Conduit, Concrete Encased (C.E.)	250	LF	$20.00	$5,000.00
L-110c	Two 3-Inch Conduit, C.E.	120	LF	$30.00	$3,600.00
L-115a	Size "B" L-867 Base Can and Cover	10	EA	$600.00	$6,000.00
L-125d	L-862 LED Elevated Taxiway Edge Light, Installed on New Basecan	200	EA	$2,500.00	$500,000.00
L-125f	L-858 Size 1, 2-Module Guidance Sign, LED, Installed on New Base	16	EA	$1,800.00	$28,800.00
L-125k	Airfield Electrical Demolition and Removal	1	LS	$15,000.00	$15,000.00
T-901	Seeding	20	AC	$700.00	$14,000.00
T-908	Mulching	20	AC	$1,000.00	$20,000.00
EXISTING RAMP/APRON DEMOLITION					
C-100	QC Plan	1	LS	$ 38,500.00	$ 38,500.00
P-101a	Remove Tie-downs	120	EA	$ 350.00	$ 42,000.00
P-140	Mill Pavement	32897	SY	$ 3.00	$ 98,691.00
P-152a	Unclassified Excavation	16449	CY	$ 15.00	$ 246,735.00
				Subtotal	$8,131,271.93

Contingency (15%):	$	1,219,690.79	
Engineering Design (8%):	$	650,501.75	
Construction Engineering (12%):	$	975,752.63	
Legal and Administrative:	$	3,000.00	

	Years	%/Year	
Inflation	15	5.0%	$11,846,865.64

TOTAL:	$22,827,082.74
FOR ESTIMATE:	$22,830,000.00

2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT
HEBER CITY, UT
RUNWAY RELOCATION WITH LIGHTING AND NAVAIDS

ARDURRA
4/3/2023

Item No.	Item Description	Qty	Unit	Unit Cost	Cost
SP-1	Special Provision No. 33: Construction Safety and Phasing	1	LS	$30,000.00	$30,000.00
C-100	Contractor Quality Control Program (CQCP)	1	LS	$85,000.00	$85,000.00
C-102a	Temporary Erosion Control	1	LS	$6,500.00	$6,500.00
C-102b	Installation and Removal of Erosion Control Logs	30	EA	$50.00	$1,500.00
C-105a	Mobilization	1	LS	$695,163.17	$695,163.17
P-101a	Pavement Removal	57,483	SY	$3.00	$172,449.00
P-101e	Remove and Dispose of Airfield Light (Runway)	75	EA	$100.00	$7,500.00
P-101g	Demolish Lighted Wind Cone	1	EA	$500.00	$500.00
P-101h	Remove and Dispose of Airfield Sign (Runway)	13	EA	$1,000.00	$13,000.00
P-101k	Recycled Asphalt Millings	6444	CY	$14.25	$91,827.00
P-101l	Duct Bank Pothole and Survey	1	LS	$2,000.00	$2,000.00
P-152a	Unclassified Excavation	62,485	CY	$11.00	$687,335.00
P-152b	Subgrade Preparation	76,644	SY	$1.50	$114,966.00
P-152c	Embankment	306,578	CY	$15.00	$4,598,670.00
P-154a	Subbase Course	38,322	CY	$70.00	$2,682,540.00
P-154b	Geogrid	61,137	SY	$2.50	$152,842.50
P-209	Crushed Aggregate Base Course	12,774	CY	$95.00	$1,213,530.00
P-401	Asphalt Surface Course	17,245	TN	$135.00	$2,328,075.00
P-603	Emulsified Asphalt Tack Coat	7,664	Gal	$5.00	$38,320.00
P-608b	Runway Friction Testing	1	LS	$7,000.00	$7,000.00
P-620a	Marking	40,035	SF	$0.70	$28,024.50
P-620b	Reflective Media	3,000	LB	$5.00	$15,000.00
P-621	Grooving	53,651	SY	$2.25	$120,714.30
D-705b	6-inch Perforated Edge Drain Pipe	13,796	LF	$45.00	$620,820.00
D-705c	Edge Drain Cleanout	14	EA	$700.00	$9,800.00
D-705d	Edge Drain Outlet to Daylight	3	EA	$1,000.00	$3,000.00
D-705e	Edge Drain Outlet to Storm Inlet	3	EA	$800.00	$2,400.00
L-101a	L-802A Airport Rotating Beacon, Installed Complete	1	EA	$22,500.00	$22,500.00
L-101b	Tip-Down Pole with Foundation for Rotating Beacon	1	EA	$22,500.00	$22,500.00
L-107a	L-806 Supplemental Wind Cone and Foundation, Installed Complete	2	EA	$6,500.00	$13,000.00
L-107b	L-807 Primary Wind Cone and Foundation, Installed Complete	0	EA	$12,000.00	$0.00
L-107c	Segmented Circle Marker System, in Place	0	EA	$38,000.00	$0.00
L-108a	Airfield Lighting Cable	25,000	LF	$2.00	$50,000.00
L-108b	Voltage Circuit Wires, Installed in Ductbank or Conduit	2,000	LF	$5.00	$10,000.00
L-108c	Counterpoise Wire Installed in Separate Trench	4,600	LF	$5.00	$23,000.00
L-108d	Counterpoise Wire Installed above New Conduit/Ductbank	18,000	LF	$2.00	$36,000.00
L-108e	Counterpoise Ground Rods	18	EA	$200.00	$3,600.00
L-108f	Temporary Airfield Circuits	1	LS	$5,700.00	$5,700.00
L-109a	Demolition of Vault Electrical Equipment	1	LS	$3,000.00	$3,000.00
L-109d	15 KW Constant Current Regulator	1	EA	$21,000.00	$21,000.00
L-109e	Distribution Panel	1	EA	$2,500.00	$2,500.00
L-109f	4" x 4" Wireway	35	LF	$90.00	$3,150.00
L-109g	Miscellaneous Electrical Vault Work	1	LS	$15,000.00	$15,000.00
L-110a	One 2-Inch Conduit, Direct Buried (D.B.)	18,000	LF	$10.00	$180,000.00
L-110b	One 2-Inch Conduit, Concrete Encased (C.E.)	250	LF	$20.00	$5,000.00
L-110c	Two 3-Inch Conduit, C.E.	120	LF	$30.00	$3,600.00
L-115a	Size "B" L-867 Base Can and Cover	10	EA	$600.00	$6,000.00
L-125d	L-862 LED Elevated High-Intensity Runway Edge Light, Installed on New Basecan	65	EA	$2,500.00	$162,500.00
L-125e	L-862E LED Elevated High-Intensity Runway Threshold Light	16	EA	$1,500.00	$24,000.00
L-125f	L-858 Size 1, 2-Module Guidance Sign, LED, Installed on New Base	12	EA	$1,800.00	$21,600.00
L-125k	Airfield Electrical Demolition and Removal	1	LS	$15,000.00	$15,000.00
L-125l	Temporary Displaced Threshold Lights	1	LS	$13,800.00	$13,800.00
T-901	Seeding	25	AC	$700.00	$17,500.00
T-908	Mulching	25	AC	$1,000.00	$25,000.00

2023 MASTER PLAN COST ESTIMATE
HEBER VALLEY AIRPORT
HEBER CITY, UT
RUNWAY RELOCATION WITH LIGHTING AND NAVAIDS

ARDURRA
4/3/2023

Item No.	Item Description	Qty	Unit	Unit Cost	Cost
EXISTING BUILDING DEMOLITION					
DEMO-1	Remove Existing Building (300'x40')	6	LS	$15,000.00	$90,000.00
DEMO-2	FBO Building (100'x100')	1	LS	$75,000.00	$75,000.00
				Subtotal	$14,598,426.47

		Contingency (15%):	$	2,189,763.97
		Engineering Design (8%):	$	1,167,874.12
		Construction Engineering (12%):	$	1,751,811.18
		Legal and Administrative:	$	3,000.00
	Years	%/Year		
Inflation	15	5.0%	$	21,266,619.26
		TOTAL:		$40,977,494.99
		FOR ESTIMATE:		$40,980,000.00

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Appendix D. Airport Layout Plan

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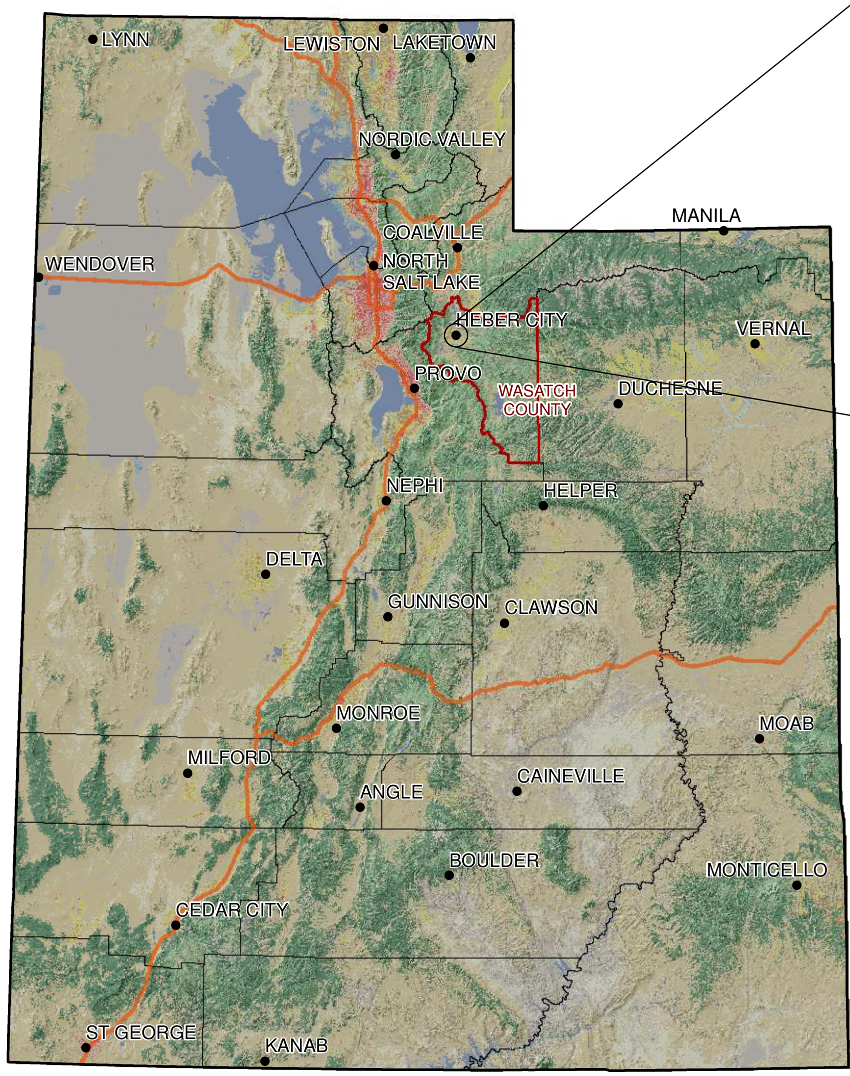
HEBER VALLEY AIRPORT (HCR)

HEBER CITY, UTAH

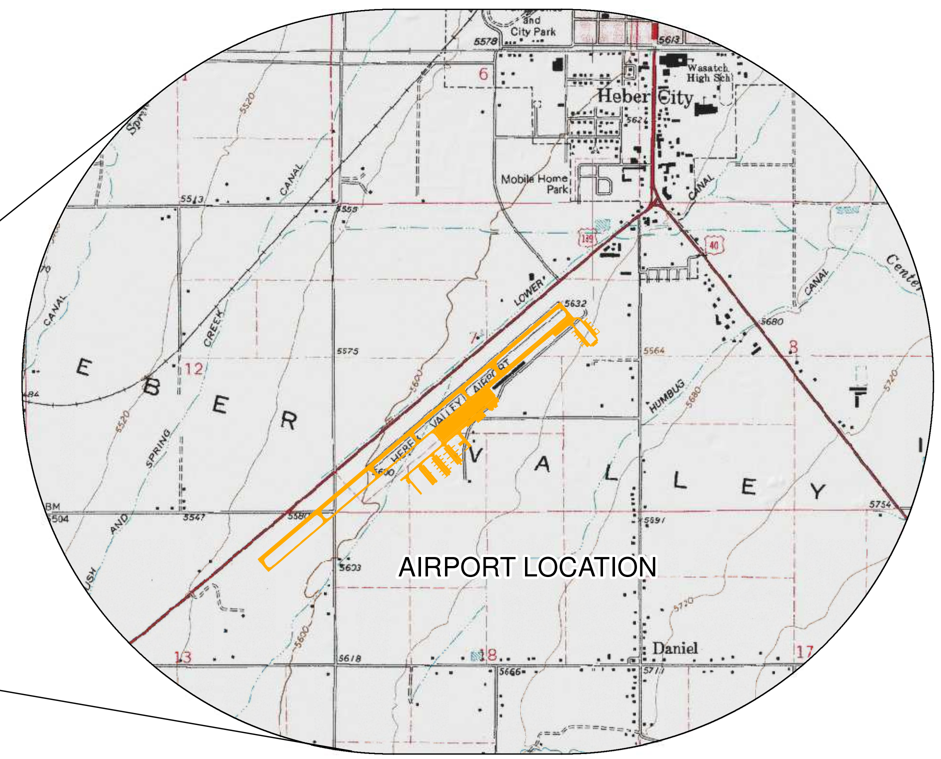
AIRPORT LAYOUT PLAN

A.I.P. NO: 3-49-001-031-2019
ACCEPTED: MONTH YEAR
AIRSPACE CASE NO: XXXX-XXX-XXXX-XXX

DRAWING INDEX:



LOCATION MAP



VICINITY MAP

Acceptance Letter

PLAN ACCEPTANCE:

CITY OF HEBER CITY MAYOR DATE

FAA CONDITIONAL APPROVAL

SUBJECT TO LETTER DATED: ____________

FEDERAL AVIATION ADMINISTRATION
DENVER AIRPORTS DISTRICT OFFICE

DATE : ____________

AIRSPACE CASE NO : ____________

NO.	DESCRIPTION	DATE:	BORDER SIZE 11"X17"	DESIGNED DRAFT	DRAWN MRR	CHECKED BWC	APPROVED JLM

REVISIONS

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P. NO.: 3-49-001-031-2019

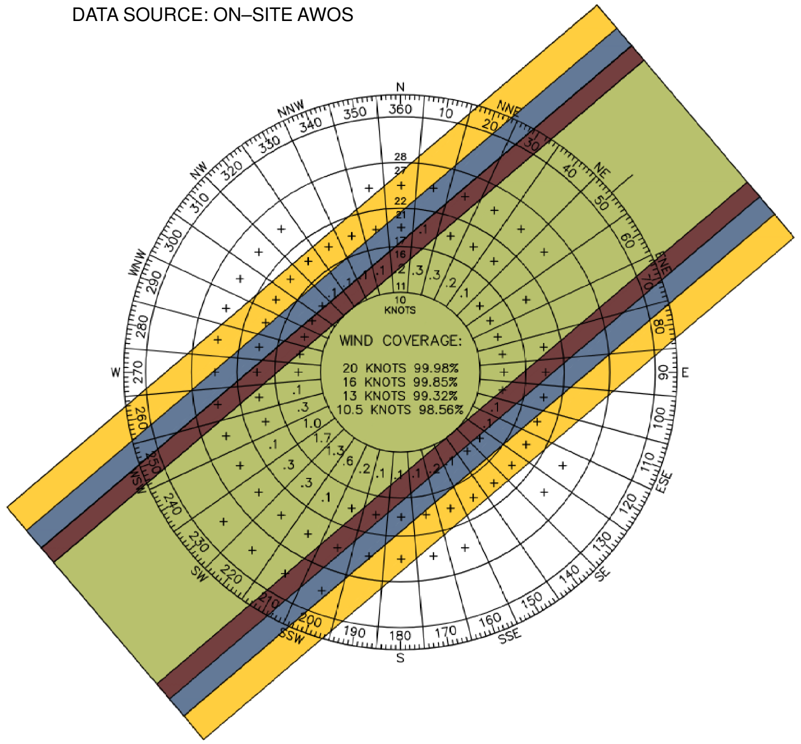
TITLE SHEET

HEBER VALLEY AIRPORT

DATE: MAY 4, 2023
PROJECT # 190036
SHEET: 1
1 OF 21

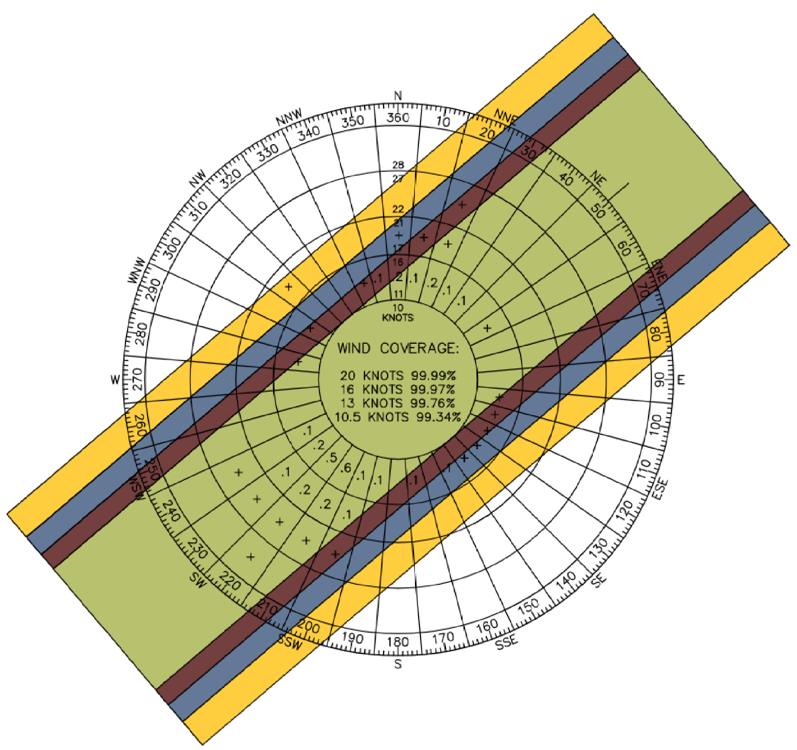
All Weather Wind Rose

COVERAGE: 10.5 KTS 98.56%– 13 KTS 99.32%–
16 KTS 99.85%– 20 KTS 99.98%
OBSERVATIONS: 127,226
TIME PERIOD: 2010-2019
DATA SOURCE: ON–SITE AWOS



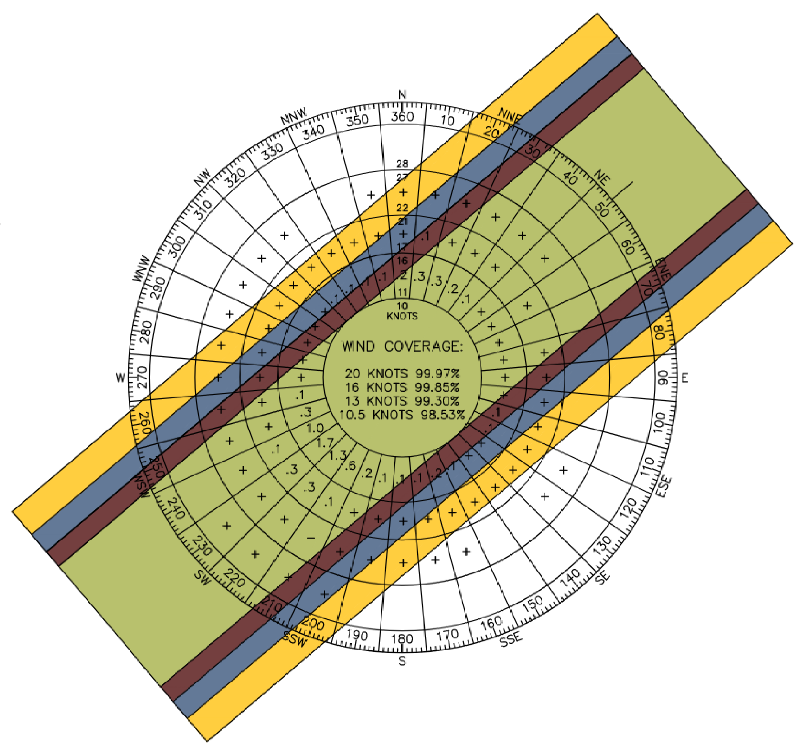
IFR Wind Rose

COVERAGE: 10.5 KTS 99.34%– 13 KTS 99.76%–
16 KTS 99.97%– 20 KTS 99.99%
OBSERVATIONS: 4,922
TIME PERIOD: 2010-2019
DATA SOURCE: ON–SITE AWOS



VFR Wind Rose

COVERAGE: 10.5 KTS 98.53%– 13 KTS 99.30%–
16 KTS 99.85%– 20 KTS 99.97%
OBSERVATIONS: 122,308
TIME PERIOD: 2010-2019
DATA SOURCE: ON–SITE AWOS



ABBREVIATIONS

AP	AIRPORT
ARP	AIRPORT REFERENCE POINT
BRL	BUILDING RESTRICTION LINE
CL	CENTER LINE
ELEV	ELEVATION
(E)	EXISTING
(F)	FUTURE (MID-PHASE)
FAA	FEDERAL AVIATION ADMINISTRATION
HP	HIGH POINT
LP	LOW POINT
NPI	NONPRECISION INSTRUMENT
ROFA	RUNWAY OBJECT FREE AREA
ROFZ	RUNWAY OBSTACLE FREE ZONE
RPZ	RUNWAY PROTECTION ZONE
RSA	RUNWAY SAFETY AREA
RVZ	RUNWAY VISIBILITY ZONE
RWY	RUNWAY
STA	STATION
TESM	TAXIWAY EDGE SAFETY MARGIN
TOFA	TAXIWAY OBJECT FREE AREA
TSA	TAXIWAY SAFETY AREA
TDZ	TOUCH DOWN ZONE
TYP	TYPICAL
(U)	ULTIMATE (LONG-TERM)
VIS	VISUAL

FAA SOP 2.00 A.3 "D" RUNWAY DATA TABLE

RUNWAY 4/22

		EXISTING		FUTURE	
1	RUNWAY	4	22	4	22
2	RUNWAY DESIGN CODE (RDC)	B-II (LARGE AIRCRAFT)		C-II (LARGE AIRCRAFT)	
3	RUNWAY REFERENCE CODE (RRC)	B-II-5000		C-II-5000	
4	PAVEMENT TYPE	ASPHALT			
	PAVEMENT STRENGTH BY WHEEL LOAD	SWG 89,000 DWG 142,500			
	PAVEMENT CLASSIFICATION NUMBER (PCN)	32/F/B/X/T			
5	EFFECTIVE RUNWAY GRADIENT (%)	1.5%-5.00%		1.5% - 3.0%	
	MAXIMUM GRADIENT WITHIN RUNWAY	0.78%		0.85%	
6	WIND COVERAGE (10.5/13/16) IN KTS	98.56% / 99.32% / 99.85% / 99.98%			
7	RUNWAY DIMENSIONS	6898' X 75'		6898' X 100'	
8	DISPLACED THRESHOLD	NONE		NONE	
9	RUNWAY SAFETY AREA (STANDARD) WIDTH	150'		500'	
	RUNWAY SAFETY AREA (STANDARD) LENGTH OFF ENDS	300'		1,000'	
	RUNWAY SAFETY AREA DIMENSIONS (ACTUAL) WIDTH	150'		500'	
	RUNWAY SAFETY AREA DIMENSIONS (ACTUAL) LENGTH OFF ENDS	300'		1,000'	
10	RUNWAY OBJECT FREE AREA WIDTH	500'		800'	
	RUNWAY OBJECT FREE AREA LENGTH BEYOND RUNWAY END	300'		1,000'	
11	OBSTACLE FREE ZONE WIDTH	400'			
	OBSTACLE FREE ZONE LENGTH BEYOND RUNWAY END	200'			
12	RUNWAY PROTECTION ZONE DIMENSIONS (LENGTH/IN/OUT)	1,000' / 500' / 700'		1,700' / 500' / 1,010'	
13	RUNWAY END COORDINATES LAT:	N 40°28'32.48"	N 40°29'16.49"	N 40°28'27.08"	N 40°29'11.09"
	LONG:	W 111°26'17.76"	W 111°25'09.63"	W 111°26'23.35"	W 111°25'15.19"
14	RUNWAY END ELEVATION (SURVEYED (E)) (CALCULATED (F))	5583.0'	5636.8'	5582.0'	5640.8'
	RUNWAY TOUCHDOWN ZONE ELEVATION	5608.4'	5636.8'	5607.2'	5640.8'
15	RUNWAY LIGHTING TYPE	MIRL			
16	RUNWAY MARKING TYPE	NPI			
	CFR PART 77 APPROACH CATEGORY (SLOPE)	20:1		34:1	
17	APPROACH TYPE	NPI			
	VISIBILITY MINIMUMS	1-1/2 STATUE MILE			
18	AERONAUTICAL SURVEY REQUIRED	NONE			
19	RUNWAY DEPARTURE SURFACE APPLIED?	YES			
20	THRESHOLD SITING SURFACE (TSS)	SURFACE 4		SURFACE 4	
21	APPROACH END OF RUNWAY WIDTH VERTICAL GUIDANCE (VSG)	NONE			
22	VISUAL AND INSTRUMENT NAVAIDS	PAPIS (RWY 22), BEACON			
23	TAXIWAY DESIGN GROUP	2		2	
24	TAXIWAY AND TAXILANE WIDTH	25'		35'	
25	TAXIWAY EDGE SAFETY MARGIN (TESM)	7.5'		7.5'	
26	TAXIWAY AND TAXILANE SAFETY AREA (TSA) WIDTH	79'		79'	
27	TAXIWAY OBJECT FREE AREA (TOFA) WIDTH	131'		124'	
	TAXILANE OBJECT FREE AREA (TOFA) WIDTH	115'		110'	
28	TAXIWAY CENTERLINE TO RUNWAY CENTERLINE SEPARATION	238'		300'	
29	TAXIWAY LIGHTING	MIRL			
30	VERTICAL DATUM	NAVD88 (US FEET)			
31	HORIZONTAL DATUM	NAD83 (2011) (EPOCH:2010:0000)			

