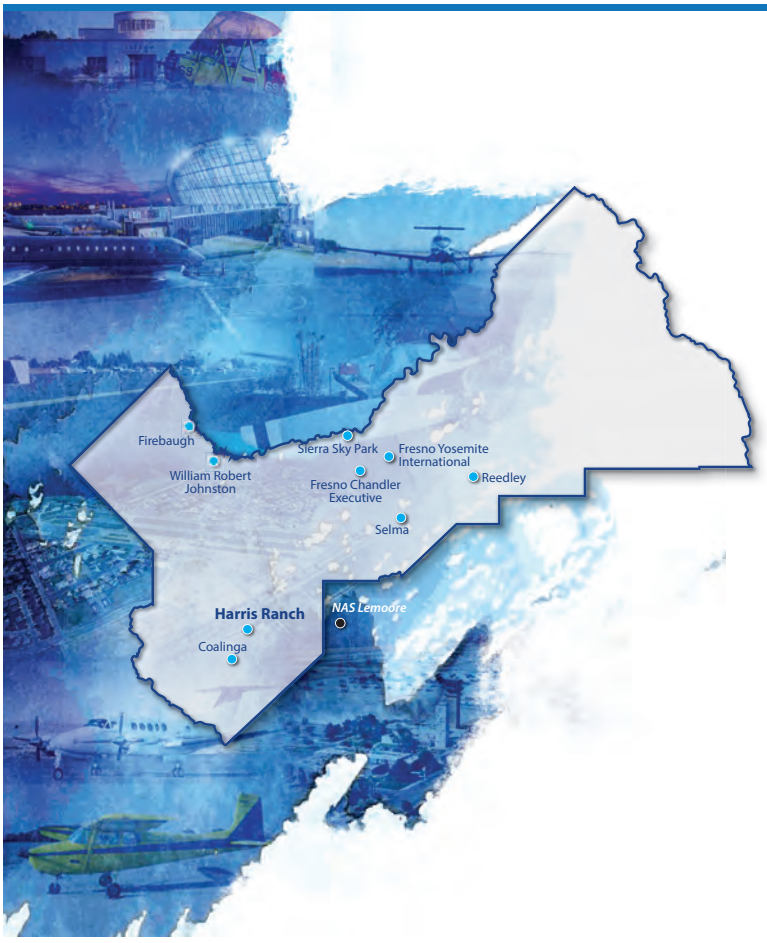
Fresno Council of Governments

Appendix E

HARRIS RANCH AIRPORT



Appendix E: Harris Ranch Airport

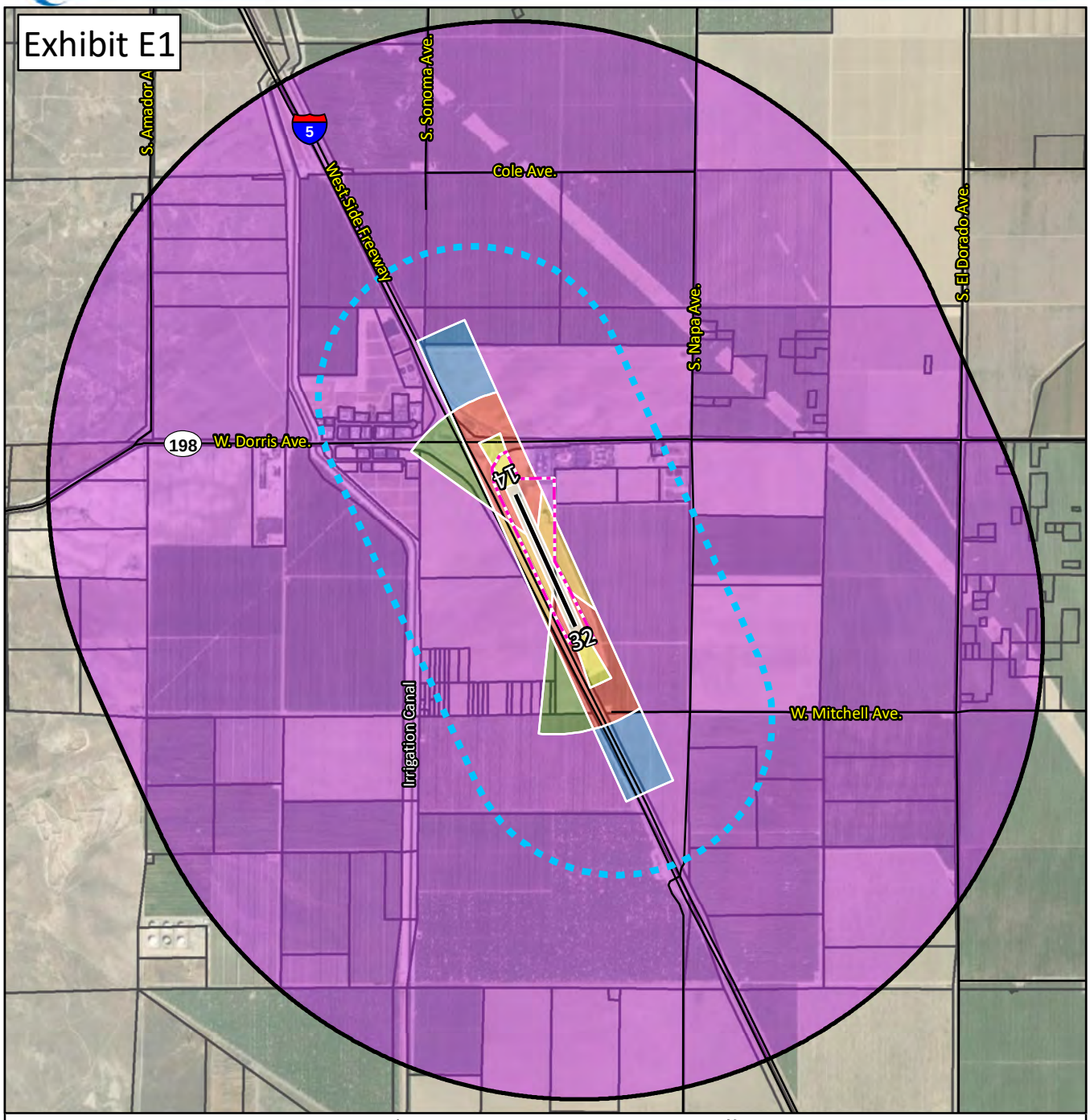
Appendix E provides an overview of Harris Ranch Airport's (Airport) setting, airport influence area (AIA), safety zones, noise, and airspace and overflight areas. This Appendix will also discuss the existing and planned land uses, as well as current and future Airport facilities.

