U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WESTERN-PACIFIC REGION

FINDING OF NO SIGNIFICANT IMPACT AND RECORD OF DECISION

Proposed Airfield Improvements and Terminal 1 Replacement Project

San Diego International Airport
San Diego, San Diego County, California

For further information contact:

Michael Lamprecht
U.S. Department of Transportation
Federal Aviation Administration
Western-Pacific Region
Airports Division
Los Angeles Airports District Office
777 South Aviation Boulevard, Suite 150
El Segundo, California 90245
202-267-6496

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GENERAL INFORMATION ABOUT THIS DOCUMENT

WHAT'S IN THIS DOCUMENT? This document is the Federal Aviation Administration's (FAA) Finding of No Significant Impact (FONSI) and Record of Decision (ROD) for the proposed Airfield Improvements and Terminal 1 Replacement Project at San Diego International Airport (SAN) located in San Diego, San Diego County, California. This document includes the agency determinations and approvals for those proposed Federal actions described in the Final Environmental Assessment dated October 2021. This document discusses all alternatives considered by FAA in reaching its decision, summarizes the analysis used to evaluate the alternatives, and briefly summarizes the potential environmental consequences of the Proposed Project and the No Action Alternatives, which are summarized in this FONSI/ROD. This document also identifies the environmentally preferred alternative and the agency-preferred alternative. This document identifies applicable and required mitigation.

BACKGROUND. On June 16, 2021, the San Diego County Regional Airport Authority (SDCRAA) published a Draft Environmental Assessment (DEA). The DEA addressed the potential environmental effects of the proposed airfield improvements and terminal replacement including various reasonable alternatives to that proposal. The Draft 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*. SDCRAA received seven comments on the draft between June 16, 2021 and August 2, 2021. SDCRAA received one additional, late-filed, comment after the comment period closed, in August 2021. All substantive comments were responded to in the Final EA, Appendix N. FAA accepted the Final EA on October 20, 2021.

WHAT SHOULD YOU DO? Read the FONSI/ROD to understand the actions that FAA intends to take relative to the proposed Airfield Improvements and Terminal 1 Replacement Project at SAN.

WHAT HAPPENS AFTER THIS? The San Diego County Regional Airport Authority may begin to implement the Proposed Project.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT
AND
RECORD OF DECISION

PROPOSED AIRFIELD IMPROVEMENTS AND TERMINAL 1 REPLACEMENT PROJECT

SAN DIEGO INTERNATIONAL AIRPORT
SAN DIEGO, SAN DIEGO COUNTY, CALIFORNIA

1. **Introduction.** This document is a Finding of No Significant Impact (FONSI) and Record of Decision (ROD) (FONSI/ROD) for the proposed Airfield Improvements and Terminal 1 Replacement Project at San Diego International Airport (SAN) located in San Diego, San Diego County, California. The San Diego County Regional Airport Authority (SDCRAA) is the airport sponsor for SAN. The Federal Aviation Administration (FAA) must comply with the National Environmental Policy Act of 1969 (NEPA) and other applicable statutes before being able to take the proposed federal actions that are necessary prior to implementation of the project. Pursuant to Section 163 of the *Federal Aviation Administration Reauthorization Act* of 2018 (Public Law 115-254), Congress limited FAA's approval authority to portions of the Airport Layout Plan (ALP) that meet certain statutorily defined criteria, including those portions necessary for aeronautical purposes. Therefore, FAA approval of the Airport Layout Plan depicting the Proposed Project is limited to approval of those portions of the Airport Layout Plan (ALP) that depict the proposed projects within FAA's authority to approve. FAA approval of the ALP is authorized by the Airport and Airway Improvement Act of 1982.

2. **Purpose and Need of the Proposed Project.** Section 1.2 of the Final EA describes SAN as a commercial service airport that accommodates both air carrier aircraft as well as a small amount of general aviation activity. SAN covers 661 acres and based on annual aircraft operations, is the busiest single-runway commercial service airport in the nation.

   The current airport layout requires aircraft using the northern ends of the Terminal 1 and Terminal 2-East concourses to push back directly onto active Taxiway B. This conflicts with arriving flights needing to exit Runway 9-27, impedes free flow taxi movements on Taxiway B, and results in the need for FAA Air Traffic Control intervention and increasing controller workload to hold aircraft on the apron short of the runway exits. This adds to congestion in the apron area and at the existing gates. The existing taxiway system does not accommodate bi-directional aircraft movement and does not enable an optimal path for aircraft to exit the runway. This lack of bi-directional flow results in aircraft being held/delayed, especially while aircraft flow in the opposite direction and/or wait at gates for pushback.

   SAN has three terminals. The oldest terminal, Terminal 1, built in 1967, does not meet current building codes, including seismic resiliency, accessibility requirements, and energy efficiency standards. Terminal 1 is operating beyond its design capability. With the forecasted aviation activity levels, the level (quality) of service is expected to further decline due to the overcrowding of the facility. Additional passenger processing space is needed to efficiently serve this forecasted demand. As activity levels grow, longer lines and wait times would occur in the ticketing areas, security checkpoints, and at most passenger amenities (i.e., bathrooms, restaurants, and concession stores). Eventually, some SAN passengers would be bused to remote hardstands to board their flights. These hardstand operations would further lower the

quality of service to passengers. Accordingly, 11 additional gates are needed based upon airport planning guidance and industry research to better accommodate projected passengers and aircraft operations. The additional gates would also serve to improve on-time flight performance due to improved gate availability and schedule reliability.