FAA SOP 2.00 A.3 "C" AIRPORT DATA TABLE

		EXISTING	FUTURE
1	AIRPORT REFERENCE CODE (ARC)	B-II (LARGE AIRCRAFT)	C-II
2	MEAN MAX TEMPERATURE HOTTEST MONTH	85°(JULY)	85° (JULY)
3	AIRPORT ELEVATION	5636.8'	5640.8'
4	AIRPORT NAVIGATIONAL AIDS	PAPI (RWY 22), BEACON	
5	AIRPORT REFERENCE POINT LAT:	N 40°28'54.48"	N 40°28'49.09"
	LONG:	W 111°25'43.69"	W 111°25'49.27"
6	MISCELLANEOUS FACILITIES	AWOS	
7	CRITICAL AIRCRAFT	BEECHCRAFT 1900D	BOMBARDIER CHALLENGER 350
8	AIRPORT MAGNETIC VARIATION	10°45' E (JAN 2023)	
9	NPIAS SERVICE LEVEL	REGIONAL	
10	UTAH STATE SERVICE ROLE	CLASS II - CORPORATE/TOURISM	

FAA SOP 2.00 A.3 "F" DECLARED DISTANCES TABLE

	RUNWAY 4/22 (PRIMARY)	EXISTING	FUTURE
1	TAKE-OFF RUN AVAILABLE (TORA)	6898'	6898'
2	TAKE-OFF DISTANCE AVAILABLE (TODA)	6898'	6898'
3	ACCELERATED STOP DISTANCE (ASDA)	6898'	6898'
4	LANDING DISTANCE AVAILABLE (LDA)	6898'	6898'

AIRPORT NON-STANDARDS CONDITIONS TABLE

	ITEM OR SURFACE NOT MEETING STANDARD	ACTUAL	STANDARD	FAA APPROVED DATE
1	NONE APPROVED	NONE	NONE	NONE

BORDER SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
11"X17"	DRAFT	BRC	BWC	JLM

REVISIONS

NO.	DESCRIPTION	DATE:

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P NO.: 3-49-001-031-2019

DATA SHEET

HEBER VALLEY AIRPORT

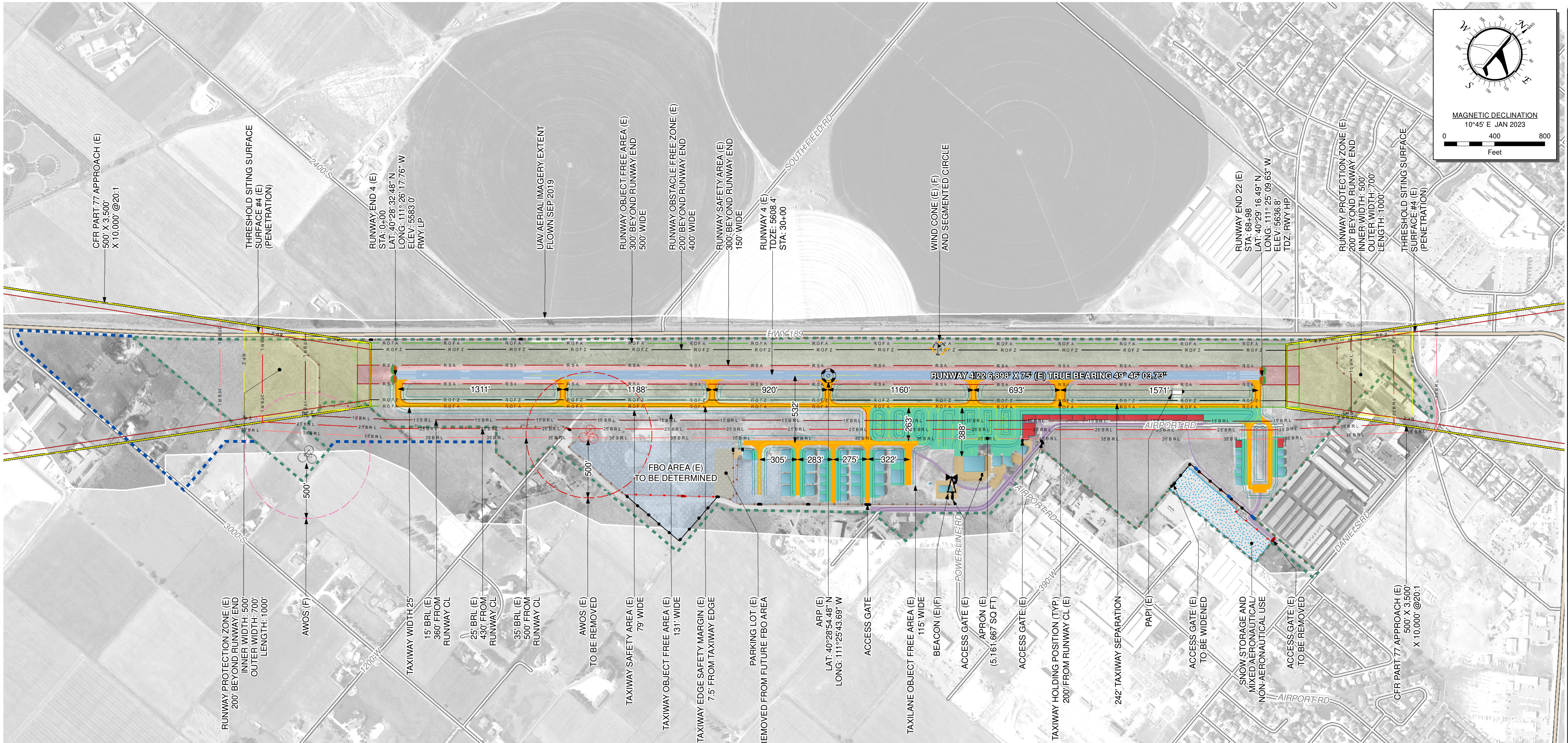
DATE: May 04, 2023

PROJECT # 190036

SHEET: 2

2 OF 21

Document Path: K:\190036-CDY15_GIS\ALP\HCR_SHEET_2_DATA_Sheet.mxd



UAV AERIAL
FLOWN SEPT 2019

ABBREVIATIONS

AP	AIRPORT
ARP	AIRPORT REFERENCE POINT
BRL	BUILDING RESTRICTION LINE
CL	CENTER LINE
ELEV	ELEVATION
(E)	EXISTING
(F)	FUTURE (MID-PHASE)
FAA	FEDERAL AVIATION ADMINISTRATION
HP	HIGH POINT
LP	LOW POINT
NPI	NONPRECISION INSTRUMENT
ROFA	RUNWAY OBJECT FREE AREA
ROFZ	RUNWAY OBSTACLE FREE ZONE
RPZ	RUNWAY PROTECTION ZONE
RSA	RUNWAY SAFETY AREA
RVZ	RUNWAY VISIBILITY ZONE
RWY	RUNWAY
STA	STATION
TESM	TAXIWAY EDGE SAFETY MARGIN
TOFA	TAXIWAY OBJECT FREE AREA
TSA	TAXIWAY SAFETY AREA
TDZ	TOUCH DOWN ZONE
TYP	TYPICAL
(U)	ULTIMATE (LONG-TERM)
VIS	VISUAL

CITY OF HEBER CITY MAYOR DATE

The preparation of this document may have been supported, in part, through the Airport Improvement Program financial assistance from the Federal Aviation Administration (Project Number AIP 3-49-001-031-2019) as provided under title 49 U.S.C., section 47104. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable or would have justification in accordance with appropriate public laws.

FAA CONDITIONAL APPROVAL

SUBJECT TO LETTER DATED: ____________

FEDERAL AVIATION ADMINISTRATION
DENVER AIRPORTS DISTRICT OFFICE

DATE : ____________

AIRSPACE CASE NO : ____________

LEGEND

ITEM EXISTING	ITEM FUTURE	DESCRIPTION	ITEM EXISTING	ITEM FUTURE	DESCRIPTION	ITEM EXISTING	DESCRIPTION
BUILDING			**NAVAIDS**			**MARKING LINE**	
		HANGAR TO BE REMOVED			AWOS		RUNWAY CENTERLINE
	X	HANGAR			AWOS PROTECTION		TAXIWAY CENTERLINE
FENCE					BEACON		TAXIWAY HOLDING POSITIION
		CHAINLINK FENCE (7')		X	PAPI		TIE DOWN
		FENCE TO BE REMOVED		X	THRESHOLD LIGHT	**SAFETY AREAS**	
		WIRE FENCE (8')			WIND CONE	RSA	RUNWAY SAFETY AREA (RSA)
		GATE			SEGMENTED CIRCLE	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
PART 77 SURFACE			**PAVEMENT**			RPZ	RUNWAY PROTECTION ZONE (RPZ)
	X	CFR PART 77 APPROACH		X	APRON	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
	X	THRESHOLD SITING SURFACE		X	DRIVEWAY		TAXIWAY EDGE SAFETY MARGIN (TESM)
MISCELLANEOUS				X	PARKING LOT		TAXIWAY OBJECT FREE AREA (TOFA)
		AIRPORT BOUNDARY			ROAD		TAXIWAY SAFETY AREA (TSA)
	X	AIRPORT REFERENCE POINT (ARP)		X	RUNWAY	15' BRL	15' BUILDING RESTRICTION LINE (BRL)
X		FBO AREA		X	TAXIWAY	25' BRL	25' BUILDING RESTRICTION LINE (BRL)
X		SNOW STORAGE				35' BRL	35' BUILDING RESTRICTION LINE (BRL)

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BORDER SIZE	11"X17"
DESIGNED	DRAFT
DRAWN	BRC
CHECKED	BWC
APPROVED	JLM

REVISIONS

NO.	DESCRIPTION	DATE:

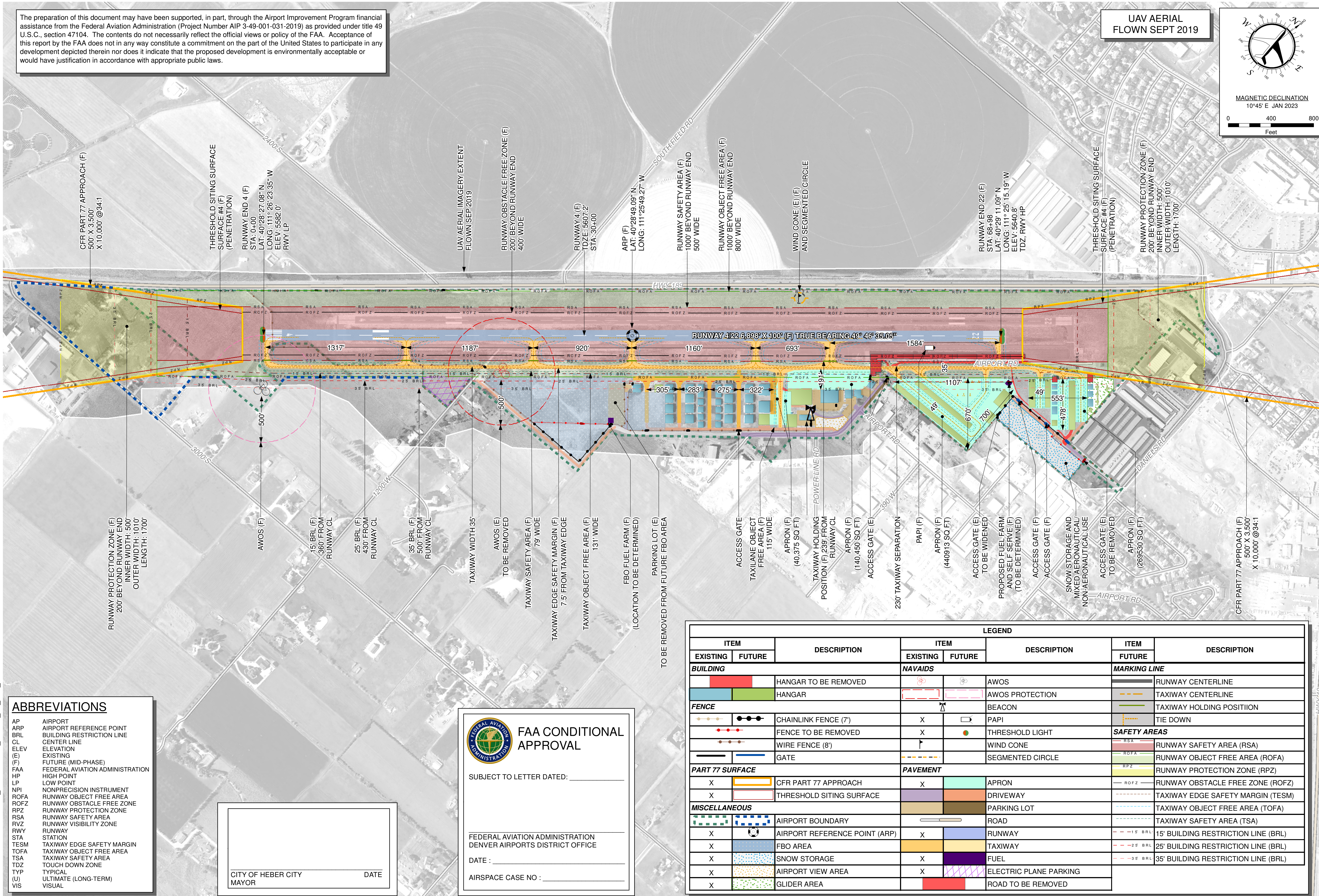
ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P NO.: 3-49-001-031-2019

AIRPORT LAYOUT PLAN EXISTING
HEBER VALLEY AIRPORT

DATE: MAY 4, 2023
PROJECT # 190036
SHEET: 3A
3 OF 21

The preparation of this document may have been supported, in part, through the Airport Improvement Program financial assistance from the Federal Aviation Administration (Project Number AIP 3-49-001-031-2019) as provided under title 49 U.S.C., section 47104. The contents do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein nor does it indicate that the proposed development is environmentally acceptable or would have justification in accordance with appropriate public laws.



LEGEND

ITEM EXISTING	ITEM FUTURE	DESCRIPTION	ITEM EXISTING	ITEM FUTURE	DESCRIPTION	ITEM FUTURE	DESCRIPTION
BUILDING			**NAVAIDS**			**MARKING LINE**	
		HANGAR TO BE REMOVED			AWOS		RUNWAY CENTERLINE
		HANGAR			AWOS PROTECTION		TAXIWAY CENTERLINE
FENCE					BEACON		TAXIWAY HOLDING POSITIION
		CHAINLINK FENCE (7')	X		PAPI		TIE DOWN
		FENCE TO BE REMOVED	X		THRESHOLD LIGHT	**SAFETY AREAS**	
		WIRE FENCE (8')			WIND CONE	RSA	RUNWAY SAFETY AREA (RSA)
		GATE			SEGMENTED CIRCLE	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
PART 77 SURFACE			**PAVEMENT**			RPZ	RUNWAY PROTECTION ZONE (RPZ)
X		CFR PART 77 APPROACH	X		APRON	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
X		THRESHOLD SITING SURFACE			DRIVEWAY		TAXIWAY EDGE SAFETY MARGIN (TESM)
MISCELLANEOUS					PARKING LOT		TAXIWAY OBJECT FREE AREA (TOFA)
		AIRPORT BOUNDARY			ROAD		TAXIWAY SAFETY AREA (TSA)
X		AIRPORT REFERENCE POINT (ARP)	X		RUNWAY	15' BRL	15' BUILDING RESTRICTION LINE (BRL)
X		FBO AREA			TAXIWAY	25' BRL	25' BUILDING RESTRICTION LINE (BRL)
X		SNOW STORAGE	X		FUEL	35' BRL	35' BUILDING RESTRICTION LINE (BRL)
X		AIRPORT VIEW AREA	X		ELECTRIC PLANE PARKING		
X		GLIDER AREA			ROAD TO BE REMOVED		

ABBREVIATIONS

AP	AIRPORT
ARP	AIRPORT REFERENCE POINT
BRL	BUILDING RESTRICTION LINE
CL	CENTER LINE
ELEV	ELEVATION
(E)	EXISTING
(F)	FUTURE (MID-PHASE)
FAA	FEDERAL AVIATION ADMINISTRATION
HP	HIGH POINT
LP	LOW POINT
NPI	NONPRECISION INSTRUMENT
ROFA	RUNWAY OBJECT FREE AREA
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RWY	RUNWAY
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TSA	TAXIWAY SAFETY AREA
TDZ	TOUCH DOWN ZONE
TYP	TYPICAL
(U)	ULTIMATE (LONG-TERM)
VIS	VISUAL

CITY OF HEBER CITY MAYOR DATE

FEDERAL AVIATION ADMINISTRATION

FAA CONDITIONAL APPROVAL

SUBJECT TO LETTER DATED: ____________

FEDERAL AVIATION ADMINISTRATION
DENVER AIRPORTS DISTRICT OFFICE

DATE : ____________

AIRSPACE CASE NO : ____________

BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN BRC
CHECKED BWC
APPROVED JLM

REVISIONS

NO.	DESCRIPTION	DATE:

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P NO.: 3-49-001-031-2019

AIRPORT LAYOUT PLAN FUTURE

HEBER VALLEY AIRPORT

DATE: MAY 04, 2023

PROJECT # 190036

SHEET: 3B

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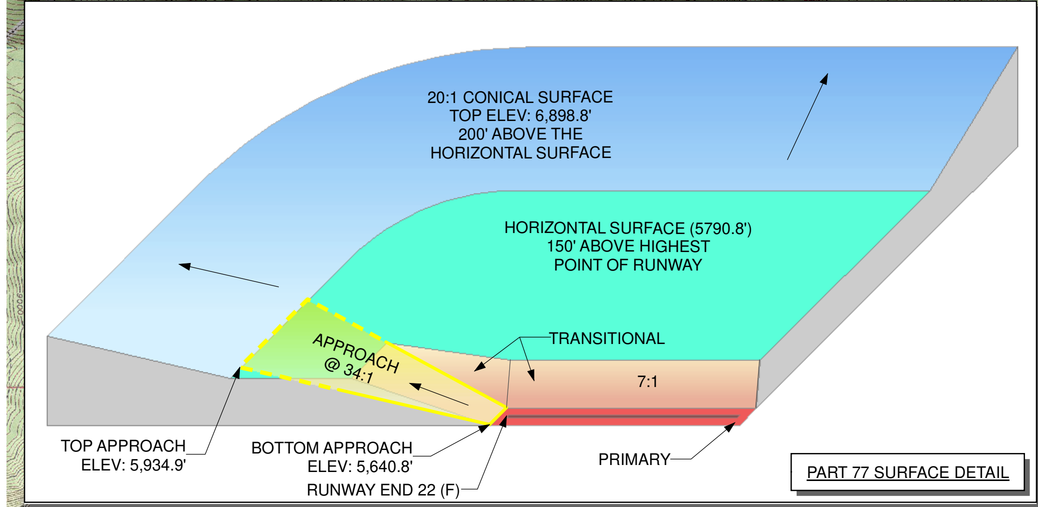
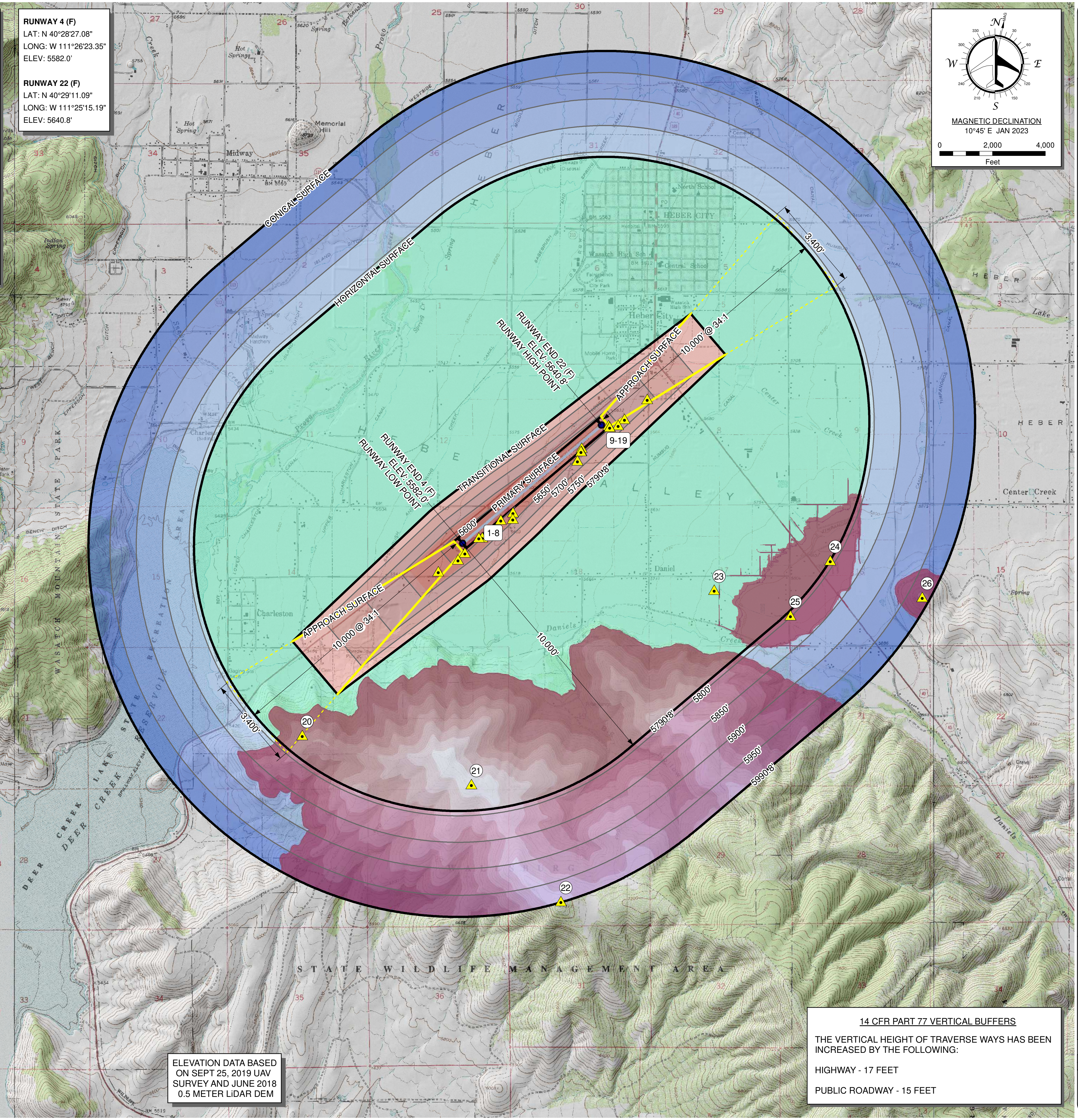


RUNWAY 4 (F)
LAT: N 40°28'27.08"
LONG: W 111°26'23.35"
ELEV: 5582.0'

RUNWAY 22 (F)
LAT: N 40°29'11.09"
LONG: W 111°25'15.19"
ELEV: 5640.8'

HEBER CITY AIRSPACE IS DEFINED BY 14 CFR PART 77 OBSTRUCTION SURFACE AND PROTECTED BY THE FOLLOWING ZONING REGULATIONS:

HEBER CITY MUNICIPAL CODE, TITLE 18 'ZONING' LAST AMENDED 2/24/2022, WASATCH COUNTY CODE, TITLE 16 "LAND USE AND DEVELOPMENT CODE" LAST AMENDED 12/21/2022



OBSTRUCTION TABLE

REF #	OBJECT DESCRIPTION	SURFACE AFFECTED	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
1	TREE	APPROACH	5638.2	375	21.5	TO BE REMOVED
2	BUILDING	TRANSITIONAL	5604.1	100	3.8	TO REMAIN
3	POWER POLE	TRANSITIONAL	5609.2	25	15.3	TO BE REMOVED
4	FENCE	PRIMARY	5596.1	4400	9.8	TO BE REMOVED
5	TREE	TRANSITIONAL	5616.8	900	19.6	TO BE REMOVED
6	FENCE	TRANSITIONAL	5620.4	8800	23.8	TO BE REMOVED
7	TREE	TRANSITIONAL	5644.2	125	8.4	TO BE REMOVED
8	AWOS	TRANSTIONAL	5630.3	25	18.7	TO BE REMOVED
9	TREE	TRANSITIONAL	5684.7	300	27.0	TO BE REMOVED
10	HANGAR	TRANSITIONAL	5666.0	10800	20.0	TO BE REMOVED
11	HANGAR	PRIMARY	5653.4	1275	19.9	TO BE REMOVED
12	HANGAR	PRIMARY	5654.7	58600	15.6	TO BE REMOVED
13	ROAD	PRIMARY	5654.8	11675	14.0	TO BE REMOVED
14	ROAD	TRANSITIONAL	5655.3	19875	14.0	TO BE REMOVED
15	HANGAR	APPROACH	5654.5	800	13.6	TO BE REMOVED
16	ROAD	APPROACH	5656.0	9325	13.9	TO BE REMOVED
17	HANGAR	TRANSITIONAL	5669.2	1350	4.2	TO BE REMOVED
18	HANGAR	TRANSITIONAL	5670.1	1925	4.7	TO BE REMOVED
19	TREE	APPROACH	5696.2	25	3.6	TO BE REMOVED
20	TERRAIN	APPROACH	6213.1	1823750	422.3	TO REMAIN
21	TERRAIN	HORIZONTAL	7163.5	63283475	1372.6	TO REMAIN
22	TERRAIN	CONICAL	7309.8	88264825	1321.5	TO REMAIN
23	ROAD	HORIZONTAL	5847.7	3850	56.8	TO REMAIN
24	TERRAIN AND ROADS	HORIZONTAL	5900.4	8977525	109.6	TO REMAIN
25	TERRAIN AND ROADS	CONICAL	5912.0	5265100	110.7	TO REMAIN
26	TERRAIN	CONICAL	6195.9	1975950	216.5	TO REMAIN