Harris Ranch Airport is a privately owned and operated, public use airport near the Harris Ranch Inn and Restaurant. It is not listed in the 2017 – 2021 *National Plan of Integrated Airport Systems* (NPIAS); however, the *California Aviation System Plan* (CASP) classifies it as a limited use facility. The Airport is in the southeastern quadrant of the intersection of Interstate 5 and State Route 198 (Dorris Avenue) interchange. The closest municipality is the City of Coalinga, located ten miles southwest on State Route 198. Harris Ranch Airport is primarily used for recreation, including guests of the Harris Ranch Inn and Restaurant. Use of the Airport fluctuates seasonally, with less activity in the winter months.

SAFETY ZONES

The Airport Influence Area (AIA) and Safety Zones for Harris Ranch Airport are shown on **Exhibit E1**. Figure 3A of the California Airport Land Use Planning Handbook (Handbook) provides three example zones for general aviation airports, which are differentiated by runway length. The Handbook zone examples are provided as a starting point for developing safety zones specific to an airport. As discussed below, Harris Ranch Airport has one runway, Runway 14-32, which is 2,820 feet long. The California Department of Transportation, Division of Aeronautics-approved airport diagram does not include any changes to the runway length. Therefore, the Safety Zones are based on the Short General Aviation Runway example. As discussed below, the traffic pattern is located west of the Airport; therefore, based on Handbook guidance, the Inner Turning Zone is only shown to the west. For this plan, the outermost

Exhibit E1



LEGEND

- Runway[1]
- Airport Property[2]
- Parcel Boundary
- Streets
- Airport Influence Area (AIA)[3]
- Vulnerable Occupants Review Area (See Section 3.2.2 & Table 3A)

Safety Zones[4]

1. Runway Protection Zone
2. Inner Approach/Departure Zone
3. Inner Turning Zone
4. Outer Approach/Departure Zone
5. Sideline Zone
6. Traffic Pattern Zone

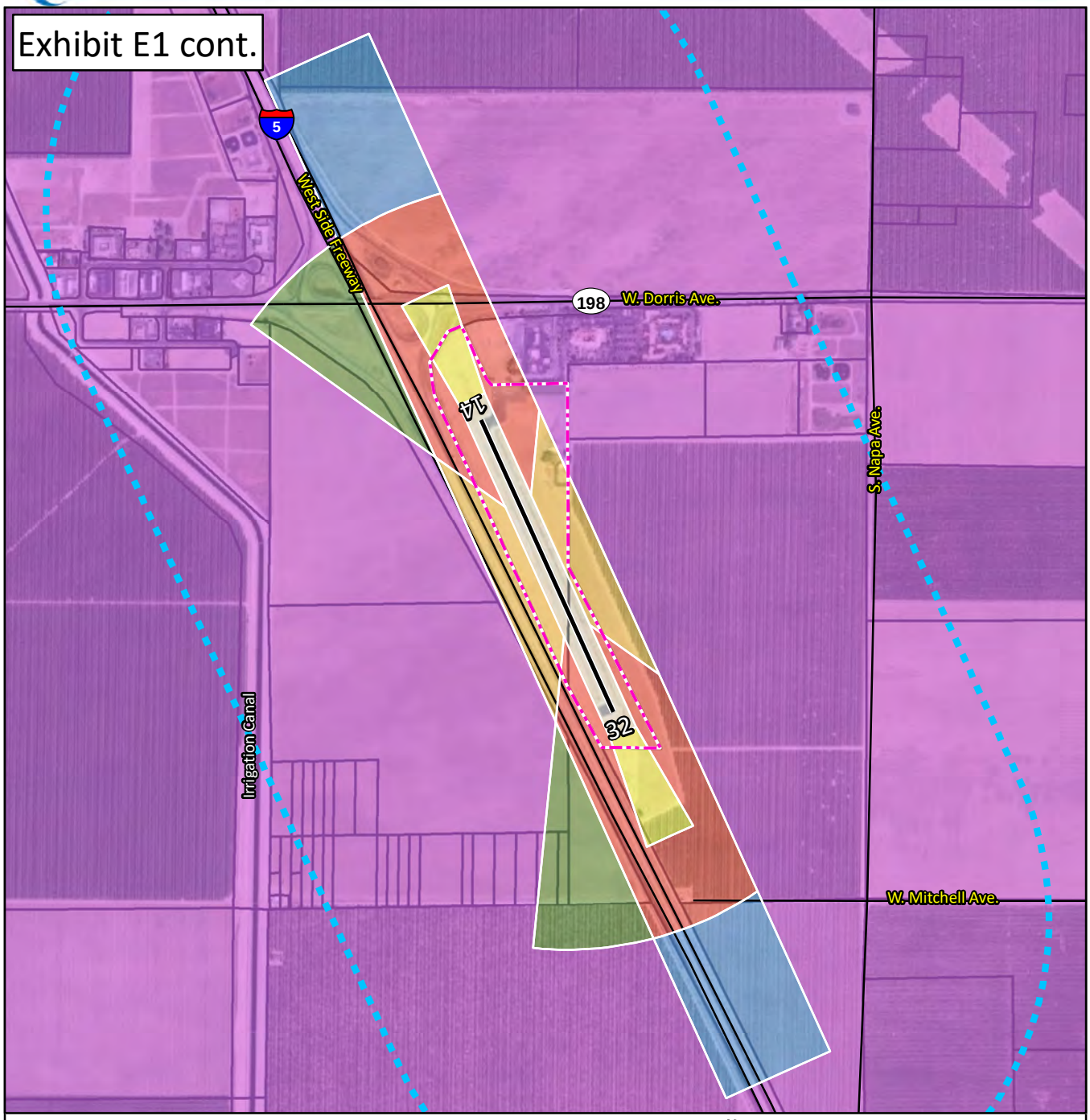
N

0 3,000 6,000

1" = 3,000'

[1]Runway centerline placed from ESRI Imagery (2016)
[2]APN: 06506072S, APN: 06506081S.
[3]Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.
[4]Figure 3A, California Airport Land Use Planning Handbook (2011), and Coffman Associates Analysis.
Sources: Fresno County, ESRI Streets, ESRI Basemap Imagery (2019).

Exhibit E1 cont.