As activity levels grow, passengers would experience difficulty finding on-airport parking, resulting in vehicles circulating within the airport parking facilities in search of a parking spot. In addition, some drivers, who are unable to find on-site parking, may choose to continue to recirculate on airport roadways until a parking stall becomes available, increasing roadway congestion. Today, SAN is accessed by motorists via an arterial roadway system, which is also heavily used by local commuters and visitors to the San Diego Bay waterfront. Unlike many large commercial service airports, there is no direct highway access to/from SAN. SAN's forecasted increase in enplanements would continue to contribute to area roadway congestion.

Section 1.4 of the Final EA describes the purpose and need for the Proposed Project is to support development and maintenance of safe and efficient facilities at SAN addressing airside and landside deficiencies, including opportunities for improved passenger experience, and airfield operation, consistent with the goals and objectives of SDCRAA's Proposed Project. The SDCRAA's goals and objectives are outlined below.

- Address inefficient airfield circulation adjacent to the terminals that delay airplanes going to or departing from their gates.
- Modernize the oldest terminal (Terminal 1) at SAN to meet the current California building code requirements, especially for seismic resiliency and energy efficiency, while improving the level of service to existing and projected future passengers and increasing gate availability within the constraints of the existing airfield's runway capacity.
- Alleviate congestion caused by airport traffic on Harbor Drive, increase parking availability, and improve connection to the terminal complex.

The Proposed Project includes several individual development components that collectively would address inefficient airfield circulation, provide a modern terminal that meets the latest building requirements and provides sufficient space to meet passenger demands and improve connectivity to the terminal by reducing surface traffic on Harbor Drive North and providing ample parking. This FONSI/ROD addresses SDCRAA's proposed improvements under the proposed project as described below.

3. **Proposed Project and Federal Actions.** The Proposed Project, dependent on Federal actions, is evaluated in this FONSI/ROD and includes the following major project components (See Figure 1-2 and Table 1-1 of the Final EA):

    - Relocate parallel Taxiway B south, replacing asphalt pavement sections with concrete
    - Construct new parallel Taxiway A, south of relocated parallel Taxiway B
    - Construct 30-gate replacement Terminal 1
    - Relocate three FAA Airport Surface Detection Equipment, Model X (ASDE-X) sensors
    - Relocate five Remain Over Night (RON) positions east of the new Terminal 1

- Eliminate two current RON positions
- Construct new circulation roadways, including elevated departure curb, for new Terminal 1
- Construct new on airport entry roadway

Other elements of the Proposed Project where there is ***no*** Federal Action but are required for the Proposed Project to function properly are:

- Demolition of the SDCRAA administration building
- Construction of the replacement SDCRAA administration building
- Construction of a new 5,500 space automobile parking structure adjacent to new Terminal 1
- Expansion of the stormwater capture and reuse system
- Expansion of the Central Utility Plant (CUP)

FAA will take the following Federal actions to authorize implementation of the Proposed Project:

- Unconditional approval of the ALP to depict the proposed improvements subject to FAA approval pursuant to 49 U.S.C. 47107(a)(16).
- Determinations under 49 U.S.C. §§ 47106 and 47107 that are associated with the eligibility of the Proposed Project for federal funding under the Airport Improvement Program and under 49 U.S.C. § 40117, as implemented by 14 CFR § 158.25, to use passenger facility charges collected at the airport to assist with construction of potentially eligible development items from the ALP.
- Approval for and relocation of ASDE-X sensors (49 U.S.C 44502 (a)(1)).

4. **Reasonable Alternatives Considered.** Chapter 2 of the Final EA, used a detailed two-step alternatives analysis screening process described below:

   Step 1 – Would the Proposed Alternatives meet the purpose and need, by addressing inefficient airfield circulation adjacent to the terminals, modernizing the oldest terminal to meet current building codes while providing an improved level of service and finally alleviating surface traffic congestion on North Harbor Drive, increasing parking availability and improving connection to the terminal complex?

   Step 2 **–** Would the alternative be feasible to construct with the physical constraints of the airport environment? In this case, feasibility was reviewed to ensure that the alternative could be implemented, or be practical, from a technical or economic perspective.

The Final EA screened three "off-site" alternatives and four "on-site" alternatives, and finally the No Action Alternative to the Proposed Project. Analysis of the No Action Alternative is required pursuant to 40 CFR § 1502.14(d).

Section 2.3.1 of the Final EA describes and evaluates the three (3) basic off-site alternatives. These include building a new airport; using another existing airport; and using other modes of transportation. Section 2.3.2 of the EA screens the four (4) "on site" alternatives: Extend Taxiway C with Terminal 1 Renovations, Extend Taxiway C with Constructing North Side Terminal, Add Taxiway A with Removal of Portions of Terminal 1; and Add Taxiway A and Replace Terminal 1 with Larger Terminal Extending Southeast (the Proposed Project). Last, Section 2.3.3 screens the No Action Alternative. Paragraph 6-2.1 of FAA Order 1050.1F states in part: *"There is no requirement for a specific number of alternatives or a specific range of alternatives to be included in an EA. An EA may limit the range of alternatives to the proposed action and no action when there are no unresolved conflicts concerning alternative uses of available resources. Alternatives are to be considered to the degree commensurate with the nature of the proposed action and agency experience with the environmental issues involved."*

Table 2-1 in the Final EA summarizes the results of the alternatives screening process. The No Action Alternative, and all of the action alternatives with the exception of the preferred alternative did not pass Step 1. Only the preferred Alternative made it to Step 2 and passed. Thus, the Proposed Project Alternative and No Action Alternative were retained for analysis in the Environmental Consequences chapter of the Final EA for detailed impact analysis.

