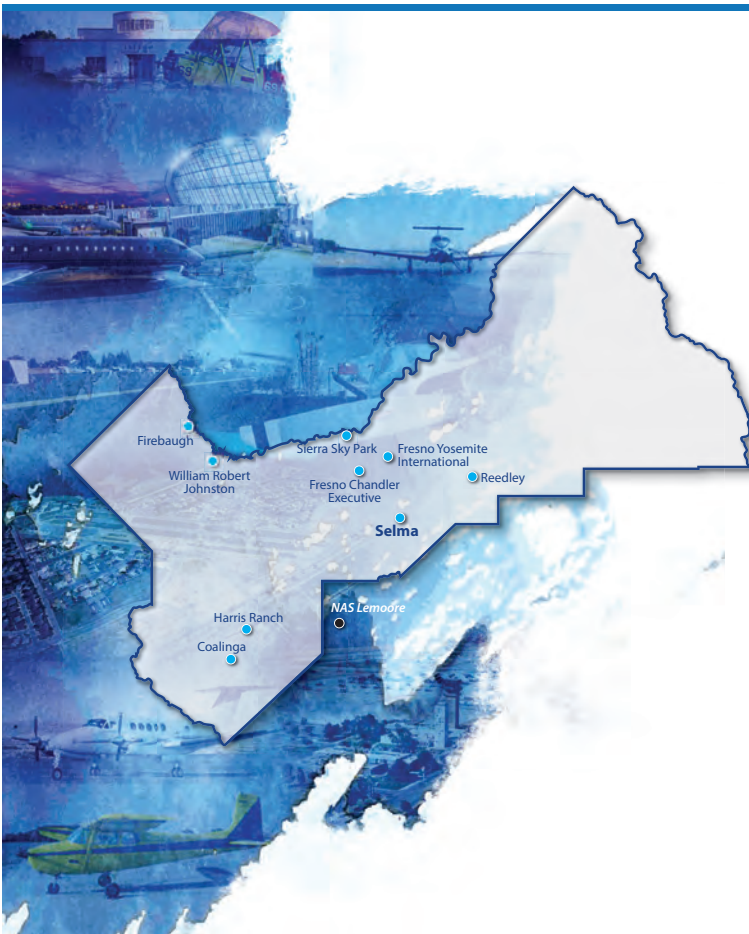




Fresno Council
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Appendix G

SELMA AIRPORT



Appendix G: Selma Airport

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

Selma Airport is two miles northwest of the City of Selma. The Airport is a public use airport that is privately owned by Selma Aerodrome, Inc. The Airport is not classified in the 2017 – 2021 *National Plan of Integrated Airport Systems*; however, it is classified as a community facility in the 2013 *California Aviation System Plan*. The Airport covers 23 acres of land and is at an elevation of 305 feet above mean sea level.

SAFETY ZONES

The Airport Influence Area (AIA) and Safety Zones for Selma Airport are shown on **Exhibit G1**. 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, Selma Airport has one runway, Runway 10-28, which is 2,000 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. For this plan, the outermost 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 Selma Airport noise exposure contours shown on **Exhibit G2**. 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 G1** 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 Selma Airport was derived from an interview with the Airport manager and based aircraft list. **Table G1** 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 G1
Selma Airport
Aircraft Fleet Mix and Operations

| Operations | AEDT Designator | 2017 | 2037 ² |
|-------------------------|-----------------|--------|-------------------|
| Itinerant | | | |
| Single Engine, Fixed | GASEPF | 3,733 | 3,733 |
| Single Engine, Variable | GASEPV | 3,733 | 3,733 |
| Subtotal | | 7,466 | 7,466 |
| Local | | | |
| Single Engine, Fixed | GASEPF | 2,667 | 2,667 |
| Single Engine, Variable | GASEPV | 2,667 | 2,667 |
| Subtotal | | 5,344 | 5,344 |
| Grand Total | | 12,000 | 12,000 |

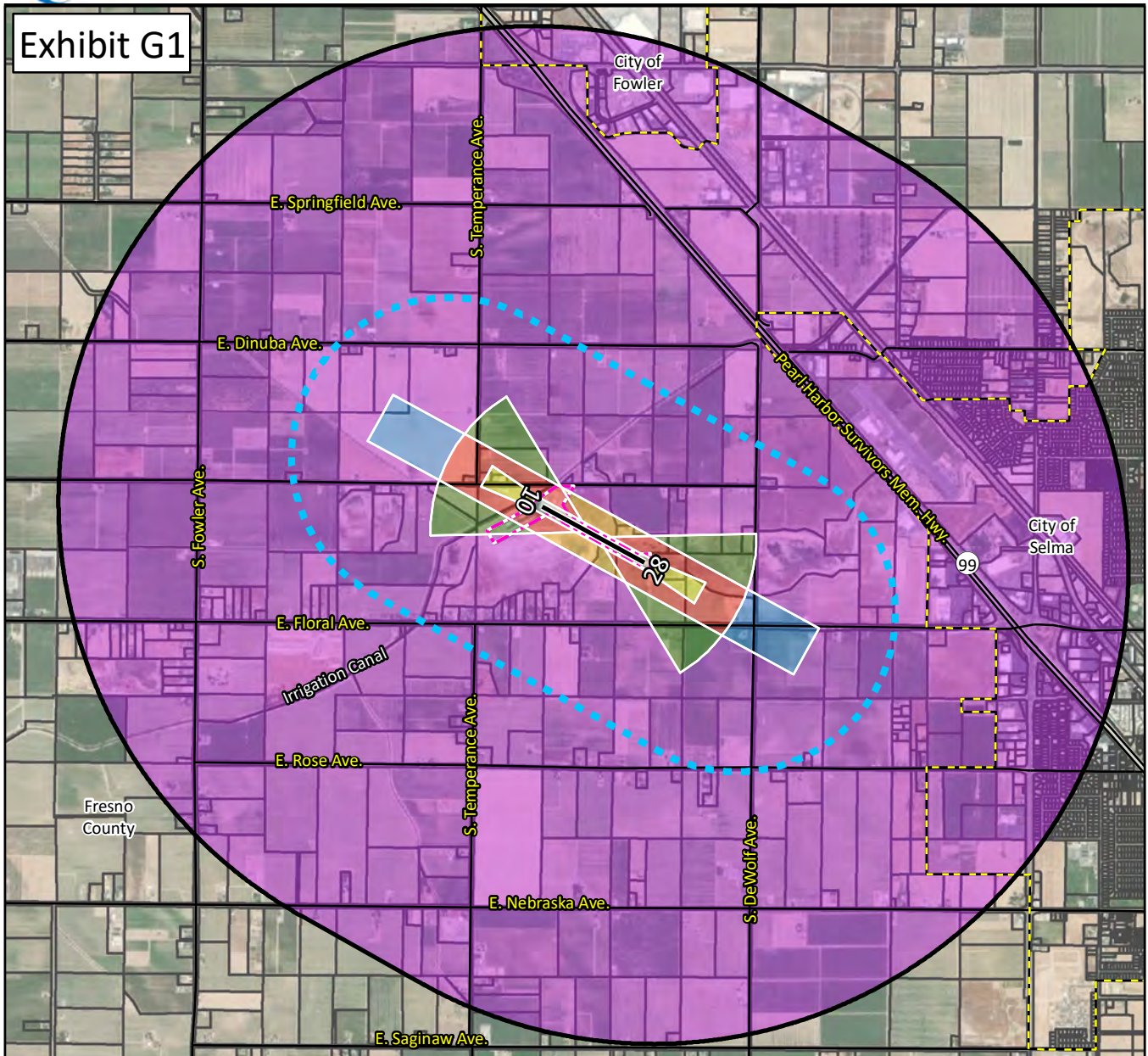
Source:

¹ FAA 5010 Airport Master Record, operations for 12 months ending August 30, 2016

² Model for Estimating General Aviation Operations at Non-Towered Airports (GRA, Inc. 2001)



Exhibit G1

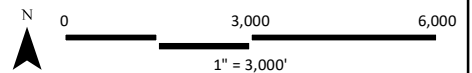


LEGEND

- Runway¹
- Airport Property²
- Parcel Boundary
- Municipal Boundary
- Streets
- Airport Influence Area (AIA)³
- Vulnerable Occupants Review Area (See Section 3.2.2 & Table 3A)

Safety Zones⁴

- 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



¹Runway digitized from ESRI Basemap Imagery (2016).

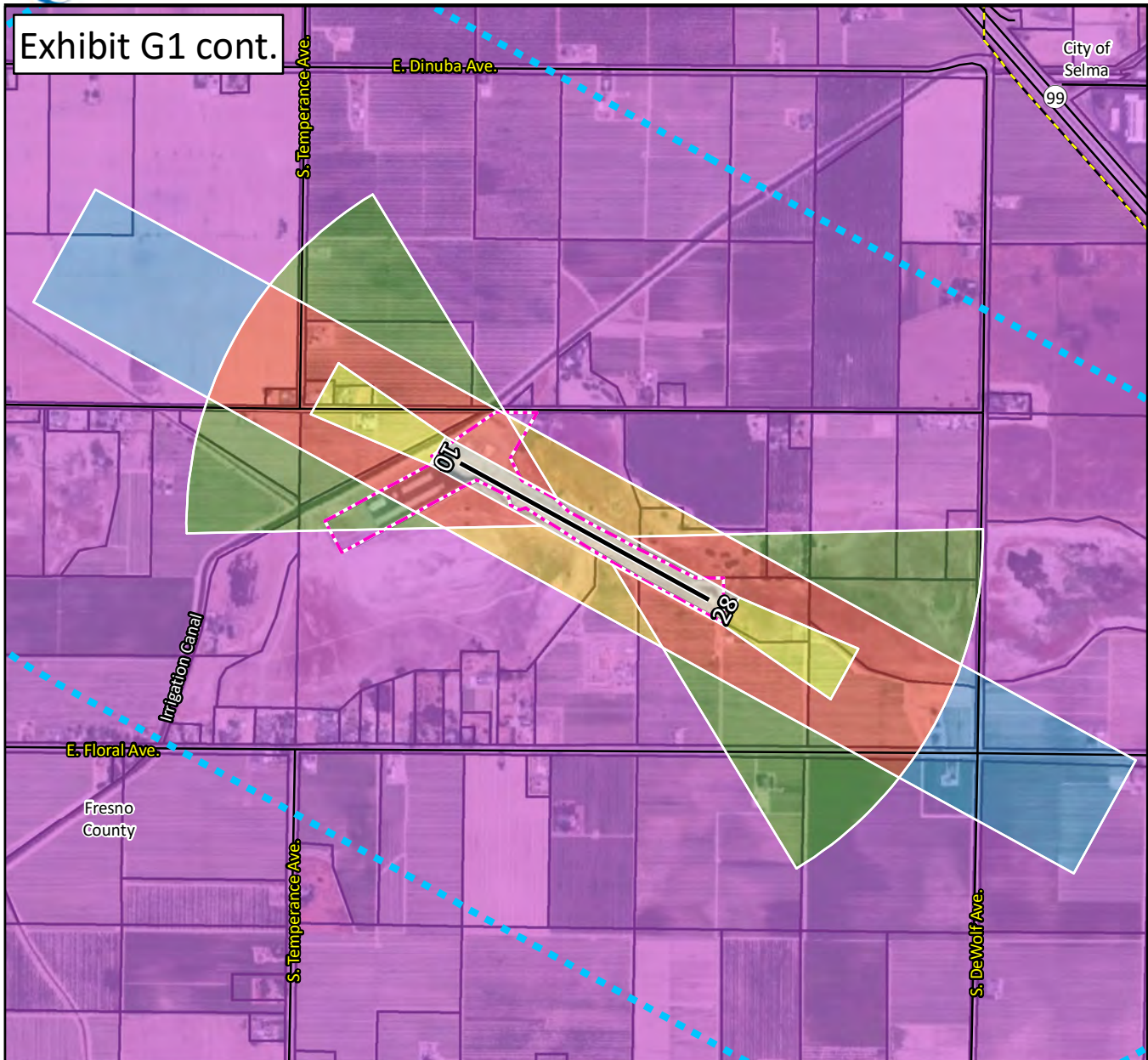
²APN: 34818043

³Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.

⁴Figure 3A, California Airport Land Use Planning Handbook (2011), and Coffman Associates Analysis. Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2020).



Exhibit G1 cont.