LEGEND

- Runway[1]
- Airport Property[2]
- Parcel Boundary
- Streets
- Vulnerable Occupants Review Area (See Section 3.2.2 & Table 3A)

Safety Zones[3]

1. Runway Protection Zone
2. Inner Approach/Departure Zone
3. Inner Turning Zone
4. Outer Approach/Departure Zone
5. Sideline Zone
6. Traffic Pattern Zone

N

0 1,300 2,600

1" = 1,300'

[1]Runway centerline placed from ESRI Imagery (2016)
[2]APN: 06506072S, APN: 06506081S.
[3]Figure 3A, California Airport Land Use Planning Handbook (2011), and Coffman Associates Analysis.
Sources: Fresno County, ESRI Streets, ESRI Basemap Imagery (2016).

zone in the Handbook examples was replaced by the 14 CFR Part 77 Conical Surface, which also represents the airspace and overflight review area boundaries. Additional information regarding the safety compatibility zones can be found in **Appendix M**.

NOISE

The standard methodology for analyzing noise conditions at airports involves the use of a computer simulation model. The Airport Environmental Design Tool, Version 2c, (AEDT) is accepted by the State of California and required by the FAA for developing noise exposure contours. This is the model used to develop the noise exposure contours for this Airport Land Use Compatibility Plan (ALUCP). The following sections describe the noise modeling inputs for the Harris Ranch Airport noise exposure contours shown on **Exhibit E2**. Additional information regarding the noise modeling process and land use compatibility thresholds can be found in **Appendix M**.

AIRCRAFT OPERATIONS AND FLEET MIX

As outlined in Public Utilities Code (PUC), Section 21675(a), the noise contours included in an ALUCP must reflect the anticipated growth of the airport during at least the next 20 years. **Table E1** summarizes the 2037 operations for the Airport using the Model for Estimating General Aviation Operations at Non-Towered Airports (GRA, Inc. 2001), and also includes the aircraft types used in the noise model. Airfield observations and based aircraft lists were used to determine the types of aircraft which frequently use the Airport. To accurately represent the noise conditions at the Airport, the AEDT provides aircraft noise data for many of the aircraft operating in the national fleet.

The selection of individual aircraft types is important to the modeling process because different aircraft types generate different noise levels. The aircraft fleet mix for Harris Ranch Airport was derived from an interview with the Airport manager and based aircraft list. **Table E1** summarizes the generalized fleet mix data input into the noise analysis.

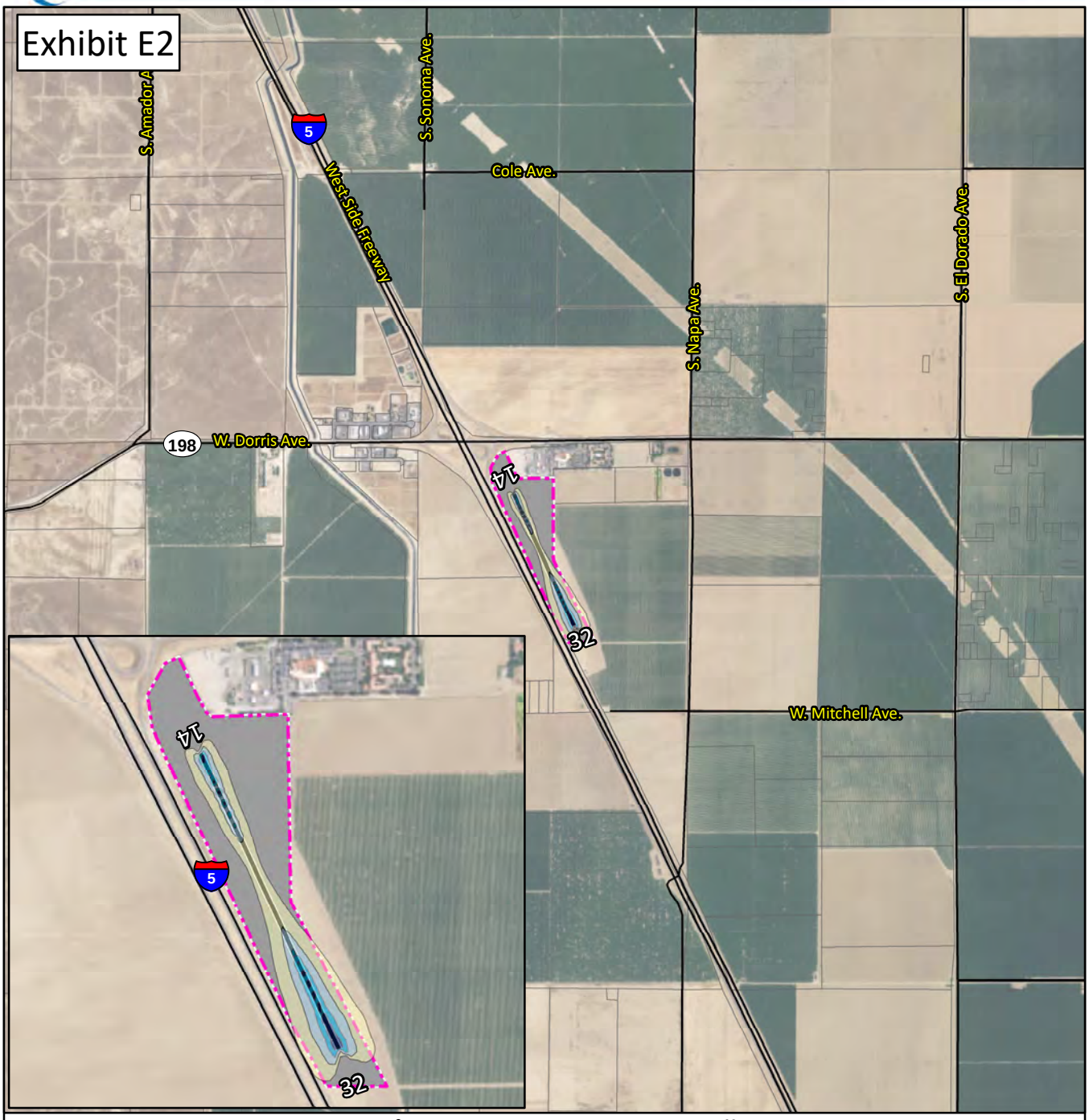
A variety of general aviation, single engine fixed-propeller aircraft are modeled with the GASEPV and GASEPF aircraft in the AEDT. The GASEPV represents many single engine general aviation aircraft, including the Mooney M-20, Cessna 172 and 180, Piper Cherokee Arrow, and the Air Tractor AT-502 and AT-802. The general aviation, single engine fixed-pitch propeller model, the GASEPF, also represents several single engine general aviation aircraft. These include the Cessna 150, Piper Archer, and the Piper Tomahawk.