5. **Environmental Consequences.** The potential environmental impacts were identified and evaluated in a Final EA prepared in October 2021. The FAA has reviewed the Final EA and determined that the Final EA for the proposed project adequately describes the potential impacts of the Proposed Project.

   The Final EA examined the following environmental impact categories: Air Quality; Biological Resources; Climate; Coastal Resources; Department of Transportation Act, Section 4(f) and Land and Water Conservation Fund Act, Section 6(f) Resources and Land and Water Conservation Fund Action, Section 6(f) Resources; Hazardous Materials, Solid Waste, and Pollution Prevention; Historic, Architectural, Archaeological and Cultural Resources; Land Use; Natural Resources and Energy Supply; Noise and Noise-Compatible Land Use; Socioeconomics, Environmental Justice and Children's Health and Safety Risks; Visual Effects; and Water Resources. Each of these resources is also evaluated under a cumulative impacts analysis.

   Section 3.3 of the Final EA discloses that the following environmental impact categories of Farmlands; Floodplains; Wetlands; and Wild and Scenic Rivers were not evaluated further because the Proposed Project at SAN would not affect these environmental resources.

   A. **Air Quality.** Sections 3.4 and 4.3 of the Final EA, state the area including the San Diego International Airport is designated Attainment under the National Ambient Air Quality Standards (NAAQS) for PM_{10}, $PM_{2.5}$, NO_2, SO_2, and Pb and as Nonattainment for O_3 NAAQS (for both the 2008 and 2015 standards). The Air basin is designated a Maintenance area for CO. Section 176(c) of the CAA Amendments of 1990 (CAAA) requires federal agencies to ensure that their actions conform to the appropriate SIP for air basins that are in non-attainment with the NAAQS or are maintenance areas. Conformity is defined as demonstrating that an action conforms to the SIP's purpose of eliminating or reducing the

severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. Federally funded and approved actions at airports are subject to the USEPA's General Conformity Regulations (40 CFR Part 93). A General Conformity Determination for the Proposed Project is required if the total direct and indirect pollutant emissions resulting from a Proposed Project are above *de minimis* emissions threshold levels specified in the General Conformity Regulations.

Section 1.1.1 of the Final EA's Appendix B, Air Quality and Greenhouse Gases Technical Report, states that, *"… future year operational levels do not change (increase of operations or fleet mix) between the No Action Alternative and the Proposed Project in each of the evaluated years, as projected aircraft activity levels would be consistent under both the No Action Alternative and the Proposed Project*."

Section 4.3.3 of the Final EA provides construction and operational emissions inventory for the Proposed Project. Section 4.3.3.1 of the Final EA describes the No Action Alternative would have no construction emissions related to the project but operational emissions would increase as travel activity increases in keeping with the forecast. Under the Proposed Project, there would be construction emissions but operational emissions would decrease because of improved aircraft taxiing efficiency associated with the new linear concourse for Terminal 1 coupled with a new Taxiway A and emission reductions from project design features including, but not limited to, ground support equipment conversion to alternative fuels.

There are no components of the proposed project that would require approval by either the Federal Highway Administration or the Federal Transit Administration under Transportation Conformity. Thus, FAA evaluation of the proposed project is under General Conformity pursuant to the Clean Air Act of 1970, as amended. Section 4.12.3.2 states "Implementation of the Proposed Project would not change the number of aircraft operations, type of aircraft, nor flight paths that would otherwise occur in 2026 and 2031 under the No Action Alternative." Table 4.3-6 provides the General Conformity Applicability Analysis with *de minimis* thresholds and the Proposed Project's construction and operations emissions. This table shows that the project would not exceed the thresholds. The Proposed Project would produce emissions well below the *de minimis* thresholds. Therefore, a general conformity determination is not required in accordance with 40 CFR Part 93. Thus, the Proposed Project emissions would **not** cause or contribute to an exceedance of the NAAQS or delay timely attainment of the NAAQS.

B. Biological Resources. Section 4.4 of the Final EA describes the potential impacts to biological resources. A significant impact would occur when the U.S. Fish and Wildlife Service (USFWS) determines that the action would be likely to jeopardize the continued existence of federally listed threatened or endangered species, or the destruction or adverse modification of federally designated critical habitat. The FAA has not established a significance threshold for non-listed species. Based on coordination between the SDCRAA, the FAA, and the USFWS, the No-Action Alternative would not have a significant impact on listed species or their critical habitat after applying the mitigation measures (described below and in Section 4.4.4 of the EA) and avoidance and minimization measures (described in Appendix A.4 of the Final EA).