PART 77 OBSTRUCTION
FEET ABOVE PART 77 SURFACE

0' - 200'
200' - 400'
400' - 600'
600' - 800'
800' - 1,000'
1,000' - 1,200'
1,200' - 1,372.6'

RUNWAY

MAXIMUM PART 77 PENETRATION

PART 77 SURFACE ELEVATION (MSL)

PRIMARY
TRANSITIONAL
HORIZONTAL
CONICAL

5,582.0'
5,582.0' - 5,600'
5,600.1' - 5,640.83'
5,640.84' - 5,650'
5,650.1' - 5,700'
5,700.1' - 5,750'
5,750.1' - 5,790.7'
5,790.83'
5,790.9' - 5,800'
5,800.1' - 5,850'
5,850.1' - 5,900'
5,900.1' - 5,950'
5,950.1' - 5,990.83'

ELEVATION DATA BASED ON SEPT 25, 2019 UAV SURVEY AND JUNE 2018 0.5 METER LiDAR DEM

14 CFR PART 77 VERTICAL BUFFERS

THE VERTICAL HEIGHT OF TRAVERSE WAYS HAS BEEN INCREASED BY THE FOLLOWING:

HIGHWAY - 17 FEET

PUBLIC ROADWAY - 15 FEET

MAGNETIC DECLINATION
10°45' E JAN 2023

0 2,000 4,000
Feet

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BORDER SIZE	11"X17"
DESIGNED	DRAFT
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APPROVED	JLM

REVISIONS

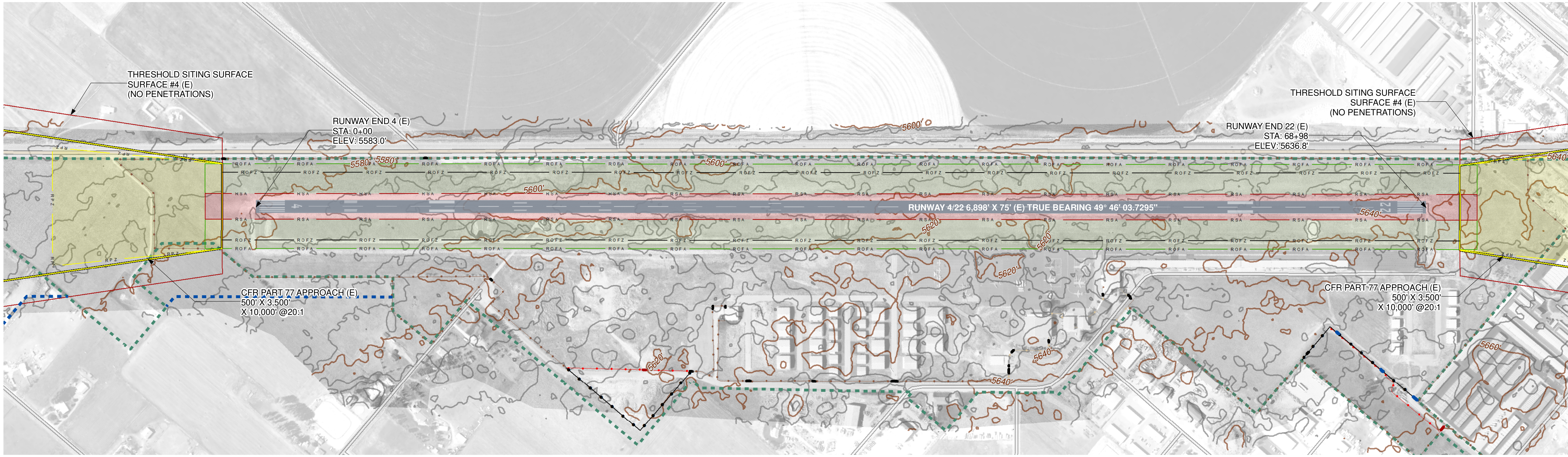
NO.	DESCRIPTION	DATE:

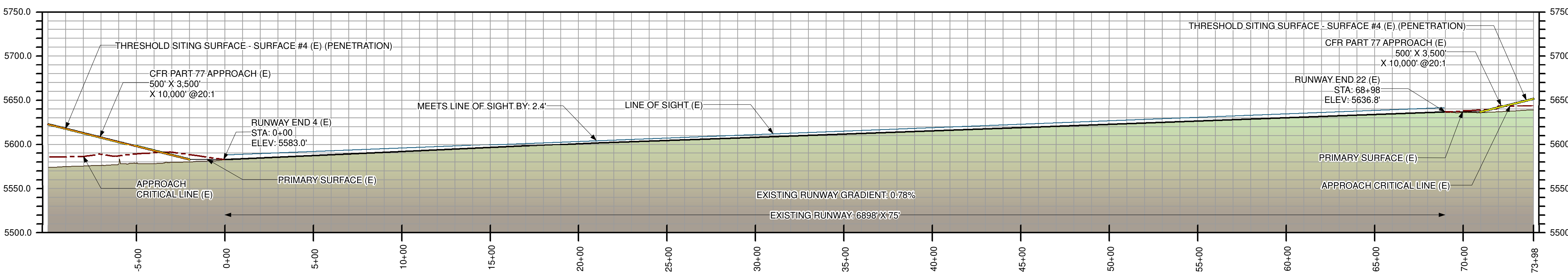
ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P NO.: 3-49-001-031-2019

AIRPORT AIRSPACE FUTURE CONDITIONS
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 4
5 OF 21

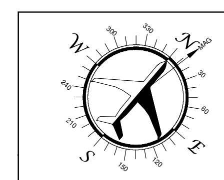




LEGEND

ITEM EXISTING	ITEM FUTURE	DESCRIPTION	ITEM EXISTING	ITEM FUTURE	DESCRIPTION
APPROACH/DEPARTURE SURFACE			**SAFETY AREAS**		
	X	APPROACH CRITICAL LINE	RSA	X	RUNWAY SAFETY AREA (RSA)
	X	PROJECTED RUNWAY CENTERLINE	ROFA	X	RUNWAY OBJECT FREE AREA (ROFA)
	X	THRESHOLD SITING SURFACE	RPZ	X	RUNWAY PROTECTION ZONE (RPZ)
FENCE			ROFZ	X	RUNWAY OBSTACLE FREE ZONE (ROFZ)
		CHAINLINK FENCE (7.0')	**PART 77 SURFACE**		
		FENCE TO BE REMOVED		X	CFR PART 77 APPROACH
		WIRE FENCE (8.0')		X	PRIMARY
		GATE	**5FT CONTOURS**		
PAVEMENT					MAJOR CONTOUR
		ROAD			MINOR CONTOUR
	X	RUNWAY	**MISCELLANEOUS**		
					AIRPORT BOUNDARY

ELEVATION DATA BASED
ON SEPT 25, 2019 UAV
SURVEY AND JUNE 2018
0.5 METER LiDAR DEM



MAGNETIC DECLINATION
10°45' E JAN 2023

0 300 600
Feet

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BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN NXM
CHECKED BWC
APPROVED JLM

NO.	DESCRIPTION	DATE:

REVISIONS

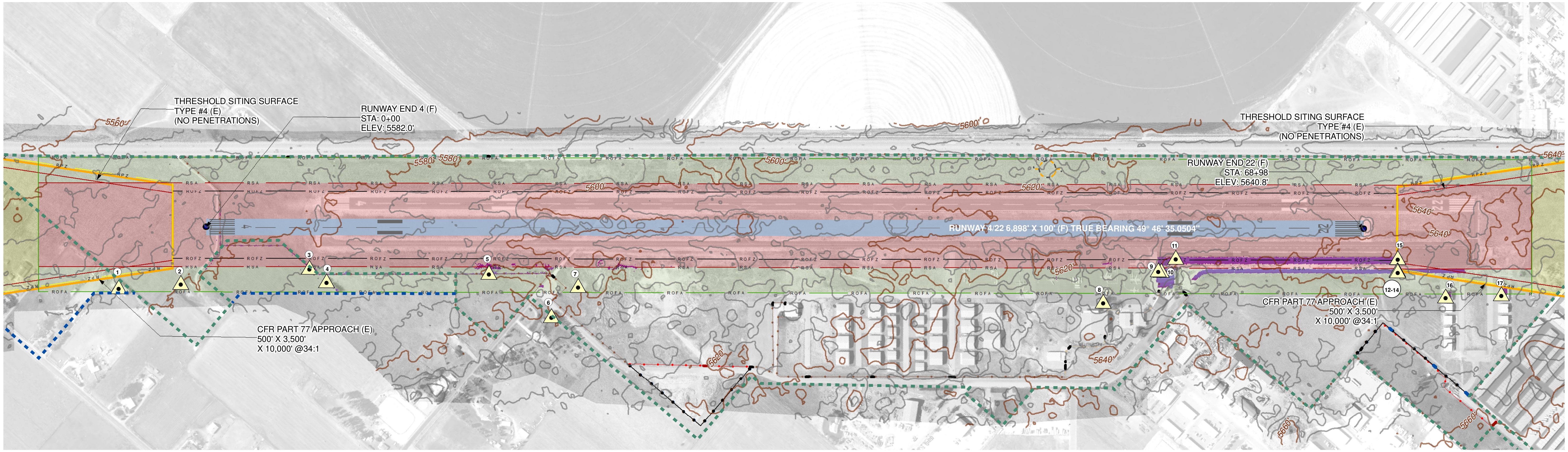
ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

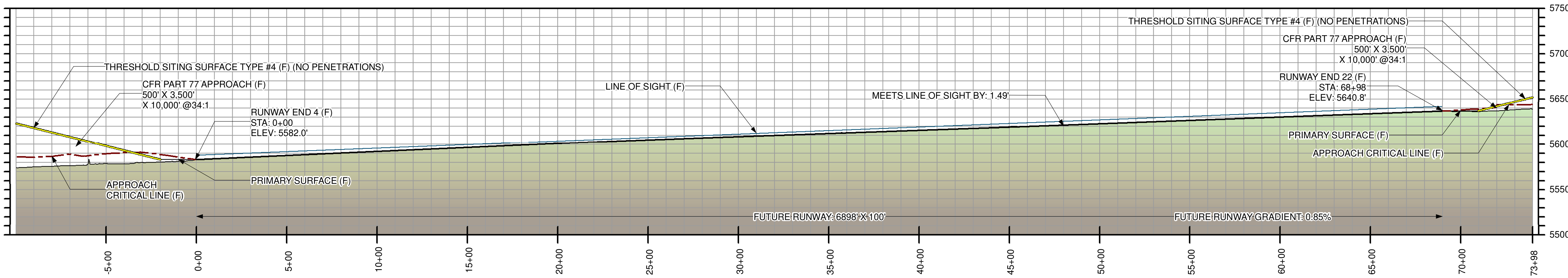
A.I.P. NO.: 3-49-001-031-2019

INNER PORTION OF THE APPROACH SURFACE EXISTING RUNWAY DETAIL

HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 5A
6 OF 21





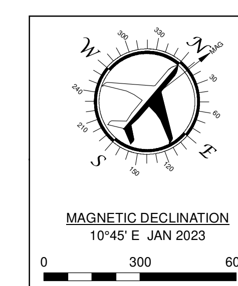
LEGEND

ITEM		DESCRIPTION	ITEM		DESCRIPTION	ITEM		DESCRIPTION
EXISTING	FUTURE		EXISTING	FUTURE		EXISTING	FUTURE	
APPROACH/DEPARTURE SURFACE			*FENCE*			*SAFETY AREAS*		
X		APPROACH CRITICAL LINE			CHAINLINK FENCE (7.0')	X		RUNWAY SAFETY AREA (RSA)
X		PROJECTED RUNWAY CENTERLINE			FENCE TO BE REMOVED	X		RUNWAY OBJECT FREE AREA (ROFA)
X		THRESHOLD SITING SURFACE			WIRE FENCE (8.0')	X		RUNWAY PROTECTION ZONE (RPZ)
X		MAXIMUM HEIGHT PENETRATION			GATE	X		RUNWAY OBSTACLE FREE ZONE (ROFZ)
PART 77 SURFACE			*5FT CONTOURS*			*PAVEMENT*		
X		CFR PART 77 APPROACH			MAJOR CONTOUR			ROAD
X		PRIMARY			MINOR CONTOUR	X		RUNWAY
OBSTRUCTION						*MISCELLANEOUS*		
0' - 5' 5' - 10' 10' - 15' 15' - 20' 20' - 25' 25' - 30'								AIRPORT BOUNDARY

OBSTRUCTION TABLE

REF #	OBJECT DESCRIPTION	SURFACE AFFECTED	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
2	BUILDING	TRANSITIONAL	5604.1	100	3.8	TO REMAIN
3	POWER POLE	TRANSITIONAL	5609.2	25	15.3	TO BE REMOVED
4	FENCE	PRIMARY	5596.1	4400	9.8	TO BE REMOVED
5	TREE	TRANSITIONAL	5616.8	900	19.6	TO BE REMOVED
6	FENCE	TRANSITIONAL	5620.4	8800	23.8	TO BE REMOVED
7	TREE	TRANSITIONAL	5644.2	125	8.4	TO BE REMOVED
8	AWOS	TRANSTIONAL	5630.3	25	18.7	TO BE REMOVED
9	TREE	TRANSITIONAL	5684.7	300	27.0	TO BE REMOVED
10	HANGAR	TRANSITIONAL	5666.0	10800	20.0	TO BE REMOVED
11	HANGAR	PRIMARY	5653.4	1275	19.9	TO BE REMOVED
12	HANGAR	PRIMARY	5654.7	58600	15.6	TO BE REMOVED
13	ROAD	PRIMARY	5654.8	11675	14.0	TO BE REMOVED
14	ROAD	TRANSITIONAL	5655.3	19875	14.0	TO BE REMOVED
15	HANGAR	APPROACH	5654.5	800	13.6	TO BE REMOVED
16	ROAD	APPROACH	5656.0	9325	13.9	TO BE REMOVED
17	HANGAR	TRANSITIONAL	5669.2	1350	4.2	TO BE REMOVED
18	HANGAR	TRANSITIONAL	5670.1	1925	4.7	TO BE REMOVED

ELEVATION DATA BASED ON SEPT 25, 2019 UAV SURVEY AND JUNE 2018 0.5 METER LiDAR DEM



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BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN NXM
CHECKED BWC
APPROVED JLM

REVISIONS

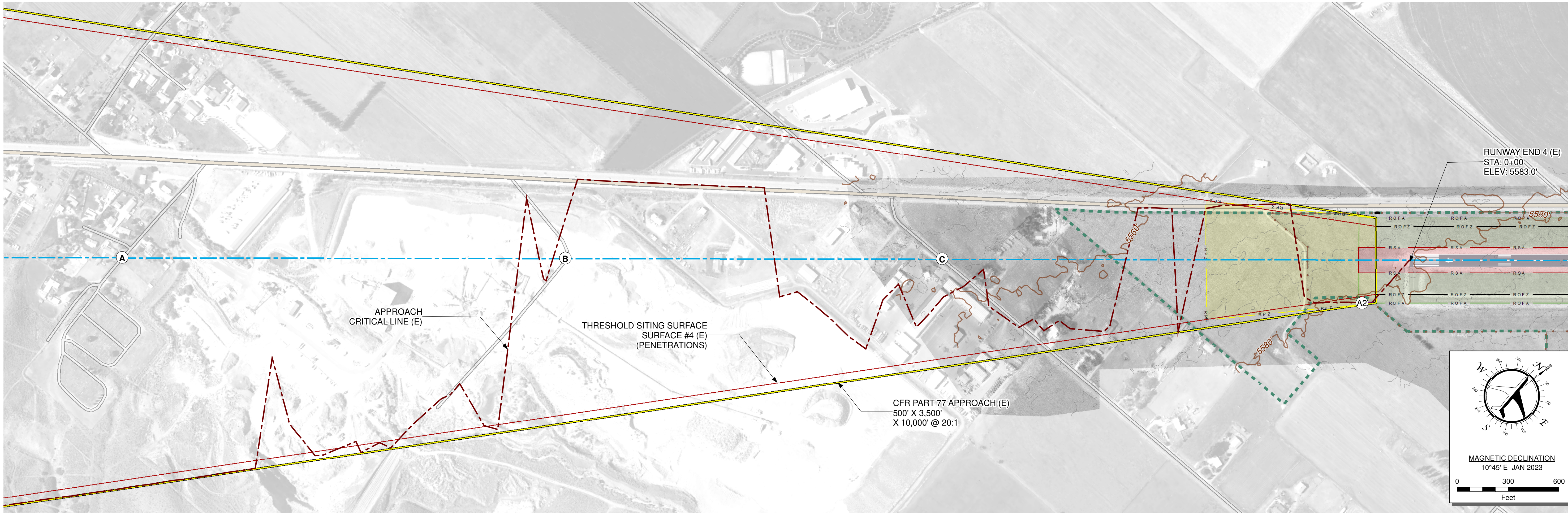
NO.	DESCRIPTION	DATE:

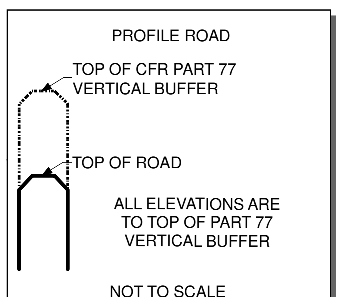
ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P. NO.: 3-49-001-031-2019

INNER PORTION OF THE APPROACH SURFACE FUTURE RUNWAY DETAIL
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 5B





APPROACH VERTICAL BUFFERS

THE VERTICAL HEIGHT OF TRAVERSE WAYS HAS BEEN INCREASED BY THE FOLLOWING:

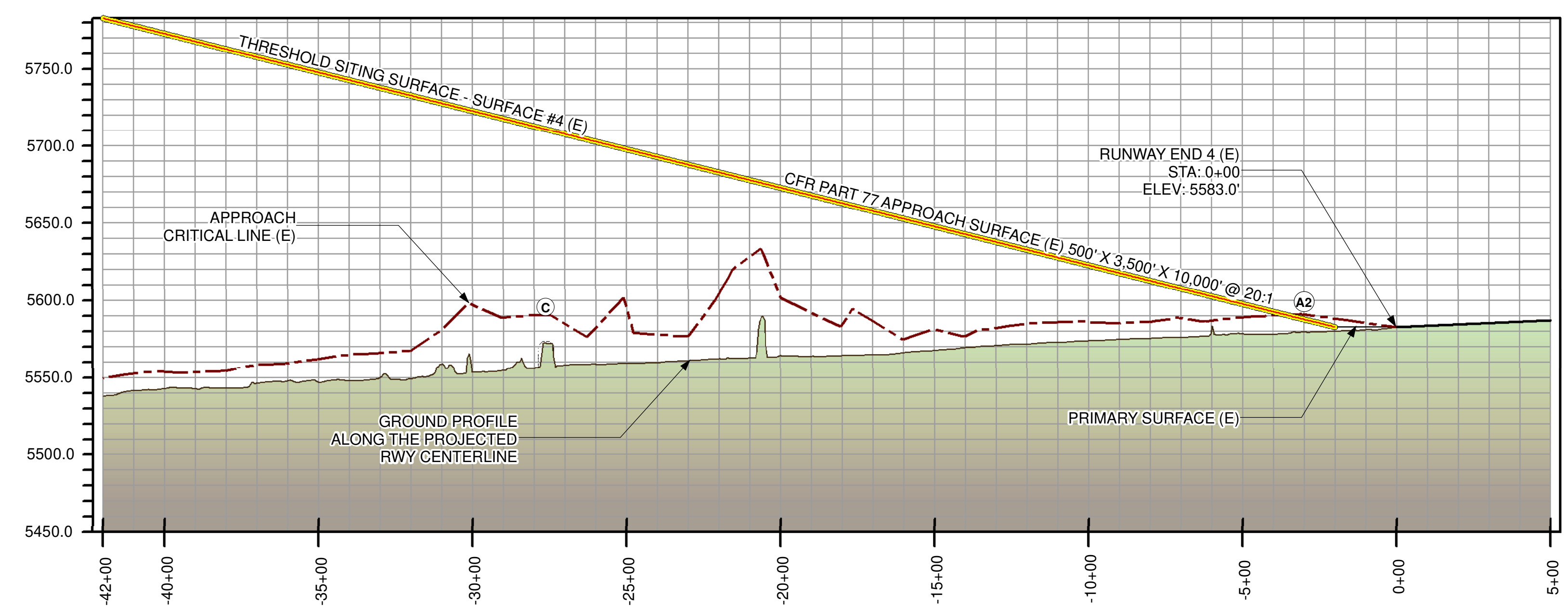
HIGHWAY - 17 FEET
PUBLIC ROADWAY - 15 FEET
RAILROAD - 23 FEET

OBSTRUCTIONS

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
A1 (NOT SHOWN)	TERRAIN	6,198.5	730,625	328.4	TO REMAIN
A2	FENCE	5,592.9	800	9.2	TO REMAIN

SIGNIFICANT OBJECTS

REF #	DESCRIPTION	BUFFER	DEPARTURE IMPACT	DISPOSITION
A	2800 W	15'	CLEARS: 447.7'	NO ACTION
B	PRIVATE ROAD	15'	CLEARS: 308.3'	NO ACTION
C	3000 S	15'	CLEARS: 138.6'	NO ACTION



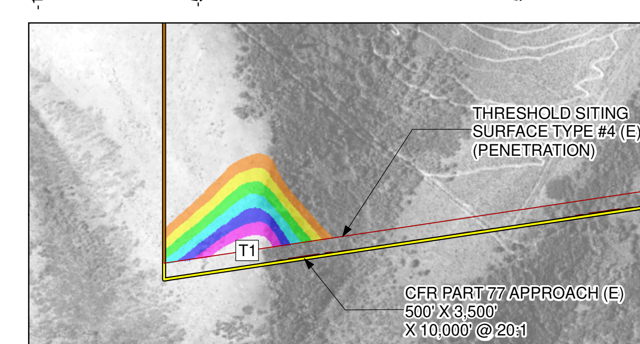
LEGEND

ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
APPROACH SURFACE		*PART 77 SURFACE*		*SAFETY AREAS*	
	APPROACH CRITICAL LINE		CFR PART 77 APPROACH	RSA	RUNWAY SAFETY AREA (RSA)
	PROJECTED RUNWAY CENTERLINE		PRIMARY	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
	THRESHOLD SITING SURFACE	*MISCELLANEOUS*		RPZ	RUNWAY PROTECTION ZONE (RPZ)
PAVEMENT			AIRPORT BOUNDARY	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
	RUNWAY	*FENCE*		*TSS OBSTRUCTIONS*	
	ROAD		CHAINLINK FENCE		0' - 15', 15' - 30', 30' - 45', 45' - 60', 60' - 75', 75' - 90', 90' - 107.5'
2FT CONTOURS			WIRE FENCE		
	MAJOR CONTOUR		TBR FENCE		
	MINOR CONTOUR		GATE		

ELEVATION DATA BASED ON SEPT 25, 2019 UAV SURVEY AND JUNE 2018 0.5 METER LiDAR DEM

RUNWAY 4 FUTURE THRESHOLD SITING SURFACE OBSTRUCTION CHART (SEE OBSTRUCTIONS BELOW CHART)

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
T1	TERRAIN	6,193.0'	249,725'	157.0	TO REMAIN



END OF THRESHOLD SITING SURFACE

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BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN NXM
CHECKED BWC
APPROVED JLM

NO.	DESCRIPTION	DATE:

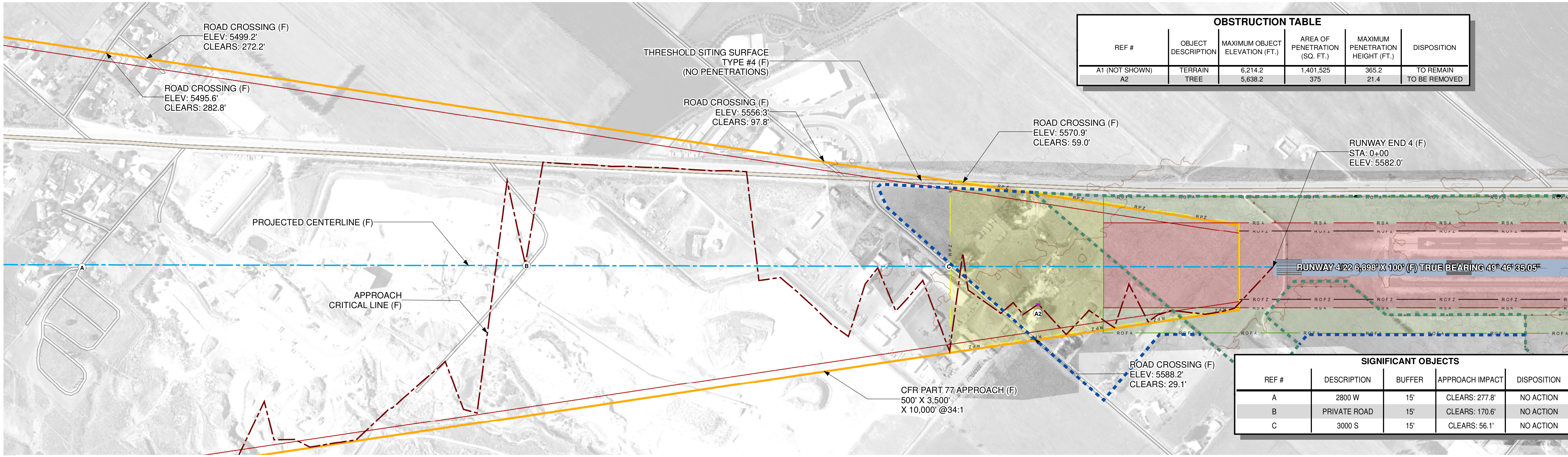
REVISIONS

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P. NO.: 3-49-001-031-2019

INNER PORTION OF THE APPROACH SURFACE EXISTING RUNWAY END 4
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 5C

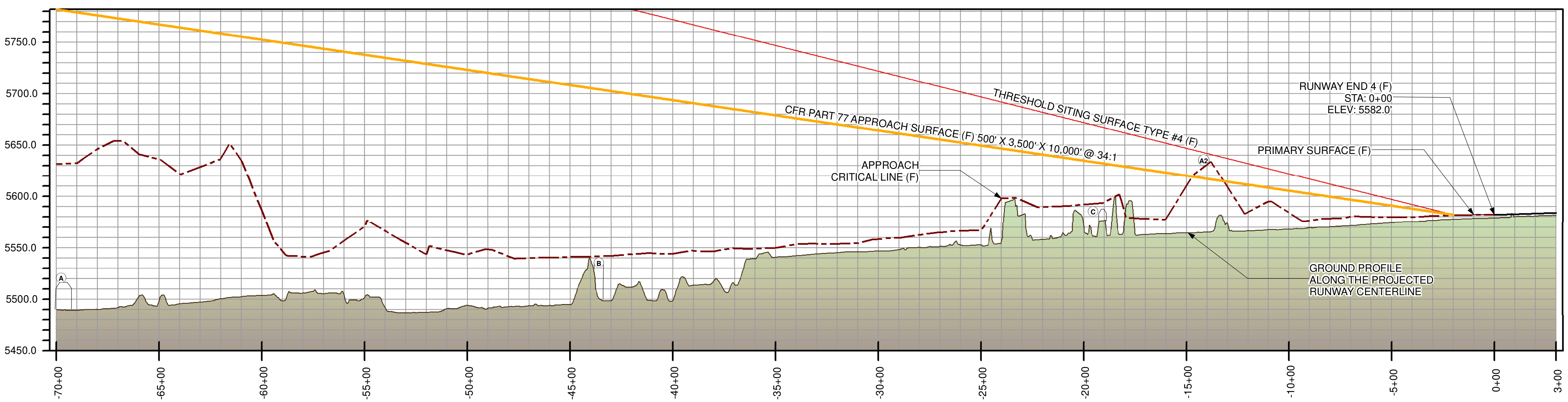


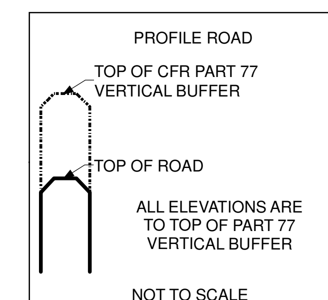
OBSTRUCTION TABLE

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
A1 (NOT SHOWN)	TERRAIN	6,214.2	1,401,525	365.2	TO REMAIN
A2	TREE	5,638.2	375	21.4	TO BE REMOVED

SIGNIFICANT OBJECTS

REF #	DESCRIPTION	BUFFER	APPROACH IMPACT	DISPOSITION
A	2800 W	15'	CLEARS: 277.8'	NO ACTION
B	PRIVATE ROAD	15'	CLEARS: 170.6'	NO ACTION
C	3000 S	15'	CLEARS: 56.1'	NO ACTION



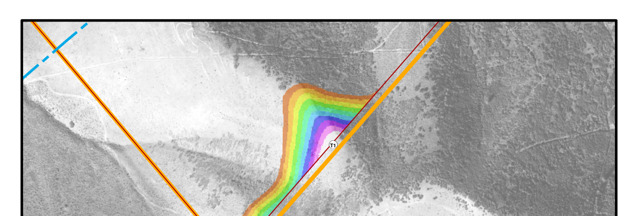


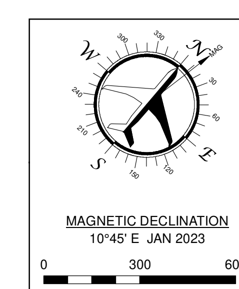
LEGEND

ITEM EXISTING	ITEM FUTURE	DESCRIPTION	ITEM EXISTING	ITEM FUTURE	DESCRIPTION	ITEM EXISTING	ITEM FUTURE	DESCRIPTION
APPROACH SURFACE			*FENCE*			*THRESHOLD SITING SURFACE OBSTRUCTIONS*		
X		APPROACH CRITICAL LINE			CHAINLINK FENCE (7.0')			0' - 15'
X		PROJECTED RUNWAY CENTERLINE			FENCE TO BE REMOVED			15' - 30'
X		THRESHOLD SITING SURFACE			WIRE FENCE (8.0')			30' - 45'
PART 77 SURFACE					GATE			45' - 60'
X		CFR PART 77 APPROACH	*5FT CONTOURS*					60' - 75'
X		PRIMARY			MAJOR CONTOUR	*MISCELLANEOUS*		75' - 90'
SAFETY AREAS					MINOR CONTOUR			AIRPORT BOUNDARY
X	RSA	RUNWAY SAFETY AREA (RSA)	*PAVEMENT*					90' - 105'
X	ROFA	RUNWAY OBJECT FREE AREA (ROFA)			ROAD			105' - 120'
X	RPZ	RUNWAY PROTECTION ZONE (RPZ)	X		RUNWAY			120' - 135'
X	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)						135' - 157.0'

RUNWAY 4 FUTURE THRESHOLD SITING SURFACE OBSTRUCTION CHART (SEE OBSTRUCTIONS BELOW CHART)

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
T1	TERRAIN	6193.0	249725	157.0	TO REMAIN





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BORDER SIZE	11"X17"
DESIGNED	DRAFT
DRAWN	NXM
CHECKED	BWC
APPROVED	JLM

REVISIONS

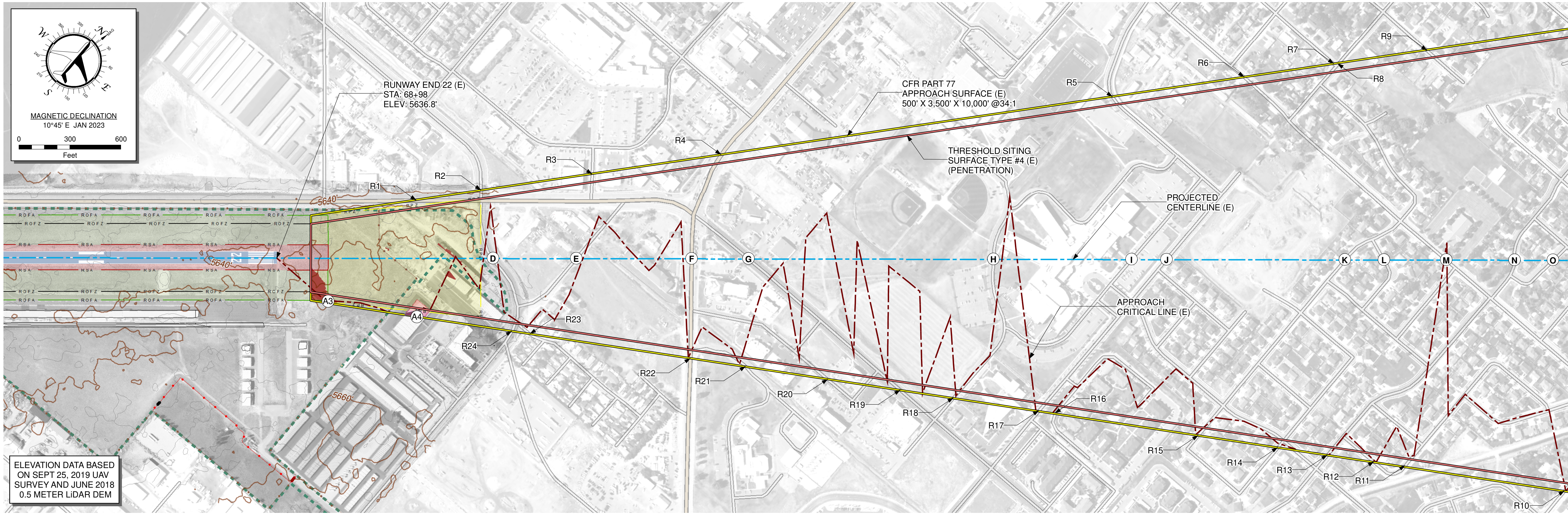
NO.	DESCRIPTION	DATE:

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

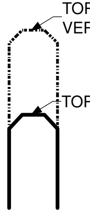
A.I.P. NO.: 3-49-001-031-2019

INNER PORTION OF THE APPROACH SURFACE FUTURE RUNWAY END 4
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 5D

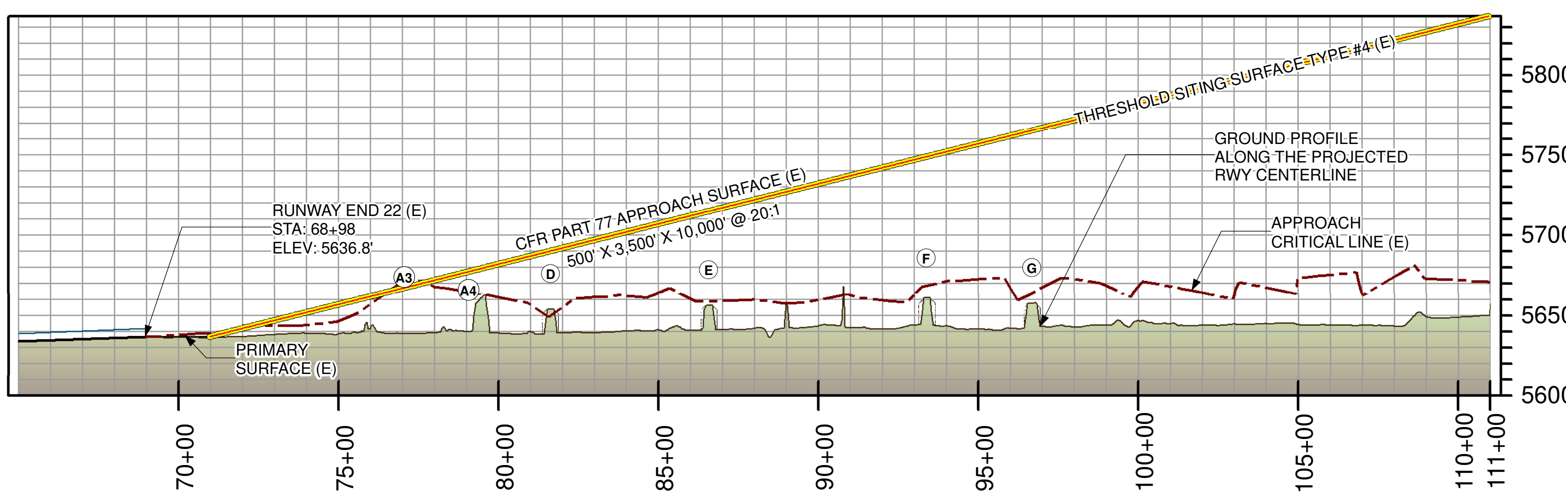


PROFILE ROAD



ALL ELEVATIONS ARE
TO TOP OF PART 77
VERTICAL BUFFER

NOT TO SCALE



APPROACH VERTICAL BUFFERS

THE VERTICAL HEIGHT OF TRAVERSE WAYS HAS BEEN INCREASED BY THE FOLLOWING:

HIGHWAY - 17 FEET
PUBLIC ROADWAY - 15 FEET
RAILROAD - 23 FEET

OBSTRUCTIONS

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
A3	TERRIAN	5,648.0	25'	6.2	TO REMAIN
A4	BUILDING	5,671.9	1,975'	4.6	TO REMAIN

LEGEND

ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
APPROACH SURFACE		*PART 77 SURFACE*		*SAFETY AREAS*	
	APPROACH CRITICAL LINE		CFR PART 77 APPROACH	RSA	RUNWAY SAFETY AREA (RSA)
	PROJECTED RUNWAY CENTERLINE		PRIMARY	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
	THRESHOLD SITING SURFACE	*MISCELLANEOUS*		RPZ	RUNWAY PROTECTION ZONE (RPZ)
PAVEMENT			AIRPORT BOUNDARY	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
	RUNWAY	*FENCE*		*OBSTRUCTIONS*	
	ROAD		CHAINLINK FENCE		
2FT CONTOURS			WIRE FENCE		0' - 2' 2' - 4' 4' - 6' 6' - 8' 8' - 10' 10' - 12' 12' - 14' 14' - 16' 16' - 17'
	MAJOR CONTOUR		TBR FENCE		
	MINOR CONTOUR		GATE		

SIGNIFICANT OBJECTS

REF #	DESCRIPTION	BUFFER	DEPARTURE IMPACT	DISPOSITION	REF #	DESCRIPTION	BUFFER	DEPARTURE IMPACT	DISPOSITION
D	1300 S	15'	CLEARS: 36.4'	NO ACTION	K	620 E	15'	CLEARS: 260.6'	NO ACTION
E	DANIELS RD	15'	CLEARS: 58.6'	NO ACTION	L	630 S	15'	CLEARS: 271.3'	NO ACTION
F	HIGHWAY 40	17'	CLEARS: 87.7'	NO ACTION	M	600 S	15'	CLEARS: 286.5'	NO ACTION
G	1200 S	15'	CLEARS: 107.8'	NO ACTION	N	820 E	15'	CLEARS: 303.8'	NO ACTION
H	PRIVATE ROAD	15'	CLEARS: 172.3'	NO ACTION	O	900 E	15'	CLEARS: 314.0'	NO ACTION
I	PRIVATE ROAD	15'	CLEARS: 210.5'	NO ACTION	P	500 S	15'	CLEARS: 319.5'	NO ACTION
J	500 E	15'	CLEARS: 219.1'	NO ACTION					

ROAD CROSSINGS

REF #	DESCRIPTION	ELEVATION	CLEARS / PENETRATES	REF #	DESCRIPTION	ELEVATION	CLEARS / PENETRATES
R1	HWY CROSSING	5,651.7	16.0	R13	ROAD CROSSING	5,698.4	237.6
R2	ROAD CROSSING	5,649.9	36.8	R14	ROAD CROSSING	5,693.8	227.7
R3	ROAD CROSSING	5,647.4	72.0	R15	ROAD CROSSING	5,688.4	209.6
R4	HWY CROSSING	5,649.1	108.4	R16	ROAD CROSSING	5,676.9	179.0
R5	ROAD CROSSING	5,656.5	216.3	R17	ROAD CROSSING	5,676.6	174.6
R6	ROAD CROSSING	5,661.1	250.4	R18	ROAD CROSSING	5,673.1	152.8
R7	ROAD CROSSING	5,664.1	273.6	R19	ROAD CROSSING	5,670.9	139.3
R8	ROAD CROSSING	5,664.6	274.4	R20	ROAD CROSSING	5,669.0	120.0
R9	ROAD CROSSING	5,668.0	297.3	R21	ROAD CROSSING	5,666.1	98.6
R10	ROAD CROSSING	5,710.1	295.9	R22	HWY CROSSING	5,669.7	78.9
R11	ROAD CROSSING	5,701.4	257.4	R23	ROAD CROSSING	5,662.6	38.7
R12	ROAD CROSSING	5,698.2	251.6	R24	ROAD CROSSING	5,663.0	32.9

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BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN MRR
CHECKED BWC
APPROVED JLM

REVISIONS

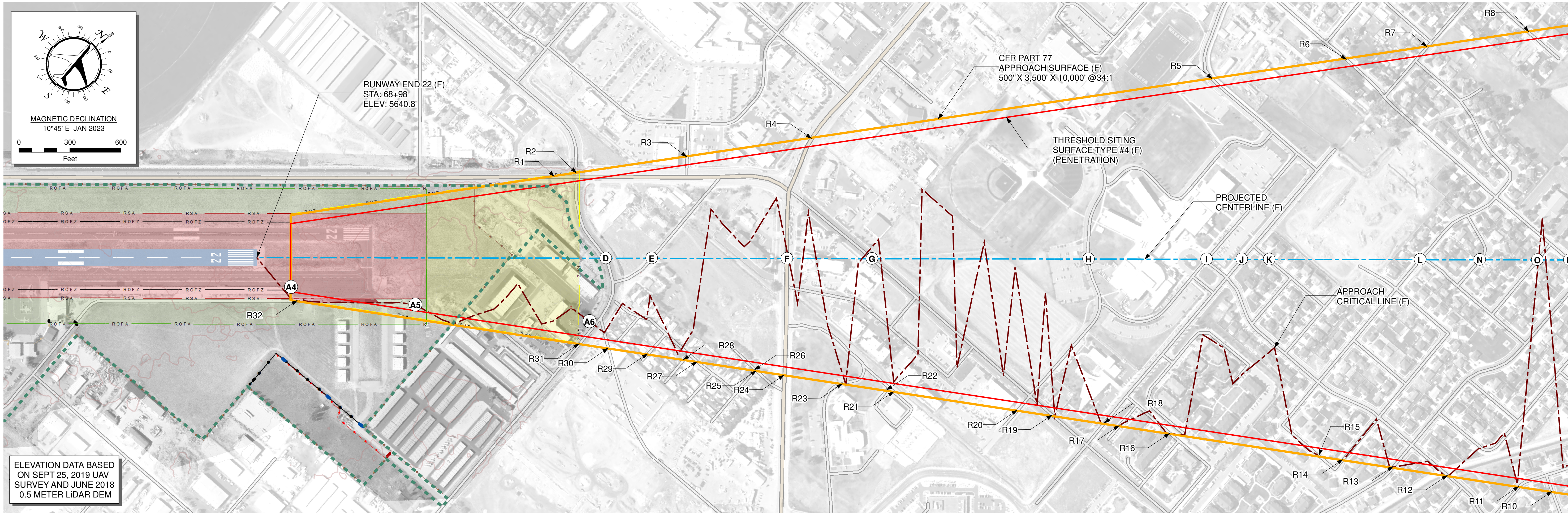
NO.	DESCRIPTION	DATE:

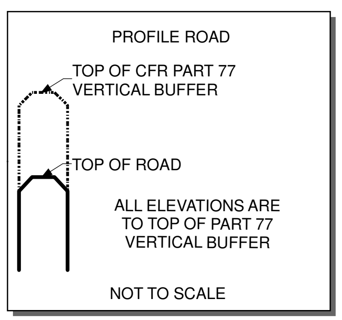
ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

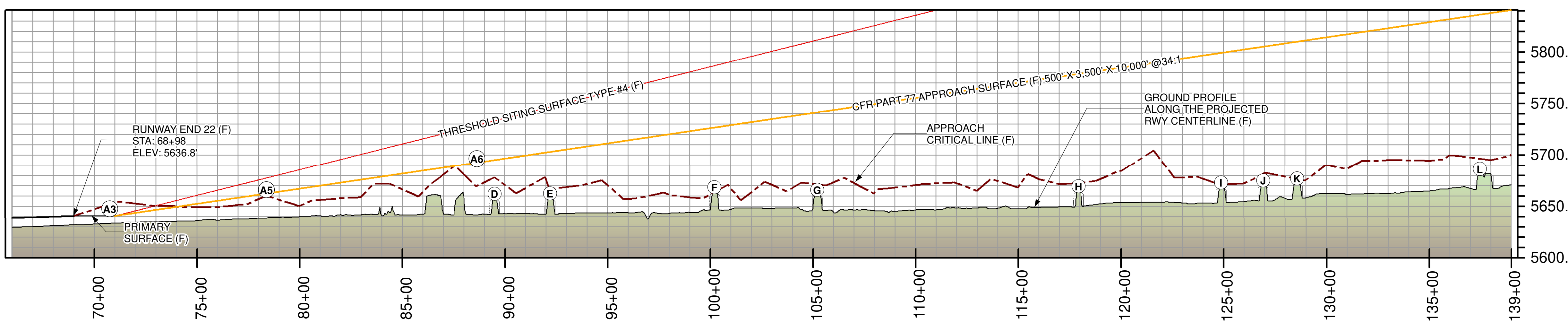
A.I.P. NO.: 3-49-001-031-2019

INNER PORTION OF
THE APPROACH SURFACE
EXISTING RUNWAY END 22
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 5E







APPROACH VERTICAL BUFFERS

THE VERTICAL HEIGHT OF TRAVERSE WAYS HAS BEEN INCREASED BY THE FOLLOWING:

HIGHWAY - 17 FEET
PUBLIC ROADWAY - 15 FEET
RAILROAD - 23 FEET

OBSTRUCTIONS (TSS)

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
T2	BUILDING	5,654.5	500	13.4	TO BE REMOVED

OBSTRUCTIONS

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
A3	TERRAIN	5,656.0	9,325	13.9	TO BE REMOVED
A4	BUILDING	5,654.5	750	13.7	TO BE REMOVED
A5	TREE	5,665.5	25	3.1	TO BE REMOVED
A6	TREE	5,696.2	25	3.6	TO BE REMOVED

SIGNIFICANT OBJECTS

REF #	DESCRIPTION	BUFFER	DEPARTURE IMPACT	DISPOSITION	REF #	DESCRIPTION	BUFFER	DEPARTURE IMPACT	DISPOSITION
D	1300 S	15'	CLEARS: 37.9'		K	840 S	15'	CLEARS: 137.8'	
E	DANIELS RD	15'	CLEARS: 45.6'		L	620 E	15'	CLEARS: 154.7'	
F	HIGHWAY 40	17'	CLEARS: 62.9'		M	680 S	15'	CLEARS: 155.5'	
G	1200 S	15'	CLEARS: 80.2'		N	650 E	15'	CLEARS: 163.2'	
H	PRIVATE ROAD	15'	CLEARS: 114.1'		O	680 E	15'	CLEARS: 170.9'	
I	PRIVATE ROAD	15'	CLEARS: 130.9'		P	600 S	15'	CLEARS: 174.6'	
J	500 E	15'	CLEARS: 135.1'						

ROAD CROSSINGS

REF #	DESCRIPTION	ELEVATION	CLEARS / PENETRATES	REF #	DESCRIPTION	ELEVATION	CLEARS / PENETRATES
R1	HWY CROSSING	5,652.4	34.0	R18	ROAD CROSSING	5,677.9	103.8
R2	ROAD CROSSING	5,650.6	39.6	R19	ROAD CROSSING	5,676.3	96.4
R3	ROAD CROSSING	5,649.2	60.1	R20	ROAD CROSSING	5,675.3	91.4
R4	HWY CROSSING	5,649.6	81.3	R21	ROAD CROSSING	5,671.9	73.3
R5	ROAD CROSSING	5,657.4	142.9	R22	ROAD CROSSING	5,671.8	72.2
R6	ROAD CROSSING	5,662.2	161.3	R23	ROAD CROSSING	5,669.6	66.5
R7	ROAD CROSSING	5,664.7	172.8	R24	HWY CROSSING	5,673.6	52.7
R8	ROAD CROSSING	5,668.8	186.3	R25	ROAD CROSSING	5,669.8	51.6
R9	ROAD CROSSING	5,711.9	160.8	R26	ROAD CROSSING	5,669.7	51.3
R11	ROAD CROSSING	5,705.7	147.9	R27	ROAD CROSSING	5,669.8	41.4
R12	ROAD CROSSING	5,706.5	134.7	R28	ROAD CROSSING	5,669.2	39.6
R13	ROAD CROSSING	5,699.9	131.8	R29	ROAD CROSSING	5,667.6	35.0
R14	ROAD CROSSING	5,695.2	127.8	R30	ROAD CROSSING	5,667.1	28.7
R15	ROAD CROSSING	5,694.0	124.8	R31	ROAD CROSSING	5,666.2	24.5
R16	ROAD CROSSING	5,684.1	109.0	R32	ROAD CROSSING	5,654.7	-12.9
R17	ROAD CROSSING	5,684.2	100.1				

LEGEND

ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
APPROACH SURFACE		*PART 77 SURFACE*		*SAFETY AREAS*	
	APPROACH CRITICAL LINE		CFR PART 77 APPROACH	RSA	RUNWAY SAFETY AREA (RSA)
	PROJECTED RUNWAY CENTERLINE		PRIMARY	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
	THRESHOLD SITING SURFACE	*MISCELLANEOUS*		RPZ	RUNWAY PROTECTION ZONE (RPZ)
PAVEMENT			AIRPORT BOUNDARY	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
	RUNWAY	*FENCE*		*OBSTRUCTIONS*	
	ROAD		CHAINLINK FENCE		
2FT CONTOURS			WIRE FENCE		0'-2' 2'-4' 4'-6' 6'-8' 8'-10' 10'-12' 12'-13.9'
	MAJOR CONTOUR		TBR FENCE		
	MINOR CONTOUR		GATE		

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BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN MRR
CHECKED BWC
APPROVED JLM

REVISIONS

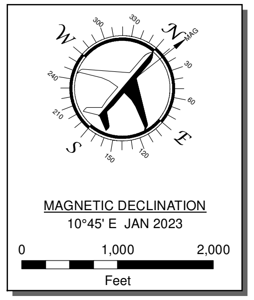
NO.	DESCRIPTION	DATE:

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P. NO.: 3-49-001-031-2019

INNER PORTION OF
THE APPROACH SURFACE
FUTURE RUNWAY END 22
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 5F
11 OF 21