TABLE E1
Harris Ranch
Aircraft Fleet Mix and Operations

Operations	AEDT Designator	2017[1]	2037[1]
Itinerant			
Single Engine, Fixed	GASEPF	1,050	1,050
Single Engine, Variable	GASEPV	1,050	1,050
Total		2,100	2,100

Source: [1] Model for Estimating General Aviation Operations at Non-Towered Airports (GRA, Inc. 2001)

Exhibit E2



LEGEND

- Runway[1]
- Airport Property[2]
- Parcel Boundary
- Streets

Future Noise Contours[3]

- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL

N

0 3,000 6,000

1" = 3,000'

[1]Runway centerline placed from ESRI Imagery (2016).
[2]APN: 06506072S, APN: 06506081S.
[3]Community Noise Equivalent Level - Coffman Associates Analysis.
Sources: Fresno County, ESRI Streets, ESRI Basemap Imagery (2016).

Exhibit E2 cont.

LEGEND

- Runway[1]
- Airport Property[2]
- Parcel Boundary
- Streets

Future Noise Contours[3]

- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL

N

0 500 1,000

1" = 500'

[1]Runway centerline placed from ESRI Imagery (2016).
[2]APN: 06506072S, APN: 06506081S.
[3]Community Noise Equivalent Level - Coffman Associates Analysis.
Sources: Fresno County, ESRI Streets, ESRI Basemap Imagery (2016).

Time-of-Day

The time-of-day which aircraft operations occur is important as input to the AEDT, due to the 10-decibel nighttime (10:00 p.m. to 7:00 a.m.) and 4.8-decibel evening (7:00 p.m. to 10:00 p.m.) weighting of flights.

Since the Airport is not equipped with an airport traffic control tower (ATCT), time-of-day information was estimated based upon Airport staff interviews and time-of-day activity levels at similar airports. Currently, most operations occur during the daytime hours, with an estimated one percent occurring during evening hours, and approximately one percent occurring during nighttime hours.

Runway Use

Runway usage data is also an essential component for developing noise exposure contours. Based on a review of regional airport activity and wind conditions, the following assumptions were made for runway use:

- Runway 14 – 20 percent
- Runway 32 – 80 percent

Flight Tracks

A review of local flight procedures was used to develop consolidated flight tracks for use in the AEDT. As discussed below, the traffic pattern for Runway 14 is right-hand and the traffic pattern for Runway 32 is left-hand. Accordingly, it is assumed that touch-and-go traffic occurs to the west of the Airport for Runway 14-32.

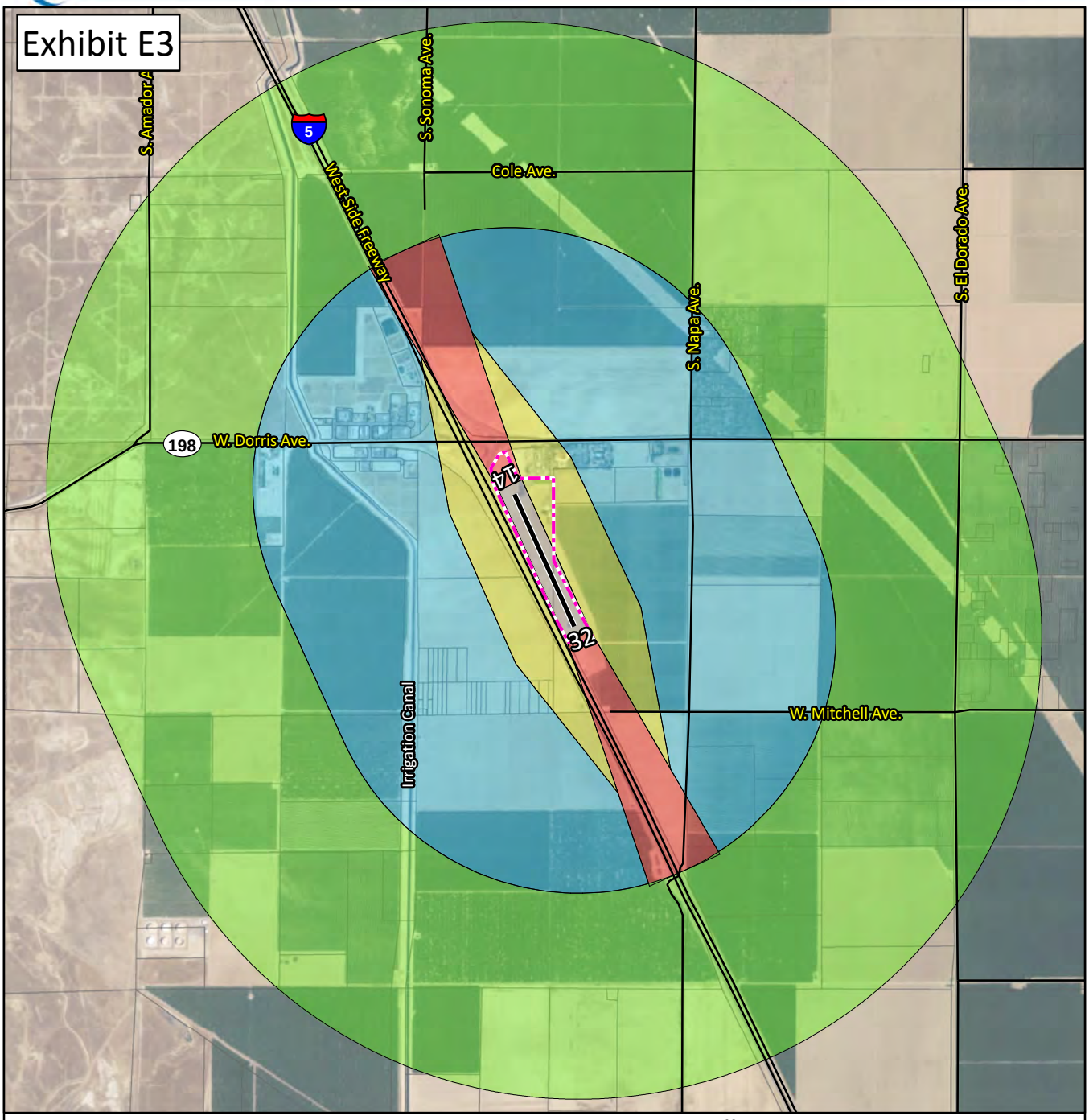
Flight Profiles

The standard arrival profile used in the AEDT program is a three-degree approach. No indication was given by Airport staff that there was any variation on this standard procedure for civilian aircraft. Therefore, the standard approach was included in the model as representative of local operating conditions.

AIRSPACE AND OVERFLIGHT

Exhibit E3 depicts the Airspace Plan prepared as part of this study. This exhibit includes the 14 CFR Part 77 Conical Surface, which is also the Airport Influence Area for Harris Ranch Airport.