Section 3.5.2 described the species that could potentially be present. The USFWS Carlsbad Fish and Wildlife Office provided an Official Species List on August 20, 2020, which identified 10 federally threatened and endangered species of plants, birds, and mammals that may be present in the area of the Proposed Project (the Official Species List

is included as an appendix to the Biological Assessment [BA] - refer to Appendix C2). The 10 species are: Orcutt's spineflower (*Chorizanthe orcuttiana*); San Diego ambrosia (*Ambrosia pumila*); San Diego button-celery (*Eryngium aristulatum var. parishii*); San Diego thornmint (*Acanthomintha ilicifolia*); California Least Tern (*Sterna antillarum browni*); coastal California gnatcatcher (*Polioptila californica californica*); least Bell's vireo (*Vireo bellii pusillus*); southwestern willow flycatcher (*Empidonax traillii extimus*); western snowy plover (*Charadrius nivosus nivosus*); and Pacific pocket mouse (*Perognathus longimembris pacificus*).

Section 3.5.2 further states that no designated or proposed critical habitat occurs within the Proposed Project area. The only federally listed species known to occur at the project site is the California Least Tern (CLT), as further discussed below.

The only biological resource potentially affected by the Proposed Project is the federally listed CLT. The fencing around the airfield prevents most wildlife from entering the property with the exception of those species able to fly.

Section 4.4.1 of the Final EA states the FAA has determined that the Proposed Project "*may affect, not likely to adversely affect*" the CLT. The FAA initiated Informal Section 7 consultation with the USFWS on December 17, 2020. The USFWS concurred with FAA's determination of effect in a letter dated April 27, 2021, after requiring 17 conservation measures to avoid and minimize impacts to the CLT (see Final EA, Appendix C). FAA is requiring, as a condition of this FONSI/ROD, that SDCRAA implement the 17 conservation measures described in Section 4.4.4 of the EA and are as follows:

CM 1. New facilities will be designed to minimize potential perching locations for avian predators, and will include anti-perch structures and materials where appropriate. All structures taller than 10 feet that are necessary within 800 feet of the nesting ovals (including light poles, sign structures, and buildings) will incorporate treatments such as stainless-steel bird spike barriers (e.g., Nixalite®, Bird-be-gone), electrical strips, or other anti-perch materials to reduce potential perches for avian predators. SDCRAA will coordinate with the CFWO regarding anti-perch structures and materials.

CM 2. Permanent lighting and signage within 800 feet of the nesting ovals will be minimized to the extent consistent with public safety, including along the pedestrian pathway. In addition, lights within 800 feet of the nesting ovals will be fully downcast and of the minimum illumination necessary to meet public safety requirements. SDCRAA will coordinate with the CFWO regarding lighting and signage within 800 feet of the nesting ovals.

CM 3. SDCRAA will coordinate with the CFWO regarding landscaping proposed within 800 feet of the nesting ovals to ensure that selected landscaping plants and materials will include only plant species and materials not conducive to perching by avian predators. Plant species selected for landscaping in this area will be plants that grow to less than 6 feet high when mature.

CM 4. All project construction within 800 feet of the nesting ovals will occur between September 16 and March 31 to avoid the least tern nesting season.

CM 5. A least tern biologist (i.e., can identify the least tern, recognize their vocalizations, and identify agitated or distressed tern behavior) will monitor

construction occurring between 800 and 1,200 feet of any nesting ovals during the least tern nesting season (April 1–September 15) to ensure that activities and personnel do not disrupt the least tern. For example, construction activities will be conducted in a manner that prevents individuals or groups of least terns from displaying agitated or stressed behavior and/or suddenly leaving their nest(s) and not resettling on the nest(s) within 5 minutes. The biologist will immediately notify the Resident Engineer (RE; or acting RE) of any construction activity that may disrupt least tern nesting. If the least tern biologist determines that construction has disrupted least terns, the RE will be notified and all project construction activities will cease immediately, except those activities necessary to make SDIA safe and operational. The least tern biologist, in coordination with the RE, will contact the FAA and CFWO immediately after stopping construction. Construction will not resume until approved by the FAA and CFWO.

CM 6. The least tern biologist will submit daily field reports to the FAA and CFWO on the status of the nesting activity, any construction-related incidents that disrupted least tern nesting, and any action taken by the RE to avoid further incidents, within 24 hours of each monitoring date. The least tern biologist will also submit a final summary report of monitoring to the FAA and CFWO S within 30 days of completing project construction.

CM 7. Trash will be properly disposed of, in covered trash receptacles. SDCRAA will require the contractor to provide trash dumpsters or other covered trash receptacles for use by construction personnel. All food items or containers that previously held food items obtained/handled/controlled by construction personnel will be immediately disposed of in these dumpsters or containers, so as not to attract avian or mammalian predators of the least tern.

CM 8. Construction personnel will not be permitted to feed cats, gulls, pigeons, ravens, or any other wildlife, as this may result in an increase in the numbers of these potential predators in the vicinity of least tern chicks and eggs.

CM 9. Crane booms or similar equipment that have heights of 25 feet or greater and are located between 800 feet to 1,200 feet of any nesting oval during the least tern nesting season (April 1–September 15) will be lowered at the close of each construction day.

CM 10. All contractor personnel and construction staff will be required to attend a pre-construction briefing to ensure their awareness of least tern nesting and specific minimization measures required during construction. Project status meetings will be regularly held to remind personnel of the measures required to protect the tern as well as any modifications made to ensure their effectiveness. The CFWO will be notified of the date and time of the preconstruction and status meetings in order to attend, if needed or desired. Contractor personnel and construction staff required to attend the meeting include all those involved with project activities between 800 and 1,200 feet of the nesting ovals during the least tern nesting season (April 1- September 15).