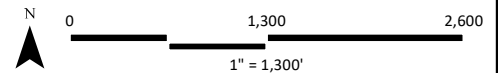


LEGEND

- Runway¹
- Airport Property²
- Parcel Boundary
- Municipal Boundary
- Streets
- Vulnerable Occupants Review Area (See Section 3.2.2 & Table 3A)

Safety Zones³

- 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



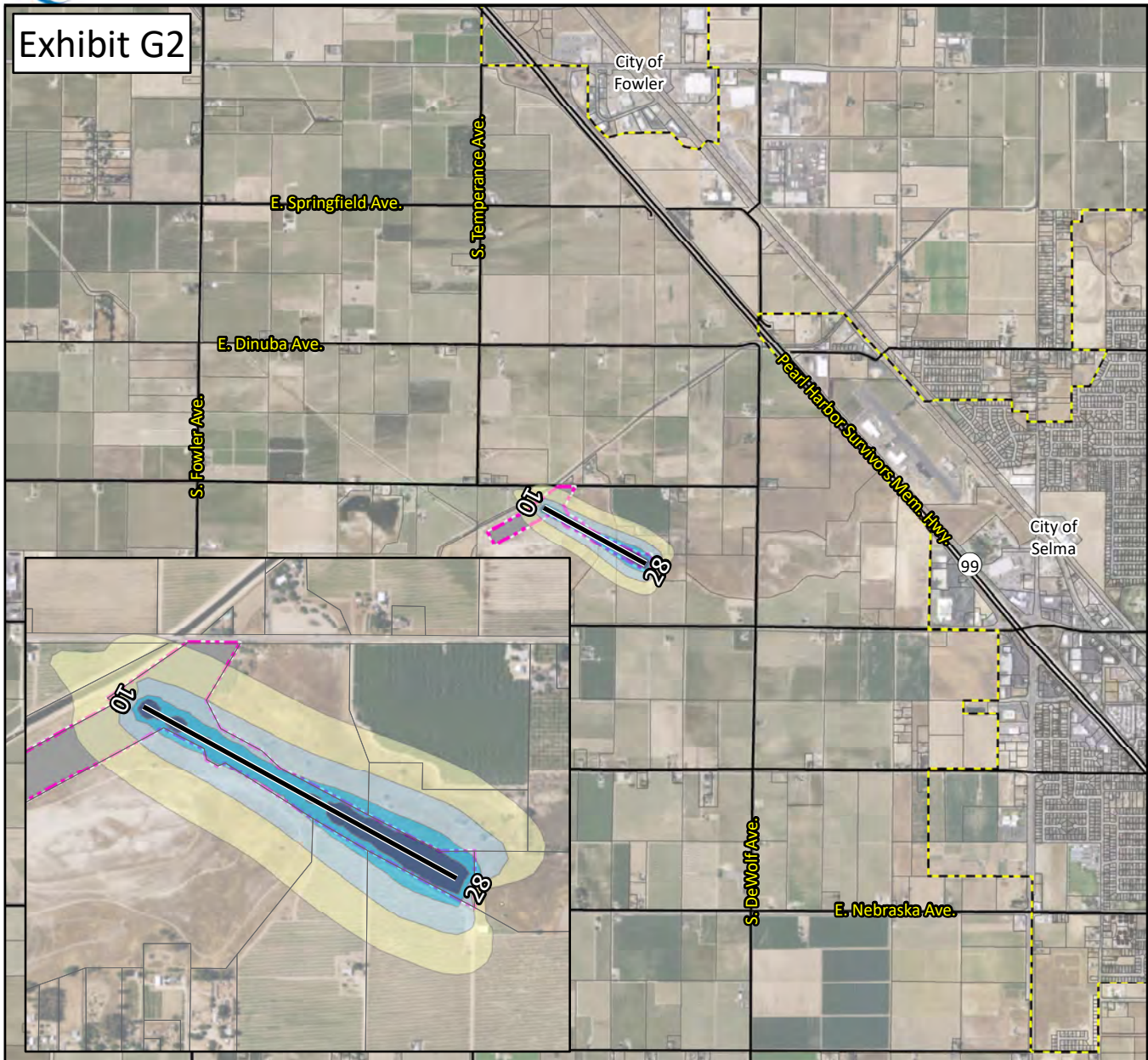
¹Runway digitized from ESRI Basemap Imagery (2016).

²APN: 34818043

³Figure 3A, California Airport Land Use Planning Handbook (2011), and Coffman Associates Analysis. Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).



Exhibit G2

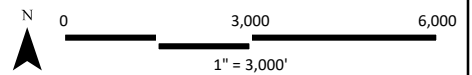


LEGEND

- Runway¹
- Airport Property²
- Parcel Boundary
- Municipal Boundary
- Streets

Future Noise Contours³

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



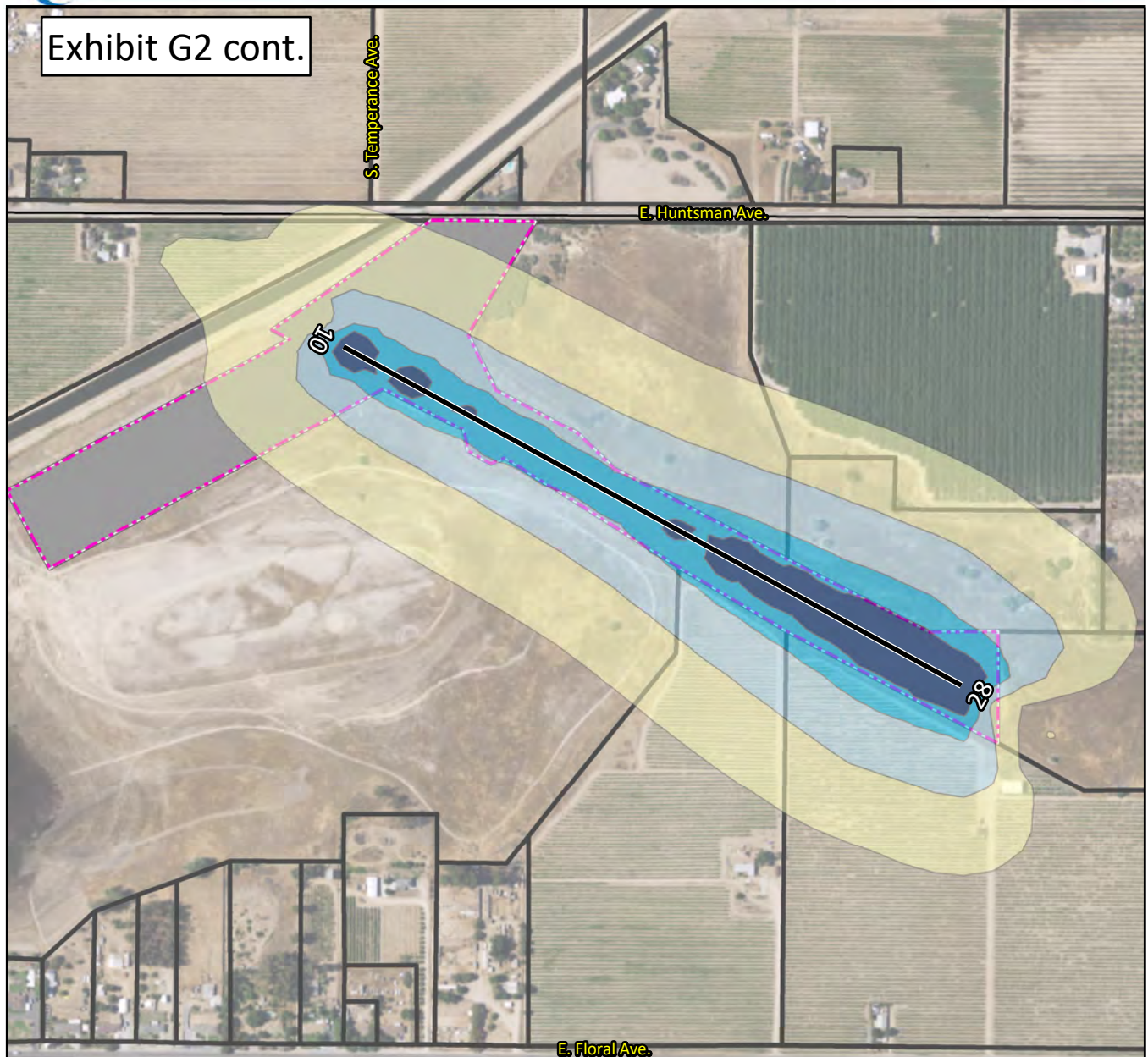
¹Runway digitized from ESRI Basemap Imagery (2016).

