Chapter 1
Inventory

The inventory of existing conditions is the initial step in the preparation of the Kerrville-Kerr County Airport (ERV) Master Plan. The inventory will serve as an overview of the airport's physical and operational features, including facilities, users, and activity levels, as well as specific information related to the airspace, air traffic activity, and role of the airport. Finally, a summary of socioeconomic characteristics and review of existing environmental conditions on and adjacent to the airport are thoroughly detailed, which will provide further input into the study process.

Information provided in this chapter serves as the baseline for the remainder of the master plan, which is compiled using a wide variety of resources, including: applicable planning documents and financial reports; on-site visits; interviews with airport staff, tenants, and users; aerial and ground photography; federal, state, and local publications; and project record drawings.

AIRPORT SETTING

LOCATION AND ACCESS

ERV is situated in the Texas Hill Country, approximately 65 miles northwest of San Antonio. The City of Kerrville lies within Kerr County and serves as its county seat. The city is positioned at the convergence of the Guadalupe River and several scenic hills.

Geographically, Kerrville is located at the intersection of major state highways, including Texas Highway 27, which runs through the city, and Highway 16, which connects it to other key areas in the region. The city is approximately five miles southeast of Interstate 10, a major east-west route that links Kerrville to larger urban centers and facilitates access to the broader San Antonio metropolitan area.

Kerrville is surrounded by a network of small communities and towns such as Ingram to the northeast, Center Point to the southeast, and Camp Verde to the south. Its location makes it a central hub within the Hill Country, offering access to more urbanized areas.

Airport Entrance Signage

ERV is situated at an elevation of 1,616.8 feet mean sea level (MSL) on 528-acres approximately five miles southeast of Kerrville's central business district. The airport is located six miles south of Interstate 10, with Highway 173 (Bandera Highway) situated approximately one mile to the west. The airport's primary vehicle access point is via Texas Highway 27 (Memorial Boulevard), which runs along the airport's southwest border. Airport Loop, which intersects with Memorial Boulevard, provides direct access to airport facilities. Other nearby surface roads include Johnson Road to the east and Al Mooney Road to the west. **Exhibit 1A** depicts the regional setting.

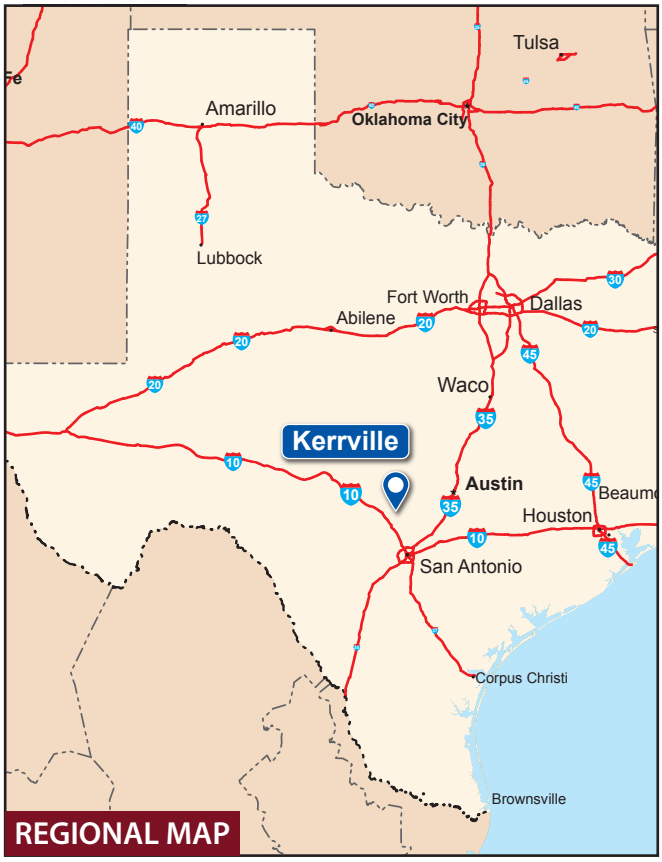
AIRPORT ADMINISTRATION

ERV is jointly owned by the City of Kerrville and Kerr County and operated by an independent Joint Airport Board, which is established by the Airport Interlocal Agreement. The Airport Interlocal Agreement was restated and executed in May 2022, which extended the agreement for ten years through 2032. The City and County each commit to funding 50 percent of the airport's operations and maintenance and capital improvements budget. The Joint Airport Board is made up of five volunteers who must be approved by both the City and County. Board members serve five-year terms. The Board oversees the airport manager who is responsible for the day-to-day operation of the airport, including fixed base operator (FBO) fuel sales and aircraft services.

CLIMATE

Climate and local weather conditions are an important consideration in the master planning process, as they can significantly impact an airport's operations. For example, high temperatures and humidity can increase runway length requirements for some aircraft; predominant winds dictate primary runway orientation; and cloud coverages and frequency of inclement weather determine the need for navigational aids and lighting. Knowledge of these weather conditions during the planning process allows the airport to prepare for any improvements that may be needed on the airfield.

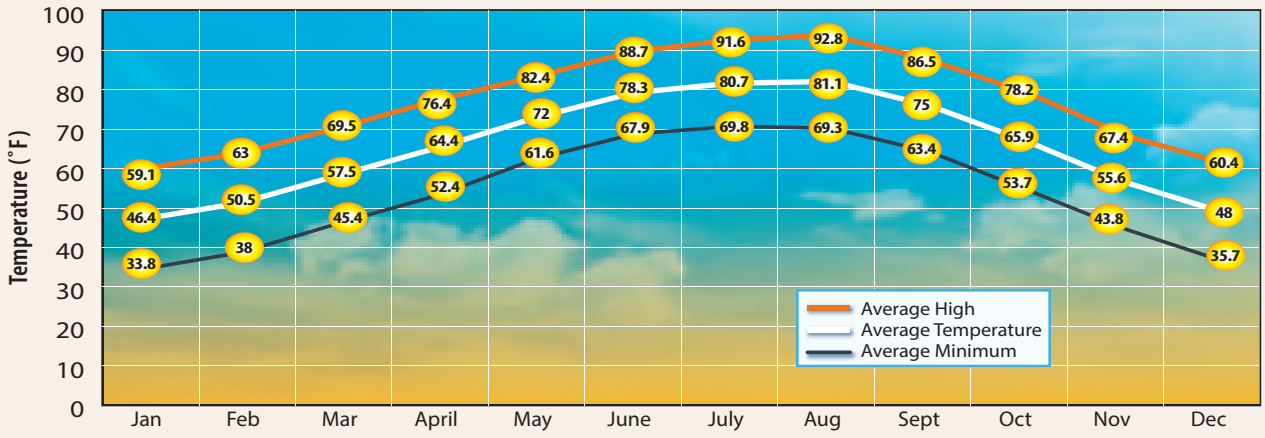
Kerrville experiences hot and muggy summers, with an average high temperature in August of 92.8 degrees Fahrenheit (°F). Winters are generally mild, with January being the coldest month with an average low temperature of 33.8 °F. According to the Köppen Climate Classification System, Kerrville has a humid subtropical climate with no significant precipitation difference between seasons. The area receives a total of 30.56 inches of precipitation during an average year, with May being the rainiest month. **Exhibit 1B** summarizes weather and wind patterns at the airport.


Tulsa
Amarillo
Oklahoma City
Lubbock
Fort Worth
Dallas
Abilene
Waco
Kerrville
Austin
Houston
San Antonio
Corpus Christi
Brownsville
REGIONAL MAP

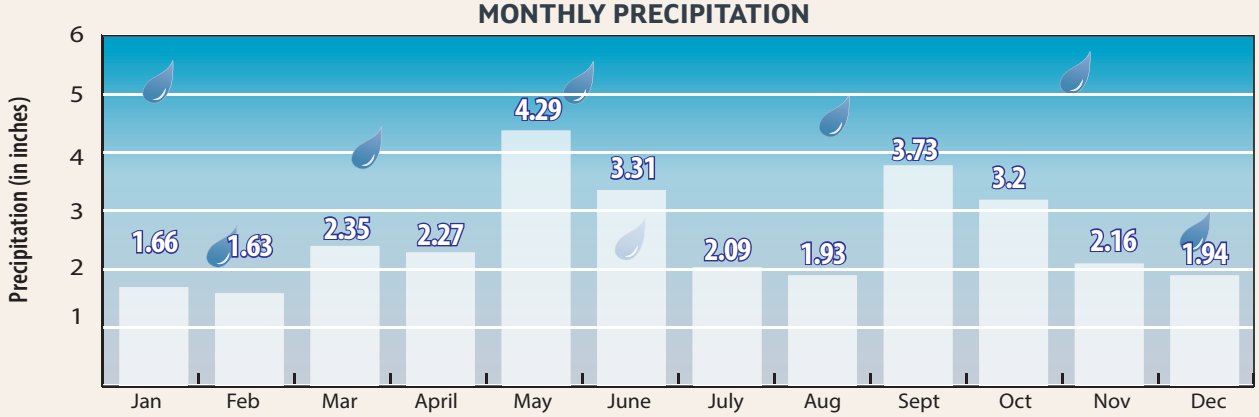

Mason
Llano
377
Mason
Llano
Junction
Kimble
Gillespie
Fredericksburg
Kerrville
Kerr County
Airport
10
87
Ingram
Kendall
Kerr
Kerrville
Comfort
Camp Verde
Boerne
Bandera
Leakey
Bandera
83
Concan
Leon Valley
Uvalde
Medina
VICINITY MAP


Kerrville
534
Kerrville
Kerr County
Airport
Lower Turtle Creek Rd
LOCATION MAP

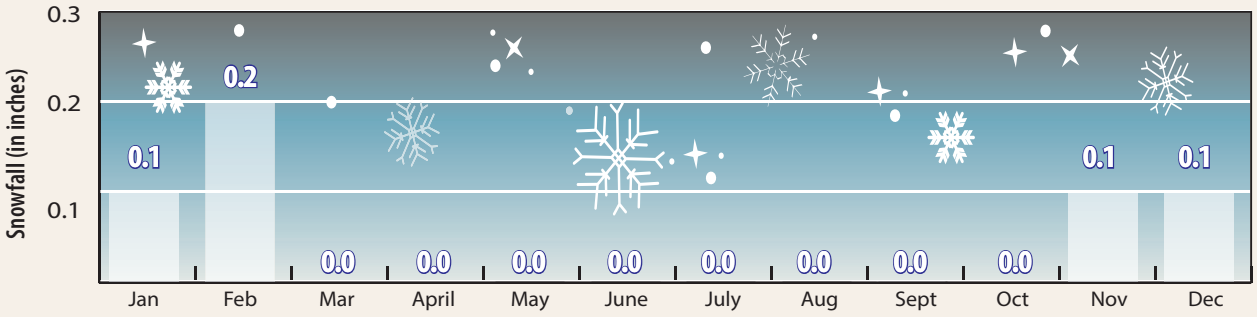
MONTHLY TEMPERATURES



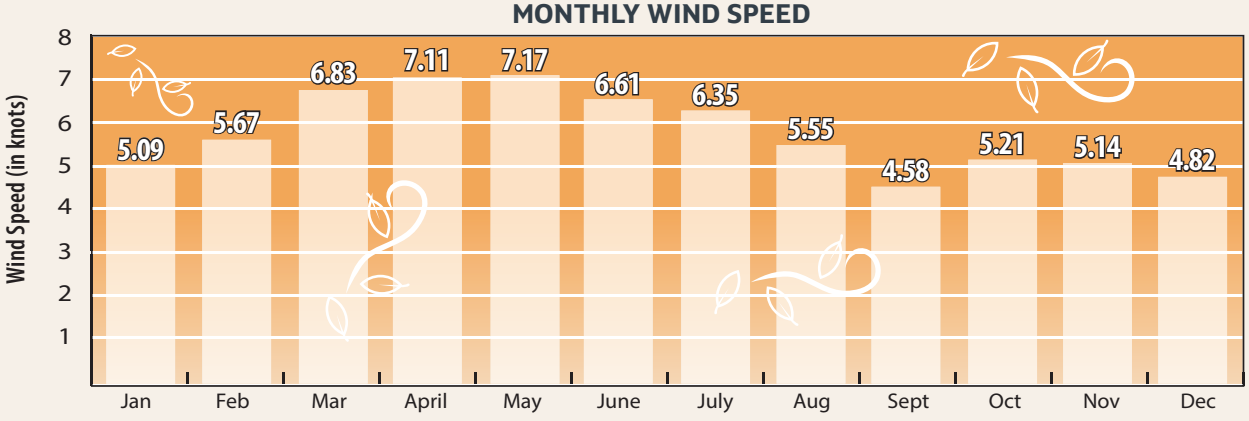
MONTHLY PRECIPITATION



SNOWFALL



MONTHLY WIND SPEED



Source: National Oceanic and Atmospheric Administration, info on the station. Kerrville, TX. Station #USC00414782.

Table 1A indicates that visual meteorological conditions (VMC) occur 89.74 percent of the time. When under VMC conditions, pilots can operate using visual flight rules (VFR) and are responsible for maintaining proper separation from objects and other aircraft. Instrument meteorological conditions (IMC) account for all weather conditions less than VMC conditions that still allow for aircraft to safely operate under instrument flight rules (IFR). Under IFR, pilots rely on aircraft instruments for navigation. IMC conditions occur 7.27 percent of the time. Less than IMC – or poor visibility conditions (PVC) – are present 2.99 percent of the time. These weather conditions can reach visibility levels that are lower than instrument approach minimums. In such cases, when visibility minimums are below one mile, the airport can become inaccessible to air traffic.

TABLE 1A | Weather Conditions

Condition	Cloud Ceiling	Visibility	% of Total
VMC	≥ 1,000' AGL	≥ 3 statute miles	89.74%
IMC	≥ 500' AGL and < 1,000' AGL	≥ 1 to < 3 statute miles	7.27%
PVC	< 500' AGL	< 1 statute mile	2.99%

VMC = Visual Meteorological Conditions
IMC = Instrument Meteorological Conditions
PVC = Poor Visibility Conditions
AGL = Above Ground Level

Source: Kerrville-Kerr County Airport, TX Station ID72253712961, observations from 1/1/2014 through 12/31/2023

AIRPORT HISTORY

The original airport, which is now occupied by an industrial park, was purchased by Louis A. Schreiner in 1939 and donated to the City of Kerrville. The airport was named Louis Schreiner Field after its donor, and it was developed on approximately 111 acres. In 1942, the airport property was traded for approximately 145 acres, and the airport was moved to its present site – six miles east of downtown Kerrville adjacent to Texas State Highway 27. Louis A. Schreiner, Hal Peterson, and Charlie Peterson donated money for improvements to the new airport.

Throughout WWII, the airport remained in civilian control but served as a base for military flight training. From 1945 to 1949, the FBO maintained a Civil Aeronautics Administration approved flight training school and provided a full range of services, including aircraft repair and maintenance along with pilot flight training and charter flights. In 1948, the City of Kerrville acquired a surplus hangar from Laughlin Air Force Base when the base was temporarily closed. In 1953, Mooney Airplane Company moved from Wichita, Kansas, to Kerrville into the military surplus hangar on Louis Schreiner Field. In 1957, Mooney Airplane Company expanded to include the Kerrville Flying Service tract, and Kerrville Aviation and Dugosh were established across the field in the current ramp area.

Kerr County matched funding for improvements at the airport from the beginning and, in 1952, the City of Kerrville deeded one-half interest in the airport to Kerr County. In 1978, the City of Kerrville annexed 64 acres along Highway 27 and 459 acres of airport property into the city limits, and the next 10 years saw extensive development of the east side of the airport. The FBO and other tenant activities developed around the ramp area as it exists today, and the airport west of the secondary runway became completely occupied by Mooney Airplane Company.

AIRPORT SYSTEM PLANNING ROLE

Airport planning takes place at the local, state, and national levels, each of which has a different emphasis and purpose.

- **Local |** ERV's most recent airport master plan was prepared in 2013.
- **State |** ERV is included within the 2010 Texas Airport System Plan (TASP).
- **National |** ERV is included in the National Plan of Integrated Airport Systems (NPIAS), which categorizes overall airport roles and responsibilities based on input from local and state planning efforts (i.e., master plans and state system plans).

LOCAL AIRPORT PLANNING

***2013 Airport Master Plan* |** The airport updated their Airport Master Plan in 2013. Key recommendations from the previous master plan include:

- Correcting the runway safety area (RSA) and object free area (OFA) deficiencies off the end of Runway 12;
- Correcting the ROFA width deficiency for Runway 12-30;
- Adding hangar capacity;
- Adding terminal building vehicle parking capacity.

Since completion of the previous master plan, the airport has expanded its hangar capacity with three new hangars and constructed a new vehicle parking lot at the terminal. The airport has applied declared distances and received a modification to standard in order to meet RSA and OFA standards. The airport's safety area conditions will be re-evaluated in the Facility Requirements chapter of the master plan.

***Runway Protection Zones Analysis* |** The airport is in the process of negotiating for the acquisition of approximately 53.9 acres of property southeast of Runway 12-30. This project is associated with a runway protection zone (RPZ) analysis that presented a plan to shift the runway southeast. Shifting the runway allows it to be developed to a full length of 6,000 feet without any threshold displacements, and would result in the runway protection zones (RPZs) to be located entirely on airport property. Regardless of the outcome of the property acquisition process, the master plan will re-evaluate the plan to shift the runway in the facility requirements and alternatives phase of the study.

STATE AIRPORT PLANNING

The primary purpose of a state airport system plan is to study the performance and interaction of an entire aviation system. The *Texas Airport System Plan* (TASP) objectives include providing air service based on the level of service required throughout the state; adequate airport capacity to meet forecast demand; and an airport system developed to applicable federal and state planning and design standards.

ERV is classified as a business/corporate general aviation regional airport in the TASP, making it one of 67 with this classification within the State of Texas. According to the TASP, regional airports support higher performance aircraft than the surrounding smaller general aviation facilities and are the focal point of aviation activity for large population centers. For comparison purposes, **Table 1B** compares Texas Department of Transportation (TxDOT) – Aviation Division() standards for business/corporate airports and existing conditions at ERV.

