
FINAL
ENVIRONMENTAL ASSESSMENT

Terminal B South Concourse Improvements

Norman Y. Mineta San José International Airport

City of San José, Santa Clara County, California

Prepared For

City of San José, California

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

As lead federal agency pursuant to the National Environmental Policy Act of 1969

Prepared By

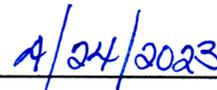
HNTB

April 2023

This Environmental Assessment becomes a Federal document when evaluated, signed and dated by the responsible FAA Official.



Responsible FAA Official



Date

GENERAL INFORMATION ABOUT THIS DOCUMENT

WHAT'S IN THIS DOCUMENT? This document is the Final Environmental Assessment (EA) for the proposed Terminal B South Concourse Improvements at Norman Y. Mineta San José International Airport (SJC) (Proposed Action) located in San José, California. The proposed improvements analyzed in the Final EA include: extending Terminal B through construction of the proposed South Concourse, including construction of 16 airline gates with jet bridges and up to 750,000 square feet (SF) of terminal building space; and reconstruction and strengthening up to 392,000 SF of deteriorated airfield apron at the south end of the proposed Terminal B South Concourse to support aircraft terminal parking. This document discloses the analysis and findings of the potential impacts associated with the Proposed Action and the No Action Alternative.

BACKGROUND. The Proposed Action consists of necessary terminal infrastructure to serve the traveling public efficiently and with an appropriate level of service through the year 2029. The Proposed Action would include additional security area and hold rooms for each gate, ticketing, restrooms, concessions, public space, increased baggage handling capacity and extended curbside. Terminal improvements are needed to improve the level of service and convenience for airport users, enhance operational efficiency and accommodate projected demand.

The EA was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) [Public Law 91-190, 42 USC 4321-4347], the implementing regulations of the Council on Environmental Quality (CEQ) [40 CFR Parts 1500-1508][1978], and FAA Orders 1050.1F, *Environmental Impacts: Policies and Procedures* and 5050.4B, *National Environmental Policy Act (NEPA), Implementing Instructions for Airport Actions*.

The Draft EA was released for public and agency review and comment on January 20, 2023 and was available for public review from January 20, 2023 through March 3, 2023. The notice of availability was advertised in *The Mercury News* and on SJC's website, <https://www.flysanjose.com/environment>. A Public Workshop and Public Hearing were held on February 23, 2023; no members of the public or agencies attended. The City of San José received three comments on the Draft EA between January 20, 2023 and March 3, 2023. All comments were responded to in the Final EA, Appendix K, Comments and Responses.

WHAT SHOULD YOU DO? Read this Final EA to understand the potential environmental effects of the City's proposed Terminal B South Concourse Improvements at SJC and the actions that the City and the FAA may take relative to the proposal. Copies of the document are available on SJC's website at <https://www.flysanjose.com/environment> and at SJC Administrative Offices; Dr. Martin Luther King, Jr. Library; and Mission Branch Library (addresses provided in Chapter Five of the Final EA).

WHAT HAPPENS AFTER THIS? Following review of the Final EA, the FAA will either issue a Finding of No Significant Impact (FONSI), a FONSI / Record of Decision (FONSI/ROD), or decide to prepare an Environmental Impact Statement (EIS).

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Chapter One: Purpose and Need

1.1 Introduction

The City of San José (City), California, owner and operator of the Norman Y. Mineta San José International Airport (SJC or Airport) proposes to extend and modernize Terminal B through the construction of a proposed Terminal B South Concourse Improvement Project (Proposed Action) designed to provide an optimum user experience to the existing and projected passengers and airlines using this critical Silicon Valley – South Bay airport. The proposed Terminal B South Concourse would include construction of a 750,000 square foot (SF) terminal building with 16 airline gates¹ (with passenger loading bridges) designed to accommodate Aircraft Design Group (ADG)-III (e.g., Boeing 737-9 Max, referred to hereafter as 737-900) aircraft.² The proposed terminal would be designed to include adequate space for necessary facilities including hold rooms, restrooms, concessions, and associated passenger processing facilities. The interior space, as well as the outside architecture, would be consistent with the existing Terminal B facilities. As part of the proposed extension, the existing aircraft parking apron pavement encompassing the area of the proposed new terminal facilities would be reconstructed and strengthened to support aircraft parking. A detailed description of the proposed improvements is discussed in *Section 1.3, Description of the Proposed Action*.

During the five years preceding the COVID-19 Pandemic (2014 – 2019), SJC experienced record-breaking growth in air passenger activity. SJC's passenger enplanements increased over 67 percent (from approximately nine million annual passengers [MAP] in 2014 to over 15 MAP in 2019). Between 2016 and 2019, the airport recorded a Compounded Annual Growth Rate (CAGR) of 13.4% in passenger enplanements during this time period, as well as a CAGR of 14% in passenger air carrier operations, a growth trend approximately three times higher than the national average.

SJC has identified 14.2 MAP as the activity level associated with significant limitation in capacity of terminal processing functions and degradation of Level of Service (LOS), which the Airport surpassed in 2019 and is projected to reach again by 2024. Further, based upon the Federal Aviation Administration (FAA) approved aviation forecast ("SJC Approved Forecasts"),³ the City anticipates that SJC will need to efficiently accommodate approximately 21.8 MAP and 235,189 annual air carrier and air taxi operations by 2029.⁴ The forecast activity levels are expected to occur with or without the proposed improvements and would not induce growth at SJC but would accommodate projected growth through the year 2029 with an acceptable LOS. Specifically, the Proposed Action will not increase aircraft operations, change the aircraft fleet mix operating at SJC, or result in an increase in passengers. The Proposed Action does not include runway extensions or other airfield enhancements that would increase the capacity of SJC.

On October 5, 2018, HR 302, the "FAA Reauthorization Act of 2018" (the Act) was signed into law (Public Law § [P.L.] 115-254) requiring the FAA to analyze whether FAA has approval authority over certain types of proposed

¹ Eight (8) gates currently exist in the Interim Terminal Facility and two (2) gates are existing gates that would be relocated from their current locations in existing terminals; thus the net increase would be six (6) gates.

² ADG-V (e.g., Boeing 787-900) aircraft may also be accommodated with the use of two boarding positions.

³ FAA issued the 2021 TAF in March 2022, however due to the timing in the EA process, the FAA approved the use of the City's forecast for this EA in July 2021 which was based on the 2020 TAF issued in May 2021. The difference between the SJC Approved Forecasts and the 2021 TAF is within FAA allowable limits; forecasts differ by less than 10 percent in the 5-year forecast period, and 15 percent in the 10-year forecast period.

⁴ The TAF is based on Fiscal Year (FY) and not calendar year.

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new airport development projects and land use changes. Section 163(d) limits the FAA's review and approval authority for ALPs to those portions of ALPs or ALP revisions that affect one of three zones of interest. The FAA retains ALP approval authority for portions of ALPs or ALP revisions that: "i. *Materially impact the safe and efficient operation of aircraft at, to, or from the airport*; ii. *Adversely affect the safety of people or property on the ground adjacent to the airport as a result of aircraft operations*; or iii. *Adversely affect the value of prior Federal investments to a significant extent.*"⁵ In addition, the FAA retains authority to approve or disapprove an ALP change that impacts an approach or departure surface and/or procedure, or that impacts Airport Traffic Control Tower (ATCT) line of sight.

The FAA evaluated the City's plans for several improvement projects at the Airport related to its jurisdiction under Section 163 of the Act and determined FAA approval authority is limited to the Proposed Action and demolition of the existing San José Police Department and support unit hangars (SJPD hangars) near the terminal and construction of new SJPD facilities in the southwest quadrant of the Airport near the recently constructed Airport Rescue and Firefighting Facility (ARFF) (See **Appendix A, FAA Reauthorization Act of 2018 (Public Law 115-254), Section 163 Determination**). Although the existing SJPD hangars to be demolished are located on airfield pavement that would be reconstructed with the Proposed Action, the SJPD hangars project is an independent action that is considered in the cumulative impact analysis, *Section 4.14, Cumulative Impacts* of this Environmental Assessment (EA).

The FAA also determined under the Act that it lacks the authority to approve or disapprove of changes to the SJC Airport Layout Plan (ALP) for the City's proposed new on-airport business hotel; new terminal area multi-level parking structure; relocation of its belly cargo aircraft building; reconstruction of two new facilities/maintenance buildings; closure and remediation, if necessary, of two fuel Underground Storage Tanks (UST) and replacement with a new fueling station including two Above Ground Storage Tanks (AST) in the northeast quadrant of the Airport; and removal of the existing natural gas station. However, these City projects of independent utility are analyzed in the cumulative impact analysis in *Section 4.14, Cumulative Impacts* of this EA.

This EA has been prepared pursuant to the requirements of the *National Environmental Policy Act of 1969* (NEPA); the Council on Environmental Quality (CEQ) implementing regulations 40 Code of Federal Regulations (CFR) 1500-1508⁶; FAA Order 1050.1F, *Policies and Procedures for Considering Environmental Impacts*; and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*; and all applicable special purpose laws, e.g., Section 106 of the National Historic Preservation Act (NHPA). This EA evaluates the effects of the proposed federal action related to the City's Proposed Action. The FAA's federal actions subject to NEPA review are included in *Section 1.5, Proposed Federal Actions*.

1.2 Background

1.2.1 Location and Layout

SJC is located on an approximately 1,000-acre site in Santa Clara County at the southerly end of San Francisco Bay, two miles north of Downtown San José, as shown on **Figure 1-1**. The Airport's primary service area includes the southern end of the San Francisco Bay Area, known as Silicon Valley, and extends southward into Santa Cruz and Monterey counties, and eastward towards Fresno and Yosemite Valley. SJC is generally bounded by U.S. Highway 101 (U.S. 101) to the north, the Guadalupe River and State Route 87 to the east, Interstate 880 (I-880) to the south, and Coleman Avenue and De la Cruz Boulevard to the west. The Airport layout is shown on **Figure 1-2**.

⁵ FAA, *Updated Instructions to Airports District Offices and Regional Office of Airports Employees Regarding Airport Layout Plan Reviews and Projects Potentially Affected by Section 163 of the FAA Reauthorization Act of 2018*, August 3, 2022.

⁶ Preparation of the Draft EA was in progress when the revised CEQ implementing NEPA regulations (40 CFR Parts 1500-1508) were promulgated in July 2020. Accordingly, this EA was prepared in compliance with the prior version of the regulations 40 CFR Parts 1500-1508 (1978, as amended in 1986 and 2005).

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1.2.2 Existing Facilities

SJC is designated as a Medium Hub Commercial Service airport in the FAA's *National Plan of Integrated Airport System (NPIAS)*⁷ that serves most commercial airlines with statewide, national and international destinations, as well as air cargo airlines, and general aviation (GA) aircraft. SJC has two 11,000-foot-long parallel runways, 12R/30L and 12L/30R with a parallel and connecting taxiway system. The SJC ALP indicates both runways, 12R/30L and 12L/30R, accommodate critical design aircraft to ADG V.

Passenger Terminal Building and Aircraft Gates

As shown in **Table 1.1**, the Airport has two passenger terminals, Terminal A and Terminal B, totaling 1,050,000 SF of terminal space and 28 permanent airline gates. SJC's gate allocation operates on a preferred-use and common-use layout. Preferred-use carriers can select preferential gates based on the allocation percentage defined in their respective airline lease agreements, while common-use carriers share the remaining common-use gates. The airlines the Airport serves by terminal are listed in Table 1.1.

Table 1.1
Existing Passenger Terminal Facilities

	Existing Terminal A	Existing Terminal B	Interim Terminal Facility	Total (no Interim Facility)	Total (with Interim Facility)
Gates	16 (1-16)	12 (17-28)	8 (29-36)	28	36
Area (SF)	450,000 SF	600,000 SF	50,000 SF	1,050,000 SF	1,100,000
Avg. SF / Gate	28,100 SF	50,000 SF	6,250 SF	N/A	N/A
Airlines Served	Air Canada, American Airlines, Delta, Hawaiian Airlines, Jet Blue, United, Volaris	Alaska, British Airways, Southwest	Alaska, Southwest	N/A	N/A

Source: SJC, Draft Tech Memo Updated Airport Capacity and Facility Requirements Analysis, September 2017. <https://www.flysanjose.com/airlines>, February 2022.

Terminal A operates domestic and international flights and processes all of the international arrivals. The terminal has 16 gates (1-16) and approximately 450,000 SF of operational space (hold rooms, ticket counter lobby, security checkpoint, baggage claim, Federal Inspection Services [FIS] facility for international arrivals, and concession, office, and support space), which equates to an average of 28,100 SF of building space per gate. The arrivals area and baggage claim are on the lower level in the same building as the parking garage. Ticketing is also on the lower level, while the security checkpoint and departures are on the upper level. Terminal B operates domestic flights and departing international flights.

Terminal B has 12 airline gates (Gates 17-28) with a total area of approximately 600,000 SF of operational space (hold rooms, ticket counter lobby, security checkpoint, baggage claim, concession, office, and support space), which equates to an average of 50,000 SF of building space per gate. Departures, arrivals, and security are on the upper level of the terminal, while ticketing and baggage claim are located on the lower level. The passenger gates and hold rooms are on the second level and thus passengers board aircraft through loading bridges on the second level.

Between 2017 and 2019, eight gates (Gates 29-36⁸) were constructed as a 50,000 SF Interim Terminal Facility to accommodate the surge in passenger demand experienced by SJC in 2016-2019 at approximately 14.2 MAP, as noted in *Section 1.1, Introduction*. The Interim Terminal Facility, which can accommodate ADG-III aircraft (e.g.,

⁷ FAA, 2023-2027 NPIAS, published 9/30/2022.

⁸ Gates 29 and 30 opened in 2017; Gates 31-36 opened in 2019.

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Boeing 737-900), was intended as a temporary solution to operate for 5 to 7 years while permanent facilities could be designed and constructed. The Interim Terminal Facility construction was expedited by the use of a custom-made steel framed modular structure with a permanent foundation. The exterior was constructed out of corrugated metal panels with clerestory windows and the interior consists of acoustic wall panels.⁹ The size of the Interim Terminal Facility equates to approximately 6,250 SF of terminal space per gate, well below the ratios recommended by the Airport Cooperative Research Program's (ACRP) *Airport Passenger Terminal Planning and Design* (Report 25) for Domestic narrow-body aircraft (i.e., ADG-III aircraft), which is 18,000-24,000 SF per gate. While the Interim Terminal Facility provides gates and boarding bridges, it provides limited space for hold rooms, concessions and restrooms and has no passenger processing facilities. Gates 29 and 30 hold rooms can accommodate ADG-III aircraft¹⁰ and Gates 31-36 have capacity for a total of 550 passengers. The facility was constructed with interim terminal infrastructure that is not a feasible long-term solution.

Public Parking and Rental Car Parking

SJC has approximately 5,400 public automobile parking spaces currently spread around five separate parking lots and garages. The Airport's parking facilities include an economy lot (Lot 1), three hourly lots (Lot 2 – Terminal A Garage, Lot 3 – Terminal B Garage, and Hourly Lot 5), one daily lot (Lot 4), and Cellphone Waiting Areas along Airport Parkway and Airport Boulevard. There is also a Consolidated Rental Car Facility adjacent to Hourly Parking Lot 3, north of Terminal B that can accommodate up to 2,000 rental car ready/return spaces.

Air Cargo Facilities

Cargo activity at SJC occurs at separate facilities, one used by all-cargo airlines and the other by passenger airlines carrying belly-cargo. The all-cargo airlines utilize airside and landside space for aircraft parking, loading/unloading operation, and surface vehicle parking/movement areas, while the passenger airlines utilize building space to process belly-cargo that is loaded and unloaded at the aircraft gate positions at the terminals. SJC has 6.9 acres of all-cargo airline space split between two sites on the northeast and southeast sides of the Airport (one used predominantly by FedEx and the other by UPS), and a 2.0-acre belly-cargo facility just south of the passenger terminal area which is shared by multiple airlines.

General Aviation Facilities

GA facilities are comprised of aircraft storage and parking ranging from open tiedown spaces to large private or multi-aircraft hangars, and support functions such as fuel storage/dispensing, aircraft maintenance/repair, and fixed-base operator (FBO) offices and terminals. There are 150 GA aircraft based at SJC. The west side of the Airport currently consists of 79 acres of GA use, with available undeveloped space.

1.2.3 Aviation Activity Forecasts

On July 16, 2021, the City provided the FAA with its aviation activity forecasts for SJC, which updated forecasts that were prepared prior to the COVID-19 Pandemic. The July 2021 submission considered the pandemic-related passenger declines and estimated recovery projections for SJC, which were based upon the FAA 2020 Terminal Area Forecasts (TAF) issued May 2021.¹¹ It is impossible to precisely predict future changes to air travel characteristics that may result from COVID-19. However it is reasonably expected that activity levels will resume

⁹ SJC, "SJC Celebrates Interim Gates Facility Topping Out," News Release, 12/6/18, <https://www.flysanjose.com/sites/default/files/press/SJC%20Interim%20Gates%20Facility%20Tops%20Out.pdf> (accessed 4/6/22).

¹⁰ The Boeing 737-900 has approximately 180 seats on the aircraft.

¹¹ FAA issued an updated TAF on 3/10/22, however due to the timing of the EA development, the FAA approved the use of the City's forecast in July 2021 (based on the 2020 TAF issued in May 2021). The difference in operations and enplaned passengers between the 2020 TAF and the 2021 TAF is within FAA allowable limits; forecasts differ by less than 10 percent in the 5-year forecast period, and 15 percent in the 10-year forecast period. (Advisory Circular [AC] 150/5070-6B, *Airport Master Plans*)

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over time as the economy recovers and society adapts to new norms after the COVID-19 Pandemic.¹² The FAA considered and approved the City’s request to adopt the FAA 2020 TAF (“Approved SJC Forecasts”) as its projection of aviation activity on August 12, 2021, see **Appendix B, Aviation Activity Forecasts. Table 1.2** provides the Approved SJC Forecasts 2019 actual (a), 2020 estimated (e), and forecast (f) 2029 and 2034 activity levels considered for the analysis years of the Proposed Action. While aviation activity at SJC has declined as a result of the COVID-19 Pandemic, the Approved SJC Forecasts project that passenger enplanements¹³ will return to 2019 levels (over 7.5 MAP) by 2024. According to the Approved SJC Forecasts, from 2019 to 2034, total enplaned passengers are projected to increase by 67% from 7.5 MAP to 12.5 MAP, and total aircraft operations are projected to increase by 50% from 204,503 operations to 306,933 operations.

Table 1.2
TAF Summary of Enplanements and Aircraft Operations

Fiscal Year ^a	Total Enplaned Passengers ^b	Aircraft Operations ^c				Total Aircraft Operations
		Air Carrier	Air Taxi & Commuter	General Aviation	Military	
2019(a)	7,510,781	146,401	21,586	36,248	268	204,503
2020(e)	3,871,444	96,255	16,770	27,679	219	140,923
2029(f)	10,910,719	212,688	22,501	39,147	219	274,555
2034(f)	12,517,244	243,252	23,728	39,734	219	306,933

^a Federal fiscal year begins October 1 and ends September 30.

^b Enplaned Passengers is approximately equal to the number of passengers boarding a plane at an airport in one year; this equates to half of the Million Annual Passengers (MAP) definition.

^c Aircraft activity using passenger terminals at SJC include Air Carrier and Air Taxi & Commuter.

Source: 2020 FAA TAF; (a) Actual Activity, (e) Estimated Activity, (f) Forecast Activity.

The requirements for most airport facilities, including terminal building facilities, are determined more by peak activity levels than by annual activity. Per FAA AC 150/5360-13A, *Airport Terminal Planning*, “peak activity measures the highest projected level of passenger or operational activity in peak months, days, or hours. Terminal facility planning requires knowledge of peak activity because the terminal space programs are based on projected peak volumes of passengers.” Translating annualized activity to Design Day activity is essential to validate the timeline for when improvements are needed to sufficiently accommodate forecast demand. The Design Day is defined as the Average Weekday during the Peak Month (AWDPM). At SJC, this typically occurs during a weekday either in July or August. The July 17, 2019, schedule was selected as a representation of the baseline AWDPM. Using an airport’s ultimate peak day as a definition for the Design Day is not a standard methodology within the aviation industry as it results in overdesigned facility improvements. Peak hour passenger and aircraft operation forecasts are based on Design Day Flight Schedules (DDFS) for the base year, 2019 (the last complete calendar year for which historical SJC aviation trends could be observed), and the ultimate forecast year 2029 when additional gates are anticipated to come online. For additional details on methodology of the Design Day derivation, see *Appendix B*. Passenger processing functions, such as ticketing, security screening, and outbound baggage and screening, are derived from the AWDPM’s peak 60-minute enplaned passenger volumes. Other passenger processing functions, such as baggage claim, inbound baggage systems, and certain ground transportation functions, are derived from the AWDPM’s peak 60-minute deplaned passenger volumes. Gate requirements are derived from the commercial aircraft peak 60-minute departures or arrivals operation volume.

¹² Airlines for America (A4A), the trade organization of the leading U.S. passenger and cargo airlines, forecasts that recovery to 2019 passenger volumes could occur by 2023 using optimistic assumptions, but most likely will not occur until 2024 or later (Airlines for America, “Tracking the Impacts of COVID-19”, updated January 29, 2021). Similarly, Airports Council International (ACI), the trade association of the world’s airports, forecasts that domestic passenger activity may recover to 2019 levels as early as 2023 and international passenger traffic may recover as early as 2024 (*ACI Advisory Bulletin: The impact of COVID-19 on the airport business*, December 8, 2020).

¹³ The FAA TAF reports and forecasts enplaned passengers which represents approximately half of the total number of passengers (enplanements and deplanements).

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Table 1.3 presents estimates of peak 60-minute enplaned and deplaned passengers and commercial aircraft operations based on the TAF growth rates. Note that arriving peaks typically occur in the evening between 9:45 p.m. and 10:44 p.m., departing peaks typically occur in the morning between 6:10 a.m. and 7:09 a.m., and the combined peak is typically between 5:25 p.m. and 6:24 p.m.;¹⁴ therefore, the combined peak is less than the sum of peak arrivals and peak departures. For example, in 2019, the AWDPM schedule recorded that there were 26 operations during the arrivals peak 60-minutes and 25 operations during the departures peak 60-minutes. These peaking characteristics are later applied to the corresponding projected levels of the TAF in 2029 in order to analyze the requirements to maintain optimum levels of service at SJC.

Table 1.3
Peak 60-Minute Projections for SJC based on TAF

Fiscal Year	Peak 60-Minute Passengers			Peak 60-Minute Passenger Aircraft Operations		
	Deplanements	Enplanements	Combined	Arrivals	Departures	Combined
2019	2,462	2,436	3,933	26	25	40
2029 ^a	3,576	3,539	5,714	37	34	56

^a This EA considers improvements needed to meet the purpose and need of the Proposed Action through 2029. Future phases of planning for SJC will focus on specific improvements beyond 2029; however, for environmental review per FAA guidance, analysis of five years beyond implementation (i.e., the year 2034) was completed for impact categories influenced by aircraft operations.

Source: SJC Approved Forecasts, SJC Historical Data, and HNTB Analysis, 2022.

The “Illustrative Ramp Chart for July 17, 2019, Representative AWDPM Schedule” in *Appendix B* (PDF p. 57) shows that each of the Airport’s 36 existing gates (including interim gates) would be occupied during the evening arrivals peak. Depending on the timing of operations during the peak hour, there may be a shortage of gate positions resulting in the need to ground-load passengers,¹⁵ which is inefficient for airport operations, create delays, and reduces the level of service for travelers. Based on the Illustrative Ramp Chart, in 2029, operations are projected to increase to a point where 42 gates are needed to accommodate the demand. The need to ground-load multiple gates would result in an increased number of passengers waiting in the terminal and is considered an inconvenience for both passengers and airlines. This shortage does not account for delays or irregular operations that would worsen issues. In addition, any aircraft parked at a gate for more than 60 minutes would need to be towed to a hardstand elsewhere on the Airport.

1.3 Description of the Proposed Action

The City’s Proposed Action, illustrated on **Figure 1-3**, includes improvements to provide an improved, outstanding level of service to the existing and projected passengers and airlines using the Airport. The primary components of SJC’s Proposed Action are: (1) extending Terminal B through construction of the proposed South Concourse, including construction of 16 airline gates with jet bridges and up to 750,000 SF of terminal building space;^{16,17} and (2) reconstruction and strengthening up to 392,000 SF of deteriorated airfield apron at the south end of the

¹⁴ Using the July 17, 2019 AWDPM, peak demand for aircraft gates is during the first departure bank of the day and the last arrival bank in the evening.

¹⁵ Ground loading is a method of boarding passengers onto an aircraft using mobile passenger boarding stairs or mobile lounges, instead of using jet bridges directly connected to the terminal building as is typical.

¹⁶ Eight (8) gates currently exist in the Interim Terminal Facility and two (2) gates are existing gates that would be relocated from their current locations in existing terminals; thus the net increase would be six (6) gates. Gates to be relocated are Gate 1 to due to its difficult location on the back (east side) of Terminal A as ADG III aircraft cannot safely taxi to the parking position. Gate 17 would be relocated as it is shut down each time a wide body ADG V parks at Gates 16 and 18.

¹⁷ Airline gate needs and terminal square footage requirements are based on *SJC Runway Incursion Mitigation/Airfield Design Standards Analysis: Draft Technical Memorandum: Updated Airport Capacity and Facility Requirements Analysis*, September 13, 2017.

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proposed Terminal B South Concourse to support aircraft terminal parking. **Figure 1-4** provides a closer view of the Proposed Action area.

The space required for the proposed terminal extension was estimated based on the design aircraft,¹⁸ ADG-III sized gates¹⁹ (e.g., 737-900), as well as several Airport planning studies, including the 2017 *Runway Incursion Mitigation (RIM) Study – Facility & Capacity Requirements Technical Memorandum, Proposed Methodologies for SJC Landside Demand/Capacity Analysis*, and ACRP Report 25. Based on Terminal B’s existing square footage per gate it is estimated that approximately 50,000 SF of terminal space per gate inclusive of building infrastructure is needed for the proposed South Concourse. The 750,000 SF estimate assumes that 14 of the gates would require 50,000 SF of space, and two of the gates which already have most of the existing infrastructure in place (Gates 1 and 17) would require 25,000 SF each.

Table 1.4 provides the proposed Federal action(s) associated with each component of the Proposed Action as described in 40 CFR §1502.14. The Airport’s estimated breakdown of interior space, provided in **Table 1.5**, is based on the composition of existing Terminal B, as the proposed terminal extension would mirror it.

Table 1.4
Proposed Action Description

Terminal B South Concourse Extension	Federal Action(s)
Construct approximately 750,000 SF of terminal building space, allowing for 16 new airline gates with jet bridges. The aircraft gates would accommodate ADG-III sized gates (737-900) or ADG-V (Boeing 787-900) by using two gates. The Interim Terminal Facility would be demolished incrementally as the eight airline gates are replaced with the proposed South Concourse Improvement Project to avoid any major disruption in service. The interior space, as well as the outside architecture, would be consistent with the existing Terminal B facilities. The shape of the extension would mirror the existing Terminal B, which has two stories and an optional basement. Final terminal design has not been completed but will adhere to FAA AC 150/5360-13A, <i>Airport Terminal Planning</i> and recommendations from ACRP Report 25. The interior space would include additional security area and hold rooms for each gate, ticketing, restrooms, concessions, public space, increased baggage handling capacity and extended curbside. As required by the City of San José’s Green Building Policies for municipal buildings, the extended terminal would be designed to achieve LEED Silver certification or higher.	FAA ALP approval. Federal approval for AIP/PFC/Bipartisan Infrastructure Law (BIL) funding decisions.
Terminal Apron Reconstruction	Federal Action(s)
Reconstruct up to 392,000 SF of pavement at the aircraft parking gates in the vicinity of the South Concourse extension. Project improvements include minor modifications to drainage, lighting, and striping/signage. The new pavement would be aircraft-rated to accommodate up to ADG-V aircraft. Pavement will be designed and constructed in accordance with AC 150/5370-10H, <i>Standard Specifications for Construction of Airports</i> , AC 150/5335-5C, <i>Standardized Method of Reporting Airport Pavement Strength – PCN</i> . The sizing and spacing of the apron to accommodate the proposed terminal extension would be consistent with standards and recommendations for aprons included in ACC 150/5300-13B - <i>Airport Design</i> to provide operational flexibility.	FAA ALP approval. Federal approval for AIP/PFC/BIL funding decisions.

¹⁸ 2037 Future Gate Layout

¹⁹ ADG-V (i.e., 787-900) could be accommodated with use of two boarding positions.

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Table 1.5
Proposed Terminal Facility Space (Anticipated)

Terminal Facilities	Estimated Space Needs (%)	Estimated Space
Concessions	10%	75,000 SF
Baggage Claim	20%	150,000 SF
Hold Rooms	10%	75,000 SF
Other (Baggage Handling System, Security, Concessions, Ticketing, Public Space)	60%	450,000 SF

Source: SJC, 2022.

1.4 Purpose and Need

Pursuant to NEPA and FAA Orders 1050.1F and 5050.4B, an EA must include a description of the purpose of a Proposed Action and why it is needed. Identification of the purpose and need provides the rationale for the Proposed Action and forms the foundation for identification of reasonable alternatives that can meet the purpose for the Proposed Action, and, therefore, address the related need(s) or problem(s). The FAA's statutory mission is to ensure the safe and efficient use of navigable airspace in the United States pursuant to Title 49, U.S.C. § 47101. In AC 150/5360-13A – *Airport Terminal Planning*, the FAA provides guidance on the process of planning airport passenger terminal facilities. Thus, FAA's purpose and need is to ensure that proposed airport development is safe, efficient, and sustainable, is reasonable, meets airport design standards, and follows environmental policy.²⁰

The purpose of the Proposed Action is to provide necessary terminal infrastructure to serve the traveling public efficiently and with an appropriate level of service through the year 2029. The terminal infrastructure would include a concourse extension with additional security checkpoint and holding areas, increased Baggage Handling capacity, extended curbside, supporting concessions, and the accompanying airfield apron. By the year 2029 annual passenger levels at SJC are projected to approach 21.8 MAP.

Terminal improvements are needed to accommodate projected demand for commercial air carrier services at the Airport, enhance operational efficiency, and improve level of service and convenience for airport users. Specifically, SJC terminal facilities need to be extended to reduce the need for gate sharing and ground loading, increase space for terminal processing and improve the associated apron pavement. The City's proposed Terminal B South Concourse Improvement Project is not an airfield capacity enhancement project; rather it is being proposed to accommodate the forecast aviation demand that will occur with or without the improvements.

1.4.1 Accommodate Demand and Enhance Efficiency

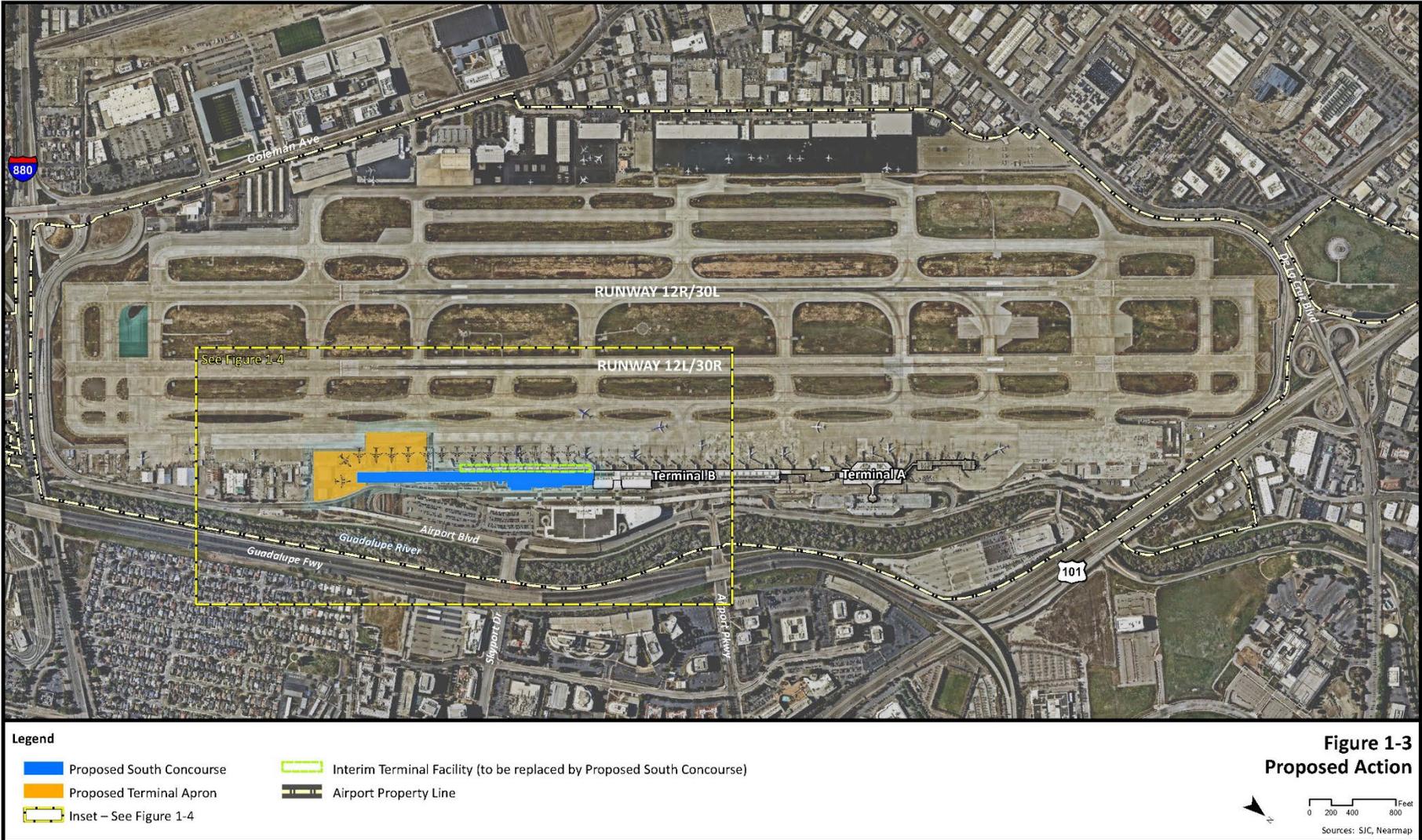
To accommodate existing and forecast passenger activity levels at SJC, additional gates are needed. SJC has determined that 18.6 MAP is the activity level that triggers the need for additional gates beyond the Interim Terminal Facility. Although approved SJC Forecasts project the Airport will reach 18.6 MAP around 2025, at which time additional gates would be needed, existing strain on the facilities already results in reduced LOS for airport users. It is important to note that the year 2025 is based on actual gate through-put and does not consider the over-stressed TSA screening checkpoints, baggage handling system (BHS), ticket counters, or curbside facilities resulting in substandard passenger processing and reduced ability to accommodate airline activity. Gate requirement estimates were updated in 2021 based on actual airline schedules from the 2019 Design Day²¹ and a projection of airlines schedules in the 2029 DDFS.

²⁰ U.S. Department of Transportation, Federal Aviation Administration, AC 150/5360-13A, *Airport Terminal Planning*, July 13, 2018. Available: https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC-150-5360-13A-Airport-Terminal-Planning.pdf, p. 1-2.

²¹ The July 17, 2019 schedule was used as a representation of the baseline AWDPM, as explained in *Section 1.2.3 and Appendix B*.

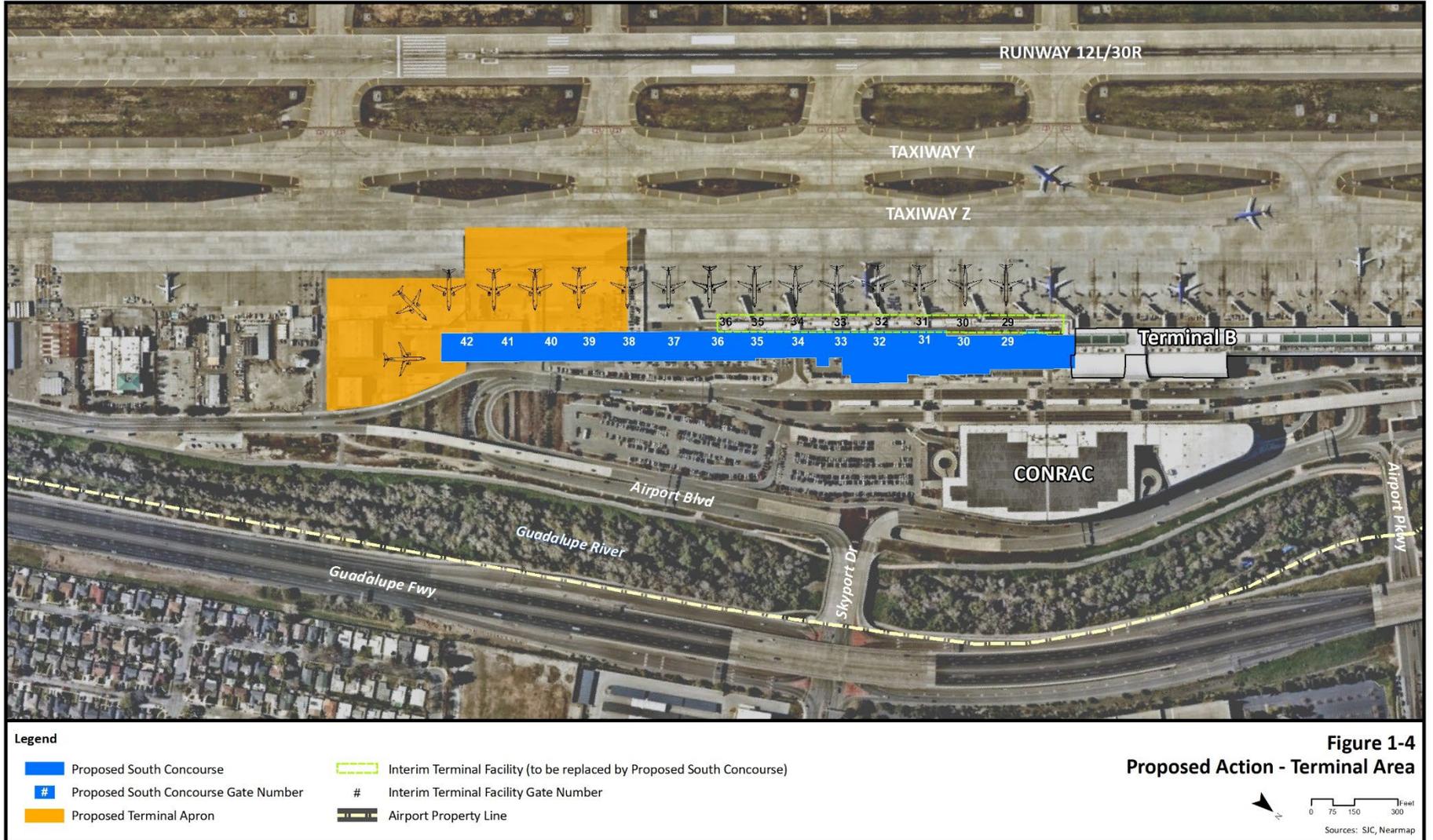
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Norman Y. Mineta San José International Airport Proposed Terminal B South Concourse Improvements Environmental Assessment



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Table 1.6 summarizes the future gate requirements needs at SJC based on the Design Day data derived from the Approved SJC Forecasts.

Utilizing the Design Day methodology, it is projected that in 2029 there would still be additional demand for gates that would require operational and scheduling improvements to further increase the efficiency of SJC’s facilities. The Design Day activity underscores the need for additional gates beyond the Interim extension to serve more than 230 daily departures. In other words, the existing terminal, even with the interim gates, are insufficient to accommodate the 21.8 MAP schedule, anticipated in 2029, and six additional gates are required, as proposed in the Terminal B South Concourse extension. Refer to *Appendix B* for additional detail on gate utilization analysis.

The proposed additional gates also require reconstruction of the aircraft parking apron pavement at the aircraft parking gates to be aircraft-rated to accommodate ADG-III (e.g., 737-900), which are the primary aircraft expected to use the apron as well as ADG-V aircraft (e.g., 787-900). The current pavement was constructed for the purpose of automobile parking and was also used for cargo loading and itinerant aircraft parking and is not sufficient for consistent aircraft use. Pavement would be designed and constructed in accordance with AC 150/5370-10H, *Standard Specifications for Construction of Airports*, AC 150/5335-5C, *Standardized Method of Reporting Airport Pavement Strength – PCN*. The sizing and spacing of the apron to accommodate the proposed terminal extension would be consistent with standards and recommendations for aprons included in AC 150/5300-13B - *Airport Design*.

Table 1.6
Gate Requirements Summary

	2019 ^a	2029 ^b
Design Day Passenger Aircraft Operations	476	666
Design Day Passenger Aircraft Departures	238	333
Recommended Gates	36	42
Existing Gates ^c	36	36
Average Gate Utilization Rate	6.6	7.9
Surplus / (Deficiency) with Existing Gates	+1	(6)
Surplus / (Deficiency) with proposed South Concourse Extension	+1	0

^a Table 1.6 is based on Table 8 of the Supplemental Forecast (*Appendix B*), however this table was updated to correctly state the recommended number of gates in 2029, which is 42 (as opposed to 46 gates recommended in the Supplemental Forecast).

^b This EA considers improvements needed to meet the purpose and need of the Proposed Action through 2029. Future phases of planning for SJC will focus on specific improvements beyond 2029; however, for environmental review per FAA guidance, analysis of five years beyond implementation (i.e., the year 2034) was completed for impact categories influenced by aircraft operations.

^c Existing gates include eight interim terminal facility gates (Gates 29-36) constructed to accommodate the surge in passenger demand experienced by SJC in 2016-2019.

Source: SJC Approved Forecasts, SJC Historical Data, and HNTB Analysis, 2022.

1.4.2 Improve Level of Service and Convenience for Airport Users

LOS related to terminals is typically associated with the wait times in four areas: staffed agent check-in, kiosk check-in, security screening checkpoint, and baggage claim. As wait times in these areas increase, the level of service degrades. Crowding in waiting areas also contributes to level of service; the more crowded the wait areas, the lower the LOS. For example, without the proposed additional gates to accommodate demand as discussed in *Section 1.4.1*, ground loading of aircraft would be required, which generally represents a low level of service, as it adds to boarding times at a minimum, and often leads to flight delays. Any flights that cannot be accommodated at a gate may need to be parked at a remote position. Additionally, departure flights at remote gates may need space in the terminal to hold departing passengers before they proceed to the remote gate, resulting in over-crowding of hold rooms and the terminal.

In order to provide optimum level of service to the existing and projected passengers and airlines using SJC and improve convenience for both passengers and airlines, additional terminal infrastructure with appropriately-sized permanent facilities are needed. In 2017, SJC conducted a Terminal and Landside gap analysis to identify problematic areas within SJC facilities and assess how to best accommodate a forecast 14.2 MAP, the activity level associated with significant facility and operational constraints, passenger processing functions performing sub-

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optimally, and degradation of LOS. At the time the study was prepared in 2017 when passenger levels were at 12.5 MAP, the Airport was already experiencing facility and operational constraints with reduced efficiency. At this time, two temporary gates (Gates 29-30) without any dedicated hold room space were added to the south end of Terminal B. By 2019, SJC experienced even more significant facility and operational constraints with declines in LOS. As another temporary solution, six additional gates with undersized hold rooms were constructed in 2019 as an extension to Terminal B and the two previous temporary gates.

The International Air Transport Association’ (IATA) Optimum Level of Service was used as the basis for the gap analysis. Per the IATA Airport Design Reference Manual (ADRM) 10th Edition, the Optimum Level of Service is defined as “providing sufficient space to accommodate all necessary functions in a comfortable environment with stable passenger flows and acceptable waiting times.” The goal of the “Optimum” Level of Service (formerly level “C”) is to balance economic terminal dimensions with passenger expectations.

Passenger Terminal Processor					
ADRM 9th Edition	A	B	C	D	E
ADRM 10th edition	Over Design		Optimum	Suboptimum	

Source: International Air Transportation Association, Airport Design Reference Manual, 10th Edition

The planning parameters used for the study are provided in *Appendix B, Appendix D*, and are based on a combination of data provided by SJC staff, airport industry planning guidance, other stakeholders, and planning firm experience at similar airports. To summarize, at the 14.2 MAP activity level, the gap analysis showed that passenger processing functions would perform sub-optimally (previously level “D” or “E”), including ticketing and check-in, TSA passenger security screening checkpoints, inbound and outbound Baggage Handling System (BHS), FIS international passenger processing, and curbside facilities. The sub-optimal performance and degradation of LOS result in passenger frustrations, long queuing lines for TSA screening, longer waiting times for baggage, and constrained gate hold rooms.

SJC experienced many of the shortfalls described in the 2017 Terminal and Landside gap analysis when passenger levels exceeded 14.2 MAP in 2018 and 2019. As operations have increased in late 2021 and early 2022, SJC has again experienced significant shortfalls with passenger processing functions which has resulted in substantial congestion, lengthy queues, and unacceptable customer wait times that exceed industry-accepted standards for LOS as described in the IATA Reference Manual and 2017 gap analysis.²² Although SJC does not collect specific analytics to validate the actual performance of these terminal functions against their anticipated performance from the 2017 report. However, reports from SJC Terminal Operations staff identified that there were 435 reported disruptions of terminal operations in the last five years resulting from facility constraints. Additionally, the Airport desires to provide additional conveniences for Airport users such as additional concessions and the modernization of airport features.

The forecast recovery in the 2020 TAF projects that SJC will return to the 14.2 MAP activity level between 2023 and 2024. Without the proposed additional terminal facilities, SJC would provide significantly degraded LOS for passengers and airlines. Without the proposed improvements, operations would continue to grow but at an undesirable level of service and inefficiencies would become more apparent and result in a lower quality airport user experience.

²² Per SJC, the Terminal Operations staff had 435 reported disruptions of terminal operations in the last five years resulting from capacity challenges. This validates the shortfalls with multiple passenger processing functions.