²APN: 34818043

³Community Noise Equivalent Level - Coffman Associates Analysis.
Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).



Exhibit G2 cont.

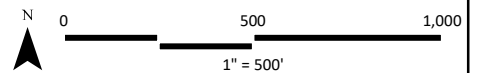


LEGEND

- Runway¹
- Airport Property²
- Parcel Boundary
- Streets

Future Noise Contours³

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



¹Runway digitized from ESRI Basemap Imagery (2016).

²APN: 34818043

³Community Noise Equivalent Level - Coffman Associates Analysis.
Sources: Fresno County Parcels, Fresno County 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 10 – 20 percent
- Runway 28 – 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 both runways is left hand. Accordingly, it is assumed that touch-and-go traffic occurs to the east and west of the airport.

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 G3 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 Selma Airport.

AIRPORT INFORMATION

AIRPORT FACILITIES

Airport facilities are summarized in **Table G2** and **Exhibit G4** shows the Airport Diagram (August 2016).

Selma Airport has one runway, Runway 10-28, which is 2,206 feet long and 50 feet wide. The runway is made of asphalt and is in fair condition. The traffic pattern for both runways ends is left-handed. Runway 10-28 has a single wheel load bearing strength of 12,000 pounds, which is the maximum aircraft weight it is designed for. The runway pavement markings are non-standard and in fair condition. The airport has non-standard low-intensity runway lighting. There are no visual or instrument approach aids for the airport.

TABLE G2
Airport Facilities
Selma Airport

| | Runway 10-28 |
|---|--------------|
| RUNWAY(S) | |
| Length (feet) | 2,206 |
| Width (feet) | 50 |
| Threshold Displacement (feet) | 0 |
| Runway Pavement Surface Material | Asphalt |
| Runway Pavement Surface Treatment | Not listed |
| Runway Pavement Condition | Fair |
| Traffic Pattern | Left Left |
| Runway Pavement Load Bearing Strength (lbs.) | |
| Single Wheel | 12,000 |
| Dual Wheel | N/A |
| Double Tandem | N/A |
| Double Dual Tandem | N/A |
| Runway Pavement Markings | |
| Type | Non-standard |
| Condition | Fair |
| Runway Lighting | |
| Runway Edge Lighting | LIRL |
| Approach Lighting System (ALS) | None |
| Touchdown Point | None |
| Runway End Identifier Lights (REILs) | None |
| VISUAL APPROACH AIDS | |
| Type | None |
| Glide Path | None |
| INSTRUMENT APPROACH AIDS | |
| Instrument Landing System (ILS) | No |
| Global Positioning System (GPS) | No |
| VOR/DME | No |