SIGNIFICANT OBJECTS

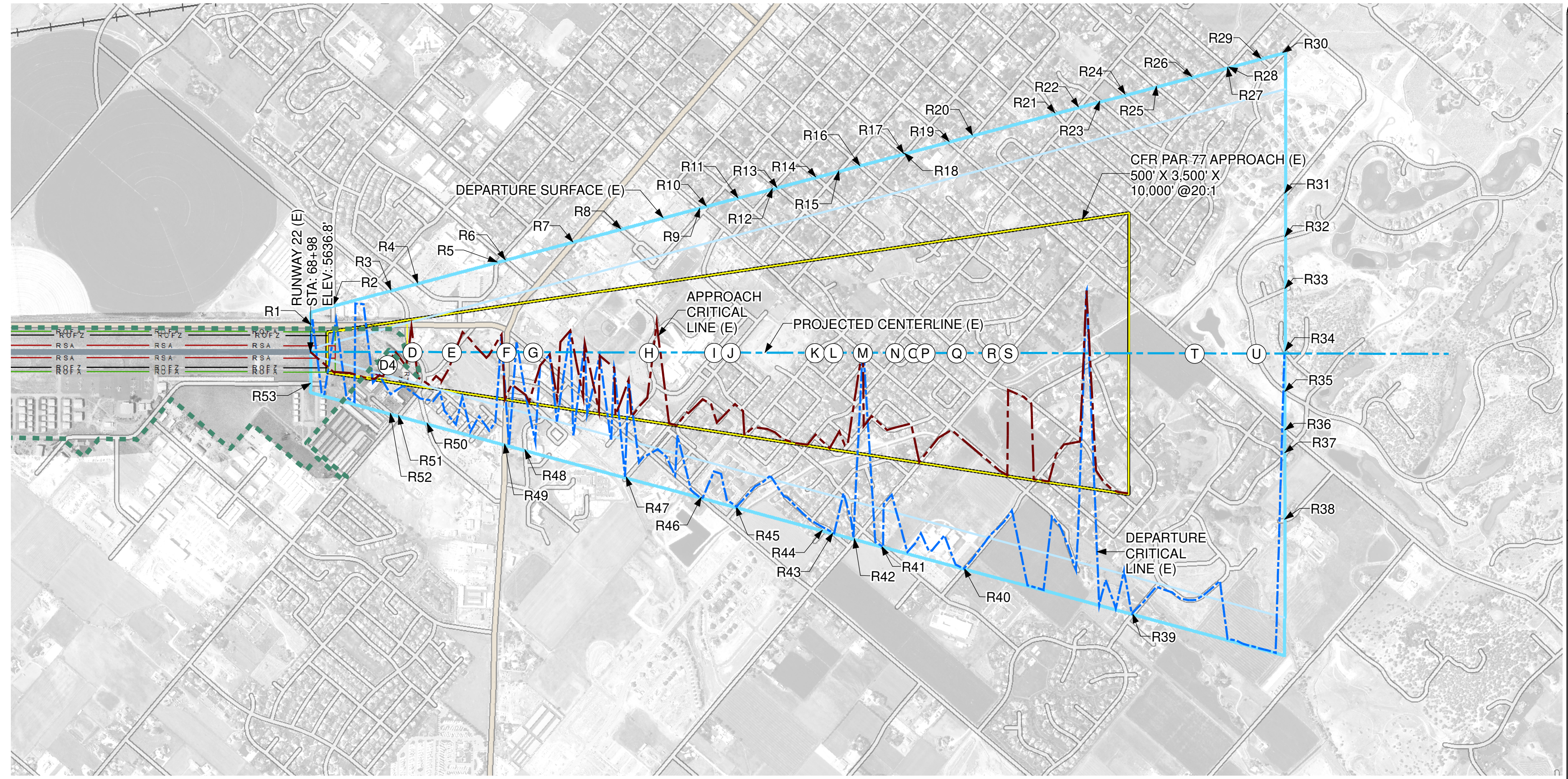
REF #	DESCRIPTION	BUFFER	DEPARTURE IMPACT	DISPOSITION
D	1300 S	15'	CLEARS: 14.7'	NO ACTION
E	DANIELS RD	15'	CLEARS: 24.6'	NO ACTION
F	HWY 40	17'	CLEARS: 36.7'	NO ACTION
G	1200 S	15'	CLEARS: 48.4'	NO ACTION
H	HIGH SCHOOL RD	15'	CLEARS: 76.9'	NO ACTION
I	HIGH SCHOOL RD	15'	CLEARS: 94.7'	NO ACTION
J	500 E	15'	CLEARS: 98.2'	NO ACTION
K	620 E	15'	CLEARS: 113.5'	NO ACTION
L	E 630 S	15'	CLEARS: 118.4'	NO ACTION
N	E 6TH S	15'	CLEARS: 131.6'	NO ACTION
M	S 820 E	15'	CLEARS: 124.4'	NO ACTION
O	S 900 E	15'	CLEARS: 136.2'	NO ACTION
P	E 500 S	15'	CLEARS: 137.9'	NO ACTION
Q	E 4TH S	15'	CLEARS: 140.1'	NO ACTION
R	GRIST MILL RD	15'	CLEARS: 148.3'	NO ACTION
S	MILL RD	15'	CLEARS: 151.7'	NO ACTION
T	E CENTER ST	15'	CLEARS: 184.7'	NO ACTION
U	HAYSTACK MOUNTAIN DR	15'	CLEARS: 179.5'	NO ACTION

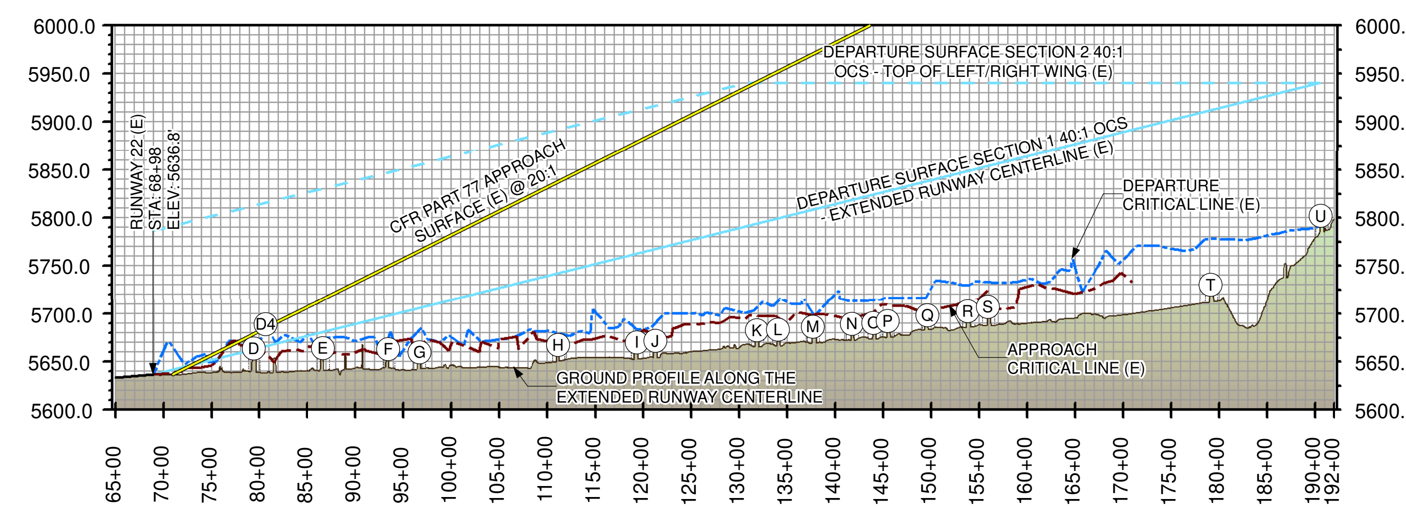
DEPARTURE OBSTUCTION

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
D4	BUILDING	5672.0	7582625	598.0	TO REMAIN

LEGEND

ITEM	DESCRIPTION	ITEM	DESCRIPTION
APPROACH/DEPARTURE SURFACE		***SAFETY AREAS***	
	APPROACH CRITICAL LINE	RSA	RUNWAY SAFETY AREA (RSA)
	DEPARTURE CRITICAL LINE	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
	DEPARTURE SURFACE	RPZ	RUNWAY PROTECTION ZONE (RPZ)
	PROJECTED RUNWAY CENTERLINE	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
PART 77 SURFACE		***PAVEMENT***	
	CFR PART 77 APPROACH		RUNWAY
MISCELLANEOUS			ROADS
	AIRPORT BOUNDARY		
	OBSTRUCTIONS		





ELEVATION DATA BASED ON SEPT 25, 2019 UAV SURVEY AND JUNE 2018 0.5 METER LiDAR DEM

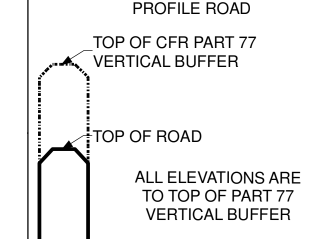
ROAD CROSSING (E)

REF #	DESCRIPTION	ELEVATION	CLEARS / PENETRATES	REF #	DESCRIPTION	ELEVATION	CLEARS / PENETRATES	REF #	DESCRIPTION	ELEVATION	CLEARS / PENETRATES
R1	HWY CROSSING	5648.4	83.8	R19	ROAD CROSSING	5653.7	287.1	R37	ROAD CROSSING	5777.8	162.7
R2	ROAD CROSSING	5642.9	149.6	R20	ROAD CROSSING	5654.5	286.3	R38	ROAD CROSSING	5795.2	145.3
R3	ROAD CROSSING	5642.0	168.9	R21	ROAD CROSSING	5655.6	285.2	R39	ROAD CROSSING	5770.7	169.9
R4	ROAD CROSSING	5641.6	177.8	R22	ROAD CROSSING	5653.9	286.9	R40	ROAD CROSSING	5734.6	206.2
R5	ROAD CROSSING	5638.3	205.3	R23	ROAD CROSSING	5654.1	286.7	R41	ROAD CROSSING	5724.0	216.8
R6	ROAD CROSSING	5638.7	208.1	R24	ROAD CROSSING	5656.9	283.9	R42	ROAD CROSSING	5720.3	220.5
R7	HWY CROSSING	5643.4	223.6	R25	ROAD CROSSING	5667.5	273.3	R43	ROAD CROSSING	5716.3	224.4
R8	ROAD CROSSING	5640.8	242.2	R26	ROAD CROSSING	5685.2	255.6	R44	ROAD CROSSING	5713.3	227.5
R9	ROAD CROSSING	5645.0	261.5	R27	ROAD CROSSING	5709.1	231.7	R45	ROAD CROSSING	5700.5	217.9
R10	ROAD CROSSING	5645.0	264.9	R28	ROAD CROSSING	5709.6	231.2	R46	ROAD CROSSING	5694.4	213.5
R11	ROAD CROSSING	5646.4	272.5	R29	ROAD CROSSING	5724.8	216.0	R47	ROAD CROSSING	5684.1	199.8
R12	ROAD CROSSING	5648.0	282.3	R30	ROAD CROSSING	5738.4	202.4	R48	ROAD CROSSING	5673.8	179.1
R13	ROAD CROSSING	5648.4	282.9	R31	ROAD CROSSING	5753.7	186.8	R49	HWY CROSSING	5679.1	167.5
R14	ROAD CROSSING	5651.3	289.5	R32	ROAD CROSSING	5750.4	190.2	R50	ROAD CROSSING	5669.2	152.9
R15	ROAD CROSSING	5649.8	291.0	R33	ROAD CROSSING	5758.7	181.8	R51	ROAD CROSSING	5668.7	144.9
R16	ROAD CROSSING	5651.0	289.8	R34	ROAD CROSSING	5797.9	142.7	R52	ROAD CROSSING	5668.4	142.7
R17	ROAD CROSSING	5653.6	287.2	R35	ROAD CROSSING	5776.8	163.7	R53	ROAD CROSSING	5655.9	95.7
R18	ROAD CROSSING	5653.5	287.3	R36	ROAD CROSSING	5781.9	158.7				

DEPARTURE SURFACE DIMENSION

	RUNWAY TYPE	DIMENSIONAL STANDARDS FEET A	B	C	D	E	SLOPE
		RUNWAY WIDTH (RW)	500' - 1/2 RW				
7	RUNWAYS PROVIDING INSTRUMENT DEPARTURE OPERATIONS	75'	462.5	7,512'	12,152'	6,160'	40:1

PROFILE ROAD



ALL ELEVATIONS ARE TO TOP OF PART 77 VERTICAL BUFFER

NOT TO SCALE

Document Path: K:\190036-CDY\5_GIS\ALP\HCR_SHEET_6A_ DEPARTURE_RWY4_E.mxd

BORDER SIZE	11"X17"
DESIGNED	DRAFT
DRAWN	MRR
CHECKED	BWC
APPROVED	JLM

REVISIONS

NO.	DESCRIPTION	DATE:

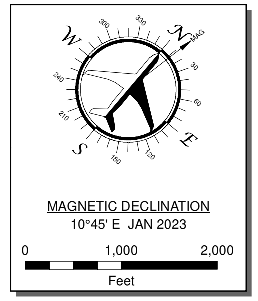
ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P. NO.: 3-49-001-031-2019

DEPARTURE SURFACE
EXISTING RUNWAY 4
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 6A

ELEVATION DATA BASED ON SEPT 25, 2019 UAV SURVEY AND JUNE 2018 0.5 METER LiDAR DEM



SIGNIFICANT OBJECTS

REF #	DESCRIPTION	BUFFER	DEPARTURE IMPACT	DISPOSITION
D	1300 S	15'	CLEARS: 34.7'	NO ACTION
E	DANIELS RD	15'	CLEARS: 41.2'	NO ACTION
F	HWY 40	17'	CLEARS: 55.1'	NO ACTION
G	1200 S	15'	CLEARS: 70.2'	NO ACTION
H	HIGH SCHOOL RD	15'	CLEARS: 98.4'	NO ACTION
I	HIGH SCHOOL RD	15'	CLEARS: 112.2'	NO ACTION
J	500 E	15'	CLEARS: 115.4'	NO ACTION
K	620 E	15'	CLEARS: 117.4'	NO ACTION
L	E 630 S	15'	CLEARS: 130.4'	NO ACTION
N	E 6TH S	15'	CLEARS: 131.0'	NO ACTION
M	S 820 E	15'	CLEARS: 137.4'	NO ACTION
O	S 680 E	15'	CLEARS: 143.5'	NO ACTION
P	S 900 E	15'	CLEARS: 146.4'	NO ACTION
Q	E 500 S	15'	CLEARS: 149.8'	NO ACTION
R	E 4TH S	15'	CLEARS: 152.4'	NO ACTION
S	980 EAST	15'	CLEARS: 158.6'	NO ACTION
T	GRIST MILL RD	15'	CLEARS: 159.0'	NO ACTION
U	MILL RD	15'	CLEARS: 161.6'	NO ACTION
V	E CENTER ST	15'	CLEARS: 169.3'	NO ACTION
W	HAYSTACK MOUNTAIN DR	15'	CLEARS: 187.0'	NO ACTION
X	PIMITICO DR	15'	CLEARS: 187.9'	NO ACTION
Y	PREAKNESS LN	15'	CLEARS: 203.3'	NO ACTION

DEPARTURE OBSTUCTION

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
D4	BUILDING	5654.7	8000	11.7	TO BE REMOVED
D5	POLE	5666.0	25	25.1	TO BE REMOVED
D6	BUILDING	5655.3	5550	12.2	TO BE REMOVED
D7	BUILDING	5671.0	25	19.2	TO BE REMOVED
D8	POLE	5669.2	250	4.2	TO BE REMOVED
D9	BUILDING	5669.6	800	5.3	TO BE REMOVED
D10	BUILDING	5670.7	1225	6.1	TO REMAIN
D11	BUILDING	5671.8	1825	7.1	TO REMAIN
D12	TREE	5696.2	75	6.5	TO REMAIN

DEPARTURE SURFACE DIMENSION

	RUNWAY TYPE	DIMENSIONAL STANDARDS FEET					SLOPE
		A	B	C	D	E	
7	RUNWAYS PROVIDING INSTRUMENT DEPARTURE OPERATIONS	RUNWAY WIDTH (RW)	500' - 1/2 RW	7,512'	12,152'	6,160'	40:1
		75'	462.5				

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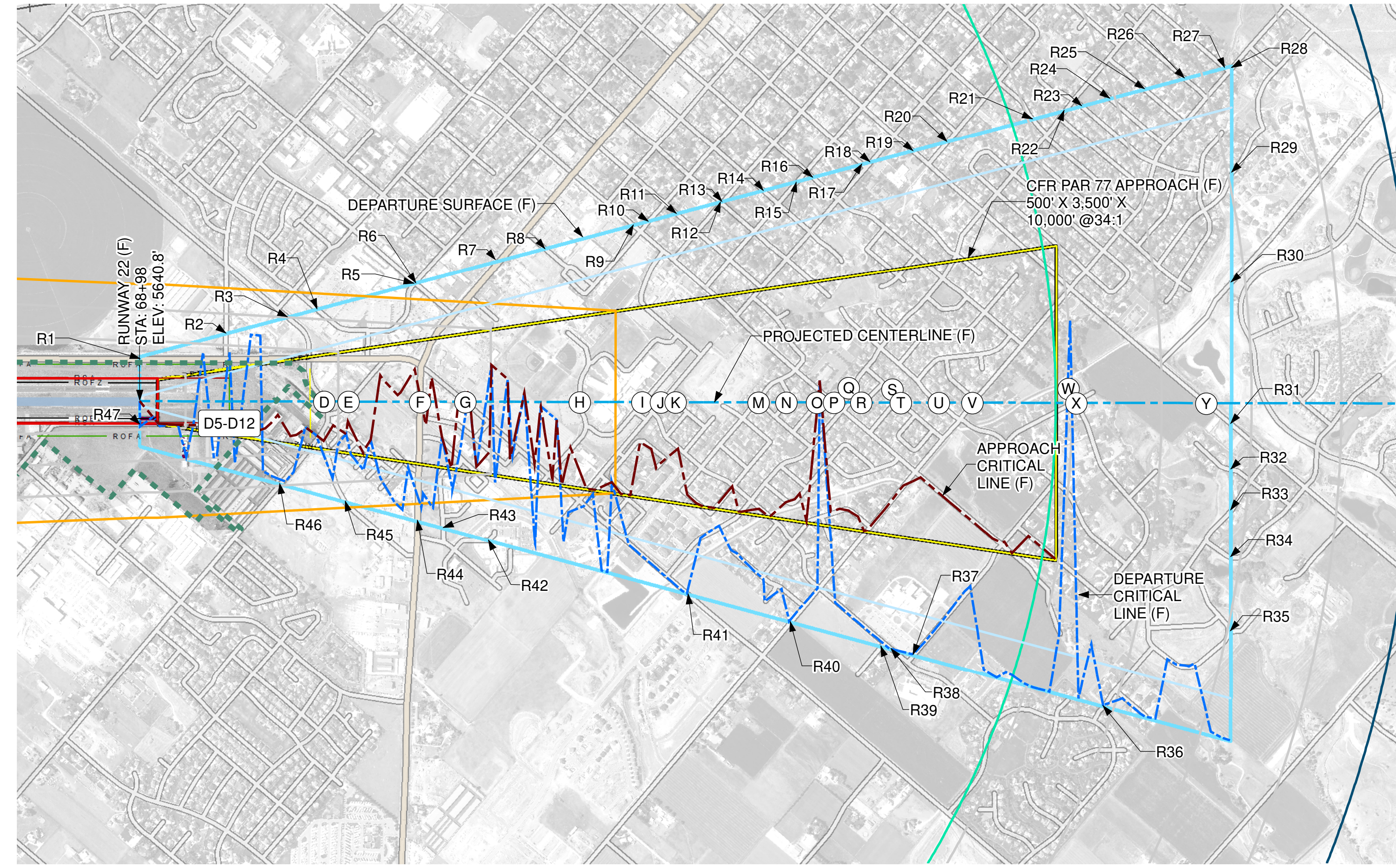
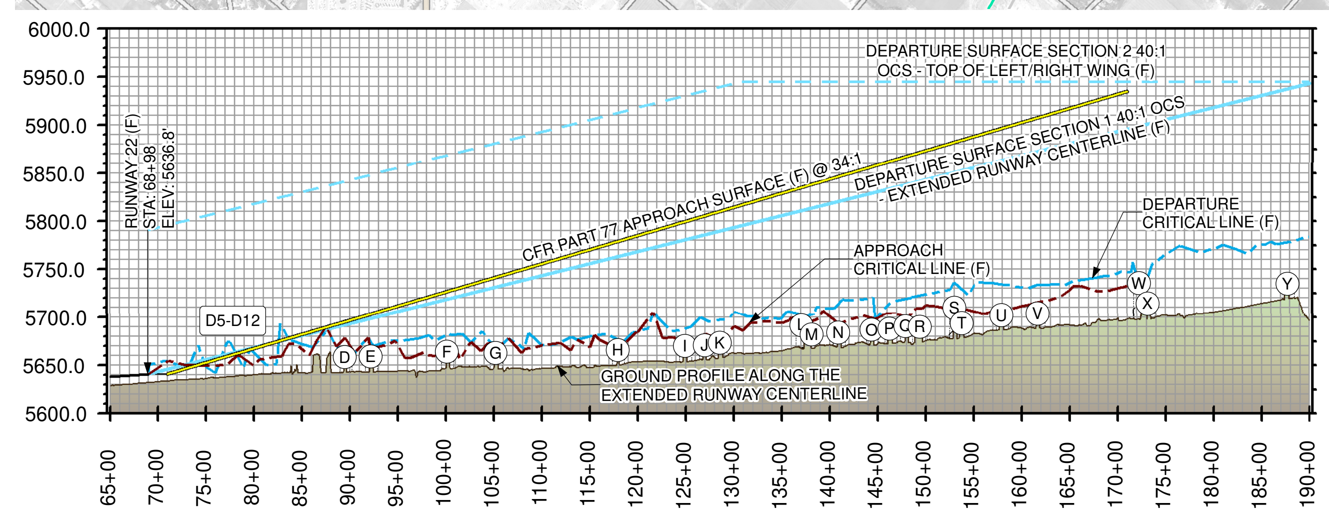
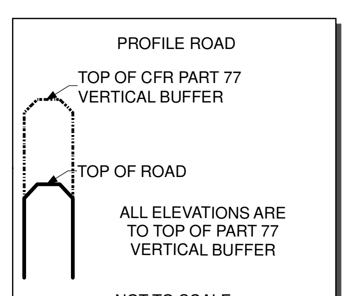
ROAD CROSSING (F)

REF #	DESCRIPTION	ELEVATION	PENETRATES / CLEARS
R1	HWY CROSSING	5643.7	CLEARS: 137.2'
R2	ROAD CROSSING	5642.3	CLEARS: 171.9'
R3	ROAD CROSSING	5641.7	CLEARS: 189.1'
R4	ROAD CROSSING	5641.0	CLEARS: 198.3'
R5	ROAD CROSSING	5638.4	CLEARS: 227.8'
R6	ROAD CROSSING	5638.4	CLEARS: 227.8'
R7	HWY CROSSING	5642.7	CLEARS: 246.2'
R8	ROAD CROSSING	5640.3	CLEARS: 261.6'
R9	ROAD CROSSING	5644.1	CLEARS: 283.4'
R10	ROAD CROSSING	5644.7	CLEARS: 286.1'
R11	ROAD CROSSING	5645.8	CLEARS: 293.5'
R12	ROAD CROSSING	5647.8	CLEARS: 297.0'
R13	ROAD CROSSING	5647.9	CLEARS: 296.9'
R14	ROAD CROSSING	5650.5	CLEARS: 294.3'
R15	ROAD CROSSING	5648.9	CLEARS: 295.9'
R16	ROAD CROSSING	5650.2	CLEARS: 294.6'
R17	ROAD CROSSING	5652.5	CLEARS: 292.3'
R18	ROAD CROSSING	5652.5	CLEARS: 292.3'
R19	ROAD CROSSING	5652.9	CLEARS: 291.9'
R20	ROAD CROSSING	5654.0	CLEARS: 290.9'
R21	ROAD CROSSING	5654.7	CLEARS: 290.2'
R22	ROAD CROSSING	5653.5	CLEARS: 291.3'
R23	ROAD CROSSING	5653.1	CLEARS: 291.8'
R24	ROAD CROSSING	5656.2	CLEARS: 288.7'
R25	ROAD CROSSING	5666.5	CLEARS: 278.3'
R26	ROAD CROSSING	5683.8	CLEARS: 261.1'
R27	ROAD CROSSING	5707.5	CLEARS: 237.3'
R28	ROAD CROSSING	5711.6	CLEARS: 233.2'
R29	ROAD CROSSING	5717.2	CLEARS: 227.4'
R30	ROAD CROSSING	5722.3	CLEARS: 222.2'
R31	ROAD CROSSING	5744.4	CLEARS: 200.0'
R32	ROAD CROSSING	5757.3	CLEARS: 187.2'
R33	ROAD CROSSING	5760.3	CLEARS: 184.2'
R34	ROAD CROSSING	5767.1	CLEARS: 177.4'
R35	ROAD CROSSING	5776.6	CLEARS: 167.9'
R36	ROAD CROSSING	5774.1	CLEARS: 170.7'
R37	ROAD CROSSING	5736.9	CLEARS: 207.9'
R38	ROAD CROSSING	5735.9	CLEARS: 208.9'
R39	ROAD CROSSING	5733.5	CLEARS: 211.3'
R40	ROAD CROSSING	5721.5	CLEARS: 223.3'
R41	ROAD CROSSING	5705.7	CLEARS: 236.5'
R42	ROAD CROSSING	5682.2	CLEARS: 150.3'
R43	ROAD CROSSING	5683.5	CLEARS: 124.0'
R44	HWY CROSSING	5684.9	CLEARS: 108.5'
R45	ROAD CROSSING	5677.0	CLEARS: 76.6'
R46	ROAD CROSSING	5672.7	CLEARS: 44.9'
R47	ROAD CROSSING	5653.0	PENETRATES: 12.1'
R48	ROAD CROSSING	5589.2	CLEARS: 127.2'
R49	ROAD CROSSING	5531.2	CLEARS: 291.9'
R50	ROAD CROSSING	5499.1	CLEARS: 381.6'
R54	ROAD CROSSING	5448.1	CLEARS: 437.9'
R55	ROAD CROSSING	5447.3	CLEARS: 438.4'
R57	ROAD CROSSING	5597.1	CLEARS: 159.3'