1.5 Proposed Federal Actions

The FAA’s proposed Federal actions subject to NEPA review are the following:

- Unconditional approval of the portions of the ALP that depict the Proposed Action pursuant to 49 USC § 47107(a)(16).
- Determinations under 49 USC §§ 47106 and 47107 that are associated with the eligibility of the Proposed Action for Federal funding assistance under the Airport Improvement Program (AIP) and 49 USC § 40117, as implemented by 14 CFR § 158.25, to use passenger facility charges (PFCs) collected at the Airport for the Proposed Action to assist with construction of potentially eligible development items as shown on the ALP, and the *Infrastructure Investment and Jobs Act of 2021*, (Public Law 117-58).²³

1.6 Timeframe for Implementation

If approved, construction of the Proposed Action is scheduled to occur in phases over an approximately six year period between November 2023 and March 2028, as presented in **Table 1.7**.

Table 1.7
Proposed Action Anticipated Construction Schedule

Project Description	Construction Duration
Terminal B South Concourse	December 2023 – March 2027 (Gates 29-37) September 2025 – March 2028 (Gates 38-42)
Terminal Apron Reconstruction	November 2023 – July 2027

Source: SJC and HNTB analysis, 2022.

1.7 Document Organization

- *Chapter One: Purpose and Need:* Provides an introduction, description, and background on SJC, the Proposed Action, and the purpose and need.
- *Chapter Two: Alternatives:* Provides an overview of alternatives considered as part of the environmental evaluation process, screening criteria to determine alternatives that will be carried forward for environmental analysis.
- *Chapter Three: Affected Environment:* Describes existing environmental conditions within the project Study Areas.
- *Chapter Four: Environmental Consequences:* Discusses and compares the environmental impacts associated with the alternatives carried through for detailed analysis.
- *Chapter Five: Agency and Public Involvement:* Discusses the coordination and public involvement associated with the EA process.
- *Chapter Six: List of Preparers.*
- *Appendices:* Contain various reference material, including technical information and record of coordination activities.

²³ The Airport Infrastructure Grant program is an aviation program administered by the FAA created by the Bipartisan Infrastructure Law (2021), which will provide \$15 billion over five years across U.S. airports for airport modernization and safety projects. <https://www.faa.gov/bil/airport-infrastructure>

Chapter Two: Alternatives

2.1 Introduction

The alternatives analysis presented in this chapter was prepared in accordance with CEQ regulations (40 CFR § 1502.14¹); FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*; and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

2.1.1 Scope of the Alternatives Analysis

This chapter summarizes the alternatives that were identified for meeting the project purpose and need discussed in *Section 1.4, Purpose and Need*. The chapter also summarizes the screening analysis used to identify a range of reasonable and prudent alternatives, and expands upon those that were subsequently selected for full evaluation in this EA. The information provided in this chapter includes the following:

- An overview of the structure of the alternatives analysis used for this EA;
- A description of the alternatives considered, including the Proposed Action Alternative and the No Action Alternative;
- A brief statement explaining why the dismissed alternatives were eliminated from further study; and
- A list of applicable laws, regulations, executive orders, and associated permits, licenses, and/or reviews.

2.1.2 Requirements of the National Environmental Policy Act

CEQ regulations (40 CFR § 1502.14) for implementing NEPA requires that federal agencies perform the following tasks:

- Rigorously explore and objectively evaluate all reasonable alternatives and, for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated;
- Devote substantial treatment to each alternative considered in detail, including the Proposed Action, so that reviewers may evaluate their comparative merits;
- Include reasonable alternatives not within the jurisdiction of the lead agency; and
- Include the alternative of the No Action.

2.2 Identification of Potential Alternatives

The following sections summarize factors/steps considered in the screening process for development of the Proposed Action, including meeting the purpose and need and feasibility.

2.2.1 Range of Alternatives Considered

Table 2.1 provides the range of alternatives considered. Each alternative is described in detail in *Section 2.3, Alternatives Considered*.

¹ Preparation of the Draft EA was in progress when the revised CEQ implementing NEPA regulations (40 CFR Parts 1500-1508) were promulgated in July 2020. Accordingly, this EA was prepared in compliance with the prior version of the regulations 40 CFR Parts 1500-1508 (1978, as amended in 1986 and 2005).

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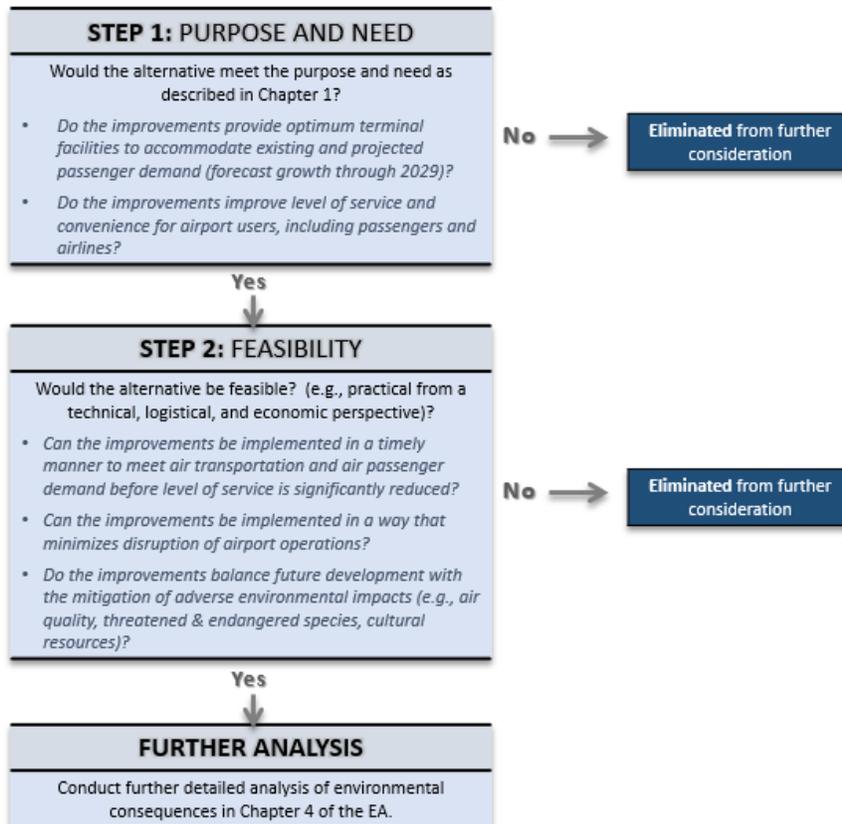
Table 2.1
Range of Alternatives Considered

Type of Alternative	Example
Off-Site Alternatives	<ul style="list-style-type: none"> Relocation of SJC or construction of new airport Use of other airports Use of other modes of transportation
On-Site Alternatives	<ul style="list-style-type: none"> Extension of Terminal A New Terminal Facility Location Terminal B South Concourse (Proposed Action Alternative)
No Action Alternative	<ul style="list-style-type: none"> <i>Retained for analysis pursuant to CEQ regulations at 40 C.F.R. § 1502.14(d).</i>

2.2.2 Alternatives Screening Process Overview

For this alternatives analysis, a two-step screening process was used, as detailed in **Figure 2-1**. The first step addressed whether the alternative would meet the purpose and need as described in *Chapter One, Purpose and Need*. The second step involves the feasibility of the alternative; specifically, whether the alternative is practical from a technical, logistical, and economic perspective. The two-step screening process was progressive. For example, if an alternative did not meet the question asked in Step 1, it was not carried forward to Step 2. Alternatives that passed the two-step screening process, along with the No Action Alternative, were then evaluated for their potential environmental effects in *Chapter Three, Affected Environment* and *Chapter Four, Environmental Consequences* of this EA.

Figure 2-1
Alternatives Screening Process



2.3 Alternatives Considered

Both off-site and on-site alternatives were considered in the evaluation of alternatives.

2.3.1 Off-Site Alternatives

In satisfying the need for adequate terminal facilities at SJC, the following off-site alternatives were considered:

2.3.1.1 Relocation of SJC or Construction of New Airport

Developing a new facility to accommodate market demand for the Silicon Valley region would require at least 1,000 acres of property (i.e., at least the same size as SJC), and that a new facility be fully studied, designed, land acquired, and constructed by 2029 to meet forecast needs. Construction of a new airport would likely take a minimum of 10 years and is not possible in consideration of all the necessary requirements (i.e., site selection, environmental documentation, property right-of-way and acquisition, permitting, design, and construction). Such a location is speculative since no location has been identified by the City.

Although unlikely, if construction of a new airport resulted in the abandonment of SJC, this would create significant economic and land use implications in the greater San José area, as many businesses chose to locate near SJC for strategic purposes and are reliant on the Airport. A new airport location could affect the viability of nearby businesses that would need to relocate. It is more likely that if another airport was constructed, SJC would continue to operate, and that due to its well established air service and proximity to Silicon Valley, the “Tech Giants” (e.g., Facebook, Apple, Google), and multiple tourist destinations, it would continue to attract high numbers of passengers and aircraft operations.

This off-site alternative would not meet the first step criteria, to meet the purpose and need for the Proposed Action, and therefore, would not advance to Step 2 of the screening analysis. No further consideration was given to this alternative as the alternative was eliminated and therefore not carried forward for detailed analysis.

2.3.1.2 Use of Other Airports

The two closest commercial service airports to SJC are San Francisco International Airport (SFO) and Oakland International Airport (OAK), 32 and 37 miles respectively, both located north of SJC. SFO’s existing runway system already constrains any potential growth, and OAK is currently planning for modernized and expanded terminals to address its expected increase in passengers. Thus, neither of these airports are considered reasonable substitutions for users of SJC, particularly due to the driving distance and typical traffic congestion along the primary roadways between the regions’ airports. If these other airports could accommodate SJC’s projected 2029 demand, the redistribution of SJC operations to OAK and/or SFO would increase the environmental impacts associated with operation of those airports (e.g., noise) and would also increase vehicle miles traveled (e.g., increased air emissions and traffic) in the Bay Area as users would be required to travel farther to use an airport. As with the previously described alternative, it would be more likely that operations beyond those that could be accommodated at SJC would use SFO or OAK which would not be convenient to travelers with business and vacation plans in the Silicon Valley. Previous environmental documents² have also considered relocation to Moffett Federal Airfield (Moffett), which is adjacent to the cities of Mountain View and Sunnyvale. Formerly operated by the U.S. Navy as Moffett Field Naval Air Station, the 1,500-acre airport was transferred to the National Aeronautics and Space Administration (NASA) in 1994 following closure due to Base Realignment and Closure (BRAC). Moffett is not available for commercial operations.

² SJC, Draft EIR for Amendment to Airport Master Plan, November 2019.

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Airline operators choose to serve an airport in response to consumer demand for air service. No regulatory mechanism exists for the City or the FAA to unilaterally redistribute air traffic to other airports. This off-site alternative would not meet the first step criteria, to meet the purpose and need for the Proposed Action, and therefore, would not advance to Step 2 of the screening analysis. No further consideration was given to this alternative as the alternative was eliminated and therefore not carried forward for detailed analysis.

2.3.1.3 Use of Other Modes of Transportation

This alternative would seek to expand the use of rail, bus, or vehicular travel, thereby reducing operations at SJC in the future. While this alternative may accommodate short travel trips, it would require that the traveling public use a potentially less convenient mode of transportation. These modes would be less convenient in that they would take longer to reach a destination. Additionally, in the case of buses, more service would need to be added to accommodate higher traffic levels and multiple trips to meet public demand. These surface transportation alternatives could also potentially increase environmental impacts compared to the Proposed Action as it may add to congestion on the roadway system. This type of alternative does not provide a solution to long distance travel which is most efficient via air travel.

This off-site alternative would not meet the first step criteria, to meet the purpose and need for the Proposed Action, and therefore, would not advance to Step 2 of the screening analysis. No further consideration was given to this alternative as the alternative was eliminated and therefore not carried forward for detailed analysis.

2.3.2 On-Site Alternatives

The Airport Master Plan process³ developed and screened several on-site alternatives for expanding terminal facilities to meet the current and future needs of Airport users, culminating in a long-range program for SJC. Through this process, all viable on-site alternatives were vetted to adequately accommodate projected passenger demand. Three on-site alternatives to address the need for adequate terminal facilities were considered.

2.3.2.1 Extension of Terminal A

This alternative would extend Terminal A to the north to increase terminal space. This alternative is not feasible as there is not sufficient space to the north of the terminal buildings. All the airport fueling, including fuel pumps and fuel truck parking, as well as trash facilities and FedEx Cargo parking would need to be relocated. These operations are strategically located to the north of Terminal A for efficient airport operations and relocation of these facilities would be inefficient and costly. Given that this on-site alternative would be inefficient, require extensive planning efforts and approvals, and have substantial costs associated with it, this alternative is not feasible and was therefore dismissed. No further consideration was given to this alternative as the alternative was eliminated and therefore not carried forward for detailed analysis.

2.3.2.2 New Terminal Facility Location

This alternative would develop separate terminal facilities elsewhere on airport property. To develop new terminal facilities in any other location on airport property would not be efficient from an operational perspective and would require on-airport transportation between terminals for passengers via either bussing, which is inconvenient for passengers, or via construction of an on-airport train or automated people mover, which would require extensive planning and approvals, as well as substantial economic implications.

³ To review the 2020 SJC Airport Master Plan Update, visit <https://www.sanjoseca.gov/your-government/department-directory/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/active-eirs/sjc-airport-master-plan-update>. (accessed 12/2/21)

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Given that this on-site alternative would be inefficient, require extensive planning efforts designed to meet FAA airport design and terminal standards (e.g., FAA AC 150/5360-13A, *Airport Terminal Planning* and FAA AC 150/5300-13B, *Airport Design*) to maintain the safety and efficiency of operations and approvals, and have substantial costs associated with it, this alternative is not feasible and was therefore dismissed. No further consideration was given to this alternative as the alternative was eliminated and therefore not carried forward for detailed analysis.

2.3.2.3 Terminal B South Concourse (Proposed Action Alternative)

As described in *Chapter One, Purpose and Need, Section 1.3, Description of the Proposed Action*, the City's proposed Terminal B South Concourse alternative (Proposed Action Alternative) would construct approximately 750,000 SF of terminal building space, allowing for 16 new airline gates with passenger loading bridges. The improvements would include hold rooms, restrooms, concessions, and associated passenger processing facilities. The interior space, as well as the outside architecture of the Terminal B South Concourse, would be consistent with the existing Terminal B facilities. The shape of the Terminal B South Concourse would mirror the existing Terminal B, which has two stories and an optional basement. As required by the City's Green Building Policies for municipal buildings, the extended terminal concourse would be designed to achieve LEED Silver certification or higher.⁴ Currently, Terminal B has a total of 12 airline gates, and an Interim Terminal Facility with eight (8) gates that were constructed between 2017 and 2019 to meet the immediate need for additional airline gates. The Interim Terminal Facility would be demolished incrementally as the eight airline gates are replaced with the proposed Terminal B South Concourse to avoid any major disruption in service. Two (2) of the new airline gates would be relocated from their current locations in Terminal A and B, totaling a net increase of six airline gates.

This alternative also includes the reconstruction of up to 392,000 SF of pavement at the aircraft parking gates in the vicinity of the proposed Terminal B South Concourse. The current pavement was constructed for the purpose of vehicle parking and was also used for cargo loading and itinerant aircraft parking. The current pavement is not sufficient for consistent aircraft use. The proposed reconstructed aircraft parking apron would allow aircraft to safely park at the new gates of the proposed Terminal B South Concourse.

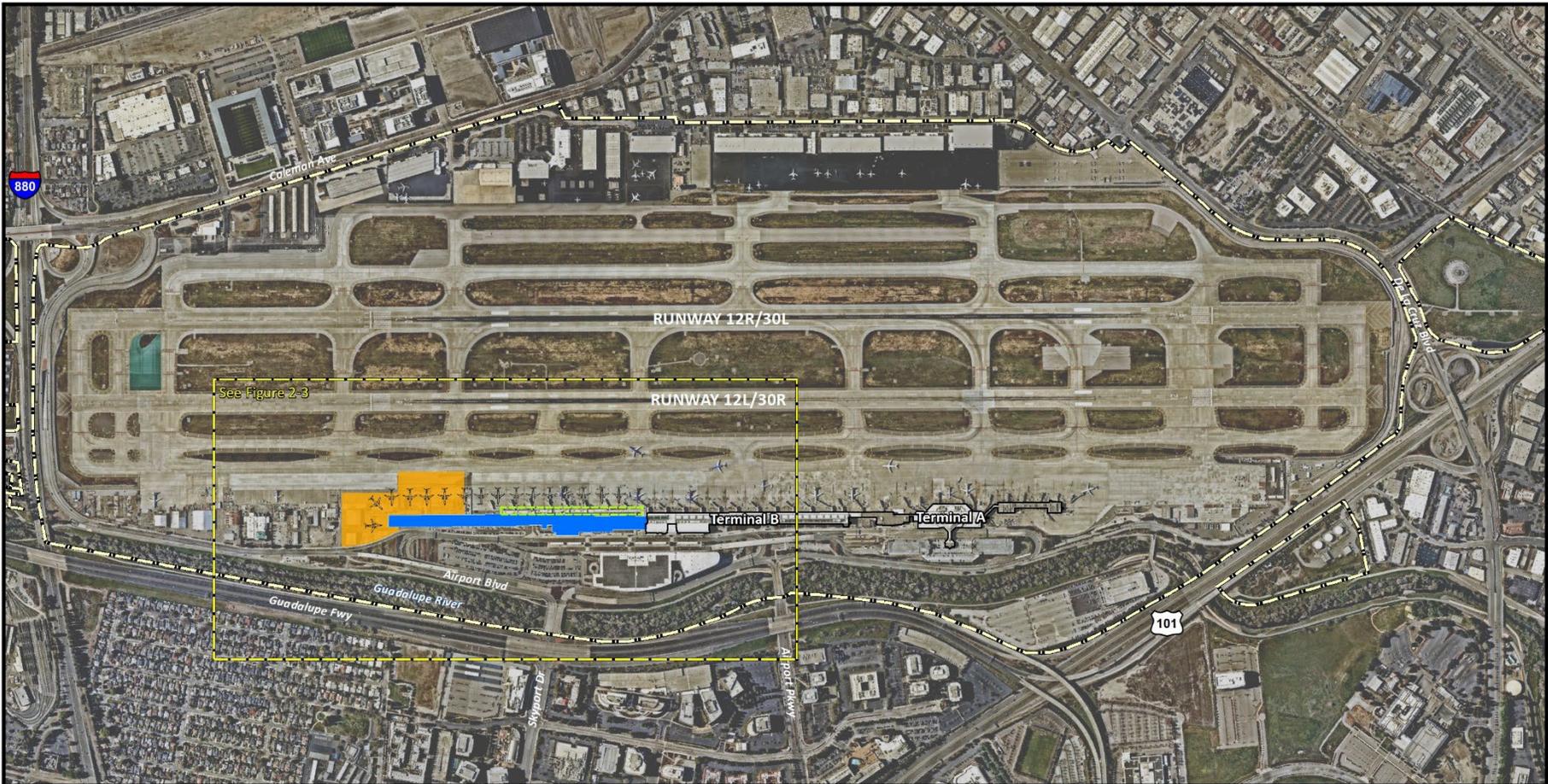
The Proposed Action Alternative would meet SJC's needs by accommodating the future commercial air carrier services through the year 2029, increasing the Airport's terminal capacity and operational efficiency, and improving level of service and convenience for airport users. The construction could also be phased to minimize disruption of airport operations. The replacement of the Interim Terminal Facility with the proposed Terminal B South Concourse would be accomplished in sections to prevent any major disruption to airport users, including passengers and airlines. The Proposed Action Alternative would not increase aircraft operations, change the aircraft fleet mix operating at SJC, or result in an increase in passengers. Growth in airport operations, as discussed in *Section 1.2.3, Aviation Activity Forecasts*, is expected to occur regardless of the proposed improvements. Therefore, the number of existing (2019) and future (2029 and 2034) operations considered in the analysis of alternatives would be the same with or without the Proposed Action Alternative. Additionally, there are no irreconcilable issues associated with the Proposed Action Alternative.

Therefore, the Proposed Action Alternative is carried forward for detailed environmental review as it is the Sponsor's Preferred Alternative. Illustrated on **Figure 2-2**, the Terminal B South Concourse (Proposed Action Alternative) would meet SJC's needs by making a number of improvements to the terminal gates and improving the aircraft parking apron pavement through rehabilitation. **Figure 2-3** provides a more detailed view of the terminal area.

⁴ City of San José, "Green Building," <https://www.sanjoseca.gov/your-government/environment/energy/green-building>, (accessed February 2020).

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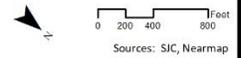
Norman Y. Mineta San José International Airport Proposed Terminal B South Concourse Improvements Environmental Assessment



Legend

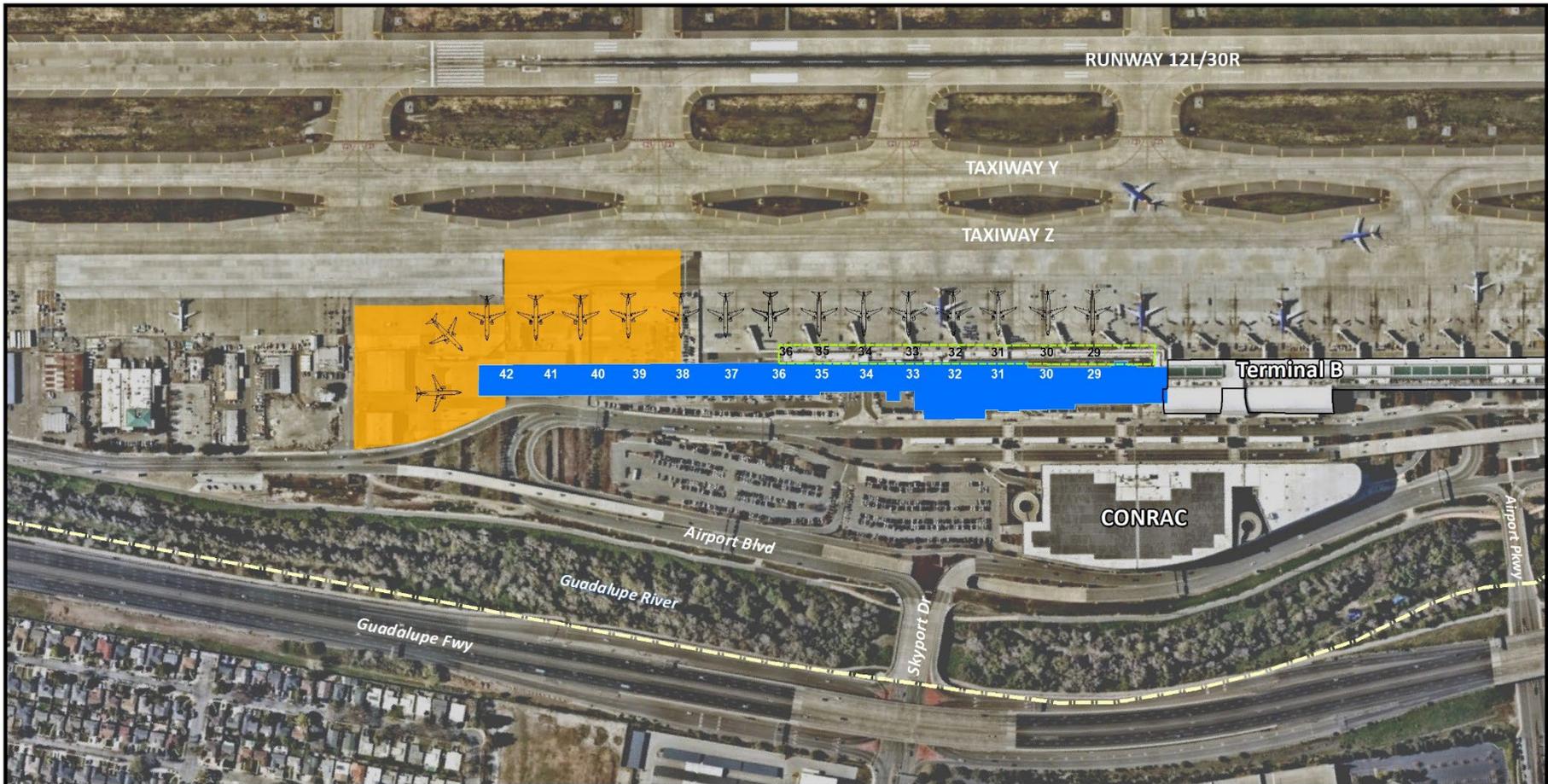
- Proposed South Concourse
- Proposed Terminal Apron
- Inset – See Figure 2-3
- Interim Terminal Facility (to be replaced by Proposed South Concourse)
- Airport Property Line

Figure 2-2
Terminal B South Concourse (Proposed Action Alternative)



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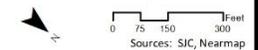
Norman Y. Mineta San José International Airport Proposed Terminal B South Concourse Improvements Environmental Assessment



Legend

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proposed South Concourse | Interim Terminal Facility (to be replaced by Proposed South Concourse) |
| # Proposed South Concourse Gate Number | Proposed Terminal Apron |
| Proposed Terminal Apron | Airport Property Line |

Figure 2-3
Terminal B South Concourse (Proposed Action Alternative)
Terminal Area



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2.3.3 No Action Alternative

40 CFR § 1502.14(d) of CEQ implementing NEPA regulations requires consideration of the “no action” alternative. In the No Action Alternative, illustrated on **Figure 2-4**, none of the proposed improvements would occur. The Terminal B South Concourse improvements needed to accommodate air transportation demand would not be constructed and the user experience for the traveling public and airline customers would continue to experience operational and space constraints, sub-optimal passenger processing functions, and degradation of LOS. The current Interim Terminal Facility would remain in place, which were intended as temporary use only and would eventually deteriorate to a non-useable level. Airlines would have to increasingly share airline gates and aircraft would need to be ground loaded during peak periods. Inefficiencies would become more apparent to travelers. Existing operational efficiencies would not be improved and space for terminal facilities to improve passenger processing would remain insufficient. The deteriorated airfield parking apron at the south end of Terminal B would continue to deteriorate and would remain insufficient for consistent aircraft use.

Although the No Action Alternative would not meet the purpose and need or other screening criteria for the project, this alternative was retained for detailed analysis per CEQ regulations (40 CFR § 1502.14(d)).

2.4 Conclusion

The screening process results are summarized in **Table 2.2**. Only the No Action Alternative and the Proposed Action Alternative were carried forward for detailed evaluation. As the table shows, only the Terminal B South Concourse (Proposed Action Alternative) is reasonable and meets the purpose and need identified in *Chapter One, Section 1.4, Purpose and Need*. This was the only alternative to pass both levels of the Two-Step Alternative Screening Process and is carried forward for evaluation in the EA. The “No Action” alternative serves as a basis of comparison with other alternatives retained for environmental analysis.

Table 2.2
Summary of Alternative Screening

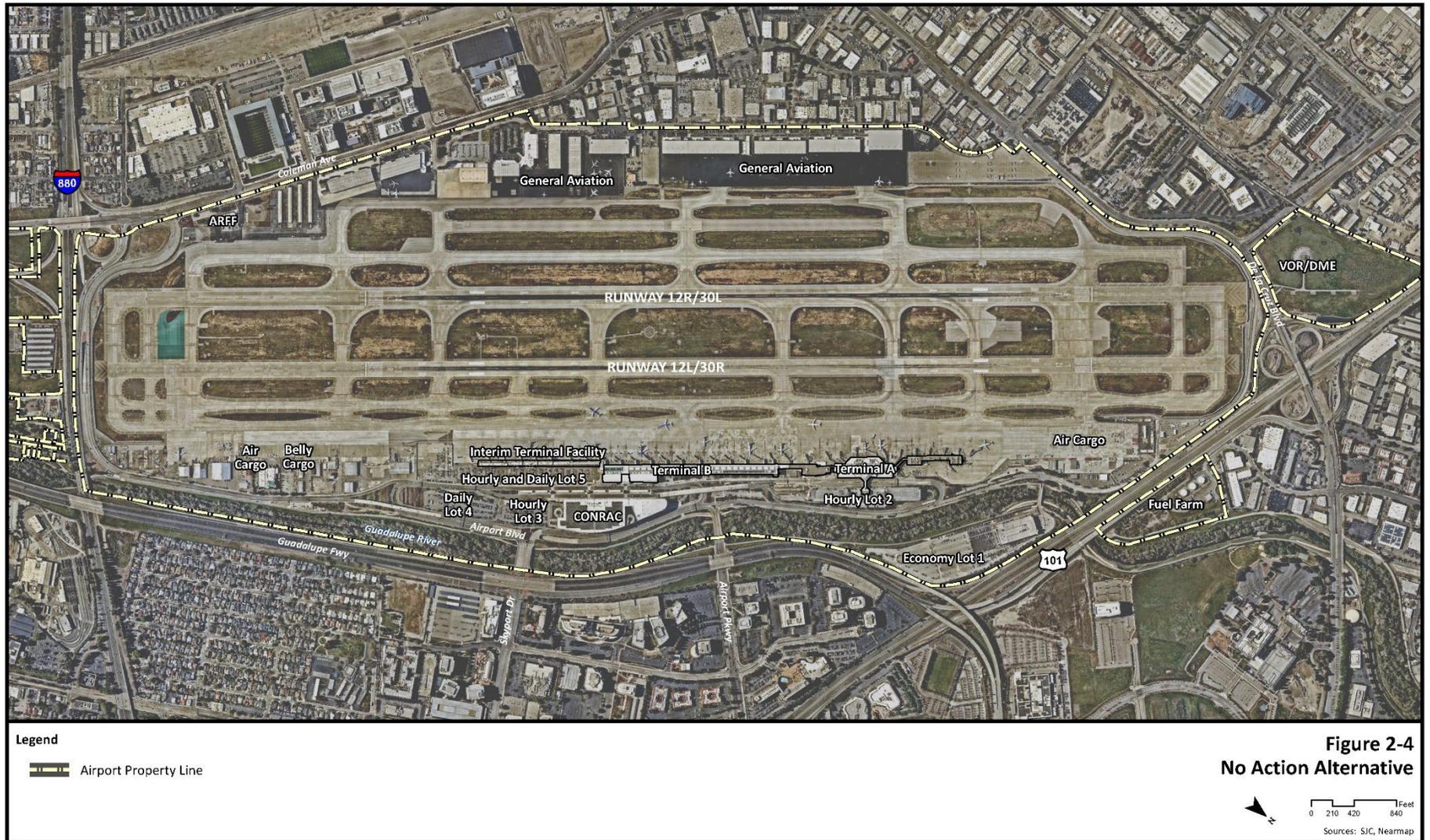
	Does the Alternative Pass to the Next Step?		Retain for Analysis in the EA?
	Step 1	Step 2	
Off-Site Alternatives			
Relocation of SJC or Construction of New Airport	No		No
Use of Other Airports	No		No
Use of Other Modes of Transportation	No		No
On-Site Alternatives			
Extension of Terminal A	Yes	No	No
New Terminal Facility Location	Yes	No	No
Terminal B South Concourse (Proposed Action Alternative)	Yes	Yes	Yes
No Action Alternative	No	No	Yes ¹

Note:

¹ The No Action Alternative was retained for analysis of environmental consequences per CEQ regulations (40 CFR § 1502.14(c)), 1978, as amended in 1986 and 2005.

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2.5 Permits, Licenses, Other Approvals, or Reviews

Per FAA Order 1050.1F, Paragraph 6-1.a.(4), a preliminary list of potential permits required for implementation of the Proposed Action Alternative is provided below.

- **Federal:** Approval of the Airport Layout Plan
- **State of California:** California State Water Resources Control Board: National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities
- **Bay Area Air Quality Management District:** Authority to Construct Permit (Air Quality)
- **Santa Clara County:** Earthmoving Permit/Dust Control Permit
- **City of San José:** Construction Permits, Updates to SWPPP and SPCC

2.6 Listing of Federal Laws and Regulations Considered

The federal laws and statutes, executive orders, U.S. Department of Transportation (USDOT) and FAA orders, FAA ACs, and other federal guidance considered during the preparation of this EA are listed in **Tables 2.3, 2.4 and 2.5.**

Table 2.3
Federal Laws and Statutes Considered

Federal Law or Statute	Citation
<i>Airport and Airway Improvements Act of 1982, as amended</i>	P.L. 97-248
<i>Aviation Safety and Capacity Expansion Act of 1990</i>	P.L. 101-508
<i>Wendell H. Ford Aviation Investment and Reform Act for the 21st Century, 2000</i>	P.L. 106-181
<i>FAA Modernization and Reform Act of 2012</i>	P.L. 112-095
<i>FAA Reauthorization Act of 2018</i>	P.L. 115-254
<i>National Environmental Policy Act of 1969</i>	P.L. 91-190; 42 U.S.C. 4321 et seq.
<i>National Historic Preservation Act of 1969, as amended</i>	54 U.S.C. §§ 300101-307108
<i>Clean Air Act of 1970, as amended</i>	42 U.S.C. 7401 et seq.
<i>Policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites (recodified from and formerly known as Section 4(f) of the Department of Transportation Act of 1966)</i>	49 U.S.C. Section 303
<i>Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs</i>	42 U.S.C. 61 et seq.
<i>Vision 100 – Century of Aviation Reauthorization Act of 2003</i>	P.L. 108-176
<i>Noise Control Act of 1972</i>	P.L. 92-574; 42 U.S.C. Section 4901
<i>Aviation Safety and Noise Abatement Act of 1979</i>	P.L. 96-193.
<i>Airport Noise and Capacity Act of 1990</i>	49 U.S.C. 4752 et seq.
<i>Endangered Species Act of 1973, as amended</i>	16 U.S.C. 1531 et seq.
<i>Fish and Wildlife Coordination Act of 1958</i>	P.L. 85-624.
<i>Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended</i>	16 U.S.C. 1801 et seq.
<i>Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Community Environmental Response Facilitation Act of 1992</i>	42 U.S.C. 9601 et seq.

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Table 2.3
Federal Laws and Statutes Considered

Federal Law or Statute	Citation
<i>Resource Conservation and Recovery Act of 1976, as amended by the Solid Waste Disposal Act of 1980</i>	42 U.S.C. 6901 et seq.
<i>Policy on Lands, Wildlife and Waterfowl Refuges, and Historic Sites [recodified from and formerly known as Section 4(f) of the Department of Transportation Act of 1966]</i>	49 U.S.C. Section 303.
<i>Archaeological and Historic Preservation Act of 1974, as amended</i>	U.S.C. 469 et seq.
<i>Clean Water Act, as amended</i>	33 U.S.C. 1251 et seq.
<i>Rivers and Harbors Act of 1899</i>	33 U.S.C. 403 et seq.
<i>Land and Water Conservation Fund Act of 1965</i>	16 U.S.C. 4601 et seq.
<i>Farmland Protection Policy Act</i>	7 U.S.C. 4201 et seq.
<i>Wild and Scenic Rivers Act of 1968</i>	16 U.S.C. 1271 et seq.
<i>Toxic Substances Control Act</i>	15 U.S.C. 2601 et seq.
<i>Coastal Zone Management Act of 1972</i>	16 U.S.C. 1452 et seq.
<i>Migratory Bird Treaty Act of 1972</i>	16 U.S.C. 703-711
Notes:	
U.S.C = United States Code; P.L. = Public Law	

Table 2.4
Executive Orders Considered

Executive Order	Citation
<i>Executive Order 11593, "Protection and Enhancement of the Cultural Environment"</i>	36 FR 8921
<i>Executive Order 11988, "Floodplain Management"</i>	43 FR 6030
<i>Executive Order 11514, "Protection and Enhancement of Environmental Quality"</i>	35 FR 4247
<i>Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency"</i>	65 FR 50121
<i>Executive Order 11990, "Protection of Wetlands"</i>	42 FR 26961
<i>Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"</i>	59 FR 7629
<i>Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks"</i>	62 FR 19885
Notes:	
FR = Federal Register	

Table 2.5
FAA Orders, Advisory Circulars, and Federal Regulations Considered

U.S. Department of Transportation and FAA Orders
U.S. Department of Transportation (DOT), FAA Order 1050.1F, <i>Environmental Impacts: Policies and Procedures</i>
U.S. DOT, FAA Order 5050.4B, <i>National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions</i>
U.S. DOT, Order 5650.2, <i>Floodplain Management and Protection</i>
U.S. DOT Order 5610.1C, <i>Procedures for Considering Environmental Impacts</i>
U.S. DOT, Order 5660.1A, <i>Preservation of the Nation's Wetlands</i>

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Table 2.5

FAA Orders, Advisory Circulars, and Federal Regulations Considered

U.S. DOT, Order 5610.2B, <i>Final Order to Address Environmental Justice in Low-Income and Minority Populations</i>
U.S. DOT, FAA Joint Order 7110.65Y, <i>Air Traffic Control</i>
FAA Advisory Circulars (AC)
U.S. DOT, FAA AC 91-53A, <i>Noise Abatement Departure Profile</i>
U.S. DOT, FAA AC 150/5070-6B, <i>Airport Master Plans</i>
U.S. DOT, FAA AC 150/5200-33C, <i>Hazardous Wildlife Attractants on or Near Airports</i>
U.S. DOT, FAA AC 36-3H, <i>Estimated Airplane Noise Levels in A-Weighted Decibels</i>
U.S. DOT, FAA AC 150/5300-13B, <i>Airport Design</i>
U.S. DOT, FAA AC 150/5320-6F, <i>Airport Pavement Design and Evaluation</i>
U.S. DOT, FAA AC 150/5370-10H, <i>Standard Specifications for Construction of Airports</i>
U.S. DOT, FAA AC 150/5360-13A, <i>Airport Terminal Planning</i>
Code of Federal Regulations (CFR)
Title 14 CFR Part 77, <i>Safe, Efficient Use and Preservation of the Navigable Airspace</i>
Title 14 CFR Part 139, <i>Certification of Airports</i>
Title 14 CFR Part 150, <i>Airport Noise Compatibility Planning</i>
Title 14 CFR Part 151, <i>Federal Aid to Airports</i>
Title 14 CFR Part 152, <i>Airport Aid Program</i>
Title 14 CFR Part 157, <i>Notice of Construction, Alteration, Activation, and Deactivation of Airports</i>
Title 14 CFR Part 158, <i>Passenger Facility Charges</i>
Title 14 CFR Part 169, <i>Expenditure of Federal Funds for Nonmilitary Airports or Air Navigation Facilities Thereon</i>
Title 23 CFR Part 772, <i>Procedures for Abatement of Highway Traffic Noise and Construction Noise</i>
Title 33 CFR Section 328.3, <i>Definition of Waters of the United States</i>
Title 36 CFR Part 68, <i>The Secretary of the Interior's Standards for the Treatment of Historic Properties</i>
Title 36 CFR Part 800, <i>Protection of Historic Properties</i>
Title 40 CFR Part 93, Subpart B, <i>Determining Conformity of General Federal Actions to State or Federal Implementation Plans</i>
Title 40 CFR Part 122, <i>EPA Administered Permit Programs: The National Pollutant Discharge Elimination System</i>
Title 40 CFR Part 124, <i>Procedures for Decision making</i>
Title 40 CFR Part 172, <i>Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans</i>
Title 40 CFR Parts 1500-1508, <i>President's Council on Environmental Quality National Environmental Policy Act Implementing Regulations</i>
Title 50 CFR Part 402, <i>Interagency Cooperation – Endangered Species Act of 1973, as amended</i>
Title 50 CFR Section 10.13, <i>List of Migratory Birds</i>
Notes:
AC = Advisory Circular; CFR = Code of Federal Regulations.

Chapter Three: Affected Environment

3.1 Introduction

In accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*¹, FAA 1050.1F, *Desk Reference*² and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*³, this chapter describes the existing conditions and resources within the geographic area that could potentially be directly or indirectly affected by the implementation of the Proposed Action. CEQ implementing NEPA regulations (40 CFR §1508.8) define direct effects as those “*which are caused by the action and occur at the same time and place*” and indirect effects as those “*which are caused by the action and are later in time and further removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.*”

This chapter also identifies environmental resources that would not be affected by the Proposed Action and documents existing conditions for potentially affected resources. Potential direct, indirect, and cumulative effects of the Proposed Action are discussed in *Chapter Four, Environmental Consequences*. **Table 3.1** presents the environmental resource categories that would not be affected by the alternatives, along with the rationale for no further review of these categories. In accordance with guidance provided in FAA Orders 5050.4B and 1050.1F, environmental resources not present within the study areas would not be affected by the alternatives, and therefore are not discussed within this chapter.

Table 3.1
Environmental Resource Categories Not Affected

Coastal Resources	SJC is not located within a designated coastal zone pursuant to the Coastal Zone Management Act of 1972 (CZMA) as defined by National Oceanic and Atmospheric Administration (NOAA) and delegated to California Coastal Commission’s definition of the California Coastal Program.
Farmlands	There are no prime, unique, statewide or locally important farmlands present in the Study Area defined by criteria in 7 CFR § 658.5.
Wetlands (of Water Resources)	There are no wetlands that meet Clean Water Act jurisdictional or Executive Order 11990 criteria present in the Study Area.
Wild and Scenic Rivers (of Water Resources)	There are no Wild and Scenic Rivers in the Study Area. The closest Wild and Scenic River segments to SJC are part of the Big Sur River, which is approximately 100 miles south of the Airport and the American River about 100 miles to the northeast.

Source: HNTB analysis, 2022.

¹ U.S. Department of Transportation, Federal Aviation Administration, *Order 1050.1F, Environmental Impacts, Policies and Procedures*, effective July 16, 2015.

² U.S. Department of Transportation, Federal Aviation Administration – Office of Environment and Energy, *1050.1F Desk Reference, Version 2*, February 2020

³ U.S. Department of Transportation, Federal Aviation Administration, *Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, effective April 28, 2006.

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The following environmental resources are assessed in this EA based on requirements in FAA Orders 1050.1F and 5050.4B:

- Air Quality
- Biological Resources
- Climate
- Department of Transportation Act (DOT) Section 4(f)
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Historical, Architectural, Archaeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomic Impacts, Environmental Justice, and Children’s Environmental Health and Safety Risks
- Visual Effects
- Water Resources
- Cumulative Impacts

3.2 Study Areas and Years of Analysis

A study area is the geographic area where the potential impacts of the alternatives retained for further study are analyzed. The extent of the study area depends upon the environmental resource being evaluated and whether direct or indirect impacts are being considered. Therefore, for the purposes of this EA, two general study areas were identified: the Direct Study Area (DSA) and the Indirect Study Area (ISA). The DSA was determined by the extent of the proposed construction activity that could experience ground disturbance (e.g., demolition, site grading, and construction), and construction staging area. The ISA is the area 100 feet from the DSA where resources could be indirectly affected by the Proposed Action. The DSA and ISA are shown on **Figure 3-1**. In cases where these study areas were not applicable (e.g., air quality, climate, noise, DOT Section 4(f), Socioeconomic Impacts, Environmental Justice, and Children’s Environmental Health and Safety Risks, Cumulative Impacts), the criteria used to define the specific study area is described in the section addressing the associated resource.

Analysis years were established for the affected environment and forecast years to be used for environmental analysis. The affected environment defined for this EA includes existing conditions within the study areas (year 2022) combined with conditions experienced in 2019 for noise and air quality. The affected environment for noise and air quality is more accurately defined by the last full year of passenger activity prior to the impacts of COVID-19, consistent with the approved aviation forecasts present in *Chapter One, Purpose and Need, Section 1.2.3, Aviation Activity Forecasts*. The forecast years are 2029, the first full year of implementation, and 2034, five years thereafter (2034).

3.3 Air Quality

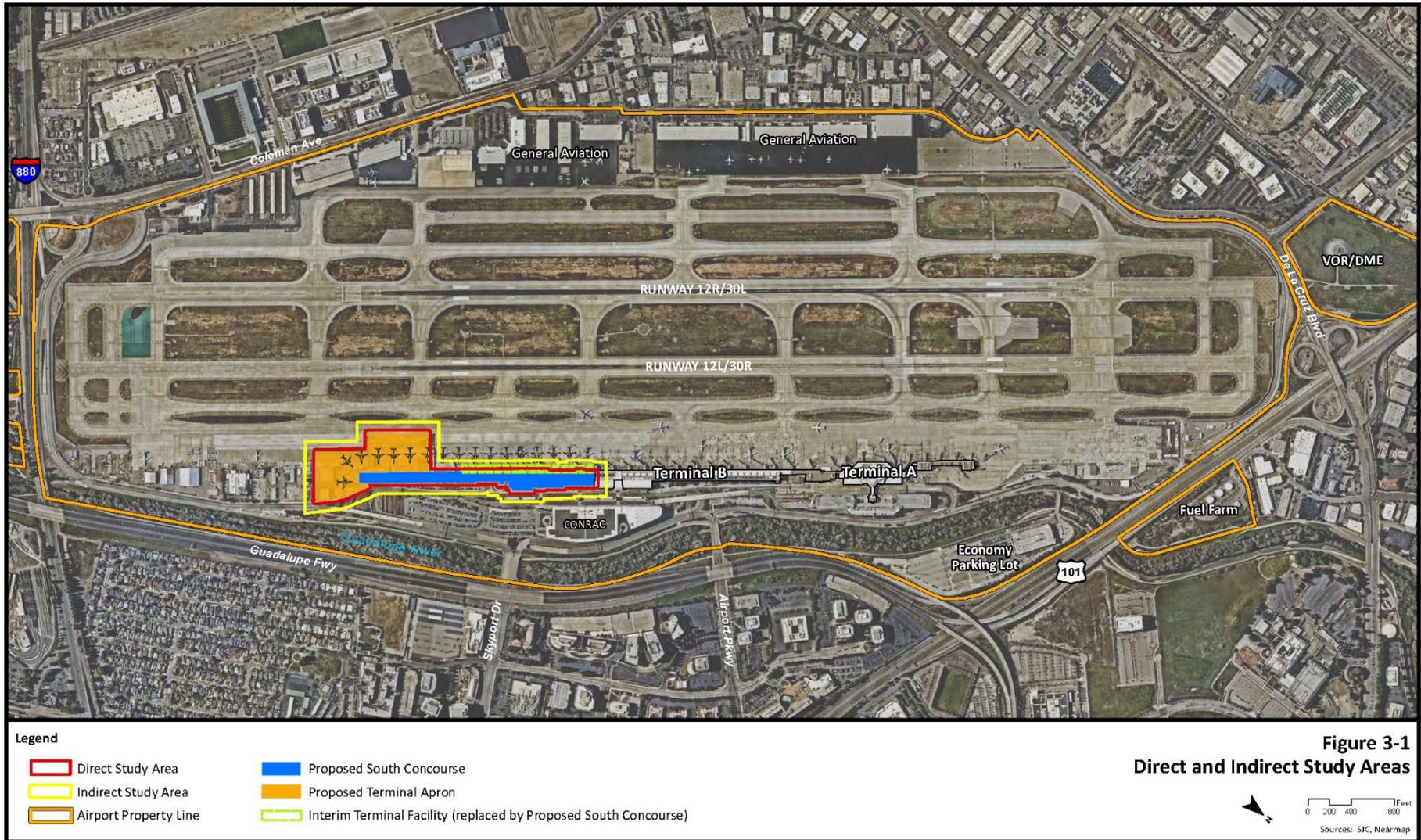
This section describes regulatory setting and existing air quality conditions (i.e., the affected environment) in the area surrounding SJC. **Appendix C, Air Quality and Climate** provides the detailed analysis and presents the findings of the air quality assessment conducted for this EA. For purposes of the air quality analysis, the study area is considered the entire geographic area that could be impacted by the Proposed Action. Therefore, the study area for air quality is the San Francisco Bay Area Air Basin (SFBAAB or Basin).