Exhibit E3



LEGEND

- Runway[1]
- Airport Property[2]
- Parcel Boundary
- Streets

Part 77 Surfaces[3]

- Primary Surface
- Approach Surface
- Transitional Surface
- Horizontal Surface
- Conical Surface

N

0 3,000 6,000

1" = 3,000'

[1]Runway centerline placed from ESRI Imagery (2016)
[2]APN: 06506072S, APN: 06506081S.
[3]14 CFR, Subchapter E, Part 77, §77.25.
Sources: Fresno County, ESRI Streets, ESRI Basemap Imagery (2016).

AIRPORT INFORMATION

AIRPORT FACILITIES

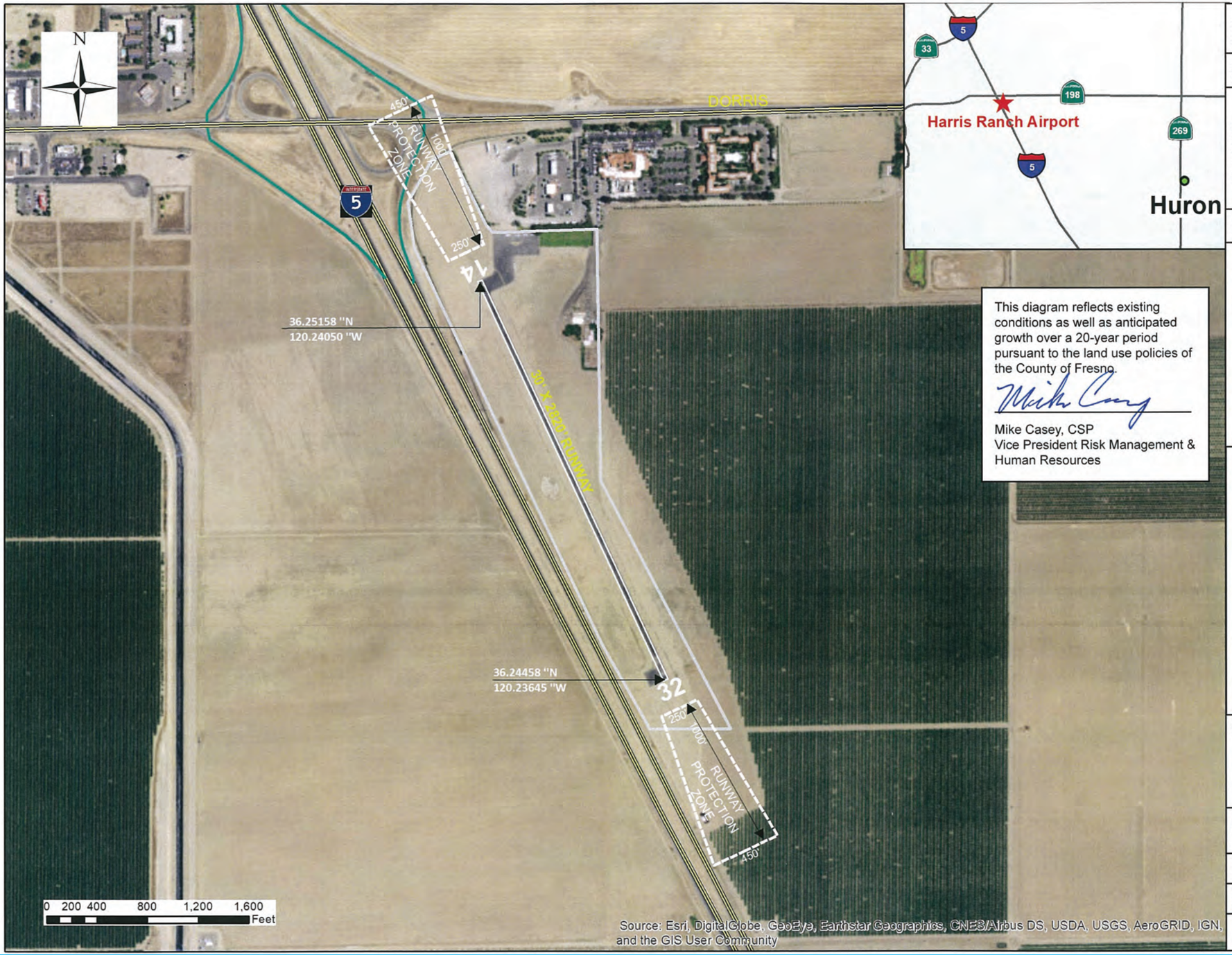
Table E2 details the Airport's facilities and **Exhibit E4** shows the Airport Diagram (May 2016).

Runway 14-32 is the only runway at Harris Ranch Airport. It is 2,820 feet long and 30 feet wide. It is constructed of asphalt and in excellent condition. Runway 14 has a right-hand traffic pattern and Runway 32 has a left-hand traffic pattern. The maximum runway bearing strength is 30,000 pounds. There are basic runway pavement markings that are in good condition. The only runway lighting is the low intensity edge lighting. There are no visual or instrument approach aids.

TABLE E2
Airport Facilities
Harris Ranch Airport

	Runway 14-32
RUNWAY	
Length (feet)	2,820
Width (feet)	30
Threshold Displacement (feet)	0
Runway Pavement Surface Material	Asphalt
Runway Pavement Surface Treatment	Not listed
Runway Pavement Condition	Excellent
Traffic Pattern	Right | Left
Runway Pavement Load Bearing Strength (lbs.)	
Single Wheel	30,000
Dual Wheel	N/A
Double Tandem	N/A
Double Dual Tandem	N/A
Runway Pavement Markings	
Type	Basic
Condition	Good
Runway Lighting	
Runway Edge Lighting	LIRL
Approach Lighting System (ALS)	N/A
Touchdown Point	N/A
Runway End Identifier Lights (REILs)	No
VISUAL APPROACH AIDS	
Type	No
Glide Path	No
INSTRUMENT APPROACH AIDS	
Instrument Landing System (ILS)	No
Global Positioning System (GPS)	No
VOR/DME	N/A

N/A: Not Applicable
LIRL: Low Intensity Runway Lights
VOR/DME: Very High Frequency Omnidirectional Range Distance Measuring Equipment
Source: AirNav (July 2017)



This diagram reflects existing conditions as well as anticipated growth over a 20-year period pursuant to the land use policies of the County of Fresno.