TABLE 1B | TASP Minimum Design Standards Comparison

	General Aviation	ERV
Role	Business/Corporate	Business/Corporate
ARC[1]	ARC C-II through D-II	C-II
Runway Length	5,000'	6,004'
Runway Width	100'	100'
Runway Strength	30,000 lb.	22,400 lb.
Edge Lighting	MIRL	MIRL
Taxiway	Full Parallel	Full Parallel
Approach Type	Non-precision	APV
Visibility Minimums	250' – ¾-mile LPV	1-mile LPV
Services Available	Terminal, Restrooms, Telephone, Avgas, Jet A; attended 18 hrs.	Terminal, Restrooms, Telephone, Avgas, Jet A, Conference Room, Aircraft Maintenance, Hangar Space, Rental Car, etc.

APV = Approach with Vertical Guidance
ARC = Airport Reference Code
LPV = Localizer Performance with Vertical Guidance
MIRL = Medium Intensity Runway Lighting

Source: Texas Airport System Plan, 2010

ERV is also included in TxDOT's Draft *2025-2027 Aviation Capital Improvement Program (CIP)*. This program contains data concerning several project-related costs. Projects listed in TxDOT's CIP include a land reimbursement project, which is planned to support a future shift of the runway to the southeast.

FEDERAL AIRPORT PLANNING

Many of the nation's existing airports were either initially constructed by the federal government, or their development and maintenance was partially funded through various federal grant-in-aid programs to local communities. The system of airports that exists today is largely due to federal policy that promotes the development of civil aviation. As part of a continuing effort to develop a national airport system, U.S. Congress has maintained a national plan for the development and maintenance of airports.

The FAA maintains a database of public-use airports that are eligible for Airport Improvement Program (AIP) funding, called the *National Plan of Integrated Airport Systems* (NPIAS). The NPIAS is published and used by the FAA in administering the AIP, which is the source of federal funds for airport improvement projects across the country. The AIP is funded exclusively by user fees and user taxes, such as those on fuel and airline tickets. **An airport must be included in the NPIAS to be eligible for federal funding assistance through the AIP.**

The current plan is the *NPIAS 2023-2027*, which identified 3,287 existing public-use airports and eight proposed nonprimary airports anticipated to open by 2027 that are deemed important to national air transportation. The plan estimates that approximately $62.4 billion in AIP-eligible airport projects will require financial assistance between 2023 and 2027, which is an increase of almost $19 billion from the previous NPIAS report.

ERV is classified in the NPIAS as a general aviation airport. Within this airport designation, there are four different airport categories: National, Regional, Local, and Basic. ERV is classified within the regional category. Regional airports serve to support regional economies with interstate and some long-distance flying. Regional airports have high levels of activity, including jets and multi-engine propeller aircraft.

CAPITAL IMPROVEMENT HISTORY

To assist in ongoing capital improvements, the FAA and TxDOT provide funding to ERV through the AIP. Texas is a member of the FAA's Block Grant Program, giving TxDOT the responsibility – among other things – of administering AIP grants to regional and general aviation airports, including ERV. The State of Texas also offers funding opportunities for which ERV is eligible, which are listed below.

Routine Airport Maintenance Program (RAMP) | TxDOT matches local government grants up to $50,000 for basic improvements, such as parking lots, fencing, and other airside and landside needs. The local match for this program is 50 percent. **Beginning in fiscal year 2024, TxDOT increased the total amount available to airports to $100,000 and reduced the local match to 10 percent**.

Terminal Building Grants | TxDOT has funded terminal building construction on a 50/50 basis, up to $1.0 million total project costs. Consideration has recently been given, however, to upgrading the total cost allowance on a case-by-case basis.

Airport Traffic Control Tower (ATCT) Grants | TxDOT funds the construction of up to two ATCTs statewide each year. ATCT funding could be provided on a 90/10 basis, up to a total construction cost of $1.67 million.

Federal Aviation Grants | These provide federal and state grant funding for maintenance and improvement projects to airports included in the NPIAS.

Table 1C summarizes airport capital improvement projects and maintenance undertaken since 1968, with funding from federal, state, and local sources. During this period, the airport has received almost $19.1 million in state and federal grants and invested approximately $2.5 million in local funds for capital projects at ERV.

TABLE 1C | Airport Capital Improvement Project History

FY	Agency	Project Description	Local ($)	State ($)	Federal ($)
1968	FAA	Taxiway construction.	0	0	52,990
1968	TAC	Joint with FAA 1968 Project.	0	20,000	0
1974	FAA	Land; install terminal VHF omni-directional range (low power terminal VHF omni- directional radio range) (TVOR); relocate fencing.	0	0	40,378
1974	FAA	Install MIRL on RW 12-30, including VASI-4.	0	0	45,568
1974	TAC	Joint with FAA 74-02 Project.	0	7,000	0
1975	FAA	AMP; Bovay Engineering.	0	0	16,000
1978	FAA	Install localizer and outer marker for RW 12-30; relocate NDB.	0	0	122,050
1979	FAA	Construct apron and connecting TWs; marking.	0	0	260,000
1979	TAC	Joint with FAA 79-04 Project.	0	33,000	0
1980	FAA	Land; expand apron; install fencing.	0	0	229,000
1983	FAA	Rehabilitate port and overlay RW 12-30 (4400 x 100).	0	0	411,000
1984	FAA	Amendment to FAA 83-01.	0	0	8,452
1985	FAA	Amendment to FAA 79-04: increase amount to $286,000.00.	0	0	0
1985	FAA	Amendment to FAA 80-05: increase amount to $251,897.40.	0	0	0
1985	FAA	Acquire land; construct, mark, and MIRL extension of RW 12-30 (600 to 100 x 5000); construct and mark parallel and connecting TW extensions (40 x 1535); relocate entrance road (24 x 4550); install perimeter fence (3230 lf); install TW guidance signs.	0	0	642,000
1985	FAA	(cont.) relocate VASI-4.	0	0	0
1990	FAA	Acquire land for development/approaches.	0	0	275,000
1991	TDA	Extend RW 12-30 (1000 x 100), extend parallel TW (1170 x 40) & extend MIRL (1000 lf).	56,335	56,335	10,14,045
1996	FAA	Repair/overlay & mark RW 12-30; rehab & mark RW 2-20, TW to RW 2-20; install MIRLs RW 12-30; install secondary lighted windcone, segmented circle, lighted guidance signs & radio control RW lights.	94,551	850,965	0
1997	TXDOT	Airport Master Plan Update	7,630	68,972	0
1998	FAA	Install and maintain AWOS (warranty period thru 2/28/05)	21,161	0	63,484
2001	TXDOT	Construct hangar access TW and ramp to new city t-hangars.	16,667	0	150,000
2001	TXDOT	Install MIRLs RW 3-21(3725 lf), PAPI-2s RW 3-21; displace threshold RW 3 (455 lf) & RW 12 (700 lf).	35,000	315,000	0
2002	TXDOT	installation of fencing	0	0	448,473
2002	TXDOT	Engineering/design to overlay RW, apron expansion.	20,554	0	184,990
2002	TXDOT	Install NADIN interface	1,625	4,875	0
2003	TXDOT	acquire land for runway protection zone for RW 12 (21 acres)	56,962	0	512,659
2003	TXDOT	RAMP : Hangar access pavement, drainage improvements, herbicide	29,999	29,999	0
2004	TXDOT	terminal building reimbursement	596,142	373,534	0
2004	TXDOT	RAMP: Drainage; grading and obstacle removal; continuation of airport fencing; purchase herbicide	30,000	30,000	0
2005	TXDOT	Engineering/design for parallel TW & entrance road relocation; survey/appraisal costs (partly 05 NPE); Engineering/design addition for roadway/TW/RW transitional areas. NPE 2002, 2003, 2004	41,533	0	441,856
2005	TXDOT	RAMP: Perimeter game proof fencing	30,000	30,000	0
2007	TXDOT	Prepare airport business plan	7,018	0	63,162
2007	TXDOT	RAMP: Sponsor to contract for: re-marking runways and taxiways; slurry seal on T-Hangar access pavement; A#1 Sponsor to contract for landscaping and a new sprinkler system.	27,456	27,456	0
2008	TXDOT	Relocate north parallel TW to RW 12-30 (3350 x 50); install/relocate signage; install erosion sedimentation controls. SBGP-31-2005 $2,114,955; SBGP-46-2008 $2,936,118; SBGP-41-2007 $146,700	614,006	0	5,197,773
2008	TXDOT	RAMP: TxDOT to contract for: AWOS maint; Sponsor to contract for: AWOS AviMet, AWOS repairs/parts replacement. Other projects tbd and added by amendment.	0	0	0
2008	TXDOT	Acquire land for parallel taxiway, entrance, and house relocation. NPE 2004 $225,603; NPE 2007 $900	25,167	0	226,503

Continues on next page

TABLE 1C | Airport Capital Improvement Project History (continued)

FY	Agency	Project Description	Local ($)	State ($)	Federal ($)
2008	TXDOT	Obstruction survey at Kerrville	0	5,074	96,399
2009	TXDOT	Relocate parallel TW to RW 12-30 (3500 x 50); install/relocate signage; relocate fencing (3,210 lf). SBGP-2009-62 $3,488,461 ARRA FUNDED	0	0	3,488,461
2009	TXDOT	RAMP - TxDOT to contract for: AWOS maint. Sponsor to contract for: AWOS AviMet; AWOS repairs/parts replacement; crack sealing of the RW and TW; replace ramp concrete; purchase and installation of REILS. A#2 Sponsor to contract for: slurry seal and markings	32,392	32,392	0
2009	TXDOT	Install erosion/sedimentation controls; relocate west entrance road (2,800 x 24); prepare an airport layout plan. SBGP-41-2007 $289,560; SBGP-57-2009 $1,382,405	87,998	0	1,671,965
2010	TXDOT	Update Airport Master Plan and road reimbursement. SBGP-2010-69 $4,523; SBGP-2009-54 $193,921	22,049	0	198,444
2010	TXDOT	RAMP: TxDOT: AWOS maintenance. Sponsor: AWOS AviMet Data Link; AWOS repairs/parts replacement. A#1 – Sponsor: crack sealing and resealing; pavement marking.	50,000	50,000	0
2011	TXDOT	RAMP: PAVEMENTS -Sponsor to contract for: pavement maintenance. MISC. TxDOT to contract for: AWOS maintenance. Sponsor to contract for: AWOS AviMet Data Link; AWOS repairs/parts replacement; airfield lighting improvements/maintenance	50,000	50,000	0
2012	TXDOT	RAMP: TxDOT to contract for AWOS maintenance, Sponsor to contract for airport general maintenance projects.	48,350	48,350	0
2013	TXDOT	Design & relocate drainage ditch out of RSA RW 12	3,706	33,351	0
2013	TXDOT	RAMP: TxDOT Contract for AWOS maintenance. Sponsor to perform airport general maintenance.	50,000	50,000	0
2014	TXDOT	Engineer, design and construct hangars and hangar access taxiway (reimbursement)	80,667	726,000	0
2014	TXDOT	RAMP: TxDOT contract for AWOS maintenance. Sponsor to perform airport general maintenance.	49,814	49,814	0
2015	TXDOT	RAMP: Sponsor to perform airport general maintenance.	49,689	49,689	0
2016	TXDOT	RAMP: Sponsor to perform airport general maintenance.	50,000	50,000	0
2017	TXDOT	RAMP: Sponsor to perform airport general maintenance.	50,000	50,000	0
2018	TXDOT	RAMP: Sponsor to perform airport general maintenance.	50,000	50,000	0
2019	TXDOT	RAMP: Sponsor to perform airport general maintenance.	50,000	50,000	0
2020	TXDOT	RAMP: Sponsor to perform airport general maintenance.	49,955	49,955	0
2021	TXDOT	RAMP: Sponsor to perform airport general maintenance.	50,000	50,000	0
		Totals	**$2,536,426**	**$3,241,761**	**$15,860,652**

Source: TxDOT Airport Project History

ECONOMIC IMPACT

In 2018, TxDOT conducted a study of Texas airports' impact on and relationship with the statewide economy. Impact types included: direct impacts, which account for activities by on-airport businesses and visitors who spend at locations such as hotels and restaurants; indirect impacts, which include any portions of direct impacts that are used to purchase goods or services within the state; induced impacts, which are portions of direct and indirect revenues that are paid to on-airport workers and spent on goods and services within the state; and total economic impacts, which are the sums of direct, indirect, and induced impacts. **Table 1D** summarizes the annual economic impact of ERV. This study is now five years old, so it is likely that ERV's economic impact has grown over time. It is anticipated that TxDOT will update this study in the near future.

TABLE 1D | Aviation Economic Impact

	ERV	All Texas System Airports
Total Economic Impact	$38.3 million	$94.3 billion
Total Payroll	$16.8 million	$30.1 billion
Total Jobs	680	778,995

Source: Texas Aviation Economic Impact Study, TxDOT (2018)

AERONAUTICAL ACTIVITY

At airports primarily serving general aviation activity, the number of based aircraft and operations (takeoffs and landings) are key aeronautical activity measures. These indicators will be used in subsequent analyses in this master plan to project future aeronautical activity and determine future facility requirements.

ANNUAL OPERATIONS

As a non-towered airport, ERV does not have accurate historical counts of aircraft operations. However, the emergence of Automatic Dependent Surveillance–Broadcast (ADS-B) technology has created the opportunity to acquire operational data at non-towered airports. ADS-B is a surveillance technology that enables aircraft to determine their precise position via satellite navigation and periodically broadcast this information. It provides real-time data to air traffic control and other aircraft, enhancing situational awareness and safety. The FAA mandated that, as of January 1, 2020, all aircraft operating in most controlled airspace in the United States must be equipped with ADS-B Out capabilities. This requirement is part of a broader effort to modernize the air traffic management system and improve the accuracy and efficiency of aircraft tracking.

ERV has contracted with Virtower, an air traffic management system, to provide operational data utilizing ADS-B technology. Virtower began providing operational data to ERV starting in July 2023. Based on the most recent 12-month period ending July 2024, ERV's total operation count is 44,874 operations. A summary of operations by aircraft type is broken down in **Table 1E**.

TABLE 1E | Operations History

Month	SEP	MEP	SETP	METP	Jet	LS	Heli	Mil FW	Mil H	Other	Total
Aug-23	3,163	145	26	86	238	18	25	150	0	5	3,856
Sep-23	2,863	159	45	75	267	30	8	120	14	0	3,581
Oct-23	2,553	102	39	77	270	46	16	51	0	0	3,154
Nov-23	2,890	195	15	165	214	15	1	83	0	6	3,584
Dec-23	2,960	147	22	41	215	10	16	80	0	0	3,491
Jan-24	2,804	104	16	126	183	4	20	46	0	2	3,305
Feb-24	3,163	43	21	108	201	94	95	50	0	46	3,821
Mar-24	2,577	76	26	141	239	20	0	86	0	6	3,171
Apr-24	2,198	52	45	151	243	20	14	49	0	20	2,792
May-24	3,334	41	21	95	250	8	60	71	0	4	3,884
Jun-24	4,891	52	27	211	216	31	77	75	0	34	5,614
Jul-24	4,039	54	12	129	242	28	58	57	0	2	4,621
Total	**37,435**	**1,170**	**315**	**1,405**	**2,778**	**324**	**390**	**918**	**14**	**125**	**44,874**
%	**83.4%**	**2.6%**	**0.7%**	**3.1%**	**6.2%**	**0.7%**	**0.9%**	**2.0%**	**0.0%**	**0.3%**	

Notes: SEP = Single-Engine Piston; MEP = Multi-Engine Piston; SETP = Single-Engine Turboprop; METP = Multi-Engine Turboprop; Mil FW = Military Fixed Wing; Mil H = Military Helicopter; LS = Light Sport; Heli = Helicopter.

Source: Virtower data, 12-months ending July 2024.

The top 20 most frequent aircraft to operate at ERV consists primarily of single-engine piston aircraft, including the Cessna 172, Piper 28 Cherokee, and Cirrus SR20. Other frequent operators include the Bell 407 helicopter, Piper Twin Comanche twin-engine piston, the Pipistrel Sinus light-sport aircraft, and the Embraer EMB 120 Brasilia multi-engine turboprop aircraft. The full list of top 20 aircraft by operations is provided in **Table 1F**.

TABLE 1F | Top 20 Operations by Aircraft

#	Aircraft	Type	Operations
1	Cessna 172	SEP	19,549
2	Piper 28 Cherokee	SEP	3,116
3	Cirrus SR20	SEP	2,574
4	Mooney M20	SEP	1,977
5	Cessna 182	SEP	1,526
6	Cirrus SR22	SEP	1,415
7	Beechcraft 36 Bonanza	SEP	892
8	Bell 407	Heli	545
9	Piper Twin Comanche	MEP	539
10	Diamond DA20	SEP	414
11	Bristell B23	SEP	391
12	Pipistrel Sinus	LS	378
13	Piper Cub	SEP	371
14	Grumman AA5	SEP	357
15	Embraer 120 Brasilia	METP	290
16	Beechcraft 35 Bonanza	SEP	289
17	Vans RV-8	SEP	287
18	De Havilland Dash 8	METP	283
19	Cessna 210	SEP	255
20	Piper Cherokee Six	SEP	246

SEP = Single-Engine Piston; MEP = Multi-Engine Piston; LS = Light Sport; METP = Multi-Engine Turboprop; Heli = Helicopter.

Source: Virtower data; 12-months ending July 2024.

Understanding runway utilization is an important component of calculating airfield capacity and delay, and in the consideration of instrument approach procedures. Runway utilization data is summarized in **Table 1G**. As shown, Runway 12 is used most frequently, with 68.1 percent of total operations, including touch-and-go (T&G) operations.

TABLE 1G | Operations by Runway

Runway	Takeoff	Landing	T&G	Total Operations	%
Runway 12	11,901	11,372	7,280	30,553	68.1%
Runway 30	3,656	3,835	2,350	9,841	21.9%
Runway 21	1,460	1,034	372	2,866	6.4%
Runway 3	776	506	332	1,614	3.6%

Notes: T&G = Touch and Go

Source: Virtower data, 12-months ending July 2024

Operations that occur over the course of a 24-hour period factor into the generation of airport noise exposure models. The FAA's noise model, which will be described in greater detail within the Environmental Overview section of this master plan, weighs operations that occur during nighttime hours (10 p.m. through 6 a.m.) to consider the potential impact of aircraft noise and the potential to be disruptive when people are typically trying to sleep. A summary of aircraft operations by hour is provided in **Table 1H**. According to this data, only approximately 1.4 percent of all ERV operations occur during nighttime hours.