3.3.1 National and California Ambient Air Quality Standards

Federal, state, and local governments all share responsibility for air quality management. The federal Clean Air Act (CAA) is the primary statute that establishes national ambient air quality standards (NAAQS). It also establishes regulatory authorities to design and enforce air quality regulations. The EPA promulgates the NAAQS to safeguard public health and environmental welfare against the detrimental effects of ambient air pollution. California has adopted their own set of ambient standards, California Ambient Air Quality Standards (CAAQS), that are generally more stringent than the federal standards for the criteria air pollutants.

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SJC is located in Santa Clara County in California within the SFBAAB. At the state level, the California Air Resources Board (CARB) manages air quality, regulates mobile emissions sources, and oversees the activities of county and regional air districts within California. The Bay Area Air Quality Management District (BAAQMD) within CARB has jurisdiction over the Basin. The BAAQMD is responsible for ensuring that federal and state air quality standards are met by monitoring ambient air pollutant levels throughout the region and implementing strategies to attain the standards.

Table 3.2 summarizes the NAAQS. Santa Clara County is currently designated by the USEPA to be in a marginal non-attainment area with respect to the 2008 and 2015 8-hour O₃ standards; and moderate non-attainment for the 2006 PM_{2.5} standard. and **Table 3.3** summarizes the CAAQS. The SFBAAB is designated by BAAQMD to be in a nonattainment area for O₃, PM₁₀ and PM_{2.5}.⁴

Table 3.2
National Ambient Air Quality Standards

Pollutant	Primary/ Secondary	Averaging Period	Standards
Carbon Monoxide (CO)	Primary	1-hour	35 ppm
		8-hour	9 ppm
Ozone (O ₃)	Primary and Secondary	8-hour ^a	0.070 ppm
Nitrogen Dioxide (NO ₂)	Primary	1-hour ^b	0.10 ppm
	Primary and Secondary	Annual	0.053 ppm
Sulfur dioxide (SO ₂)	Primary	1-hour ^c	0.075 ppm
	Secondary	3-hour ^d	0.5 ppm
Coarse Particulate matter (PM ₁₀)	Primary and Secondary	24-hour	150 µg/m ³
Fine Particulate matter (PM _{2.5})	Primary and Secondary	24-hour ^d	35 µg/m ³
	Primary	Annual ^e	12 µg/m ³
	Secondary	Annual ^e	15 µg/m ³
Lead (Pb)	Primary and Secondary	3-month ^f	0.15 µg/m ³

Notes: ppm = parts per million; and µg/m³ = micrograms per cubic meter.

- (a) Standard based on the annual fourth-highest daily maximum 8-hour concentration, averaged over three years.
- (b) Standard based on the 98th percentile of 1-hour daily maximum concentrations, averaged over three years.
- (c) Standard based on the 99th percentile of 1-hour daily maximum concentrations, averaged over three years.
- (d) Standard based on the daily 98th percentile, averaged over three years.
- (e) Standard based on annual mean, averaged over three years.
- (f) Corresponds to a rolling three-month average over three years of monitoring data.

* *Primary standards* provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. *Secondary standards* provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Source: USEPA NAAQS Table, <https://www.epa.gov/criteria-air-pollutants/naaqs-table>, and USEPA Green Book, <https://www.epa.gov/green-book>, accessed 9/14/22.

⁴ BAAQMD, Air Quality Standards and Attainment Status, <https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status>, accessed 12/16/22.

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Table 3.3
Bay Area Air Quality Management District California Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS ^a
Ozone (O ₃)	1-Hour	0.09 ppm
	8-Hour ^b	0.070 ppm
Carbon Monoxide (CO)	1-Hour	20 ppm
	8-Hour	9.0 ppm
Nitrogen Dioxide (NO ₂)	1-Hour	0.18 ppm
	Annual	0.030 ppm
Sulfur Dioxide (SO ₂)	1-Hour	0.25 ppm
	24-Hour	0.04 ppm
Coarse Particulate Matter (PM ₁₀)	24-Hour	50 µg/m ³
	Annual ^c	20 µg/m ³
Fine Particulate Matter (PM _{2.5})	Annual ^c	12 µg/m ³
Lead	30-day Average	1.5 µg/m ³
Sulfates	24-Hour	25 µg/m ³
Hydrogen Sulfide	1-Hour	0.03 ppm
Vinyl Chloride	24-Hour	0.010 ppm
Visibility Reducing Particles	8-Hour	0.23/km

Notes:

^a California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM₁₀, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour or 24-hour average (i.e., all standards except for lead and the PM₁₀ annual standard), then some measurements may be excluded. In particular, measurements are excluded that ARB determines would occur less than once per year on the average.

^b The 8-hour CA ozone standard was approved by the Air Resources Board on April 28, 2005 and became effective on May 17, 2006.

^c In June 2002, CARB established new annual standards for PM_{2.5} and PM₁₀.

Sources: CARB BAAQMD, Air Quality Standards and Attainment Status, <https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status>, accessed 5/25/22.

3.3.2 Existing Ambient Air Quality

BAAQMD maintains a network of 30 air monitoring stations throughout the Bay Area. The San José – Jackson Street monitor is the closest station to SJC, located approximately one mile southeast of the Airport. **Table 3.4** summarizes ambient air quality monitoring data at this station between 2017 through 2019.⁵ The air monitoring data from 2017-2019 indicate no exceedances of federal or state standards for CO, NO₂, SO₂, and no exceedances of federal 24-hr PM₁₀ standards in any year. The data indicates minimal exceedances of federal and state ozone standards (1% or less of the year) in 2017 and 2019, minimal exceedances of the state 24-hr PM₁₀ standard (2% or less of the year) in 2017-2019, and minimal exceedances of the federal 24-hr PM_{2.5} standard (4% or less of the year) in 2017 and 2018.

⁵ Annual Bay Area Air Quality Summaries are currently provided through year 2019.

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Table 3.4
City of San José – Jackson Street Monitoring Data

Pollutant	Averaging Time	2017	2018	2019
Ozone	Maximum Concentration, 1-hour (ppb)	121	78	95
	Maximum Concentration, 8-hour (ppb)	98	61	81
	# Days Standard Exceeded			
	Federal (2015), 8-hour (70 ppb)	4	0	2
	State, 1-hour (90 ppb)	3	0	1
	State, 8-hour (70 ppb)	4	0	2
CO	Maximum Concentration, 1-hour (ppm) (NAAQS: 35 ppm, CAAQS: 20 ppm)	2.1	2.5	1.7
	Maximum Concentration, 8-hour (ppm) (NAAQS/CAAQS: 9 ppm)	1.8	2.1	1.3
NO ₂	Maximum Concentration, 1-hour (ppb) (NAAQS: 100 ppb, CAAQS: 180 ppb)	68	86	60
	Annual Average Concentration, AAM (ppb) (NAAQS: 53 ppb, CAAQS: 30 ppb)	12	13	11
SO ₂	Maximum Concentration, 1-hour (ppb) (NAAQS: 75 ppb, CAAQS: 250 ppb)	3.6	6.9	14.5
	Maximum Concentration, 24-hour (ppb) (NAAQS: 140 ppb, CAAQS: 40 ppb)	1.1	1.1	1.5
PM ₁₀	Annual Average Concentration, AAM (µg/m ³) (CAAQS: 20 µg/m ³)	21.6	23.1	19.2
	Maximum Concentration, 24-hour (µg/m ³)	70	122	77
	# Samples Exceeding Federal Standard, 24-hour (150 µg/m ³)	0	0	0
	# Samples Exceeding State Standard, 24-hour (50 µg/m ³)	6	4	4
PM _{2.5}	Maximum Concentration, 24-hour (µg/m ³)	49.7	133.9	27.6
	# Samples Exceeding Federal Standard (35 µg/m ³), 24-hour	6	15	0
	Annual Average Concentration, AAM (µg/m ³) (NAAQS/CAAQS: 12 µg/m ³)	9.5	12.8	9.1

Note: AAM = Annual Arithmetic Mean

Source: BAAQMD, Annual Bay Area Air Quality Summaries, 2017-2019, <https://www.baaqmd.gov/about-air-quality/air-quality-summaries>, accessed 5/26/22.

3.3.3 Existing Conditions Emissions

The primary sources of emissions at SJC include emissions from aircraft operations, motor vehicles, and stationary sources. Aircraft related emissions include emissions from both aircraft operations, as well as ground support equipment (GSE) and auxiliary power units (APUs). Stationary source emissions are associated with fuel storage and transfer facilities, heating and cooling, and generators. SJC estimates that stationary source emissions account for less than 1% of total emissions associated with SJC. As indicated in *Chapter One, Purpose and Need, Section 1.1, Introduction*, the Proposed Action would not increase aircraft operations, change the aircraft fleet mix operating at SJC, or result in an increase in passengers. For disclosure purposes, an affected environment emissions inventory for aircraft operations (i.e., aircraft activity, GSEs and APUs) was prepared for

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2019⁶ using Aviation Environmental Design Tool (AEDT) Version 3e.⁷ The 2019 aircraft related operational emissions are presented in **Table 3.5. Appendix C, Air Quality and Climate**, includes details on emissions inventory assumptions and methodology for criteria air pollutants.

Table 3.5
2019 Existing Conditions Operational Emissions Inventory for SJC

Emissions Source	Pollutant (tpy)					
	CO	VOC	NO _x	SO _x	PM ₁₀	PM _{2.5}
Aircraft	773	121	601	61	5	5
GSE	194	7	21	0.1	1	1
APUs	29	3	24	4	3	3
Total	996	131	647	65	10	10

Note: Although lead (Pb) is a criteria pollutant, it was not evaluated because the Proposed Action would have no impact on lead emissions.
Totals may not sum due to rounding.

Source: AEDT v.3e; HNTB, 2022.

3.4 Biological Resources

Existing biological resources, including fish, wildlife, plants, habitats, and natural communities, within the DSA and ISA are described in the following sections. The following sections are based on the *Biological Resources Report* that is included in **Appendix D, Biological Resources**.

3.4.1 Habitat Types

Habitat types at the Airport in the DSA and ISA are shown in **Figure 3-2**. There are no waters, wetlands, riparian, or other sensitive habitats within the DSA or ISA that are regulated by federal or state laws.

3.4.1.1 Developed/Landscaped

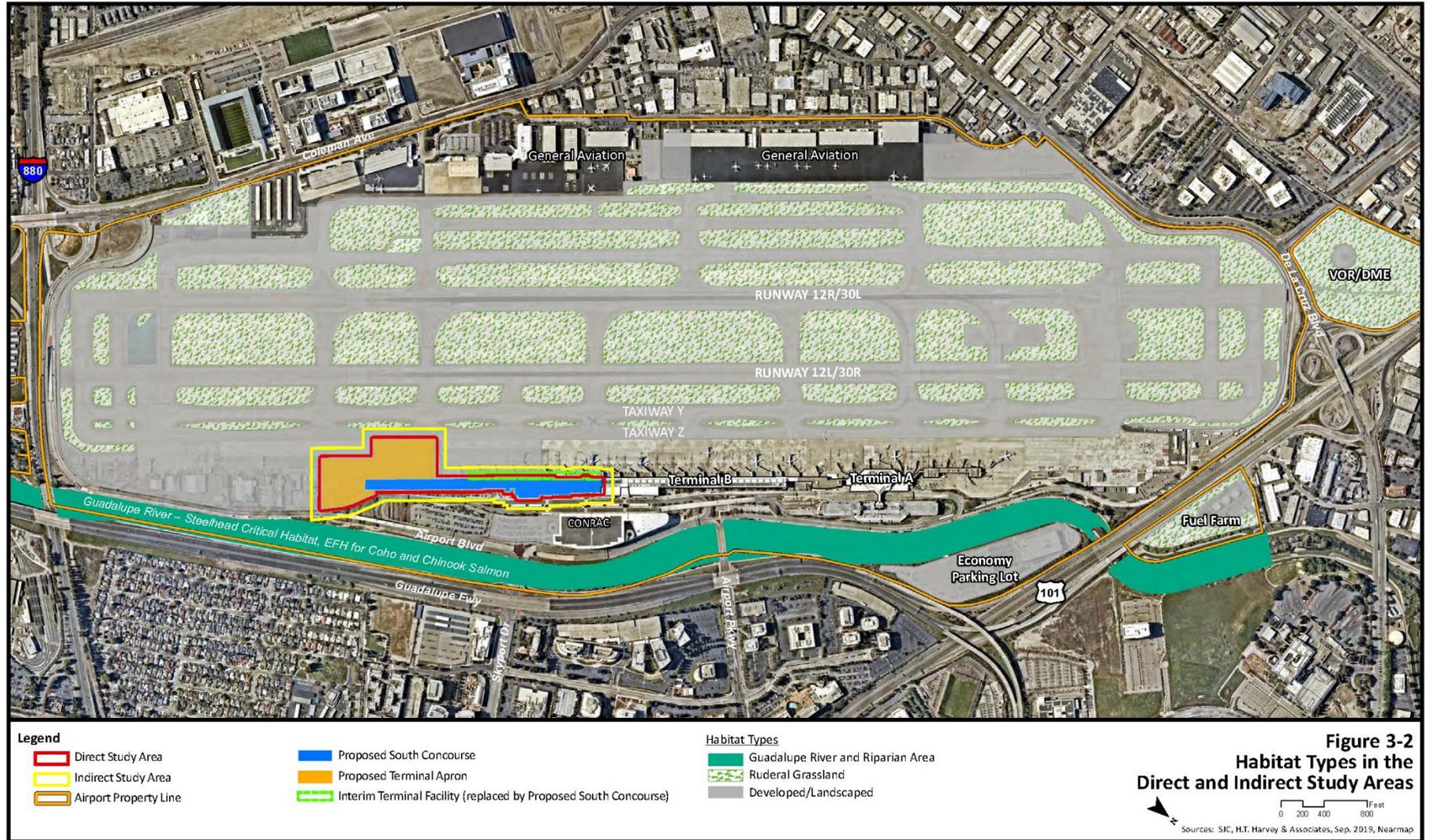
The DSA consists entirely of developed and landscaped habitat (18.8 acres) and supports no trees and minimal vegetation to minimize the attraction of wildlife to the airfield in compliance with FAA AC 150/5200-33C, *Hazardous Wildlife Attractants on or near Airports*. The DSA comprises the existing airfield, the Interim Terminal Facility, and surface parking. The ISA consists of additional developed and landscaped areas that include Airport Boulevard and pick-up/drop-off areas. In the ISA, particularly along the east side of the terminal buildings, are various landscaped areas that are mown and maintained by Airport staff. They also support few trees and minimal vegetation to minimize the attraction of wildlife to the airfield. Common native and non-native wildlife species that are associated with urban areas and tolerant of high levels of human disturbance occur within developed portions of the DSA and ISA. Typical species include songbirds, small mammals, and reptiles. The buildings within the DSA and ISA may be attractive to nesting birds and roosting bats.

⁶ The affected environment for air quality is more accurately defined by the last full year of passenger activity prior to the impacts of COVID-19, and consistent with the approved aviation forecasts presented in *Table 1.2*. Aircraft levels at SJC are still below the 2019 levels and therefore the use of 2019 is a conservative projection for emissions.

⁷ AEDT Version 3e was the most current version of the model available at the time the analysis was conducted.

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3.4.1.2 Ruderal Grassland

A very small area of ruderal grassland is present within the ISA. Within the Airport infield, ruderal grasslands are present between the runways, taxiways, and other paved/developed areas. This ruderal grassland is dominated by non-native annual grasses and common non-native forbs. Ruderal grassland habitat located within the airfield is actively managed to discourage wildlife and is regularly disturbed by mowing. These activities are conducted in accordance with the SJC Airport Certification Manual (ACM) (1/11/2021), which demonstrates how the Airport is operated in compliance with 14 CFR Part 139 to maintain safety standards. Responsibilities pertaining to the requirements of the ACM and 14 CFR Part 139 as they relate to wildlife hazard management are included in the United States Department of Agriculture's (USDA) *Norman Y. Mineta San José International Airport Wildlife Hazard Management Plan* (WHMP).⁸ The WHMP consists of a combination of personnel training, daily monitoring, on-going habitat controls (e.g. mowing and herbicide spraying to restrict vegetation height to less than 12 inches) and wildlife population reduction measures (e.g. rodent control program, trapping/netting, etc.) that are used on an as-needed basis.

Current management practices to limit wildlife also include trash removal, nest removal, anti-perching spike installation, trapping, hazardous wildlife harassment (e.g., hazing with use of pyrotechnics and vehicles), lethal control, and perching structure removal.⁹ SJC has both a Federal Depredation Permit for migratory birds as well as an Eagle Depredation Permit. Wildlife species well adapted to developed areas and high levels of human disturbance occur in grassland areas in the infield, in addition to native grassland species. Moderate numbers of native rodents may be present throughout the ruderal grassland areas within the airfield. Burrowing owls (*Athene cunicularia*) have inhabited these grassland areas for decades and are present year-round, primarily nesting and roosting southwest of Runway 12R-30L and foraging throughout the infield grasslands. No birds are allowed or have been observed breeding in the DSA or ISA. As is typical of the habitat, aerial foragers (bats and birds) fly over this habitat for insects. Diurnal raptors forage for small mammals over grasslands during the day, and nocturnal raptors forage for nocturnal rodents at night. Medium-sized mammal species utilize ruderal habitats in the ISA for foraging. Small reptiles frequent grassland habitats and may occur in adjacent developed habitats in the DSA and ISA. No grasslands are found within the DSA.

3.4.2 Special-status Species

As described in *Appendix D*, a variety of sources were consulted to determine what special-status species have the potential to occur within the Study Areas. The USFWS was consulted via their Information, Planning, and Conservation online system (IPaC) on May 19, 2022. An official NMFS list was obtained on November 15, 2021. Species lists from NMFS, USFWS, California Natural Diversity Database (CNDDDB), and California Native Plant Society (CNPS) are included in *Appendix D*. Special-status species and habitats that were determined in *Appendix D* to have the potential to occur in the DSA or ISA are summarized below, based on field surveys that were conducted in January through March of 2019.

3.4.2.1 Federally Listed Species

Table 3.6 identifies federally listed species, critical habitat, and Essential Fish Habitat (EFH) that were included on species lists from USFWS and NMFS. Based on field surveys and observed habitat types, no federally listed species have the potential to occur within the DSA or ISA. No federally listed species, EFH, or designated critical habitat is present in the DSA or ISA.

⁸ WHMP provides measures to alleviate or eliminate wildlife hazards to air carriers.

⁹ USDA, Norman Y. Mineta San José International Airport Wildlife Hazard Management Plan, 2017.

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3.4.2.2 State-Listed Species

Table 3.7 identifies the potential for state-listed species to be present within the DSA or ISA. One state-listed species, the burrowing owl, is known to occur within the ISA but is categorized as an unlikely breeder as there have been no documented nests in or adjacent to the ISA based on annual survey data from 2011-2021. The following state-listed species may be migrants, transients, or foragers within the DSA and ISA, primarily within ruderal grasslands: tricolored blackbird (*Agelaius tricolor*), Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), grasshopper sparrow (*Ammodramus savannarum*), American peregrine falcon (*Falco peregrinus*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaeetus leucocephalus*), loggerhead shrike (*Lanius ludocivianus*), and pallid bat (*Antrozous pallidus*).

Burrowing Owl (*Athene cunicularia*)

Federal Listing Status: None; State Listing Status: CSSC.

Burrowing owls are small, terrestrial owls of open country. These owls inhabit annual and perennial grasslands, typically with sparse or nonexistent tree or shrub canopies. In California, burrowing owls are found in close association with California ground squirrels (*Otospermophilus beecheyi*), as owls use the abandoned burrows of ground squirrels for shelter and nesting. The nesting season extends from February 1 through August 31.¹⁰ Burrowing owls are known to occur at the Airport in the abandoned burrows of California ground squirrels, located in the infield. The Airport has monitored the owl on its property since 1989, as a population of burrowing owls has been present year-round at the Airport for decades. The City developed the *Burrowing Owl Management Plan – San José International Airport* (BOMP) in 1997 to reduce potential owl collisions with aircraft. Population monitoring and surveys conducted under the BOMP indicate the burrowing owl population initially grew after implementation of the BOMP, but it has steadily declined since 2002. The decline in population can be attributed to regional population decline, ground squirrel control efforts, reduced food availability, and/or habitat loss. Presently, the majority of burrowing owls nest west of Runway 12R-30L. **Figure 3-3** illustrates the burrowing owl breeding season locations documented since 2011. No owls have been documented nesting within the DSA or ISA since 2015, as the DSA has been entirely converted from grassland to hardscape and no nests have been documented in or near the grasslands in the ISA. Although owls may forage in and near the small area of grassland in the ISA, owl nesting and roosting would be limited to outside of the DSA and ISA.

3.4.2.3 Other Protected Species

Other species not listed under the Federal Endangered Species Act but protected by other federal regulations have the potential to occur within the DSA and ISA. The Migratory Bird Treaty Act (MBTA) prohibits anyone from taking, possessing, importing, exporting, transporting, selling, purchasing, or bartering any migratory bird or the parts, nests, or eggs of such a bird except under the terms of a valid federal permit. All bird species found within the DSA or ISA that are native to the U.S. are protected by the MBTA, regardless of whether they are rare or common. The following species are not protected by the MBTA: rock pigeon (*Columba livia*), house sparrows (*Passer domesticus*), and European starlings (*Sturnus vulgaris*).

The Bald and Golden Eagles Protection Act prohibits the taking, possessing, selling, purchasing, or bartering of any bald or golden eagle alive or dead, including any part, nest, or egg without a valid permit. Bald and golden eagles may occur in the DSA or ISA as nonbreeding foragers, primarily during migration patterns and winter, but there is no suitable nesting habitat at the Airport.¹¹ The Airport holds a Bald and Golden Eagle Depredation Permit to harass them off the airfield.

¹⁰ California Department of Fish and Game, "Staff Report on Burrowing Owl Mitigation," March 7, 2012.

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Table 3.6
Federally Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Federal Endangered, Threatened, or Candidate Species and Critical Habitat			
Alameda whipsnake (=striped Racer) (<i>Masticophis lateralis euryxanthus</i>)	FT, ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna, and woodland habitats.	Absent. No suitable habitat for this species in the DSA or ISA.
Ben Lomond spineflower (<i>Chorizanthe pungens</i> var. <i>hartwegiana</i>)	FE	Lower montane coniferous forest (maritime ponderosa pine sandhills)	Absent. Occurrences included in CNDDDB list; however, there is no suitable habitat, edaphic conditions, or elevation for this species in the DSA or ISA.
Bay checkerspot butterfly (<i>Euphydryas editha bayensis</i>)	FT	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of the San Francisco Bay.	Absent. Occurrences documented in CNDDDB in the San José East and Santa Teresa Hills quadrangles; however, there is no suitable habitat for this species in the Study Areas.
California least tern (<i>Sterna antillarum browni</i> , also known as <i>Sternula antillarum</i>)	FE	Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	Absent. No suitable habitat for this species in the DSA or ISA.
California red-legged frog (<i>Rana draytonii</i>)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	Absent. This species has been extirpated from the vicinity of the DSA or ISA, including the entire urbanized Santa Clara Valley floor, due to development, the alteration of hydrology of its aquatic habitats, and the introduction of non-native predators such as non-native fishes and bullfrogs. ¹²
California Ridgeway's rail (<i>Rallus obsoletus</i> , formerly known as California clapper rail, <i>Rallus longirostris obsoletus</i>)	FE	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of the San Francisco Bay.	Absent. No suitable habitat for this species in the DSA or ISA.
California seablite (<i>Suaeda californica</i>)	FE	Coastal salt marshes and swamps	Absent. Occurrences included in CNDDDB list; however, there is no suitable habitat or elevation for this species in the DSA or ISA.

¹² H.T. Harvey & Associates. 2019. Norman Y. Mineta San José International Airport 2019 Master Plan Amendment Biological Resources Report.

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Table 3.6
Federally Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
California tiger salamander (<i>Ambystoma californiense</i>)	FT, ST	Vernal or temporary pools in annual grasslands or open woodlands.	Absent. Populations located on the Santa Clara Valley floor have been extirpated due to habitat loss, and the species is now considered absent from the majority of the valley floor, including the Study Areas. No recent records of California tiger salamanders are located anywhere in the vicinity of the DSA or ISA. ¹³
Chinook salmon – California Coast Evolutionarily Significant Unit (ESU) (<i>Oncorhynchus tshawytscha</i>)	FT	Coastal watersheds from Redwood Creek (Humboldt County) to the Russian River (Sonoma County).	Absent. Outside of known range. ¹⁴
Chinook salmon – Sacramento River Winter-Run ESU (<i>Oncorhynchus tshawytscha</i>)	FE, SE	Sacramento River to the Pit and McCloud rivers.	Absent. Outside of known range. ¹⁵
Coho salmon – Central California Coast (CCC) ESU (<i>Oncorhynchus kisutch</i>)	FE, SE	Freshwater streams with a hydrologic connection to the Pacific Ocean between Punta Gorda and the San Lorenzo River.	Absent. No suitable habitat within the DSA or ISA.
Coho salmon – Southern Oregon/Northern California ESU (<i>Oncorhynchus kisutch</i>)	FT, ST	West coast from the Mattole and Eel rivers is northern California to the Elk and Rogue rivers in Oregon.	Absent. Outside of known range. ¹⁶
Conservancy fairy shrimp (<i>Branchinecta conservation</i>)	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools.	Absent. No suitable habitat for this species in the DSA or ISA.
Contra Costa Goldfields (<i>Lasthenia conjugens</i>)	FE	Cismontane woodland, alkaline playas, valley and foothill grassland, vernal pools	Absent. No suitable habitat for this species in the DSA or ISA.

¹³ CDFW CNDDDB, RareFind 5.0, <https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx>, 2022 (accessed May 2022).

¹⁴ NMFS, California Coastal Chinook Salmon Evolutionarily Significant Unit, 2013, https://media.fisheries.noaa.gov/dam-migration/ckcac_2013.pdf (accessed 12/19/22).

¹⁵ NMFS, California Coastal Chinook Salmon Evolutionarily Significant Unit, 2013, https://media.fisheries.noaa.gov/dam-migration/ckcac_2013.pdf (accessed 12/19/22).

¹⁶ NMFS, California Coastal Chinook Salmon Evolutionarily Significant Unit, 2013, https://media.fisheries.noaa.gov/dam-migration/ckcac_2013.pdf (accessed 12/19/22).

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Table 3.6
Federally Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Delta smelt (<i>Hypomesus transpacificus</i>)	FT	Sacramento-San Joaquin Delta; seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay; seldom found at salinities greater than 10 parts per thousand (ppt); most often at salinities less than 2 ppt.	Absent. No suitable habitat for this species in the DSA or ISA.
Eulachon – Southern Distinct Population Segment (DPS) (<i>Thaloeichthys pacificus</i>)	FT	Rivers south of the Nass River in British Columbia, Canada to, and including, the Mad River in California. ¹⁷	Absent. Outside of known range.
Green sturgeon, Southern DPS	FT	Found in the Sacramento and San Joaquin rivers and Delta; primarily spawn in the upper mainstem of the Sacramento River, although some spawning activity has recently been documented in the Feather and Yuba rivers; frequently enter large coastal bays and estuaries, including the San Francisco Bay estuary.	Absent. No suitable habitat in the DSA or ISA.
Green sturgeon southern DPS Critical Habitat	N/A	Coastal marine waters within 60 fathoms depth from Monterey Bay north to Cape Flattery; the Sacramento River, lower Feather River, and lower Yuba River; the Sacramento-San Joaquin Delta and Suisun, San Pablo, and San Francisco bays; the lower Columbia River estuary; and some coastal bays and estuaries in California (Humboldt Bay).	Absent. There is no critical habitat within the DSA or ISA.

¹⁷ NMFS, Critical Habitat for the Southern Distinct Population Segment of the Eulachon, Final Biological Report, 2011, <https://repository.library.noaa.gov/view/noaa/18679> (accessed 12/19/22).

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Table 3.6
Federally Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Longfin smelt (<i>Spirinchus thaleichthys</i>)	FC/ST	Capable of adapting/tolerating a wide range of salinities; found in open waters of estuaries; prefers salinities of 15-30 ppt but can be found in completely freshwater to almost pure saltwater.	Absent. CNDDDB documents occurrences in the Mountain View and Milpitas quadrangles, however, no suitable habitat for this species in the DSA or ISA.
Metcalf Canyon jewelflower (<i>Streptanthus albidus</i> ssp. <i>albidus</i>)	FE	Serpentine valley and foothill grasslands	Absent. Occurrences included in CNDDDB list; however, there is no suitable habitat, edaphic conditions, or elevation for this species in the DSA or ISA. It has also been extirpated from the vicinity.
Monarch butterfly (<i>Danaus plexippus</i>)	FC	Winter roost sites extend along the coast from northern Mendocino to Baja California and Mexico; roosts located in wind-protected tree groves with nectar and water sources nearby; larval host plant is milkweed (<i>Asclepias</i> sp.).	Absent. Both ruderal grasslands and landscape vegetation can provide foraging habitat; however, neither monarchs nor milkweed have been documented during previous surveys of the airport property. ¹⁸
Robust spineflower (<i>Chorizanthe robusta</i> var. <i>robusta</i>)	FE	Lower montane coniferous forest (maritime ponderosa pine sandhills)	Absent. Occurrences included in CNDDDB list; however, there is no suitable habitat, edaphic conditions, or elevation for this species in the DSA or ISA.
Salt-marsh harvest mouse (<i>Reithrodontomys raviventris</i>)	FE/SE	Only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat. Does not burrow, builds loosely organized nests. Requires higher areas for flood escape.	Absent. No suitable habitat for this species in the DSA or ISA.
Santa Clara Valley dudleya (<i>Dudleya abramsii</i> ssp. <i>setchellii</i>)	FE	Cismontane woodland, valley, and foothill grasslands	Absent. Occurrences included in CNDDDB list; however, there is no suitable habitat, edaphic conditions, or elevation for this species in the DSA or ISA. It has also been extirpated from the vicinity.

¹⁸ Kleponis, Nicole, Personal conversation, April 7, 2022.

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Table 3.6
Federally Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
<i>San Joaquin kit fox</i> (<i>Vulpes macrotis mutica</i>)	FE	Annual grasslands or grassy open stages with scattered shrubby vegetation.	Absent. Outside of known range.
Steelhead – CCC ESU (<i>Oncorhynchus mykiss irideus</i>)	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	Absent. No suitable habitat within the DSA or ISA.
Steelhead – CCC ESU Critical Habitat	N/A	Critical habitat includes all river reaches and estuarine areas accessible to listed steelhead in coastal river basins from the Russian River to Aptos Creek, California, and the drainages of San Francisco and San Pablo Bays.	Absent. No critical habitat within the DSA or ISA.
Steelhead – California Central Valley ESU (<i>Oncorhynchus mykiss irideus</i>)	FT	Sacramento and San Joaquin rivers and their tributaries.	Absent. Outside of known range. ¹⁹
Steelhead – Northern California ESU (<i>Oncorhynchus mykiss irideus</i>)	FT	California coastal creeks and rivers from Gualala River north to Redwood Creek.	Absent. Outside of known range. ²⁰
Steelhead – South-CCC ESU (<i>Oncorhynchus mykiss irideus</i>)	FT	California coastal rivers and creeks from Arroyo Grande Creek north to the Pajaro River.	Absent. Outside of known range. ²¹
Steelhead – Southern California ESU (<i>Oncorhynchus mykiss irideus</i>)	FE	From the Cuyama and Sisquoc River near Santa Maria, south to the U.S. border with Mexico.	Absent. Outside of known range. ²²

¹⁹ NMFS, California Central Valley Steelhead Distinct Population Segment, 2013, https://media.fisheries.noaa.gov/dam-migration/stccv_2013.pdf (accessed 12/19/22).

²⁰ NMFS, Northern California Steelhead Distinct Population Segment, 2013, https://media.fisheries.noaa.gov/dam-migration/stnca_2013.pdf (accessed 12/19/22).

²¹ NMFS, South-Central California Steelhead Distinct Population Segment, 2013, https://media.fisheries.noaa.gov/dam-migration/stscc_2013.pdf (accessed 12/19/22).

²² NMFS, Southern California Steelhead Distinct Population Segment, 2013, https://media.fisheries.noaa.gov/dam-migration/stsca_2013.pdf (accessed 12/19/22).

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Table 3.6
Federally Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Vernal pool tadpole shrimp (<i>Lepidurus packardi</i>)	FE	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water; pools commonly found in grass-bottomed swales of unplowed grasslands; some pools are mud-bottomed and highly turbid.	Absent. No suitable habitat for this species in the DSA or ISA.
Western snowy plover (<i>Charadrius nivosus</i> , formerly <i>Charadrius alexandrinus nivosus</i>)	FT	Sandy beaches, salt pond levees, and shores of large alkali lakes; needs sandy, gravelly, or friable soils for nesting.	Absent. No suitable habitat for this species in the DSA or ISA.
White-rayed pentachaeta (<i>Pentachaeta bellidiflora</i>)	FE/SE	Cismontane woodland, valley, and foothill grasslands	Absent. Occurrences included in CNDDDB list; however, there is no suitable habitat, edaphic conditions, or elevation for this species in the DSA or ISA.
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	FT/SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems.	Absent. Extirpated.
Zayante band-winged grasshopper (<i>Trimerotropis infantilis</i>)	FE	Isolated sandstone deposits in the Santa Cruz Mountains (the Zayante Sand Hills ecosystem).	Absent. No suitable habitat for this species in the DSA or ISA.
Essential Fish Habitat			
Coastal pelagic fish EFH	N/A	Marine and estuarine waters from the shoreline along the coasts of California, Oregon, and Washington offshore to the limits of the Exclusive Economic Zone and above the thermocline where sea surface temperatures range between 10°C to 26°C.	Absent. No EFH is mapped within the DSA or ISA. ²³

²³ Pacific Fishery Management Council, Coastal Pelagic Species Fishery Management Plan as Amended Through Amendment 17, 2019, <https://www.pcouncil.org/documents/2019/06/cps-fmp-as-amended-through-amendment-17.pdf> (accessed 12/19/22).

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Table 3.6
Federally Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Coho salmon EFH (<i>Oncorhynchus kisutch</i>)	N/A	Coho salmon EFH includes all habitats currently or historically occupied within Washington, Oregon, and California.	Absent. No suitable aquatic habitat within the DSA or ISA.
Chinook salmon EFH (<i>Oncorhynchus tshawytscha</i>)	N/A	Chinook salmon EFH includes all habitat currently or historically occupied within Washington, Oregon, Idaho, and California.	Absent. No suitable aquatic habitat within the DSA or ISA.
Groundfish EFH	N/A	All waters and substrate within the following areas: <ul style="list-style-type: none"> • Depths less than or equal to 11,500 feet to mean higher high water level or the upriver extent of saltwater intrusion, defined as upstream and landward to where ocean-derived salts measure less than 0.5 ppt during the period of average annual low flow • Seamounts in depths greater than 11,500 feet • Habitat areas of particular concern. 	Absent. No suitable aquatic habitat within the DSA or ISA. ²⁴

Notes:

Key to Abbreviations:

Status: Federally Endangered (FE), Federally Threatened (FT), Federal Candidate (FC), State Endangered (SE), State Threatened (ST)

Source: USFWS, NMFS, 2021-2022.

²⁴ Pacific Fishery Management Council, Pacific Coast Groundfish Fishery Management Plan, Amended in August 2022, <https://www.pccouncil.org/documents/2016/08/pacific-coast-groundfish-fishery-management-plan.pdf> (accessed 12/19/22).

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Table 3.7
State-Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
State Endangered, Threatened, or Candidate Species			
Bald eagle (<i>Haliaeetus leucocephalus</i>)	SE, SP	Occurs mainly along seacoasts, rivers, and lakes; nests in tall trees or in cliffs, occasionally on electrical towers; feeds mostly on fish.	Absent as Breeder. Bald eagles are known to occur at the Airport. The ruderal grasslands within the Airport infield function as hunting grounds. No nesting habitat is present within the DSA or ISA. Nevertheless, this species may occur in the Study Area as an occasional forager, primarily during migration and winter.
Crotch bumble bee (<i>Bombus crotchii</i>)	Candidate SE	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	Absent. Food plants are not present within the DSA or ISA.
Dudley's lousewort (<i>Pedicularis dudleyi</i>)	SR	Redwood forest, chaparral, valley grassland	Absent. Grasslands within the airport are too disturbed to support this species. It has not been observed in Santa Clara County.
Foothill yellow-legged frog (<i>Rana boylei</i>)	SE	Partially shaded shallow streams and riffles with a rocky substrate. Occurs in a variety of habitats in coast ranges.	Absent. The VHP maps the Guadalupe River adjacent to the Airport as secondary habitat for foothill yellow-legged frogs. ²⁵ However, this species has been extirpated from Valley floor areas of Santa Clara County, and it is no longer known to occur along the County's streams below major reservoirs, including Calero and Almaden Reservoirs, which are located upstream of the ISA. Thus, yellow-legged frogs are absent from the DSA or ISA and adjacent areas.
Rock sanicle (<i>Sanicula saxitalis</i>)	SR	Chaparral and valley grassland.	Absent. Grasslands within the airport are too disturbed to support this species. DSA and ISA are outside the elevation range.

²⁵ H.T. Harvey & Associates, Norman Y. Mineta San José International Airport 2019 Master Plan Amendment Biological Resources Report, 2019.

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Table 3.7
State-Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Swainson's hawk (<i>Buteo swainsoni</i>)	ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees; requires adjacent suitable foraging areas, such as grasslands, alfalfa, or grain fields supporting rodent populations.	Absent. Although grasslands are present within the ISA, ground squirrel control, mowing, and bird deterrents within the Airport infield makes the habitat unsuitable for Swainson's hawks. The only CNDDDB record was historical, pre-1900. Determined to be absent.
Tricolored blackbird (<i>Agelaius tricolor</i>)	ST/SSC	Nests near fresh water in dense emergent vegetation.	Absent as Breeder. In the County of Santa Clara it has bred in only a few scattered locations, and it is absent from, or occurs only as a nonbreeder in most of the county. ²⁶ Typically, it nests in extensive stands of tall emergent herbaceous vegetation in non-tidal freshwater marshes and ponds. No suitable nesting habitat is present along the Guadalupe River. This species (whose colonies are loud and conspicuous) has never been recorded nesting within or adjacent to the ISA, and high levels of adjacent disturbance likely preclude nesting by this species. This species has a low potential to occur in the ISA as a nonbreeding forager.
Western bumble bee (<i>Bombus occidentalis</i>)	Candidate SE	Meadows and grasslands with abundant floral resources.	Absent. Although grasslands are suitable habitat, Western bumble bees are unlikely to occur within the DSA or ISA. Western bumble bees are largely confined to high elevation sites and there are only a small number of records on the northern California coast. ²⁷
White-rayed pentachaeta (<i>Pentachaeta bellidiflora</i>)	FE/SE	Cismontane woodland, valley, and foothill grasslands	Absent. Occurrences included in CNDDDB list; however, there is no suitable habitat, edaphic conditions, or elevation for this species in the DSA or

²⁶ H.T. Harvey & Associates, Norman Y. Mineta San José International Airport 2019 Master Plan Amendment Biological Resources Report, 2019.

²⁷ CDFW, "A petition to the state of California Fish and Game Commission to list: The Crotch bumble bee (*Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and Western bumble bee (*Bombus occidentalis occidentalis*) as endangered under CESA," 2018, <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=161902&inline> (accessed 12/19/22).

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Table 3.7

State-Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
			ISA.
California Species of Special Concern (CSSC)			
Alameda song sparrow (<i>Melospiza melodia pusillula</i>)	CSSC	Resident of salt marshes bordering the south arm of the San Francisco Bay.	Absent. No suitable habitat for this species in the DSA or ISA.
American badger (<i>Taxidea taxus</i>)	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	Absent. Known to occur in the region primarily in extensive grasslands and agricultural habitats, mostly in the foothills. Suitably extensive grasslands or agricultural habitats are not present within or near the ISA, and the grasslands within the study areas are isolated from more extensive grasslands in the foothills to the east by high-density urban development. Determined to be absent.
Black skimmer (<i>Rynchops niger</i>)	CSSC	Nests on gravel bars, low islets, and sandy beaches, and in unvegetated sites; nesting colonies usually less than 200 pairs.	Absent. No suitable habitat for this species in the DSA or ISA.
Black swift (<i>Cypseloides niger</i>)	CSSC	Coastal belt of Santa Cruz and Monterey counties, central and southern Sierra Nevada, and San Bernardino and San Jacinto mountains; breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea bluffs above the surf; forages widely.	Absent. No suitable habitat for this species in the DSA or ISA.

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Table 3.7
State-Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Burrowing owl (<i>Athene cunicularia</i>)	CSSC	Nests and roosts in open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels.	Unlikely Breeder, Present as a Forager. Burrowing owls have been known to nest, roost, and forage within the grassland portions of the Airport's airfield for decades, ²⁸ and they continue to be present in these areas year-round. However, there have been no documented nests in or adjacent to the ISA based on annual survey data from 2011-2021.
Bryant's savannah sparrow (<i>Passerculus sandwichensis alaudinus</i>)	CSSC	Nests in pickleweed dominant salt marshes and adjacent ruderal habitats.	Absent as Breeder. In the South San Francisco Bay, it nests primarily in short pickleweed-dominated portions of diked/muted tidal salt marsh habitat and in adjacent ruderal habitats. No suitable nesting habitat occurs in the DSA or ISA. Individuals of several savannah sparrow subspecies, including <i>alaudinus</i> , may forage within the ISA during migration and winter.
California giant salamander (<i>Dicamptodon ensatus</i>)	CSSC	Known from wet coastal forests near streams and seeps from Mendocino County south to Monterey County and east to Napa County.	Absent. No occurrences near the ISA. ²⁹ CNDDDB records are restricted to the Santa Cruz Mountains. There are no occurrences within the Guadalupe River.
Chinook salmon - Central Valley fall-run ESU (<i>Oncorhynchus tshawytscha</i>)	CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs.	Absent. No suitable habitat within the DSA or ISA.
Coast horned lizard (<i>Phrysonoma blainvillii</i>)	CSSC	Frequents a wide variety of habitats, including riparian and grassland; most common in lowlands along sandy washes with scattered low bushes.	Absent. No record of this species in urbanized San José. ³⁰

²⁸ Albion Environmental, Inc. 1997. Burrowing Owl Management Plan – San José International Airport. Final Report.

²⁹ CDFW CNDDDB, RareFind 5.0, 2022, <https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx>. (accessed May 2022).

³⁰ CDFW CNDDDB, RareFind 5.0, 2022, <https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx>. (accessed May 2022).

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Table 3.7
State-Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	CSSC (nesting)	Nests and forages in grasslands, meadows, fallow fields, and pastures.	Absent as Breeder. Known to occur in the region primarily in grasslands and less frequently disturbed agricultural habitats, mostly in the foothills. This species does not breed on grassland on the Santa Clara Valley floor. Small numbers of individuals may forage in grasslands in the ISA during migration.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	Absent as Breeder. Although the airport infield includes grasslands, regular mowing ensures that there are no scattered brush, chaparral, or trees to provide perches and nesting sites. ³¹ Nonbreeding individuals may forage in low numbers in grasslands in and adjacent to the ISA year-round; however, potential to occur as a forager is low due to mowing of the airport infield.
Northern California legless lizard (<i>Anniella pulchra</i>)	CSSC	Sandy or loose loamy soils under sparse vegetation in chaparral, coastal dunes, or coastal scrub.	Absent. No suitable habitat for this species in the DSA or ISA.
Northern harrier (<i>Circus hudsonius</i>)	CSSC	Coastal salt and freshwater marsh; nest and forage in grasslands; from salt grass in desert sink to mountain cienagas.	Absent. No documented occurrences near the DSA or ISA. ³²

³¹ H.T. Harvey & Associates, Norman Y. Mineta San José International Airport 2019 Master Plan Amendment Biological Resources Report, 2019.

³² CDFW CNDDDB, RareFind 5.0, 2022, <https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx>. (accessed May 2022).

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Table 3.7
State-Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Pallid bat (<i>Antrozous pallidus</i>)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	Absent as Breeder. Historically, pallid bats were likely present in several locations throughout the region, but their populations have declined in recent decades. This species has been extirpated as a breeder from urban areas close to the San Francisco Bay, as is the case in the DSA or ISA. No high-quality roosting habitat is present in the DSA or ISA, and no known maternity colonies of this species are present within or adjacent to the ISA. There is a very low probability that the species occurs in the site vicinity due to urbanization; however, individuals from more remote colonies could potentially forage in the DSA or ISA over open habitats on rare occasions.
Purple martin (<i>Progne subis</i>)	CSSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine.	Absent. No suitable habitat for this species in the DSA or ISA.
Salt-marsh wandering shrew (<i>Sorex vagrans halicoetes</i>)	CSSC	Salt marshes of the south arm of the San Francisco Bay.	Absent. No suitable habitat for this species in the DSA or ISA.
San Francisco common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	Absent. No suitable habitat for this species in the DSA or ISA.
San Francisco dusky-footed woodrat (<i>Neotoma fuscipes annectens</i>)	CSSC	Nests in a variety of habitats, including riparian areas, oak woodlands, and scrub.	Absent. No suitable habitat for this species in the DSA or ISA.
Santa Cruz black salamander (<i>Aneides niger</i>)	CSSC	Mixed deciduous and coniferous woodlands and coastal grasslands in San Mateo, Santa Cruz, and Santa Clara counties.	Absent. No suitable habitat for this species in the DSA or ISA.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees, such as redwoods or in abandoned buildings; found in a variety of habitats.	Absent. No known extant populations of the Townsend's big-eared bat occur on the Santa Clara Valley floor. Suitable breeding habitat is not present in the DSA or ISA, and no colonies are known from the site vicinity. Determined to be absent.