LEGEND

ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
APPROACH/DEPARTURE SURFACE		***PART 77 SURFACE***		***PAVEMENT***	
	APPROACH CRITICAL LINE		CFR PART 77 APPROACH		ROAD
	DEPARTURE CRITICAL LINE		PRIMARY		RUNWAY
	DEPARTURE SURFACE		TRANSITIONAL	***SAFETY AREAS***	
	PROJECTED RUNWAY CENTERLINE		HORIZONTAL	RSA	RUNWAY SAFETY AREA (RSA)
MISCELLANEOUS			CONICAL	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
	AIRPORT BOUNDARY		50' CONTOURS	RPZ	RUNWAY PROTECTION ZONE (RPZ)
	OBSTRUCTION			ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)

REVISIONS					
NO.	DESCRIPTION	DATE:			

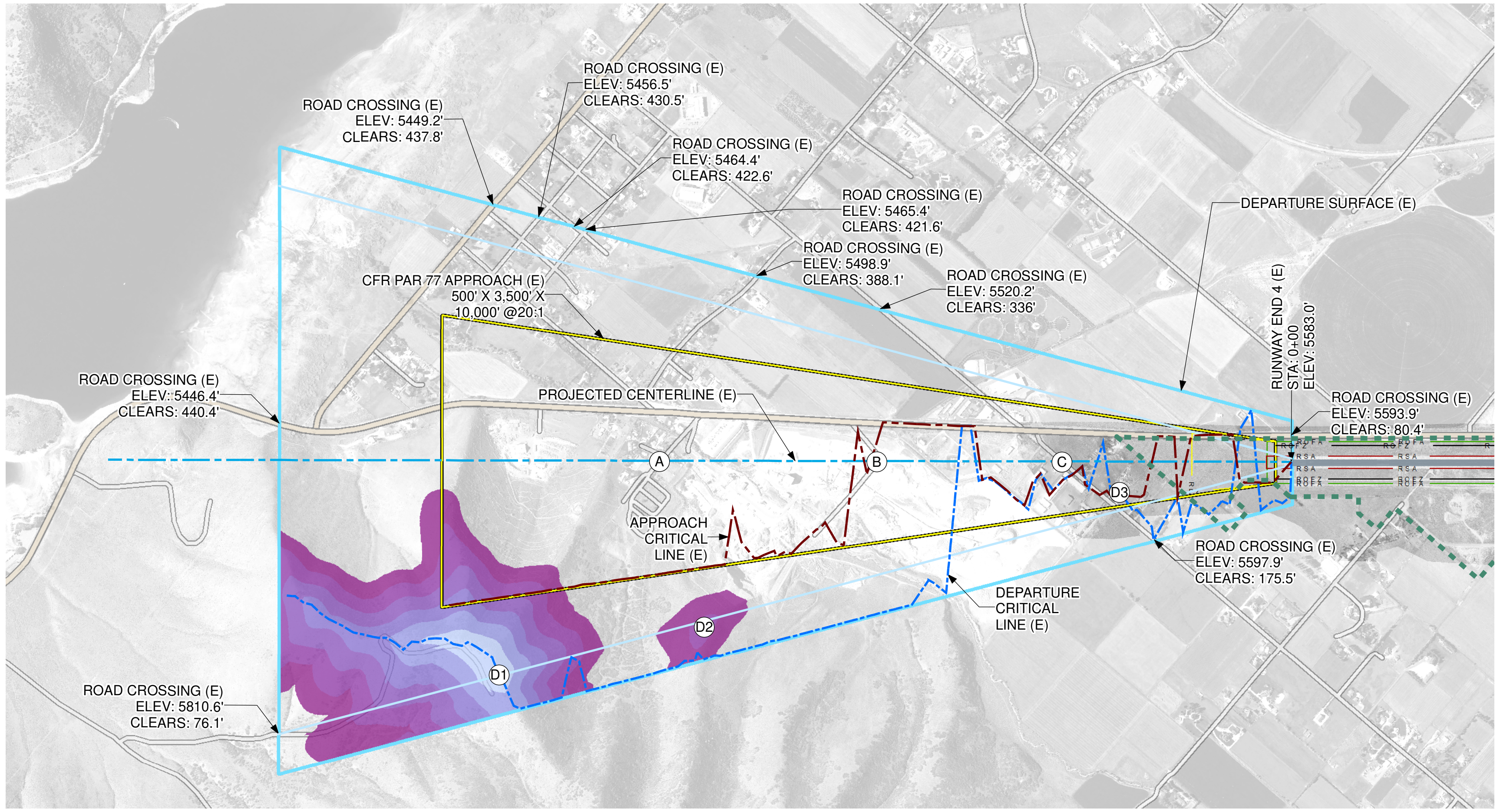
BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN MRR
CHECKED BWC
APPROVED JLM

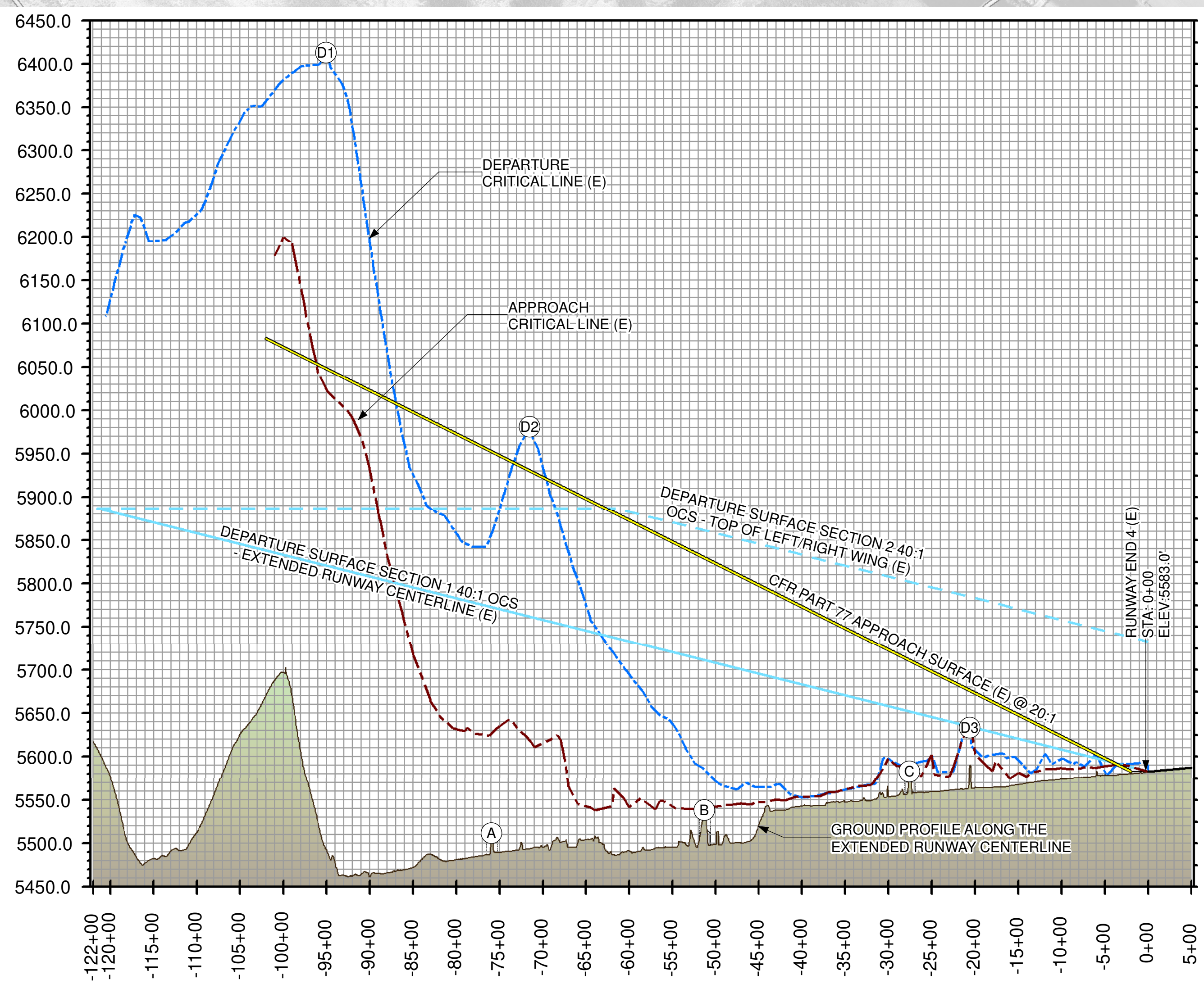
ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

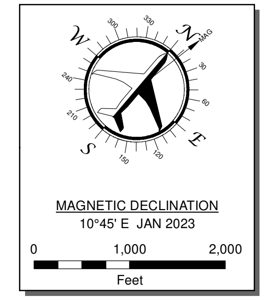
A.I.P. NO.: 3-49-001-031-2019

DEPARTURE SURFACE
FUTURE RUNWAY 4
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 6B
13 OF 21







DEPARTURE SURFACE DIMENSION

	RUNWAY TYPE	DIMENSIONAL STANDARDS FEET					SLOPE
		A	B	C	D	E	
7	RUNWAYS PROVIDING INSTRUMENT DEPARTURE OPERATIONS	RUNWAY WIDTH (RW)	500' - 1/2 RW	7,512'	12,152'	6,160'	40:1
		75'	462.5				

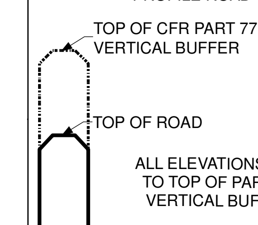
DEPARTURE OBSTUCTION

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
D1	TREE	6418.7	7582625	598.0	TO REMAIN
D2	TERRAIN	5989.9	623000	127.8	TO REMAIN
D3	TERRAIN	5638.2	25	3.5	TO REMAIN

SIGNIFICANT OBJECTS

REF #	DESCRIPTION	BUFFER	DEPARTURE IMPACT	DISPOSITION
A	2800 W	15'	CLEARS: 268.0'	NO ACTION
B	DIRT ROAD	15'	CLEARS: 193.9'	NO ACTION
C	3000 S	15'	CLEARS: 79.6'	NO ACTION

PROFILE ROAD



ALL ELEVATIONS ARE TO TOP OF PART 77 VERTICAL BUFFER

NOT TO SCALE

LEGEND

ITEM	DESCRIPTION	ITEM	DESCRIPTION
PAVEMENT		**APPROACH/DEPARTURE SURFACE**	
	ROAD		APPROACH CRITICAL LINE
	RUNWAY		DEPARTURE CRITICAL LINE
SAFETY AREAS			DEPARTURE SURFACE
RSA	RUNWAY SAFETY AREA (RSA)		PROJECTED RUNWAY CENTERLINE
ROFA	RUNWAY OBJECT FREE AREA (ROFA)	**PART 77 SURFACE**	
RPZ	RUNWAY PROTECTION ZONE (RPZ)		CFR PART 77 APPROACH
ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)	**MISCELLANEOUS**	
OBSTRUCTIONS			AIRPORT BOUNDARY

0'- 100' | 100' - 200' | 200' - 300' | 300' - 400' | 400' - 500' | 500' - 597.9'

ELEVATION DATA BASED ON SEPT 25, 2019 UAV SURVEY AND JUNE 2018 0.5 METER LiDAR DEM

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BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN MRR
CHECKED BWC
APPROVED JLM

NO.	DATE:	DESCRIPTION

REVISIONS

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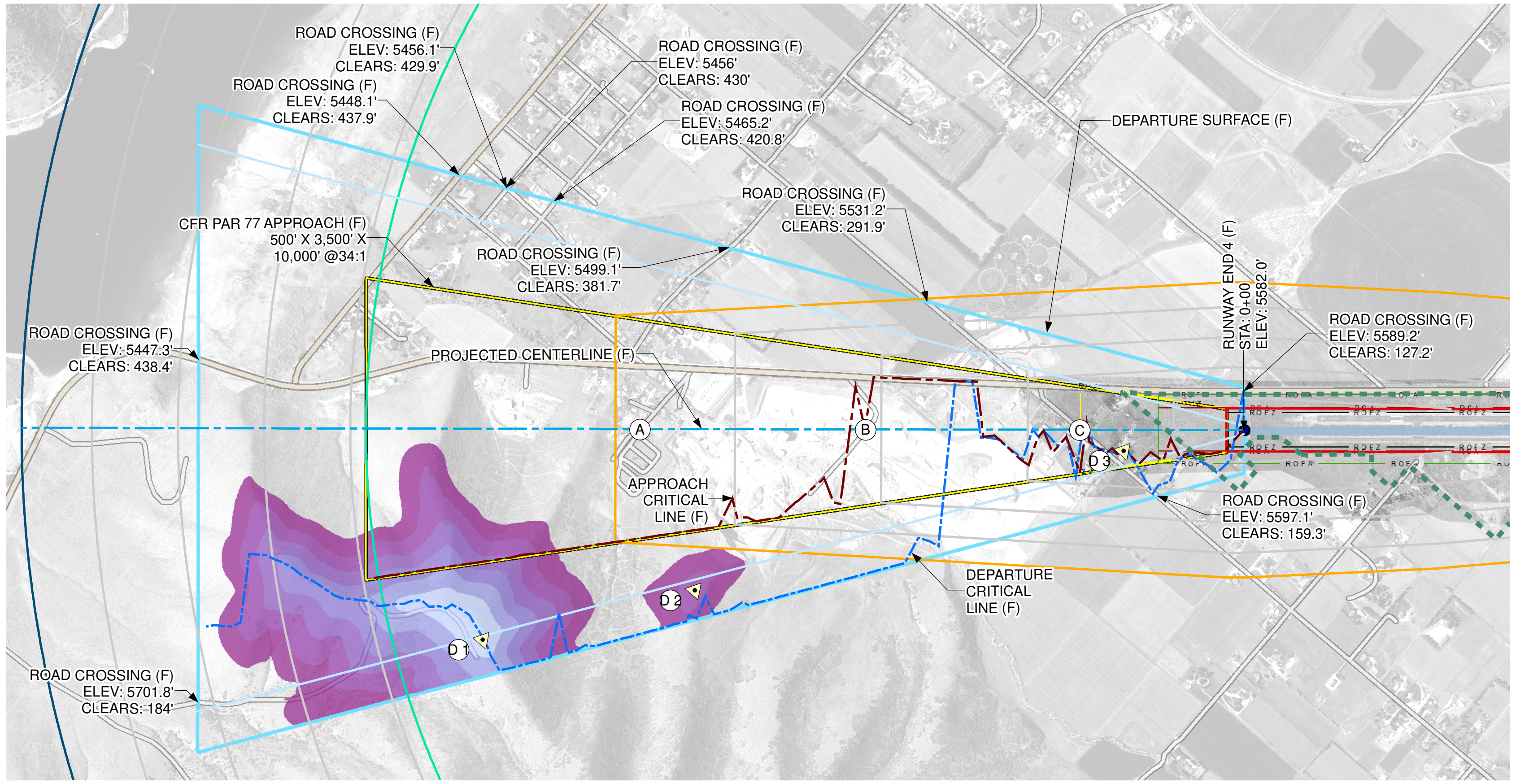
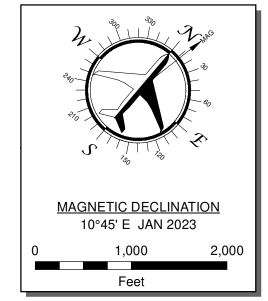
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P. NO.: 3-49-001-031-2019

DEPARTURE SURFACE
EXISTING RUNWAY 22
HEBER VALLEY AIRPORT

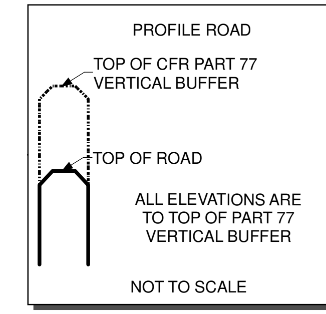
DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 6C





DEPARTURE SURFACE DIMENSION

	RUNWAY TYPE	DIMENSIONAL STANDARDS FEET					SLOPE
		A	B	C	D	E	
7	RUNWAYS PROVIDING INSTRUMENT DEPARTURE OPERATIONS	RUNWAY WIDTH (RW)	500' - 1/2 RW	7,512'	12,152'	6,160'	40:1
		75'	462.5				



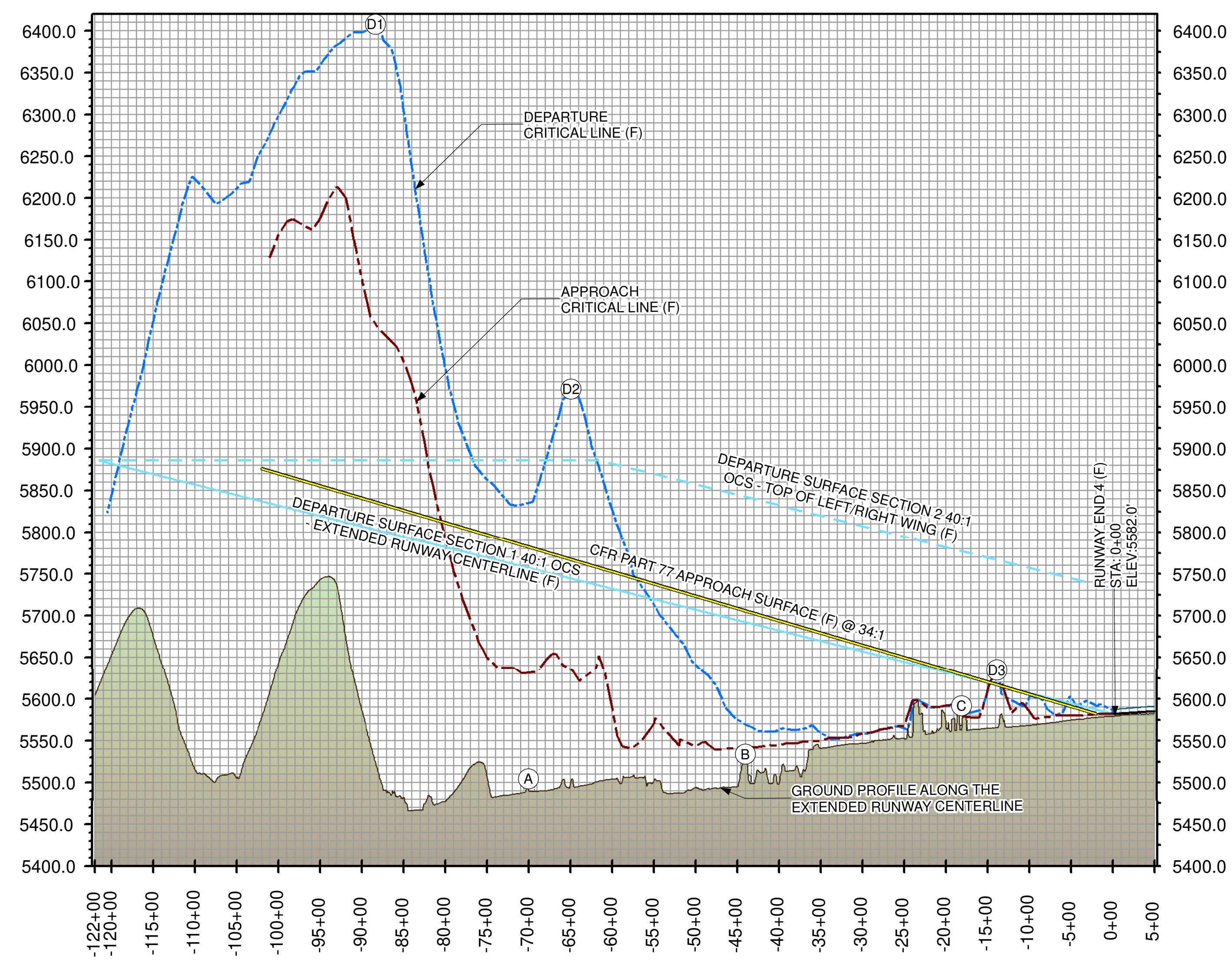
ELEVATION DATA BASED ON SEPT 25, 2019 UAV SURVEY AND JUNE 2018 0.5 METER LiDAR DEM

SIGNIFICANT OBJECTS

REF #	DESCRIPTION	BUFFER	DEPARTURE IMPACT	DISPOSITION
A	2800 W	15'	CLEARS: 252.7'	NO ACTION
B	DIRT ROAD	15'	CLEARS: 157.1'	NO ACTION
C	3000 S	15'	CLEARS: 53.5'	NO ACTION

DEPARTURE OBSTUCTION

REF #	OBJECT DESCRIPTION	MAXIMUM OBJECT ELEVATION (FT.)	AREA OF PENETRATION (SQ. FT.)	MAXIMUM PENETRATION HEIGHT (FT.)	DISPOSITION
D1	TERRAIN	6418.7	8439975	608.7	TO REMAIN
D2	TERRAIN	5979.3	673275	133.2	TO REMAIN
D3	TREE	5638.2	375	21.5	TO BE REMOVED



LEGEND

ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
PART 77 SURFACE		***APPROACH/DEPARTURE SURFACE***		***PAVEMENT***	
	CFR PART 77 APPROACH		APPROACH CRITICAL LINE		ROAD
	PRIMARY		DEPARTURE CRITICAL LINE		RUNWAY
	TRANSITIONAL		DEPARTURE SURFACE	***SAFETY AREAS***	
	HORIZONTAL		PROJECTED RUNWAY CENTERLINE	RSA	RUNWAY SAFETY AREA (RSA)
	CONICAL		MAXIMUM HEIGHT PENETRATION	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
	50' CONTOURS	***MISCELLANEOUS***		RPZ	RUNWAY PROTECTION ZONE (RPZ)
OBSTRUCTION			AIRPORT BOUNDARY	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)

0' - 100'
100' - 200'
200' - 300'
300' - 400'
400' - 500'
500' - 608.7'

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BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN MRR
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APPROVED JLM

REVISIONS

NO.	DESCRIPTION	DATE:

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P. NO.: 3-49-001-031-2019

DEPARTURE SURFACE
FUTURE RUNWAY 22
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 6D

EXISTING BUILDING DATA TABLE

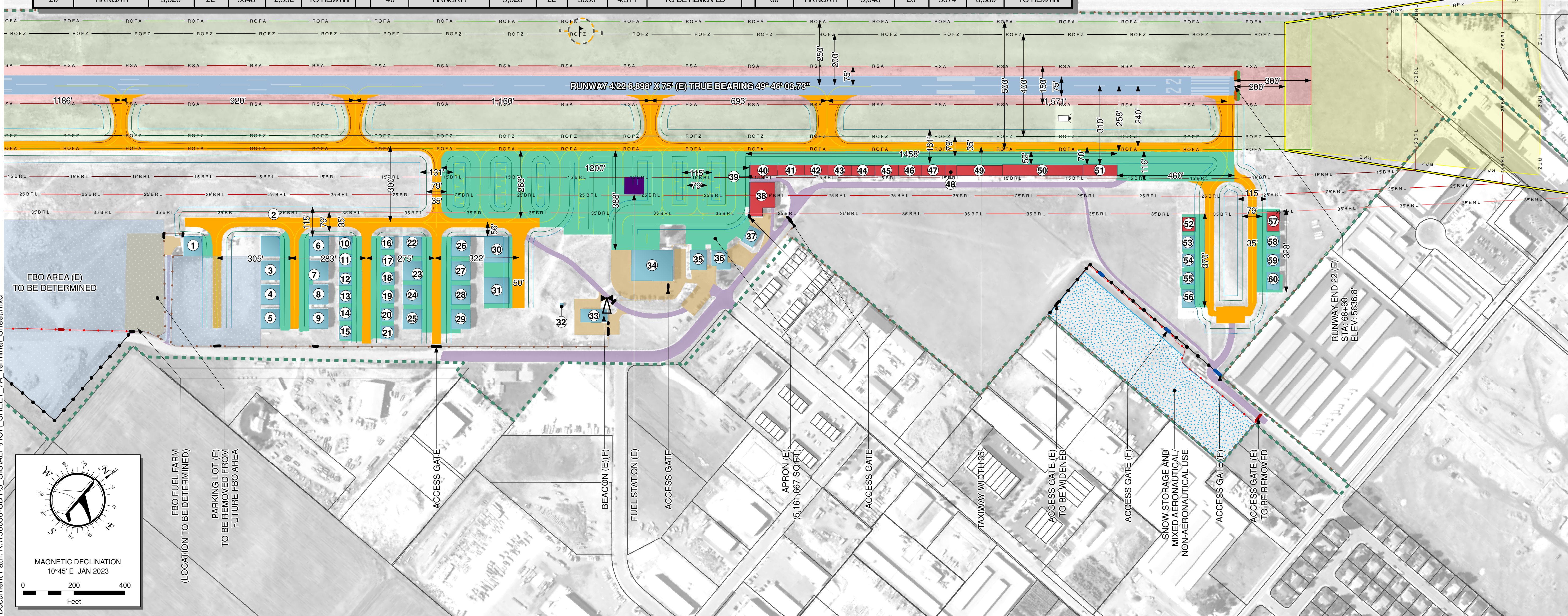
BUILDING NUMBER	DESCRIPTION	GROUND ELEVATION	HEIGHT	TOP OF BUILDING	AREA (SQ. FT.)	DISPOSITION
1	MUSEUM - COMMEMMORATIVE AIR FORCE	5,613'	33'	5646'	5,710	TO BE REPURPOSED
2	HANGAR	5,617'	32'	5649'	5,756	TO REMAIN
3	HANGAR	5,619'	33'	5652'	5,705	TO REMAIN
4	HANGAR	5,620'	33'	5653'	5,675	TO REMAIN
5	HANGAR	5,622'	33'	5655'	5,772	TO REMAIN
6	HANGAR	5,618'	31'	5649'	5,761	TO REMAIN
7	HANGAR	5,619'	33'	5652'	5,756	TO REMAIN
8	HANGAR	5,621'	32'	5653'	5,719	TO REMAIN
9	HANGAR	5,622'	33'	5655'	5,789	TO REMAIN
10	HANGAR	5,621'	23'	5644'	2,584	TO REMAIN
11	HANGAR	5,622'	22'	5644'	2,537	TO REMAIN
12	HANGAR	5,623'	22'	5645'	2,617	TO REMAIN
13	HANGAR	5,625'	23'	5648'	2,537	TO REMAIN
14	HANGAR	5,626'	23'	5649'	2,545	TO REMAIN
15	HANGAR	5,627'	24'	5651'	2,540	TO REMAIN
16	HANGAR	5,622'	22'	5644'	2,405	TO REMAIN
17	HANGAR	5,623'	22'	5645'	2,385	TO REMAIN
18	HANGAR	5,624'	22'	5646'	2,530	TO REMAIN
19	HANGAR	5,625'	22'	5647'	2,556	TO REMAIN
20	HANGAR	5,626'	22'	5648'	2,552	TO REMAIN