LIRL: Low Intensity Runway Lights

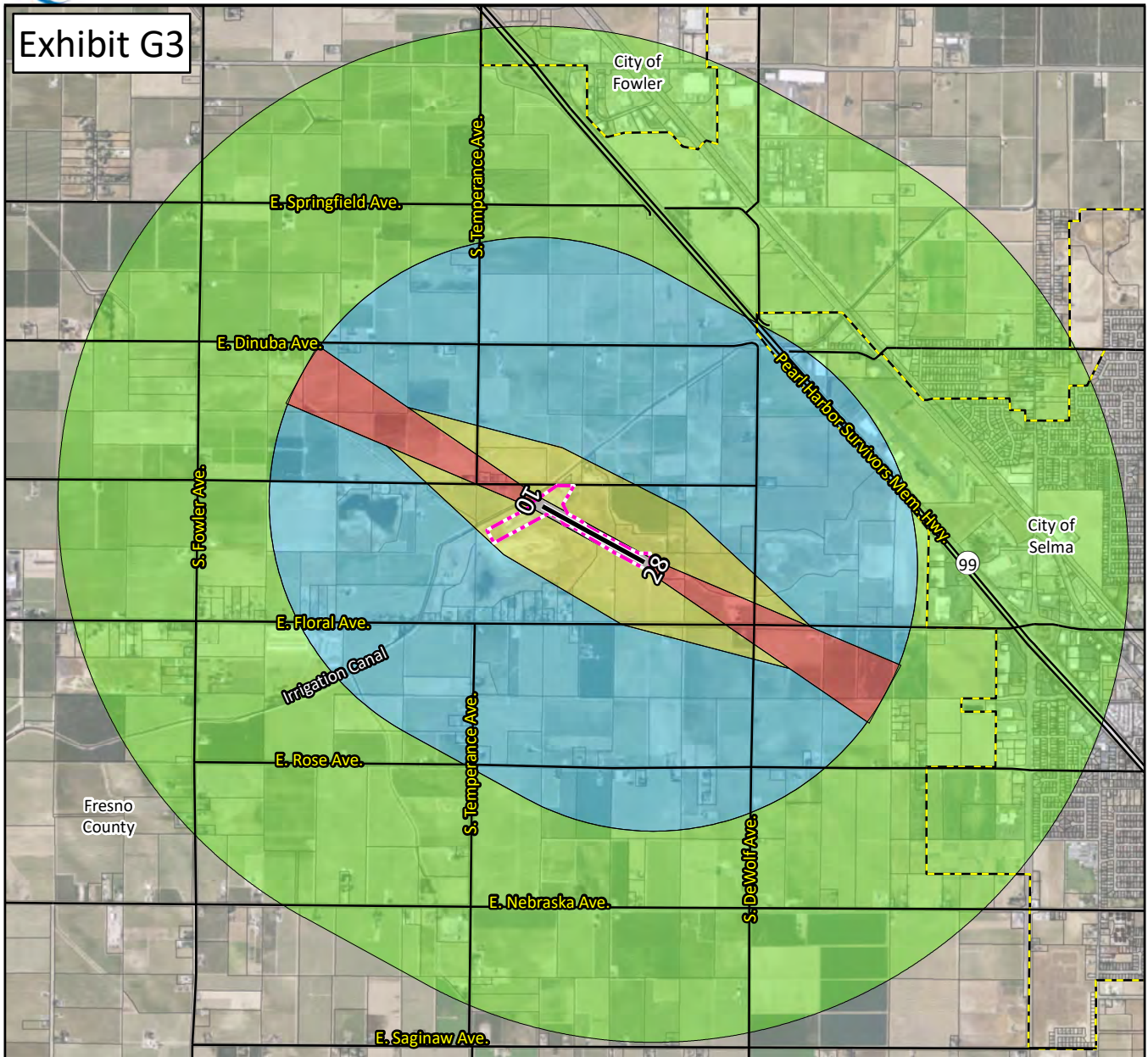
N/A: Not Applicable

VOR/DME: Very High Frequency Omnidirectional Range Distance Measuring Equipment

Source: AirNav (July 2017)



Exhibit G3

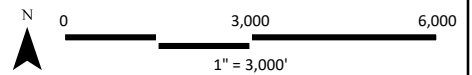


LEGEND

- Runway¹
- Airport Property²
- Parcel Boundary
- Municipal Boundary
- Streets

Part 77 Surfaces³

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

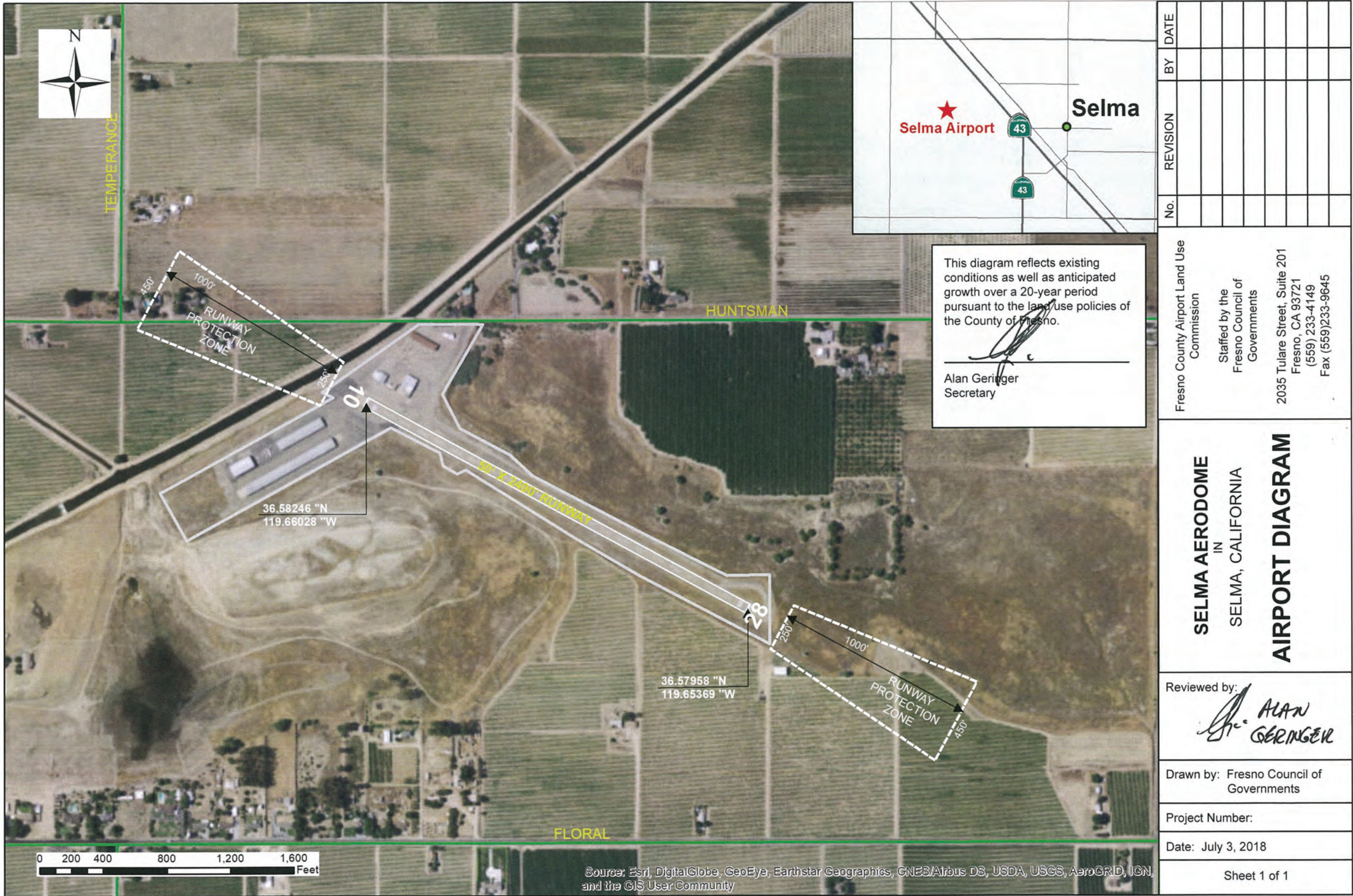


¹Runway digitized from ESRI Basemap Imagery (2016).

²APN: 34818043

³14 CFR, Subchapter E, Part 77, §77.25.

Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).



FUTURE AIRPORT PLANS

There are currently no changes proposed for the Airport during the planning horizon of this ALUCP.

AIRPORT ENVIRONS

EXISTING LAND USES

Existing land uses in the AIA are shown on **Exhibit G5**.

The Airport is surrounded predominantly by single family residential uses and agricultural fields. Many areas of the AIA are also considered open space. East of Pearl Harbor Survivors Memorial Highway and within the City limits of Selma, there are industrial, commercial, and single and multi-family residential uses. North of the Airport is the City of Fowler, which consists of primarily industrial uses, as well as some commercial and public uses. The area in between the Cities of Fowler and Selma, as well as the entire area west of Pearl Harbor Survivors Memorial Highway, is part of unincorporated Fresno County.