CM 11. The SDCRAA will schedule nighttime construction to occur more than 1,200 feet from Oval O-3S, where feasible; however, it is possible that some nighttime construction between 800 and 1,200 feet from the nesting ovals will be unavoidable. For nighttime construction that is necessary during the least tern nesting season (April

1–September 15), and will occur between 800 feet and 1,200 feet from the nesting ovals, a least tern biologist will be onsite and perform the duties specified above.

CM 12. Night lighting for project construction occurring between 800 feet and 1,200 feet of the nesting ovals will be kept to a minimum during the least tern nesting season, and will not be used unless active construction or other essential work is occurring. Should such nighttime construction or other essential work be conducted, all lighting associated with the work will be shielded from or directed away from the nesting ovals.

CM 13. Equipment will be staged at least 1,200 feet from the nesting ovals.

CM 14. Diligent maintenance of fencing around the perimeter of the nesting ovals shall continue in order to shield the least terns from lighting, predators, and unauthorized human access.

CM 15. SDCRAA will implement annual habitat management for least terns on nesting ovals, including maintenance of a chick fence, annual application of herbicide, and removal of vegetation to support a vegetation cover goal of less than 20 percent vegetative cover during the nesting season. Work will be done in coordination with the biological monitor, and close attention will be paid to precipitation patterns to maximize effectiveness of vegetation management.

CM 16. SDCRAA will implement least tern habitat enhancement on O-3S on an annual basis and in coordination with the CFWO, biological monitors, and airfield operation personnel. Least tern habitat enhancement will occur only where consistent with airfield operations, and may include application of sand, shell or pebble material, and appropriate chick shelters or native vegetation to help shield chicks.

CM 17. SDCRAA will monitor illumination that results from necessary lighting, and address any unanticipated illumination of the least tern nesting area in coordination with the Service, biological monitors, and airfield operation personnel.

C. Climate. Section 4.5.2 of the Final EA states that "*As indicated in Section 3.3.4 of the Desk Reference for FAA Order 1050, there are no significance thresholds for aviation and commercial space launch GHG emissions, and the FAA has not identified specific factors to consider in making a significance determination for GHG emissions. Additionally, there are currently no accepted methods of determining significance applicable to aviation projects given the small percentage of GHG emissions that they contribute worldwide. Accordingly, it is not useful to attempt to determine the significance of such impacts for the Proposed Project.*" Table 4.5-2 of the Final EA discloses the annual emissions of GHG during construction of the Proposed Project. Table 4.5-3 of the Final EA discloses the operations emissions for 2026 and 2031 years. While there is a small increase in GHG emissions for construction, there is a greater **decrease** in operations emissions when comparing the Proposed Project to the No Action Alternative. Section 4.5.3 states that the reductions in GHG emissions associated with the Proposed Project would be due to a combination of improved aircraft taxiing efficiency and emission reductions from design features and other commitments. These features, listed in Appendix A.4, that would be part of the Proposed Project include, but are not limited to, ground support equipment conversion to alternative fuels and several commitments related to improved ground transportation. Since emissions would decrease with implementing the Proposed Project, no mitigation measures are necessary.

D. Coastal Resources. Section 4.6.2 of the Final EA states that the FAA has not established a significance threshold for coastal resources in FAA Order 1050.1F, but rather identifies factors to be considered. Section 4.6.3 lists the construction impacts for both the No Action and Proposed Project Alternatives. Under the No Action Alternative, the Proposed Project would not be constructed or operated. The existing operation of SAN would not interfere with public access to the shoreline, coastal recreation uses and scenic views would be preserved, and biological habitats and water quality would be protected. Under the Proposed Project both the FAA and the SDCRAA would have actions that require coordination with the California Coastal Commission (CCC). The FAA would be responsible for moving three ASDE-X antennas from the current SDCRAA Administration Building to the existing Airline Support Building. The FAA determined the ASDE-X relocation is consistent "to the maximum extent practicable" with Section 30240(a) of the California Coastal Act and has made a Negative Determination, meaning the project will not have reasonably foreseeable effects on any coastal uses or resources, and therefore, does not require a consistency determination. The FAA submitted this Negative Determination to the CCC on June 8, 2021. On July 1, 2021, the CCC concurred with FAA's negative determination (see Appendix J3).

The SDCRAA has submitted three separate applications for coastal development permits covering the various Proposed Project components. The following provides the results of each application (see Appendix J2):

1. New administration office building: Coastal development permit (Item 16a – Application No. 6-20-0154) approved at the August 13, 2020 hearing;
2. Airside improvements and stormwater capture program: Coastal development permit (Item 11a – Application No. 6-20-0447) approved at the June 10, 2021 hearing; and
3. Terminal, roadway/circulation, and parking structure: Coastal development permit (Application No. 6-20-0611) approved at the September 10, 2021 hearing.

As described in Appendix J1, the Proposed Project would be consistent with each applicable policy, and public access to the shoreline would be maintained, coastal recreation uses and scenic views would be preserved, biological habitats and water quality would be protected, and no risks to human safety or property or other adverse impacts to the coastal environment that cannot be mitigated would occur. Impacts of the Proposed Project on coastal resources would not be significant, when compared to the No Action Alternative.