BUILDING NUMBER	DESCRIPTION	GROUND ELEVATION	HEIGHT	TOP OF BUILDING	AREA (SQ. FT.)	DISPOSITION
21	HANGAR	5,628'	22'	5650'	2,527	TO REMAIN
22	HANGAR	5,623'	32'	5655'	5,722	TO REMAIN
23	HANGAR	5,624'	34'	5658'	5,776	TO REMAIN
24	HANGAR	5,626'	31'	5657'	5,781	TO REMAIN
25	HANGAR	5,627'	32'	5659'	5,804	TO REMAIN
26	HANGAR	5,623'	32'	5655'	5,692	TO REMAIN
27	HANGAR	5,624'	31'	5655'	5,617	TO REMAIN
28	HANGAR	5,626'	32'	5658'	5,563	TO REMAIN
29	HANGAR	5,627'	32'	5659'	5,752	TO REMAIN
30	HANGAR	5,627'	36'	5663'	10,139	TO REMAIN
31	HANGAR	5,630'	36'	5666'	10,179	TO REMAIN
32	AIRFIELD LIGHTING VAULT	5,632'	11'	5643'	186	TO REMAIN
33	SNOW REMOVAL EQUIPMENT BUILDING	5,634'	21'	5655'	5,349	TO REMAIN
34	FBO BUILDING	5,629'	37'	5666'	19,551	TO REMAIN
35	HANGAR	5,631'	23'	5654'	4,981	
36	HANGAR	5,632'	25'	5657'	4,497	TO REMAIN (FUTURE AIRPORT RESTAURANT SITE PROPOSED)
37	HANGAR	5,630'	23'	5653'	3,503	TO REMAIN
38	HANGAR	5,629'	35'	5664'	10,994	TO BE REMOVED
39	HANGAR EXTENSION	5,628'	18'	5646'	610	TO BE REMOVED
40	HANGAR	5,628'	22'	5650'	4,511	TO BE REMOVED

BUILDING NUMBER	DESCRIPTION	GROUND ELEVATION	HEIGHT	TOP OF BUILDING	AREA (SQ. FT.)	DISPOSITION
41	HANGAR	5,628'	20'	5648'	4,324	TO BE REMOVED
42	HANGAR	5,627'	17'	5644'	3,711	TO BE REMOVED
43	HANGAR	5,628'	17'	5645'	3,724	TO BE REMOVED
44	HANGAR	5,629'	17'	5646'	3,793	TO BE REMOVED
45	HANGAR	5,630'	17'	5647'	3,807	TO BE REMOVED
46	HANGAR	5,630'	17'	5647'	3,753	TO BE REMOVED
47	HANGAR	5,631'	17'	5648'	3,816	TO BE REMOVED
48	HANGAR	5,632'	20'	5652'	1,922	TO BE REMOVED
49	HANGAR	5,633'	18'	5651'	7,282	TO BE REMOVED
50	HANGAR	5,634'	19'	5653'	13,350	TO BE REMOVED
51	HANGAR	5,637'	18'	5655'	5,784	TO BE REMOVED
52	HANGAR	5,643'	25'	5668'	2,698	TO BE REMOVED
53	HANGAR	5,644'	24'	5668'	2,590	TO REMAIN
54	HANGAR	5,646'	24'	5670'	2,531	TO REMAIN
55	HANGAR	5,647'	24'	5671'	2,521	TO REMAIN
56	HANGAR	5,649'	25'	5674'	3,545	TO REMAIN
57	HANGAR	5,644'	26'	5670'	3,783	TO BE REMOVED
58	HANGAR	5,645'	24'	5669'	2,591	TO REMAIN
59	HANGAR	5,647'	24'	5671'	2,556	TO REMAIN
60	HANGAR	5,648'	26'	5674'	3,586	TO REMAIN

LEGEND

ITEM EXISTING	ITEM FUTURE	DESCRIPTION	ITEM EXISTING	ITEM FUTURE	DESCRIPTION
SAFETY AREAS			**NAVAIDS**		
RSA		RUNWAY SAFETY AREA (RSA)			BEACON
ROFA		RUNWAY OBJECT FREE AREA (ROFA)		X	PAPI
RPZ		RUNWAY PROTECTION ZONE (RPZ)		X	THRESHOLD LIGHT
ROFZ		RUNWAY OBSTACLE FREE ZONE (ROFZ)		X	WIND CONE
		TAXIWAY EDGE SAFETY MARGIN (TESM)		X	SEGMENTED CIRCLE
		TAXIWAY OBJECT FREE AREA (TOFA)	**PAVEMENT**		
		TAXIWAY SAFETY AREA (TSA)		X	APRON
15'BRL		15' BUILDING RESTRICTION LINE (BRL)		X	DRIVEWAY
25'BRL		25' BUILDING RESTRICTION LINE (BRL)		X	PARKING LOT
35'BRL		35' BUILDING RESTRICTION LINE (BRL)			ROAD
FENCE				X	RUNWAY
		CHAINLINK FENCE (7')		X	TAXIWAY
		FENCE TO BE REMOVED		X	FUEL
		WIRE FENCE (8')	**MISCELLANEOUS**		
		GATE			AIRPORT BOUNDARY
MARKING LINE			X		FBO AREA
		TAXIWAY CENTERLINE	X		SNOW STORAGE
		TAXIWAY HOLDING POSITION	**BUILDING**		
PART 77 SURFACE					HANGAR TO BE REMOVED
	X	CFR PART 77 APPROACH		X	HANGAR



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REVISIONS

NO.	DESCRIPTION	DATE:

BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN NXM
CHECKED BWC
APPROVED JLM

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P. NO.: 3-49-001-031-2019

TERMINAL AREA EXISTING
HEBER VALLEY AIRPORT

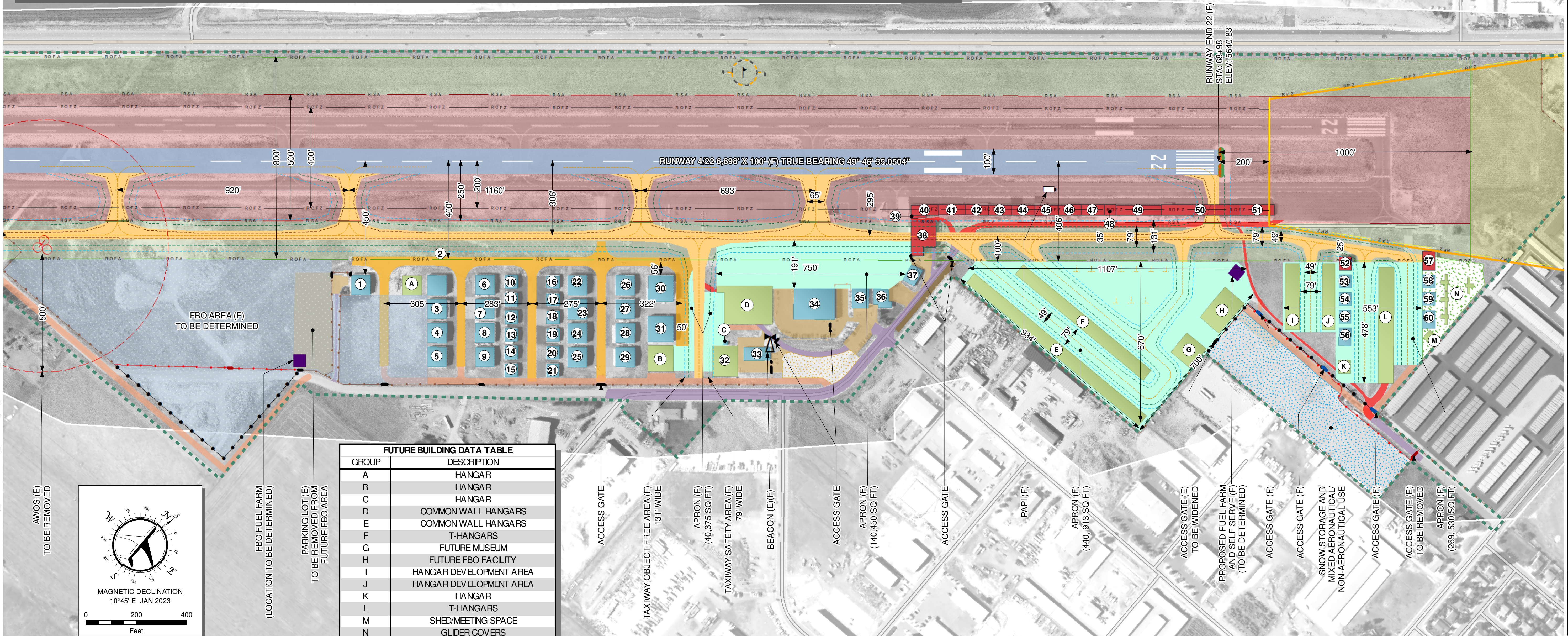
DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 7A

EXISTING BUILDING DATA TABLE

BUILDING NUMBER	DESCRIPTION	GROUND ELEVATION	HEIGHT	TOP OF BUILDING	AREA (SQ. FT.)	DISPOSITION	BUILDING NUMBER	DESCRIPTION	GROUND ELEVATION	HEIGHT	TOP OF BUILDING	AREA (SQ. FT.)	DISPOSITION	BUILDING NUMBER	DESCRIPTION	GROUND ELEVATION	HEIGHT	TOP OF BUILDING	AREA (SQ. FT.)	DISPOSITION
1	MUSEUM - COMMEMMORATIVE AIR FORCE	5,613'	33'	5646'	5,710	TO BE REPURPOSED	21	HANGAR	5,628'	22'	5650'	2,527	TO REMAIN	41	HANGAR	5,628'	20'	5648'	4,324	TO BE REMOVED
2	HANGAR	5,617'	32'	5649'	5,756	TO REMAIN	22	HANGAR	5,623'	32'	5655'	5,722	TO REMAIN	42	HANGAR	5,627'	17'	5644'	3,711	TO BE REMOVED
3	HANGAR	5,619'	33'	5652'	5,705	TO REMAIN	23	HANGAR	5,624'	34'	5658'	5,776	TO REMAIN	43	HANGAR	5,628'	17'	5645'	3,724	TO BE REMOVED
4	HANGAR	5,620'	33'	5653'	5,675	TO REMAIN	24	HANGAR	5,626'	31'	5657'	5,781	TO REMAIN	44	HANGAR	5,629'	17'	5646'	3,793	TO BE REMOVED
5	HANGAR	5,622'	33'	5655'	5,772	TO REMAIN	25	HANGAR	5,627'	32'	5659'	5,804	TO REMAIN	45	HANGAR	5,630'	17'	5647'	3,807	TO BE REMOVED
6	HANGAR	5,618'	31'	5649'	5,761	TO REMAIN	26	HANGAR	5,623'	32'	5655'	5,692	TO REMAIN	46	HANGAR	5,630'	17'	5647'	3,753	TO BE REMOVED
7	HANGAR	5,619'	33'	5652'	5,756	TO REMAIN	27	HANGAR	5,624'	31'	5655'	5,617	TO REMAIN	47	HANGAR	5,631'	17'	5648'	3,816	TO BE REMOVED
8	HANGAR	5,621'	32'	5653'	5,719	TO REMAIN	28	HANGAR	5,626'	32'	5658'	5,563	TO REMAIN	48	HANGAR	5,632'	20'	5652'	1,922	TO BE REMOVED
9	HANGAR	5,622'	33'	5655'	5,789	TO REMAIN	29	HANGAR	5,627'	32'	5659'	5,752	TO REMAIN	49	HANGAR	5,633'	18'	5651'	7,282	TO BE REMOVED
10	HANGAR	5,621'	23'	5644'	2,584	TO REMAIN	30	HANGAR	5,627'	36'	5663'	10,139	TO REMAIN	50	HANGAR	5,634'	19'	5653'	13,350	TO BE REMOVED
11	HANGAR	5,622'	22'	5644'	2,537	TO REMAIN	31	HANGAR	5,630'	36'	5666'	10,179	TO REMAIN	51	HANGAR	5,637'	18'	5655'	5,784	TO BE REMOVED
12	HANGAR	5,623'	22'	5645'	2,617	TO REMAIN	32	AIRFIELD LIGHTING VAULT	5,632'	11'	5643'	186	TO REMAIN	52	HANGAR	5,643'	25'	5668'	2,698	TO BE REMOVED
13	HANGAR	5,625'	23'	5648'	2,537	TO REMAIN	33	SNOW REMOVAL EQUIPMENT BUILDING	5,634'	21'	5655'	5,349	TO REMAIN	53	HANGAR	5,644'	24'	5668'	2,590	TO REMAIN
14	HANGAR	5,626'	23'	5649'	2,545	TO REMAIN	34	FBO BUILDING	5,629'	37'	5666'	19,551	TO REMAIN	54	HANGAR	5,646'	24'	5670'	2,531	TO REMAIN
15	HANGAR	5,627'	24'	5651'	2,540	TO REMAIN	35	HANGAR	5,631'	23'	5654'	4,981		55	HANGAR	5,647'	24'	5671'	2,521	TO REMAIN
16	HANGAR	5,622'	22'	5644'	2,405	TO REMAIN	36	HANGAR	5,632'	25'	5657'	4,497	TO REMAIN (FUTURE AIRPORT RESTAURANT SITE PROPOSED)	56	HANGAR	5,649'	25'	5674'	3,545	TO REMAIN
17	HANGAR	5,623'	22'	5645'	2,385	TO REMAIN	37	HANGAR	5,630'	23'	5653'	3,503	TO REMAIN	57	HANGAR	5,644'	26'	5670'	3,783	TO BE REMOVED
18	HANGAR	5,624'	22'	5646'	2,530	TO REMAIN	38	HANGAR	5,629'	35'	5664'	10,994	TO BE REMOVED	58	HANGAR	5,645'	24'	5669'	2,591	TO REMAIN
19	HANGAR	5,625'	22'	5647'	2,556	TO REMAIN	39	HANGAR EXTENSION	5,628'	18'	5646'	610	TO BE REMOVED	59	HANGAR	5,647'	24'	5671'	2,556	TO REMAIN
20	HANGAR	5,626'	22'	5648'	2,552	TO REMAIN	40	HANGAR	5,628'	22'	5650'	4,511	TO BE REMOVED	60	HANGAR	5,648'	26'	5674'	3,586	TO REMAIN

LEGEND

ITEM: EXISTING	ITEM: FUTURE	DESCRIPTION	ITEM: EXISTING	ITEM: FUTURE	DESCRIPTION
SAFETY AREAS			**NAVAIDS**		
X		RUNWAY SAFETY AREA (RSA)		X	AWOS
X		RUNWAY OBJECT FREE AREA (ROFA)		X	AWOS PROTECTION
X		RUNWAY PROTECTION ZONE (RPZ)			BEACON
X		RUNWAY OBSTACLE FREE ZONE (ROFZ)	X		PAPI
X		TAXIWAY EDGE SAFETY MARGIN (TESM)	X		THRESHOLD LIGHT
X		TAXIWAY OBJECT FREE AREA (TOFA)	X		WIND CONE
X		TAXIWAY SAFETY AREA (TSA)	X		SEGMENTED CIRCLE
X		15' BUILDING RESTRICTION LINE (BRL)	**PAVEMENT**		
X		25' BUILDING RESTRICTION LINE (BRL)	X		APRON
X		35' BUILDING RESTRICTION LINE (BRL)			DRIVEWAY
FENCE					PARKING LOT
		CHAINLINK FENCE (7')			ROAD
		FENCE TO BE REMOVED	X		RUNWAY
		WIRE FENCE (8')			TAXIWAY
		GATE	X		FUEL
MARKING LINE					PAVEMENT TO BE REMOVED
X		TAXIWAY CENTERLINE	**MISCELLANEOUS**		
X		TAXIWAY HOLDING POSITIION			AIRPORT BOUNDARY
BUILDING			X		FBO AREA
		HANGAR TO BE REMOVED	X		SNOW STORAGE
		HANGAR	X		AIRPORT VIEW AREA
PART 77 SURFACE			X		GLIDER AREA
X		CFR PART 77 APPROACH			



FUTURE BUILDING DATA TABLE

GROUP	DESCRIPTION
A	HANGAR
B	HANGAR
C	HANGAR
D	COMMON WALL HANGARS
E	COMMON WALL HANGARS
F	T-HANGARS
G	FUTURE MUSEUM
H	FUTURE FBO FACILITY
I	HANGAR DEVELOPMENT AREA
J	HANGAR DEVELOPMENT AREA
K	HANGAR
L	T-HANGARS
M	SHED/MEETING SPACE
N	GLIDER COVERS

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NO.	REVISIONS DESCRIPTION	DATE:

BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN NXM
CHECKED BWC
APPROVED JLM

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

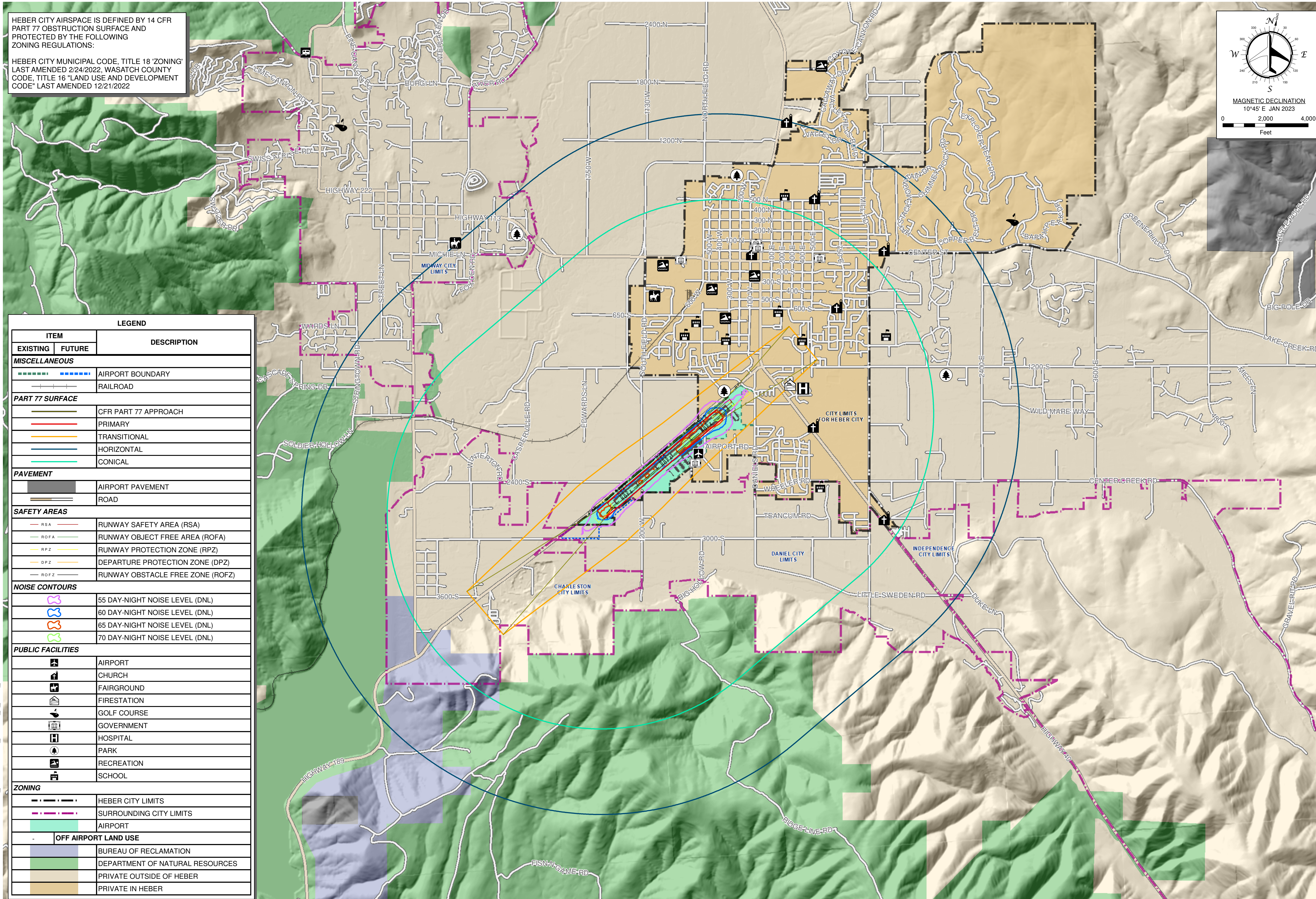
A.I.P. NO.: 3-49-001-031-2019

TERMINAL AREA FUTURE
HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 7B
17 OF 21

HEBER CITY AIRSPACE IS DEFINED BY 14 CFR PART 77 OBSTRUCTION SURFACE AND PROTECTED BY THE FOLLOWING ZONING REGULATIONS:

HEBER CITY MUNICIPAL CODE, TITLE 18 'ZONING' LAST AMENDED 2/24/2022, WASATCH COUNTY CODE, TITLE 16 "LAND USE AND DEVELOPMENT CODE" LAST AMENDED 12/21/2022



LEGEND

ITEM EXISTING	ITEM FUTURE	DESCRIPTION
MISCELLANEOUS		
		AIRPORT BOUNDARY
		RAILROAD
PART 77 SURFACE		
		CFR PART 77 APPROACH
		PRIMARY
		TRANSITIONAL
		HORIZONTAL
		CONICAL
PAVEMENT		
		AIRPORT PAVEMENT
		ROAD
SAFETY AREAS		
RSA		RUNWAY SAFETY AREA (RSA)
ROFA		RUNWAY OBJECT FREE AREA (ROFA)
RPZ		RUNWAY PROTECTION ZONE (RPZ)
DPZ		DEPARTURE PROTECTION ZONE (DPZ)
ROFZ		RUNWAY OBSTACLE FREE ZONE (ROFZ)
NOISE CONTOURS		
		55 DAY-NIGHT NOISE LEVEL (DNL)
		60 DAY-NIGHT NOISE LEVEL (DNL)
		65 DAY-NIGHT NOISE LEVEL (DNL)
		70 DAY-NIGHT NOISE LEVEL (DNL)
PUBLIC FACILITIES		
		AIRPORT
		CHURCH
		FAIRGROUND
		FIRESTATION
		GOLF COURSE
		GOVERNMENT
		HOSPITAL
		PARK
		RECREATION
		SCHOOL
ZONING		
		HEBER CITY LIMITS
		SURROUNDING CITY LIMITS
		AIRPORT
OFF AIRPORT LAND USE		
		BUREAU OF RECLAMATION
		DEPARTMENT OF NATURAL RESOURCES
		PRIVATE OUTSIDE OF HEBER
		PRIVATE IN HEBER

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BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN MRR
CHECKED BWC
APPROVED JLM

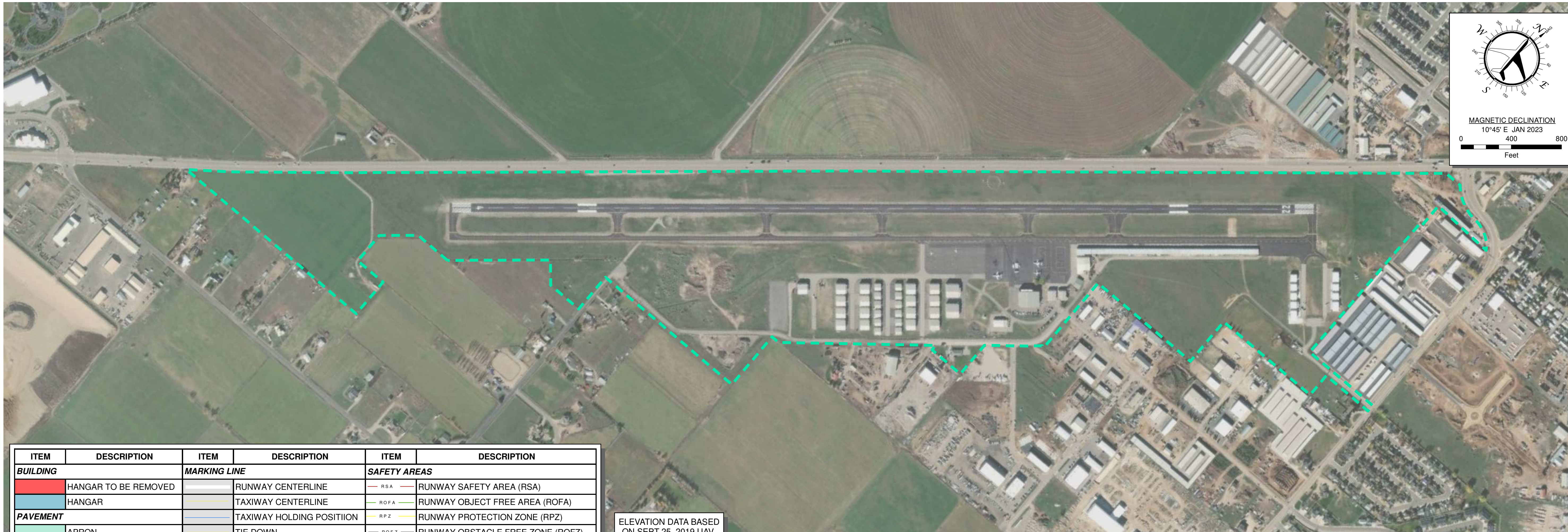
NO.	DESCRIPTION	DATE:
	REVISIONS	

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P PROJECT # 3-46-0011-031-2019