ZONING

Exhibit G6 shows zoning designations in the AIA. Almost the entirety of the AIA that is in unincorporated Fresno County is zoned for agriculture. There are several parcels in the northeast corner that are zoned for industrial, south of the City of Fowler. The City of Fowler is zoned for commercial and industrial uses, whereas the City of Selma, east of the Airport, is zoned for open space, commercial, industrial, and single and multi-family residential.

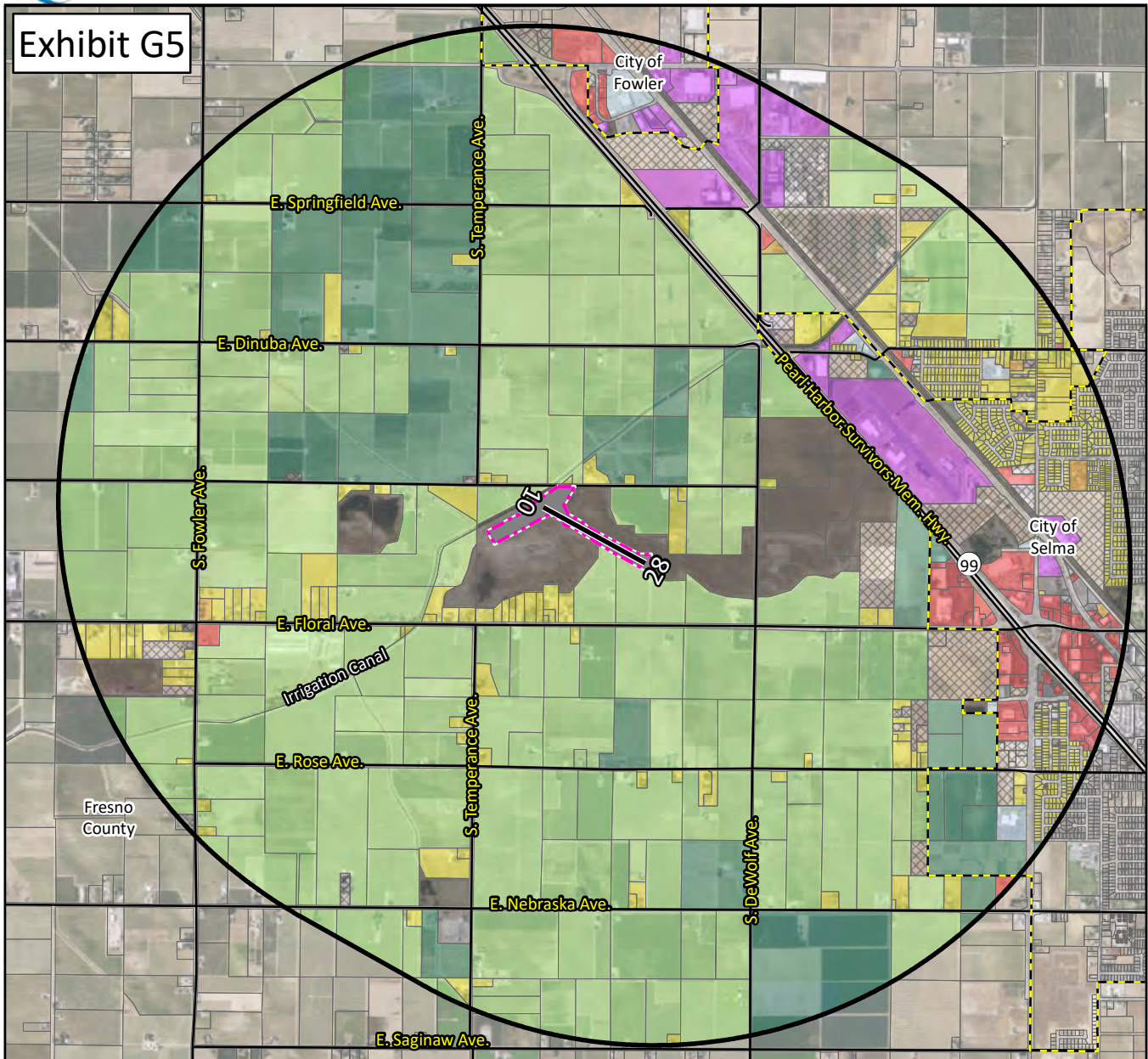
GENERAL PLAN

General plan land uses are illustrated on **Exhibit G7**.

The areas immediately surrounding the Airport are planned for industrial uses. North of the Airport, and still in unincorporated Fresno County, the area is planned for primarily office use, with some parcels planned for commercial uses. To the east of the Airport, parcels are planned for office and open space. East of Pearl Harbor Survivors Memorial Highway, within the City of Selma, uses are planned for industrial, office, commercial, open space, and single and multi-family residential uses in the future. Land within the City of Fowler is planned for commercial, industrial, and office uses. West of the Airport, which is in unincorporated Fresno County, the area is predominantly planned for agriculture use, with areas immediately adjacent to the Airport planned for industrial uses.



Exhibit G5

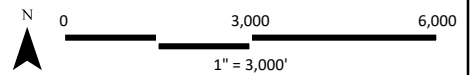


LEGEND

- Runway¹
- Airport Property²
- Parcel Boundary
- Municipal Boundary
- Streets
- Airport Influence Area (AIA)³

Existing Land Use⁴

- Single Family Residential
- Multi-Family Residential
- Commercial
- Industrial
- Public
- Open Space
- Agricultural
- Transportation/Right-of-Way
- Vacant
- No Data



¹Runway digitized from ESRI Basemap Imagery (2016).