Mike Casey, CSP
Vice President Risk Management & Human Resources

No.	REVISION	BY	DATE

Fresno County Airport Land Use Commission
Staffed by the Fresno Council of Governments
2035 Tulare Street, Suite 201
Fresno, CA 93721
(559) 233-4149
Fax (559)233-9645

HARRIS RANCH AIRPORT
IN
COALINGA, CALIFORNIA

AIRPORT DIAGRAM

Reviewed by:

Drawn by: Fresno Council of Governments

Project Number:

Date: May 16, 2018

Sheet 1 of 1

FUTURE AIRPORT PLANS

There are currently no changes proposed for the Airport during the planning horizon this plan covers.

AIRPORT ENVIRONS

EXISTING LAND USES

Exhibit E5 shows existing land uses in the AIA.

The Airport is located entirely within unincorporated Fresno County. The Airport is accessible via West Side Freeway (Interstate 5) and West Dorris Avenue. The Airport is adjacent to the Harris Ranch Inn & Restaurant, which makes up most of the development nearby, except for some commercial uses to the northwest. The predominate land use in the AIA is agricultural, but there are also some areas used for industrial purposes; in many instances, this is drilling for oil.

ZONING

Exhibit E6 illustrates zoning in the AIA, all of which is zoned for agriculture.

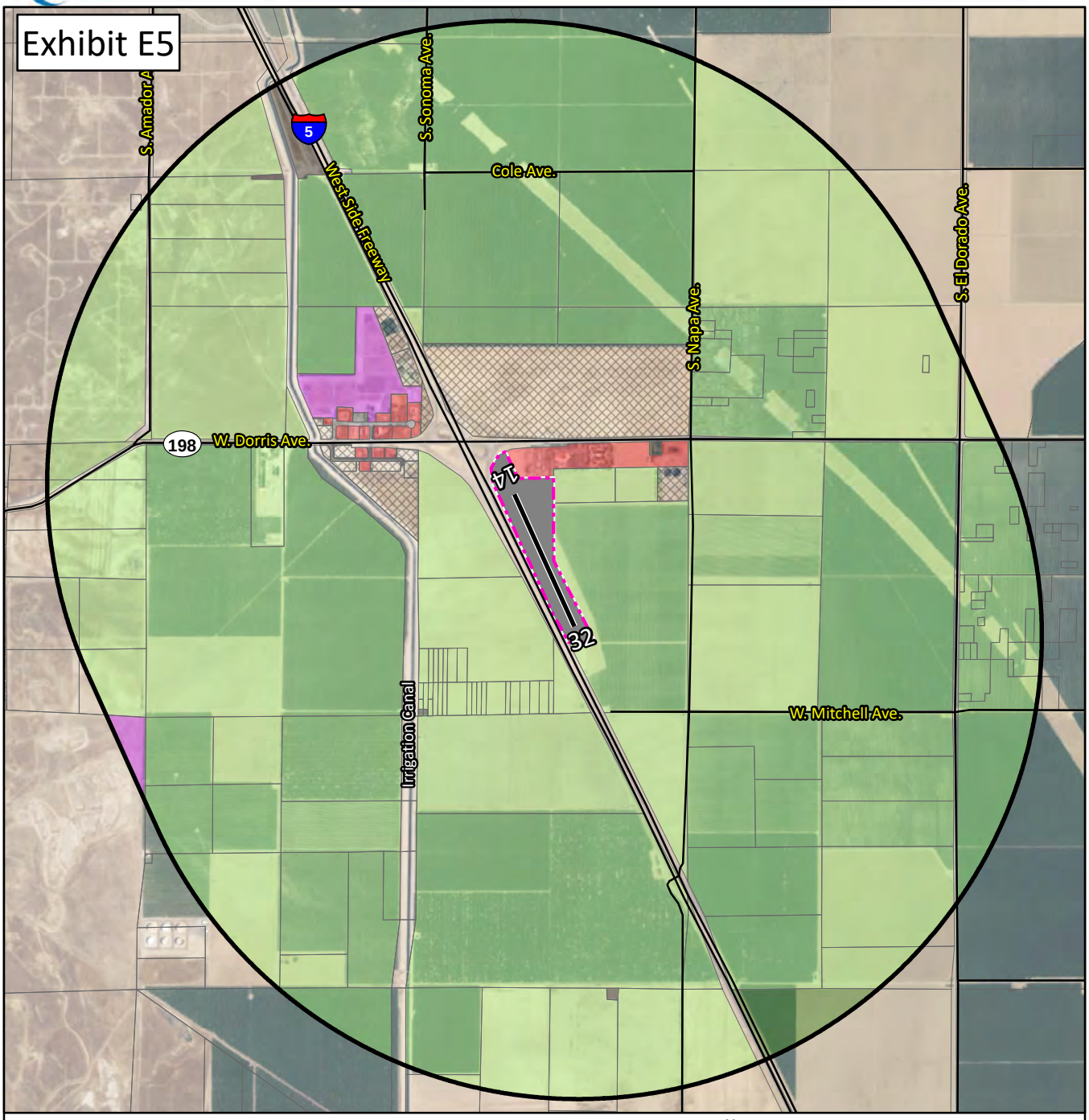
GENERAL PLAN

Exhibit E7 shows general plan land uses, which is all planned for agricultural use.

COMPATIBILITY FACTORS

Exhibit E8 is a compatibility factors map, which compiles National Transportation Safety Board flight accident data for all airports in the United States, noise exposure contours, and arrival and departure flight tracks from the noise exposure contours. The purpose of this exhibit is to illustrate the methodology behind the shape and size of the safety, noise, and airspace compatibility zones. As previously discussed, the traffic pattern is located west of the Airport; therefore, based on Handbook guidance, the Inner Turning Zone is only shown to the west.

Exhibit E5



LEGEND

- Runway[1]
- Airport Property[2]
- Parcel Boundary
- Streets
- Airport Influence Area (AIA)[3]

Existing Land Use[4]

- Commercial
- Open Space
- Agriculture
- Industrial
- Transportation/Right-of-Way
- Vacant
- No Data