LAND USE
HEBER VALLEY AIRPORT

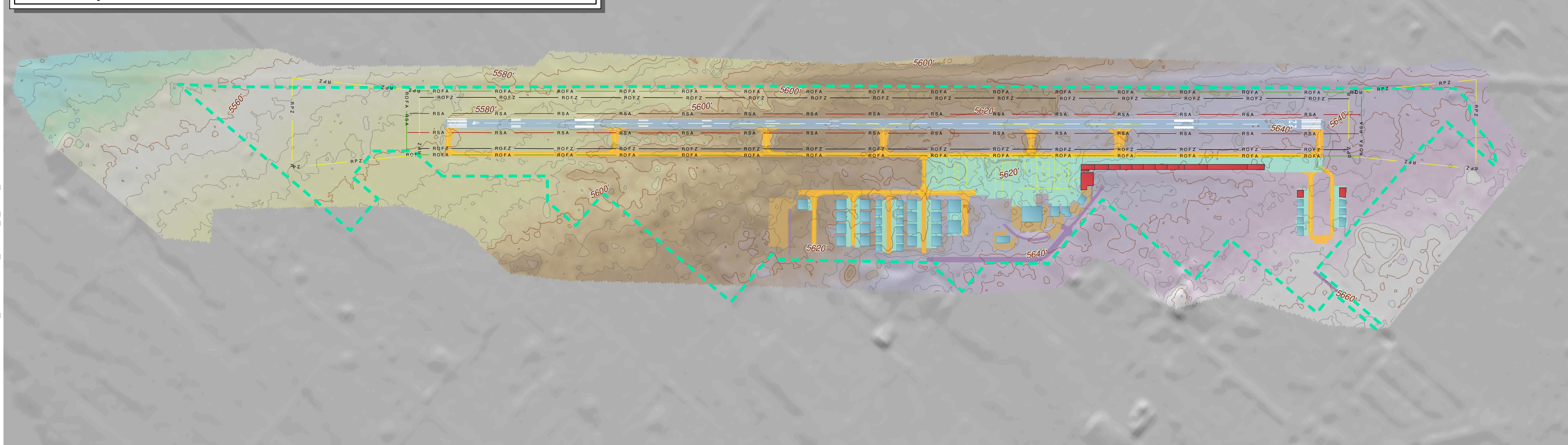
DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 8



ITEM	DESCRIPTION	ITEM	DESCRIPTION	ITEM	DESCRIPTION
BUILDING		***MARKING LINE***		***SAFETY AREAS***	
	HANGAR TO BE REMOVED		RUNWAY CENTERLINE	RSA	RUNWAY SAFETY AREA (RSA)
	HANGAR		TAXIWAY CENTERLINE	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
PAVEMENT			TAXIWAY HOLDING POSITIION	RPZ	RUNWAY PROTECTION ZONE (RPZ)
	APRON		TIE DOWN	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
	RUNWAY	***10FT CONTOURS***		***MISCELLANEOUS***	
	TAXIWAY		MAJOR CONTOUR		AIRPORT BOUNDARY
DIGITAL ELEVATION MODEL (DEM)			MINOR CONTOUR		

5537' 5605' 5672'

ELEVATION DATA BASED ON SEPT 25, 2019 UAV SURVEY AND JUNE 2018 0.5 METER LiDAR DEM



BORDER SIZE 11"X17"
DESIGNED DRAFT
DRAWN MRR
CHECKED BWC
APPROVED JLM

REVISIONS

NO.	DESCRIPTION	DATE:

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P. NO.: 3-49-001-031-2019

PHOTO AND CONTOUR EXISTING CONDITIONS

HEBER VALLEY AIRPORT

DATE: MAY 04, 2023
PROJECT # 190036
SHEET: 9

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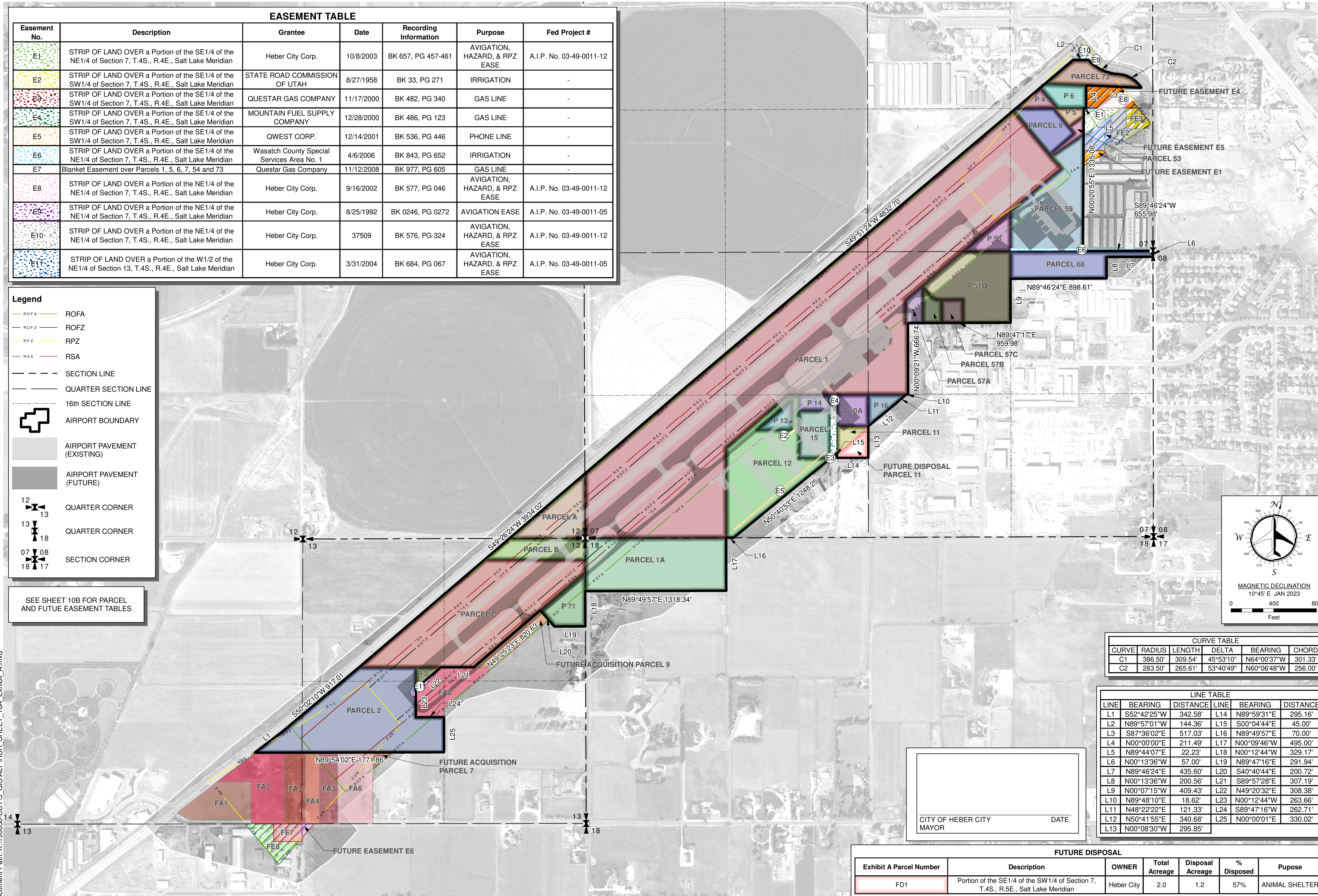
EASEMENT TABLE

Easement No.	Description	Grantee	Date	Recording Information	Purpose	Fed Project #
E1	STRIP OF LAND OVER a Portion of the SE1/4 of the NE1/4 of Section 7, T.4S., R.4E., Salt Lake Meridian	Heber City Corp.	10/8/2003	BK 657, PG 457-461	AVIGATION, HAZARD, & RPZ EASE	A.I.P. No. 03-49-0011-12
E2	STRIP OF LAND OVER a Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.4E., Salt Lake Meridian	STATE ROAD COMMISSION OF UTAH	8/27/1958	BK 33, PG 271	IRRIGATION	-
E3	STRIP OF LAND OVER a Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.4E., Salt Lake Meridian	QUESTAR GAS COMPANY	11/17/2000	BK 482, PG 340	GAS LINE	-
E4	STRIP OF LAND OVER a Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.4E., Salt Lake Meridian	MOUNTAIN FUEL SUPPLY COMPANY	12/28/2000	BK 486, PG 123	GAS LINE	-
E5	STRIP OF LAND OVER a Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.4E., Salt Lake Meridian	QWEST CORP.	12/14/2001	BK 536, PG 446	PHONE LINE	-
E6	STRIP OF LAND OVER a Portion of the SE1/4 of the NE1/4 of Section 7, T.4S., R.4E., Salt Lake Meridian	Wasatch County Special Services Area No. 1	4/6/2006	BK 843, PG 652	IRRIGATION	-
E7	Blanket Easement over Parcels 1, 5, 6, 7, 54 and 73	Questar Gas Company	11/12/2008	BK 977, PG 605	GAS LINE	-
E8	STRIP OF LAND OVER a Portion of the NE1/4 of the NE1/4 of Section 7, T.4S., R.4E., Salt Lake Meridian	Heber City Corp.	9/16/2002	BK 577, PG 046	AVIGATION, HAZARD, & RPZ EASE	A.I.P. No. 03-49-0011-12
E9	STRIP OF LAND OVER a Portion of the NE1/4 of the NE1/4 of Section 7, T.4S., R.4E., Salt Lake Meridian	Heber City Corp.	8/25/1992	BK 0246, PG 0272	AVIGATION EASE	A.I.P. No. 03-49-0011-05
E10	STRIP OF LAND OVER a Portion of the NE1/4 of the NE1/4 of Section 7, T.4S., R.4E., Salt Lake Meridian	Heber City Corp.	37509	BK 576, PG 324	AVIGATION, HAZARD, & RPZ EASE	A.I.P. No. 03-49-0011-12
E11	STRIP OF LAND OVER a Portion of the W1/2 of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	Heber City Corp.	3/31/2004	BK 684, PG 067	AVIGATION, HAZARD, & RPZ EASE	A.I.P. No. 03-49-0011-05



CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	BEARING	CHORD
C1	386.50'	309.54'	45°53'10"	N64°00'37"W	301.33'
C2	283.50'	265.61'	53°40'49"	N60°06'48"W	256.00'

LINE TABLE

LINE	BEARING	DISTANCE	LINE	BEARING	DISTANCE
L1	S52°42'25"W	342.58'	L14	N89°59'31"E	295.16'
L2	N89°57'01"W	144.36'	L15	S00°04'44"E	45.00'
L3	S87°36'02"E	517.03'	L16	N89°49'57"E	70.00'
L4	N00°00'00"E	211.49'	L17	N00°09'46"W	495.00'
L5	N89°44'07"E	22.23'	L18	N00°12'44"W	329.17'
L6	N00°13'36"W	57.00'	L19	N89°47'16"E	291.94'
L7	N89°46'24"E	435.60'	L20	S40°40'44"E	200.72'
L8	N00°13'36"W	200.56'	L21	S89°57'28"E	307.19'
L9	N00°07'15"W	409.43'	L22	N49°20'32"E	308.38'
L10	N89°48'10"E	18.62'	L23	N00°12'44"W	263.66'
L11	N48°22'22"E	121.33'	L24	S89°47'16"W	262.71'
L12	N50°41'55"E	340.68'	L25	N00°00'01"E	330.02'
L13	N00°08'30"W	295.85'			

CITY OF HEBER CITY MAYOR — DATE

FUTURE DISPOSAL

Exhibit A Parcel Number	Description	OWNER	Total Acreage	Disposal Acreage	% Disposed	Pupose
FD1	Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	Heber City	2.0	1.2	57%	ANIMAL SHELTER

BORDER SIZE 11"X17"
DESIGNED DESIGN
DRAWN BRC
CHECKED BWC
APPROVED XXX

REVISIONS

NO.	DESCRIPTION	DATE

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P NO.: 3-49-001-031-2019

EXHIBIT 'A'
AIRPORT PROPERTY INVENTORY
HEBER VALLEY AIRPORT

DATE: MAY 4, 2023
PROJECT # 190036
SHEET: 10A

Document Path: K:\190036-CDY\5_GIS\ALP\HCR_SHEET_10A_Exhibit_A.mxd

PARCELS

Exhibit A Parcel Number	Description	Wasatch County Tax ID	Grantor	Grantee	Date	Recording Information	Type of Document	Interesrt Held	Acreage	Fed Project #	Pupose
1	Portion of Section 7, and the N1/2 of the NW1/4 of Section 18, T.4S., R.5E., Salt Lake Meridian	00-0009-1236	Original Airport/Wasatch County	Heber City Corp.	1947	BK 22, PG 508	Warranty Deed	Fee Simple	121.6	-	AERONAUTICAL
1a	Portion of the N1/2 of the NW1/4 of Section 18, T.4S., R.5E., Salt Lake Meridian	00-0009-6284	Van Wagoner/Wasatch County	Heber City Corp.	1949	BK 23, PG 255	Warranty Deed	Fee Simple	15.0	-	AERONAUTICAL
2	Portion of the N1/2 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4834	Clifford Family Trust	Heber City Corp.	2-Jun-03	BK 0628, PG 0095	Warranty Deed	Fee Simple	20.3	A.I.P. No. 03-49-0011-15	AERONAUTICAL
3	Portion of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0014-1700	Wagstaff Family Living Trust	Heber City Corp.	6/15/1992	BK 0243, PG 0414	Warranty Deed	Fee Simple	0.5	A.I.P. No. 03-49-0011-05	AERONAUTICAL
4	Portion of the NE1/4 of the NE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0014-6550	Wasatch County School District	Heber City	Feb. 09, 1994	BK 0273, PG 0148	Warranty Deed	Fee Simple	0.9	A.I.P. No. 03-49-0011-05	AERONAUTICAL
5	Portion of the SE1/4 of the NE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-6886	Jay A. Simpson and Glenna M. Simpson, Lowell R. Simpson and Sandra S. Simpson	Heber City Corp.	Oct. 08, 2003	BK 0657, PG 0454	Warranty Deed	Fee Simple	0.7	A.I.P. No. 03-49-0011-12	AERONAUTICAL
6	Portion of the NE1/4 of the NE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0009-1020	Board of Education of the Wasatch County School District	City of Heber, Corp	Feb. 13, 2020	BK 1282, PG 0132	Special Warranty Deed	Fee Simple	1.9	-	AERONAUTICAL
9	Portion of the SE1/4 of the NE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0016-5436	Lowell R. Simpson and Sandra S. Simpson	Heber City Corp.	Nov. 25, 1998	BK 0404, PG 0670	Condemnation	Fee Simple	3.0	A.I.P. No. 03-49-0011.05	AERONAUTICAL
10a	Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0009-1236	Glenna Lloyd and Timp View Development	Heber City	6/25/1997	BK 0351, PG 0360	Warranty Deed	Fee Simple	2.0	A.I.P. No. 03-49-0011-09	AERONAUTICAL
11	Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0009-1236	Glenna Lloyd and Timp View Development	Heber City	6/25/1997	BK 0351, PG 0360	Warranty Deed	Fee Simple	2.0	A.I.P. No. 03-49-0011-09	AERONAUTICAL
12	Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0009-1236	Xenia Farms et al	Heber City	12/15/1997	BK 0367, PG 0050	Deed	Fee Simple	16.0	A.I.P. No. 03-49-0011-08	AERONAUTICAL CONDEMNATION
13	Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0009-1236	Elizabth Cuillard	Heber City	12/20/1996	BK 0338, PG 0593	Warranty Deed	Fee Simple	1.0	A.I.P. No. 03-49-0011-08	AERONAUTICAL
14	Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0009-1236	Jarl Klungervik an dTRoy J. Klungervik	Heber City Corp.	11/4/1996	BK 0335, PG 0593	Deed	Fee Simple	1.0	A.I.P. No. 03-49-0011-08	AERONAUTICAL
15	Portion of the SE1/4 of the SW1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0009-1236	George M. Webb and Della M. Webb	Heber City	3/18/1998	DB 0376, PG 0331	Warranty Deed	Fee Simple	3.0	A.I.P. No. 03-49-0011-08	AERONAUTICAL
16	Portion of the SW1/4 of the SE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-6908	Errol Mahoney and Dona A. Mahoney	Heber City Corp	11-Jan-02	BK 0540, PG 719	Warranty Deed	Fee Simple	1.2	A.I.P. No. 03-49-0011-09	AERONAUTICAL
53	Portion of the SE1/4 of the NE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-6887	Jay A. Simpson and Glenna M. Simpson, Lowell R. Simpson and Sandra S. Simpson	Heber City Corp.	Oct. 08, 2003	BK 0657, PG 0454	Warranty Deed	Fee Simple	0.6	A.I.P. No. 03-49-0011-12	AERONAUTICAL
57A	Portion of the NW1/4 of the SE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-1891	Hugh C. Smith Trust and Hugh C. Smith and Clara P. Smith Family Trust	Heber City Corp.	Sept. 05, 2002	BK 0575, PG 0407	Warranty Deed	Fee Simple	1.0	A.I.P. No. 03-49-0011-14	AERONAUTICAL
57B	Portion of the NW1/4 of the SE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-1890	Hugh C. Smith Trust and Hugh C. Smith and Clara P. Smith Family Trust	Heber City Corp.	Sept. 05, 2002	BK 0575, PG 0407	Warranty Deed	Fee Simple	1.0	A.I.P. No. 03-49-0011-14	AERONAUTICAL
57C	Portion of the NW1/4 of the SE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-1889	Hugh C. Smith Trust and Hugh C. Smith and Clara P. Smith Family Trust	Heber City Corp.	Sept. 05, 2002	BK 0575, PG 0407	Warranty Deed	Fee Simple	1.0	A.I.P. No. 03-49-0011-14	AERONAUTICAL
57D	Portion of the NW1/4 of the SE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-1874	Hugh C. Smith Trust and Hugh C. Smith and Clara P. Smith Family Trust	Heber City Corp.	Sept. 05, 2002	BK 0575, PG 0407	Warranty Deed	Fee Simple	9.2	A.I.P. No. 03-49-0011-14	AERONAUTICAL
58	Portion of the SW1/4 of the NE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-6891	Jay A. Simpson and Glenna M. Simpson, Lowell R. Simpson and Sandra S. Simpson	Heber City Corp.	Oct. 08, 2003	BK 0657, PG 0454	Warranty Deed	Fee Simple	2.0	A.I.P. No. 03-49-0011-12	AERONAUTICAL
59	Portion of the SE1/4 of the NE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-6890	Jay A. Simpson and Glenna M. Simpson, Lowell R. Simpson and Sandra S. Simpson	Heber City Corp.	Oct. 28, 2004	BK 0719, PG 0404	Warranty Deed	Fee Simple	11.3	A.I.P. No. 03-49-0011-16	AERONAUTICAL
68	Portion of the NE1/4 of the SE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0020-6895	Kelly B. Jarvis and Ruth E. Jarvis	Heber City Corp	30-Mar-05	BK 0743, PG 0531	Warranty Deed	Fee Simple	5.9	A.I.P. No. 03-49-0011-17	AERONAUTICAL
71	Portion of the NE1/4 of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0021-0137	Wendy E. Gardner	Heber City Corp.	Sept. 01, 2005	BK 0782, PG 0762	Warranty Deed	Fee Simple	3.3	A.I.P. No. 03-49-0011-18	AERONAUTICAL
73	Portion of the NE1/4 of the NE1/4 of Section 7, T.4S., R.5E., Salt Lake Meridian	00-0009-1004	MAVERIK, INC	Heber City Corp.	Feb. 17, 2016	BK 1151,PG 0206	Special Warranty Deed	Fee Simple	2.9	A.I.P. No. 03-49-0011-18	AERONAUTICAL
A	Portion of the SE1/4 of the SE1/4 of Section 12, T.4S., R.4E., Salt Lake Meridian	00-0000-9584	Wasatch County	Heber City	2/1/1991	BK 0226, PG 0279	Warranty Deed	Fee Simple	4.9	A.I.P. No. 03-49-0011-02	AERONAUTICAL
B	Portion of the NE1/4 of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0008-7713	Skidmore	Heber City Corp.	1991	BK 0226, PG 0344	Warranty Deed	Fee Simple	3.7	A.I.P. No. 03-49-0011-02	AERONAUTICAL
C	Portion of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0014-1700	Zymet/McEntire	Heber City Corp.	1991	BK 0227, PG 0611	Order of Immediate Occupancy	Fee Simple	25.0	A.I.P. No. 03-49-0011-02	AERONAUTICAL

FUTURE EASEMENT (SAFETY AREA COMPLIANCE)

Exhibit A Parcel Number	Description	Wasatch County Tax ID	Grantee	Date	Recording Information	Type of Document	Total Acreage	Easement Acreage	% Required
FE1	Portion of Lots 3 and 4 of Hog Small Subdivision, T.4S., R.5E., Salt Lake Meridian	00-0020-7522	SILVERADO STORAGE HEBER LLC	10/20/2017	BK 1204, PG 1508	Warranty Deed	3.8	0.4	10%
FE2	Portion of Lot 2 of Hog Small Subdivision, T.4S., R.5E., Salt Lake Meridian	00-0020-7521	Wasatch County School District	5/25/2011	BK 1035, PG 566-568	Special Warranty Deed	1.8	1.2	68%
FE3	Portion of the NE1/4 Section 7, T.4S., R.5E., Salt Lake Meridian	00-0009-1095	Widdison Rentals BP LC	2/27/2008	BK 961, PG 345-346	Quit Claim Deed	1.0	0.8	79%
FE4	Portion of the NE1/4 Section 7, T.4S., R.5E., Salt Lake Meridian	00-0021-5932	BOARD OF EDUCATION OF THE WASATCH COUNTY SCHOOL DISTRICT	4/19/2021	BK 1350 PG 701-702	Quit Claim Deed	2.6	1.9	73%
FE5	Portion of Lot 1 of Hog Small Subdivision, T.4S., R.5E., Salt Lake Meridian	00-0020-7520	Wasatch County School District	3/28/2011	BK 1032, PG 1335	Warranty Deed	2.2	2.2	100%
FE6	Portion of the SE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4538	William D. Oswald, Trustee, Mavis M. Oswald, Trustee, and Oswald Ranch Family Parnership, a Utah Partnership	1/4/2019	BK 1242, PG 1-2	Warranty Deed	62.1	0.2	2%
FE7	Portion of the NE1/4 of the SW1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4536	Okelberry Ranch, LLC	3/1/2022	BK 1399, PG 973-988	Personal Representative's Quit Claim Deed	1.0	1.0	100%
FE8	Portion of the NE1/4 of the SW1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0008-7952	Wasatch County	2/23/1996	BK 316, PG 364	Warranty Deed	11.8	1.6	13%

FUTURE ACQUISITIONS (SAFETY AREA COMPLIANCE)

Exhibit A Parcel Number	Description	Wasatch County Tax ID	Grantee	Total Acreage	Acquisition Acreage	% Required
FA1	Portion of the SE1/4 of the NW1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-2403	Acre Investments, LLC	4.3	4.3	100%
FA2	Portion of the SE1/4 of the NW1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4525	Acre Investments, LLC	5.7	5.7	100%
FA3	Portion of the SW1/4 of the NE1/4 and the SE1/4 of the NW1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4526	Eric W. Bunker and Shelly S. Bunker	3.0	3.0	100%
FA4	Portion of the SW1/4 of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-9921	Frederick Owen Benzler Sr.	2.0	2.0	100%
FA5	Portion of the SW1/4 of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4533	Frederick Owen Benzler Sr.	2.6	2.6	100%
FA6	Portion of the SW1/4 of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4532	John Call and Terri R. Call	5.1	5.1	100%
FA7	Portion of the SW1/4 of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4531	Rodney S. Cottam	5.1	0.3	6%
FA8	Portion of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4528	Milton Douglas Wagstaff and Julie Kaye (Fisher) Wagstaff	13.7	4.3	31%
FA9	Portion of the NE1/4 of Section 13, T.4S., R.4E., Salt Lake Meridian	00-0020-4527	Blake Allen	7.5	2.1	27%

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BORDER SIZE 11"X17"
DESIGNED DESIGN
DRAWN BRC
CHECKED BWC
APPROVED xxx

REVISIONS

NO.	DESCRIPTION	DATE:

ARDURRA
2175 W. 3000 S., SUITE 200
HEBER CITY, UT 84032
PHONE: 435.315.6168 WWW.ARDURRA.COM

A.I.P NO.: 3-49-001-031-2019

EXHIBIT 'A' TABLE
AIRPORT PROPERTY INVENTORY
HEBER VALLEY AIRPORT

DATE: MAY 4, 2023
PROJECT # 190036
SHEET: 10B