TABLE 1H | Operations by Hour

Hour	Operations
12 AM	44
1 AM	23
2 AM	22
3 AM	8
4 AM	15
5 AM	19
6 AM	110
7 AM	700
8 AM	1,441
9 AM	2,719
10 AM	4,162
11 AM	4,398
12 PM	4,068
1 PM	4,275
2 PM	4,258
3 PM	4,466
4 PM	4,621
5 PM	3,653
6 PM	2,690
7 PM	1,456
8 PM	765
9 PM	555
10 PM	289
11 PM	117
Daytime (7a through 9p)	**98.6%**
Nighttime (10p through 6a)	**1.4%**

Source: Virtower data, 12-months ending July 2024

BASED AIRCRAFT

The airport maintains an up-to-date inventory of based aircraft utilizing the National Based Aircraft Inventory Program (basedaircraft.com). Currently, the validated based aircraft count is 88 aircraft, consisting of 59 single-engine piston aircraft, six multi-engines (pistons and turboprops), 18 jets, and five helicopters.

The airport maintains a hangar waiting list that includes 44 individuals as of May 2024.

AIRSIDE FACILITIES AND SERVICES

There are three broad categories of facilities and services at the airport: airfield, landside, and support.

- **Airfield facilities:** Facilities directly associated with aircraft operations, including runways, taxiways, lighting, marking, navigational aids, and weather reporting equipment.
- **Landside facilities:** Facilities necessary to provide a safe transition from surface to air transportation, and which support aircraft parking, servicing, storage, maintenance, and operational safety.
- **Support facilities:** Serve as a critical link to provide the necessary efficiency to aircraft ground operations, such as fuel storage, airport maintenance, firefighting, and fencing.

AIRFIELD FACILITIES

Existing airfield facilities are identified on **Exhibit 1C** and described in the sections below.

Runways

ERV has two runways; Runway 12-30 is oriented east/west, and Runway 3-21 is oriented north/south.

Runway 12-30 measures 6,004 feet long and 100 feet wide, and is constructed of asphalt. Its weight bearing capacity is 22,400 pounds single wheel loading (S) and 73,700 pounds double wheel loading (D). It is equipped with non-precision markings that include the runway designation, centerline, aiming points, and threshold stripes. The Runway 21 threshold is displaced by 687 feet to provide approach and departure surface clearance over Al Mooney Road, which is located approximately 387 feet west of the runway end.

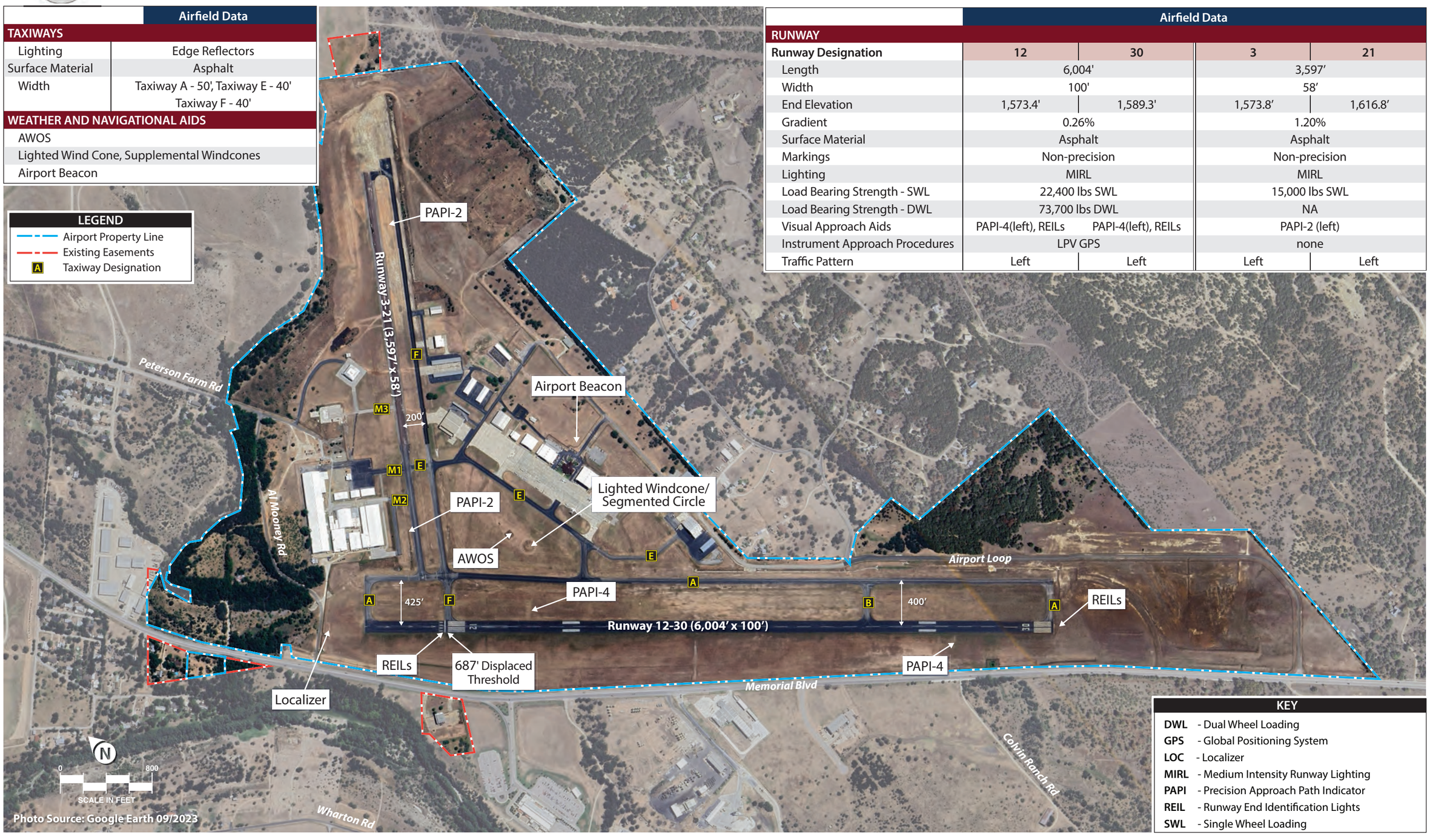
Runway 3-21, serving as the airport's crosswind runway, measures 3,597 feet long and 58 feet wide, and is constructed of asphalt. Its reported weight bearing capacity is 15,000 pounds S. It is equipped with basic markings, which include the runway designation, centerline, and edge markings.

Runway 30

Runway 12

Airfield Data	
TAXIWAYS	
Lighting	Edge Reflectors
Surface Material	Asphalt
Width	Taxiway A - 50', Taxiway E - 40' Taxiway F - 40'
WEATHER AND NAVIGATIONAL AIDS	
AWOS	
Lighted Wind Cone, Supplemental Windcones	
Airport Beacon	

Airfield Data				
RUNWAY				
Runway Designation	**12**	**30**	**3**	**21**
Length	6,004'		3,597′	
Width	100'		58′	
End Elevation	1,573.4'	1,589.3'	1,573.8′	1,616.8′
Gradient	0.26%		1.20%	
Surface Material	Asphalt		Asphalt	
Markings	Non-precision		Non-precision	
Lighting	MIRL		MIRL	
Load Bearing Strength - SWL	22,400 lbs SWL		15,000 lbs SWL	
Load Bearing Strength - DWL	73,700 lbs DWL		NA	
Visual Approach Aids	PAPI-4(left), REILs	PAPI-4(left), REILs	PAPI-2 (left)	
Instrument Approach Procedures	LPV GPS		none	
Traffic Pattern	Left	Left	Left	Left



KEY

DWL - Dual Wheel Loading
GPS - Global Positioning System
LOC - Localizer
MIRL - Medium Intensity Runway Lighting
PAPI - Precision Approach Path Indicator
REIL - Runway End Identification Lights
SWL - Single Wheel Loading

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Runway 3-21

Crosswind Coverage

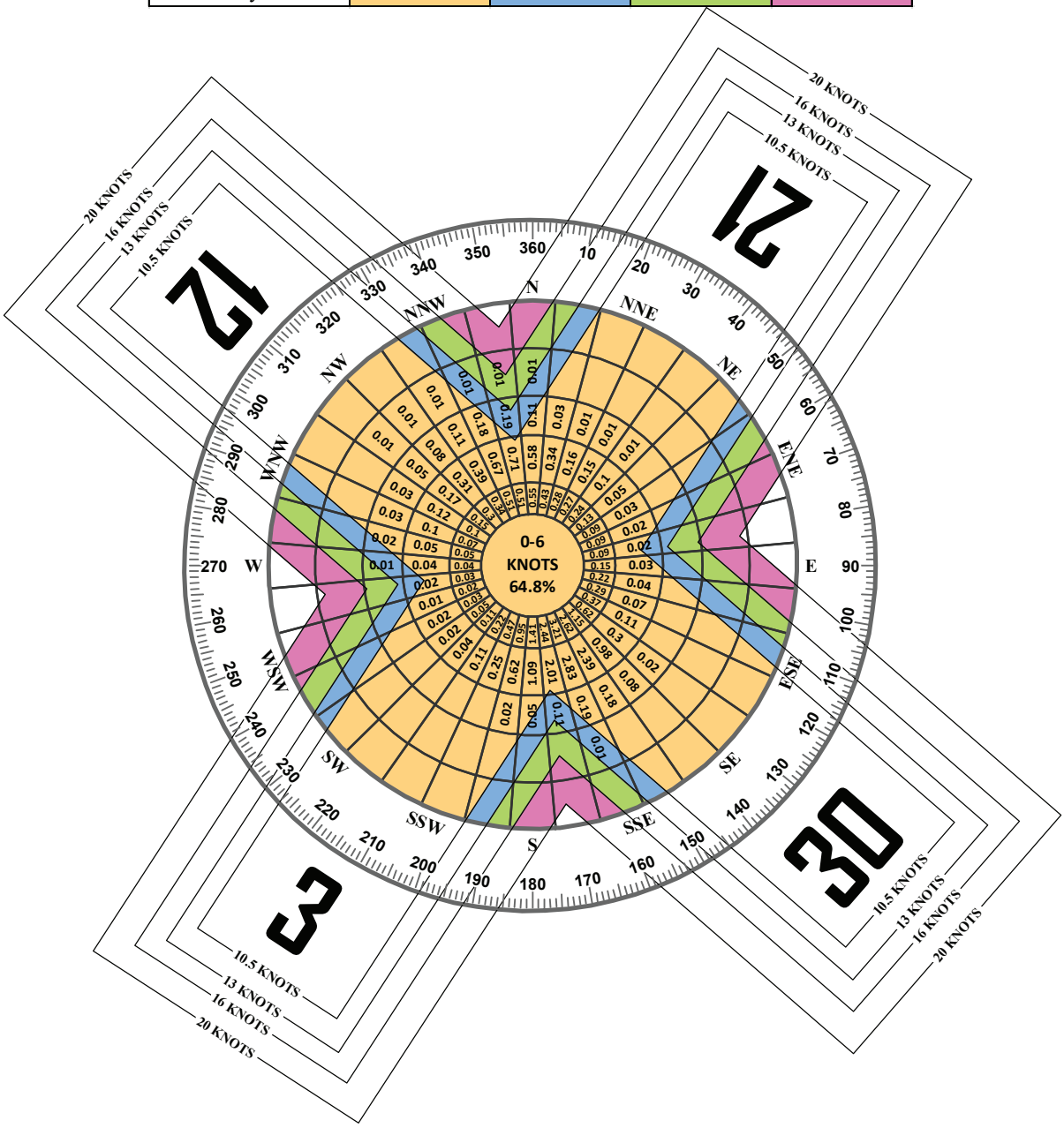
Prevailing winds are winds that blow predominantly in a given direction. At an airport, the direction of prevailing winds determines the desired alignment, configuration, and usage of a runway. Aircraft can only tolerate limited crosswinds, which are components of wind that blow perpendicular to the runway centerline. Ideally, runways are configured to allow aircraft to take off and land into the wind 100 percent of the time. Because winds change direction, FAA planning standards indicate that an airport's primary runway should be capable of operating under allowable wind conditions at least 95 percent of the time. If a runway does not meet this 95 percent coverage, FAA funding assistance for the development of a crosswind runway may be advisable.

The 95 percent wind coverage is computed on the basis of the crosswind component not exceeding 10.5 knots (12 miles per hour [mph]) for ARC A-I and B-I; 13 knots (15 mph) for ARC A-II and B-II; 16 knots (18 mph) for ARC A-III, B-III, and C-I through D-II; and 20 knots (23 mph) for ARC C-III through D-IV.

Exhibit 1D presents the all-weather wind rose for the airport. Wind data for the previous 10 years were obtained from the on-airport automated weather observation station (AWOS) and have been analyzed to identify wind coverage provided by the existing runway orientations. At ERV, the orientation of Runway 12-30 provides 96.75 percent coverage for the 10.5-knot component, 98.89 percent coverage for the 13-knot component, and greater than 99 percent coverage for the 16- and 20-knot components. The orientation of Runway 3-21 provides 91.38 percent coverage for the 10.5-knot component, 96.25 percent coverage for the 13-knot component, and greater than 99 percent coverage for the 16- and 20-knot components. The IFR wind rose (presented on the reverse side of **Exhibit 1D**) shows the distribution of crosswind components for the two runways during instrument weather conditions.

ALL WEATHER WIND COVERAGE

Runways	10.5 Knots	13 Knots	16 Knots	20 Knots
Runway 12-30	96.74%	98.89%	99.87%	99.99%
Runway 3-21	91.38%	96.25%	99.23%	99.89%
All Runways	99.48%	99.93%	99.99%	100.00%

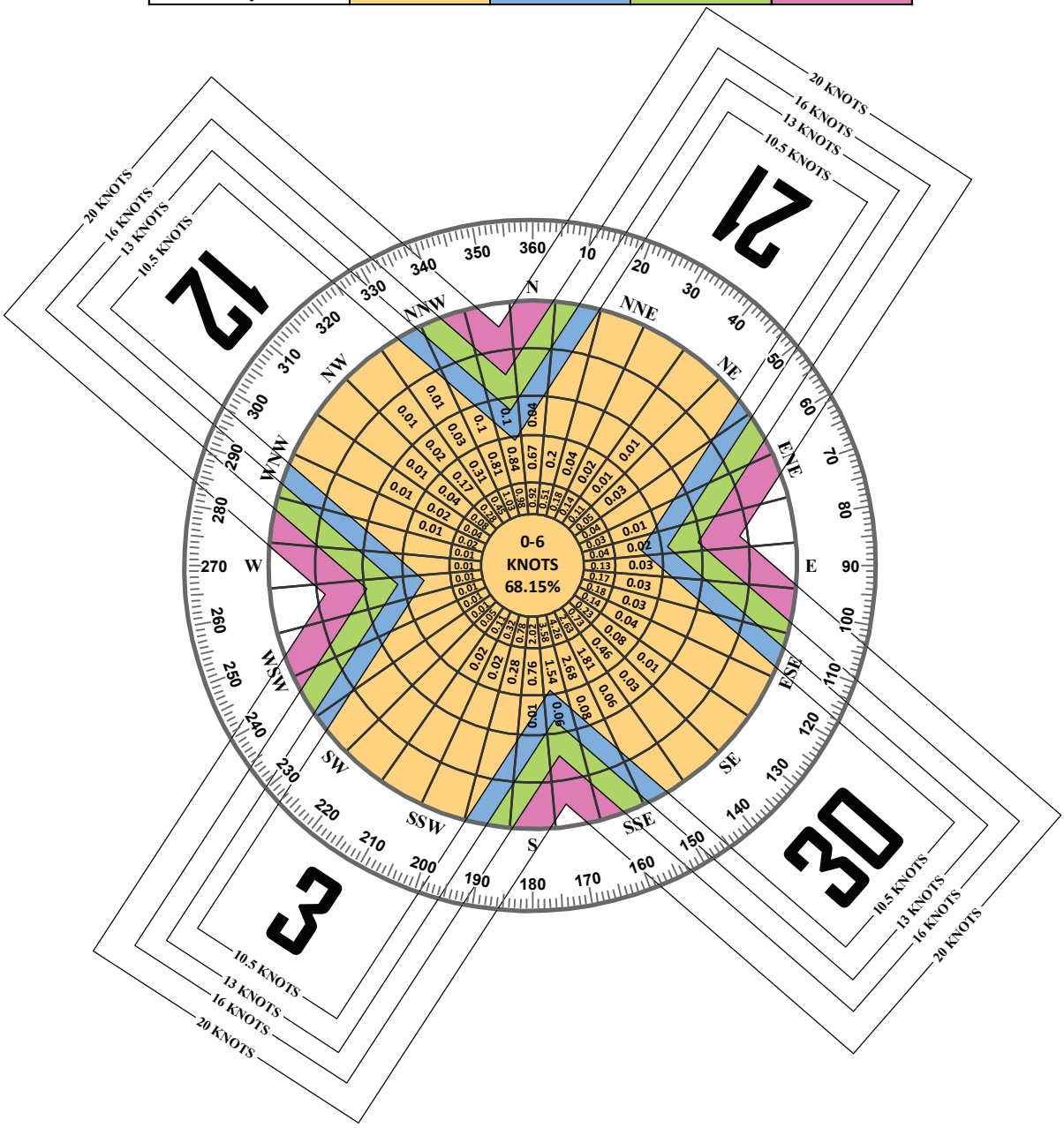


SOURCE:
NOAA National Climatic Center
Asheville, North Carolina
Kerrville Municipal Airport/Louis Schreiner Field
Kerrville, TX

OBSERVATIONS:
258,237 All Weather Observations
Jan. 1, 2014 - Dec, 31 2023

IFR WIND COVERAGE

Runways	10.5 Knots	13 Knots	16 Knots	20 Knots
Runway 12-30	98.38%	99.67%	99.96%	99.99%
Runway 3-21	94.23%	98.04%	99.76%	99.95%
All Runways	99.73%	99.95%	99.99%	100.00%



SOURCE:
NOAA National Climatic Center
Asheville, North Carolina
Kerrville Municipal Airport/Louis Schreiner Field
Kerrville, TX

OBSERVATIONS:
31,396 IFR Observations
Jan. 1, 2014 - Dec, 31 2023

Taxiways

The taxiway system at ERV consists of two full-length parallel taxiways and 11 taxiway connectors, each constructed of asphalt and measuring between 40 and 50 feet in width.