²APN: 34818043

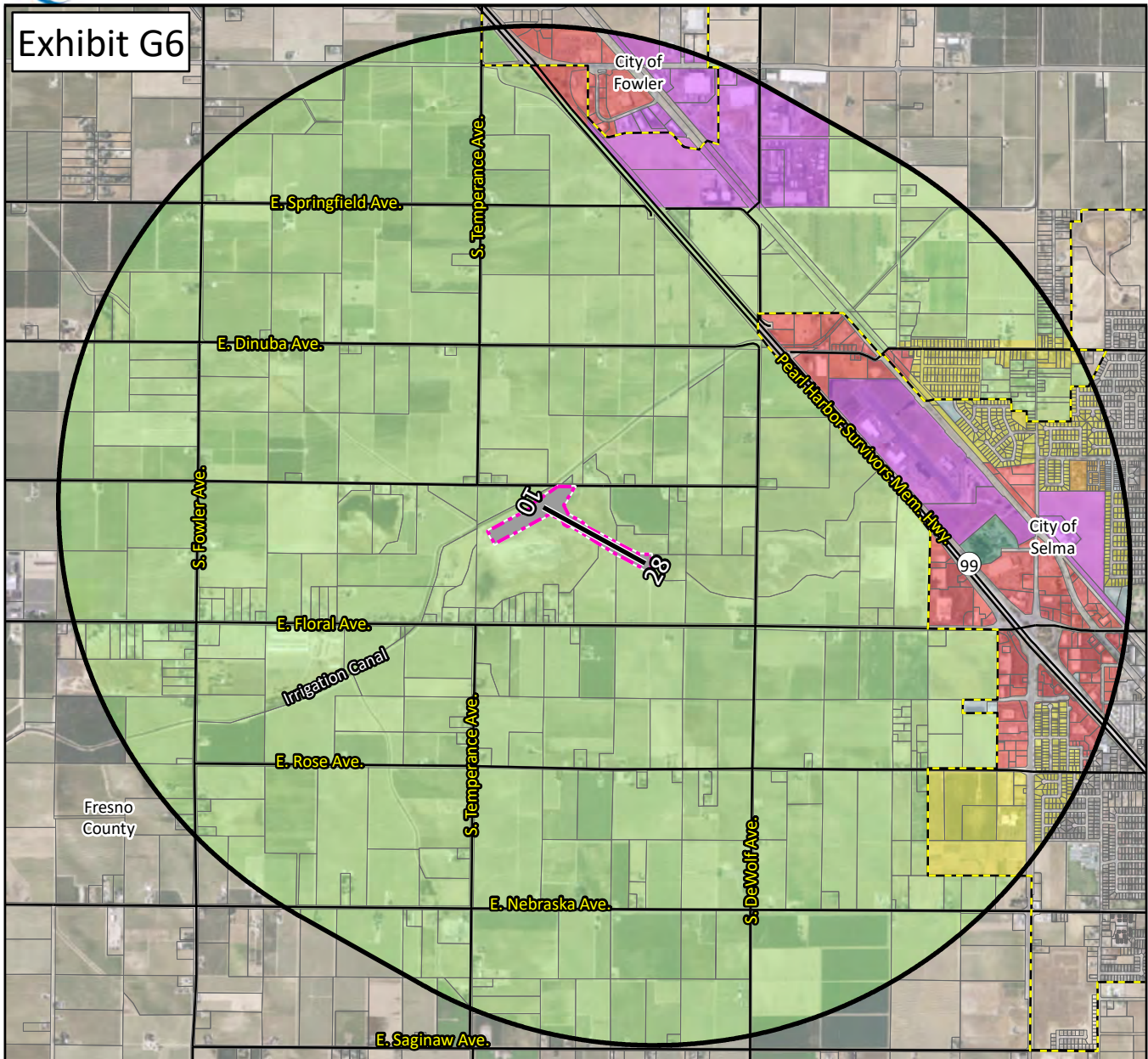
³Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.

⁴Fresno Council of Governments.

Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).



Exhibit G6

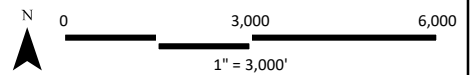


LEGEND

- Runway¹
- Airport Property²
- Parcel Boundary
- Municipal Boundary
- Streets
- Airport Influence Area (AIA)⁴

Zoning⁴

- Single Family Residential
- Multi-Family Residential
- Commercial
- Industrial
- Public
- Open Space
- Agriculture
- No Data



¹Runway digitized from ESRI Basemap Imagery (2016).

²APN: 34818043

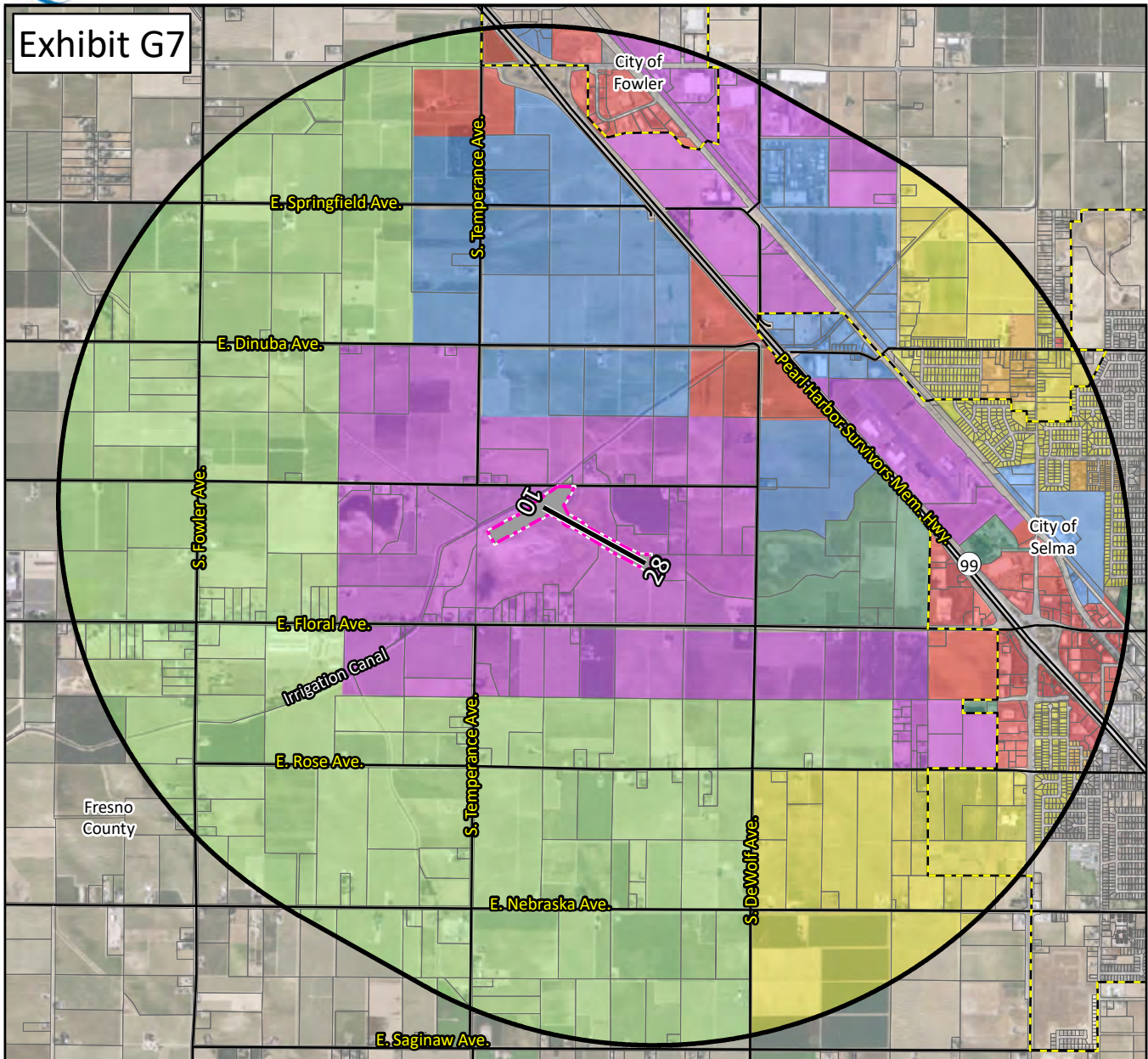
³Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.