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Table 3.7
State-Listed Species and Potential Occurrence in the DSA or ISA

Name	Listing Status	Habitat	Potential for Occurrence in the DSA or ISA
Western pond turtle (<i>Actinemys marmorata</i> , also known as <i>Emys marmorata marmorata</i>)	CSSC	Permanent or nearly permanent water in a variety of habitats.	Absent. No suitable habitat for this species in the DSA or ISA.
Yellow rail (<i>Coturnicops noveboracensis</i>)	CSSC	Freshwater marshlands.	Absent. No suitable habitat for this species in the DSA or ISA.
Yellow warbler (<i>Setophaga petechia</i>)	CSSC (nesting)	Nests in riparian woodlands.	Absent. No suitable habitat for this species in the DSA or ISA.
State Fully Protected Species			
American peregrine falcon (<i>Falco peregrinus anatum</i>)	SP	Forages in many habitats; nests on cliffs, tall bridges, and buildings.	Absent as Breeder. Peregrine falcons are known to nest on City Hall in downtown San José, but they are not known or expected to nest in the DSA or ISA due to a lack of suitable habitat. Nevertheless, the peregrine falcon may occur in the DSA or ISA as an occasional forager, primarily during migration and winter.
California black rail (<i>Laterallus jamaicensis coturniculus</i>)	ST/SP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.	Absent. No suitable habitat for this species in the DSA or ISA.
Golden eagle (<i>Aquila chrysaetos</i>)	SP	Breeds on cliffs or in large trees (rarely on electrical towers); forages in open areas.	Absent as Breeder. WHMP indicates that golden eagles are known to occur at the Airport. The ruderal grasslands within the Airport infield function as hunting grounds. No nesting habitat is present within the DSA or ISA. Nevertheless, this species may occur in the DSA or ISA as an occasional forager, primarily during migration and winter.
White-tailed kite (<i>Elanus leucurus</i>)	SP	Nests in tall shrubs and trees; forages in grasslands, marshes, and ruderal habitats.	Absent as Breeder. No suitable nesting trees occur within the DSA or ISA. White-tailed kites may occur in and adjacent to the ISA as occasional foragers year-round.

Notes:

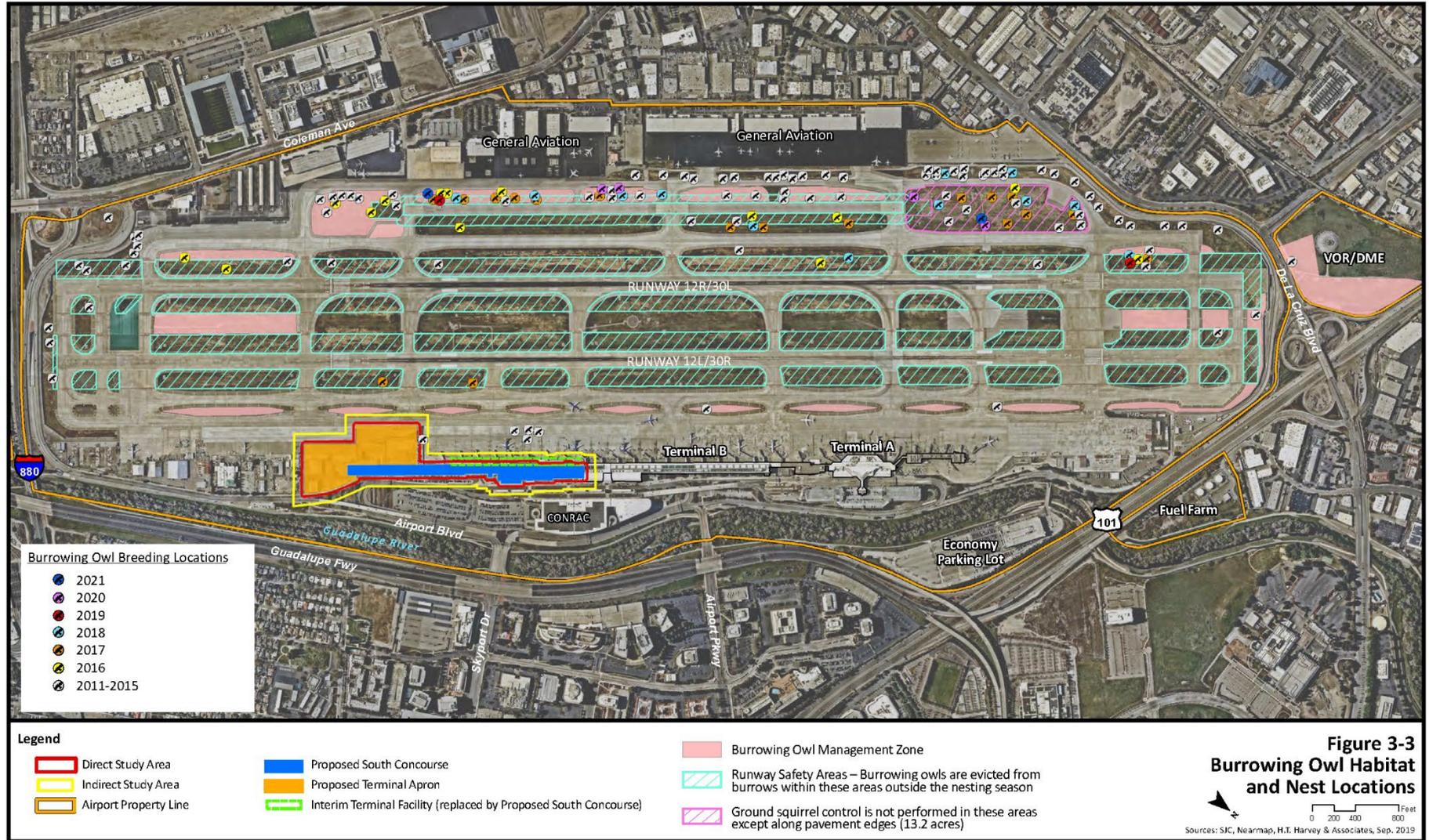
Key to Abbreviations:

Status: Federally Endangered (FE), Federally Threatened (FT), Federal Candidate (FC), State Endangered (SE), State Threatened (ST)

Source: CDFW, CNDDDB, H.T. Harvey & Associates. 2019. Norman Y. Mineta San José International Airport 2019 Master Plan Amendment Biological Resources Report.

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3.4.2.4 Common Species

Both the developed/landscaped and ruderal grassland habitats are relatively abundant and widespread regionally. They are not particularly sensitive aside from the potential importance of grassland to the burrowing owl. Common wildlife species, such as California ground squirrels (*Otospermophilus beecheyi*), Botta's pocket gophers (*Thomomys bottae*), striped skunk (*Mephitis mephitis*), western fence lizards (*Sceloporus occidentalis*), western skinks (*Plestiodon skiltonianus*), western terrestrial garter snakes (*Thamnophis elegans*), and southern alligator lizards (*Elgaria multicarinata*), occur in grassland and developed/landscaped habitats within the DSA and ISA. These species are regionally abundant, are present in widely available habitats in the region, and would continue to be present in the DSA or ISA following construction. Common bat species, such as the Mexican free-tailed bat (*Tadarida brasiliensis*), can potentially roost in buildings in the DSA and ISA. Bats have the potential to roost both in trees and structures.

3.5 Climate

This section describes the regulatory setting and existing GHG operational emissions (i.e., the affected environment) at SJC. *Appendix C, Air Quality and Climate* provides the detailed analysis and presents the findings of the air quality and climate assessment conducted for this EA. Climate change is a global phenomenon that can have local impacts.³³ Therefore, the affected environment for climate change effects is defined as the area that could be directly and indirectly affected by the Proposed Action. For purposes of the climate analysis, the study area is considered the entire geographic area that could be impacted by the Proposed Action. Therefore, the study area for climate, like air quality, is the SFBAAB.

Climate change is defined as long-term changes in temperatures and weather patterns. In 2009, based primarily on the scientific assessments of the U.S. Global Change Research Program (USGCRP), the National Research Council (NRC) and the Intergovernmental Panel on Climate Change (IPCC), the EPA issued a finding that it was reasonable to assume that changes in our climate caused by elevated concentrations of greenhouse gases (GHG) in the atmosphere endanger the health and welfare of current and future generations.³⁴ By the summer of 2016, the EPA acknowledged that scientific assessments by that time “highlight the urgency of addressing the rising concentration of carbon dioxide (CO₂) in the atmosphere” and formally announced that GHG emissions from certain classes of aircraft engines contribute to climate change.^{35,36} Of the five major sectors nationwide—residential and commercial, industrial, agriculture, transportation, and electricity—transportation accounts for the highest fraction of GHG emissions (approximately 27 percent), closely followed by electricity (approximately 25 percent) and by industry (approximately 24 percent).³⁷

GHGs include CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Increasing concentrations of GHGs in the atmosphere affect climate change and GHG emissions from anthropogenic sources include the combustion of fossil fuels, including aircraft fuel. GHG emissions are reported in metric tonnes (MT) of carbon dioxide equivalent (CO₂e).³⁸ Executive Order 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis* was signed on January 20, 2021, rescinded the 2019 CEQ *Draft NEPA Guidance on Consideration of GHG Emissions*. CEQ is currently reviewing and updating their previous guidance; no official guidance is currently in effect.

³³ FAA, 1050.1F Desk Reference, Version 2, Chapter 3. Climate, February 2020.

³⁴ Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66496 (December 15, 2009).

³⁵ EPA, Final Rule for Carbon Pollution Emission Guidelines for Existing Stationary Sources Electric Utility Generating Units, 80 Fed. Reg. 64661, 64677 (October 23, 2015).

³⁶ EPA finalized findings that GHG emissions from certain classes of engines used in aircraft contribute to the air pollution that causes climate change endangering public health and welfare under section 231(a) of the Clean Air Act.

³⁷ EPA, Sources of Greenhouse Gas Emissions by Economic Sector in 2020, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>.

³⁸ FAA, 1050.1F Desk Reference, Version 2, Chapter 3. Climate, February 2020.

3.5.1 GHG Emissions

For disclosure purposes, an affected environment (2019³⁹) GHG emissions inventory for aircraft operations, GSE and APUs was prepared. AEDT reports GHG emissions for aircraft operations but does not estimate APUs and GSE GHG emissions. Therefore, APU and GSE GHG emissions were estimated based on the airport GSE fuel use records, growth factors, and methodologies recommended by the FAA (See *Appendix C* for methodology). For informational purposes, the 2019 operational GHG emissions are presented in **Table 3.8**.

Table 3.8
2019 GHG Operational Emissions Inventory for SJC

Emissions Source	CO ₂ e (MT)
Aircraft	149,468
GSE	2,254
APU	9,385
Total	161,107

Source: HNTB, 2022.

3.6 Department of Transportation Act (DOT) Section 4(f)

Section 303(c), Title 49 U.S.C., commonly referred to as Section 4(f) of the Department of Transportation Act of 1966 (DOT Section 4(f)), as amended, states that the “...Secretary of Transportation will not approve a project that requires the use of any publicly-owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance or land from a historic site of national, state, or local significance as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land...and [unless] the project includes all possible planning to minimize harm resulting from the use.”

The study area for DOT Section 4(f) resources is the Noise Study Area, which in this case is represented by the Existing Conditions (2019) Community Noise Equivalent Level (CNEL) 65 decibels (dB) or greater. As shown on **Figure 3-4**, there are no DOT Section 4(f) resources within the DSA, however there are resources within the Noise Study Area, as identified in **Table 3.9**: 12 local historic sites, one NRHP site, and ten City parks.

3.7 Hazardous Materials, Pollution Prevention, and Solid Waste

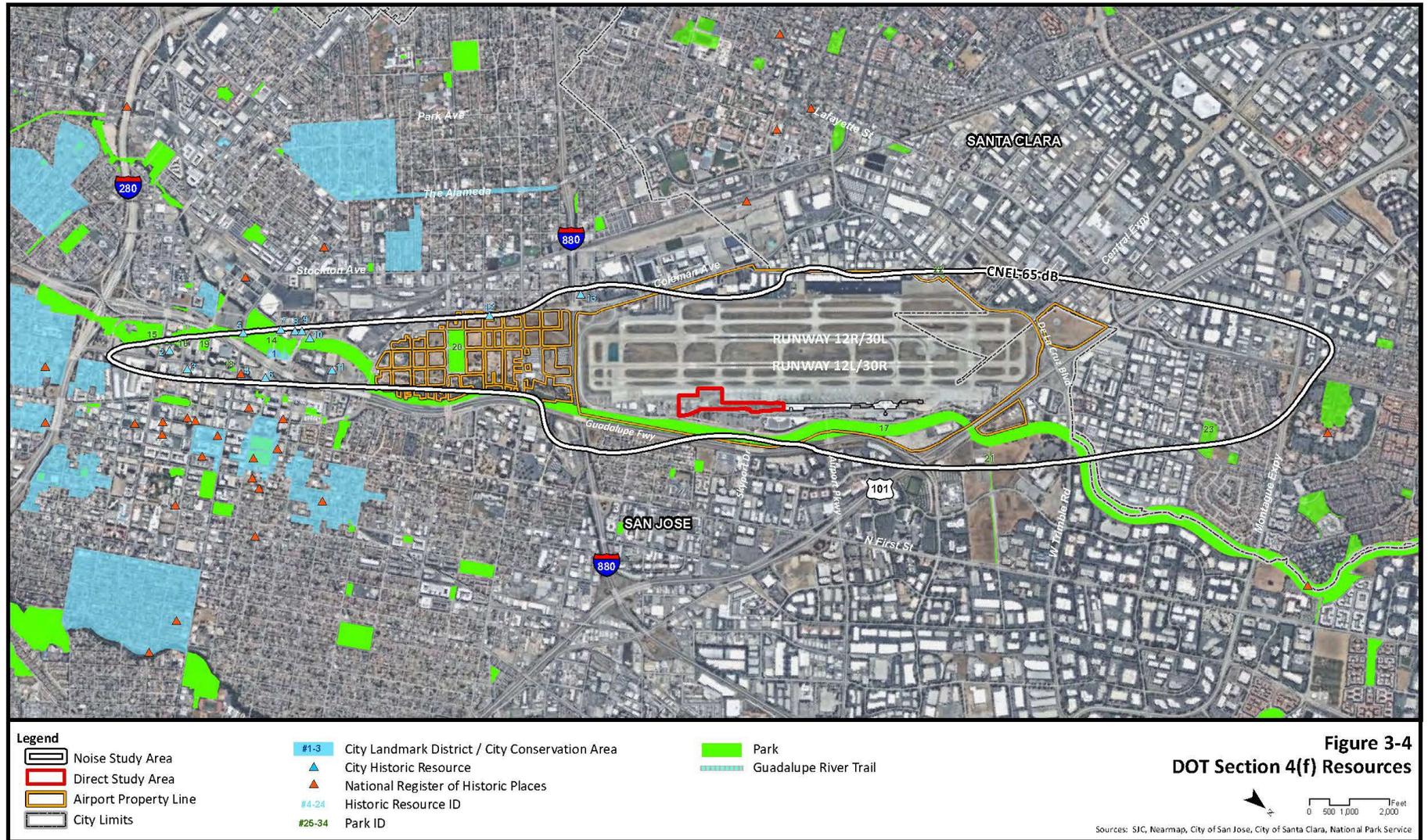
Federal legislation, enforced by the EPA, jointly regulates the release, handling, disposal, and remediation of hazardous materials. The Resource Conservation and Recovery Act (RCRA) sets standards and practices regarding the generation and management of hazardous wastes. The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, or Superfund) allocates government funds and resources to ensure timely remediation of accidental or unintentional release of hazardous material and environmental contaminants.

At the state level, the California Department of Toxic Substances Control (DTSC) administers and enforces the state’s hazardous waste management rules and has received RCRA authorization from the EPA. The San Francisco Bay Regional Water Quality Control Board (RWQCB) has jurisdiction over the project area involving groundwater contamination. The County of Santa Clara Department of Environmental Health (SCCDEH) serves as the regulatory Local Oversight Program for most cases involving petroleum leaking underground storage tanks (LUSTs). The Airport is required by California Health and Safety Code (HSC) to prepare a Hazardous Materials Business Plan (HMBP) to administer emergency response plans, safety and emergency response training programs, aboveground and underground storage tank programs, and to cover inspection requirements.

³⁹ The affected environment for climate is more accurately defined by the last full year of passenger activity prior to the impacts of COVID-19, and consistent with the approved aviation forecasts presented in *Table 1.2*. Aircraft levels at SJC are still below the 2019 levels and therefore the use of 2019 is a conservative projection for GHG emissions.

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Table 3.9
DOT Section 4(f) Resources within Noise Study Area

ID Letter (Figure 3-4)	Name	Address	Type
1	River Street City Landmark District	W. Julian Street, W. St. John Street, N. Almaden Avenue	Historic Site (City)
2	Center for the Performing Arts	241 Park Avenue	Historic Site (City)
3	Sumitomo Bank Building	170 Park Center Plaza	Historic Site (City)
4	De Anza Hotel	233 W. Santa Clara Street	Historic Site (NRHP)
5	Los Gatos Creek Bridge	W. Santa Clara Street	Historic Site (City)
6	IBM Building	99 Notre Dame Avenue	Historic Site (City)
7	Forman's Arena	447 W. St. John Street	Historic Site (City)
8	Residences	436/446/456/466 Autumn Court	Historic Site (City)
9	Residence	465 Autumn Court	Historic Site (City)
10	Residence	428 W. Julian Street	Historic Site (City)
11	John Stock & Sons Warehouse	299 Basset Avenue	Historic Site (City)
12	Master Metal Products Co.	495 Emory Street	Historic Site (City)
13	Residence	1054 Chestnut Street	Historic Site (City)
14	Arena Green	58 N Autumn St.	San José Parks
15	Discovery Meadow /Children's Discovery Museum	180 Woz Way	San José Parks
16	San José Veterans Memorial	Park Ave at Guadalupe River	San José Parks
17	Guadalupe River Trail	Guadalupe River Parkchain	San José Parks
18	Almaden Triangle Park	Almaden Blvd	San José Parks
19	John P. McEnery Park	W San Fernando Street	San José Parks
20	Columbus Park	715 Spring Street	San José Parks
21	Component Creek Trail	Guadalupe River Parkchain	San José Parks
22	Memorial Cross Park	2501 De La Cruz Boulevard	Santa Clara Parks
23	Montague Park	3595 Macgregor Lane	Santa Clara Parks

Source: City of San José, City of Santa Clara, HNTB, 2022.

At the local level, the San José Fire Department enforces National Fire Protection Association Standards. The City of San José Emergency Operations Plan includes standard operating procedures for emergency events or evacuations. SJC manages the storage, use, and transport of hazardous and non-hazardous materials and the generation of hazardous waste, including construction-related debris for Airport owned and controlled operations. The DSA and ISA are the study areas used for hazardous materials, pollution prevention, and solid waste.

3.7.1 Hazardous Materials

The operation of the Airport involves the storage, use and transport of hazardous materials and the generation of hazardous wastes. Hazardous materials are transported to and from the Airport by pipeline and ground vehicles, as well as by passenger and all-cargo aircraft. The largest quantity of hazardous material used at the Airport is aviation fuel, which is consumed in operations and, therefore, generates minimum hazardous waste. Additional hazardous materials are used at the Airport during maintenance and cleaning of aircraft, ground vehicles, and equipment. Hazardous wastes generated at the Airport are transported off-site for recycling, treatment, and/or disposal by licensed waste disposal contractors. Tenants are responsible for the management and disposal of the hazardous waste they generate, and they have their own storage areas and arrangements with disposal

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companies.⁴⁰ There are no hazardous waste sites within the DSA or ISA that are on or proposed for listing on the National Priorities List (NPL).⁴¹ According to the EPA’s EnviroMapper database, there are no Superfund sites in the vicinity of SJC. A *Hazardous Materials Assessment*⁴² was conducted at SJC in 2019 to document hazardous materials and includes an evaluation of the existing uses and storage of hazardous materials at SJC, as well as the generation of hazardous waste at SJC. The report also describes locations on SJC property with contamination and the status of remediation efforts. Hazardous materials in relation to the DSA and ISA are discussed below and the assessment is included in **Appendix E, Hazardous Materials**.⁴³

Fuel Storage Locations/ Generators

Figure 3-5 illustrates the fuel storage/generator locations within and adjacent to the DSA and ISA as presented in **Table 3.10**. Most emergency/standby generators at the Airport are stationary generators that have a diesel aboveground storage tank (AST) as part of the generator set, usually at the base of the generator, however portable generators also exist on airport property. A few generators have separate ASTs located nearby. Diesel fuel is the fuel source for the generators, which are used for power generation in the event of a major electrical power failure. The generators with diesel fuel tanks of 55-gallons or greater are permitted under Title 19, Division 2 of the California Code of Regulations (CCR). The Airport (or responsible tenant) is required to prepare and update annually the HMBPs for these facilities. The SCCDEH is the lead Certified Unified Program Agency (CUPA) for the UST program. Each of the Airport’s on-site USTs are permitted through the SCCDEH.

Soil and Groundwater

The Airport has experienced several hazardous material releases that have resulted in localized impacts to soil and/or groundwater quality. **Figure 3-6** shows locations within the DSA, ISA, or adjacent to the ISA where there have been identified impacts to soil or groundwater due to previous uses. A summary of these incidents is presented in **Table 3.11**; as indicated, all of the leaking underground storage tank (LUST) cases identified have been closed by the overseeing regulatory agency and remediation of the sites has been completed. There is no influence to the DSA or ISA from existing contamination.

Table 3.10
Fuel Storage Areas within or Adjacent to Study Areas (See Figure 3-5)

ID	SJC Area	Type	Address	Study Area
1	Facilities Emergency Generator (pending closure)	Diesel fueled generator or pump (or associated AST)	1401 Airport Blvd	• Adjacent to ISA
2	Emergency Generator Terminal B Hourly Lot 5	Diesel fueled generator or pump (or associated AST)	1661 Airport Blvd	• DSA
3	Three Gasoline USTs and Generator at CONRAC	Diesel fueled generator or pump (or associated AST) / USTs	1695 Airport Blvd	• Adjacent to ISA
4	Emergency Generators Terminal B	Diesel fueled generator or pump (or associated AST)	1701 Airport Blvd	• Adjacent to ISA
5	Emergency Generator SJPD (pending closure)	Diesel fueled generator or pump (or associated AST)	1387 Airport Blvd	• Adjacent to ISA
6	Diesel UST	UST	1395 A, B Airport Blvd	• Adjacent to ISA
7	Gasoline UST	UST	1395 A, B Airport Blvd	• Adjacent to ISA

Source: Cornerstone Earth Group, Hazardous Materials Assessment: San José International Airport, October 2019 and SJC, 2022.

⁴⁰ Cornerstone Earth Group, Hazardous Materials Assessment: San José International Airport, October 2019.

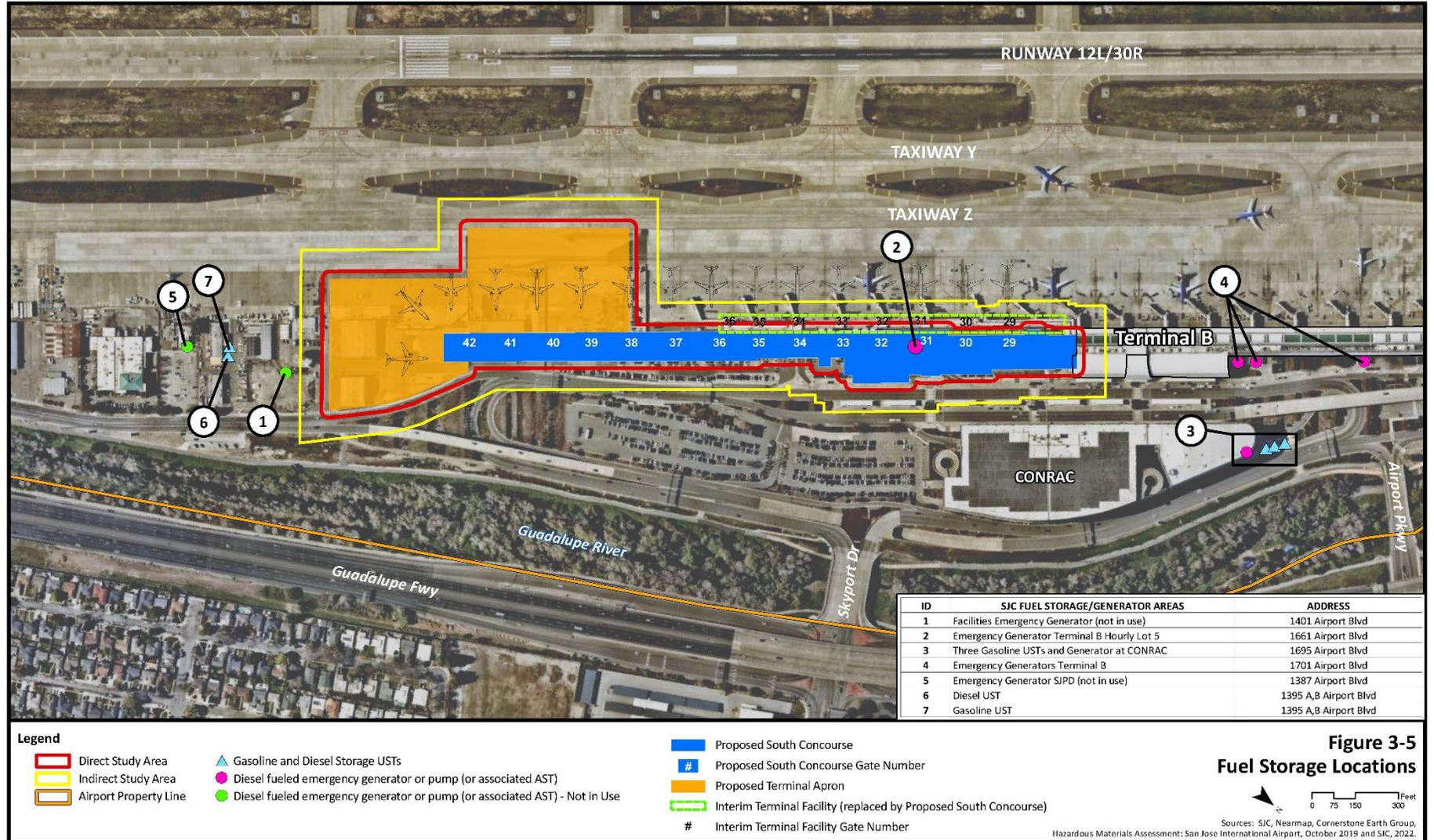
⁴¹ United State Environmental Protection Agency, Superfund National Priority List (NPL) Sites – by State, <https://www.epa.gov/superfund/national-priorities-list-npl-sites-state#CA>, accessed 12/30/22.

⁴² Cornerstone Earth Group, Hazardous Materials Assessment: San José International Airport, October 2019.

⁴³ Cornerstone Earth Group, Hazardous Materials Assessment: San José International Airport, October 2019.

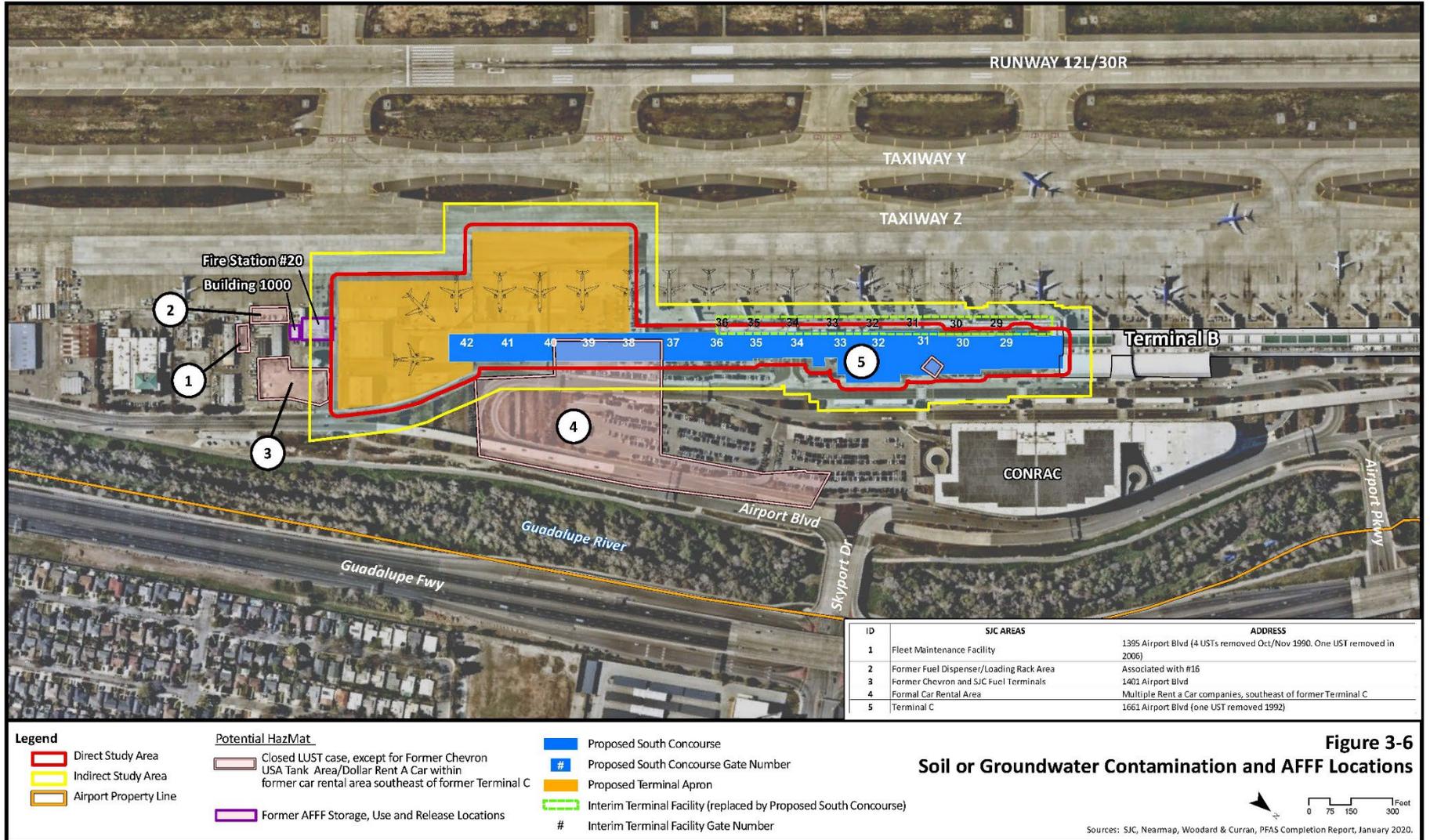
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Table 3.11

Identified Soil or Groundwater Locations within or Adjacent to Study Areas (See Figure 3-6)

ID	SJC Area	Type	Address	Study Area
1	Fleet Maintenance Facility	Closed LUST Case	1395 Airport Blvd	• Adjacent to ISA
2	Fuel Dispenser/Loading Rack Area	Closed LUST Case	Associated with #3	• Adjacent to ISA
3	Former Chevron and SJ Fuel Terminals	Closed LUST Case	1401 Airport Boulevard	• ISA
4	Car Rental Area	Closed LUST Case	Southeast of former Terminal C	• DSA and ISA
5	Former Terminal C	Closed LUST Case	1661 Airport Boulevard	• DSA

Source: Cornerstone Earth Group, Hazardous Materials Assessment: San José International Airport, October 2019.

Aqueous Film Forming Foam (AFFF)

Many firefighting foams, often referred to as Aqueous Film Forming Foam (AFFF) contain polyfluoroalkyl substances (PFAS). In recent years, the USEPA has identified PFAS as emerging contaminants of concern and has identified fire training facilities and airports as potential sources of PFAS contamination. These highly soluble contaminants pose a soil leaching concern due to their mobility; they readily migrate in groundwater and are bioaccumulative. A 2020 PFAS Preliminary Investigation Sampling and Analysis Report (“2020 Completion Report”)⁴⁴ presents the results of preliminary investigation activities conducted for SJC in response to requirements from the State Water Resources Control Board (SWRCB) in the March 25, 2019 Water Code Section 13267 *Order WQ-2019-0005-DWQ Determination of the Presence of Per- and Polyfluoroalkyl Substances (Order)* for certain airports in California. The 2020 Completion Report identifies current and historic on-site AFFF storage and usage locations. There are no locations within the DSA where PFAS has been stored, used, or released by the Airport and tenants. As shown on Figure 3-6, there is one former AFFF Storage, Use and Release Locations within the ISA and one location adjacent to the ISA: Location 1 (Fire Station #20) and Location 2 (Building 1000). Location 1 and 2 were used for AFFF storage with no record of use or release. The AFFF storage locations were relocated to the southwest quadrant of the Airport with the opening of the new ARFF station in 2022. The investigations conducted and presented in the 2020 Completion Report did not include soil or groundwater samples taken at Location 1 or 2. However, in October 2019, following development and approval of the work plan associated with the 2020 Completion Report, the Airport reported two discharges of AFFF: 1) an emergency discharge in response to a fuel truck fire at Gate 31 (in or adjacent to the ISA) that was immediately cleaned up via sweeper truck and residual AFFF disposed of; 2) related to the emergency incident by Gate 31, a minimal amount of dilute residual AFFF was discharged onto the pavement in front of Location 1 in the ISA as part of routine water apparatus testing.

A 2022 PFAS Phase Two Site Investigation Report (“2022 Completion Report”) presents the results of an additional PFAS investigation work plan conducted for SJC in response to SWRCB request to further evaluate the presence of PFAS at locations not previously sampled. The 2022 Completion Report summarizes the results of six soil samples collected near Location 1 and 2. Groundwater samples were also planned but groundwater was not encountered at a final drilling depth of 40 feet below ground surface. Low concentrations of PFAS were detected in the soil samples collected at Location 1 and 2, and the low concentrations detected in shallow soil depths are not expected to pose a risk to groundwater quality. The 2022 Completion Report concluded that the detections of PFAS in soil samples and groundwater taken around the Airport indicate isolated, distinct sources of PFAS rather than extensive or widespread contamination across the Airport. Both the 2020 and 2022 Completion Reports are included in *Appendix E, Hazardous Materials*.

⁴⁴ Woodard & Curran, PFAS Completion Report, January 2020, submitted to the SWRCB January 31, 2020.

3.7.2 Solid Waste

Solid waste from SJC is managed under Santa Clara County's Integrated Waste Management Plan (IWMP). According to the most recent version of the Five-Year Review Report (2010) of the IWMP, the County continues to have greater than 15 years of disposal capacity and expects to continue extending that capacity through implementation and adoption of diversion programs (including many jurisdictions adopting zero waste plans).⁴⁵ According to the 2020 SJC Sustainability Management Plan, "the City and Airport are serviced by sophisticated waste management systems that have resulted in an 84% diversion rate for non-hazardous solid waste. Of the total 5,532,000 pounds (lbs) of waste generated at SJC in FY 2017 to 2018, only 16% of waste generated went to nearby landfills."⁴⁶ SJC is committed to improving their waste management practices by preventing and diverting more waste through partnerships with tenants, the City, and their waste hauler. SJC has a major goal to achieve zero waste in 2023.⁴⁷

SJC implements recycling programs and is currently diverting 85% of waste from landfill trash as part of the City's off-site sorting at the Materials Recovery Facility (MRF). The Airport conducted a waste audit and found 70% of what enters the waste stream can be composted. Compostable materials are taken to Z-Best, a nearby Industrial Composting facility. Environmental staff at the Airport work closely with Airport food concessions, tenants, and janitorial staff to improve waste management.⁴⁸ Nonhazardous waste from the Airport, such as that generated during construction projects, is typically sent to the Dumbarton Quarry (~20 miles from SJC), Ox Mountain Landfill (~40 miles from SJC) or Keller Canyon Landfill (~60 miles from SJC) in Contra Costa County.

3.7.3 Pollution Prevention

The Federal Pollution Prevention Act (PPA) of 1990 encourages pollution prevention (P2) through source reduction, and recycling, treatment, and disposal in an environmentally safe manner. The PPA defines source reduction as any practice which "(i) reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and (ii) reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants. The term includes equipment or technology modifications, process or procedure modifications, reformulation or redesign of products, substitution of raw materials, and improvements in housekeeping, maintenance, training, or inventory control (42 USC 13102 (5)(A))." SJC encourages a work culture that supports good waste reduction practices (e.g., no bottled water supplied; small office waste bins; reduce printed material) and strives to reduce waste through recycling and recovery practices. Their sophisticated waste management system has resulted in an 84% diversion rate for non-hazardous solid waste. SJC educates staff and tenants about waste reduction and consistently works to prevent and divert waste with their tenants, the City, and their waste hauler.⁴⁹

3.8 Historical, Architectural, Archaeological, and Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations 36 CFR Part 800 *Protection of Historic Properties* requires Federal agencies to consider the effects of their actions on historic properties included or eligible for inclusion in the National Register of Historic Places (NRHP) in consultation with

⁴⁵ CalRecycle, Five-Year CIWMP/RAIWMP Review Report Template, CalRecycle 709 (Rev.03/10), <https://reducewaste.sccgov.org/sites/g/files/exjcpb691/files/CalRecycle709-rev7.pdf>, accessed 6/27/2022.

⁴⁶ This does not include hazardous waste, electronics, or universal waste. SJC, Sustainability Management Plan, p. 7, January 2020, https://www.flysanJose.com/sites/default/files/commission/2020_0121_Final%20SMP.PDF, accessed 6/27/2022.

⁴⁷ SJC, Sustainability Management Plan, p. 20, January 2020, https://www.flysanJose.com/sites/default/files/commission/2020_0121_Final%20SMP.PDF, accessed 9/19/2022.

⁴⁸ SJC, "Resource and Waste Management," <https://www.flysanjose.com/environment/resource-waste-management> (accessed 6/27/22). Additional information provided by Patrick Hansen, Environmental Manager, SJC (3/27/20).

⁴⁹ SJC, "Sustainability Management Plan," https://www.flysanjose.com/sites/default/files/commission/2020_0121_Final%20SMP.PDF (accessed 12/2/21).

the California State Historic Preservation Officer (SHPO). **Appendix F, Cultural Resources** contains information related to cultural resources and consultation between the FAA and the SHPO. Portions of *Appendix F* are considered confidential and therefore are not circulated for public review to ensure protection of cultural resources.

3.8.1 Area of Potential Effect

The Area of Potential Effect (APE) for the project shown in **Figure 3-7** is the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The Proposed Action would take place within areas of Airport property that have been impacted by previous development. The Direct APE is approximately 18.8 acres and is comprised of the area where construction of the South Concourse extension and terminal apron is proposed. Construction staging would occur on impervious area within the Direct APE. The Indirect APE includes a 100-foot buffer around the Direct APE and encompasses approximately 31.0 acres. Both the Direct and Indirect APE were defined by the FAA in consultation with the SHPO per 36 CFR § 800.4(a)(1). The California SHPO concurred with the APEs on August 31, 2022. The SHPO concurrence letter is provided in *Appendix F*.

3.8.2 Historic/Architectural Resources

Three buildings within the Direct APE and one building within the Indirect APE are over 45 years in age. The buildings include the SJPD Hangar (ACM/Pestana) (c. 1970), Support Hangar (ACM/Pestana Support Hangar) (c. 1970), and Air Freight Hangar – Belly Freight (1969) within the Direct APE and the Fire and Rescue Building⁵⁰ (c. 1963) within the Indirect APE.⁵¹ In 2020, as part of the *Proposed Terminal B South Concourse Improvements at Norman Y. Mineta San Jose International Airport Cultural Resource Evaluation Report*, dated June 2022 (“*Cultural Resource Report*”), a reconnaissance level survey was conducted of historic-age buildings (45 years or older) on SJC property and the Airport was evaluated as a district for its potential for listing on the NRHP. As the buildings are all over 45 years in age, the 2020 SJC district survey is used for the evaluation of the buildings. For the district boundaries and location of the Airport’s historic-age buildings, refer to the Historic Properties Map on **Figure 3-8**. The evaluation in the *Cultural Resource Report* resulted in a recommendation that SJC is not eligible for listing as a district under Criteria A, B, C, or D. Additionally, no individual buildings within the district evaluated are considered individually eligible due to loss of integrity of setting, materials, workmanship, and design. Descriptions of these buildings, mapping, and photographs are included in the Department of Parks and Recreation (DPR) 523 Survey and Evaluation Forms (continuation sheets) in *Appendix F*.

3.8.3 Archaeological Resources

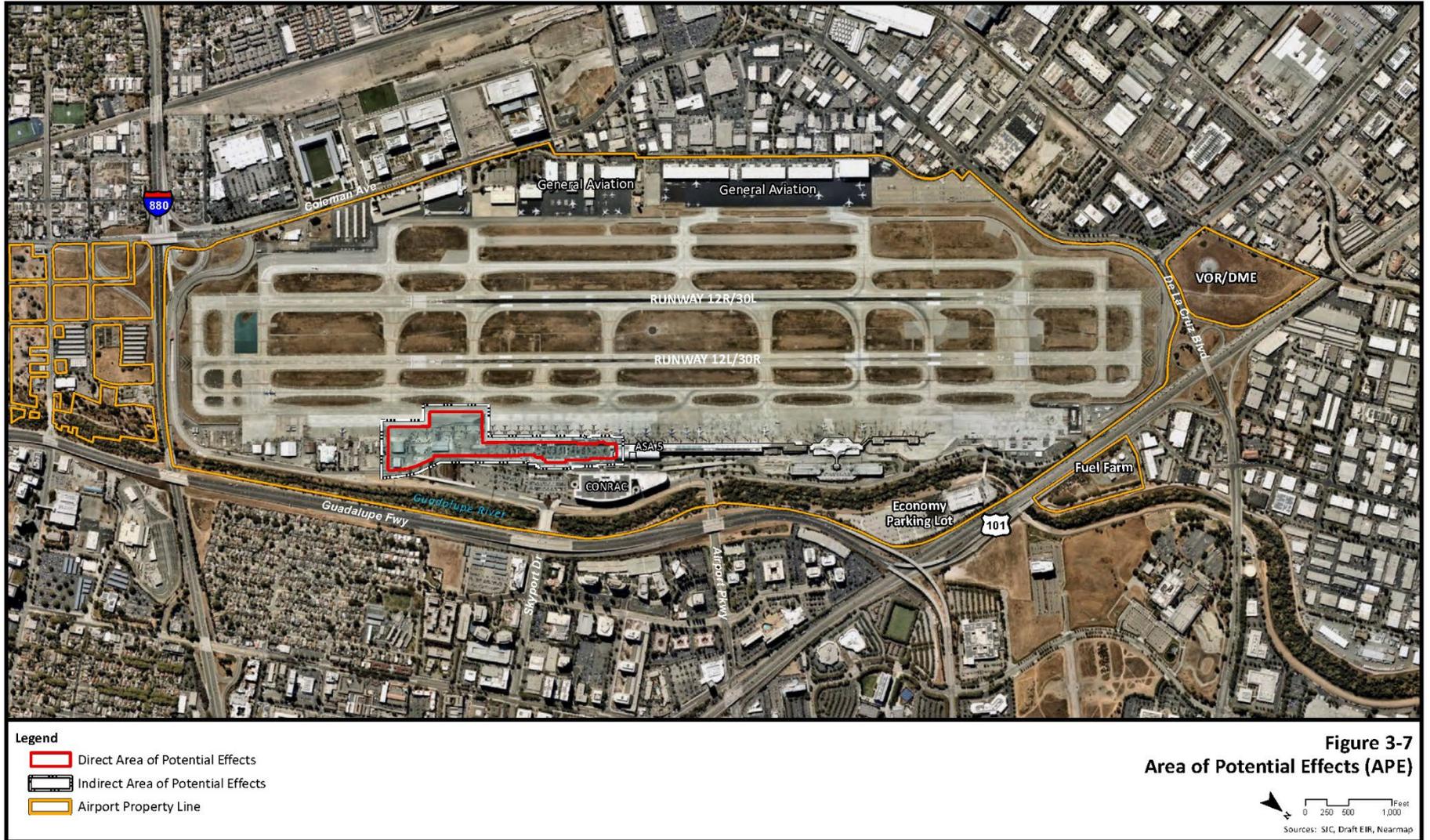
A Northwest Center of the California Historical Resources Information System (CHRIS) records search was conducted in April 2020 and again to request additional archaeology records in June 2020. The searches did not reveal any previously recorded archaeological sites within the APEs. One archaeological resource, the Fuel Farm Site (CA-SCL-000828), occurs on airport property, approximately one mile from the APEs in the northern portion of airport property. A cultural resources study was conducted by Cartier and Detlefs (1980) entitled, *Archaeological Evaluation of the San José Municipal Airport* which included surface reconnaissance and the excavation of 327 exploratory test trenches that resulted in the designation of the five ASAs, described in *Appendix F*. The study also notes the occurrence of two previously recorded archaeological sites (CA-SCL-311H and CA-SCL-430). None of the recorded archaeological sites or ASAs are within the APEs. Overall, the APE locations have long been, and are currently used for airport purposes. These locations have been previously disturbed, and the potential for buried resources is low.

⁵⁰ Note that the Fire and Rescue Building was evaluated as part of a Categorical Exclusion prepared by FAA in 2018 and determined not individually eligible.

⁵¹ Relocation of historic-age buildings within the Direct and Indirect APE is an independent action that is considered in *Section 4.14, Cumulative Impacts*, and as discussed in *Section 1.1, Introduction*.