Taxiway A, associated with Runway 12-30, is 50 feet wide and is located at a 400-foot separation distance northeast from the runway centerline. The taxiway was constructed to support up to 75,000-pound dual wheel aircraft and includes four connecting taxiways.

Taxiway F, associated with Runway 3-21, is 40 feet wide and is located at a 200-foot separation distance southeast from the runway centerline. This taxiway has three connectors to the runway and has a strength rating of 12,500 pounds for single-wheel aircraft.

Taxiway E connects Taxiways A and F to the main airport apron between the runways. This taxiway is 40 feet wide and has four connectors to the apron. The strength rating of this taxiway is unknown. Two taxilanes extending from Taxiway E provide access to several hangar facilities adjacent to the main airport apron.

Taxiways M1, M2, and M3 provide access from Runway 3-21 to the Mooney Airplane Company facilities on the north side of the airfield. Taxiway M1 is 40 feet wide, M2 is 75 feet wide, and M3 is 25 feet wide. M1 and M2 are both fenced/gated so that aircraft cannot taxi onto Mooney's facilities. M3 provides access to abandoned Mooney facilities and is no longer actively used. The strength rating of these taxiways is unknown.

Taxiway F

Pavement Conditions

Pavement condition management and improvement is critical due to the hazard that poor pavement may pose to the operational safety of aircraft. Cracked and broken pavement may damage aircraft tires and/or landing gear, or become dislodged due to prop and jet wash, creating dangerous foreign object debris on the airfield. TxDOT has a pavement management program in place for state airports, which evaluates airfield pavement and provides a plan for the replacement and repair of pavement surfaces in poor condition. Pavement conditions are analyzed by calculating a pavement condition index (PCI) for areas of pavement with similar properties (type, dimensions, and construction date). The PCI uses a scale from 0 to 100 to identify the pavement condition, where 0 indicates a failed pavement and 100 is a newly constructed pavement. These ratings consider the distress type, quantity, and severity to calculate a single PCI value.

Exhibit 1E shows the pavement conditions as reported for ERV surfaces during an inspection conducted on June 9, 2021. This pavement condition report is now three years old, so the PCI values have likely declined due to routine wear and tear.

Pavement strength on Taxiway E leading to the north side of the apron is insufficient to accommodate aircraft weighing over 45,000 pounds. The asphalt pavement in this area has experienced failures and has required emergency repairs recently because of business jets taxiing to/from the north side of the apron on Taxiway E. The master plan will consider these existing limitations and necessary improvements to accommodate heavier aircraft in this area.

Airfield Lighting, Signage, and Marking

Airfield lighting systems extend an airport's usefulness into periods of darkness and/or poor visibility. A variety of lighting systems are installed at the airport for this purpose. These lighting systems – categorized by function – are summarized as follows.

Airport Beacon

Airport Identification Lighting

The location of the airport at night is identified by a rotating beacon. The rotating beacon projects two beams of light, one white and one green, 180 degrees apart. The beacon operates from sunset to sunrise and is located adjacent to the airport's terminal building.

Pavement Edge Lighting

Pavement edge lighting defines the lateral limits of the pavement to ensure safe operations during night and/or low visibility times, maintaining safe and efficient access to and from the runway and aircraft parking areas.

Runway 12-30 and Runway 3-21 are equipped with medium intensity runway lighting (MIRL). Each runway end is equipped with threshold lights, which emit green light outward from the runway and emit red light toward the runway. Green lights indicate the landing threshold to arriving aircraft and red lights indicate the end of the runway for departing aircraft.

Threshold Light

Taxiways are not currently equipped with edge lighting systems but do include reflective markers at the pavement edges and along the centerline. The markers reflect light from aircraft landing lights or vehicle headlights, making them visible in low-light conditions.

Taxiway Edge Reflectors

Visual Approach Aids

Visual glide slope approach aids provide a visual cue to pilots, alerting them as to whether they are on the correct glide path to landing. Runways 12 and 30 are outfitted with four-light precision approach path indicator (PAPI) lights with 3.00-degree standard glide paths. Runways 3 and 21 are equipped with two-light PAPI lights with 3.50-degree glide paths. PAPI systems work by projecting red and white lights for pilots to interpret for an indication of their positioning above, below, or on the designated descent path to the runway.

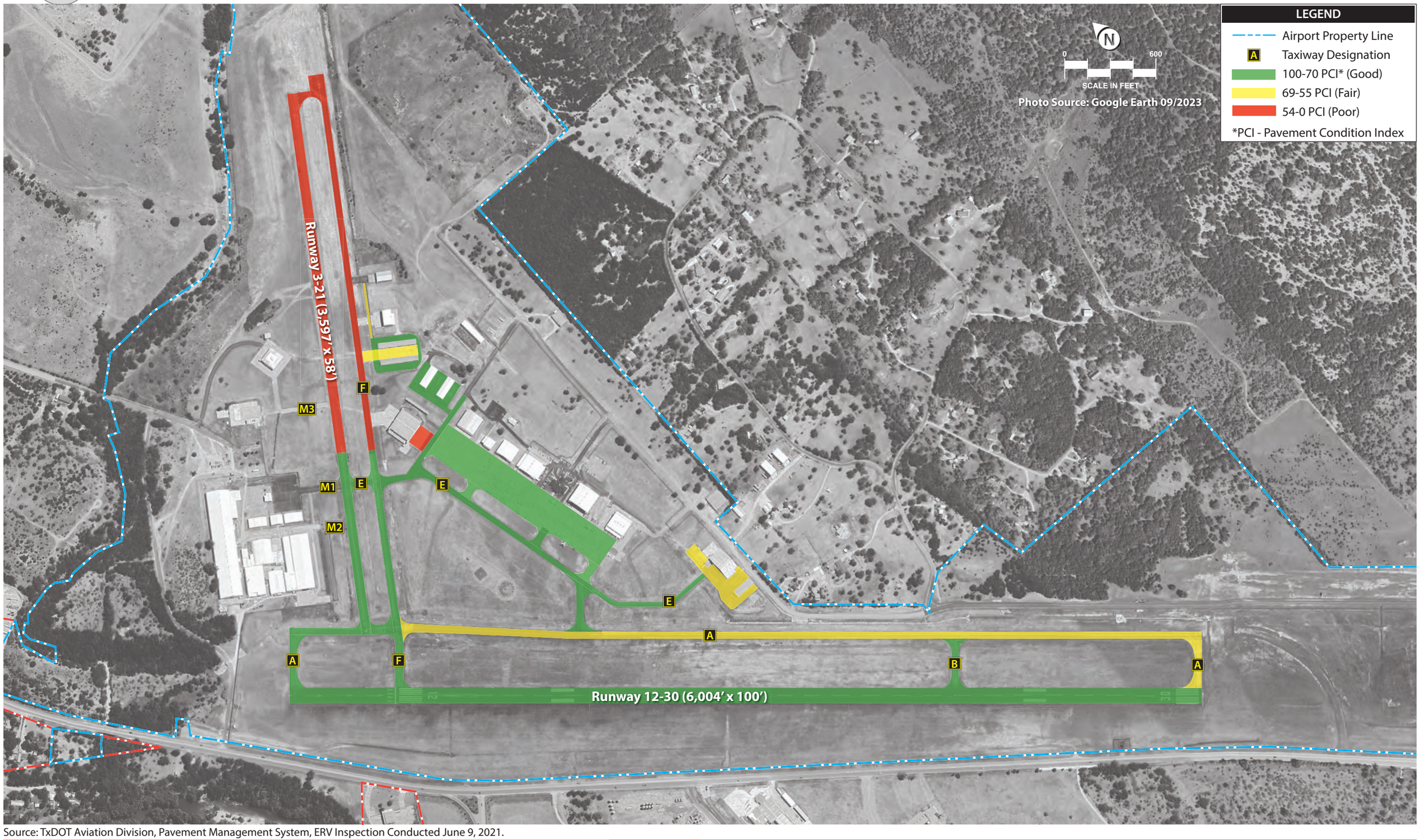
Runway end identification lights (REILs) provide a visual identification of the runway end for landing aircraft. The REILs consist of two synchronized flashing lights which are located laterally on each side of the runway end, facing the approaching aircraft. These flashing lights can be seen during the day or night for up to 20 miles, depending on visibility conditions. Runways 12 and 30 are equipped with REILs. The locations of the PAPIs and REILs are identified on **Exhibit 1C**.

Taxiway Centerline Reflector

Airfield Signage

Airfield identification signs assist pilots in identifying runways, taxiway routes, and critical areas. The presence of runway/taxiway signage is an essential component of a surface movement guidance control system and is necessary for the safe and efficient operation of the airport. The airfield at ERV is equipped with lighted location, directional, and mandatory instruction signs.

REILs



Source: TxDOT Aviation Division, Pavement Management System, ERV Inspection Conducted June 9, 2021.

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Pavement Markings

Pavement markings aid in the safe and efficient movement of aircraft along airport surfaces, and identify closed or hazardous areas on the airport. ERV provides and maintains marking systems in accordance with FAA Advisory Circular (AC) 150/5340-1M, *Standards for Airport Marking*, and AC 150/5300-13B, *Airport Design*.

As detailed previously, Runway 12-30 is equipped with non-precision markings that are reported to be in fair condition. Non-precision markings include the runway designation, centerline, threshold, and aiming points. Runway 3-21 has basic markings that are reported in fair condition and include the runway designation, centerline markings, and edge markings. All taxiways at the airport are marked with a yellow center line, holding position markings, and leadoff lines on regularly used exits. Centerline markings assist pilots with maintaining proper clearance from pavement edges and objects near taxiway edges. Aircraft holding positions are marked at each runway/taxiway intersection, except for Taxiway M3, which is an inactive taxiway. Holding positions are located 250 feet from the Runway 12-30 centerline and 125 feet from the Runway 3-21 centerline.

Airport Signage

Instrument Landing System (ILS) Equipment

ILS approaches typically require both a glideslope (GS) antenna and localizer (LOC) antenna array. The GS antenna provides vertical guidance to landing aircraft while the LOC antenna array provides horizontal guidance and is used to establish and maintain an approaching aircraft's position relative to the runway centerline until visual contact confirms the runway alignment and location. Typically, the LOC antenna array is situated on the extended runway centerline between 600 and 2,000 feet from the end of the runway.

Runway 30 at ERV is equipped with a LOC-only instrument approach procedure, which is a non-precision approach that excludes the GS portion of the ILS, thus providing lateral but not vertical guidance. The LOC antenna array is located approximately 315 feet beyond the west end of Runway 12, which is less than the standard distance. As a result, the airport has displaced the Runway 12 threshold and implemented declared distances to remove the LOC from the associated runway safety areas. This condition will be discussed in more detail in the Facility Requirements chapter.

Localizer

After-Hours Lighting

Certain airport lights are programmed to operate continuously. At ERV, the MIRLs for both runways are present to low intensity. To increase the intensity of the runway lights and to activate the PAPIs and REILs, pilots can utilize the common traffic advisory frequency (CTAF).

Weather and Communication Aids

Automated Weather Observing System (AWOS)

ERV is equipped with an AWOS-3, which measures and reports wind direction and speed; visibility; temperature and dew point; altimeter setting (barometric pressure) and density altitude; cloud height; and precipitation type and intensity. The AWOS-3 updates observations every minute for 24 hours a day and transmits the information to pilots at and near the airport by a very high frequency (VHF) ground-to-air radio transmitter via frequency 120.0 MHz. Pilots can also receive the weather report by calling a local telephone number (830-990-2716). The AWOS equipment is in the in-field area between the runways and west of the main airport apron.

AWOS Equipment

The location of the AWOS equipment limits the development potential of the property of otherwise prime real estate for future aeronautical development. Consideration has been given to relocating the AWOS equipment to allow for the development of this area near the terminal apron. The alternatives analysis of this study will review potential relocation sites for the equipment that meet AWOS siting standards and presents opportunities for new aeronautical development.

Wind Cone and Segmented Circle

ERV has a lighted wind cone and segmented circle, which are located adjacent to the AWOS equipment in the in-field area west of the main airport apron. The wind cone informs pilots of the wind direction and speed, while the segmented circle communicates aircraft traffic pattern information.

Lighted Wind Cone

Common Traffic Advisory Frequency (CTAF)

At airports without an airport traffic control tower, pilots use the CTAF to facilitate communication between aircraft and ground services. Pilots use CTAF to announce their positions, intentions, and movements, which helps pilots be aware of other aircraft in the vicinity and their planned actions, reducing the risk of collisions. Pilots report when entering, departing, or maneuvering in the traffic pattern, providing essential information for situational awareness. The CTAF at ERV has a radio frequency of 122.7 MHz. The UNICOM (Universal Communication) frequency at ERV is also 122.7 MHz. UNICOMs serve similar purposes as CTAF, but are used primarily for coordinating ground support services.

AREA AIRSPACE AND AIR TRAFFIC CONTROL

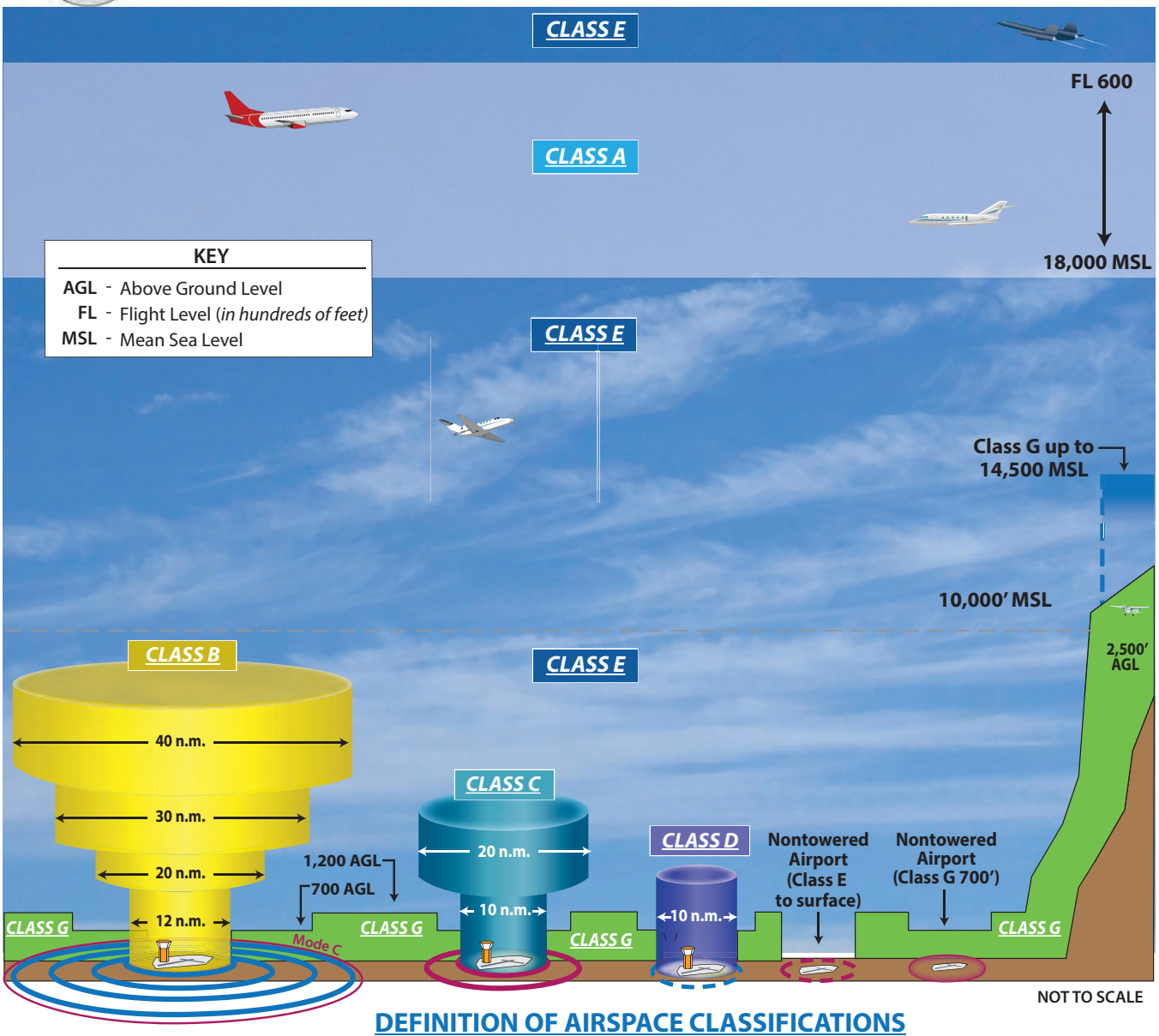
The *Federal Aviation Administration Act of 1958* established the FAA as the responsible agency for the control and use of navigable airspace within the United States. The FAA has established the National Airspace System (NAS) to protect persons and property on the ground and to establish a safe and efficient airspace environment for civil, commercial, and military aviation. The NAS covers the common network of U.S. airspace, including air navigation facilities; airports and landing areas; aeronautical charts; associated rules, regulations, and procedures; technical information; and personnel and material. The system also includes components shared jointly with the military.

Airspace Structure

Airspace within the United States is broadly classified as either controlled or uncontrolled. The difference primarily relates to requirements for pilot qualifications; ground-to-air communications; navigation and air traffic services; and weather conditions. Six classes of airspace have been designated in the United States, as shown on **Exhibit 1F**. Airspace designated as Class A, B, C, D, or E is considered controlled airspace. Aircraft operating within controlled airspace are subject to varying requirements for positive air traffic control.