⁴Fresno County Zoning, City of Fowler Zoning, City of Selma Zoning.

Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).



Exhibit G7

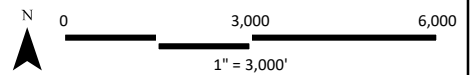


LEGEND

- Runway¹
- Airport Property²
- Parcel Boundary
- Municipal Boundary
- Streets
- Airport Influence Area (AIA)⁴

General Plan⁴

- Single Family Residential
- Multi-Family Residential
- Commercial
- Office
- Industrial
- Open Space
- Agriculture
- Transportation/Right-of-Way



¹Runway digitized from ESRI Basemap Imagery (2016).

²APN: 34818043

³Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.

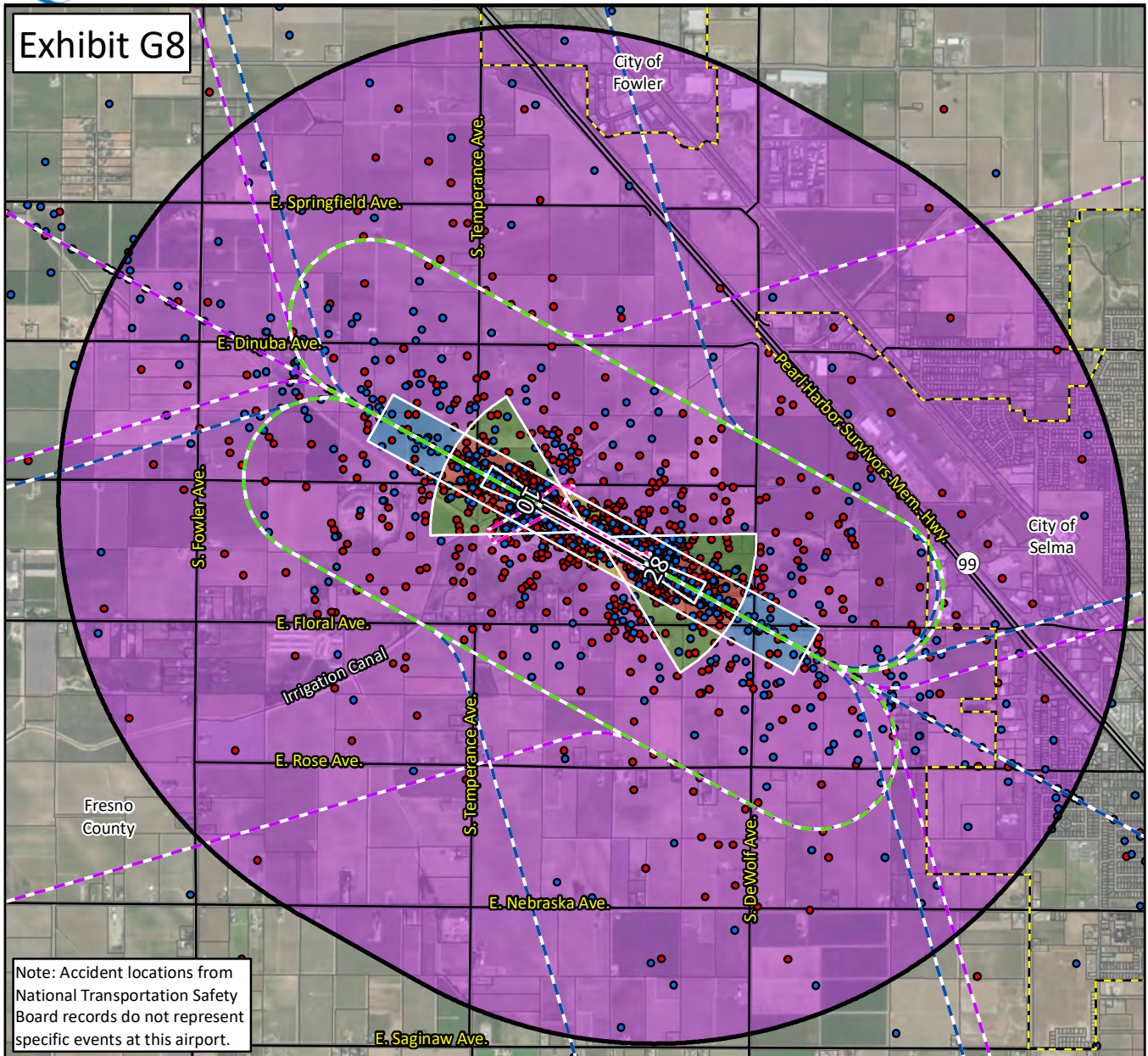
⁴Fresno County General Plan
Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).

COMPATIBILITY FACTORS

Exhibit G8 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.



Exhibit G8



Note: Accident locations from National Transportation Safety Board records do not represent specific events at this airport.

LEGEND

- Runway¹
- Airport Property²
- Parcel Boundary
- Municipal Boundary
- Streets
- Arrival Accidents³
- Departure Accidents³
- Flight Tracks⁴
 - Approach
 - Departure
 - Touch And Go
- Airport Influence Area (AIA)⁵

Safety Zones⁶

- 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

0 3,000 6,000
1" = 3,000'

¹Runway digitized from ESRI Basemap Imagery (2016).

²APN: 34818043

³California Airport Land Use Planning Handbook, 2011. Normalized from airports in United States.

⁴Coffman Associates analysis.

⁵Part 77 Conical Surface. See 14 CFR, Subchapter E, Part 77, §77.25.

⁶Figure 3A, California Airport Land Use Planning Handbook (2011), and Coffman Associates Analysis. Sources: Fresno County Parcels, Fresno County Streets, ESRI Basemap Imagery (2016).