E. Department of Transportation Act, Section 4(f) and Land and Water Conservation Fund (LWCF) Act, Section 6(f) Resources. Section 4.7.3 of the Final EA describes the construction and operational impacts for both the No Action and Proposed Project Alternatives. Under the No Action Alternative, the Proposed Project would not be implemented and there would be no impacts from construction or ongoing operations to Section 4(f) or Section 6(f) resources. Figure 3.8-1 shows that the detailed study area (airport boundary), where the Proposed Project will be constructed, does not contain any land that is considered a park or is used for recreational purposes. Figure 3.8-1 also shows that there are four Section 6(f) resources within the general study area. However, no direct or constructive use of any of these properties would occur nor would there be any conversion of a 6(f) property.

There are, however, two properties determined eligible for listing in the Historic Register (See Appendix E) within the airport boundary, the Convair Wind Tunnel Building and the United Airlines Hangar Terminal (UAHT) Building. As stated in Section 3.10.2 of the Final

EA, the UAHT will be relocated under a separate and independent project prior to the project construction. Section 4.7.3.2 of the Final EA states that the distance between the Proposed Project site and the two buildings would preclude indirect construction-related impacts such as dust, noise, or construction traffic, and the project will not inhibit access to either building by the public. In addition, as described in more detail in Section 4.9.3.2, of the Final EA implementation of the Proposed Project would not directly impact or constructively use either of these historic buildings.

Since there would be no physical or constructive use of any 4(f) resource by the Proposed Project Alternative, a separate DOT Act Section 4(f) evaluation is not required. In addition, there is no conversion of any 6(f) resource. Therefore, no mitigation measures for DOT Section 4(f) or Section 6(f) impacts are proposed.

F. Hazardous Materials, Pollution Prevention and Solid Waste. As discussed in Section 3.9.1.2 and in Appendix D of the Final EA, past contamination at the Proposed Project site, although remediated at the former Naval Training Center (NTC) landfill and Teledyne Ryan (TDY) site, still exists at several locations east of the existing Terminal 1. A number of soil samples taken at the site exceed the Regional Screening Levels (RSLs) for total petroleum hydrocarbon (TPH), and several groundwater samples exceed maximum contaminant levels (MCLs) for volatile organic compounds (VOCs). Therefore, the Proposed Project's ground disturbing activities could encounter contaminated soils and/or contaminated groundwater. Prior to construction, the construction contractor would prepare a Hazardous Materials Management Plan (HMMP) subject to review by SDCRAA, which would establish procedures for identification, screening, and agency notification, when contaminated soil and/or groundwater is encountered during site excavation. Areas identified as having contamination above acceptable limits would require encapsulation, removal and disposal, or other remediation measures set forth in a site-specific treatment plan and as required by applicable federal, state, and local laws.

In addition, soil gas was detected and remediated below regulatory thresholds at the TDY site, a portion of which underlies the proposed footprint of the new Terminal 1. The presence of soil gas could pose a risk during project operation by migrating into the proposed new Terminal 1 building and accumulating in levels that could pose a risk to human health. Based on the information that soil gas vapor was present at the former TDY site, it is not possible to conclude that soil vapor gas would not be present underneath the proposed new Terminal 1 building. SDCRAA has, as a project minimizing component, committed to implementing specific measures during site development in order to address areas of known or suspected contamination, summarized below and listed in full in Appendix A4:

A soil vapor survey with accompanying human health risk assessment shall be prepared for the area proposed for the new Terminal 1 building. If results of that assessment warrant remediation, such as in-situ soil vapor extraction (SVE) or ex-situ excavation and treatment, it shall be implemented to reduce levels to below site-specific risk-based concentrations (RBCs), or a vapor intrusion mitigation system shall be incorporated into the design of the new Terminal 1 building to ensure that indoor air concentrations do not exceed regulatory thresholds.

Finally, Section 4.8.3.2 of the Final EA identified asbestos and lead paint as two materials that are in some of the buildings to be demolished. Abatement of both materials would be completed according to Federal, State and local requirements.

Section 4.8.4 of the Final EA states there is no significance threshold for hazardous waste, solid waste, and pollution prevention. However, there are five factors to consider. Of these factors, two (involvement of a contaminated site and adversely affect human health and the environment) may be involved relative to the Proposed Project. However, project avoidance and minimization measures are incorporated into the Proposed Project, so that these factors are addressed. These measures include preparation of a HMMP to identify procedures for managing the contamination, including identification of the appropriate regulatory agency to provide oversight; completion of a monitoring well survey program; abatement of asbestos and lead prior to building demolition; and preparation of the soils vapor survey (see Appendix A4 of this EA). Consequently, impacts related to hazardous materials, solid waste, and pollution prevention from implementation of the Proposed Project would not reach a significance threshold and, therefore, no mitigation measures are required.

G. Historic, Architectural, Archaeological, and Cultural Resources. As documented in Section 3.10.2.1 of the Final EA, the FAA delineated an APE for the proposed undertaking and coordinated the APE with the California State Historic Preservation Officer (SHPO) who concurred with the APE by letter dated October 23, 2020. The California SHPO concurred with the FAA's findings of effect in a letter dated August 17, 2021, completing the Section 106 consultation process (see Appendix E1 of the Final EA). Section 4.9 of the Final EA describes the impacts the Proposed Project would have to historic properties listed or eligible for listing on the National Register of Historic Places (NRHP). Section 4.9.3.2 identifies two properties that are eligible for inclusion on the NRHP, the United Airlines Hangar and Terminal (UAHT) building and the Convair Wind Tunnel (CWT) building. Appendix E of the Final EA includes a copy of FAA's determination and findings of effect letter to the California State Historic Preservation Officer (SHPO).