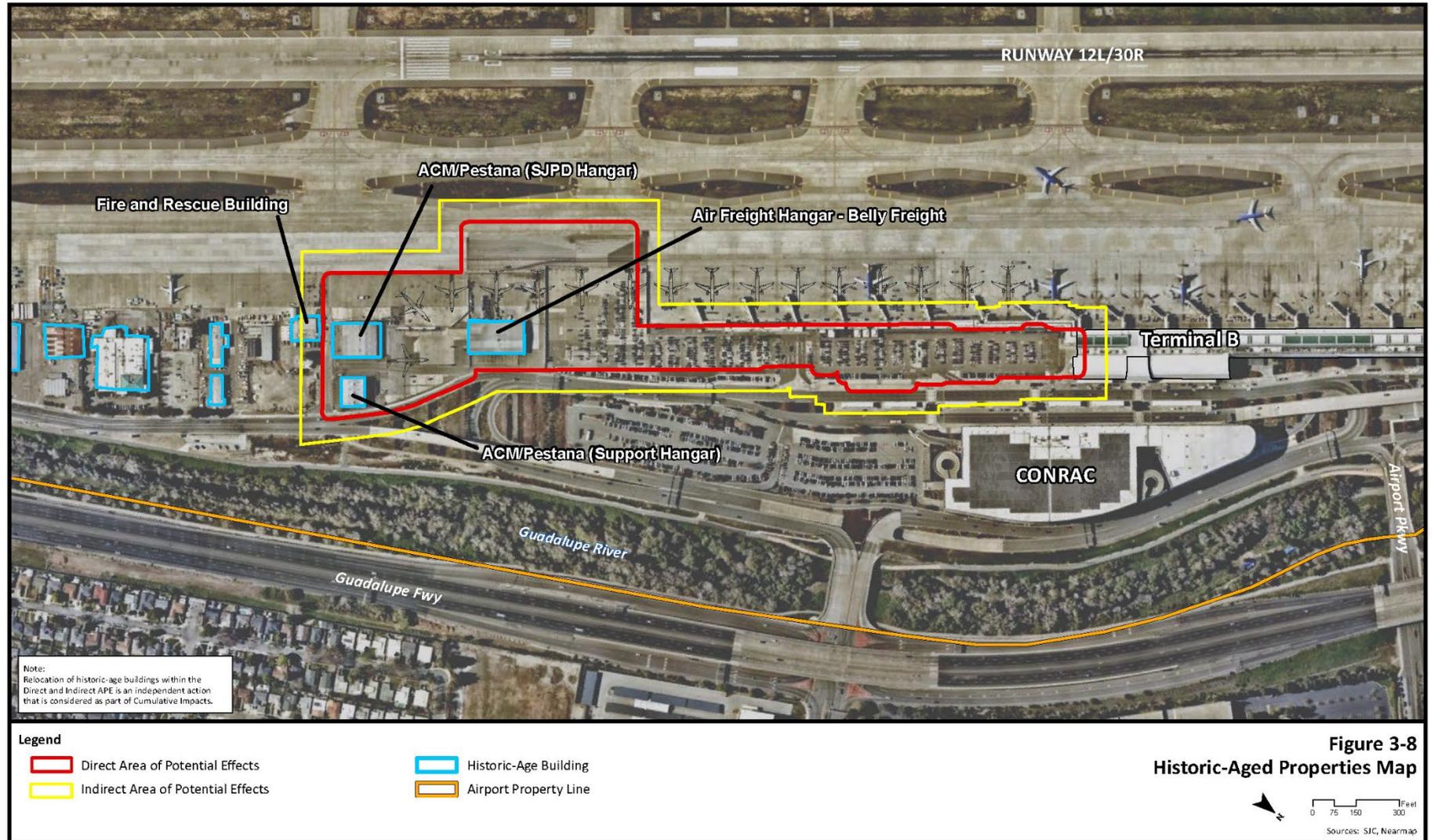
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Note that archaeological resource locations are not shown on figures as these are considered confidential and only to be used to comply with the requirements of the National Historic Preservation Act of 1966, as amended, the National Environmental Policy Act of 1969, as amended, Archaeological and Historic Preservation Act of 1960, as amended.

3.8.4 Cultural Resources

Cultural resources, which include historic resources, may be defined as the physical evidence or place of past human activity. As such, the definition includes the historical resources discussed above, along with landscapes or natural features of significance to a group of people traditionally associated with it. There are no previously identified cultural resources within the Indirect or Direct APEs.

3.8.5 Native American Consultation

A search of the Native American Heritage Commission's Sacred Lands File was conducted. The search results were negative. The FAA initiated consultation with the Amah Mutsun Tribal Band, the Amah Mutsun Tribal Band of Mission San Juan Bautista, the Indian Canyon Mutsun Band of Costanoan, the Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, the North Valley Yokuts Tribe, the Ohlone Indian Tribe, the Wutsache Indian Tribe/Eshorm Valley Band, and the Tamien Nation between April 7, 2022, and April 14, 2022. No responses were received by the FAA prior to completion of the NHPA, Section 106 process. The FAA received a response from the Tamien Nation on November 2, 2022, specifying CEQA provisions with an interest to be protective of potential tribal cultural resources and requesting the *Cultural Resource Report*. On November 14, 2022, FAA responded to the Tamien Nation's request by providing a copy of the FAA's NHPA Section 106 consultation with the California SHPO, the *Cultural Resource Report*, and the California SHPO's concurrence letter. Tribal consultation materials are included in *Appendix F*.

3.9 Land Use

Local land use plans, comprehensive plans, and zoning laws provide context for land use compatibility. SJC is located within the City of San José in Santa Clara County. The Santa Clara County Airport Land Use Commission (ALUC) adopted the Comprehensive Land Use Plan (CLUP) for SJC in May of 2011 and amended it in November of 2016. The implementation of the CLUP is intended to prevent future incompatible development from encroaching on the Airport and allow for its development in accordance with the current Airport Master Plan. Title 25 of the San José Municipal Code regulates Airport developments and operations and relates to the Airport Master Plan. The City of San José's *Envision San José 2040 General Plan* ("San José General Plan"), adopted in November 2011, helps guide and regulate future growth and development in the City, which includes airport property and the land use to the south and east of SJC. The City of Santa Clara 2010-2035 General Plan ("Santa Clara General Plan"), adopted in November 2010, helps guide and regulate land uses around SJC within City of Santa Clara to the north and west. The following sections describe land use and zoning on and around SJC, with reference to the DSA and ISA.

3.9.1 On-Airport Land Uses

The DSA and ISA are on Airport property and consist of aeronautical and non-aeronautical land use as delineated on the Future Land Use Plan of the ALP set, shown on **Figure 3-9**. On-airport facilities are described in detail in *Chapter One, Purpose and Need, Section 1.2.2, Existing Facilities*. Figure 1-2 details the airport layout.

3.9.2 Surrounding Land Uses

Due to its proximity to Downtown San José, SJC and surrounding areas are predominantly urban in character. Figure 3-9 illustrates land use in the vicinity of the Airport as identified in the San José General Plan and the Santa

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Clara General Plan,⁵² with updates to land use for Airport-owned parcels south of the Airport proper. Within the City of San José, SJC is bounded on the east by the Guadalupe River and State Route 87 (SR 87), on the south by Interstate 880 (I-880), on the west by Coleman Avenue, and on the north by U.S. 101. Commercial and residential are the primary land uses east and northeast of SJC. Bachrodt Elementary School is approximately 1/2-mile east of the ISA. A mix of residential, industrial, and public land uses are south of SJC and Bellarmine College Preparatory is approximately one mile south of the ISA. The City of Santa Clara borders SJC to the north and west which includes primarily industrial land uses.

3.9.3 Zoning

Zoning within the cities is managed by the City of San José Planning, Building, and Code Enforcement Department and City of Santa Clara Planning Division. The cities' zoning codes regulate land use, building height, and density. As shown in **Figure 3-10**, SJC, including the DSA and ISA, is zoned Heavy Industrial (HI).⁵³ Adjacent land uses are consistent with land use designations detailed in the General Plans and Zoning Ordinance. East of the Guadalupe River and SR 87 are zoned commercial and residential uses. South and west of the Airport include a combination of Industrial, Commercial and Planned Development zoning. In the City of Santa Clara, the areas north and west of SJC are zoned Light and Heavy Industrial.

The City of San José provided the FAA with its Land Use Assurance letter specifying that appropriate action has been or will be taken, to the extent reasonable, to restrict the use of land next to or near SJC to uses that are compatible with normal airport operations pursuant to Title 49 United States Code (U.S.C.) §47107(a)(10) (See **Appendix G, Land Use Assurance Letter**).

3.10 Natural Resources and Energy Supply

The following sections describe the natural resources on energy supply within the DSA and ISA.

3.10.1 Natural Resources

There are no known natural resources of mineral or energy resources located within the DSA or ISA. The Bay Area is a highly developed urban area with ample natural resources to support SJC, including materials and water sources needed for construction and operations at the airport. Water utilities, provided by South Bay Water Recycling (SBWR), are used for airport related activities, landscaping, and potable water use. The Airport uses recycled water for toilet flushing and landscaping to reduce water use. SBWR recycles and treats the water provided. SJC's Sustainability Management Plan (2020) explains SJC's "strategy to achieve multiple, meaningful and ambitious environmental targets that align directly with relevant local and statewide targets that demonstrate leadership across multiple dimensions of sustainability." The main six actions include tracking and reporting sustainability performance, engaging staff, tenants and passengers in sustainability commitment, conserving resources through efficient technologies and practices, promoting low-carbon energy and fuels, advancing a circular economy through recycling and reuse, and fostering health and wellness for people and the environment.⁵⁴ Of the total 5,532,000 pounds (lbs) of waste generated at SJC in FY 2017 to 2018, only 16% of waste generated went to nearby landfills. SJC has developed multiple internal tools that allow tracking of utility data including energy and water usage and waste disposal data including tracking of monthly electricity use by facility tracking of potable versus recycled water use, waste disposal and diversion by weight, and tracking of Airport-owned GSE fuel consumption.⁵⁵

⁵² City of San José and City of Santa Clara General Plan land use data is used for land use mapping as the cities do not have existing land use data available.

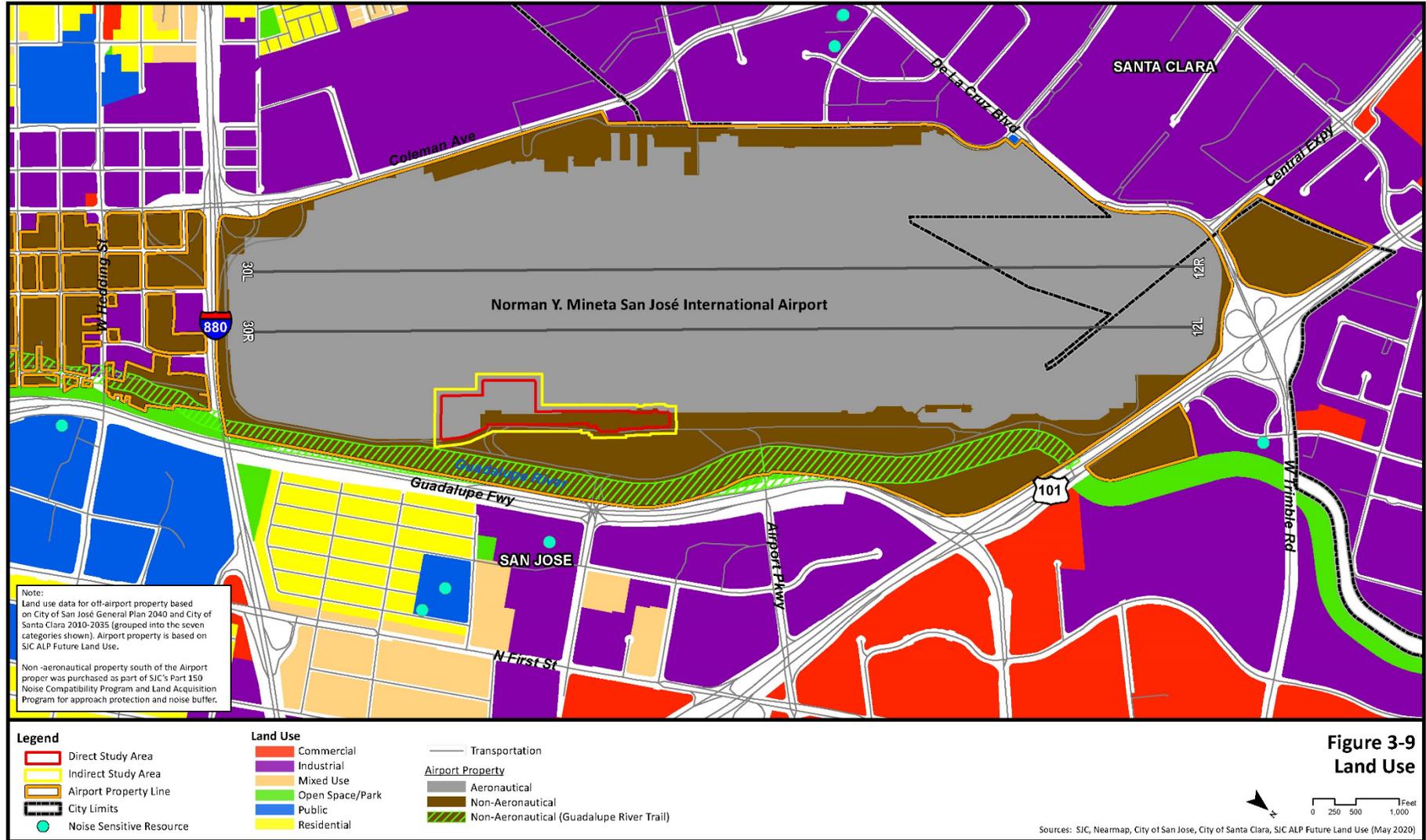
⁵³ City of San José, San José Spatial Team, Land Use Zoning, <https://www.arcgis.com/apps/webappviewer/index.html?id=6f379e130e9a43ab9dee28806ed2c885&extent=-13574341.156%2C4480904.8205%2C-13559818.1207%2C4490039.0454%2C102100>, accessed November 2021.

⁵⁴ SJC, Sustainability Management Plan, https://www.flysanJose.com/sites/default/files/commission/2020_0121_Final%20SMP.PDF, p. 9, accessed 6/27/22.

⁵⁵ Ibid.

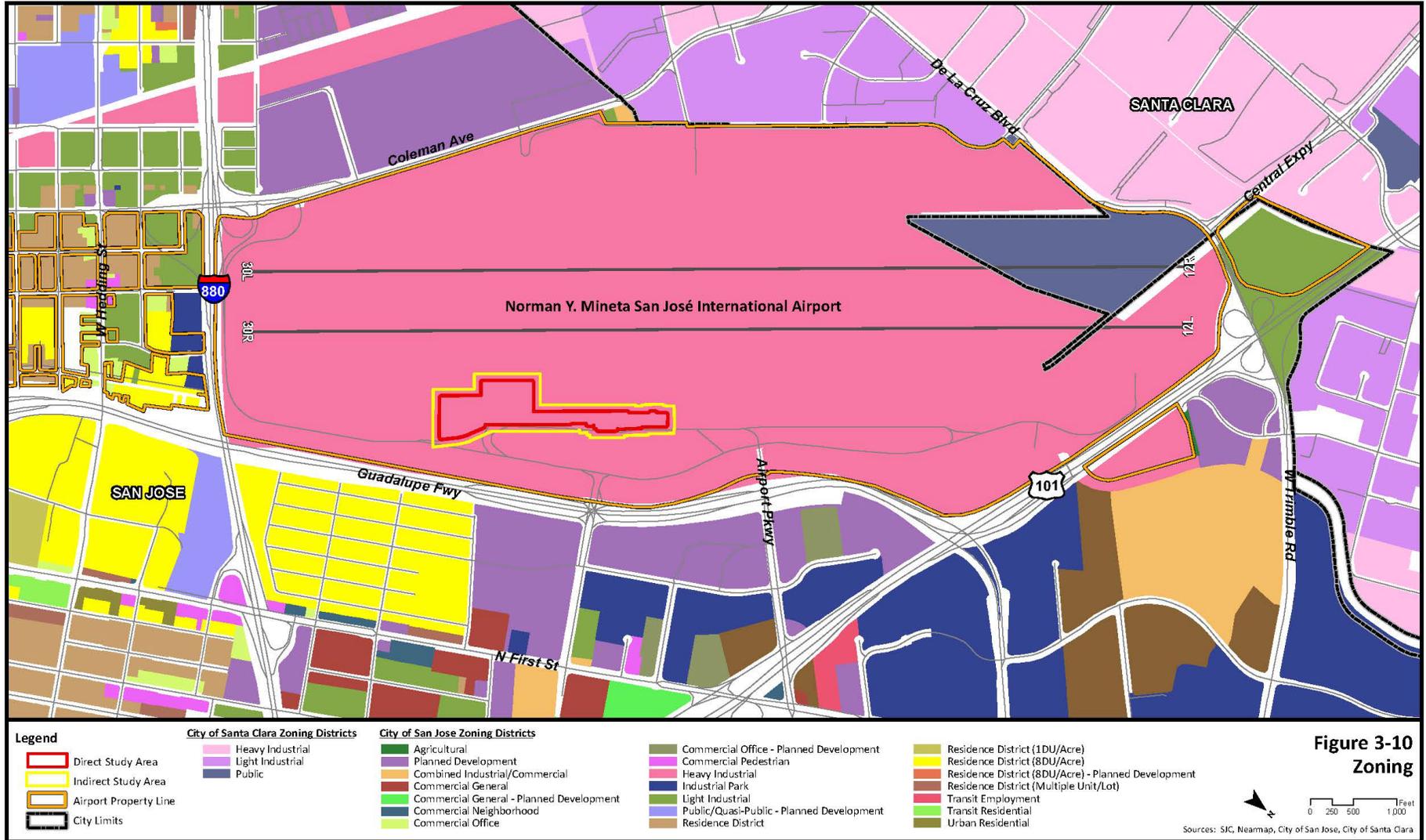
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Aircraft fueling at the Airport occurs primarily at Commercial Gates, Cargo Handling Areas and at the Fixed Base Operators (FBOs) and GA areas. On the northeast side of the Airport where commercial and cargo aircraft operate, Jet A fuel is conveyed to covered fuel reloading racks via a dedicated pipeline from a fuel tank farm located on the northeast side of Highway 101 (at 2250 Seaboard Avenue); these facilities are operated by Swissport Fueling, Inc.

Mobile fuel tanker trucks then drive to individual aircraft positioned at each gate and refuel the aircraft through a flexible pipe connection.⁵⁶ Fuel is pumped through underground pipes⁵⁷ to help protect air quality, reduce fuel transportation emissions, and protect natural resources.²³ Diesel fuel is received by tanker trucks and pumped directly into the diesel ASTs. These transfers take place at the tank farm and airside facility, where a discharge will be contained and/or drain to an oil-water separator.

3.10.2 Energy Supply

Electricity is sourced from multiple renewable and carbon-free sources. San José Clean Energy (SJCE) sources their electricity from Pacific Gas and Electric Company (PG&E) to provide electricity to SJC. PG&E provides the supply infrastructure. Currently 85% of electricity is sourced from carbon free sources, including 39% which is sourced from renewable resources.⁵⁸ SJC is committed to operating in an environmentally responsible manner and has taken steps to minimize its energy use and environmental impact in accordance with Climate Smart San José, an ambitious campaign approved in 2018 to build upon the Green Vision adopted in 2007. Climate Smart San José aims to reduce greenhouse gas emissions and water use. Terminal B was designed to optimize energy performance, exceeding California Title 24 standards by 16%. SJC estimates seventy percent of Terminal B's energy purchase is green power.⁵⁹ This is defined as solar, wind, geothermal, biogas, biomass, and low-impact small hydroelectric by the USEPA. This purchase will offset 18,811,996 lbs of CO₂ over a two year period."⁶⁰ Other energy-saving initiatives include the use of a solar array on the roof the Consolidated Rental Car Facility and energy efficient signage.

3.11 Noise and Noise-Compatible Land Use

The FAA has developed specific guidance and requirements for the assessment of aircraft noise to comply with NEPA requirements. Noise impacts were evaluated in terms of the CNEL in decibels (dB). The FAA permits the use of CNEL in California in lieu of Day Night Average Sound Level (DNL), the FAA's primary noise metric, to assess cumulative noise (i.e., multiple aircraft events) near airports.⁶¹ The CNEL is a cumulative metric with a 5-dB penalty applied to evening aircraft events (7:00 pm – 9:59 pm) and 10- dB penalty applied to nighttime aircraft events (10:00 pm – 6:59 am). The Noise Study Area is represented by the Existing Conditions (2019) CNEL 65 dB contour illustrated in **Figure 3-11**.

3.11.1 Existing Conditions (2019) Noise

As described in *Chapter One, Purpose and Need, Section 1.1, Introduction*, the Proposed Action will not increase aircraft operations, change the aircraft fleet mix operating at SJC, or result in an increase in passengers. However for informational purposes existing noise conditions were developed. Based on inputs described in **Appendix H, Noise**, noise contours were modeled using AEDT 3e.⁶² Figure 3-11 depicts the CNEL 65 dB, 70 dB, and 75 dB noise contours for the Existing Conditions (2019) and land use. The CNEL 65 dB noise contour illustrated in Figure 3-11 represents the Noise Study Area.

⁵⁶ Cornerstone Earth Group, Hazardous Materials Assessment: San José International Airport, October 2019.

⁵⁷ Leak detection systems are required for hazardous liquid pipelines as regulated by the California Pipeline Safety Act. Pipelines also must have leak mitigation plans, emergency response plans, and equipment in place.

⁵⁸ PG&E, "Exploring Clean Energy Solutions," https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy, accessed 12/2/21.

⁵⁹ Mineta San José International Airport, Green Building, from <https://www.flysanjose.com/environment/green-building>, accessed 12/2/21.

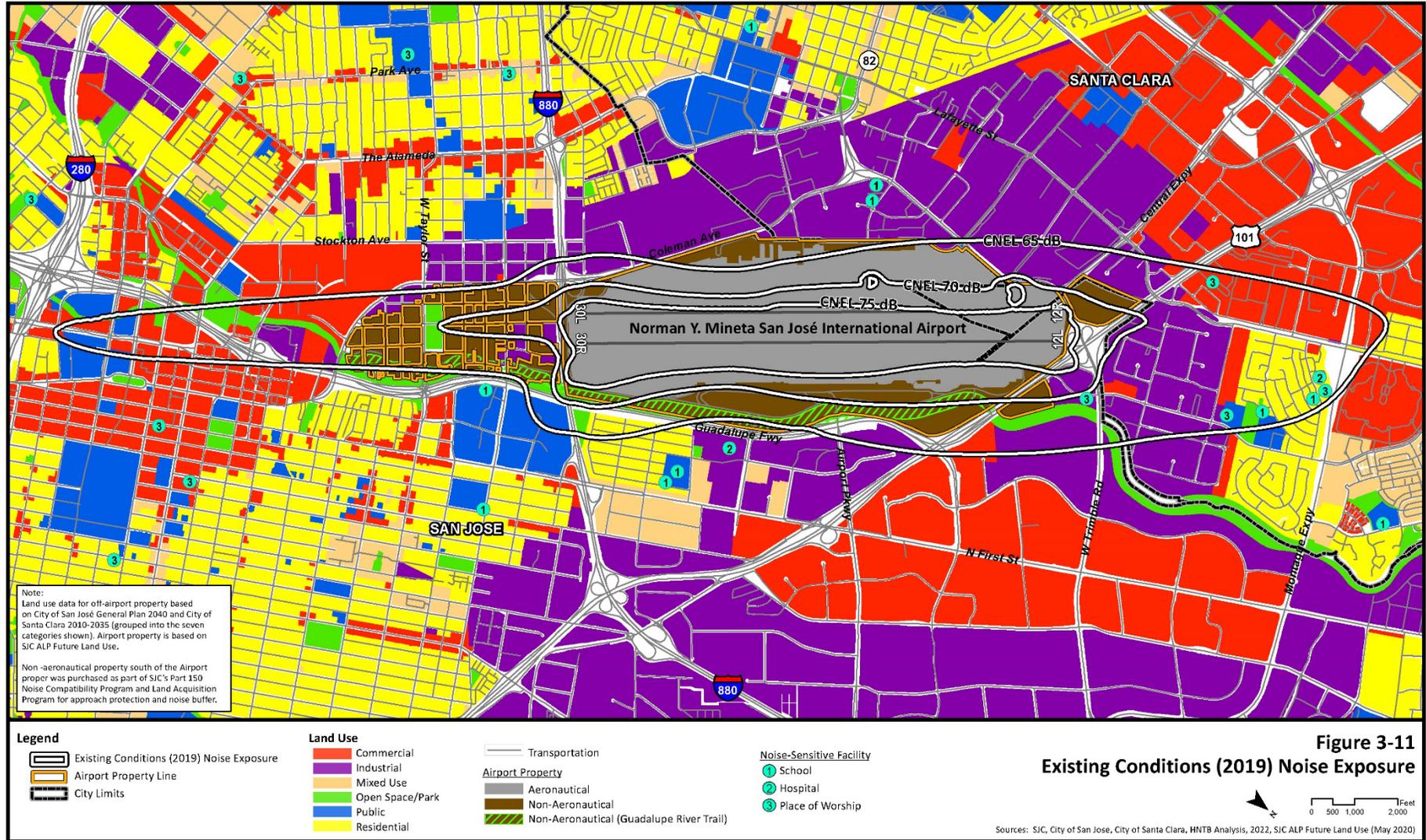
⁶⁰ Ibid.

⁶¹ FAA Order 1050.1F, Appendix B, Paragraph B-1, and FAA Order 5050.4B, Paragraph 9(n).

⁶² AEDT 3e was the most current version of model available at the time the analysis was conducted.

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3.11.2 Noise-Compatible Land Use

According to FAA Order 1050.1F, a noise sensitive area is “an area where noise interferes with normal activities associated with its use. Normally noise sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas, areas with wilderness characteristics, wildlife refuges, and cultural and historical sites. For example, in the context of noise from airplanes and helicopters, noise sensitive areas include such areas within the CNEL 65 dB noise contour.”⁶³

Table 3.12 summarizes land use categories, including population and housing counts, within the CNEL 65 dB, 70 dB, and 75 dB noise contours for the Existing Conditions (2019). There are no residential uses within the CNEL 70-75 dB noise contours; and approximately 5% percent of the land use within the CNEL 65-70 dB noise contour is residential land use. The closest residential neighborhood, the Rosemary Gardens, is located east of SJC with portions of the neighborhood within the CNEL 65-70 dB noise contours. Population and housing units within the contours were determined using 2010 U.S. Census Bureau block data. The population and housing units calculated within a contour assumed that residential populations within a block were evenly distributed by area, resulting in an estimated population of approximately 2,946 and 1,016 housing units within the Existing Conditions (2019) CNEL 65-70 dB noise contours.

Table 3.12
2019 Existing Conditions Land Use Distribution (acres)

Land Use Category	Noise Exposure Range (CNEL, dB)			
	65-70	70-75	75	TOTAL ^a
Residential	74	0	0	74
Industrial	327	24	0	351
Mixed Use	0	0	0	0
Open Space/Park	68	3	0	72
Commercial	211	0	0	211
Public	33	0	0	33
Transportation, Communications, and Utilities	298	50	8	356
Airport Property (Aeronautical) ^b	137	187	394	718
Airport Property (Non-Aeronautical) ^b	229	120	7	355
TOTAL	1,376	384	409	2,169
Noise-Sensitive Land Uses (#) ^c				
Hospitals	1	0	0	1
Schools	2	0	0	2
Religious (i.e., places of worship)	4	0	0	4
Residential (dwelling units)	1,016	0	0	1,016
Population	2,946	0	0	2,946

Note:

^a Totals may not sum due to rounding.

^b Airport property (aeronautical and non-aeronautical) is based on the SJC ALP Future Land Use (May 2020).

^c Residential (dwelling units) are considered noise-sensitive. Population estimates and dwelling units within the contours were determined using 2010 U.S. Census Bureau block data. The population and dwelling units calculated within a contour assumed that residential populations within a block were evenly distributed by area. Currently, residences within the CNEL 65-70 dB contour are considered compatible with the noise generated by aircraft at SJC.

Sources: City of San José and City of Santa Clara Land Use, SJC ALP Future Land Use (May 2020), U.S. Census Bureau 2010 Block data, and HNTB analysis, 2022.

⁶³ FAA Order 1050.1F, Paragraph 11-5.b.(8).

The CNEL 65-75 dB noise exposure contour off the Runway 30R and 30L ends includes non-aeronautical airport property, commercial and industrial land use. Off the Runway 12R and 12L ends, the CNEL 65-75 dB noise contour includes mostly industrial, commercial, and residential land uses. SJC completed a Title 14 CFR Part 150, Airport Noise Compatibility Study in 1985-1986 which set forth Noise Control Program (NCP) measures to ensure lands adjacent to SJC are compatible with aviation noise. From 1995-2009, the airport managed an Acoustical Treatment Program to treat affected residences within the CNEL 65-70 dB noise contour and certain homes inside the CNEL 60 dB. \$140 million was spent soundproofing the interiors of 2,675 homes and four schools. Currently, residences within the CNEL 65-70 dB noise contours are considered compatible with the noise generated by aircraft at SJC.⁶⁴ There are seven noise sensitive facilities within the Existing Conditions (2019) CNEL 65-70 dB noise contours: four places of worship, two schools, and one hospital. Montague Elementary and North Valley Baptist School are both located northwest of SJC near Montague Expressway and have been sound insulated.

In addition to the Acoustical Treatment Program, other NCP measures in the Airport's history include a land acquisition program, land use planning and control, and installation of an Airport Noise and Operations Monitoring System (ANOMS). These measures combined with the replacement of noisier older aircraft over time have resulted in a substantial reduction in Airport-related aircraft noise levels and impacts in the surrounding communities since 1978. This reduction has occurred despite the substantial increase in the number of operations at the Airport by jet aircraft during that same period.⁶⁵

3.12 Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

This section describes the existing socioeconomic conditions in the vicinity of SJC, using the Noise Study Area as the socioeconomic study area. Data at the U.S. Census tract level was used to develop a profile of the population, housing, and employment characteristics within the Noise Study Area. The issues relevant to the evaluation of environmental impacts include population, the ethnicity of the population and its poverty status, income and housing distribution, surface transportation and traffic, environmental justice, children's environmental health and safety, and public services.

3.12.1 Socioeconomics

SJC is located within the limits of the City of San José, within Santa Clara County, California. The City of San José has a total area of approximately 181.4 square miles and is urban and suburban in nature. According to the U.S. Census Bureau American Community Survey (ACS) 2020 5-Year Estimate, the City's population is 1,029,409 with 324,340 households. The City of Santa Clara borders SJC to the west, has a total area of approximately 18.3 square miles and is urban and suburban in nature. According to the U.S. Census Bureau ACS 2020 5-Year Estimate, the City's population is 126,723 with 44,198 households.⁶⁶

U.S. Census Bureau data at the census tract (CT) level was used to develop a profile of the population within the Noise Study Area. As illustrated on **Figure 3-12**, the Noise Study Area encompasses parts of ten CTs, six within the City of San José, and four within the City of Santa Clara. The DSA for the Proposed Action is entirely within SJC property in CT 5051. The Airport property makes up a large portion of CT 5051. The closest residential area to the Airport is Rosemary Gardens Neighborhood, located approximately 500 feet to the east of the DSA within CT 5051.

⁶⁴ SJC Website, "Noise Office Frequently Asked Questions," <https://www.flysanJosé.com/noise/noise-faq>, accessed 9/20/22.

⁶⁵ SJC, "Noise Office Frequently Asked Questions," <https://www.flysanJosé.com/noise/noise-faq>, accessed 6/28/22.

⁶⁶ United States Census Bureau, American Community Survey (ACS), 2020 ACS 5-Year Estimates, San José city, California, and Santa Clara city, California, <https://data.census.gov/>, accessed May 19, 2022.

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Table 3.13 summarizes the demographic profile of the CTs within the Noise Study Area, as well as within the City of San José, the City of Santa Clara, Santa Clara County, and the state of California, for purposes of comparison. The demographic profile of the CTs within the Noise Study Area varies between 64% (CT 5008) and 86% (CT 5017) minority population, which is consistent with the minority population of the Cities (69-75%), County (69%) and California (63%). The Hispanic or Latino and Asian populations make up the largest percent of the minority population in the CTs, the Cities, County and California. The demographics of the CTs within the Noise Study Area CTs are generally consistent with the Cities, County and California, all having a majority minority population.

Table 3.14 summarizes the median household income and poverty status for families of the CTs within the Noise Study Area, as well as within the City of San José, the City of Santa Clara, Santa Clara County, and the state of California, for purposes of comparison. The median household income in the CTs varies greatly from \$64,500 (CT 5017) to \$185,000 (CT 5049.02). Two of the six CTs within the City of San José have median household incomes less than the City median (\$117,324), and one of the four CTs within the City of Santa Clara has a median household income less than the City median (\$136,870). The percent of families below the poverty line ranges from 2.6% (CT 5049.02) to 14.5% (CT 5017), and the percent of individuals below the poverty line ranges from 4.2% (CT 5050.10) to 15.4% (CT 5008). Seven of the ten CTs have a greater percent of families below the poverty line as compared to the Cities (5.2% and 3.5%), and eight of the ten CTs have a greater percent of individuals below the poverty line as compared to the Cities (8.3% and 7.1%).

Table 3.15 summarizes the educational attainment and employment rates of the CTs within the Noise Study Area, as well as within the City of San José, the City of Santa Clara, Santa Clara County, and the state of California, for purposes of comparison. The CTs have high school graduation rates between 69.7% (CT 5017) and 99.0% (CT 5050.06), The CTs have high school graduation rates (84.9% to 99.0%) consistent with the Cities (85% and 93.5%), except for CT 5017 (69.7%). The percent of population (25 years and over) with a bachelor's degree or higher is between 20.5% (CT 5017) and 88.1% (CT 5050.06). The unemployment rates in the CTs range from 1.9% (CT 5049.02) to 9.3% (CT 5050.10), with four of the ten CTs having an unemployment rate higher than the Cities (4.6% and 4.0%).

3.12.2 Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, requires federal agencies to identify and address the disproportionately high and adverse human health or environmental effects of their actions on minority and low-level income populations with the goal of achieving environmental protection for all communities.

In accordance with DOT Order 5610.2(a), *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, minority refers to people who classified themselves as African American or Black; Hispanic or Latino; Asian American; American Indian or Alaskan Native; or Native Hawaiian or Other Pacific Islander. Minority populations are defined as "any readily identifiable group of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed DOT program, policy, or activity."⁶⁷

As summarized in Table 3.13, minorities make up the largest percent of the population in all 10 of the CTs within the Noise Study Area, (between 69 and 86%), which is generally consistent with the Cities, County and California, all having a majority minority population. CT 5017 to the southeast has the highest percent of Hispanic or Latino population (76%) and CT 5050.06 to the E has the highest percent of Asian population (72%). As summarized in Table 3.14, the median household income in the CTs varies greatly from \$64,500 (CT 5017) to \$185,000 (CT 5049.02). Seven of the ten CTs have a greater percent of families below the poverty line as compared to the Cities (5.2% and 3.5%), and eight of the ten CTs have a greater percent of individuals below the poverty line as compared to the Cities (8.3% and 7.1%).

⁶⁷ DOT Order 5610.2(a), Appendix, Definitions (e).

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Table 3.13
Noise Study Area Demography by Census Tract (CT), City of San José, City of Santa Clara, Santa Clara County, and California

Subject	City of San José							City of Santa Clara					Santa Clara County	California	
	CT 5002	CT 5003	CT 5008	CT 5017	CT 5050.06	CT 5051	City of San José	CT 5049.02	CT 5050.07	CT 5050.10	CT 5052.02	City of Santa Clara			
	Southeast	Southeast	Southeast	Southeast	East	SJC		Northwest	Northwest	Northwest	West				
Total Population	6,285	3,789	4,482	4,831	12,242	4,093	1,029,409	4,709	4,397	4,400	6,998	126,723	1,924,379	39,346,023	
Children (Under 18 yr old)	15%	10%	11%	27%	16%	18%	22%	26%	20%	20%	19%	19%	22%	23%	
Not Hispanic or Latino	White	31%	48%	36%	14%	20%	21%	25%	23%	24%	18%	25%	31%	37%	
	Black or African American	5%	4%	8%	1%	2%	4%	3%	0%	8%	12%	2%	3%	5%	
	American Indian & Alaska Native	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	
	Asian	17%	17%	20%	3%	72%	40%	37%	57%	38%	49%	32%	45%	37%	15%
	Native Hawaiian and Other Pacific Islander	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%	1%	0%	0%
	Other Race	4%	0%	1%	4%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
	Two or More Races	6%	4%	5%	2%	1%	2%	3%	3%	4%	8%	6%	4%	4%	3%
<i>Hispanic or Latino</i>	37%	26%	30%	76%	4%	33%	31%	17%	26%	12%	31%	16%	25%	39%	
Total Minority	69%	52%	64%	86%	80%	79%	75%	77%	76%	82%	75%	69%	69%	63%	

Source: United States Census Bureau, American Community Survey (ACS), 2020 ACS 5-Year Estimates.

Table 3.14
Noise Study Area Median Household Income and Poverty Status by Census Tract (CT), City of San José, City of Santa Clara, Santa Clara County, and California

Subject	City of San José							City of Santa Clara					Santa Clara County	California
	CT 5002	CT 5003	CT 5008	CT 5017	CT 5050.06	CT 5051	City of San José	CT 5049.02	CT 5050.07	CT 5050.10	CT 5052.02	City of Santa Clara		
	Southeast	Southeast	Southeast	Southeast	East	SJC		Northwest	Northwest	Northwest	West			
Number of Households	1,968	1,540	2,276	1,356	5,556	1,963	324,340	1,736	961	1,306	2,607	44,198	635,314	13,103,114
Average Household Size	2.66	2.3	1.96	3.54	2.2	2.08	3.13	2.7	4	3.36	2.68	2.75	2.97	2.94
Median Household Income	\$143,333	\$128,500	\$117,981	\$64,500	\$169,080	\$92,375	\$117,324	\$185,000	\$108,365	\$167,786	\$93,728	\$136,870	\$130,890	\$78,672
Poverty Status														
Number of families	1,046	801	903	850	3,282	852	235,711	1,096	840	1,036	1,590	29,729	454,149	8,986,666
Percent of families below poverty line	3.30%	3.90%	7.9%	14.50%	5.80%	11.40%	5.20%	2.60%	10.10%	4.00%	5.00%	3.50%	4.30%	9.00%
Population for whom poverty status is determined	5,300	3,771	4,455	4,753	12,242	4,058	1,019,175	4,709	3,880	4,400	6,938	121,674	1,893,555	38,589,882
Number of individuals below the poverty line	434	429	686	629	1,072	516	84,301	419	501	186	543	8,647	135,771	4,853,434
Percent individuals below the poverty line	8.2%	11.4%	15.4%	13.2%	8.8%	12.7%	8.3%	8.9%	12.9%	4.2%	7.8%	7.1%	7.2%	12.6%

Source: United States Census Bureau, American Community Survey (ACS), 2020 ACS 5-Year Estimates.

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Table 3.15
Noise Study Area Educational Attainment and Employment by Census Tract (CT), City of San José, City of Santa Clara, Santa Clara County, and California

Subject	City of San José							City of Santa Clara					Santa Clara County	California
	CT 5002	CT 5003	CT 5008	CT 5017	CT 5050.06	CT 5051	City of San José	CT 5049.02	CT 5050.07	CT 5050.10	CT 5052.02	City of Santa Clara		
	Southeast	Southeast	Southeast	Southeast	East	SJC		Northwest	Northwest	Northwest	West			
Educational Attainment														
Population 25 years and over	4,621	3,241	3,782	3,216	9,677	3,191	713,674	3,343	2,886	3,238	5,114	88,544	1,340,707	26,665,143
Less than 9th grade	233	113	277	635	39	256	64,211	17	109	163	243	2,700	88,038	2,367,996
9th to 12th grade, no diploma	380	149	79	340	59	225	42,932	78	291	115	357	3,017	62,920	1,918,542
High school graduate (includes equivalency)	606	370	461	824	370	352	117,737	264	581	280	1,531	11,075	187,777	5,431,385
Some college, no degree	649	369	483	393	525	398	116,184	118	530	446	663	11,506	194,894	5,566,520
Associate's degree	326	368	164	364	156	177	52,941	40	261	394	343	5,282	90,144	2,123,827
Bachelor's degree	1,470	1,145	1,138	350	3,244	945	186,202	1,406	736	1,083	1,187	27,390	374,303	5,764,827
Graduate or professional degree	957	727	1,180	310	5,284	838	133,467	1,420	378	757	790	27,574	342,631	3,492,046
Percent high school graduate or higher	86.7%	91.9%	90.6%	69.7%	99.0%	84.9%	85.0%	97.2%	86.1%	91.4%	88.3%	93.5%	88.7%	83.9%
Percent bachelor's degree or higher	52.5%	57.8%	61.3%	20.5%	88.1%	55.9%	44.8%	84.5%	38.6%	56.8%	38.7%	62.1%	53.5%	34.7%
Employment Status														
Population 16 years and over (Total)	5,360	3,429	4,151	3,626	10,341	3,415	828,880	3,541	3,656	3,623	5,811	104,579	1,549,653	31,403,964
In labor force (%)	72.4%	80.5%	73.7%	75.4%	83.1%	75.9%	68.4%	80.3%	64.6%	71.3%	77.7%	70.3%	67.7%	63.7%
Employed (%)	69.9%	74.4%	70.9%	71.6%	80.8%	73.2%	65.2%	78.7%	59.4%	64.7%	75.6%	67.3%	64.7%	59.4%
Unemployment rate (%)	3.5%	7.2%	3.7%	5.0%	2.7%	3.5%	4.6%	1.9%	8.0%	9.3%	2.8%	4.0%	4.2%	6.2%

Source: United States Census Bureau, American Community Survey (ACS), 2020 ACS 5-Year Estimates.

3.12.3 Children's Environmental Health and Safety Risks

EO 13045, *Protection of Children from Environmental Health risks and Safety Risks*, directs federal agencies to identify and assess disproportionate impacts to children's environmental health and safety risks. EO 13045 states that, "*Environmental health risks and safety risks' mean risks to health or to safety that are attributable to products or substances that the child is likely to encounter or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we are exposed to).*" Therefore, the assessment of potential air quality, hazardous materials, and water quality impacts are pertinent to identify potential exposures.

As summarized in Table 3.13, the population of children (under 18 years old) within the CTs range from 11% to 27%. There are two schools within the Noise Study Area: Montague Elementary and North Valley Baptist School are both located northwest of SJC near Montague Expressway and have been sound insulated. The closest school districts adjacent to the Airport are Santa Clara Unified to the west and San José Unified to the east.⁶⁸ There are schools located east of the ISA, with the closest school, Bachrodt Elementary School, located approximately 0.4 miles from the ISA. See Figure 3-11 for the locations of noise-sensitive facilities and Table 3.12 for a count of noise sensitive land uses within the Noise Study Area.

3.12.4 Surface Transportation and Traffic

Public surface transportation access for passengers to SJC is from Skyport Drive or Airport Parkway on the east side of the airport and Airport Boulevard via the southwest entrance from Coleman Avenue. Both Skyport Drive and Airport Parkway lead to Airport Boulevard which is the main roadway adjacent to the terminals on the east side of the Airport. The major highways, beyond the ISA, but in the immediate vicinity of SJC are SR 87, U.S. 101 (Bayshore Freeway) and I-880. Other arterial roadways surrounding SJC include De La Cruz Boulevard to the northwest, Coleman Avenue to the southwest, and N. 1st Street to the northeast. Refer to Figure 1-2 for roadways surrounding the Airport.

3.13 Visual Effects

There are no federal regulations for airport related light emissions or visual effects. The following sections describe visual effects related to the DSA and ISA.

3.13.1 Light Emissions

Light emissions in the DSA and ISA include those generated from airport facilities, including runway approach lighting, runway and taxi lighting, outside building and garage lightings, and high-level lighting in surface vehicle and aircraft parking areas and air cargo areas. All lighting at the Airport, including that for ramps, vehicle parking areas, roadways, fuel storage areas, and the buildings, is adequately adjusted or shielded to prevent interference with air traffic control or aircraft operations. There are no light sensitive areas located within the ISA. Due to the Airport's proximity to downtown San José and other urbanized areas, nighttime lighting utilized at the Airport does not impact nearby commercial or residential areas. The closest residential neighborhood is Rosemary Gardens, located approximately 500 feet to the east of the DSA across the Guadalupe River. The riparian corridor acts as a buffer between SJC and nearby residential property.

3.13.2 Visual Resources and Visual Character

The DSA and ISA are entirely on SJC property. SJC is located in an urbanized area of San José and is typical of this type of environment; the surrounding visual character includes a mix of low- to mid-rise commercial, public-use, and industrial buildings surrounded by large surface parking areas. The most notable visual feature within

⁶⁸ Santa Clara County Government, Information Services Department, SCC School District GIS Data Portal, https://prod-sccgov.opendata.arcgis.com/datasets/e73105e57a584fccb70d03fe3477df44_3, Info updated June 15, 2016, accessed 12/2/21.

the ISA is Terminal B and the adjacent surface parking lots. Views from the ISA looking north and west include parking garages and the tree line of the Guadalupe River Park. Views from the ISA looking east and south include the SJC airfield. Near SJC, highly visible urban features include the ramps of the SR 87/U.S. 101 interchange, PayPal Park, high-voltage PG&E transmission towers and lines on the east side of the Guadalupe River, and the multi-story buildings along Airport Parkway. SJC is not located in the viewshed of a designated scenic vista or state scenic highway. Due to the flat topography of the DSA and ISA, adjacent development and vegetation limit views of Airport facilities to the immediate surrounding area.

3.14 Water Resources

For purposes of this EA, water quality standards include adherence to provisions of the federal Clean Water Act (CWA). The CWA promulgates the establishment of water quality standards, the control of discharges, the development of waste treatment management plans and practices, and the prevention or minimization of the loss of wetlands. The following sections describe water resources within the DSA and ISA.