Class A | Class A is controlled airspace and includes all airspace from 18,000 feet mean sea level (MSL) to Flight Level 600 (approximately 60,000 feet MSL). This airspace is designated in Federal Aviation Regulation (FAR) Part 71.193 for positive control of aircraft. The positive control area (PCA) allows flights to be governed only under instrument flight rules (IFR) operations. The aircraft must have special radio and navigational equipment, and the pilot must obtain clearance from an air traffic control (ATC) facility to enter Class A airspace. Additionally, the pilot must possess an instrument rating to operate in Class A.

Class B | Class B is controlled airspace surrounding high-activity commercial service airports. Class B airspace is designed to regulate the flow of uncontrolled traffic above, around, and below the arrival and departure airspace required for high performance, passenger-carrying aircraft at major airports. To fly within Class B airspace, an aircraft must be equipped with special radio and navigation equipment and must obtain clearance from air traffic control. A pilot is required to have at least a private pilot certificate or be a student pilot who has met the requirements of FAR Part 61.95, which requires special ground



DEFINITION OF AIRSPACE CLASSIFICATIONS

CLASS A Think A - Altitude. Airspace above 18,000 feet MSL up to and including FL 600. Instrument Flight Rule (IFR) flights only, ADS-B 1090 ES transponder required, ATC clearance required.

CLASS B Think B - Busy. Multi-layered airspace from the surface up to 10,000 feet MSL surrounding the nation's busiest airports. ADS-B 1090 ES transponder required, ATC clearance required.

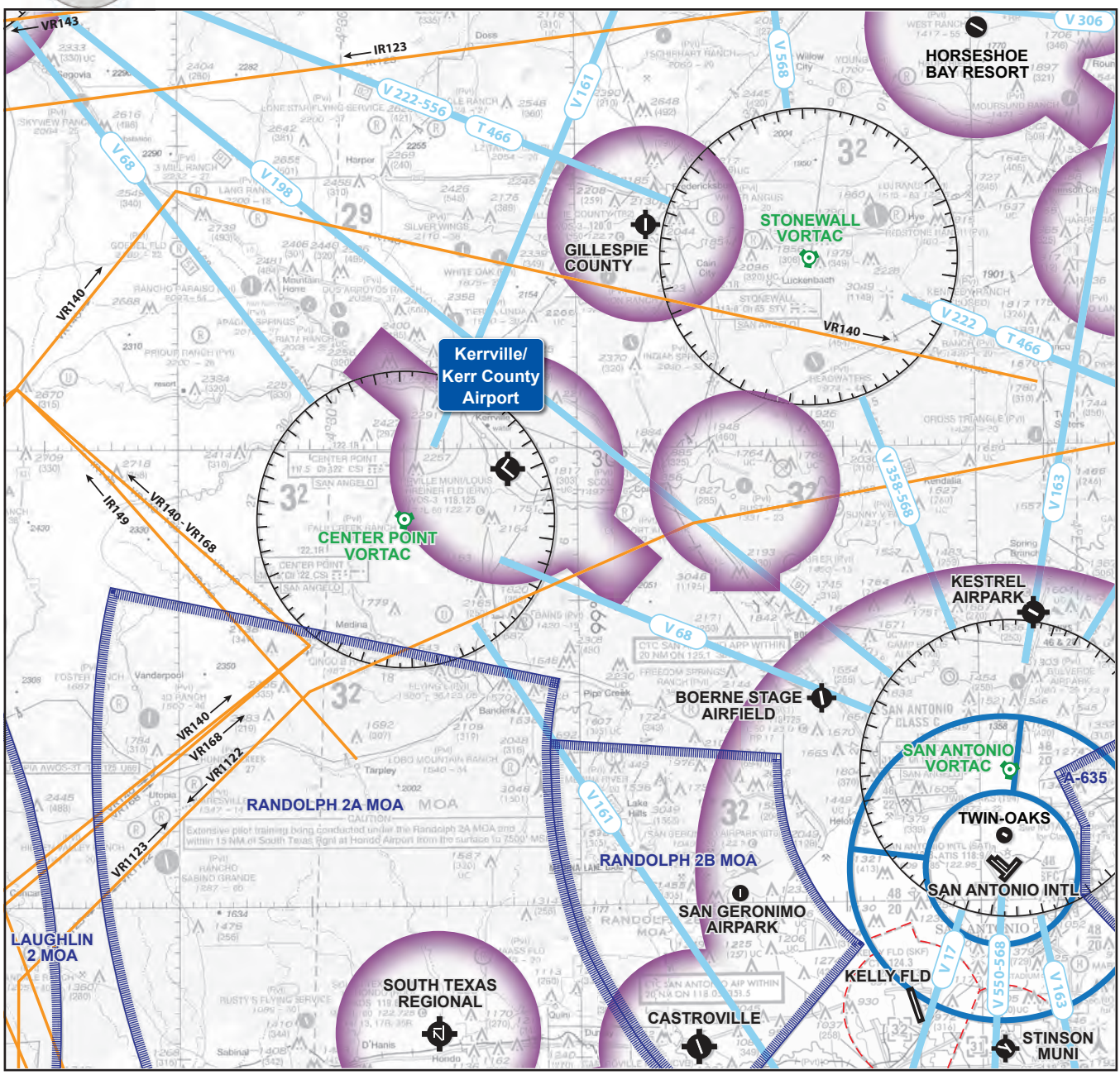
CLASS C Think C - Mode C. Mode C transponder required. ATC communication required. Generally airspace from the surface to 4,000 feet AGL surrounding towered airports with service by radar approach control.

CLASS D Think D - Dialogue. Pilot must establish dialogue with tower. Generally airspace from the surface to minimum 2,500 feet AGL surrounding towered airports.

CLASS E Think E - Everywhere. Controlled airspace that is not designated as any other Class of airspace.

CLASS G Think G - Ground. Uncontrolled airspace. From surface to a 1,200 AGL (in mountainous areas 2,500 AGL) Exceptions: near airports it lowers to 700' AGL; some airports have Class E to the surface. Visual Flight Rules (VFR) minimums apply.

Source: www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak/media/15_phak_ch15.pdf



LEGEND

- Airport with hard-surfaced runways 1,500' to 8,069' in length
- Airports with hard-surfaced runways greater than 8,069' or some multiple runways less than 8,069'
- Compass Rose
- VORTAC
- Class C Airspace
- Class D Airspace
- Class E (sfc) Airspace with floor 700 ft. above surface that laterally abuts 1200 ft. or higher Class E airspace
- Victor Airways
- Military Training Routes
- Alert Area and Military Operations Area (MOA)

Source:
San Antonio Sectional Chart, US Department of Commerce, National Oceanic and Atmospheric Administration, May 10, 2024

and flight training for Class B airspace. Aircraft are also required to utilize a Mode C transponder within a 30-nautical-mile (nm) range of the center of the Class B airspace. A Mode C transponder allows air traffic control to track the location and altitude of the aircraft. The nearest Class B airspace airports are Dallas - Fort Worth International Airport (DFW) and George Bush Intercontinental/Houston Airport (IAH), which are approximately 173 and 176 nautical miles from ERV, respectively.

Class C | Class C is controlled airspace surrounding lower-activity commercial service and some military airports. The FAA has established Class C airspace at 120 airports around the country as a means of regulating air traffic in these areas. Class C airspace is designed to regulate the flow of uncontrolled traffic above, around, and below the arrival and departure airspace required for high performance, passenger-carrying aircraft at major airports. To operate inside Class C airspace, aircraft must be equipped with a two-way radio and an encoding transponder, and the pilot must have established communication with ATC. Examples of Class C airspace include San Antonio International Airport (SAT) and Austin-Bergstrom International Airport (AUS), which are approximately 31 and 65 nautical miles from ERV, respectively.

Class D | Class D is controlled airspace surrounding most airports with an operating ATCT and not classified under B or C airspace designations. Class D airspace typically constitutes a cylinder with a horizontal radius of four or five nm from the airport, extending from the surface up to a designated vertical limit which is typically set at approximately 2,500 feet above the airport elevation. If an airport has an instrument approach or departure, the Class D airspace sometimes extends along the approach or departure path. Nearby class D airports include Randolph Air Force Base (RND) and New Braunfels International Airport (BAZ), located approximately 45 and 53 nautical miles southeast from ERV, respectively.

Class E | Class E is controlled airspace surrounding an airport that encompasses all instrument approach procedures and low-altitude federal airways. Only aircraft conducting instrument flights are required to be in contact with the appropriate air traffic control facility when operating in Class E airspace. While aircraft conducting visual flights in Class E airspace are not required to be in radio contact with air traffic control facilities, visual flight can only be conducted if minimum visibility and cloud ceilings exist.

ERV is a Class E airspace airport with the surface floor starting at 700 feet above ground level (AGL) and extending to a ceiling of 18,000 feet mean sea level (MSL). The airspace below 700 feet AGL surrounding the airport is Class G airspace. The Class E airspace has a radius of 7.5 nm and extends out to 11 nm along the approach and departure paths for Runway 12-30. Details of the airspace in the vicinity of ERV are shown on the reverse side of **Exhibit 1F**.

Class G | Class G is uncontrolled airspace that is typically found in rural areas and does not require communication with an air traffic control facility. Class G airspace lies between the surface and the overlaying Class E airspace (700 to 1,200 feet AGL). While aircraft may technically operate within Class G airspace without any contact with ATC, it is unlikely that many aircraft will operate this low to the ground. Furthermore, FAR Part 91.119, *Minimum Safe Altitudes*, specifies minimum altitudes for flight.

Special Use Airspace

Special use airspace is defined as airspace where activities must be confined because of their nature, or where limitations are imposed on aircraft not taking part in those activities. Special use airspace identifies for other users the areas where these non-standard operations may be occurring by outlining active times and/or altitudes to provide separation information in the area. Most special use airspace is designated on FAA aeronautical charts. The special use airspace in the vicinity of ERV is also depicted on the reverse side of **Exhibit 1F**.

Victor Airways | Victor airways are a system of federal airways established for aircraft arriving to or departing from the regional area and navigating by using very high frequency omni-directional range (VOR) facilities. Victor airways are corridors of airspace that are eight miles wide and extend upward from 12,000 feet AGL to 18,000 feet MSL and extend between VOR facilities. There are several Victor airways surrounding ERV, identified with blue lines marked with a "V" preceding a designation number on **Exhibit 1F**.

Military Operations Area | A military operations area (MOA) is an area (volume) of airspace designated for military training use. This is not restricted airspace; however, pilots who use this airspace should be on alert for the possibility of military traffic. A pilot may need to be aware that military aircraft can be found in high concentrations, conducting aerobatic maneuvers, and possibly operating at high speeds and/or at lower elevations. The Randolph 2A and 2B MOAs, located approximately 13 nm south of ERV, are the nearest MOAs to ERV. The Randolph 2A MOA is used for extensive pilot training from the surface to 7,500 feet MSL.

Restricted Airspace | Restricted airspace is an area of airspace, typically used by the military, in which the local controlling authorities have determined that air traffic must be restricted (if not continually prohibited) for safety or security concerns. It is depicted on aeronautical charts with the letter "R" followed by a serial number. Restricted areas denote the existence of unusual, often invisible, hazards to aircraft, such as artillery firing, aerial gunnery, or guided missiles. Penetration of restricted areas without authorization from the using or controlling agency may be extremely hazardous to the aircraft and its occupants. Restricted airspace zones may not always be active; in such cases, there are typically schedules of local dates and times available to aviators which specify when a zone is active, and at other times, the airspace is subject to normal operation for the applicable airspace class. There are no restricted airspace areas in the immediate vicinity of ERV.

Military Training Routes | Military Training Routes (MTRs) are designated airspace established for use by high performance military aircraft to train below 10,000 feet AGL and at speeds exceeding 250 knots. There are visual (VR) and instrument (IR) designated MTRs. MTRs with no segment above 1,500 feet AGL will be designated with the VR or IR label followed by a four-digit number. MTRs with one or more segments above 1,500 feet AGL are identified by the route designation followed by a three-digit number. The arrows on the route show the direction of travel. MTRs in the vicinity of ERV are depicted on **Exhibit 1F** using an orange line and associated with their identifying number.

Airspace Control

The FAA has established 21 Air Route Traffic Control Centers (ARTCCs) throughout the continental United States to control aircraft operating under IFR within controlled airspace and while enroute. An ARTCC assigns specific routes and altitudes along federal airways to maintain separation and orderly traffic flow. The Houston ARTCC controls IFR air traffic enroute to and from ERV.

Flight Service Station

Flight service stations (FSS) are air traffic facilities that provide pilot briefings, flight plan processing, in-flight radio communications, search and rescue (SAR) services, and assistance to lost aircraft in emergency situations. FSS facilities also relay ATC clearances, process Notice to Air Missions (NOTAMs), and broadcast aviation meteorological and aeronautical information. The San Angelo Flight Service Station is the nearest FSS to ERV.

Navigational Aids

Navigational aids are electronic devices which transmit radio frequencies that pilots of properly equipped aircraft can translate into point-to-point guidance and position information. The types of electronic navigational aids available for aircraft flying to and from ERV include a very high frequency omni-directional range (VOR) facility and global positioning system (GPS).

The VOR provides azimuth readings to pilots of properly equipped aircraft by transmitting a radio signal at every degree to provide 360 individual navigational courses. Distance measuring equipment (DME) is frequently combined with a VOR facility (VOR-DME) to provide distance as well as direction information to pilots. Military tactical air navigation aids (TACANs) and civil VORs are commonly combined to form a VORTAC. The VORTAC provides distance and direction information to both civil and military pilots. The Center Point VORTAC, located approximately 7.5 nm to the southwest, supports aircraft operations in the vicinity of ERV.

The global positioning system (GPS) is an additional navigational aid for pilots. GPS was initially developed by the United States Department of Defense for military navigation around the world. GPS differs from a VOR in that it does not require pilots to navigate using a specific facility. GPS uses satellites placed in orbit around the earth to transmit electronic radio signals, which pilots of properly equipped aircraft use to determine altitude, speed, and other navigational information. With GPS, pilots can directly navigate to any airport in the country.

Instrument Approach Procedures

Instrument approach procedures assist pilots in locating and landing at an airport during low visibility and cloud ceiling conditions. They are categorized as precision, approach with vertical guidance (APV), or non-precision.

Precision instrument approaches provide an exact course alignment and vertical descent path for an aircraft on final approach to a runway with a height above touchdown (HAT) lower than 250 feet and visibility lower than ¾-mile. Examples of precision approaches include an ILS and ground-based augmentation system (GBAS) landing system (GLS).

APVs also provide course alignment and vertical descent path guidance, but have HATs of 200 feet or more and visibility minimums of ½-mile or greater. Examples include vertical navigation (VNAV), localizer performance with vertical guidance (LPV), or area navigation (RNAV)/required navigation performance (RNP). Runways 12 and 30 are equipped with APVs.

Non-precision instrument approach aids provide only course alignment information with no vertical component. Non-precision approaches have HATs of 250 feet or more and visibility minimums of ½-mile or greater. Examples include VOR, RNAV, lateral navigation (LNAV), localizer performance (LP), and localizer (LOC) approaches. Runway 30 is equipped with a LOC non-precision approach and the airport has a circling only VOR approach.

Instrument approach minimums are published for different aircraft categories and consist of a minimum decision altitude and required visibility. (Aircraft categories are described in greater detail in Chapter 2.) According to FAR 91.175, a pilot must be able to make a safe landing and have the runway in sight, and the visibility requirement must be met. The decision altitude is the point at which the pilot must meet all three criteria for landing, otherwise they cannot land using the published instrument approach.

There are currently four published instrument approach procedures at ERV, as detailed in **Table 1J**.

TABLE 1J | Instrument Approach Procedures

Approach	Category	Minimums by Aircraft Approach Category (Example: 250'-1 = 250' decision altitude and 1-mile visibility minimums)			
		A	B	C	D
RNAV GPS – Runway 12	LPV DA	250'-1			
	LNAV/VNAV DA	350'-1⅛			
	LNAV MDA	454'-1		454'-1⅜	
	Circling	703'-1	723'-1	763'-2¼	923'-3
RNAV GPS – Runway 30	LPV DA	271'-1			N/A
	LNAV MDA	551'-1		551'-1⅜	N/A
	Circling	703'-1	723'-1	763'-2¼	N/A
LOC – Runway 30	Straight-In 30	771'-1	771'-1¼	771'-2½	
	Circling	743'-1	743'-1¼	763'-2½	923'-3
	Zabos Fix Minimums (Dual VOR Receivers Required)				
	Straight-In 30	311'-1			
	Circling	643'-1	723'-1	763'-2¼	923'-3
VOR-A	Circling	823'-1¼		823'-2½	N/A
	Circling (Hodis Fix)	703'-1	723'-1	763'-2¼	N/A

Notes: N/A = Not Available

Source: FAA Instrument Flight Procedures Gateway, procedures valid from August 8, through September 5, 2024

Runway Use and Traffic Patterns

The traffic pattern at the airport is maintained to provide the safest and most effective use of the airspace. At ERV, each runway end has a standard left-handed traffic pattern, which means aircraft make left turns when in the pattern for landing. The typical traffic pattern altitude is 500 feet AGL for rotorcraft; between 800 and 1,000 feet AGL for piston aircraft; and 1,500 feet AGL for turbine aircraft. Runway 12 is designated as the calm wind runway, which means that during periods that winds are at or below three knots, pilots are advised to use Runway 12 for takeoff and landing.

LANDSIDE FACILITIES

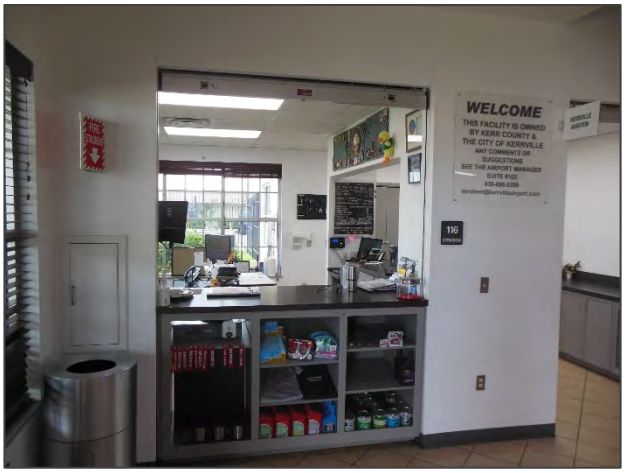
GENERAL AVIATION TERMINAL

Constructed in 2007, the 5,000 square foot (sf) terminal building at ERV is located on the main airport apron between the runways. From the airside, it can be accessed via Taxiway E. From the landside, it is accessible from Airport Loop, which connects to Memorial Boulevard (Texas State Highway 27). The terminal features a lobby/lounge area, restrooms, conference room and administration offices, kitchen, vending machines, flight planning room, and FBO offices.