Under the No Action Alternative there would be no construction or operational impacts to either building. Under the Proposed Project, FAA determined that neither of the two historic properties that FAA determined eligible for inclusion into the NRHP would be adversely affected by the way of construction impacts or operational impacts after it was constructed. Thus, the Proposed Project would not involve any direct or indirect impacts to the buildings.

On October 28 and October 30, 2020, the FAA contacted the following tribes by submitting detailed information on the Proposed Project: La Posta Band of Diegueno Mission Indians, San Pasqual Band of Diegueno Mission Indians, Campo Band of Diegueno Mission Indians, Mesa Grande Band of Diegueno Mission Indians, Barona Group of the Capitan Grande, Manzanita Band of Kumeyaay Nation, Sycuan Band of Kumeyaay Nation, Ewiiaapaayp Band of Kumeyaay Indians, Viejas Band of Kumeyaay Indians, Kwaaymil Laguna Band of Mission Indians, Iipay Nation of Santa Ysabel, Jamul Indian Village, and the Inaja-Cosmit Band of Indians. FAA received two responses. The first response was an October 29, 2020 email from Ms. Lisa Cumper, the Jamul Indian Village Tribal Historic Preservation Officer. She requested any "*cultural and geo reports that are either available or come available."* The second response was an October 29, 2020 email from Mr. Ray Teran, the Viejas Tribal Government, Resource Management Director, who stated a desire to enter into consultation. In seeking further clarification on the issues of interest to the Viejas Band of Kumeyaay Indians, Mr. Teran, stated in a January 11, 2021 email, that they had already "had a very detailed meeting with the management of the San Diego Airport

and their consultants." Mr. Teran requested us to contact Mr. Tracy Stropes, the Senior Project Archaeologist, who is aware of their concerns.

Impacts on historical, architectural, archaeological, and cultural resources from implementation of the Proposed Project would not be significant; therefore, no mitigation measures are required. However, the FAA requires as a condition of this FONSI/ROD, that SDCRAA implement the following avoidance and minimization measures based on FAA's consultation with the California SHPO in compliance with Section 106 of the NHPA:

- In consultation with the Jamul Indian Village Tribe, the San Diego County Regional Airport Authority will provide the tribe with any cultural and geological reports that are either available or come available.
- In consultation with the Viejas Tribal Government, the San Diego County Regional Airport Authority has agreed to respect the cultural perspective of the Native American Community that the SDIA property was part of the traditional use area for Native Americans during the prehistoric habitation of the bay area. Because of the Native American history in the area, the San Diego County Regional Airport Authority will accommodate the request by the Viejas Tribal Government that a Kumeyaay Cultural Monitor be present during excavation activities associated with implementation of the San Diego International Airport - Airport Development Plan. This Excavation Monitoring will be limited to those areas of the construction project that are located beneath the modern dredge and fill soils that were imported to this location to create the airport. Monitoring the excavation of any soil associated with imported fill material will not be required.
- The Excavation Monitoring will be conducted in the area designated for the Airport Development Plan, which includes the replacement of Terminal 1, a new parking facility, and associated roadway and aircraft apron improvements that are within the planning jurisdiction of the San Diego County Regional Airport Authority. Native American monitoring will always be conducted in conjunction with archaeological monitoring, and a qualified archaeologist will be responsible for the determination of when appropriate soil horizons are encountered that would necessitate Native American and archaeological monitoring.
- The Excavation Monitoring will be conducted within the areas identified in Figure 1-2 [of the Draft EA].
- The specifics of the Excavation Monitoring program will be described in a Memorandum of Agreement, which will be prepared and agreed to by the San Diego County Regional Airport Authority and the Viejas Tribal Government.

H. Land Use. Section 4.10 of the Final EA states that SAN is under the jurisdiction of the SDCRAA and is not under the land use authority of the City of San Diego or its General Plan. SAN land use designations are identified in the Airport Land Use Plan, which is a SDCRAA program-level planning guide that depicts the boundaries of SAN and designates locations for the four general land use categories: Airfield, Terminal, Ground Transportation, and Airport Support. Under the No Action Alternative there would be no change in Land Use. Under the Proposed Project, the Proposed Project improvements would be limited to within the existing SAN boundaries and adjacent public rights-of-ways and would not extend into, or cross through, surrounding communities. The terminal modifications and other components of the Proposed Project would be comparable to, and compatible with, the other airport-related uses that currently exist and no new uses would be established. Therefore, the Proposed Project would continue to be consistent with the Airport Land Use Plan's land designations and would also continue to be consistent with

existing applicable land use plans governing development in areas surrounding SAN, including the Port of San Diego Port Master Plan and San Diego General Plan. Therefore, the Proposed Project would not result in significant impacts to land use, when compared to the No Action Alternative.

I. Natural Resources and Energy Supply. Section 4.11 of the Final EA states the Proposed Project and the No Action Alternatives would not have a significant impact on natural resources and energy supply. Under the No Action Alternative there would be no change in energy use. Construction of the Proposed Project would increase the use of water and energy for dust suppression and power requirements. However, the water demand will be partially met with recycled (non-potable) water. In addition, the construction of the Proposed Project is expected to consume, on average, approximately 123 acre-feet of water per year over a 5 year period. This is less than the 179 and 200 acre feet of water that is estimated to be used during the operation of the project in 2026 and 2031 respectively, and is less than 0.08% of the San Diego County Water Authority's expected demand for which there are adequate supplies. There is also adequate energy supplies and natural resources to meet the construction and operational needs of the airport.