3.14.1 Floodplains

Floodplain data was retrieved from the Federal Emergency Management Agency (FEMA) Flood Map Service Center. As illustrated on **Figure 3-13**, FEMA Flood Insurance Rate Map (FIRM) Panel 06085C0231H (effective May 18, 2009) indicates portions of Airport property are located within the 100-year floodplain.⁶⁹ The DSA encompasses areas that are entirely impervious. Of the 18.8-acre DSA, 0.3 acres are in the 100-year floodplain, including 6,580 square feet of the proposed apron reconstruction area (all within existing impervious areas). An additional portion of the ISA is within the 100-year floodplain associated with the open area between Taxiways Y and Z and encroaching on the pavement surfaces near Terminal B. Isolated pockets subject to flooding during extreme weather events may still exist on the northern side of the Airport and infield.

The U.S. Army Corps of Engineers (USACE) and Santa Clara Valley Water District (Valley Water) completed capacity enhancing projects on the Guadalupe River in December 2004 to protect the area from a 100-year flood event. These projects were the first two in a string of three projects along the river. The final project, the Upper Guadalupe River project will improve the capacity further upstream of SJC from I-280 to Blossom Hill Road.⁷⁰ This final project is currently in the design and construction phase with completion scheduled for FY 2029.⁷¹

3.14.2 Surface Waters

The Airport lies within the larger San Francisco Bay watershed (HUC 6-180500). As shown on Figure 4-10, there are no surface waters within the DSA or ISA. The nearest surface water is the Guadalupe River which is approximately 700 feet east of the ISA and is separated from the ISA by Airport parking lots, Airport Boulevard, and the Guadalupe River Trail.

The CWA requires National Pollutant Discharge Elimination System (NPDES) permits for industries to discharge stormwater to waters of the United States (WOTUS). The City of San José operates under the Municipal Regional Stormwater NPDES Permit No. CAS612008 for the discharge of stormwater runoff from Municipal Separate Storm Sewer System (MS4) administered by the San Francisco Bay Regional Water Quality Control Board (RWQCB).⁷²

⁶⁹ Federal Emergency Management Agency (FEMA) Flood Map Service Center, updated October 2020. Panel 06085C0231H (effective May 18, 2009) is the most current FEMA FIRM for the Airport property.

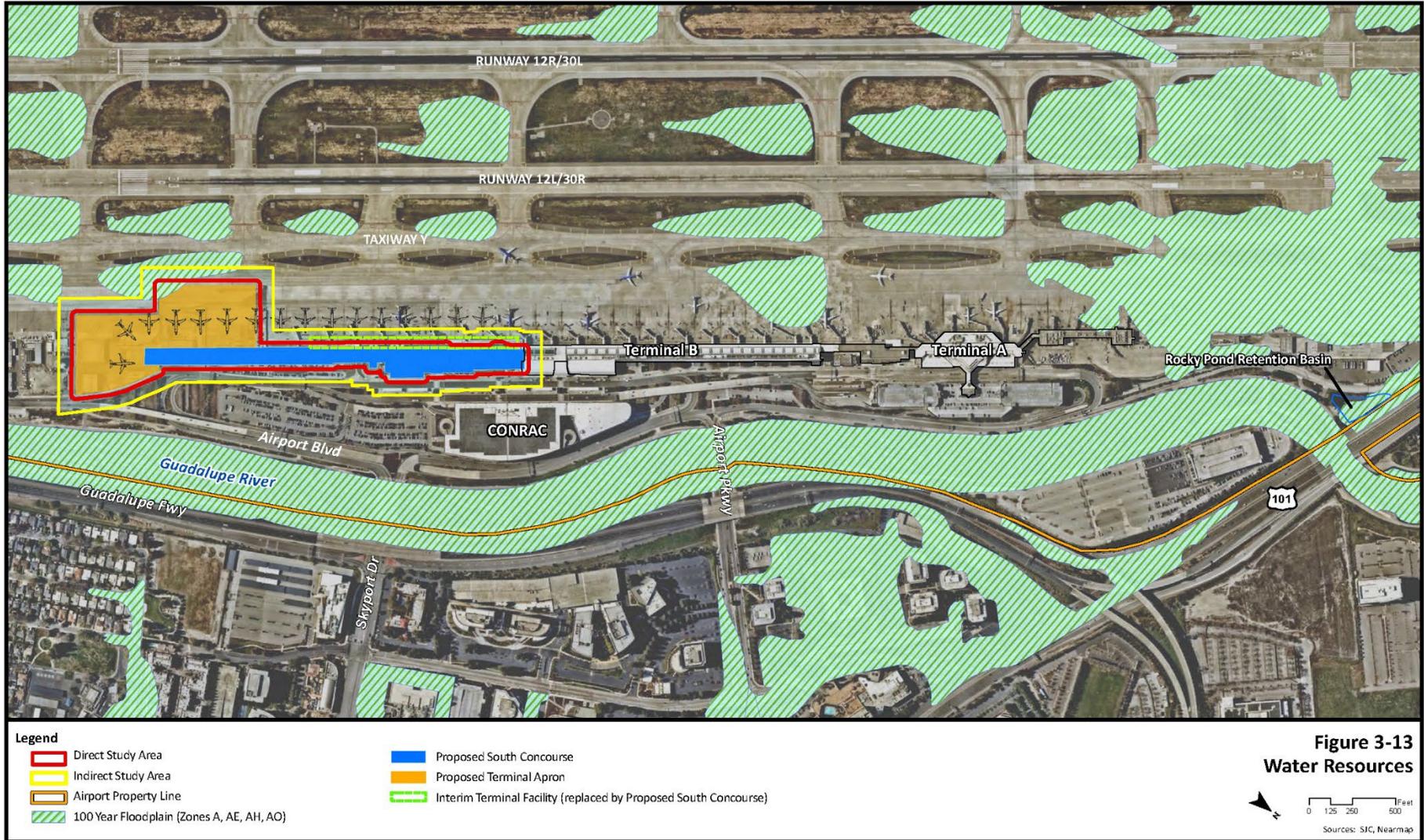
⁷⁰ Guadalupe River Park Conservancy, Flood Control, <https://grpg.org/get-involved/grpc-conservancy/history/>, accessed 12/2/21.

⁷¹ Valley Water, E8: Upper Guadalupe River Flood Protection, [E8: Upper Guadalupe River Flood Protection* | Santa Clara Valley Water](#), accessed 5/20/22.

⁷² California Regional Water Quality Control Board (CRWQCB), San Francisco Bay Region Municipal Regional Stormwater NPDES Permit, https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/Municipal/R2_2015_0049_amended.pdf, November 19, 2015, accessed 12/2/21.

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SJC operates under its own Industrial NPDES permit (CAS000001). The Industrial permit requires SJC to maintain Best Management Practices (BMPs) and to conduct periodic testing of stormwater to identify pollutant levels that may exceed established permit thresholds. SJC maintains a SWPPP for compliance with their NPDES permit, which details locations of potential pollutant sources and describes minimum BMP requirements as they relate to various activities and facilities at SJC.⁷³

As part of SJC's Storm Water Pollution Prevention Plan (SWPPP), SJC and its tenants are required to implement and maintain both non-structural and structural BMPs. Non-structural BMPs include good housekeeping; proper storage, handling, and disposal of wastes; preventative maintenance; spill and leak protection response; material handling and waste management; employee oversight and training; inspections; and quality assurance and record keeping. SJC performs and reports on inspections of their facilities, fueling activities and visual storm water monitoring. Structural BMPs implemented at the Airport include: safe drains; oil/water separators; overhead coverage; retention pond (Rocky Pond); bioretention cells; control devices and conveyances; secondary containment structures; treatment systems; and erosion and sediment controls. Rocky Pond can be used to contain emergency spills by diverting flow from the Air Operations Area drainage into the basin via manual valves, preventing contaminated stormwater from entering the Guadalupe River.

USEPA is responsible for the enforcement of Spill Prevention Control and Countermeasures (SPCC) Plan requirements, which are intended to prevent oil spills from reaching navigable waters. Although USEPA is responsible, authority for enforcement is delegated to SCCDEH. All SJC businesses, tenants, and contractors must comply with SPCC rules set forth by USEPA, the City of San José and SJC.

The existing impervious surfaces at the Airport collect and release contaminants into stormwater run-off, such as oils, fuels, heavy metals, and pollutants associated with aircraft and vehicle exhaust. These pollutants are captured on the airfield, aprons, parking lots and other developed areas and introduce contaminants into stormwater run-off which can ultimately reach the Guadalupe River. Landscaped areas can also introduce contaminants into stormwater run-off through use of fertilizers and pesticides. Additionally, stormwater runoff from off-airport property west of the Airport contribute pollutants into the Airport's storm drain system.

Surface-stormwater runoff at SJC and within the DSA and ISA is collected in the CWA NPDES permitted Airport storm drain system which ultimately discharges through 16 outfalls into the Guadalupe River. Rocky Pond, the stormwater retention pond, is in the northern portion of the Airport. Rocky Pond includes a pump used to dewater the Terminal A parking garage and to assist with Airport drainage during flood events. During flood events when there is a high level of flow in the Guadalupe River, flapgates on the 16 storm drain outfalls are activated and the Rocky Pond basin pump is the only operating storm outlet. During these events, the Airport storm drain system directs stormwater to Rocky Pond where stormwater is pumped into the river once the pond reaches capacity. **Appendix I, Water Resources** provides additional details on stormwater management at SJC.

3.14.3 Groundwater

The San José Water Company supplies a significant portion of drinking water to the City of San José, including the Airport, via groundwater in the Santa Clara Groundwater Basin. Groundwater currently accounts for 40% of the drinking water supply the San José Water Company provides to the City.⁷⁴ The depth to first groundwater at the Airport is typically less than 10 feet below ground surface.⁷⁵ While there are no active water production wells on Airport property, there are active wells within ¼-mile of Airport property, the closest being west of the Airport.⁷⁶

⁷³ Norman Y. Mineta San José International Airport, Stormwater Pollution Prevention Plan, updated February 19, 2020.

⁷⁴ San José Water Company, Water Supply FAQs, <https://www.sjwater.com/customer-care/help-information/water-supply-faqs>, accessed 12/2/21.

⁷⁵ Santa Clara Valley Water District, Historical Groundwater Elevation Data, <https://gis.valleywater.org/GroundwaterElevations/map.php>, accessed 12/2/21.

⁷⁶ Santa Clara Valley Water. Well Information App, <https://gis.valleywater.org/wellinfo/>, accessed 12/2/21.

The January 2020 PFAS Completion Report will be used to inform SJC prior to initiation of construction activities that would disturb soil or groundwater in areas where firefighting foams have been or are suspected to have been deployed, discussed in more detail in *Section 3.7.1, Hazardous Materials*. SJC is not located over an EPA designated sole source aquifer. The closest sole source aquifer is the Santa Margarita Aquifer, Scotts Valley located approximately 16 miles south of SJC.

3.15 Past, Present, and Reasonably Foreseeable Future Projects

The recently revised *CEQ Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (40 CFR § 1508.1(g)) requires effects or impacts that are reasonably foreseeable and have a reasonably close causal relationship to the Proposed Action, including those effects that occur at the same time and place as the Proposed Action, and effects that occur later in time or place removed from the Proposed Action, be addressed as part of the NEPA process.

For purposes of this EA, the past, present, and reasonably foreseeable on-Airport and off-Airport projects that are being considered are included. For purposes of this analysis, past actions include any projects that have occurred within the past four years (2018-2021), and present and reasonably foreseeable future actions include projects that may occur between 2022 and 2034.

3.15.1 On-Airport

Figure 3-14 illustrates, and **Table 3.16** summarizes the recently completed, ongoing, and future projects proposed on Airport property. These projects include any past, present, or reasonably foreseeable future actions which have occurred or may occur on Airport property.

3.15.2 Off-Airport

Development within the City of San José and Santa Clara are detailed by their respective Planning Departments. Both cities have past, present, and reasonably foreseeable future projects, and actions within the vicinity of SJC. The Cumulative Impact Study Area,⁷⁷ as illustrated on **Figure 3-15** and summarized in **Table 3.17**, considers cumulative impacts from off-airport projects, and encompasses a one-mile radius around Airport property.

⁷⁷ Since the implementation of the Terminal B South Concourse (Proposed Action Alternative) would not increase aircraft operations, change the aircraft fleet mix operating at SJC, or result in a difference in noise exposure, a one-mile buffer related to potential impacts was used in consideration of cumulative impacts as opposed to the Noise Study Area.

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Table 3.16
On-Airport Past, Present and Reasonably Foreseeable Future Actions

Project No.¹	Project	Past (2018-2021)	Present and Reasonably Foreseeable (2022-2034)
1	Terminal B Interim Facility Construction	2018-2019	
2	Pavement/Airfield Apron Reconstruction Phases 1-3 (368,000 SF)	2018-2019	
3	Decommission existing compressed natural gas (CNG) station	2020	
4	Short-term Parking Garage Construction	2020-2021	
5	ARFF Facility Construction	2020-2021	2022
6	Demolish the former San José Police Department (SJPD) building and associated hangar buildings		2024-2025
7	Construct replacement SJPD Hangar		2023-2024
8	Demolish and relocate existing Belly Freight Building		2024-2025
9	Demolish Facilities/Maintenance buildings		2025
10	Demolish existing Waste Disposal Facility		2022-2023
11	Construct New Fueling Station and Waste Disposal Facility		2023-2025
12	Construct New Facilities Maintenance Buildings (two new buildings in southwest quadrant)		2023-2025
13	Terminal Area Parking Structure (5,000 spaces)		2023-2024
14	New On-Airport Business Hotel		2022-2027
15	Runway 11-29 Conversion to Taxiway V		2024-2025
16	Taxiway V Closing and Replacement		2022-2027
17	Mitigate direct aircraft access from west side apron to Taxiways B, C, & D		2022-2027
18	Construct 7 New Taxiway Connectors (V1-V6) between West Apron & Taxiway V		2022-2027
19	Construct 3 New Taxiway Connectors between Southwest Apron & Taxiway W		2027-2034
20	General Aviation Run-up Pad Relocation		2022-2023
21	Runway 12R-30L Aircraft Hold Positions Relocation		2027-2034
22	Runway 12L-30R Blast Pads Widening		2027-2034

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Table 3.16
On-Airport Past, Present and Reasonably Foreseeable Future Actions

Project No.¹	Project	Past (2018-2021)	Present and Reasonably Foreseeable (2022-2034)
23	Existing Segments of Taxiways B-F, H, J, & L Realignment and Closing		2027-2034
24	Taxiway B Narrowing		2027-2034
25	Taxiway L Narrowing		2027-2034
26	Cross Taxiways F and H Closure		2027-2034
27	Pavement Markings Added to Taxiways W & Y		N/A
28	Cargo Airline Facilities Expansion		2022-2027
29	Previous San José State University site conversion to aviation support facility		2022-2024
30	General Aviation Facilities Expanded		2023-2027
31	West General Aviation Apron Expansion		2027-2034
32	Southwest Apron Tiedown Reconfiguration		2022-2023
33	Flight Kitchen Facilities Expansion		2023-2027
34	Aviation Support Facilities Removal, Relocation, or Upgrade		2023-2027
35	New Air Traffic Control Tower		2024-2026

Note: ¹ See Figure 3-14 for locations of corresponding project numbers. All projects are sponsored by the City of San José, with the exception of Project #35, New Air Traffic Control Tower sponsored by the FAA. Siting for Project #35 is not yet known.

Source: City of San José, 2022.

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Table 3.17
Off-Airport Past, Present and Reasonably Foreseeable Future Actions

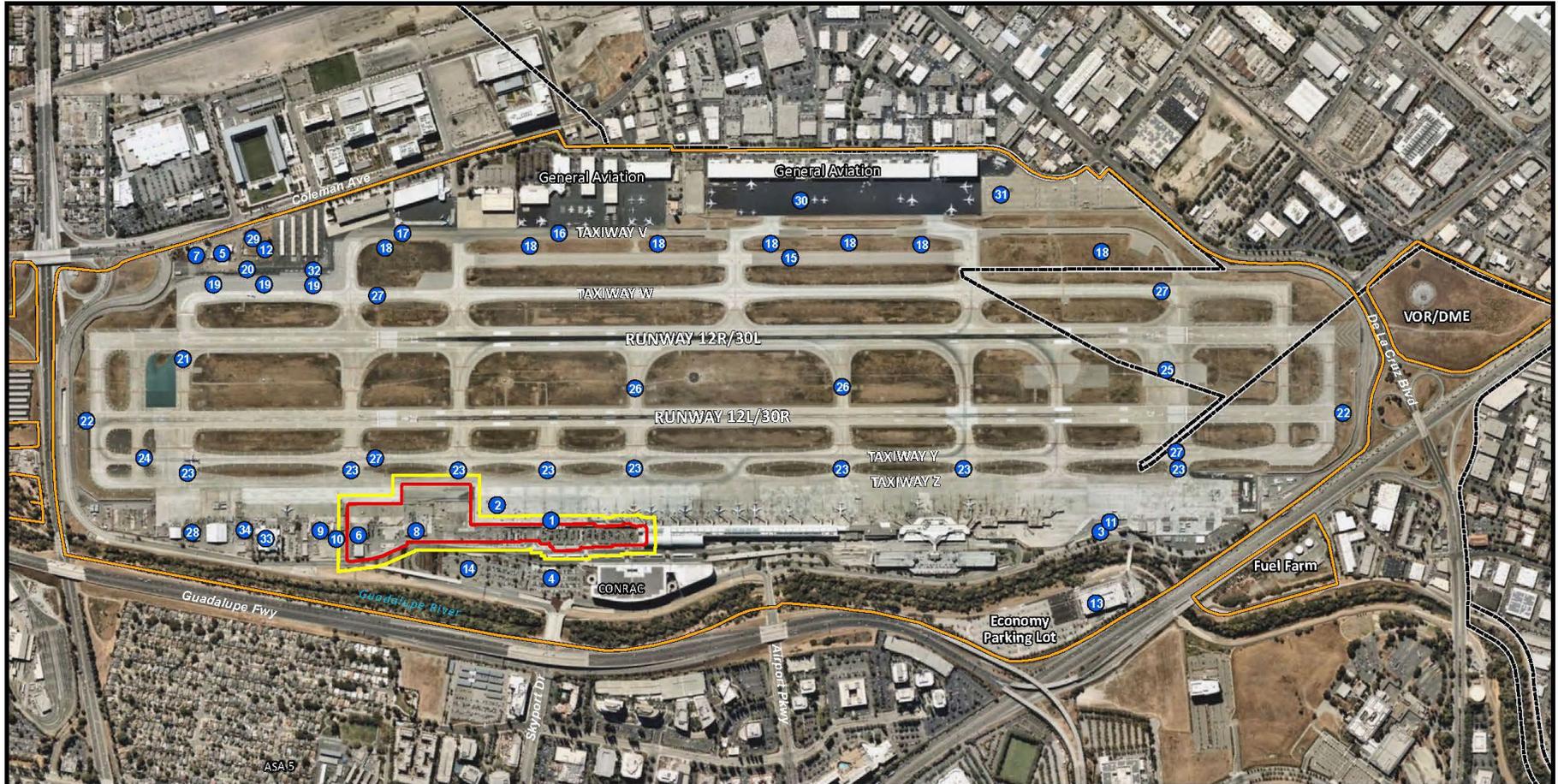
Project No.¹	Project	Status	Past (2018-2021)	Present and Reasonably Foreseeable Future (2022-2034)
City of San José				
1	Santa Clara University (SCU) - Faculty/Staff Housing & Tech Center	Planning Pending Review		X
2	Coleman Highline- Hotel	Under construction		X
3	Brokaw Road Office-Parcel III	Planning Approved		X
City of Santa Clara				
4	Gateway Crossing (Hunter/Storm)	Planning Approved		X
5	Muslim Community Association Facility Expansion Project	Planning Pending Review		X
6	SCU 5-Year Master Plan - Athletics Excellence Center	Under construction	X	X
7	SCU 5-Year Master Plan - STEM Complex	Completed	X	
8	SCU - 5-Year Master Plan – South Residential Hall (Finn Hall)	Completed	X	
9	575 Benton Street Mixed Use Project (Prometheus)	Under construction		X
10	1525 Alviso Street Residential	Completed	X	
11	Lawson Lane Office Campus (Sobrato)	Under construction		X
12	Mission Park - Market Place	Completed	X	
13	Coleman Highline Development (Phase 2) Parking Garage	Planning Pending Review		X
14	SCU - 5-Year Master Plan - Charney Hall	Completed	X	

Note: ¹ See Figure 3-15 for locations of corresponding project numbers.

Source: City of Santa Clara: Development Projects Story Map, City of San José, Active EIRs <https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/active-eirs>, accessed 6/13/2022.

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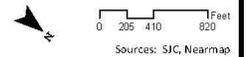
Legend

- Airport Property Line
- Direct Study Area
- Indirect Study Area

● On-Airport Project No.

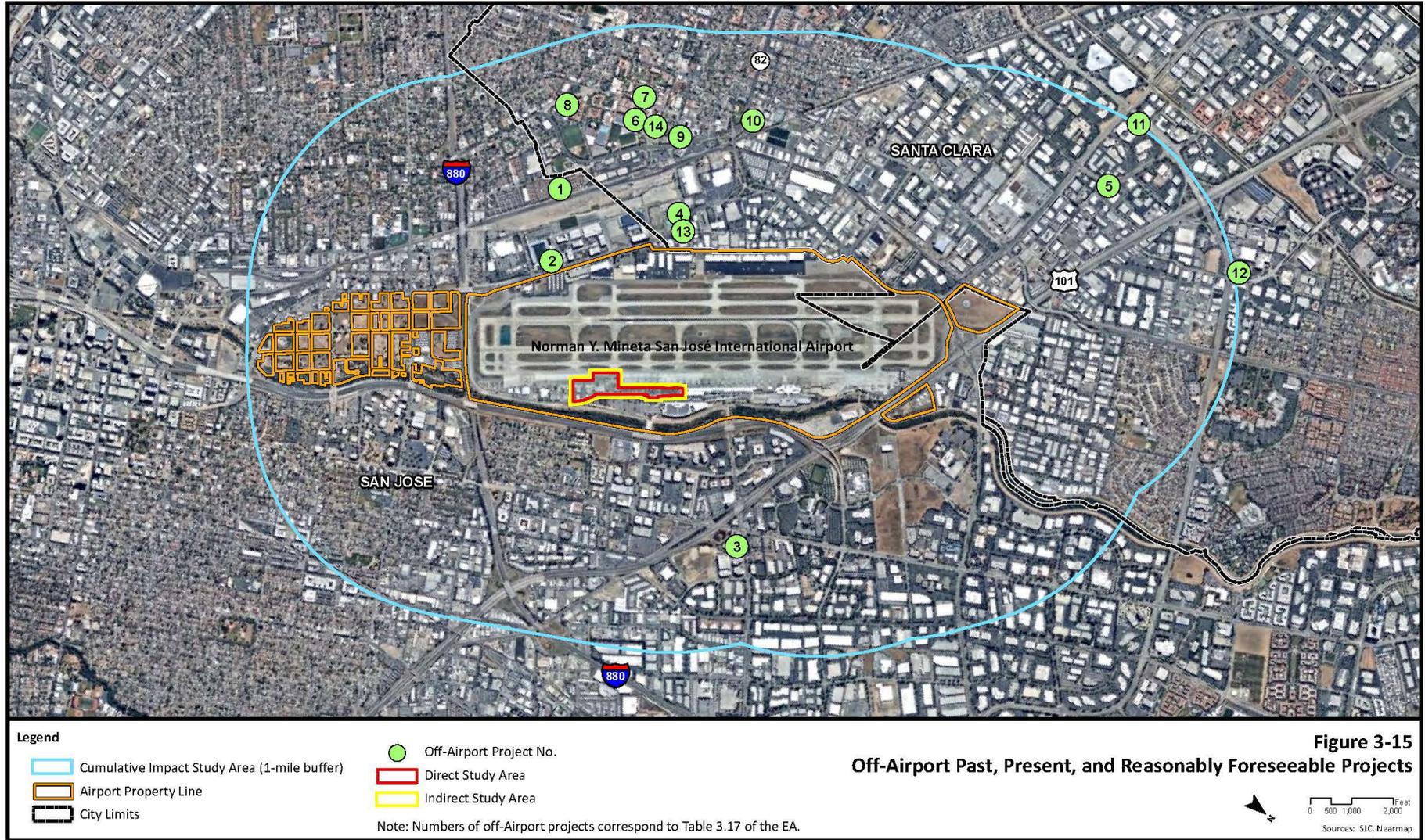
Note: Numbers of off-Airport projects correspond to Table 3.16 of the EA.
Siting of New Air Traffic Control Tower (Project #35) is not yet known.

Figure 3-14
On-Airport Past, Present, and Reasonably Foreseeable Projects



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Chapter Four: Environmental Consequences

4.1 Introduction

The potential for environmental effects resulting from implementation of the Proposed Action Alternative and the No Action Alternative are presented in this chapter. These alternatives are discussed in *Chapter Two, Alternatives*. The analysis of potential effects on environmental resources includes the analysis methodology and potential construction and operational impacts for each alternative. Environmental consequences were analyzed within the geographic area where the alternative would potentially cause impacts (e.g., DSA or ISA) as defined in *Section 3.2, Study Areas and Years of Analysis* or as defined under the specific resource category. As discussed in *Section 1.1, Introduction*, the Proposed Action would not result in an increase in aircraft operations, change the aircraft fleet mix operating at SJC, or result in an increase in passengers when compared to the No Action Alternative for the same timeframe. As construction is expected to occur between 2023 and 2028, the EA evaluates the potential environmental effects associated with 2029, the first full year of implementation, and 2034, five years after implementation.

In accordance with guidance provided in FAA Orders 1050.1F and 5050.4B, environmental resources not present within the DSA or ISA, or that would not be affected by the alternatives, were eliminated from consideration in *Table 3.1, Environmental Resource Categories Not Affected*, and therefore are not discussed within this chapter. Environmental resource categories not affected by the alternatives carried forward include Coastal Resources, Farmlands, Wetlands, and Wild and Scenic Rivers.

Each resource category is organized into the following subsections: Methodology, Significance Thresholds, Impact Analysis, first for the Proposed Action Alternative and then for the No Action Alternative; and finally, Avoidance, Minimization, and Mitigation Measures. A description of the cumulative impacts for each environmental topic is provided at the end of this chapter (*Section 4.14, Cumulative Impacts*).

4.2 Air Quality

This section presents the findings of an air quality analysis that was conducted to evaluate the proposed improvements at SJC. The detailed air quality analysis is found in *Appendix C, Air Quality and Climate*.

4.2.1 Methodology

Emissions inventories were prepared for the Proposed Action and the No Action Alternatives. An evaluation of construction emissions for implementation of the Proposed Action Alternative was conducted for construction years 2023 through 2028. Although the Proposed Action Alternative would not increase flights, passenger loads, or operational procedures, an evaluation of operational emissions (i.e., aircraft activity, ground support equipment (GSE) and auxiliary power units [APU]) was conducted for 2019¹, 2029, and 2034² for disclosure purposes using FAA's AEDT Version 3e.³ As described in *Chapter Three, Affected Environment, Section 3.3, Air Quality*, other sources of air emissions are not considered due to their limited contribution to overall emissions generated by

¹ 2019 operational emissions are evaluated and presented in Chapter 3, Affected Environment and represent the existing conditions operational emissions defined by the last full year of passenger activity prior to the impacts of COVID-19.

² 2029 and 2034 operational emissions are evaluated to represent the first year of operations (2029) following completion of Proposed Action construction in 2028, and five years thereafter (2034).

³ AEDT 3e was the most current version of model available at the time the analysis was conducted.

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SJC. Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod 2020.4.0) for the Proposed Action Alternative. The emissions inventories were compared to CAA NAAQS general conformity thresholds.⁴ For more detailed information regarding the methodology used for the air quality conformity analysis, refer to *Appendix C*.

4.2.2 Significance Thresholds

As stated in Exhibit 4-1 of FAA Order 1050.1F, an action would cause significant air quality impacts if “*the action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the USEPA under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.*”

4.2.3 Impact Analysis

4.2.3.1 Proposed Action Alternative

Construction Impacts

The construction of the Proposed Action Alternative would be completed over a six-year period (November 2023-March 2028), with two phases for Terminal B South Concourse construction and four phases for the apron reconstruction, as detailed in *Section 1.6*. Construction-related air emissions would be short-term in nature and associated with air pollutants emitted by construction equipment and construction worker vehicles. See *Appendix C* for details on the construction schedule, model input parameters and assumptions used in the CalEEMod analysis to compute the construction related emissions inventory.

Table 4.1 summarizes the construction emissions inventory for the proposed improvements under the Proposed Action Alternative by construction year (2023 through 2028). As shown, the construction emissions are all well below the applicable CAA General Conformity *de minimis* levels for all pollutants/precursors for each year of construction. Construction emissions represent the only air pollutant emissions associated with the Proposed Action Alternative and, a General Conformity Determination is not required because the emissions are below the *de minimis* thresholds, and the Proposed Action Alternative is presumed to conform with the SIP.

Table 4.1
Proposed Action Alternative Construction Emissions
Compared to the CAA General Conformity *de minimis* Thresholds (tons/year)

Year	CO	NO _x	VOC	PM ₁₀	PM _{2.5}	SO ₂
2023	1.8	0.2	<0.1	<0.1	<0.1	<0.1
2024	5.4	0.7	0.1	0.8	0.4	<0.1
2025	7.7	1.2	0.2	0.6	0.42	<0.1
2026	9.8	1.6	0.3	0.9	0.4	<0.1
2027	3.3	0.8	2.6	0.2	0.1	<0.1
2028	0.2	<0.1	1.4	<0.1	<0.1	<0.1
Conformity <i>de minimis</i> Thresholds	100	100	100	--	100	--
Exceeds <i>de minimis</i>?	No	No	No	--	No	--

Notes: Values may reflect rounding.

The symbol "--" denotes no applicable threshold, as the area is in attainment for that pollutant.

Source: CalEEMod v.2020.4.0; HNTB, 2022 (emission model output provided in *Appendix C*).

⁴ 40 CFR § 93 – Determining Conformity of Federal Actions to State or Federal Implementation Plans, Section 153, Applicability.

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Operational Impacts

The Proposed Action Alternative operational emissions inventory for 2029 and 2034⁵ is summarized in **Table 4.2** and **Table 4.3**, respectively. The operational emissions inventory accounts for increased airport activities levels projected to occur at SJC (See *Section 1.2.3 Aviation Activity Forecasts*) with or without implementation of the Proposed Action Alternative. Therefore, as a basis of comparison, the No Action Alternative and Proposed Action Alternative operational emissions are identical and the net operational emissions in both future years is zero.

Since the additional air emissions associated with implementation of the Proposed Action Alternative, as compared to the No Action Alternative, are below *de minimis* CAA Conformity Determination levels, a CAA Conformity Determination is not required. The Proposed Action would not result in an exceedance of the NAAQS or delay timely attainment of the NAAQS. For these reasons the Proposed Action Alternative would not result in a significant impact on air quality.

Table 4.2
2029 Proposed Action Alternative Operational Emissions Inventory (tons/year)

Year	Source	CO	NO _x	VOC	PM ₁₀	PM _{2.5}	SO _x
2029	Aircraft	1,255	939	198	7	7	96
	GSE	190	17	9	1	1	0
	APU	33	37	2	5	5	5
	Total	1,478	993	208	13	13	102
2029 No Action Alternative Emissions		1,478	993	208	13	13	102
2029 Net Emissions		0	0	0	0	0	0
<i>Conformity de minimis Thresholds</i>		100	100	100	--	100	--
Exceeds de minimis?		No	No	No	--	No	--

Notes: Values may reflect rounding.

The symbol "--" denotes no applicable threshold, as the area is in attainment for that pollutant.

Source: AEDT v.3e; HNTB, 2022 (emission model output provided in *Appendix C*).

Table 4.3
2034 Proposed Action Alternative Operational Emissions Inventory (tons/year)

Year	Source	CO	NO _x	VOC	PM ₁₀	PM _{2.5}	SO _x
2034	Aircraft	1,424	1,097	228	8	8	111
	GSE	202	17	8	1	1	0
	APU	29	41	3	5	5	6
	Total	1,656	1,155	239	14	14	117
2034 No Action Alternative Emissions		1,656	1,155	239	14	14	117
2034 Net Emissions		0	0	0	0	0	0
<i>Conformity de minimis Thresholds</i>		100	100	100	--	100	--
Exceeds de minimis?		No	No	No	--	No	--

Notes: Values may reflect rounding.

The symbol "--" denotes no applicable threshold, as the area is in attainment for that pollutant.

Source: AEDT v.3e; HNTB, 2022 (emission model output provided in *Appendix C*).

4.2.3.2 No Action Alternative

Construction Impacts

Under the No Action Alternative, there would be no construction activities and therefore there would be no construction related air pollutant emissions.

⁵ 2029 represents the first full year of operations (2029) following completion of Proposed Action construction in 2028, and five years thereafter (2034).

Operational Impacts

The operational emissions inventory accounts for increased airport activities levels projected to occur at SJC with or without implementation of the Proposed Action Alternative. Therefore, as a basis of comparison, the No Action Alternative and Proposed Action Alternative operational emissions are identical, as summarized in Tables 4.2 and 4.3.

4.2.4 Avoidance, Minimization, and Mitigation Measures

There are no mitigation measures required for the project because the project-related emissions would not exceed the CAA General Conformity *de minimis* levels, and therefore there are no impacts. All off-road construction equipment will comply with Tier 4 final engine emission standards. To ensure implementation, Tier 4 engine requirements would be included in construction contracts and plans. While construction-related emissions would be well below *de minimis* thresholds and temporary in nature, the emissions would be further reduced by employing construction BMPs shown in **Table 4.4**.⁶

Table 4.4
BMPs for Proposed Action Alternative

Number	Description
1	All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2	All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3	All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4	All vehicle speeds on unpaved roads shall be limited to 15 mph.
5	All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6	Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7	All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8	Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Source: BAAQMD CEQA Air Quality Guidance Table 8.2.

4.3 Biological Resources

This resource category includes consideration of impacts to threatened and endangered species, and other biological resources including migratory birds within the DSA and ISA.

4.3.1 Methodology

Potential impacts on existing biological resources were evaluated by comparing existing biological conditions in the DSA and ISA to the anticipated conditions during construction and implementation of the alternatives. Impacts were evaluated in accordance with FAA Order 1050.1F. Direct, indirect, and cumulative impacts on special-status species

⁶ BAAQMD, Air Quality Guidelines, Table 8-2, May 2017, https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, accessed 5/2022.

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and sensitive habitats were assessed based on the potential for the species, their habitat, or the natural community in question to be disturbed or enhanced following implementation of the alternatives in accordance with 40 CFR § 1507.2(e), 1508.8(b), and 1508.27, and CEQ's January 1993 publication, *Incorporating Biodiversity Considerations Into Environmental Impact Analysis Under NEPA*. This assessment evaluates the direct, indirect, and cumulative impacts and effects of the alternatives with respect to context in the regional or ecosystem context, and intensity – and the severity of the impacts. Refer to *Appendix D, Biological Resources* for more detailed discussion.

4.3.2 Significance Thresholds

As stated in Exhibit 4-1 of FAA Order 1050.1F, a significant impact would occur when “*The USFWS or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat.*” The FAA has not established a significance threshold for non-listed species.

4.3.3 Impact Analysis

4.3.3.1 Proposed Action Alternative

Although all habitat types within the DSA and ISA are highly disturbed, there are common and special-status species that have the potential to occur and be affected by the Proposed Action Alternative. See Figure 3-2 for habitat types within the DSA and ISA.

Federally Listed Species

There are no federally listed species with the potential to occur within the DSA or ISA. The DSA and ISA do not contain any designated critical habitat required to support special-status plants or animals, nor do they contain critical habitat for special-status fish or EFH. Compliance with construction and industrial NPDES permits would avoid indirect impacts to water quality. Therefore, the Proposed Action Alternative would have no impact on federally listed species or their habitat.

State-Listed Species

Burrowing Owls

The Proposed Action Alternative would not result in the loss of suitable nesting, roosting, and foraging habitat for burrowing owls at the airfield. See Figure 3-3 for burrowing owl habitats and locations. The Airport currently implements measures to minimize owl-aircraft collisions as described in the WHMP and the BOMP to reduce wildlife strikes pursuant to 14 CFR Part 139 Airport Certification status. Ongoing activities include activities such as daily monitoring, bimonthly survey count, installation of artificial burrows in burrowing owl management areas, habitat controls.⁷ Due to the DSA being entirely paved with limited vegetation, there is no potential for burrowing owls or their nests to be directly impacted during construction or operation of the Proposed Action Alternative. Breeding owls were documented between 2011-2015 on the east side of the airport near the ISA. However, this area near the ISA no longer functions as foraging, roosting, or breeding habitat primarily due to current airfield management practices that deter the occupation of burrows and ground squirrel control efforts, further discussed in *Appendix D*. Indirect impacts due to auditory and visual disturbance are not expected as burrowing owl nests are concentrated on the opposite side of the Airport, the owls are acclimated to high levels of existing disturbance on the active airfield, and there have been no documented nests within the DSA or ISA. Due to the lack of any burrowing owl habitat within the DSA and the very small amount of suitable foraging habitat within the ISA, the Proposed Action Alternative would have no impact on burrowing owls.

⁷ SJC, Wildlife Hazard Management Plan, March 8, 2017.

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Other State-Listed Species

Nine special-status bird and mammal species (the tricolored blackbird, Bryant's savannah sparrow, loggerhead shrike, grasshopper sparrow, pallid bat, peregrine falcon, bald eagle, golden eagle, and white-tailed kite) occur in the DSA or ISA as nonbreeding migrants, transients, or foragers, but they are not known or expected to breed or occur in large numbers. Activities under the Proposed Action Alternative would have very limited potential to impact foraging habitats and/or individuals of these species, due to the existing level of disturbance within the Airport infield. Construction activities may result in temporary impacts through the alteration of foraging patterns (e.g., avoidance of work sites due to increased noise and activity levels), but it would not result in the loss of individuals. The DSA and ISA do not provide important foraging habitat used regularly or by large numbers of individuals of any of these species. Furthermore, nonbreeding birds and mammals in the DSA and ISA are acclimated to a high level of human disturbance. The Proposed Action Alternative is not expected to result in substantial additional visual and auditory disturbance to nonbreeding species beyond existing levels. Therefore, the Proposed Action Alternative would have no impact on breeding or nonbreeding special-status birds and mammals.

Common Species

Construction of the Proposed Action Alternative would not require removal of trees that may contain bat roosts; bats are considered a common species as described in *Section 3.4.2.4, Common Species*. The existing Interim Terminal Facility, which would be removed as part of the Proposed Action Alternative, could support bat roosts. The FAA has not established significance thresholds for non-listed species, however avoidance and conservation measures (ACM) would be implemented to ensure the site is clear of bat roosts. Pre-activity surveys (ACM 2 as described in Table 4.5) would be conducted to confirm absence of bat roosts prior to removal of the Interim Terminal Facility. If roosts are found during the pre-activity survey, implementation of ACMs 3 through 5 as described in Table 4.5 would be implemented. With implementation of ACMs 2 through 5, as warranted, the Proposed Action Alternative would have no impact on roosting bats.

Construction of the Proposed Action Alternative would be limited to developed areas. Due to the existing level of disturbance within the airfield, no direct or indirect impacts to ruderal grassland habitat or associated common species are expected. The Proposed Action Alternative would not result in a long-term or permanent loss of unlisted plant or wildlife species or a substantial reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations. The Proposed Action Alternative would have no impact on common native species' reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain minimum population levels required for population maintenance. Therefore, the Proposed Action Alternative would have no impact on common species or habitat.

Migratory Birds

Take permits are not issued under the MBTA; therefore, the Proposed Action Alternative would implement beneficial practice measures to avoid and minimize the incidental take of migratory birds, nests, or eggs (consistent with USFWS Director's Order #225 issued on October 5, 2021). Birds nest in a variety of places, including trees, shrubs, man-made structures, and the ground. The Proposed Action Alternative may include the removal of vegetation on the east side of the Interim Terminal Facility where the South Concourse extension is proposed. Implementing ACMs as described in Table 4.5 would avoid incidental take if active bird nests were present in any vegetation that needed to be removed or structures that need to be modified. Any birds nesting within the DSA or ISA, including the grasslands on the west side of Taxiway Z, would be acclimated to high levels of disturbance within the active airfield, and they would not be affected by the Proposed Action Alternative. The Proposed Action Alternative would have no impact on migratory birds protected by the MBTA.

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Invasive Species

Plant and animal invasive species may occur within the DSA and ISA and could be introduced or spread during construction of the Proposed Action Alternative. Clearing, grubbing, and earthwork in areas with invasive species can spread seeds and propagules (vegetative structures that can become detached from a plant and give rise to a new plant). To ensure construction equipment does not transport invasive species, BMPs consistent with Executive Orders (EO) 13112 and 13751 would be implemented to protect against spread of invasive species seeds or pollen. Therefore, the Proposed Action Alternative would have no impact on biological resources due to the spread of invasive species.

Effect Determinations

Federally regulated species and designated critical habitats require effect determinations. No federally listed species have the potential to occur within the DSA or ISA. The DSA and ISA do not contain any critical habitat or Essential Fish Habitat (EFH). Therefore, the FAA has determined the Proposed Action would have “*No Effect*” on all federally listed species and designated critical habitat. The FAA has determined “*No Effect*” on EFH, or species regulated under the Marine Mammal Protection Act (MMPA). No additional consultation with the USFWS or NMFS is required.

Conclusion

The Proposed Action Alternative would have no impact on biological resources with the implementation of the ACMs provided in *Section 4.3.4, Avoidance, Minimization and Mitigation Measures*.

4.3.3.2 No Action Alternative

Under the No Action Alternative, there would be no construction or change to activities and therefore there would be no significant impact to biological resources. Under the No Action Alternative, existing burrowing owl management practices under the Airport’s Part 139 WHMP would continue and there would be no impact on burrowing owls. Under the No Action Alternative, the Airport would maintain compliance with the Airport Certification Manual and the WHMP, thereby reducing the potential for health issues associated with nesting and roosting of common species.

4.3.4 Avoidance, Minimization, and Mitigation Measures

There are no mitigation measures required for the project because there are no impacts to biological resources. A summary of avoidance measures for biological resources is provided in **Table 4.5**.

Table 4.5
Avoidance and Conservation Measures for Biological Resources

Measure	Description
ACM 1. Pre-construction nesting bird surveys.	Pre-construction surveys for nesting birds will be conducted by a qualified biologist no more than 48 hours prior to starting construction activities during the nesting season (February 1-September 30). Surveys will cover any potential nesting sites within 300 feet of construction activity. Active nest sites will be designated as environmentally sensitive areas and identified with appropriate markers for the duration eggs or juvenile birds are nest-dependent. A qualified biologist will develop buffer recommendations that are site specific and at an appropriate distance that will protect normal bird behavior to prevent nesting failure or abandonment. Buffers will be in place for the duration eggs or juvenile birds are nest-

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Table 4.5
Avoidance and Conservation Measures for Biological Resources

Measure	Description
	<p>dependent. The qualified biologist will monitor the behavior of the birds (adults and young when present) at the nest site to ensure they are not disturbed by project construction. Nest monitoring will continue during construction until the biologist has confirmed the young have fully fledged (have completely left the nest site and are no longer dependent on the parents). If it is necessary to prevent birds from nesting at a specific location within the construction area, a nesting bird exclusion plan will be prepared by the contractor. It will specify what exclusion measures can be used under what conditions. The exclusion plan will be approved by the FAA prior to implementation.</p>
<p>ACM 2. Conduct Pre-activity Surveys for Roosting Bats.</p>	<p>A pre-activity survey for roosting bats will be conducted prior to the removal or renovation of buildings with metal siding or buildings with closed areas, such as an attic space, particularly those that are unoccupied. No pre-activity survey is required for buildings without attics or metal siding. The survey will be conducted by a qualified bat biologist. If no active roosts are found, then no further action is warranted. If a roost is present, a qualified bat biologist will determine the species and number of individuals present.</p>
<p>ACM 3. Avoid Disturbance of Active Roosts. (If warranted)</p>	<p>If an occupied roost is found in a structure that will be disturbed or removed by proposed activities, the Airport will evaluate the feasibility of avoiding the roost. If the roost is unoccupied at the time of the survey, the Airport may choose to install bat exclusion devices to prevent bats from taking up occupancy of the structure prior to the onset of the Proposed Action Alternative. If avoidance is not feasible, ACMs 4 and 5 will be implemented.</p>
<p>ACM 4. Avoid Disturbance of Maternity Roosts. (If warranted)</p>	<p>If an active maternity roost is present within the building to be demolished and the Proposed Action Alternative cannot be redesigned to avoid removal or disturbance of the occupied roost, disturbance will not take place during the maternity season (as determined by the qualified bat biologist, but approximately March 15 to August 31), and an appropriate disturbance-free buffer zone (also determined by the qualified bat biologist) will be observed during this period to avoid disturbing the roosting bats.</p>
<p>ACM 5. Exclude Bats Prior to Disturbance. (If warranted)</p>	<p>If disturbance of an active non-breeding roost cannot be avoided, the individuals will be safely evicted outside the maternity season (as determined by the qualified bat biologist), between approximately August 1 and March 15. Bats may be evicted through exclusion after notifying the CDFW. Exclusion methods may include the installation of one-way doors and/or use of ultrasonic deterrence devices. One-way doors and/or deterrence devices should be left in place for a minimum of two weeks and a minimum of five fair-weather nights with no rainfall and temperatures no colder than 50°F.</p>

4.4 Climate

There is presently a broad scientific consensus that GHGs associated with human activities are contributing to changes in the earth's atmosphere. These GHGs, brought about principally by the combustion of fossil fuels, decomposition of waste materials, changes in land uses, and deforestation, are linked to an increase in the earth's average temperature by means of a phenomenon called the "greenhouse effect." Review of GHGs will consider requirements of the CAA and EO 13693, *Planning for Federal Sustainability in the Next Decade*.

4.4.1 Methodology

As referenced in 1050.1F Desk Reference (V2), Section 3.3.4, *"There are currently no accepted methods of determining significance applicable to aviation or commercial space launch projects given the small percentage of emissions they contribute. CEQ has noted that "it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions, as such direct linkage is difficult to isolate and to understand. Accordingly, it is not useful to attempt to determine the significance of such impacts. There is a considerable amount of ongoing scientific research to improve understanding of global climate change and FAA guidance will evolve as the science matures or if new Federal requirements are established."* GHG emissions inventories were prepared for construction, which is projected to occur from 2023 to 2028, and operations in 2029 and 2034.⁸ While the Proposed Action Alternative improvements would not increase flights, passenger loads, or operational procedures, operational (aircraft, GSE and APU) GHG emissions associated with aircraft flights were evaluated for disclosure purposes. Construction GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) for the Proposed Action Alternative. For more detailed information regarding the methodology used for the climate analysis, refer to *Appendix C*.