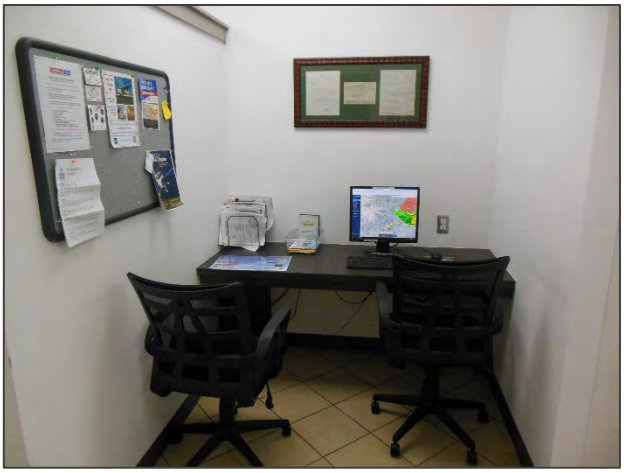
Terminal Entrance and Parking Lot

General Aviation Terminal

Terminal Lobby



FBO Counter



Flight Planning Space

Kitchen

Pilot's Lounge

AIRPORT BUSINESSES

Fixed Base Operators (FBOs)

FBOs are airport service centers that are responsible for aircraft services, such as passenger handling, aircraft fueling, parking, maintenance, aircraft towing and storage, and other related services. ERV currently has one full-service FBO: Kerrville Aviation. Kerrville Aviation operates out of office space in the terminal building and several conventional hangars on the main apron.

Kerrville Aviation Hangars

SASOs and Other Businesses

Specialty aviation service operators (SASOs) and other businesses located at the airport include Mooney International, Dugosh Aviation (aircraft maintenance), Guadalupe Aviation (aircraft storage), Gulf Avionics dba Wolfe Avionics (avionics installation & maintenance), Schreiner University Flight Training (US Aviation is the flight training provider), Hill Country Flight Services (flight training), Air Evac EMS (emergency medical services), and the Civil Air Patrol (U.S. Air Force civilian auxiliary).

Airport Businesses

Mooney Welcome Center

Air Evac EMS Building

AIRCRAFT HANGAR FACILITIES

Existing hangar facilities at ERV consist of a variety of hangar styles and sizes utilized by the airport's FBO, various specialty operators, and private individuals. Conventional hangars typically offer more than 10,000 sf of storage space, the smaller box hangars usually range in size from 2,500 sf to 10,000 sf, and T-hangars provide storage for multiple individual small aircraft. Hangars at ERV are identified on **Exhibit 1G** along with their approximate sf. All hangars are fully occupied and there are approximately 44 individuals on a waiting list for hangar space at ERV.

Approximate total square footages of the existing hangar types are:

- Conventional hangars – 120,025 sf
- Box hangars – 32,325 sf
- T-hangars – 34,320 sf; 34 individual storage units
- Manufacturing hangars (Mooney) - 248,500 sf
- Total hangar capacity – 435,170 sf

Box Hangar

T-Hangar

T-Hangar

BUILDING KEY

#	Building Type	Businesses	Owner	Size (sf)
1	Box Hangar	--	Private	6,600
2	Box Hangar	--	Private	6,000
3	T-Hangar	--	Airport	6,440
4	T-Hangar	--	Airport	6,440
5	Conventional Hangar	Schreiner University	Airport	22,400
6	T-Hangar	--	Airport	7,500
7	T-Hangar	--	Airport	7,500
8	Box Hangar	--	Airport	6,125
9	Airport Maintenance Equipment Storage	--	Airport	4,500
10	Conventional Hangar	--	Private	15,625
11	Conventional Hangar	Air Evac EMS	Private	3,600
12	Conventional Hangar	Kerrville Aviation	Private	12,000
13	Conventional Hangar	Kerrville Aviation	Private	17,600
14	Terminal	Kerrville Aviation; Hill Country Flight Services	Airport	4,970
15	Conventional Hangar	Kerrville Aviation	Private	19,500
16	Conventional Hangar	Kerrville Aviation; Wolfe Avionics	Airport	16,900
17	Office/Storage	Air Evac EMS	Airport	1,750
18	Office/Storage	--	Airport	10,000
19	Conventional Hangar	Guadalupe Aviation	Private	16,000
20	T-Hangar	Guadalupe Aviation	Private	6,440
21	Manufacturing Hangar	Mooney International	Airport	78,000
22	Manufacturing Hangar	Mooney International	Airport	22,000
23	Manufacturing Hangar	Mooney International	Airport	112,500
24	Manufacturing Hangar	Mooney International	Airport	10,500
25	Manufacturing Hangar	Mooney International	Airport	9,750
26	Manufacturing Hangar	Mooney International	Airport	6,000
27	Manufacturing Hangar	Mooney International	Airport	9,750
28	Box Hangar	--	Airport	10,000

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Box Hangar

Conventional Hangar – Brinkman Hangar

Mooney Hangar Complex

Dugosh Hangar

T-Hangar – Guadalupe Aviation

Conventional Hangar – Guadalupe Aviation

Box Hangar – Air EVAC EMS

AIRCRAFT PARKING APRON

Aircraft aprons are pavement areas that are sufficiently removed from aircraft taxiways and movement areas, and facilitate the safe and efficient transition of passengers from the airside element (runways and taxiways) to the landside element. Aprons provide access to the terminal and hangars and provide aircraft parking. The main terminal apron at ERV is centrally located on the airfield and serves the terminal building and six conventional hangars. The pavement is constructed of concrete and has a total area of approximately 32,200 square yards.

Terminal Apron and Conventional Hangars

Aircraft Parked on Terminal Apron

Terminal Apron and Self-Service Fuel

Terminal Apron

VEHICLE PARKING

Vehicle parking lots at ERV consists of 35 marked spaces at the terminal building, approximately 46 spaces in a gated lot immediately east of the terminal (south parking lot), and approximately 31 spaces in a gated lot north of the terminal adjacent to the Air Evac EMS facilities (north parking lot). The Brinkman hangar, which houses Schreiner University's flight training facilities, also has 18 covered parking spaces.

North Parking Lot

South Parking Lot Access Gate

SUPPORT FACILITIES

AIRCRAFT RESCUE & FIREFIGHTING (ARFF)

As a non-Part 139 certificated general aviation airport, ERV is not required to maintain on-site aircraft rescue and firefighting (ARFF) equipment or services. Firefighting services are provided by the City of Kerrville Fire Department (Station 3), which is located at 3225 Legion Drive in Kerrville. It is located approximately seven miles from the airport.

FUEL STORAGE

The airport has four above-ground fuel storage tanks. The main fuel farm is located at the terminating point of Airport Loop and consists of two 12,000-gallon Jet A storage tanks (utilized by Kerrville Aviation and the other by South Texas Refueling) and a 10,000-gallon 100LL tank (utilized by Kerrville Aviation). An additional 5,000-gallon 100LL self-service tank (utilized by Kerrville Aviation) is located at the south end of the main apron. Each of the tanks are owned by the airport and leased to entities as noted above. Fuel flowage records by year indicate that the airport averages approximately 66,674 gallons of 100LL flowage and 431,271 gallons of Jet A flowage annually over the past five years. Jet A flowage has increased at a CAGR of 9.9 percent while 100LL flowage has experienced a decline. Fuel flowage history is provided in **Table 1K**.

TABLE 1K | Fuel Flowage History

Year	100LL (gallons)	Jet A (gallons)
2018	75,123	317,761
2019	68,173	389,138
2020	69,034	389,076
2021	63,101	498,507
2022	54,200	482,946
2023	70,411	510,201
2024*	36,780	294,713
CAGR 2018-2023	**-1.3%**	**9.9%**

Note: Fiscal year runs from October to September.
*2024 data are through July.

Source: ERV records

Fuel Storage Tanks

Mobile Fuel Trucks

Self-Service Fuel

UTILITIES

The availability and capacity of the utilities serving the airport are factors in determining the development potential of the airport property, as well as the land immediately adjacent to the facility. Of primary concern in the inventory investigation is the availability of water, gas, sewer, and power sources. Providers are detailed below:

- Energy (electric) – Kerrville Public Utility Board (KPUB)
- Natural gas – Not available (airport facilities utilize delivered propane)
- Water/sewer – City of Kerrville
- Trash – Republic Services
- Communication (phone and internet) – Windstream

AIRPORT MAINTENANCE FACILITIES

The airport has an airport maintenance facility that is located at the north end of Loop Road adjacent to the fuel farm. Maintenance equipment, such as movers, runway sweepers, portable generators, and tractors, are stored in this building.

Airport Maintenance Facility

PERIMETER ACCESS ROAD AND FENCING

Ground vehicles authorized by the airport to operate on movement and safety areas are limited to vehicles that are necessary for airport operations. These include airport maintenance vehicles, police patrol vehicles, fire and rescue vehicles, aircraft fuel and service vehicles, and others authorized by the airport, such as FBO vehicles, construction vehicles, FAA vehicles, and airport operations staff vehicles.

The airport does not have a paved perimeter service road, but authorized vehicles can utilize the taxiway and apron system to move around the airfield.

The entire perimeter of the airport is enclosed with 10-foot wildlife fencing that includes three-strand barbed wire on top. Secured access gates equipped with electronic gate codes allow vehicle access to airport facilities.

Wildlife Fencing

Access Gate

REGIONAL AIRPORTS

A review of other public-use airports with at least one paved runway within a 40-nautical-mile radius of ERV was conducted to identify and distinguish the types of air service provided in the region. It is important to consider the capabilities and limitations of these airports when planning for future changes or improvements to ERV. **Table 1L** provides basic information on these airports.

TABLE 1L | Regional Airports within 40 Nautical Miles of Kerrville Municipal Airport

Airport	NM/Direction from ERV[1]	FAA Service Level[2]	Towered	Based Aircraft[3]	2023 Annual Operations[1]	Longest Runway[1]	Visibility Minimum[1]
Kerrville-Kerr County (ERV)	**–**	**GA**	**No**	**88**	**44,874[4]**	**6,004′**	**1-mile**
Gillespie County (T82)	18.4 nm NE	GA	No	104	14,808	5,001′	1-mile
Boerne Stage Airfield (San Antonio) (5C1)	25.4 nm SE	N/A	No	217[1]	43,000	5,006′	Visual
San Geronimo Airpark (8T8)	31.7 nm SE	N/A	No	103[1]	2,080	3,000'	None
Kestrel Airpark (San Antonio) (1T7)	35.7 nm SE	N/A	No	83[1]	6,916	3,000'	None
South Texas Regional at Hondo (HDO)	37.4 nm S	GA	No	79	24,820	6,002'	1-mile
Real County (Leaky) (49R)	37.8 nm SW	N/A	No	4[1]	1,196	3,975'	None
Castroville Municipal (CVB)	40.0 nm SE	GA	No	80	70,810	5,001'	7/8-mile

Notes:
GA = General Aviation
N/A = Not Applicable
nm = nautical mile

Sources:
[1]Airnav.com; FAA Form 5010, Airport Master Record
[2]FAA National Plan of Integrated Airports System, 2023-2027
[3]basedaircraft.com; FAA-validated counts
[4]Virtower data

ENVIRONMENTAL INVENTORY

The purpose of the following environmental inventory is to identify potential environmental sensitivities that should be considered when planning future improvements at the airport. Research was performed for each of the 14 environmental impact categories described within FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*:

- Air Quality
- Biological Resources (including fish, wildlife, and plants)
- Climate
- Coastal Resources
- *Department of Transportation Act*, Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects (including light emissions)
- Water Resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers)

AIR QUALITY

The concentration of various pollutants in the atmosphere defines the local air quality. The significance of a pollutant's concentration is determined by comparing it to the state and federal air quality standards. In 1971, the U.S. Environmental Protection Agency (EPA) established standards that specify the maximum permissible short- and long-term concentrations of various air contaminants. The National Ambient Air Quality Standards (NAAQS) consist of primary and secondary standards for criteria pollutants: ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead (Pb). Based on federal air quality standards, a specific geographic area can be classified as an attainment, maintenance, or nonattainment area for each pollutant. The threshold for nonattainment designation varies by pollutant.

Kerrville-Kerr County Airport (ERV) is in Kerr County, Texas, which is in attainment for all federal criteria pollutants, as of June 30, 2024.[1]

[1] U.S. EPA – Green Book – Texas Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants (https://www3.epa.gov/airquality/greenbook/anayo_tx.html)

BIOLOGICAL RESOURCES

Biological resources include the various types of plants and animals that are present in an area. The term also applies to rivers, lakes, wetlands, forests, and other habitat types that support plants and animals. The airport is flat with elevations ranging from roughly 1565 to 1690 feet across the airport. Habitat includes ruderal vegetation and grasses. There are no trees, except those used in landscaping within the developed landside and roadway areas.

The U.S. Fish and Wildlife Service (USFWS) is charged with overseeing the requirements contained within Section 7 of the *Endangered Species Act* (ESA). The ESA provides a framework to conserve and protect animal or plant species whose populations are threatened by human activities. The FAA and USFWS review projects to determine if a significant impact to protected species will result from the implementation of a proposed project. Significant impacts occur when a proposed action could jeopardize the continued existence of a protected species or would result in the destruction or adverse modification of federally designated critical habitat in the area. The USFWS Information for Planning and Consultation (IPaC) resource list describes species and habitats protected under the ESA within the vicinity of the airport (**Table 1M**).

TABLE 1M | U.S. Fish and Wildlife Service List of Federally Endangered, Threatened, and Candidate Species to be Considered for Airport Development Actions

Common Name (*Scientific Name*)	Federal/State Status	Habitat and Range	Potential for Occurrence
Birds			
golden-cheeked warbler (*Setophaga chrysoparia*)	Federal Endangered/ State Endangered	Prefers woodlands with Ashe juniper, oaks, and hardwood trees near ravines and canyons.	**Unknown.** A biological survey is needed to determine the presence of this species.
Amphibians			
Texas blind salamander (*Eurycea rathbuni*)	Federal Endangered/ State Threatened	Inhabits water-filled subterranean caverns of the Edwards Aquifer in the San Marcos area.	**Would not occur.** The airport does not contain suitable habitat to support this species.
Clams			
Guadalupe fatmucket (*Lampsilis bergmanni*)	Federal Endangered/ State Threatened	Lives exclusively in the Guadalupe River Basin.	**Would not occur.** The airport does not traverse the Guadalupe River Basin.
Guadalupe orb (*Cyclonaias necki*)	Federal Endangered/ State Threatened	Found in rivers that contain mud, silt, gravel, or cobble for anchoring substrate.	**Would not occur.** The airport does not traverse any permanent running waters.
Insects			
Comal Springs dryopid beetle (*Stygoparnus comalensis*)	Federal Endangered	An aquatic beetle species that lives in and around spring openings located in the headwaters of the San Marcos and Comal Spring complexes that are fed by Edwards Balcones Fault Zone Aquifer groundwater.	**Unknown.** The airport would need to be surveyed for potential spring openings.
Comal Springs riffle beetle (*Heterelmis comalensis*)	Federal Endangered	Adult Comal Spring riffle beetles live in subterranean spaces that are associated with springs from the Edwards Aquifer. This species can also be found in gravel and cobble-dominated substrates that contain aquatic vegetation and submerged wood present.	**Unknown.** The airport would need to be surveyed for potential spring openings.

Continues on next page

TABLE 1M | U.S. Fish and Wildlife Service List of Federally Endangered, Threatened, and Candidate Species to be Considered for Airport Development Actions (continued)

Common Name (*Scientific Name*)	Federal/State Status	Habitat and Range	Potential for Occurrence
Insects *(continued)*			
monarch butterfly (*Danaus plexippus)*	Federal Candidate	A migratory species found in a variety of habitats. The monarch butterfly requires milkweed (*Asclepias* spp.) for breeding. Migrating monarch butterflies often occur near water sources (e.g., rivers, creeks, riparian corridors, roadside ditches, and irrigated gardens).	**May occur.** The airport is surrounded by agricultural fields that could provide habitat for foraging.
Crustaceans			
Peck's Cave amphipod (*Stygobromus* (=*Stygonectes*) pecki)	Federal Endangered	Found in springs, seeps, or other areas where ground water meets the surface.	**Unknown.** The airport would need to be surveyed for potential spring or seep openings.
Flowering Plants			
bracted twistflower (*Streptanthus bracteatus*)	Federal Threatened/ State Threatened	Found in rocky hillsides and slopes in the Edwards Plateau area that contains live oak, juniper trees, and other shrubs.	**Unknown.** A botanical survey during the flowering period is needed to determine the presence of this species.
Texas wild rice (*Zizania texana*)	Federal Endangered	An aquatic perennial grass that inhabits fast-flowing waters of spring-fed rivers that contain gravelly or coarse sandy soils.	**Unknown.** A botanical survey during the flowering period is needed to determine the presence of this species.
Tobusch fishoook cactus (*Sclerocactus brevihamatus* **ssp.** *tobuschii*)	Federal Threatened/ State Endangered	Inhabits a variety of habitats such as pinyon pine-oak woodland, rocky openings in oak-juniper, or shallow soils over limestone.	**Unknown.** A botanical survey during the flowering period is needed to determine the presence of this species.