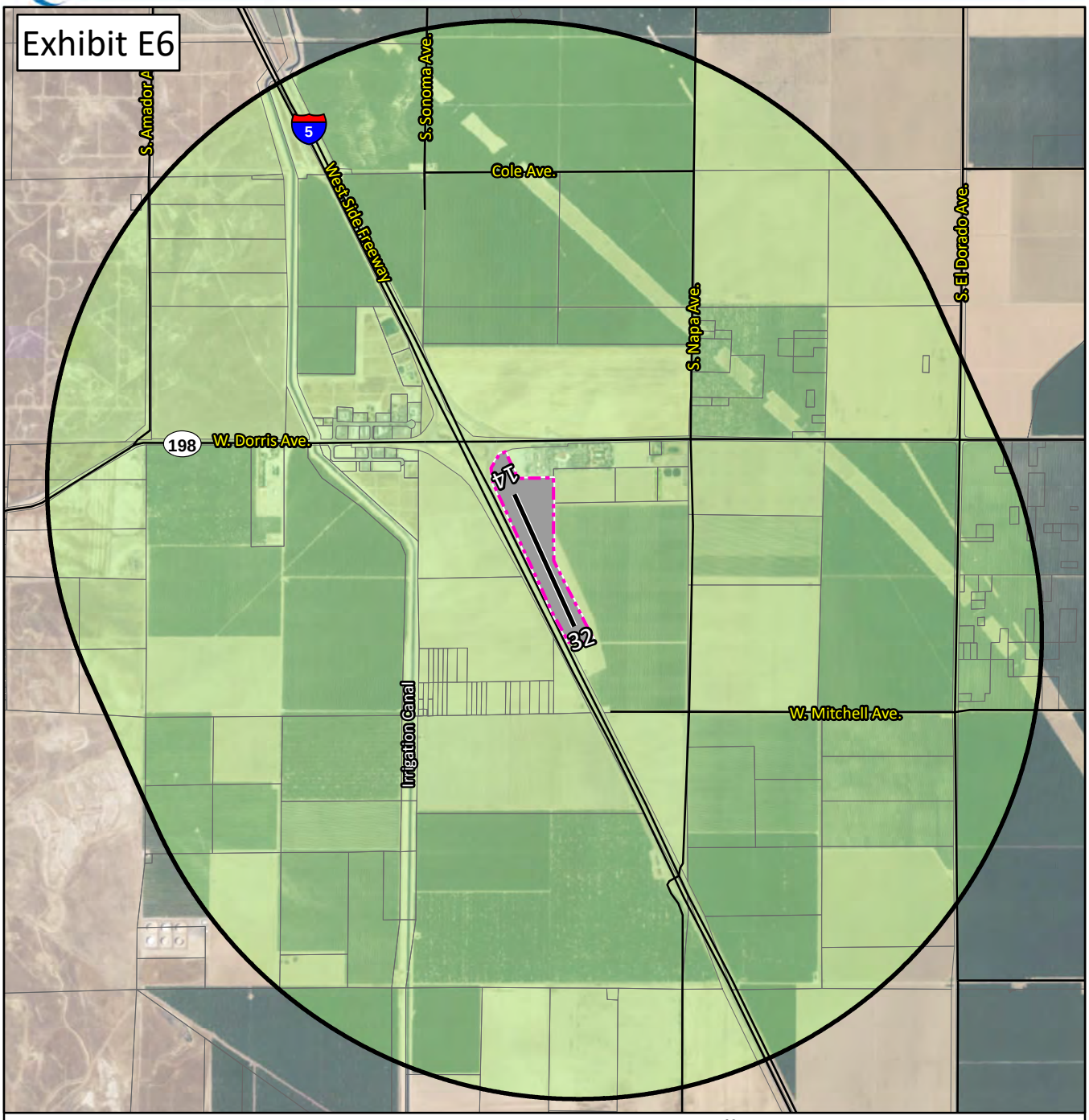
N

0 3,000 6,000

1" = 3,000'

[1]Runway centerline placed from ESRI Imagery (2016).
[2]APN: 06506072S, APN: 06506081S.
[3]Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.
[4]Fresno Council of Governments.
Sources: Fresno County, ESRI Streets, ESRI Basemap Imagery (2016).

Exhibit E6



LEGEND

- Runway[1]
- Airport Property[2]
- Parcel Boundary
- Streets
- Airport Influence Area (AIA)[3]

Zoning[4]