4.4.2 Significance Thresholds

The FAA has not established a significance threshold for Climate.⁹

4.4.3 Impact Analysis

4.4.3.1 Proposed Action Alternative

Construction Impacts

The construction of the Proposed Action Alternative would be completed over a six-year period, with two phases for Terminal B South Concourse construction and four phases for the apron reconstruction. Construction-related GHG emissions would be short-term in nature and associated with air pollutants emitted by construction equipment and construction worker vehicles. See *Appendix C* for details on the model input parameters and assumptions used in the CalEEMod analysis to compute the construction related GHG emissions inventory. **Table 4.6** summarizes the construction GHG emissions inventory for the proposed improvements under the Proposed Action Alternative by construction year (2023 through 2028) in metric tonnes (MT) of CO₂e. As described in *Section 4.2.3.1*, construction emissions represent the only GHG emissions associated with the Proposed Action Alternative between the years 2023 and 2028.

⁸ 2029 represents the first full year of operations (2029) following completion of Proposed Action construction in 2028, and five years thereafter (2034).

⁹ FAA Order 1050.1F, Exhibit 4-1, *Significance Determination for FAA Actions*, Climate, p. 4-5, 7/6/15.

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Table 4.6
Construction-Related GHG Emissions (MT/Year)

Year	CO ₂ e
2023	216
2024	757
2025	1,158
2026	1,495
2027	582
2028	31

Notes: MT of CO₂e - metric tonnes of carbon dioxide equivalent.

Source: CalEEMod and HNTB analysis, 2022 (emission model output provided in Appendix C).

Operational Impacts

The Proposed Action Alternative operational GHG emissions inventory for 2029 and 2034 is summarized in **Table 4.7**. The operational GHG emissions inventory accounts for increased airport activities levels projected to occur at SJC with or without implementation of the Proposed Action Alternative. Therefore, as a basis of comparison, the No Action Alternative and Proposed Action Alternative operational GHG emissions are identical and the net operational GHG emissions in both future years is zero.

Because this project represents such a small amount of U.S. GHG emissions and given the related uncertainties involving the assessment of such emissions regionally and globally, the incremental contribution of the Proposed Action Alternative to U.S. and global GHG emissions cannot be adequately assessed given the current state of the science and assessment methodology. However, since the Proposed Action Alternative would contribute GHGs only temporarily during construction, no significant permanent increase in GHGs would occur.

Table 4.7
2029 Proposed Action Alternative and No Action Alternative Operational GHG Emissions Inventory (MT/year)

Alternative	Operational GHG Emission Type	CO ₂ e
2029 Proposed Action Alternative	Aircraft	234,888
	GSE	3,181
	APU	13,635
	Total	251,705
2029 No Action Alternative Emissions		251,705
2029 Net GHG Emissions		0
2034 Proposed Action Alternative	Aircraft	271,457
	GSE	3,436
	APU	14,625
	Total	289,518
2034 No Action Alternative Emissions		289,518
2034 Net GHG Emissions		0

Notes: MT of CO₂e - metric tonnes of carbon dioxide equivalent.

Source: HNTB, 2022.

4.4.3.2 No Action Alternative

Construction Impacts

Under the No Action Alternative, there would be no construction or change to activities and therefore, there would be no construction related GHG emissions.

Operational Impacts

The operational GHG emissions inventory accounts for increased airport activities levels projected to occur at SJC with or without implementation of the Proposed Action Alternative. Therefore, as a basis of comparison, the No Action Alternative and Proposed Action Alternative operational GHG emissions are identical, as summarized in Table 4.7.

4.4.4 Avoidance, Minimization, and Mitigation Measures

There are no mitigation measures required for the project to reduce GHG emissions. Construction related GHG emissions would be minimized by employing construction BMPs. The City of San José prepared and adopted the *City of San José 2030 GHG Reduction Strategy* in 2020¹⁰ to align with the *Envision San José 2040 General Plan*. The GHG Reduction Strategy identifies GHG emission reduction measures to align with interim statewide GHG reduction goals for 2030 to meet the long-term goal of carbon neutrality by 2045. The *2030 GHG Reduction Strategy* includes policies, plans and programs used by the City to reduce GHG emissions, all of which will be considered in the design and construction methods for the Proposed Action.

4.5 DOT Section 4(f)

This section analyzes the potential for the alternatives to impact DOT Section 4(f) resources within the DSA and Noise Study Area, as identified in *Chapter Three, Affected Environment, Section 3.6, DOT Section 4(f)*. There are no DOT Section 4(f) resources within the DSA. DOT Section 4(f) resources in the Noise Study Area are shown on Figure 3-4 and listed in *Table 3.9, DOT Section 4(f) Resources within Noise Study Area*.

4.5.1 Methodology

The potential for the alternatives to result in a physical use, constructive use, visual impact, or temporary occupancy of DOT Section 4(f) resources was assessed. A physical use would result from a permanent or temporary taking of a DOT Section 4(f) resource, such as through purchase of land or alteration of property. A constructive use would result from an action that does not physically take a property but impairs the attributes of a property that qualify it for protection under DOT Section 4(f), such as impacts related to noise, air pollution or access restrictions.

4.5.2 Significance Thresholds

As stated in Exhibit 4-1 of FAA Order 1050.1F, a significant impact would occur when *“The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a ‘constructive use’ based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. Resources that are protected by Section 4(f) are publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, and publicly or privately owned land from an historic site of national,*

¹⁰ City of San José, Greenhouse Gas Reduction Strategy, <https://www.sanjoseca.gov/your-government/department-directory/planning-building-code-enforcement/planning-division/environmental-planning/greenhouse-gas-reduction-strategy> (accessed 12/16/22).

state, or local significance. Substantial impairment occurs when the activities or attributes of the resource that contribute to its significance or enjoyment are substantially diminished.”

4.5.3 Impacts Analysis

4.1.1.1 Proposed Action Alternative

There are no DOT Section 4(f) resources within the DSA, but the adjacent Guadalupe River Trail is in the Noise Study Area. Any use of the Guadalupe River Trail due to noise exposure during construction would only be temporary and would not constitute as a constructive use. Because of the trail's urban location adjacent to an airport environment, a quiet setting is not a protected activity, feature, or attribute of the Guadalupe River Trail that contributes to its significance or enjoyment. As such, the construction noise would not qualify as a constructive use of the resource. With respect to physical use, construction-related noise impacts would be temporary and minimal since they would occur in and around the DSA and Noise Study Area, which is urbanized and already exposed to existing airport noise.

Therefore, no use of DOT Section 4(f) resources would occur as a result of implementation of the Proposed Action Alternative such that there would be an impact to DOT Section 4(f) resources.

4.1.1.2 No Action Alternative

Under the No Action Alternative, construction or change to activities would not occur and there would be no impact to DOT Section 4(f) resources. There are no avoidance, minimization, or mitigation measures required for the project related to DOT Section 4(f) resources.

4.6 Hazardous Materials, Pollution Prevention, and Solid Waste

This section identifies the potential for the alternatives to generate or disturb hazardous wastes or solid wastes and how the alternatives would prevent and minimize potential impacts related to the use of hazardous materials.

4.6.1 Methodology

The identification of sites or facilities that use or store hazardous and other regulated materials, as well as sites that are known or have the potential to contain environmental contamination within the DSA and ISA was derived from electronic database searches of USEPA records and the reports contained in *Appendix E, Hazardous Materials*. Sources of information include the *Hazardous Materials Assessment: San José International Airport*, as well as federal, state, tribal and local regulatory agency files, including those listed on the USEPA NPL (a.k.a. Superfund Sites), registered users and generators of hazardous materials and wastes, and/or use and discharges of other regulated substances.

The potential for the Proposed Action Alternative and No Action Alternative to impact known contaminated sites was assessed. The potential for the Proposed Action Alternative and No Action Alternative to result in impacts related to the generation or disposal of solid wastes was evaluated. No NPL sites or RCRA sites are within the DSA, ISA, or on SJC property. Pollution prevention measures are also identified.

4.6.2 Significance Thresholds

As stated in Exhibit 4-1, of FAA Order 1050.1F, the FAA has not established a significance threshold for Hazardous Materials, Solid Waste, and Pollution Prevention. The Order further identifies factors to consider when evaluating impacts. These factors include assessing whether a project has the potential to violate applicable Federal, state, tribal or local laws or regulations regarding hazardous materials and/or solid waste management; involve a contaminated site (including, but not limited to, a site listed on the NPL); produce an appreciably different

quantity or type of hazardous waste; generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or adversely affect human health and the environment.

4.6.3 Impact Analysis

4.6.3.1 Proposed Action Alternative

Hazardous Materials

Hazardous materials in relation to the DSA and ISA are discussed in *Section 3.7, Hazardous Materials, Pollution Prevention, and Solid Waste* and additional documentation is included in *Appendix E, Hazardous Materials*. These sites are unlikely to have an effect on the Proposed Action Alternative for the reasons described in the following sub-sections.

Fuel Storage Locations/ Generators

As shown in Figure 3-5, there is one emergency generator within the DSA (ID No. 2 on Figure 3-5) that would need to be removed to implement the Proposed Action Alternative. The six emergency generators adjacent to the ISA would not be affected. The generator in the DSA would be removed in accordance with all applicable state and federal regulations and the Airport's HMBP would be updated to reflect the removal. Therefore, the Proposed Action Alternative is not expected to impact hazardous materials associated with fuel storage and generators.

Soil and Groundwater

As shown on Figure 3-6, there is one location in the DSA, one location in the DSA/ISA, and one location in the ISA where there have been identified impacts to soil or groundwater due to previous uses. All the LUST cases identified have been closed by the overseeing regulatory agency and remediation of the sites has been completed. There is no influence to the DSA or ISA from the identified sites and thus, implementation of the Proposed Action Alternative is not expected to encounter contaminated soil or groundwater.

Aqueous Film Forming Foam (AFFF)

As shown on Figure 3-6, there is one former AFFF Storage, Use and Release Location within the ISA (Location 1, Fire Station #20) and one location adjacent to the ISA (Location 2, Building 1000). Locations 1 and 2 were used for AFFF storage with no record of use or release in the 2020 Completion Report. As detailed in the 2022 Completion Report, low concentrations of PFAS were detected in soil samples taken near Locations 1 and 2 in the ISA, however the low concentrations detected in shallow soil depths are not expected to pose a risk to groundwater quality.¹¹ Further, these locations are not within the DSA and would not experience ground disturbance during or after the implementation of the Proposed Action Alternative. Groundwater samples were also planned at these locations, however no groundwater was encountered at a final drilling depth of 40 feet below ground surface and therefore no additional samples were needed.

As discussed in *Section 3.7.1, Hazardous Materials*, two reports of AFFF discharge on pavement were reported by SJC in October 2019 in or near the ISA and appropriate actions were taken following the incidents. SJC is actively working with the SWRCB regarding the ongoing PFAS investigation at the Airport as discussed in *Section 3.7.1, Hazardous Materials*. Construction of the Proposed Action Alternative is not expected to encounter AFFF-contaminated soil or groundwater as it has not been detected in the DSA, nor is it expected to disturb the low concentrations of PFAS in the soil in the ISA.

¹¹ Woodard & Curran, Inc., PFAS Phase 2 Site Investigation Report, 2022, p. ES-2/

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New Storage/Generation of Hazardous Materials

Operation of the Proposed Action Alternative would not result in the storage or generation of additional hazardous materials beyond what is typically utilized for servicing aircraft at existing and interim gates. Hazardous materials used during construction may include vehicle and equipment maintenance solvents and their waste products, petroleum products (e.g., oil, grease, lubricants), diesel fuel, unleaded gas, paints, solvents, oils and other automotive fluids, and others in relatively small quantities.

Hazardous wastes generated at SJC during construction and operations are transported off-site for recycling, treatment, and/or disposal by waste disposal contractors. No hazardous waste is disposed on-site. Tenants and contractors are responsible for the management and disposal of the hazardous waste they generate, and they have their own storage areas and arrangements with disposal companies. Hazardous waste generated by Airport operations (excluding tenant waste) is secured, collected, and managed at a main Hazardous Waste Accumulation Area located at 1311-C Airport Boulevard. Hazardous waste generators are inspected by the Santa Clara County Hazardous Materials Compliance Division.

With continuing enforcement of existing regulations that govern hazardous materials use and storage, the Proposed Action Alternative would not pose significant health and safety hazards to Airport workers or the public.

Conclusion

Existing regulations and health and safety programs serve to control the storage and handling of hazardous materials at the Airport and the potential effects in the event of accidents. Airport tenants are inspected periodically by designated City and County authorities. The Proposed Action Alternative is not expected to cause an increase in quantities of hazardous material stored or generated at the Airport. The Proposed Action Alternative would not require changes to existing SPCC plans and programs, nor would it compromise existing emergency response plans or emergency evacuation plans governing accidental release of hazardous materials. Further, consistent with regulatory requirements, facilities equipment and procedures are currently in place to respond to an accidental release of hazardous substances. The operation of the Proposed Action Alternative would not change this existing capability and any change in the generation of hazardous waste would not cause significant impacts. While unlikely, if excavations required for the proposed terminal apron (adjacent to the former AFFF storage locations) intercept and are flooded with groundwater, response and remediation would be coordinated with SWRCB oversight. Any dewatering activities would adhere to the requirements in the City MS4 Permit, the SJC Industrial Permit, as well as the SJC SWPPP to reduce potential impacts.

Under the Proposed Action Alternative there would be no planned uses of any hazardous materials that would not comply with applicable federal, state and local regulations, as well as the SJC SWPPP, the Airport's SPCC Plan and SPCC Plans by each FBO. A construction SWPPP would be developed to minimize potential hazardous material impacts during construction. Additionally, the proposed South Concourse extension would be constructed in a manner consistent with LEED standards certification requirements to, among other things, minimize potential hazards and hazardous waste impacts. However, if any hazardous wastes are encountered during construction, Contractors would be required to store, label, and dispose of hazardous substances in accordance with established regulations and would be responsible for reporting any release of hazardous substances. As detailed in *Section 3.7.1, Hazardous Materials*, hazardous wastes generated at the Airport are transported off-site for recycling, treatment, and/or disposal by licensed waste disposal contractors. Tenants are responsible for the management and disposal of the hazardous waste they generate, and they have their own storage areas and arrangements with disposal companies.¹²

No impacts related to hazardous materials would be expected and no mitigation is required.

¹² Cornerstone Earth Group, Hazardous Materials Assessment: San José International Airport, October 2019.

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Solid Waste and Pollution Prevention

Solid waste associated with the construction of the Proposed Action Alternative would include demolition debris such as concrete and asphalt from apron reconstruction. These materials may be transported and disposed of in nearby landfills (see *Section 3.7.2, Solid Waste*), repurposed or recycled to the extent feasible. Once operational, the Proposed Action Alternative is not expected to cause a substantial change in the generation or disposal of solid waste. As further detailed in *Section 3.7.2, Solid Waste*, the County continues to have greater than 15 years of disposal capacity and expects to continue extending that capacity through implementation and adoption of diversion programs (including many jurisdictions adopting zero waste plans).¹³ Through construction and operation, the Airport would continue to work towards its goal for Zero Waste by 2022. The City's Construction and Demolition Diversion (CDD) Program ensures that at least 75% of construction and demolition debris is recovered and diverted from landfills.¹⁴ No impacts related to solid waste would be expected with the Proposed Action Alternative and no mitigation would be required.

The design and use of the Proposed Action Alternative would adhere to federal, state, and local regulations as well as best practices pertaining to the use of hazardous materials, petroleum storage and waste disposal. This includes precautionary measures aimed at preventing the release of gasoline, diesel, hydraulic fluid or other materials that could impact surface waters, groundwater, soils, and air.

4.6.3.2 No Action Alternative

Hazardous Materials

Under the No Action Alternative, the Proposed Action Alternative would not be constructed, and the use or generation of hazardous materials would not occur. Ongoing studies, investigations, and remediation regarding known releases of hazardous wastes would continue even if the No Action Alternative is implemented. Therefore, there would be no impacts due to hazardous materials would occur as a result of the No Action Alternative.

Solid Waste and Pollution Prevention

Under the No Action Alternative, the Proposed Action Alternative would not be constructed, and production of solid waste associated with construction activities would not occur. The City's commitment to improving their waste management practices by preventing and diverting more waste through partnerships with tenants, the City, and their waste hauler would continue under the No Action Alternative. SJC has a major goal to achieve zero waste in 2023.¹⁵ Therefore, no solid waste impacts would occur as a result of the No Action Alternative.

4.6.4 Avoidance, Minimization, and Mitigation Measures

There are no mitigation measures required for the project related to hazardous materials. Implementation of the Proposed Action Alternative would adhere to federal and state regulations as well as best practices pertaining to the use of hazardous materials, petroleum storage and waste disposal. This includes precautionary measures aimed at preventing and minimizing impacts to surface and ground waters, soil, and air. In conformance with State and local laws, a visual inspection/pre-demolition survey, and possible sampling, would be conducted prior to the removal of on-site buildings to determine the presence of ACMs and/or LBP.

¹³ CalRecycle, Five-Year CIWMP/RAIWMP Review Report Template, CalRecycle 709 (Rev.03/10), <https://reducewaste.sccgov.org/sites/g/files/exjcpb691/files/CalRecycle709-rev7.pdf>, accessed 6/27/2022.

¹⁴ City of San José, Construction and Demolition website, <https://www.sanJoseca.gov/your-government/environment/recycling-garbage/construction-demolition-debris>, accessed 12/2/21.

¹⁵ SJC, Sustainability Management Plan, p. 20, January 2020, https://www.flysanJose.com/sites/default/files/commission/2020_0121_Final%20SMP.PDF, accessed 9/19/2022.

4.7 Historical, Architectural, Archaeological, and Cultural Resources

Potential impacts to historic and archaeological resources within the Direct and Indirect APEs were identified and evaluated as part of the EA. This section also documents the FAA's consultation with the California SHPO pursuant to NHPA Section 106 and its implementing regulations at 36 CFR Part 800.

4.7.1 Methodology

Historic/Architectural Resources

A Northwest Center of the CHRIS records search was conducted in April 2020. A literature review was also conducted. In 2020, a reconnaissance level survey was conducted of historic-age buildings (45 years or older) on SJC property, and the Airport was evaluated as a district for its potential for listing on the NRHP. On June 2, 2022, the FAA initiated consultation with the California SHPO requesting concurrence with the APE and its finding of *No Historic Properties Affected*. The California SHPO concurred by letter dated August 31, 2022. Refer to *Appendix F, Cultural Resources* for copies of the *Cultural Resource Report*, and the DPR 523 Survey and Evaluation Forms.

A search of the Native American Heritage Commission's Sacred Lands File was conducted. The search results were negative. The FAA initiated consultation with the Amah Mutsun Tribal Band, the Amah Mutsun Tribal Band of Mission San Juan Bautista, the Indian Canyon Mutsun Band of Costanoan, the Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, the North Valley Yokuts Tribe, the Ohlone Indian Tribe, the Wutsache Indian Tribe/Eshorm Valley Band, and the Tamien Nation between April 7, 2022, and April 14, 2022. No responses were received by the FAA prior to completion of compliance with Section 106 of the NHPA. The FAA received a response from the Tamien Nation on November 2, 2022, with an attachment dated May 4, 2022, requesting formal consultation specifying California Environmental Quality Act (CEQA) provisions with an interest to be protective of potential tribal cultural resources and requesting the *Cultural Resource Report*. On November 14, 2022, FAA responded to the Tamien Nation and provided a copy of the FAA's NHPA Section 106 consultation with the California SHPO, the *Cultural Resource Report*, and the California SHPO's concurrence with FAA's determination of *No Historic Properties Affected*, which is included in *Appendix F*.

4.7.2 Significance Thresholds

The FAA has not established a significance threshold for Historical, Architectural, Archeological, and Cultural Resources. Exhibit 4-1 of FAA Order 1050.1F provides a factor to consider when evaluating potential impacts. The factor states, "*The action would result in a finding of Adverse Effect through the Section 106 process. However, an adverse effect finding does not automatically trigger preparation of an EIS (i.e., a significant impact).*"

4.7.3 Impact Analysis

4.7.3.1 Proposed Action Alternative

Historic/Architectural Resources

Three buildings within the Direct APE and one building within the Indirect APE are over 45 years in age and were included in a reconnaissance level survey of the Airport as part of an evaluation of SJC as a district for potential NRHP eligibility. Refer to Figure 3-6 for the APEs. The evaluation in the *Cultural Resource Report* resulted in a recommendation that SJC is not eligible for listing as a district under Criteria A, B, C, or D as specified in 36 CFR §60.4.

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Archeological Resources

The Direct and Indirect APEs are within the built environment of the Airport. These locations have been previously disturbed, are not within an ASA, and the potential for buried resources is low. Therefore, no adverse effects to archaeological resources are anticipated.

Summary of Effect per Section 106 (Conclusion)

SJC is not eligible as a district under NRHP Criteria A, B, C, or D. Further, the Direct and Indirect APEs for the Proposed Action are highly disturbed areas of the Airport. The FAA evaluated the *Cultural Resource Report*, determined that no historic properties are present in the APEs, and issued a finding that “no historic properties affected” for the project. The California SHPO concurred with the FAA finding on August 31, 2022.

4.7.3.2 No Action Alternative

Historic/Architectural Resources

SJC is not eligible as a district under NRHP. There would be no construction or ground disturbing activities under the No Action Alternative. Therefore, the No Action Alternative would not affect any historic, architectural, or cultural resources.

Archeological Resources

There would be no construction or ground disturbing activities under the No Action Alternative. Therefore, the No Action Alternative would not affect any archaeological resources.

4.7.4 Avoidance, Minimization, and Mitigation Measures

There are no mitigation measures required for Historical, Architectural, Archaeological, and Cultural Resources, however there is an unanticipated discovery plan for the Proposed Action Alternative. If previously unidentified prehistoric or historic archaeological resources are uncovered during construction activities, work be discontinued within a 100-foot radius of the find. SJC will secure services of a qualified archaeologist to evaluate the resource, and the FAA will be notified for coordination with the SHPO. A report evaluating the find and identifying mitigation for impacts would be prepared by the archaeologist and submitted to the FAA; the City's Director of Planning, Building, and Code Enforcement; and the Director of the Airport.

4.8 Land Use

State and local land use plans, comprehensive plans, and zoning laws provide context for land use compatibility. Section 1506.2(b) of CEQ Regulations requires that NEPA documents discuss any inconsistency with approved state and/or local plan(s) and law(s) (whether or not Federally-sanctioned). AC 150/5200-33, Hazardous Wildlife Attractants on or Near Airports, is also relevant to the evaluation of land use impacts.

4.8.1 Methodology

The Proposed Action Alternative was reviewed to determine consistency with cities of San José and Santa Clara General Plans, zoning and the CLUP. As described in *Section 3.9, Land Use*, typically land use is analyzed with existing land use data, however the cities do not maintain existing land use data sets and instead refer to the General Plan data as the basis for land use. The potential for the alternative to create habitat or increase wildlife attractants was considered. Additionally, potential impacts in other resource categories were analyzed as they relate to land use plans, and socioeconomics were identified and evaluated.

4.8.2 Significance Thresholds

The FAA has not established threshold of significance for land use. Exhibit 4-1 of FAA Order 1050.1F provides factors to consider when evaluating potential impacts. The factors state *“There are no specific independent factors to consider for Land Use. The determination of significant impacts exist in Land Use impact category is normally dependent on the significance of other impacts.”*

4.8.3 Impact Analysis

4.8.3.1 Proposed Action Alternative

As shown on Figure 3-9 (Land Use) and Figure 3-10 (Zoning), the Proposed Action Alternative would occur entirely on Airport property and would be consistent with the Future Land Use ALP (May 2020) and surrounding uses as identified on the city General Plans and compatible with existing City zoning (Heavy Industrial). The Proposed Action Alternative improvements are consistent with the uses permitted in Heavy Industrial zoning districts as well. The City of San José has provided its Land Use Assurance letter specifying that appropriate action has been or will be taken, to the extent reasonable, to restrict the use of land next to or near SJC to uses that are compatible with normal airport operations pursuant to Title 49 United States Code (U.S.C.) §47107(a)(10) (See *Appendix G, Land Use Assurance Letter*).

Due to proximity to an airfield, the proposed improvements are subject to wildlife hazard management actions to ensure the safety of aviation operations. Additionally, the placement and type of stormwater management is restricted due to wildlife hazard considerations, discussed further in *Section 4.13, Water Resources*. The proposed improvements would not be located near or create a wildlife hazard as defined in FAA AC 150/5200-33, *Hazardous Wildlife Attractants on or near Airports*. No land use impacts would occur from implementation of the Proposed Action and no mitigation would be required.

4.8.3.2 No Action Alternative

The No Action Alternative would not involve changes to SJC and would not result in any impact to land use or zoning.

There are no avoidance, minimization, or mitigation measures required for land use.

4.9 Natural Resources and Energy Supply

This section identifies the potential for the alternatives to impact local supplies of natural resources and energy, and the methods used to minimize temporary and long-term use of natural resources and energy.

4.9.1 Methodology

When analyzing the potential impacts to natural resources and energy supply the following was considered: impacts to utilities servicing the area; capacity of water resources to support projects; fuel consumption; impacts to consumable materials, especially scarce or unusual materials; and state or local regulations.

4.9.2 Significance Thresholds

The FAA has not established threshold of significance for natural resources and energy supply. FAA Order 1050.1F provides factors to consider when evaluating potential impacts. The factor states “*The action would have the potential to cause demand to exceed available or future supplies of these resources.*”¹⁶

4.9.3 Impact Analysis

4.9.3.1 Proposed Action Alternative

The Proposed Action Alternative would require the consumption of natural resources and energy supply during both construction and operation. Energy in the form of electricity, gasoline, and diesel fuel would be consumed during construction of the Proposed Action Alternative. Once operational, the Proposed Action Alternative would require additional energy use to provide water, heating, air conditioning, lighting, electricity, and telecommunications to the proposed terminal extension, as well as airfield lighting of reconstructed apron areas. The proposed South Concourse extension has nearby existing utility connections and would not require extensive underground utility work to connect to existing utilities.

There is sufficient energy and resources to supply utilities to the new improvements during construction and once operational. Specifically, utility power for the Airport is derived from San José Clean Energy (SJCE) which is transmitted and delivered by Pacific Gas & Electric Co. (PG&E) power networks. Electric energy in the City is provided primarily through SJCE distribution networks. A 2019 Energy Technical Report analyzed the energy consumption due to all proposed SJC Master Plan projects, which includes the Proposed Action Alternative, but also includes SJC’s airside (e.g., runway and taxiway improvements, general aviation facilities), other landside (e.g., new parking garage, new hotel) facilities, and accommodate forecasted activity levels projected to 2037. The Technical Report states “*To put [all SJC Master Plan projects] energy use in context, in 2017, Californians consumed 257,268 GWh of electricity, of which Santa Clara County consumed 17,190 GWh. CEC [California Energy Commission] estimates that state-wide energy demand will increase to 322,266 GWh in 2025 with an average annual growth rate of 1.27%. The [SJC Master Plan’s] anticipated increase in electricity usage from 33,256 megawatt-hour (MWh) for existing conditions to 58,021 MWh by 2037... reflects an increase of 24,765 MWh in electricity usage. This represents approximately 0.01 percent of the total state-wide electricity usage and 0.14 percent of Santa Clara County electricity usage. Therefore, the Proposed (Master Plan) Project will not require additional generation capacity beyond more general state-wide expansion.*”¹⁷

Using the 2019 Energy Technical Report (which used actual 2018 energy demand), electricity and water usage was estimated for 2029 and 2034 per MAP. The SJC Master Plan projects combined would result in the water, waste, and electricity demand identified in **Table 4.8**. This serves as a conservative estimate since the Proposed Action Alternative is one of many projects in the SJC Master Plan.

¹⁶ FAA Order 1050.1F, Exhibit 4-1, p. 4-8, 7/6/15.

¹⁷ Ramboll US Corporation, Mineta San José International Airport Energy Final Technical Report, August 2019, p. 28

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Table 4.8

2029 and 2034 SJC Master Plan Project (All) Energy Usage Associated with Utility Demand

Utility	Demand per MAP	2029		2034	
		MAP	Energy Usage/ Need	MAP	Energy Usage/ Need
Water	4,269.9 ccf	21.8	93,083.82 ccf	25.0	106,747.5 ccf
Waste Generated	120.6 tons		2,629.08 tons		3,015.0 tons
Electricity	2,144.9 MWh		46,758.82 MWh		53,622.5 MWh

Source: Ramboll US Corporation, Mineta San José International Airport Energy Final Technical Report, August 2019, Table 4.2-8, Utility Demand per MAP (2018).

The anticipated increase in additional resources and energy consumption required by the Proposed Action Alternative does not represent a significant additional demand on local utilities. Based on the available infrastructure providing utility services in the region and the relatively minor project demands compared to the available resources, the Proposed Action Alternative would not result in a substantial demand for natural resources in short supply. The Proposed Action Alternative would not involve the use of any unusual or scarce resources nor cause a demand for the use of any unusual or scarce resources that are in short supply.

The Proposed Action Alternative includes the installation of new signage and lighting, both in the proposed terminal extension and apron area. *Section 3.10, Natural Resources and Energy Supply* provides the details of SJC's 2020 Sustainability Management Plan. In keeping with SJC Sustainability Initiatives, new light sources would be designed to utilize LED bulbs wherever possible, thus decreasing long-term energy use. As part of project design, the South Concourse extension would be designed and constructed to meet LEED Silver certification or higher. Terminal B currently has a LEED Silver certification.¹⁸ Ninety percent of construction waste from Terminal B was recycled.¹⁹ The Terminal B South Concourse extension would prioritize the same goal and would be consistent with existing Terminal B and mirror the interior and outward architectural design. Energy efficient measures such as the use of occupancy sensors, lighting control systems, and central heating and cooling plant will be replicated in the Terminal B South Concourse extension.

As the Proposed Action Alternative would not result in use of natural resources or energy in excess of available supplies, implementation of the Proposed Action Alternative would not result in an impact on natural resources or energy.

4.9.3.2 No Action Alternative

Under the No Action Alternative, there would be no construction or change to activities. The Interim Terminal Facility gates would remain in place and would be assumed to result in similar demands for water, generation of waste, and electricity demand as would be the case with the Proposed Action Alternative since the MAP in 2029 and 2034 would be the same. Thus, there would be no significant impact to natural resources or energy supply as a result of the No Action Alternative.

There are no avoidance, minimization, or mitigation measures required for natural resources or energy supply.

4.10 Noise and Noise-Compatible Land Use

This section addresses the noise environment related to the Proposed Action Alternative and No Action Alternative within the area surrounding SJC.

¹⁸ City of San José, "Green Building," <https://www.sanJoseca.gov/your-government/environment/energy/green-building>, (accessed February 2020).

¹⁹ SJC, Sustainability Management Plan, Appendix C, January 2020, https://www.flysanJose.com/sites/default/files/commission/2020_0121_Final%20SMP.PDF (accessed 6/27/2022).

4.10.1 Methodology

As construction is expected to occur between 2023 and 2028, the forecast years are the first full year of implementation of the proposed improvements (2029) and five years thereafter (2034).²⁰ The Proposed Action Alternative and No Action Alternative noise contours for 2029 and 2034 were modeled using AEDT version 3e. The forecast activity levels are expected to occur with or without the proposed improvements.

The DNL metric is the noise metric adopted by the FAA to assess cumulative noise energy exposure of individuals to noise resulting from aviation activities. However, in California CNEL may be used in lieu of DNL.²¹ The CNEL is a cumulative metric with a 5- dB penalty applied to evening aircraft events (7:00 pm – 9:59 pm) and 10- dB penalty applied to nighttime aircraft events (10:00 pm – 6:59 am). The noise analysis results were tabulated to evaluate potential impacts to the following:

- Population impacted within the CNEL 65-75 dB noise contour.
- Noise sensitive land uses within the CNEL 65-75 dB noise contour.
- General land use within the CNEL 65-75 dB noise contour

Details on data sources, assumptions, and methodologies used to develop the 2029 and 2034 noise contours are included in *Appendix G, Noise*.

4.10.2 Significance Thresholds

Exhibit 4-1 of FAA Order 1050.1F defines the significance threshold for noise to be when *“the action would increase noise by DNL (CNEL in California) 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the CNEL 65 dB noise exposure level, or that will be exposed at or above the CNEL 65 dB level due to a CNEL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.”*

4.10.3 Impact Analysis

The noise impact analysis was completed for noise sensitive areas within the CNEL 65-75 dB to evaluate whether the Proposed Action Alternative would cause a noise increase of CNEL 1.5 dB or more compared with the No Action Alternative.

4.10.3.1 Proposed Action Alternative

Figure 4-1 depicts the CNEL 65 dB, 70 dB, and 75 dB noise contours for the 2029 Proposed Action Alternative and **Figure 4-2** depicts the CNEL 65 dB, 70 dB, and 75 dB noise contours for the 2034 Proposed Action Alternative. Both figures depict the noise contours along with land use. Note that there is no change in the noise exposure between the Proposed Action Alternative and the No Action Alternative in both 2029 and 2034. This is because the Proposed Action Alternative will not increase aircraft operations or change the aircraft fleet mix operating at SJC when compared to the No Action Alternative.

4.10.3.2 Noise-Compatible Land Use

Tables 4.9 and **4.10** summarize land use type and noise sensitive facilities (e.g., schools, hospitals, places of worship), including population and housing counts, within the 2029 and 2034 CNEL 65 dB, 70 dB, and 75 dB noise contours, respectively, for the Proposed Action Alternative.

²⁰ Per FAA 1050.1F Desk Reference, Section 11.3, p. 11-9 “Timeframes usually selected are the year of anticipated project implementation and 5 to 10 years after implementation.”

²¹ FAA Order 1050.1F, Appendix B, Paragraph B-1, and FAA Order 5050.4B, Paragraph 9(n).

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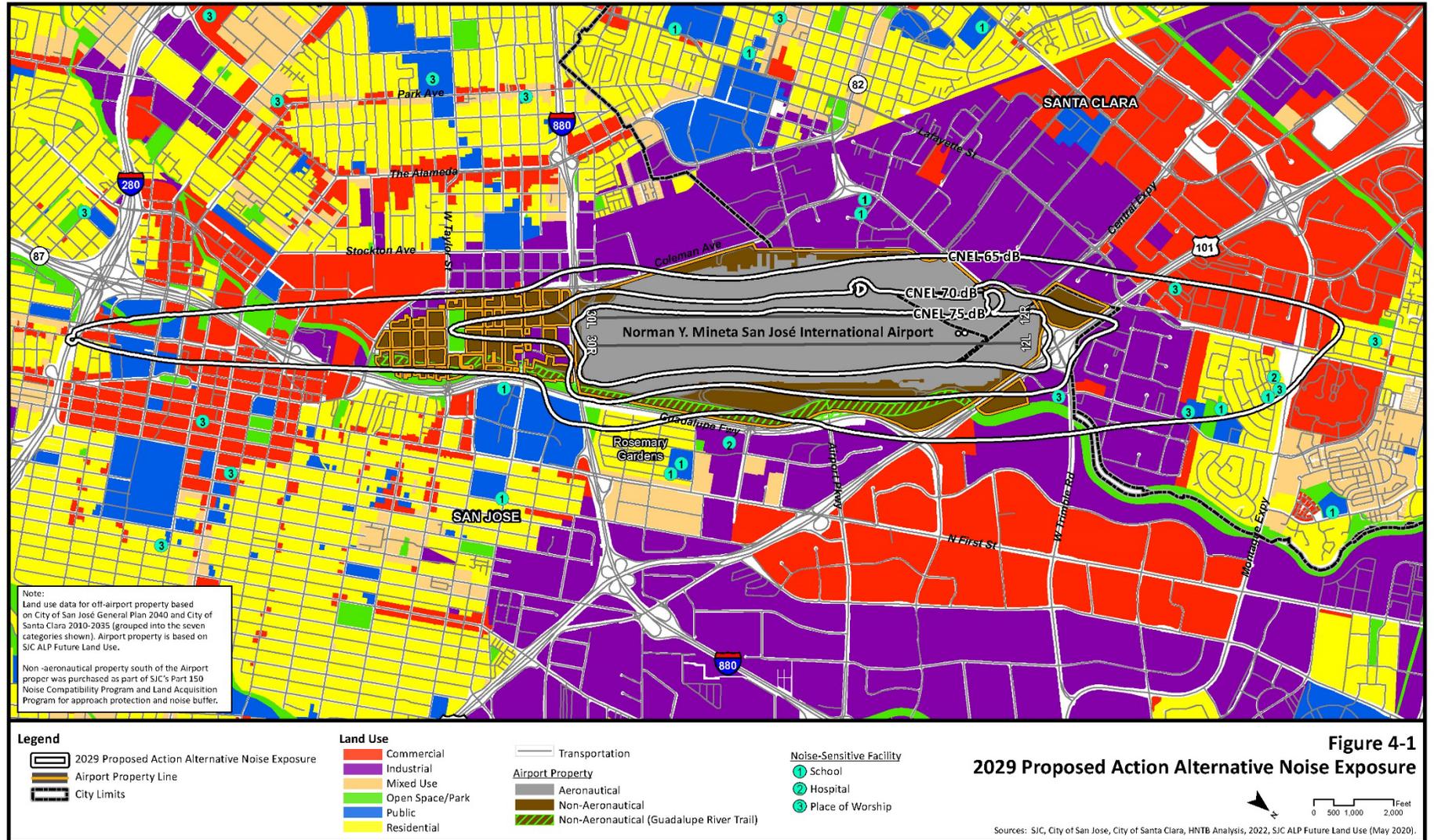
In 2029, there are no residential uses within the CNEL 70-75 or 75 dB noise contours; approximately 5% percent of the land use within the CNEL 65-70 dB noise contours is residential land use. Population and housing units within the CNEL 65-70 dB contour were determined using 2010 U.S. Census Bureau block data. The population and housing units calculated within a contour assumed that residential populations within a block were evenly distributed by area, resulting in an estimated population of approximately 2,895 and 1,011 housing units.

In 2034, there are no residential uses within the CNEL 70-75 or 75 dB noise contours; approximately 6% percent of the land use within the CNEL 65-70 dB noise contours is residential land use. There would be an estimated population of approximately 3,449 and 1,182 housing units within the CNEL 65-70 dB noise contours in 2034.

The closest residential neighborhood, the Rosemary Gardens, is located east of SJC with portions of the neighborhood that would continue to be within the CNEL 65-70 dB noise contours in 2029 and 2034. Due to the Acoustical Treatment Program discussed in *Section 3.11.2, Noise-Compatible Land Use*, residences within the CNEL 65-70 dB noise contour have been treated and are considered compatible with the noise generated by aircraft at SJC. In both 2029 and 2034, there are seven noise sensitive facilities within the 2029 CNEL 65-70 dB noise contours: four places of worship, two schools, and one hospital. The CNEL 65-75 dB noise exposure contour off the Runway 30R and 30L ends includes non-aeronautical airport property, commercial and industrial land use. Off the Runway 12R and 12L ends, the CNEL 65-75 dB noise exposure contours include mostly industrial, commercial, and residential land uses.

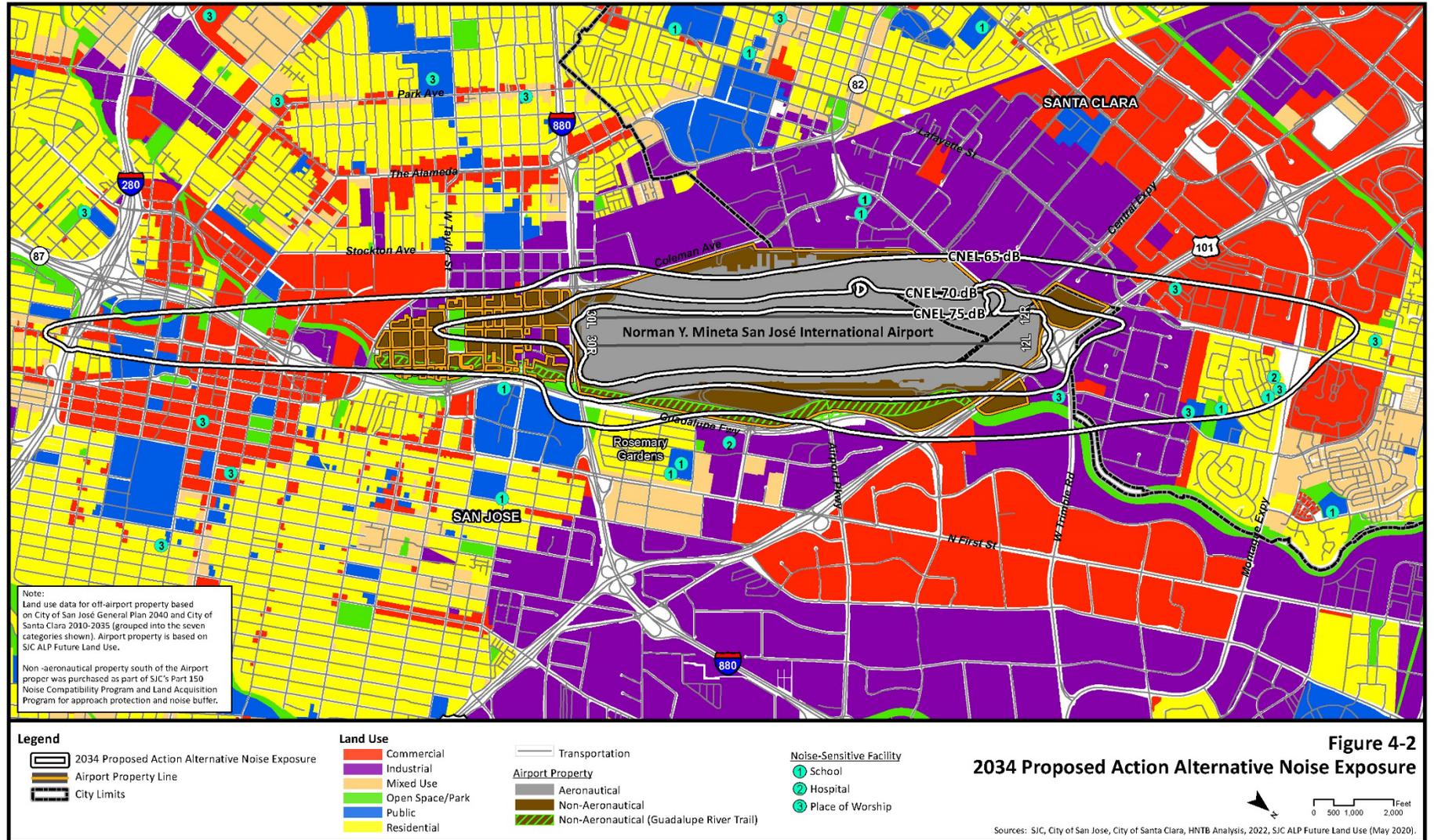
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Table 4.9
2029 Proposed Action/ No Action Alternative Land Use Distribution (acres)

Land Use Category	Noise Exposure Range (CNEL, dB)			
	65-70	70-75	75	TOTAL ^a
Residential	71	0	0	71
Industrial	287	23	0	310
Mixed Use	0	0	0	0
Open Space/Park	70	4	0	74
Commercial	215	0	0	215
Public	33	0	0	33
Transportation, Communications, and Utilities	299	47	8	354
Airport Property (Aeronautical Use) ^b	136	186	391	713
Airport Property (Non-Aeronautical Use) ^b	235	107	6	348
TOTAL	1,345	367	405	2,117
Noise-Sensitive Land Uses (#) ^c				
Hospitals	1	0	0	1
Schools	2	0	0	2
Religious (i.e., places of worship)	4	0	0	4
Residential (dwelling units)	1,011	0	0	1,011
Population	2,895	0	0	2,895

Notes:

^a Totals may not sum due to rounding.

^b Airport property (aeronautical and non-aeronautical) is based on the SJC ALP Future Land Use (May 2020).

^c Residential (dwelling units) are considered noise-sensitive. Population estimates and housing units within the contours were determined using 2010 U.S. Census Bureau block data. The population and dwelling units calculated within a contour were based on the assumption that residential populations within a block were evenly distributed by area. Currently, residences within the CNEL 65-70 dB contour are considered compatible with the noise generated by aircraft at SJC.

Sources: City of San José and City of Santa Clara General Plan Land Use, SJC ALP Future Land Use (May 2020), U.S. Census Bureau 2010 Block data, and HNTB analysis, 2022.

As discussed in *Section 3.11.2, Noise-Compatible Land Use*, the adopted NCP measures continue to ensure compatibility of noise from SJC related aviation operations and surrounding area land use. The Proposed Action Alternative would not alter the noise characteristics of SJC aircraft operations or generate noise levels in excess of standards established in the local General Plans or noise ordinance, or applicable standards of other agencies.

Noise impacts during construction of the Proposed Action Alternative are expected, but noise impacts would be generally localized at the vicinity of the construction site. Construction equipment and vehicles will create localized increases in noise levels, but these temporary noise impacts would not disrupt normal airport operations or activities. There are no sensitive noise facilities (e.g., residences and schools) located within 500 feet of any of the improvement projects, or within the CNEL 65-70 dB, that would be constructed under the Proposed Action Alternative. The closest residence is east of State Route 87 in the Rosemary Gardens Neighborhood, which is more than 600 feet from any construction project and across SR 87 and the Guadalupe River. Given this distance and the presence of the State Route 87 freeway and its soundwall between the closest residences and the Airport, construction related noise at these residences would not be substantial. Additionally, the contractor would comply with the City's Municipal Code, which specifies allowable days and hours of construction, types of construction noise, and limits unnecessary idling, among other conditions. Overall, the construction phase of this project is expected to create minor and temporary increases in noise in the vicinity of the DSA. These increases in noise would be temporary, lasting for the duration of construction activities.

Therefore, the Proposed Action Alternative would not have a significant noise or noise-compatible land use impact.