*USFWS Status Definitions for Federally Listed Species:

- Endangered = an animal or plant species in danger of extinction throughout all or a significant portion of its range
- Threatened = an animal or plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range
- Candidate = an animal or plant species for which the USFWS has sufficient information on biological vulnerability and threats to support proposals to list the species as endangered or threatened under the ESA, but the development of a proposed listing regulation is precluded by other higher priority listing activities; candidate species are not protected by the take prohibitions of Section 9 of the ESA

Sources: USFWS, IPaC (https://ipac.ecosphere.fws.gov/); Texas Parks & Wildlife Department, Annotated County Lists of Rare Species (Nueces County) (https://tpwd.texas.gov/gis/rtest/); Brazos River Authority, Bracted Twistflower (https://brazos.org/About-Us/Environmental/Species/Species-of-Interest/Threatened-Species/Bracted-Twistflower#:~:text=and%20Williamson%20counties.-,Habitat,to%20provide%20protection%20from%20grazing.); Texas Parks & Wildlife, Species, (https://tpwd.texas.gov/)

Section 3 of the ESA is used to protect critical habitat areas. Designated critical habitat areas are geographically defined and have been determined to be essential to the recovery of a specific species. There are no critical habitats at or near the airport.

The federal *Migratory Bird Treaty Act* (MBTA) protects migratory birds and their eggs, nests, and feathers. Potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies. Habitat for migratory birds may occur if bushes or other ground nesting substrate is present. The typical breeding season for migratory birds that would be present is from March through September.

Terrestrial and avian species identified for Kerr County on the Texas Parks & Wildlife Department's (TPWD) *Annotated County Lists of Rare Species* that are state listed, but not federally listed, are listed below. There is no aquatic habitat at the airport that is suitable to support marine mammals, fish, amphibians such as salamanders, or aquatic species such as mollusks listed by TPWD for Kerr County.

Birds

- piping plover (*Charadrius melodus*) – state threatened
- rufa red knot (*Calidris canutus rufa*) – state threatened
- white-faced ibis (*Plegadis chihi*) – state threatened
- zone-tailed hawk (*Buteo albonotatus*) – state threatened

Mammals

- black bear (*Ursus americanus*) – state threatened
- white-nosed coati (*Nasua narica*) – state threatened

Reptiles

- Cagle's map turtle (*Graptemys caglei*) – state threatened
- Texas horned lizard (*Phrynosoma cornutum*) – state threatened
- Texas tortoise (*Gopherus berlandieri*) – state threatened

CLIMATE

Increasing concentrations of greenhouse gases (GHGs) can affect global climate by trapping heat in Earth's atmosphere. Scientific measurements have shown that Earth's climate is warming with concurrent impacts, including warmer air temperatures, rising sea levels, increased storm activity, and greater intensity in precipitation events. Climate change is a global phenomenon that can also have local impacts. GHGs – such as water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and O_3 – are both naturally occurring and anthropogenic (human-made). Research has established a direct correlation between fuel combustion and GHG emissions. GHGs from anthropogenic sources include CO_2, CH_4, N_2O, hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF_6). CO_2 is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years.

The U.S. EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2021* shows a two percent decrease in total U.S. GHG emissions from 1990 to 2021, down from a high 15.8 percent above 1990 levels in 2007. During 2020 to 2021, the U.S. saw an increase in economic activity driven by businesses and persons rebounding after the COVID-19 pandemic. This resulted in an increase in total U.S. GHG emissions, of which CO_2 emissions accounted for the majority.

In 2021, the transportation sector and power generation accounted for 79.3 percent of total CO_2 emissions; however, the overall aviation industry has shown a decrease in CO_2 emissions by 18 percent between 1990 and 2021.[2] Commercial aircraft emissions have highly fluctuated over the past thirty years,

[2] U.S EPA, Inventory of U.S. Greenhouse Gases: Chapter 3 Energy (https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021); includes consumption of jet fuel and aviation gasoline but does not include emissions from international aviation, i.e., international bunker fuels (https://unfccc.int/topics/mitigation/workstreams/emissions-from-international-transport-bunker-fuels)

with a 27 percent increase between 1990 and 2007, a two percent decrease from 2007 to 2019, and a 33 percent decrease from 2019 to 2020, followed by a 23 percent increase from 2020 to 2021. This represents an overall eight percent difference between 1990 and 2021 commercial aircraft emissions. Between 1990 and 2021, emissions from military aircraft decreased by 65 percent.

Texas does not have a statewide climate adaptation or action plan, nor do Kerr County or the City of Kerrville.[3]

COASTAL RESOURCES

Federal activities involving or affecting coastal resources are governed by the *Coastal Barriers Resource Act*, the *Coastal Zone Management Act*, and Executive Order (E.O.) 13089, *Coral Reef Protection.*

The airport is not located within a coastal zone.[4] The nearest National Marine Sanctuary is the Flower Garden Bank National Marine Sanctuary, located 314 miles away from the airport.[5]

DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F)

Section 4(f) of the *Department of Transportation Act*, which was recodified and renumbered as Section 303(c) of Title 49 United States Code, provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly or privately owned historic sites, public parks or recreation areas, or waterfowl and wildlife refuges of national, state, regional, or local importance, unless there is no feasible and prudent alternative to the use of such land, and the project includes all possible planning to minimize harm resulting from the use.

There are no potential Section 4(f) resources within one mile of the airport.

The nearest historic feature listed on the National Register of Historic Places (NRHP) is Woolls Building at 318 San Antonio St, which is more than two miles away from the airport.[6]

The nearest waterfowl and wildlife refuge, wilderness area, and national recreation area are:

- Wildlife/Waterfowl Refuge – Balcones Canyonlands National Wildlife Refuge (70 miles from the airport)
- Wilderness Area – Little Lake Creek Wilderness (200 miles from the airport)
- National Recreation Area – Amistad National Recreation Area (110 miles from the airport)

[3] Georgetown Climate Center, Preparing for Climate Change in Texas (https://www.georgetownclimate.org/adaptation/state-information/texas/overview.html)
[4] The Texas Coastal Zone (www.glo.texas.gov/coast/coastal-management/forms/files/CoastalBoundaryMap.pdf)
[5] Google Earth Aerial Imagery, National Marine Sanctuary (https://sanctuaries.noaa.gov/about/maps.html)
[6] U.S. Department of the Interior, National Park Service, National Register of Historic Places (https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466)

FARMLANDS

Under the *Farmland Protection Policy Act* (FPPA), federal agencies are directed to identify and consider the adverse effects of federal programs on the preservation of farmland, consider appropriate alternative actions that could lessen adverse effects, and assure that such federal programs are (to the extent practicable) compatible with state or local government programs and policies to protect farmland. The FPPA guidelines, developed by the U.S. Department of Agriculture (USDA), apply to farmland classified as prime, unique, or of state or local importance, as determined by the appropriate government agency with concurrence by the Secretary of Agriculture.

The U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey shows the types of soils and their farmland classifications on and adjacent to the airport (**Exhibit 1H**). The airport is located outside of a census-designated urbanized area,[7] and could be subject to the FPPA.

The airport has three types of farmland classification: "all areas are prime farmland," "farmland of statewide importance, if irrigated" and "not prime farmland." Most of the land within the airport is recognized as prime farmland (**Table 1N**).

TABLE 1N| Farmland Classification – Summary Map Unit – Kerr County, Texas (TX265)

Web Soil Survey Symbol	Soil Type	Farmland Rating
DnB	Denton silty clay, dry, 1 to 3 percent slopes	Farmland of statewide importance, if irrigated
DsC	Doss silty clay, 1 to 5 percent slopes	Not prime farmland
DTD	Doss-Kerrville association, undulating	Not prime farmland
KrB	Krum silty clay, 1 to 3 percent slopes	All areas are prime farmland
NuB	Nuvalde silty clay, 1 to 3 percent slopes	All areas are prime farmland
Oa	Oakalla silty clay loam, 0 to 2 percent slopes, occasionally flooded	Not prime farmland
PTD	Purves-Tarrant association, 1 to 8 percent slopes	Not prime farmland

Source: USDA-NRCS, Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)

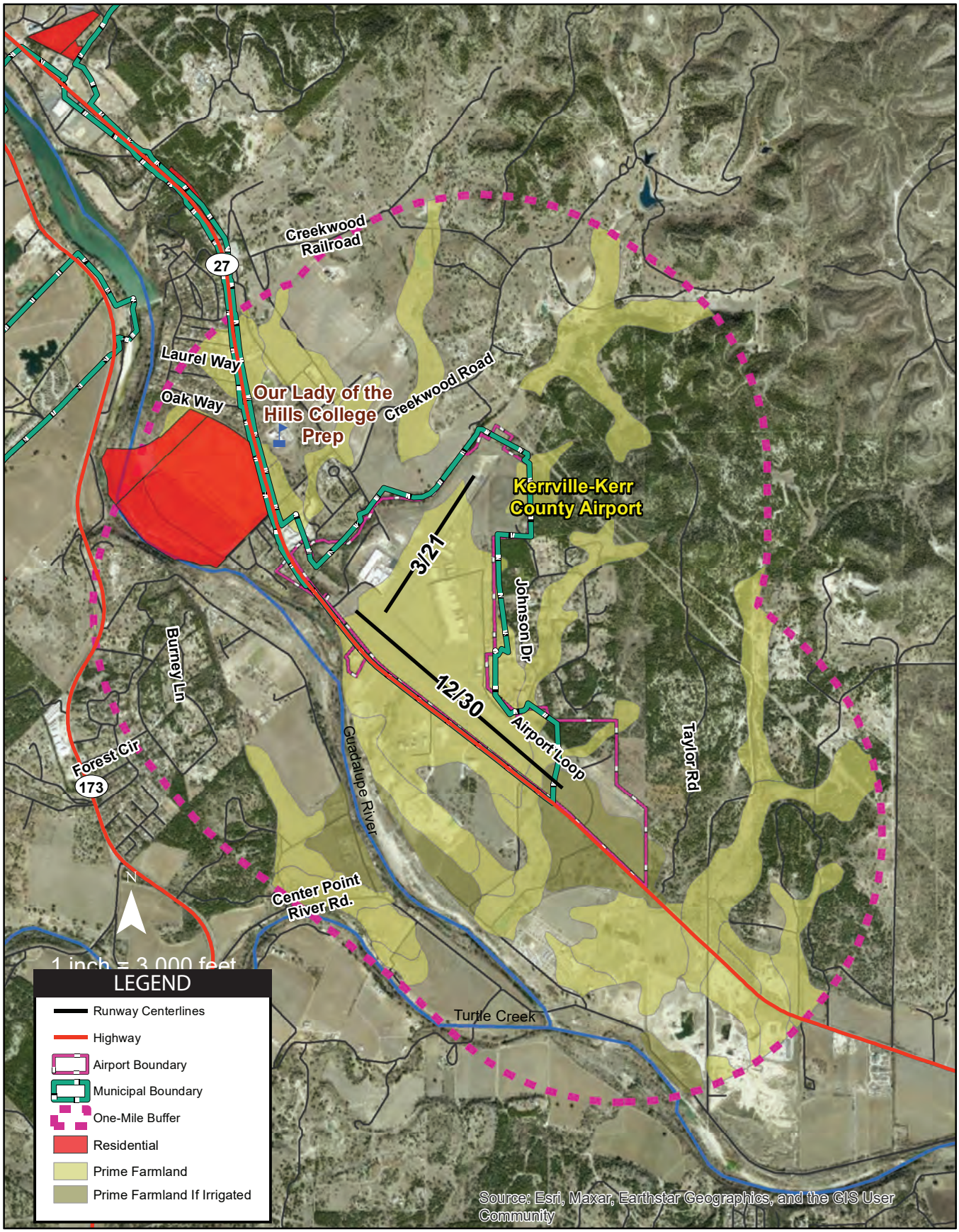
Exhibit 1H also shows the soils rating for the area within one mile of the airport. Much of this land is rated as not prime farmland.

HAZARDOUS MATERIALS, SOLID WASTE AND POLLUTION PREVENTION

Federal, state, and local laws regulate hazardous materials use, storage, transportation, and disposal. These laws may extend to past and future landowners of properties containing these materials. Disrupting sites containing hazardous materials or contaminants may cause significant impacts to soil, surface water, groundwater, air quality, and the organisms using these resources.

The two statutes of most importance to airport projects are the *Resource Conservation Recovery Act* (RCRA), as amended by the *Federal Facilities Compliance Act of 1992*, and the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), as amended (also known as Superfund). The RCRA

[7] U.S. EPA, EJScreen (Version 2.2), Boundaries – Urban Areas (https://ejscreen.epa.gov/mapper/)


Creekwood Railroad
27
Laurel Way
Oak Way
Our Lady of the Hills College Prep
Creekwood Road
Kerrville-Kerr County Airport
3/21
12/30
Johnson Dr
Airport Loop
Taylor Rd
Burney Ln
Forest Cir
173
Guadalupe River
Center Point River Rd.
Turtle Creek
N
1 inch = 3,000 feet
LEGEND
Runway Centerlines
Highway
Airport Boundary
Municipal Boundary
One-Mile Buffer
Residential
Prime Farmland
Prime Farmland If Irrigated
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

governs the generation, treatment, storage, and disposal of hazardous wastes. The CERCLA provides for the cleanup of any release of a hazardous substance that may endanger public health or the environment. These laws may extend to past and future landowners of properties containing these materials. Locations identified as Superfund sites are listed on the National Priorities List (NPL). According to the U.S. EPA's *EJScreen* online tool, there are no Superfund or brownfield sites within one mile of the airport.[8]

A leaking petroleum storage tank has been present at the airport in the past. Based on the Texas Commission on Environmental Quality's (TCEQ) database, a leaking petroleum storage tank was present at Kerrville Aviation (the airport's FBO), at 1875 Airport Loop; however, this case was closed on August 16, 1991.[9]

The airport has aboveground aircraft fuel facilities that contain 100LL and Jet A fuel. Spill prevention, control, and countermeasure (SPCC) plans are required for these facilities, per U.S. EPA regulations.

National Pollutant Discharge Elimination System (NPDES) permits outline the regulatory requirements of municipal stormwater management programs and establish requirements to help protect the beneficial uses of the receiving waters. The program requires permittees to develop and implement best management practices (BMPs) to control/reduce the discharge of pollutants to waters of the United States, to the maximum extent practicable. In Texas, the Texas Pollutant Discharge Elimination System (TPDES) program has federal regulatory authority over discharges of pollutants to Texas surface waters. This program is administered by the TCEQ, except for those permits associated with oil, gas, and geothermal exploration, which are regulated by the Railroad Commission of Texas.[10]

TCEQ also administers Title 30 Texas Administrative Code (TAC) Part 1, Chapter 330, *Municipal Solid Waste*, which regulates waste management. The closest landfill to the airport is Kerrville Landfill, located at 3315 Loop 534 Landfill Road, three miles north of the airport. This landfill accepts most types of construction waste that are not considered hazardous. There are a variety of local businesses like auto shops that accept recyclable hazardous materials (e.g., oil filters, batteries, motor oil, and tires) in Kerrville.[11]

The City of Kerrville transfers its municipal solid waste at the Republic Services Kerrville Transfer Station (also located at 3315 TX-534 Loop).

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Determination of a project's environmental impact to historic and cultural resources is made under guidance in the *National Historic Preservation Act of 1966* (NHPA), as amended, the *Archaeological and Historic Preservation Act of 1974* (AHPA), the *Archaeological Resources Protection Act* (ARPA), and the *Native American Graves Protection and Repatriation Act of 1990* (NAGPRA). The *Antiquities Act of 1906*, the *Historic Sites Act of 1935*, and the *American Indian Religious Freedom Act of 1978* also protect historic,

[8] U.S. EPA, EJScreen (Version 2.2), EJSCreen Community Report (https://ejscreen.epa.gov/mapper/)
[9] Texas Open Data Portal, TCEQ Leaking Petroleum Storage Tank Sites (https://data.texas.gov/dataset/Texas-Commission-on-Environmental-Quality-Leaking-/hedz-nn4q/data_preview)
[10] TCEQ, Wastewater and Stormwater, What Is the "Texas Pollutant Discharge Elimination System (TPDES)"? (https://www.tceq.texas.gov/permitting/wastewater/pretreatment/tpdes_definition.html)
[11] City of Kerrville, Texas, Landfill (https://www.kerrvilletx.gov/78/Landfill)

architectural, archaeological, and cultural resources. Impacts may occur when a proposed project causes an adverse effect on a resource that has been identified (or is identified after being unearthed during construction) as having historic, architectural, archaeological, or cultural significance.

From the information available at the time this report was prepared, no systematic airport-wide cultural surveys have been conducted. Much of the airport has been developed or disturbed by construction; however, there is still a chance that intact cultural resources may be present either on the ground surface or subsurface.

The airport was opened in February 1943, and buildings or structures of historic age (i.e., 50 years or older) may still be present within airport property. For example, based on a review of historic aerials, there may be an historic-age structure south of Al Mooney Road.

LAND USE

Land use regulations near airports are achieved through local government codes, city policies, and plans that include airport districts and planning areas. Regulations are used to avoid land use compatibility conflicts around airports.

According to the existing land use plan, the airport is categorized as two land uses: public/institutional and mixed use.[12] The majority of the airport has been identified as a public/institutional land use, while the northern portion of the airport where landside development has occurred is recognized as mixed use.