- Agriculture

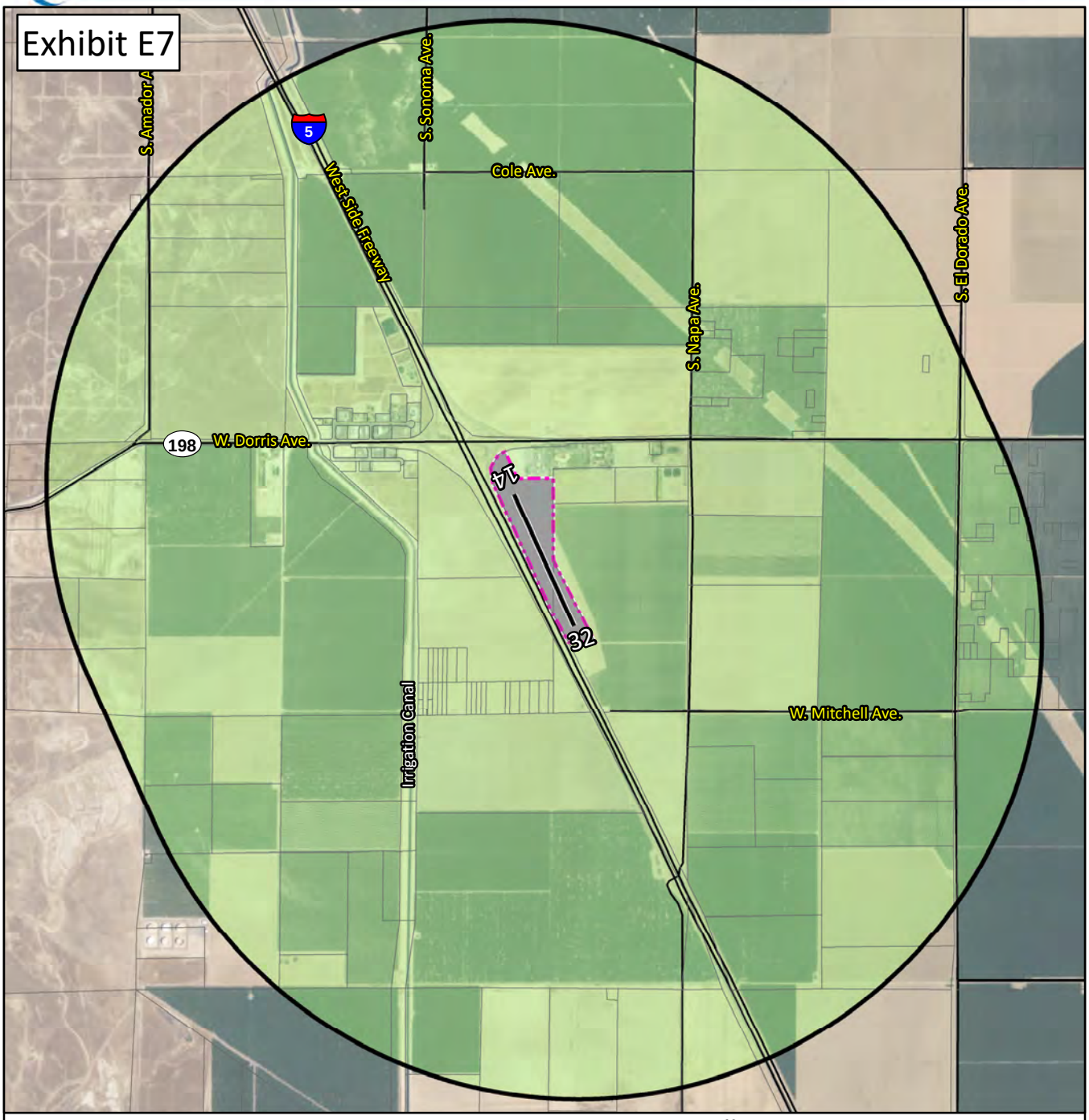
N

0 3,000 6,000

1" = 3,000'

[1]Runway centerline placed from ESRI Imagery (2016).
[2]APN: 06506072S, APN: 06506081S.
[3]Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.
[4]Fresno County Zoning.
Sources: Fresno County, ESRI Streets, ESRI Basemap Imagery (2016).

Exhibit E7



LEGEND

- Runway[1]
- Airport Property[2]
- Parcel Boundary
- Streets
- Airport Influence Area (AIA)[3]

General Plan[4]

- Agriculture

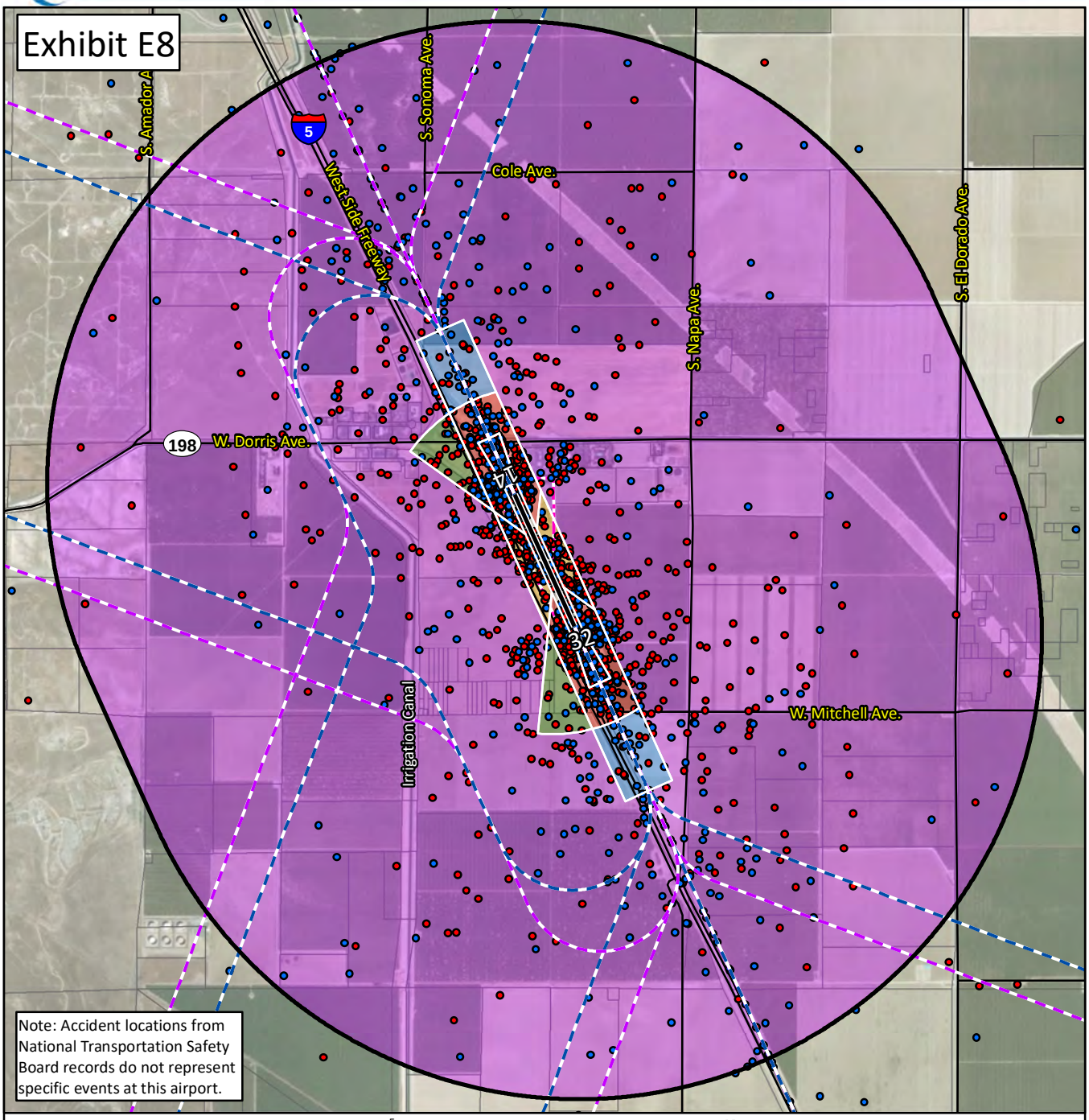
N

0 3,000 6,000

1" = 3,000'

[1]Runway centerline placed from ESRI Imagery (2016).
[2]APN: 06506072S, APN: 06506081S.
[3]Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.
[4]Fresno County General Plan.
Sources: Fresno County, ESRI Streets, ESRI Basemap Imagery (2016).

Exhibit E8



LEGEND

- Runway[1]
- Airport Property[2]
- Parcel Boundary
- Streets
- Arrival Accidents[3]
- Departure Accidents[3]
- Airport Influence Area (AIA)[4]

Flight Tracks[5]

- Approach
- Departure

Safety Zones[6]

1. Runway Protection Zone
2. Inner Approach/Departure Zone
3. Inner Turning Zone
4. Outer Approach/Departure Zone
5. Sideline Zone
6. Traffic Pattern Zone

N

0 3,000 6,000

1" = 3,000'

[1]Runway centerline placed from ESRI Imagery (2016)
[2]Airport Boundary APN: 06506072S, APN: 06506081S.
[3]California Airport Land Use Planning Handbook, 2011. Normalized from airports in United States.
[4]Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.
[5]Coffman Associates analysis.
[6]Figure 3A, California Airport Land Use Planning Handbook (2011), and Coffman Associates Analysis.
Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).