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Table 4.10
2034 Proposed Action/ No Action Alternative Land Use Distribution (acres)

Land Use Category	Noise Exposure Range (CNEL, dB)			
	65-70	70-75	75	TOTAL ^a
Residential	80	0	0	80
Industrial	280	26	0	306
Mixed Use	2	0	0	2
Open Space/Park	72	5	0	77
Commercial	229	0	0	229
Public	37	0	0	37
Transportation, Communications, and Utilities	313	49	8	370
Airport Property (Aeronautical Use) ^b	136	185	395	715
Airport Property (Non-Aeronautical Use) ^b	234	111	6	351
TOTAL	1,382	376	408	2,166
Noise-Sensitive Land Uses (#) ^c				
Hospitals	1	0	0	1
Schools	2	0	0	2
Religious (i.e., places of worship)	4	0	0	4
Residential (dwelling units)	1,182	0	0	1,182
Population	3,449	0	0	3,449

Notes:

^a Totals may not sum due to rounding.

^b Airport property (aeronautical and non-aeronautical) is based on the SJC ALP Future Land Use (May 2020).

^c Population and Residential (dwelling units) are considered noise-sensitive. Population estimates and dwelling units within the contours were determined using 2010 U.S. Census Bureau block data. The population and housing units calculated within a contour were based on the assumption that residential populations within a block were evenly distributed by area. Currently, residences within the CNEL 65-75 dB contour are considered compatible with the noise generated by aircraft at SJC.

Sources: City of San José and City of Santa Clara General Plan Land Use, SJC ALP Future Land Use (May 2020), U.S. Census Bureau 2010 Block data, and HNTB analysis, 2022.

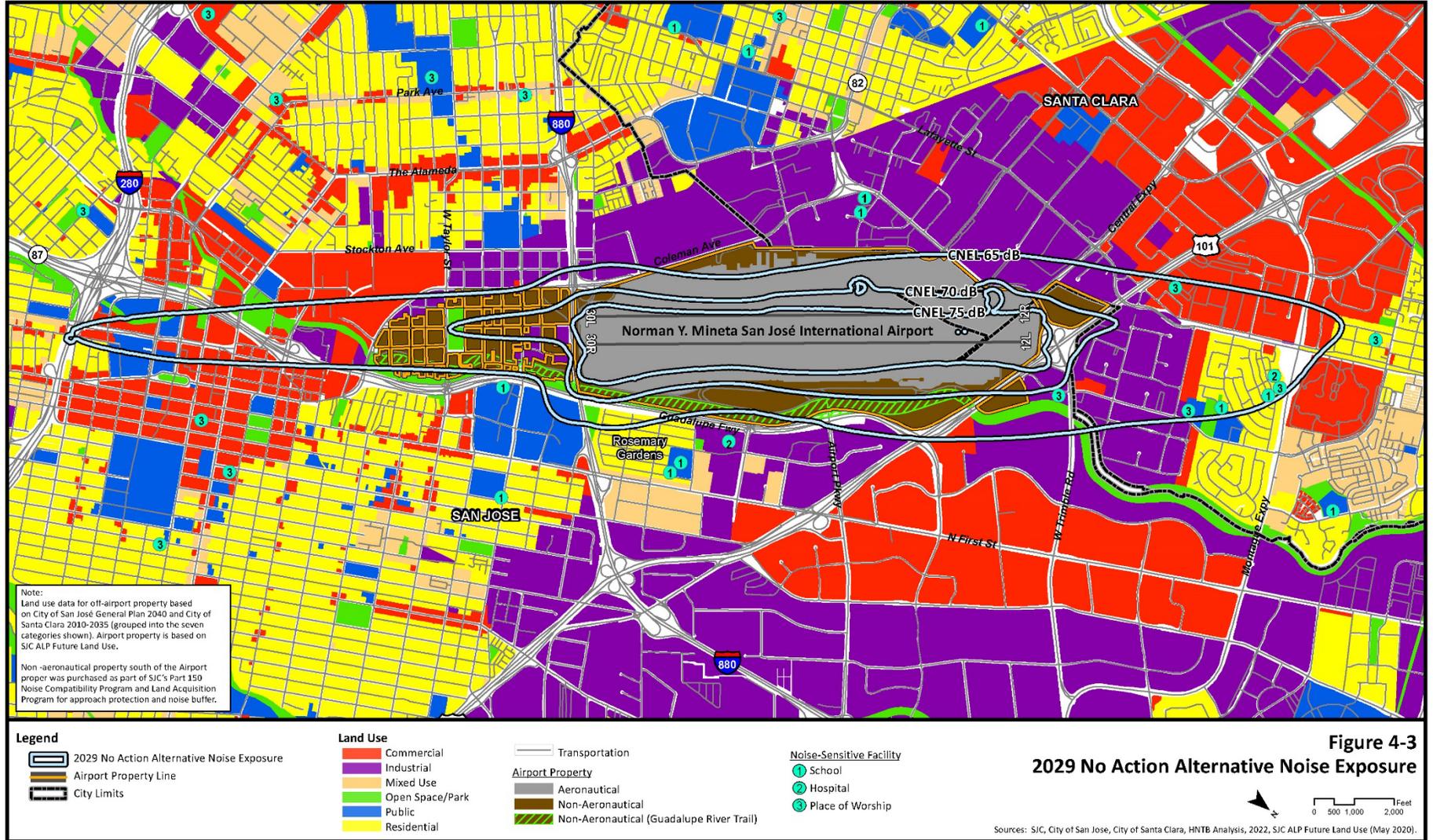
4.10.3.3 No Action Alternative

Figure 4-3 depicts the same noise contours for the 2029 No Action Alternative and **Figure 4-4** depicts the same noise contours for the 2034 No Action Alternative. As a result, Tables 4.8 and 4.9 also apply to the 2029 and 2034 land use distribution for the No Action Alternative. The No Action Alternative would result in the same noise exposure in both 2029 and 2034 as the Proposed Action Alternative, as the Proposed Action Alternative would not increase aircraft operations or change the aircraft fleet mix operating at SJC. The No Action Alternative would not have a significant noise or noise-compatible land use impact.

There are no avoidance, minimization, or mitigation measures required for noise or noise-compatible land use.

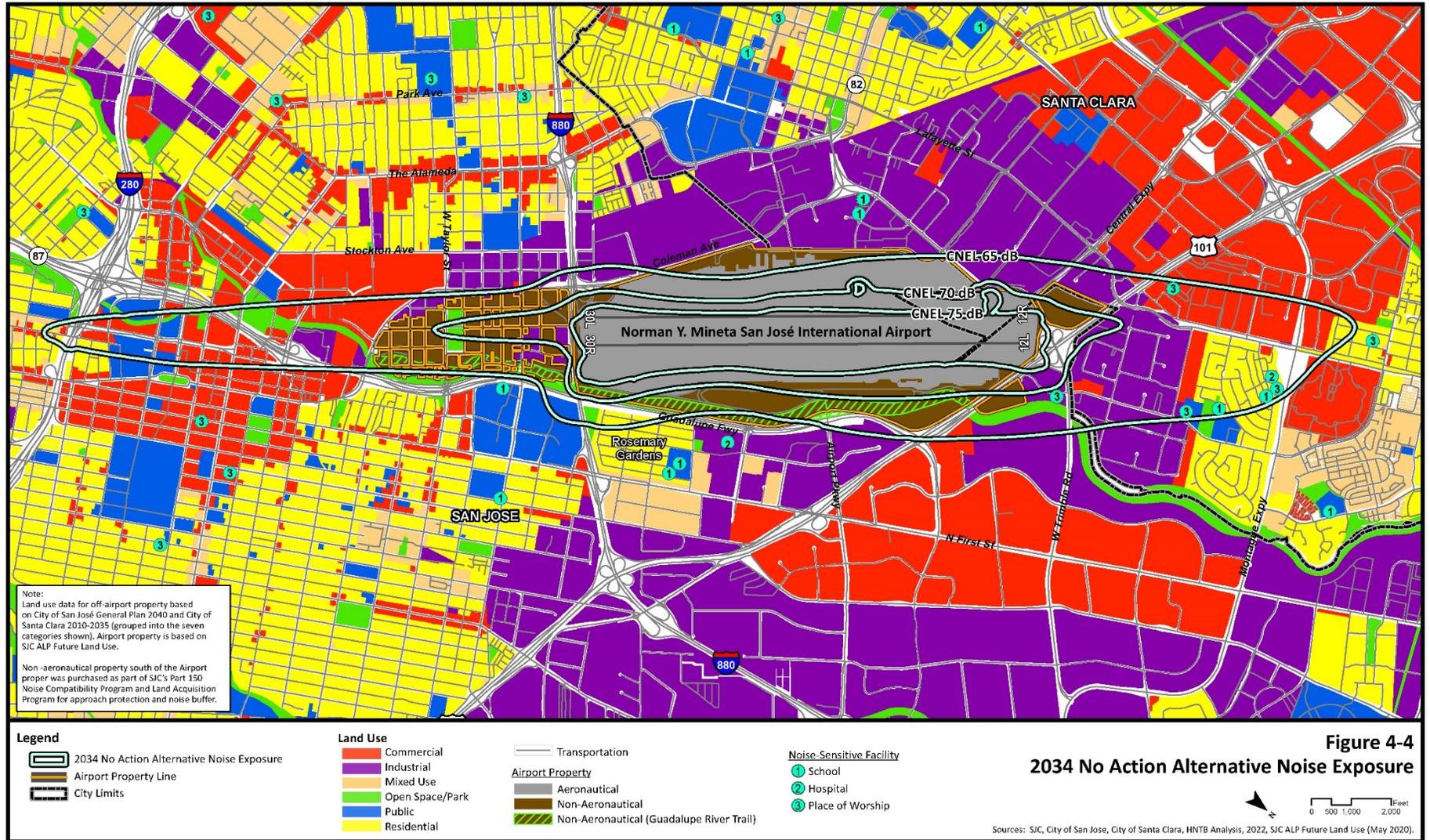
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4.11 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

This section analyzes the potential for the alternatives to result in a socioeconomic, environmental justice or children's health and safety impact.

4.11.1 Methodology

The potential for the Proposed Action Alternative to result in the relocation of residences or businesses, division of established communities, disruption of orderly planned development, or changes in employment within the DSA and Noise Study Area was evaluated. Additionally, any actions resulting from the alternative that could result in high or adverse human health or environmental impacts that would disproportionately impact minority or low-income populations were also evaluated.

4.11.2 Significance Thresholds

The FAA has not established a threshold of significance for socioeconomics, environmental justice, and children's environmental health and safety risks. Exhibit 4-1 of FAA Order 1050.1F identifies factors to consider when evaluating impacts. For Socioeconomics, factors to consider include if the action would have the potential to *"Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area); Disrupt or divide the physical arrangement of an established community; Cause extensive relocation when sufficient replacement housing is unavailable; Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities; Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or Produce a substantial change in the community tax base."* For Environmental Justice, factors to consider include if the *"The action would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population, i.e., a low-income or minority population, due to: Significant impacts in other environmental impact categories; or Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines are unique to the environmental justice population and significant to that population."* For Children's Environmental Health and Safety Risks, the factor includes when *"The action would have the potential to lead to a disproportionate health or safety risk to children."*

4.11.3 Impact Analysis

4.11.3.1 Proposed Action Alternative

Socioeconomics

As described in Section 3.12, *Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks* there are no residential populations within the DSA. Residential populations within the Noise Study Area are included in Tables 4.9 and 4.10 for 2029 and 2034, respectively. The Proposed Action Alternative would occur entirely within the terminal area on SJC property and therefore would not disrupt or divide an established community, nor would it displace any residences or people within the DSA or Noise Study Area. Land use, including residential uses, within the Noise Study Area would not be impacted. Additionally, no changes to noise exposure in the Noise Study Area would occur in 2029 or 2034 with the Proposed Action Alternative. Thus there would be no permanent adverse economic impacts, which are associated with disruption of an established community and relocation of people or business, would occur.

Growth in airport passengers and operations would occur regardless of the Proposed Action Alternative. Any increases in traffic would not be associated with the project and regional access to the Airport would not be affected. Passenger levels would be better accommodated with the Proposed Action Alternative with an increased

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level of service within the terminal facilities. General Aviation and Cargo activity is also forecast to be the same under both alternatives and would not change surface transportation patterns or traffic projections.

The Proposed Action Alternative would displace some surface vehicle parking located where the South Concourse extension would be located. The remaining surface parking lots are in the vicinity of the displaced parking and as a result the surface traffic patterns would not change, resulting in the same levels of traffic along the freeways, surface streets and intersections approaching the Airport. The Proposed Action Alternative would not disrupt local traffic patterns or substantially reduce the levels of service of roadways serving the airport and its surrounding communities. There is also no potential for significant impacts to surrounding communities, such as shifts in patterns of population movement and growth, public service demands, or changes in business and economic activity. No significant impacts to socioeconomics are anticipated and no mitigation would be required.

Any increased opportunities for local business would be limited, however there is potential for an increase in airport business (e.g., new concessions). The Proposed Action Alternative may be a modest increase in employment to supply workforce for new concessions in the new terminal space however this would not result in a population increase relative to the large size of the workforce that currently exists in the Bay Area as a whole or induce additional traffic. The only other direct effect would be temporary construction employment and expenditure in the local community. These impacts are expected to be beneficial, and the economic activity generated by the temporary construction activity can be absorbed within the existing community infrastructure. The Proposed Action Alternative would not cause any impacts to surrounding communities or shift any business or economic activity or population movement or shifts in a community.

Environmental Justice

Tables 3.13 through 3.15 in *Section 3.12.1, Affected Environment, Socioeconomics*, profile of the population within the Noise Study Area. There are minority and low-income populations off-airport property within the Noise Study Area, however the Proposed Action Alternative would not result in noise impacts beyond any temporary construction noise impacts in the immediate vicinity of the DSA. The Proposed Action Alternative is located entirely on SJC property and would not require the acquisition or displacement of residents or businesses, or division of communities, and therefore would have no direct effect on minority and low-income populations. There are no residential land uses, daycare facilities, preschools, or schools within the DSA. Noise sensitive facilities are illustrated on Figures 4-1 and 4-2 within the CNEL 65 dB for 2029 and 2034, respectively. With the Acoustical Treatment Program discussed in *Section 3.11.2, Noise-Compatible Land Use*, noise sensitive facilities within the CNEL 65-70 dB noise exposure contours have been treated and are considered compatible with the noise generated by aircraft at SJC.²² The Proposed Action Alternative would have no disproportionate or adverse impacts on any minority or low-income communities and no mitigation would be required.

Children's Environmental Health and Safety Risks

There are no residential land uses, daycare facilities, preschools, or schools within the DSA or ISA. The Proposed Action Alternative does not have the potential to lead to a disproportionate health or safety risk to children.

4.11.3.2 No Action Alternative

Socioeconomics

Under the No Action Alternative, construction would not occur and therefore there would be no impacts to surrounding communities, shift of any business or economic activity or population movement, or shifts in a

²² The 2029 and 2034 CNEL 65-70 dB noise exposure contours associated with the Proposed Action Alternative are both smaller than the 2010 CNEL 65-70 dB noise exposure contour used to determine the boundaries of the Acoustical Treatment Program in 2009, except for one small area east of SJC that consists of industrial land use.

community. However, there would be no beneficial temporary construction employment or expenditure in the local community.

Environmental Justice

Under the No Action Alternative, construction would not occur and therefore there would be no disproportionate or adverse impacts on any minority or low-income communities.

Children's Environmental Health and Safety Risks

Under the No Action Alternative, construction would not occur and therefore there would not lead to a disproportionate health or safety risk to children.

There are no avoidance, minimization, or mitigation measures required.

4.12 Visual Effects

Visual effects consist of two categories: light emissions effects, and visual resource and visual character impacts. The potential impact of light emissions and visual impacts from the proposed improvements are assessed as they relate to light sensitive areas and visual resources near SJC.

4.12.1 Methodology

The potential light emissions and visual impacts of the Proposed Action Alternative were determined by evaluating the existing land uses in the vicinity of the DSA and ISA to determine current airport light sources (i.e., parking lots, roadways, etc.), and assess future light sources from the Proposed Action Alternative.

4.12.2 Significance Thresholds

The FAA has not established a threshold of significance for visual effects (Light Emissions; or Visual Resources or Visual Character). However, Exhibit 4-1 of FAA Order 1050.1F provides the following factors to consider in determining visual effect impacts.

Light Emissions

An action may be considered significant if light emissions would create significant annoyance or interference with normal activities; and affect the visual character of an area due to light emissions (i.e., importance, uniqueness, aesthetic value).

Visual Resources and Visual Character

The extent a proposed action or alternative(s) would have the potential to affect the nature of the visual character of an area (importance, uniqueness, and aesthetic value); contrast with visual resources or character in the study area; and block or obstruct the views of visual resources, including whether the resources would still be viewable from other locations.

4.12.3 Impact Analysis

4.12.3.1 Proposed Action Alternative

Light Emissions

The Proposed Action Alternative would require new lighting, however light emissions in the area are expected to remain similar to current conditions. New sources of stationary lighting would include exterior and interior lighting

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for the South Concourse extension and new apron lighting. While these projects would require additional lighting, they remain on Airport property and are consistent with current Airport light emissions and uses.

New light sources and construction lighting would be designed to direct light sources downward to prevent unnecessary light spillage at nighttime, would comply with FAA, Airport and local standards, and would be consistent with the existing environment. Therefore, there would be no light emission impacts associated with the Proposed Action Alternative.

Visual Resources and Visual Character

The Proposed Action Alternative would be visually consistent and compatible with the SJC environment and with the land uses in the immediate vicinity. The nearest residential land use is the Rosemary Gardens Neighborhood, located over 500 feet to the northeast of SJC, across the Guadalupe River and SR 87 (Guadalupe Freeway). The Terminal B South Concourse extension and the adjacent apron improvements proposed are not visible from residential land uses due to the riparian buffer and tree line along the Guadalupe River. Development at the Airport would not block existing scenic views nor have demonstrable negative aesthetic effects. The South Concourse extension would be a “mirror image” of the existing terminal buildings and thus consistent with the existing structures at the Airport.

With the construction of the Terminal B South Concourse extension, the Proposed Action Alternative would affect westward views of the Santa Cruz Mountains from public vantage points east of the Airport, including SR 87, Skyport Drive, and the Guadalupe River Trail. However, views of the mountains from these vantage points are already intermittent and partially obscured under existing conditions due to existing structures at the Airport along with surrounding development and vegetation.

The Proposed Action Alternative would not represent a substantial change to views from these public vantage points. The overall change in views of the existing developed areas of the Airport from off-site locations would be comparable to the existing views of the Airport in its urban context. Therefore, the impact of implementing the Proposed Action on visual resources is not significant.

4.12.3.2 No Action Alternative

Light Emissions

Under the No Action Alternative, no construction would occur and no new light sources would be required and there would be no impact from light emissions.

Visual Resources and Visual Character

Under the No Action Alternative, no construction would occur and there would be no significant impact to the visual character of the Study Area. The views of the Santa Cruz Mountains from east of the Airport toward the west would remain intermittent and partially obscured due to existing structures at the Airport along with surrounding development and vegetation.

There are no avoidance, minimization, or mitigation measures required for visual effects or lighting.

4.13 Water Resources

This section assesses potential impacts from the Proposed Action Alternative and the No Action Alternative on floodplains, surface waters, and groundwater.

4.13.1 Methodology

Floodplains

Impacts to the floodplain at airports are associated with development within the 100-year floodplain and within areas prone to flooding. The Proposed Action Alternative and the No Action Alternative were reviewed regarding their proximity to the 100-year floodplain, the relative 100-year floodplain elevation in these areas, and the likelihood for construction to adversely impact floodplain values.

Surface Waters

Federal and state regulations on water resources were reviewed for the analysis of potential water quality impacts, including the federal Clean Water Act, California's Porter-Cologne Water Quality Control Act, and requirements associated with the Airports CWA NPDES permit (CAS000001) and SWPPP. The applicable statutes establish water quality standards, control discharges and pollution sources, protect drinking water systems, and protect aquifers and other sensitive ecological areas. Impacts to surface waters are largely due to stormwater runoff associated with impervious surfaces and the capacity of the storm drain system. The Proposed Action Alternative and the No Action Alternative were reviewed regarding their potential to increase impervious surfaces, alter drainage areas, and impact stormwater runoff.

Groundwater

Impacts to groundwater at airports are largely associated with fuel spills/leaks and the potential vertical migration or exfiltration of aircraft deicing fluids. The Proposed Action Alternative and the No Action Alternative were reviewed regarding the potential to increase the likelihood of fuel spills/leaks and the potential to impact known hazardous material and/or soil contamination sites, or potential exposure to PFAS from AFFF during construction.

4.13.2 Significance Thresholds

Floodplains

In accordance with FAA Order 1050.1F Exhibit 4-1, Floodplain impacts would be significant if: *"The action would cause notable adverse impacts on natural and beneficial floodplain values."* Natural and beneficial floodplain values *"include but are not limited to: natural moderation of floods, water quality maintenance, groundwater recharge, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, and forestry."*²³

Surface Waters

A significant impact would occur, if an action would *"exceed water quality standards established by Federal, state, local, and tribal regulatory agencies; or contaminate public drinking water supply such that public health may be adversely affected."*

Groundwater

A significant impact would occur, if an action would *"exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies; or contaminate an aquifer used for public water supply such that public health may be adversely affected."*

²³ DOT Order 5650.2, Paragraph 4(k).

4.13.3 Impact Analysis

4.13.3.1 Proposed Action Alternative

Floodplains

As shown in Figure 3-12, the Proposed Action Alternative projects are located outside of the 100-year floodplain, with the exception of 6,580 square feet of the proposed apron reconstruction. The project area within the 100-year floodplain is all on existing paved impervious surfaces and proposed apron reconstruction would not cause nearby structures or facilities, including runways or taxiways, to flood during a 100-year flood event. Apron reconstruction would include stormwater management design measures to ensure that the pavement directs runoff into the Airport's closed storm drain system. Additionally, apron pavement would be designed to match the existing pavement elevation and would be above the base flood elevation.

In compliance with Executive Order 11988, *Floodplain Management*, and DOT Order 5650.2, *Floodplain Management and Protection*, it is concluded that there is no practicable alternative to the proposed projects identified within areas of the 100-year floodplain. With incorporation of stormwater management and pavement design measures, the improvements would not, however, involve a significant encroachment in a floodplain because: 1) the encroachment would not result in loss of human life, 2) the encroachment would not lead to damage that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility, and 3) the encroachment would not result in a notable adverse impact on natural and beneficial floodplain values. Therefore, the Proposed Action Alternative would not have a significant impact on floodplains.

Surface Waters

The Airport property encompasses 1,000 acres, of which approximately 630 acres (or 60%) are impervious surfaces.²⁴ There are no surface waters within the DSA or ISA for the Proposed Action Alternative. As described in *Sections 3.14.2, Surface Waters*, and *3.14.3, Stormwater Management*, the NPDES permitted Airport storm drain system ultimately outfalls to the Guadalupe River. The Proposed Action Alternative is located on existing impervious areas included in the existing drainage system. While collection point and pipe alignment modifications would be necessary to ensure proper stormwater collection into the system, no increase in impervious surface, and thus no changes to stormwater collection at the Airport would occur. Therefore, the existing storm drain system would continue to support the Proposed Action Alternative and there would be no significant impact to downstream surface waters due to the Proposed Action Alternative.

In compliance with CWA NPDES permit CAS000001, stormwater run-off would continue to be managed through the storm drain system and stormwater management would be designed to control runoff associated with the Proposed Action Alternative. The SJC SWPPP would be updated to reflect the Proposed Action Alternative. Any minor alterations in the drainage pattern would not substantially alter the overall drainage pattern of the Airport and stormwater would continue to be managed within the Airport's storm drainage system.

The Proposed Action Alternative would only involve reconstructed or redeveloped impervious surfaces. While the redeveloped areas would not impact total run-off from the site, stormwater treatment requirements would continue to be met for the redeveloped impervious areas.

SJC would continue to operate in accordance with its CWA permits, including maintaining a SWPPP, utilizing BMPs, and conducting periodic testing of stormwater to ensure that permit thresholds are not exceeded.

²⁴ HMM Engineers, Inc., *Hydrology and Water Quality Study*, October 2019.

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Groundwater

Construction activities would include ground disturbance for the South Concourse extension building foundation and potential utility trenching with the use of construction equipment, which would increase the potential for sediments and other pollutants to be present in stormwater runoff. Due to the depth to first groundwater being less than 10 feet and a proposed maximum depth of disturbance of 25 feet for concourse construction it is possible that excavations required for the proposed building foundation would intercept and be flooded with groundwater. Dewatering activities would adhere to the requirements in the City MS4 Permit, the SJC Industrial Permit, as well as the SJC SWPPP to reduce potential impacts.

Construction activities would comply with the SWRCB NPDES General Permit for Storm Water Discharges Associated with Construction Activities. As part of the General Permit requirements, a construction SWPPP would be developed to identify BMPs to minimize erosion and sedimentation impacts.

The Proposed Action Alternative would not have a significant impact on groundwater.

4.13.3.2 No Action Alternative

Floodplains

The No Action Alternative would not involve any construction activities and thus would not impact any floodplains.

Surface Waters

The No Action Alternative would not involve any construction activities and thus would not impact any surface waters. The Airport's SWPPP would continue to be implemented under the No Action Alternative.

Groundwater

The No Action Alternative would not involve any construction activities and thus would not impact any surface waters. The Airport's SWPPP would continue to be implemented under the No Action Alternative.

4.13.4 Avoidance, Minimization, and Mitigation Measures

There are no mitigation measures required for water resources. While no significant impacts are anticipated to floodplains, surface waters, stormwater, or groundwater, minimization, and avoidance measures in the form of BMPs would be implemented to further reduce potential impact impacts from the Proposed Action Alternative. These measures are further detailed in *Appendix I, Water Resources*, and summarized below:

Groundwater dewatering activities: In accordance with the construction general permit and the SWPPP, provisions will be included for the management of construction related dewatering activities.

Water quality of stormwater runoff: The Proposed Action Alternative would require the installation of post-construction stormwater controls to reduce stormwater runoff and pollutant loads in compliance with CWA NPDES permits. Stormwater design would comply with FAA recommendations for stormwater management facilities would be considered and design would comply with FAA AC 150/5200 33C related to hazardous wildlife attractants.

Stormwater BMPs: The Airport will continue to implement the SWPPP and include updates to the SWPPP as the new projects are constructed to include both non-structural and structural BMPs, as discussed in *Section 3.14.3, Water Resources, Stormwater Management* and *Appendix I, Water Resources*. Additionally, Construction General Permits would be required for stormwater discharges during construction activities.

Erosion and sediment control: The Proposed Action Alternative would include an erosion and sediment control plan to include BMPs for reducing impacts to surface runoff and the drainage system during construction. Control measures would include soil stabilization practices, sediment control practices, sediment tracking control practices, wind erosion control practices and non-stormwater management, waste management and disposal control practices.

4.14 Cumulative Impacts

CEQ implementing NEPA regulations require an assessment of other past, present, and reasonably foreseeable project impacts occurring at the same place and time or further removed in place or time that have reasonably close causal relationships to the Proposed Action. This impact evaluation was determined by combining the estimated impacts of the Proposed Action Alternative with other past, present, and reasonably foreseeable future actions (as summarized in *Chapter Three, Affected Environment, Table 3.16, On-Airport Past, Present and Reasonably Foreseeable Future Actions* and *Table 3.17, Off-Airport Past, Present and Reasonably Foreseeable Future Actions*).

4.14.1 Resource Categories

Environmental resource categories appropriate for analysis for other past, present, and reasonably foreseeable impacts are addressed in this section. The categories included for this analysis are those categories identified to be potentially impacted under the Proposed Action Alternative as discussed within this chapter.

There are no anticipated impacts associated with the implementation of the Proposed Action Alternative, only temporary impacts associated with construction. Therefore, other present and reasonably foreseeable future cumulative impacts are generally associated with construction-related impacts from other projects occurring within the Proposed Action Alternative construction period (2023-2028). Past projects that have been constructed and are now operational (as of 2022) have little to no cumulative impact when considering the Proposed Action Alternative, except for the Interim Terminal Facility, as described in the applicable sub-sections that follow.

Air Quality: A significant impact to air quality could occur if the Proposed Action Alternative, when considered in combination with other past, present, or reasonably foreseeable actions, would exceed a NAAQS or would not conform to the SIP. All the past, current, and reasonably foreseeable projects included, will, or would include temporary construction related emissions. Construction BMPs were or would be utilized to minimize impacts related to criteria pollutants and fugitive dust. As discussed in *Section 4.2, Air Quality*, the Proposed Action Alternative is expected to result in construction emissions associated with the use of construction equipment and trucks required to haul materials to the site. Peak-year (2026) construction emissions for each pollutant would be far below *de minimis* thresholds. Additionally, SJC requires the use of Tier 4 final engine emission standards for all off-road construction equipment as a measure to minimize construction related emissions. The BAAQMD also recommends basic construction mitigation measures for all projects whether emissions exceed applicable thresholds, as detailed in Table 4.4. Operational (aircraft, GSE and APU) emissions associated with implementation of the Proposed Action Alternative would be the same regardless of project implementation and would not result in an exceedance of NAAQS.

No significant on- or off-airport projects are known to exist that would generate emissions above the *de minimis* threshold for the individual pollutants in 2023, 2024, 2025, 2026, 2027, or 2028 when combined with the construction emissions from the Proposed Action Alternative. A review of environmental analysis included in available CEQA documentation indicates the majority of off-airport projects (summarized in Table 3.15), would result in less than significant construction emissions with mitigation incorporated, and a few projects would result in less than significant impacts once those projects are implemented. No projects would result in significant emissions impacts. Mitigation for the off-airport projects include construction-period mitigation and BAAQMD

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recommended construction BMPs. Therefore, significant cumulative construction emissions and air emissions from other reasonably foreseeable projects are not anticipated.

Biological Resources: The Proposed Action Alternative would have no impact on common plants, wildlife, and habitats; federally listed threatened or endangered species or designated critical habitat; or State-listed species; special-status fish and their habitat; nonbreeding special-status birds and mammals; migratory birds; breeding special-status birds; roosting bats; burrowing owls; bird collisions; wildlife movement; waters and wetlands; invasive species; stream and riparian buffers; and adopted habitat conservation plans. The Proposed Action Alternative would implement ACMs to avoid impacts to migratory birds, bats, as well as invasive species. With implementation of these ACMs, the Proposed Action Alternative would not contribute to cumulative impacts on biological resources. Other projects, such as the removal of the Belly Cargo Building, would similarly implement ACMs that avoid impacts to these same resources. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact to biological resources.

Climate: The FAA has not established a significance threshold for climate. The Proposed Action Alternative would contribute GHGs only temporarily during construction. As described under Air Quality in this Cumulative Impacts section, the majority of cumulative projects include temporary construction related emissions and construction BMPs would be utilized to minimize impacts to GHG emissions.

DOT Act, Section 4(f): The Proposed Action Alternative would have no impacts to DOT Section 4(f) resources and thus the Proposed Action Alternative would not result in a physical or constructive use of any of DOT Section 4(f) resources. Demolition of other on-airport buildings near the ISA (i.e., #6, Demolish former SJPB building and associated hangar buildings, #8, Demolish and relocate existing belly freight building, and #9, Demolish facilities/maintenance buildings) is likely to occur during periods of the Proposed Action Alternative construction. However, the area is surrounded by industrial and commercial land uses. Even when combined with other on-airport construction during the same period, the location of the Guadalupe River Trail on the other side of the airport terminal, parking structures, and Airport Boulevard combined with existing aircraft noise and surface transportation noise and would not constitute a physical or constructive use of the resource due to the urban setting adjacent to an airport environment. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact to DOT Section 4(f) resources.

Hazardous Materials, Pollution Prevention, and Solid Waste: The Proposed Action Alternative and all other past, present, and future projects have been or would be constructed and operated in accordance with all federal and state hazardous laws and regulations. Pollution prevention techniques, including initiatives to reuse and recycle construction materials, would be utilized to address all construction and operational activities of the Proposed Action Alternative and all additional on- and off- airport projects. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact to hazardous materials or solid waste.

Historical, Architectural, Archaeological, and Cultural Resources: The Proposed Action Alternative would result in *No Historic Properties Affected* on any prehistoric, historic, archaeological, or cultural resources. Past and present projects with FAA jurisdiction have required coordination under Section 106 of the NHPA, as will future projects and thus no cumulative effect would occur when combined with other projects. No construction activity is anticipated in any of the identified ASAs or previously recorded archaeological resources, and the City intends to continue its archaeological monitoring program during construction activities. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact to historical, architectural, archaeological, or cultural resources.

Land Use: The Proposed Action Alternative and all other past, present, and future projects are in compliance with SJC's land use plans and the City of San José's designations of land use, and therefore no cumulative impacts on land use would occur.

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Natural Resources and Energy Supply: Significant cumulative impacts to natural resources or energy would occur if there were not adequate supply available to meet all regional needs. As noted in *Section 4.9, Natural Resources and Energy Supply* a 2019 Energy Technical Report analyzed the energy consumption due to all proposed SJC Master Plan projects, including the Proposed Action Alternative as well as many of the others identified as past, present, and reasonably foreseeable in Table 3.16 and determined that there is ample available infrastructure providing utility services in the region. Even when combined, the project demands are minor compared to the available resources. As with the other on- and off-airport projects, the Proposed Action Alternative would result in demand for natural resources. However, the demand when considered in combination with other projects can be met with the available supply. Therefore, there would be no significant cumulative impacts to natural resources and energy supply.

Noise and Noise-Compatible Land Use: The Proposed Action Alternative would not increase noise over any noise-sensitive land uses, and therefore does not result in significant impacts to noise. The forecasted growth in operations is not induced by the Proposed Action Alternative. Without the proposed improvements, operations would continue to grow as there are no constraints to continued growth, i.e., the airfield, general aviation, terminal, landside, and support facilities can accommodate additional operations without improvements. Therefore, an identical number of flight operations are projected for the No Action and the Proposed Action Alternatives. Therefore, the Proposed Action Alternative does not contribute to significant cumulative noise impacts.

Construction would generate temporary noise impacts associated with the use of heavy equipment and heavy trucks required to haul materials to the site. Demolition of other on-airport buildings on airport property (i.e., #6, Demolish former SJPD building and associated hangar buildings, #8, Demolish and relocate existing belly freight building, and #9, Demolish facilities/maintenance buildings) is likely to occur during periods of the Proposed Action Alternative. Given the temporary nature of construction impacts, cumulative impacts from other construction activities would need to occur during the same time period as the Proposed Action Alternative (2023-2028) to constitute a cumulative effect. Construction activity associated with the Proposed Action Alternative would take place on SJC property in an area surrounded by industrial and commercial land uses. During daytime construction, various noise levels would combine with aircraft noise and surface transportation noise and would be limited to the duration of the construction period. For these reasons, the Proposed Action Alternative construction noise would not generate a significant cumulative noise impact.

Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks: The Proposed Action Alternative would not result in a significant impact to Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks. Growth in airport passengers and operations would occur with or without the project. Under the Proposed Action Alternative there would be no change to regional access to SJC and surface traffic patterns, resulting in the same levels of traffic along the freeways, surface streets and intersections approaching the Airport, nor would there be any change to aircraft noise exposure. The past and reasonably foreseeable off-airport projects are on the west side of the Airport and would not affect access or traffic patterns into and out of the terminal area of the Airport. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact to Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks.

Visual Effects (including Light Emissions): There are several other past and reasonably foreseeable projects in the vicinity of the Proposed Action Alternative that have or would result in view changes. The construction of Project #1, Interim Terminal Facility, which will be replaced by the permanent South Concourse which will architecturally match the appearance of the existing permanent terminal buildings. A new Terminal Area Parking Structure (#13) and a New On-Airport Business Hotel (#14) are proposed in 2023-2024 and 2023-2027, respectively, in the vicinity of Terminal B. While these projects may alter certain airport views, the appearance of the South Concourse is consistent with existing airport facilities and architecture and would not result in significant cumulative visual impact. While the Proposed Action Alternative would provide new lighting in areas on SJC property associated with the South Concourse, impacts would not affect light sensitive areas. Further, the

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improvements and lighting are consistent with the general visual characteristics of SJC. While this additional lighting would increase overall lighting in some areas of the Airport, such lighting is in keeping with the urban environment. Other reasonably foreseeable projects to be constructed during the same construction period are largely changes to taxiways and runways that would not have any changes to views or lighting. The South Concourse extension and apron reconstruction are in keeping with the Airport's visual effects and would not result in significant cumulative visual impact. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact to visual effects.

Water Resources: The Proposed Action Alternative would not increase impervious surfaces at SJC. Temporary increases in stormwater runoff, erosion and sedimentation could be generated during construction activities for the Proposed Action Alternative. Demolition and construction of other on-airport buildings near the ISA as listed on Table 3.16 would result in similar temporary impacts. BMPs have been and will continue to be implemented for all on-airport projects to reduce any sediment and erosion. All projects have been or would be undertaken in accordance with all federal, state, and local water quality requirements and applicable permits, and there would be no significant cumulative impacts to groundwater or surface water quality. Therefore, the Proposed Action Alternative would not cumulatively contribute to a significant impact on water resources.

For these reasons, the Proposed Action Alternative, in combination with past, present, and reasonably foreseeable future projects, would not produce significant cumulative impacts.

Chapter Five:

Agency and Public Involvement

5.1 Introduction

Agency coordination and public involvement needed to meet federal review requirements under NEPA and related federal regulations applicable to the Proposed Action include the following:

- FAA consultation with SHPO;
- FAA consultation with Native American tribes;
- Distribution of a Draft EA for agency and public review; and
- Preparation of a Final EA, after completion of the prior elements, that includes responses to comments received on the Draft EA.

Appropriate notification to ensure that information was provided to the general public and regulatory agencies is documented in this chapter.

5.2 Scoping

FAA Order 1050.1F defines scoping as “an early and open process for determining the scope of issues to be addressed...and identifying the significant issues related to a proposed action.” Scoping is not required for an EA, however, scoping can enhance EA preparation and content especially when special purpose laws apply. Scoping is also used to eliminate from detailed study the issues that are not significant or have been evaluated by prior environmental review process.

The City of San José sent scoping letters to relevant agencies and organizations on March 6, 2020 and published a notice in *The Mercury News* and on the SJC website with a request for any comments on the Proposed Action. The scoping letters included a Scoping Information Package that includes discussion of the project background, the proposed action, including an illustration of the projects, preliminary purpose and need, preliminary alternatives, environmental analysis, and preliminary schedule. Agencies and officials were asked to review the materials and provide any scoping comments for consideration in development of the Draft EA by April 9, 2020. Note that public and agency scoping was conducted early in the EA process, prior to refinement of the Proposed Action based upon the FAA’s Section 163 Determination of the “*FAA Reauthorization Act of 2018*” on November 18, 2021. The FAA evaluated the City’s plans for several improvement projects at SJC and the determination reduced the scope of the Proposed Action and confirmed independent utility of some of the City’s proposed improvements. Refer to *Chapter One, Section 1.1, Introduction and Appendix A, FAA Reauthorization Act of 2018 (Public Law 115-254), Section 163 Determination* for more detail and documentation of the Section 163 Determination.

Appendix J, Agency and Public Involvement, Attachment 1. provides the scoping letters and Scoping Information Package. A list of agencies that received scoping information packages and the notice on the SJC website and in *The Mercury News* is also included in the appendix.

5.3 Scoping Comments

Agencies and the public were invited to comment in various ways during the scoping process. Comments were accepted via email or through to mail. During the initial scoping comment period, the agencies or agency

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departments detailed in the previous section were invited to submit comments. Agency and public scoping comments are provided in *Appendix J, Attachment 1*.

5.4 Section 106 and Tribal Consultation

On June 2, 2022, the FAA initiated Section 106 consultation with the SHPO requesting concurrence with the APE and its finding of No Historic Properties Affected. The SHPO responded with its concurrence on August 31, 2022.

In order to fulfill requirements with CFR 36 Part 800, the FAA initiated government-to-government consultation as described in Federal Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments*, and FAA's Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures*, to ensure that Federally recognized tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA actions that uniquely or significantly affect tribes. A search of the Native American Heritage Commission's Sacred Lands File was conducted. The search results were negative.

Based on name and contact information provided by the State of California Native American Heritage Commission, the FAA initiated consultation with the Amah Mutsun Tribal Band, the Amah Mutsun Tribal Band of Mission San Juan Bautista, the Indian Canyon Mutsun Band of Costanoan, the Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, the North Valley Yokuts Tribe, the Ohlone Indian Tribe, the Wutsache Indian Tribe/Eshorm Valley Band, and the Tamien Nation between April 7, 2022, and April 14, 2022. No responses were received by the FAA prior to completion of compliance with Section 106 of the NHPA. The FAA received a response from the Tamien Nation on November 2, 2022, with an attachment dated May 4, 2022, requesting formal consultation under California Environmental Quality Act (CEQA) and California Public Resource Code (CA PRC) provisions. On November 14, 2022, FAA responded to the Tamien Nation by indicating that CEQA and CA PRC are not applicable to proposed federal actions and NHPA and NEPA processes, but acknowledged the desire to be protective of potential cultural resources, if present, and providing a copy of the FAA's NHPA Section 106 consultation with the California SHPO, the requested Cultural Resource Report, and the California SHPO's concurrence with FAA's finding of *No Historic Properties Affected*. All Section 106 consultation correspondence is included in *Appendix F, Cultural Resources*.

On January 20, 2023, the Tamien Nation submitted a review comment to the City regarding the Draft EA. The review comment included the same May 4, 2022 attachment pertaining to CEQA provisions that had been provided to the FAA; no new issues were identified. See *Section 5.7, Draft EA Comments and Responses*, and *Appendix K* for the response to comment.

5.5 Notice of Draft EA Availability for Review

The Draft EA was available for review and comment by the public and agencies for 42 days from January 20th through March 3, 2023. A Notice of Availability (NOA) for the Draft EA was published in the legal section of *The Mercury News* newspaper on January 20, 2023. The proof of publication from the newspaper, website, and the email notification and list of recipients are provided in *Appendix J, Attachment 2*. The Draft EA was available electronically for public review on the SJC website at <https://www.flysanjose.com/environment>. Hard copies were available at the following locations during the public review period during each location's normal business hours:

- SJC Administrative Offices, 1701 Airport Blvd, San José, CA 95110
- Dr. Martin Luther King, Jr. Library, 150 E San Fernando St, San Jose, CA 95112
- Mission Branch Library, 1098 Lexington St, Santa Clara, CA 95050

Comments on the Draft EA could be submitted during the comment period to the mailing address listed below or electronically to rsheelen@sjc.org. Written comments were accepted until 5:00 PM Pacific Standard Time, or midnight if submitted electronically, on Friday, March 3, 2023.

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Terminal B South Concourse Improvements at SJC**

Ryan Sheelen, C.M., Airport Planner IV
Planning and Development Division
Mineta San José International Airport
1701 Airport Blvd. Ste B-1130
San José, CA 95110

5.6 Public Workshop and Public Hearing

Advertisement of a Public Workshop and Public Hearing for the Draft EA was included in the NOA. The Public Workshop on the Draft EA was held on Thursday, February 23rd, 2023, from 5:30 p.m. to 6:30 p.m. Pacific Daylight Time (PDT) in the SJC Administrative Offices, located between Terminal A and B (1701 Airport Boulevard, Suite B-1130 San Jose, CA 95110-1206). Team members were available to discuss the project at display boards during the Public Workshop. The Public Hearing was held immediately after the Public Workshop from 6:30 p.m. to 7:30 p.m. PDT and included a PowerPoint presentation and an opportunity to provide oral and written comments.

No one from the general public, organizations, or agencies attended the Public Workshop or the Public Hearing and no oral or written comments were provided during the Public Hearing. The PowerPoint presentation, display boards, handout, and public hearing transcript of the presentation are provided in *Appendix J, Attachment 3*.

5.7 Draft EA Comments and Responses

Appendix K, Comments and Responses includes comments received from interested parties, and responses to those comments. Three organizations provided comments on the Draft EA. There were no comments provided by the general public on the Draft EA.

Chapter Six:

List of Preparers

6.1 List of Preparers

This chapter identifies the individuals providing direction and assisting in the preparation and review of this EA. **Table 6.1** provides a brief synopsis of the qualifications and responsibilities of those individuals from the FAA, City of San José, and the consultant team responsible for preparation of the document, respectively.

Table 6.1
List of Preparers

Name	Assignment	Professional Expertise/Experience
FAA San Francisco Airports District Office		
Camille Garibaldi	Environmental Protection Specialist- FAA- directed the preparation and review of the EA; coordinated with the FAA's Western-Pacific Regional Office for this EA, and Section 163 of the FAA Reauthorization Act of 2018, as it related to the proposed project. Reviewed technical reports and performed required consultations with Native American Tribes, and the California State Historic Preservation Officer	B.S., Business Management, 30+ years of multidisciplinary environmental experience. Responsible for advising airport sponsors; directing, review, and acceptance of NEPA documents; conduct of special purpose law consultations; and completion of 14 CFR Part 150 studies within the FAA's, San Francisco Airports District Office
City of San José		
Ryan Sheelen, C.M., ACE	Project Manager	12 years of experience in airport operations and planning at SJC
HNTB Corporation		
Kimberly C. Hughes, PE	Quality Assurance / Quality Control	30+ years of experience, air quality and noise analysis, and NEPA documentation
Caroline Pinegar, AICP, ENV SP	EA Project Manager	15 years of experience in land use and economic development planning and NEPA documentation
Ryan Lombardi, PE	EA Development and Air Quality	11 years of experience in stormwater management analysis, air quality analysis and NEPA documentation
Yue Xu, Ph.D., PE	Air Quality Analysis	14 years of experience in noise and air quality modeling
Justin Bychek, PE	Airport Planner	15 years of experience in aviation planning, airside/airport planning, and project management
Kent Miller	GIS Analysis and Graphics Support	20+ years of experience in GIS analysis and graphical illustration

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Table 6.1
List of Preparers

Name	Assignment	Professional Expertise/Experience
Ashley Baumann	Architectural Historian	14 years of experience in cultural resource management and environmental planning
Alvin Banguilan	Archaeologist	20+ years of experience in cultural resource management
Rosanna McGuire, B.Sc., M.E.S., Ecologist	Biologist	10+ years of experience in biological resources