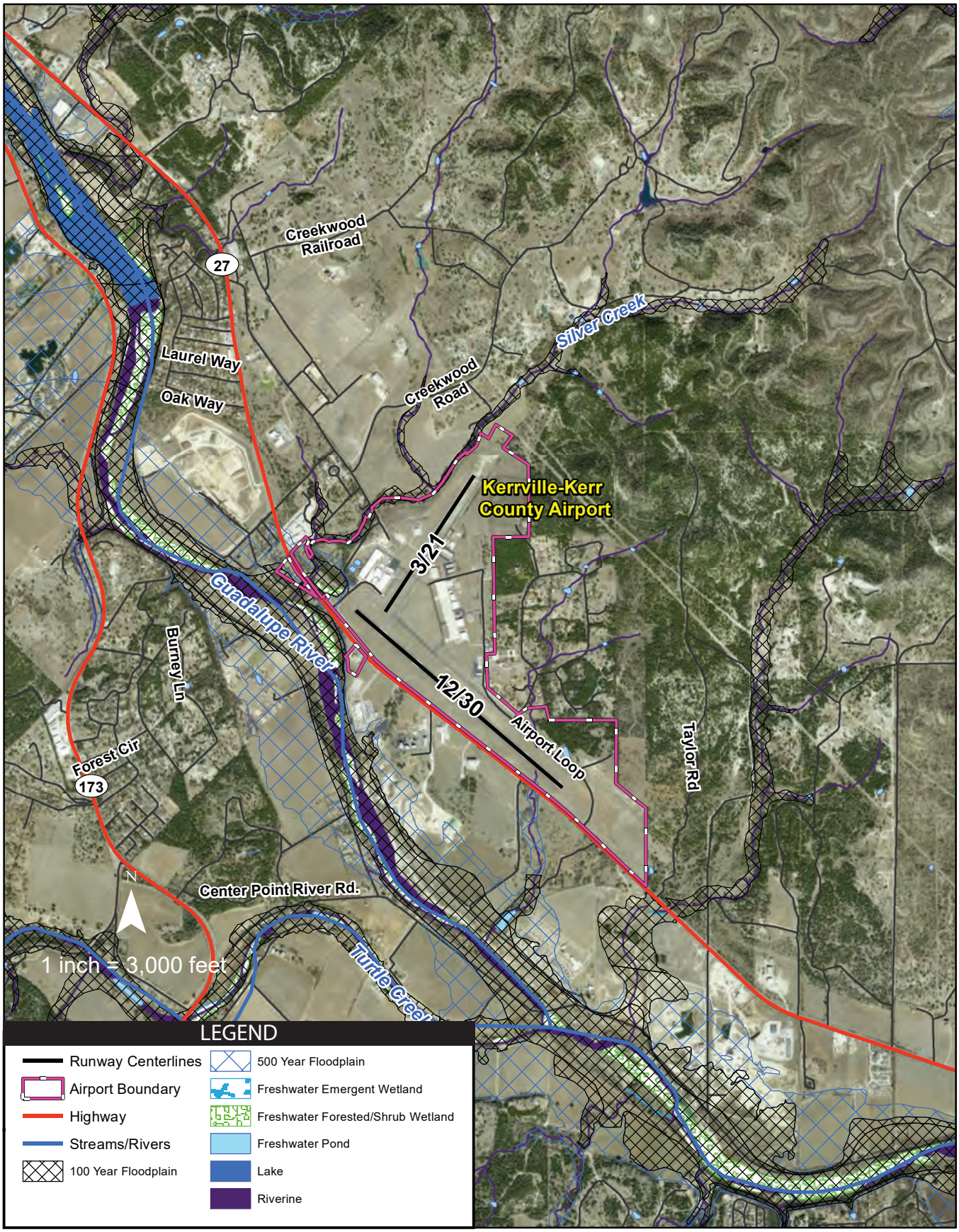
Kerrville 2050, Kerrville's comprehensive plan, was adopted by the City of Kerrville in 2018. This plan identifies the airport's future land use as a "strategic catalyst area," meaning there is potential for dense development near the airport that would result in an economic boom for the city. Land uses such as heavy commercial, light industrial, agriculture, and outdoor tourism have all been identified as suitable land uses for the area surrounding the airport.

The airport is currently surrounded by scattered residential land uses to the northwest and east, industrial to the northwest and west, and a recreational RV park to the south. Guadalupe River bounds a portion of the airport to the west, while Silver Creek lies north of the airport (**Exhibit 1J**). General land uses within one mile of the airport – including those that could be sensitive to airport noise or other effects – are identified in **Exhibit 1H.**

NATURAL RESOURCES AND ENERGY SUPPLY

It is the policy of FAA Order 1053.1C, *Energy and Water Management Program for FAA Buildings and Facilities*, to encourage the development of facilities that exemplify the highest standards of design, including principles of sustainability.

[12] Kerrville GIS Portal, Existing Land Use Map: (https://gisportal-kerrvilletx.hub.arcgis.com/documents/a526081c850b4abaa5e7147c78031d3d/explore)


Creekwood Railroad
27
Laurel Way
Oak Way
Creekwood Road
Silver Creek
Kerrville-Kerr County Airport
3/21
12/30
Guadalupe River
Burney Ln
Forest Cir
173
Airport Loop
Taylor Rd
Center Point River Rd.
Turtle Creek
N
1 inch = 3,000 feet
LEGEND
Runway Centerlines
Airport Boundary
Highway
Streams/Rivers
100 Year Floodplain
500 Year Floodplain
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine

Texas has a deregulated electricity market, so there are numerous electricity providers throughout the state. Over 30 percent of the energy produced in Texas is from renewable sources, such as wind and solar, and most Texas energy providers have about 20 percent green energy in their mix of energy sources.

The city's water supply is obtained through both surface and groundwater sources, reuse, and aquifer storage and recovery (ASR). The City of Kerrville has enacted a Stage 3 Water Conservation restriction on Kerrville residences, which restricts the types of water use and when water can be used.[13]

NOISE AND NOISE-COMPATIBLE LAND USE

Federal land use compatibility guidelines are established under Title 14 Code of Federal Regulations (CFR) Part 150, *Airport Noise Compatibility Planning*. According to 14 CFR Part 150, residential land and schools are noise-sensitive land uses that are not considered compatible with a 65 decibel (dB) day-night average sound level (Ldn or DNL). Other noise-sensitive land uses (such as religious facilities, hospitals, or nursing homes), if located within a 65 dB DNL contour, are generally compatible when an interior noise level reduction of 25 dB is incorporated into the design and construction of the structure. Special consideration should also be given to noise-sensitive areas within Section 4(f) properties where the land use compatibility guidelines in 14 CFR Part 150 do not account for the value, significance, and enjoyment of the area in question.[14]

There are no hospitals or live-in medical care facilities within one mile of the airport. Outside of residential land uses, there is only one other land use within one mile of the airport that would be considered noise sensitive: Our Lady of the Hills College Prep, located 0.50 miles north of the airport (**Exhibit 1H**).

SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

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

Environmental Justice | *Environmental justice* 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. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies.

[13] City of Kerrville, Texas (https://www.kerrvilletx.gov/512/Water-Restrictions), accessed July 2024
[14] 49 U.S. Code § 47141 – Compatible land use planning and projects by state and local governments

Meaningful involvement ensures that:

- People have an opportunity to participate in decisions about activities that may affect their environment and/or health;
- The public's contribution can influence the regulatory agency's decision;
- Their concerns will be considered in the decision-making process; and
- The decision-makers seek out and facilitate the involvement of those potentially affected.[15]

FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, specifically requires that a federal action causing disproportionate impacts to an environmental justice population (i.e., a low-income or minority population) be considered.

According to the five-year 2017-2021 American Community Survey (ACS), the population within one mile of the airport is estimated at 1,025 persons, of which 35 percent of the population is considered low-income and 47 percent are people of color (which can include Hispanic populations of any race). Approximately 43 percent of the population has identified as Hispanic (**Table 1P**).

TABLE 1P | Population Characteristics Within One Mile of the Airport

Characteristic	
Total Population	1,025
Population by Race[1]	
White	53%
Black	0%
American Indian	0%
Asian	1%
Pacific Islander	0%
Some Other Race	0%
Population Reporting Two or More Races	3%
Total Hispanic population (of any race)	43%

[1] Percentages do not add up to 100 percent. Hispanic is treated by the U.S. Census as a question separate from Race.

Source: U.S. EPA, EJScreen ACS Summary Report (5-Year, 2017-2021) (https://ejscreen.epa.gov/mapper/)

Children's Environmental Health and Safety | Federal agencies are directed, per E.O. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, to make it a high priority to identify and assess the environmental health and safety risks that may disproportionately impact children. Such risks include those that are attributable to products or substances that a child is likely to encounter or ingest (i.e., air, food, water – including drinking water) or to which they may be exposed.

According to the 2017-2021 ACS estimates, 13 percent of the population within one mile of the airport is between the ages of one to 18 years old (roughly 133 children). There are no parks located within one mile of the airport.

[15] U.S. EPA website – Environmental Justice (https://www.epa.gov/environmentaljustice)

VISUAL EFFECTS

Visual effects deal broadly with the extent to which a proposed action or alternative(s) would either: (1) produce light emissions that create an annoyance or interfere with activities; or (2) contrast with or detract from the visual resources and/or the visual character of the existing environment. Each jurisdiction will typically address outdoor lighting, scenic vistas, and scenic corridors in its zoning ordinances and general plan.

Light Emissions | These impacts typically relate to the extent to which any light or glare results from a source that could create an annoyance for people or would interfere with normal activities. Ordinance No. 2023-03 outlines guidance for the implementation and usage of outdoor lighting, primarily focusing on the shielding of all light fixtures and the usage of warm light.[16]

The airfield is outfitted with medium intensity runway edge lights (MIRL), runway threshold lights, and medium intensity taxiway lights (MITL). Navigation lights include a rotating beacon, which emits flashes of white and green light, and four-light precision approach path indicator lights (PAPI-4) on Runway 12-30. Runway 3-21 is equipped with a two-light precision approach path indicator light. (For further information, see Existing Airfield Lighting and Visual Navigational Aids [NAVAIDs] earlier in the inventory.) Landside outdoor lighting includes building and parking lot security lighting.

The airport is surrounded by land uses (such as single-family homes) that would be sensitive to light pollution. The closest residential neighborhoods are located 0.15 miles east of the airport along Johnson Drive. However, these residential land uses are shielded from potential light spillage by densely clustered trees and other vegetation.

Visual Resources and Visual Character | *Visual resources* include buildings, sites, traditional cultural properties, and other natural or manmade landscape features that are visually important or have unique characteristics. Visual resources may include structures or objects that obscure or block other landscape features. In addition, visual resources can include the cohesive collection of various individual visual resources that can be viewed at once or in concert from the area surrounding the site of the proposed action or alternative(s).

Visual character refers to the overall visual makeup of the existing environment where a proposed action or its alternative(s) would be located. For example, areas near densely populated areas generally have a visual character that could be defined as urban, whereas less developed areas could have a visual character defined by the surrounding landscape features, such as open grass fields, forests, mountains, deserts, etc.

The airport is surrounded by open land to the east with pockets of residential and commercial land uses to the north and east. Northwest of the airport lies a more heavily developed area with various residential neighborhoods. Visually, the airport is characterized by landside development on the northeast and northwest side of property boundaries. Views of the airport are accessible along Highway 27; long-range views of the airport are not readily available from off airport property due to the relatively flat topography of the airport environs.

[16] Code of Ordinance City of Kerrville, Texas, (https://library.municode.com/tx/kerrville/codes/code_of_ordinances?nodeId=COORKETE)

There are no national scenic byways in Texas;[17] however, the State of Texas has a State Scenic Byways Program that has 30 potential state scenic byways. None of these byways are located near the airport; the closest designated Scenic Texas Byway is a segment of Highway 16, roughly six miles north of the airport.[18] There are no scenic corridors identified in *Kerrville 2050,* the city's comprehensive plan, which was adopted in 2018.

WATER RESOURCES

Wetlands | The U.S. Army Corps of Engineers regulates the discharge of dredged and/or fill material into waters of the United States, including wetlands with a continuous surface connection to a traditional navigable water, under Section 404 of the *Clean Water Act* (CWA). Wetlands are defined in E.O. 11990, *Protection of Wetlands.* Wetlands can include swamps, marshes, bogs, sloughs, potholes, wet meadows, river overflows, mudflats, natural ponds, estuarine areas, tidal overflows, and shallow lakes and ponds with emergent vegetation. Wetlands exhibit three characteristics: the soil is inundated or saturated to the surface at some time during the growing season (hydrology), the soil has a population of plants that are able to tolerate various degrees of flooding or frequent saturation (hydrophytes), and the soil is saturated enough to develop anaerobic (absent of air or oxygen) conditions during the growing season (hydric).

The USFWS manages the National Wetlands Inventory (NWI), which identifies surface waters and wetlands in the nation at a macro level based on aerial photography.[19] Based on the NWI and Google Earth aerial maps, there are several freshwater ponds located on or near the airport.

Riverines traverse the eastern and western portion of the airport. Based on a review of aerial photography, it appears that these riverines drain into the Guadalupe River; therefore, the riverine might be considered a jurisdictional water under Section 404 of the CWA (**Exhibit 1J**). The Guadalupe River is located west of the airport and freshwater emergent wetlands associated with this river is located south of this creek. There are also freshwater emergent wetlands located northwest and west of the airport that are associated with Guadalupe River.

Floodplains | E.O. 11988, *Floodplain Management*, directs federal agencies to take action to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by the floodplains. U.S. Department of Transportation (DOT) Order 5650.2, *Floodplain Management and Protection*, implements the guidelines contained in E.O. 11988.

E.O. 14030, *Climate-Related Financial Risk*, was established on May 25, 2021. Section 5(e) of E.O. 14030 reinstates E.O. 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input* (originally set forth on January 30, 2015). E.O. 13690 amends E.O. 11988 and mandates the creation of a Federal Flood Risk Management Standard (FFRMS).

[17] U.S. Department of Transportation, Federal Highways Administration, National Scenic Byways & All-American Roads (https://fhwaapps.fhwa.dot.gov/bywaysp/States/Show/TX), July 2024
[18] Scenic Texas, State Scenic Byway Program (https://www.scenictexas.org/state-scenic-byway-program), July 2024
[19] National Wetlands Inventory (https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/)

One of the primary purposes of the FFRMS is to expand the management of floodplains from a base flood evaluation to include a higher vertical elevation (and the corresponding floodplain) to protect against future flood risks for federally funded projects.

Under E.O. 13690 and its guidelines, one of several approaches should be used to identify floodplains and their risks to critical[20] or noncritical federally funded actions:

- Climate-Informed Science Approach (CISA) – The elevation and flood hazard area (i.e., 100-year floodplain) using data that integrate climate science with an emphasis on possible future effects on critical actions;
- Freeboard Value Approach – The elevation and flood hazard area and an additional two or three feet above the base flood elevation, depending on whether the proposed federal action is critical or noncritical;
- 500-Year Floodplain Approach – All areas subject to the 0.2 percent annual chance flood; or
- Other methods resulting from updates to the FFRMS.

Of the four approaches listed above, federal departments and agencies should use the CISA approach when data to support such an analysis are available.

The Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM) panel number 48265C0655F, effective March 3rd, 2011, indicates that most of the airport is in Zone X, an area of minimal flood hazard. There are, however, both 100-year and 500-year floodplains associated with Silver Creek and Guadalupe River that traverse the north and west of the airport property line.[21]

Surface Waters | The CWA establishes water quality standards, controls discharges, develops waste treatment management plans and practices, prevents or minimizes the loss of wetlands, and regulates other issues concerning water quality. Water quality concerns related to airport development most often relate to the potential for surface runoff and soil erosion, as well as the storage and handling of fuel, petroleum products, solvents, etc. Additionally, Congress has mandated (under the CWA) the NPDES.

As previously discussed under Hazardous Materials, Solid Waste, and Pollution Prevention, the TPDES program has federal regulatory authority over discharges of pollutants to Texas surface waters. The airport is in the Quinlan Creek-Guadalipe River Watershed.[22] There are three impaired waterbodies within this watershed: Camp Meeting Creek, Quinlan Creek, and Town Creek, all located north of the airport.

Groundwater | Groundwater is subsurface water that occupies the space between sand, clay, and rock formations. The term aquifer is used to describe the geologic layers that store or transmit groundwater, such as wells, springs, and other water sources. Examples of direct impacts to groundwater could include withdrawal of groundwater for operational purposes or reduction of infiltration or recharge area due to new impervious surfaces.

[20] A critical action is defined in E.O. 13690 and the 2015 Guidelines for Implementing E.O. 11988 as any activity for which even a slight change of flooding is too great.
[21] FEMA Flood Map Service Center (https://msc.fema.gov/portal/search?AddressQuery=kerrville%20muncipal%20airport)
[22] U.S. EPA – How's My Waterway (https://mywaterway.epa.gov/community/kerville-kerr%20county%20airport/overview)

The U.S. EPA's Sole Source Aquifer (SSA) program was established under Section 1424(e) of the *Safe Drinking Water Act* (SDWA). Since 1977, the program has been used by communities to help prevent contamination of groundwater by federally funded projects and has increased public awareness of the vulnerability of groundwater resources. The SSA program is authorized by Section 1424(e) of the SDWA (Public Law 93-523, 42 U.S.C. 300 et. seq), which states:

> "*If the Administrator determines, on his own initiative or upon petition, that an area has an aquifer which is the sole or principal drinking water source for the area and which, if contaminated, would create a significant hazard to public health, he shall publish notice of that determination in the Federal Register.*"[23]

Historically, groundwater has been the primary source of water for the City of Kerrville.[24] In order to conserve groundwater supplies, the City has begun to reduce the amount of groundwater pumped when there is not sufficient streamflow available in the Guadalupe River. According to the U.S. EPA *Sole Source Aquifer for Drinking Water* website, the airport is located over the Edwards Aquifer I (San Antonio Area).[25]

Wild and Scenic Rivers | The *National Wild and Scenic Rivers Act* was established to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations.

The Nationwide River Inventory is a list of over 3,400 rivers or river segments that appear to meet the minimum *National Wild and Scenic Rivers Act* eligibility requirements, based on their free-flowing status and resource values. The development of the Nationwide River Inventory resulted from Section 5(d)(1) in the *National Wild and Scenic Rivers Act*, which directs federal agencies to consider potential wild and scenic rivers in the comprehensive planning process.

The closest designated National Wild and Scenic River identified is the Rio Grande River, located 160 miles from the airport.[26] The nearest Nationwide River Inventory feature is the Guadalupe River, adjacent to the airport along Memorial Boulevard.[27]

[23] U.S. EPA, Overview of the Drinking Water Sole Source Aquifer Program (https://www.epa.gov/dwssa/overview-drinking-water-sole-source-aquifer-program#Authority)
[24] 2018 Kerrville Long Range Water Supply Plan, HDR Engineering, January 2020
[25] U.S. EPA, Sole Source Aquifers (https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b)
[26] U.S. Department of the Interior, National Park Service, National Wild and Scenic River System in the U.S. (https://nps.maps.arcgis.com/apps/MapJournal/index.html?appid=ba6debd907c7431ea765071e9502d5ac#)
[27] U.S. Department of the Interior, National Park Service, Nationwide River Inventory (https://www.nps.gov/maps/full.html?mapId=8adbe798-0d7e-40fb-bd48-225513d64977)