J. Noise and Noise-Compatible Land Use. Section 4.12 of the Final EA evaluates noise from construction and operation of the Proposed Project and the No Action Alternative. Under the No Action Alternative, none of the proposed components would be constructed and there would be no resulting noise impacts. The FAA does not have a significance threshold for construction noise but it can look to accepted methodologies from the appropriate modal administration. The impact threshold for construction noise is defined in the Caltrans Traffic Noise Analysis Protocol (TNAP), which is derived from the Caltrans Standard Specifications for 2018 and provides some insight in determining if a significant impact may occur. The TNAP includes factors to consider, when evaluating noise from construction activities, such as:

a. Whether activities from construction noise exceed 86 dB at 50 feet from the job site activities from 9 p.m. to 6 a.m.
b. Whether construction equipment with internal combustion engines are equipped with the manufacturer recommended muffler.

Section 4.12.3.2 of the Final EA evaluates construction noise impacts under a worst-case scenario that all of the pieces of construction equipment were operating on the same site at the same time. The total L_{eq} at a distance of 50 feet from the activity would be 96.9 dB. Based on a point-source noise (i.e., construction equipment noise) fall-off rate of 6 dB per doubling of distance, construction noise would decrease to 86 dB (i.e., the threshold of significance) at a distance of 175 feet from the edge of construction activity. The majority of the Proposed Project site is surrounded by airport uses, such as on-airport roads and parking facilities to the southwest, existing terminals to the west, aircraft taxiways and the runway to the north and northeast, and surface parking to the east. There are no noise-sensitive uses located within 175 feet of construction activity areas associated with the Proposed Project. Additionally, equipping internal combustion engines with appropriate mufflers, as provided by the manufacturer, is a standard requirement of construction contracts for projects at SAN. Based on the above, no significant construction noise impacts would occur from the Proposed Project, when compared to the No Action Alternative.

Section 4.12.3.2 also evaluated operational noise of the Propose Project. Implementation of the Proposed Project would not change the number of aircraft operations, type of aircraft, nor flight paths that would otherwise occur in 2026 and 2031 under the No Action Alternative. CNEL contours associated with the Proposed Project in 2026 and 2031 are the same as those of the No Action Alternative. Section 4.12.3.2 states: "*Implementation of the Proposed Project would not change the number of aircraft operations, type of aircraft, nor flight paths that would otherwise occur in 2026 and 2031 under the No Action Alternative.*" The only difference in aircraft operations would be where aircraft are parked and this would not change the CNEL contours. There would be no significant noise impact from the Proposed Project compared to the No Action Alternative.

K. Socioeconomic, Environmental Justice and Children's Environmental Health and Safety Risks. Section 4.13 of the Final EA discusses each of these topics in subsections within the section.

Socioeconomic. Section 4.13.1.3 of the Final EA states the Proposed Project would occur within the existing SAN boundaries and surrounding rights-of way and no displacement of people or residents would occur during construction, because there are no residences or people living on or adjacent to the Proposed Project site. The socioeconomic data for the 32 census tracts that are located within, or intersect with the GSA were examined in the Final EA, along with corresponding data for the City of San Diego and County of San Diego to assess potential impacts to socioeconomics resulting from the Proposed Project.

A traffic study evaluated the effects of the Proposed Project on 43 intersections and 44 roadway segments within the GSA for future years 2026 and 2031. Figure 3.14-4 shows the location of the transportation facilities surrounding SAN evaluated in the Final EA.

Section 4.13.1.3 of the Final EA states the No Action Alternative would have no construction impacts, and operations and maintenance would continue as they currently operate; therefore, there would be no change or effect to socioeconomic impacts.

Under the Proposed Project Alternative, construction of Phase B would displace existing concessionaires within the existing Terminal 1 when the existing Terminal 1 is demolished. New concession opportunities would be available at the same time in the portion of the replacement Terminal 1 constructed in Phase A. The temporary displacement of concessionaire businesses would not cause economic hardship on the local community.

Construction activities associated with the Proposed Project would generate increased traffic associated with construction employees and deliveries in the vicinity of SAN. As part of the Proposed Project, SDCRAA will implement a Construction Traffic Management Program. Due to the temporary nature of construction activities and limited disruption to local traffic patterns and reduction in the LOS of roads serving SAN and its surrounding communities, construction-related traffic for the Proposed Project would not substantially reduce the levels of service of roads serving the airport and the surrounding community.

Under operations of the Proposed Project, projected increases in long-term employment would occur at a similar, but higher levels, as would occur under the No Action Alternative. This is due to the increased size of the replacement Terminal 1, which would likely increase the number of security, janitorial, and concessionaire staff needed to support the facility. The operational traffic analysis results for all 43 intersections and 44 roadway

segments evaluated shows that there would not be a degradation of level of service (LOS) from LOS A, B, C, or D to LOS E or F between the No Action Alternative and the Proposed Project for any intersection or roadway segment in either 2026 or 2031. Only one intersection in the LOS group of E or F (Intersection #3 – Pacific Highway at Enterprise Street) would have a modest increase in delay (1.7 seconds). Further, as shown in Tables 4.13-2 and 4.13-4, the average daily traffic along North Harbor Drive roadway segments would be substantially reduced which, in turn, would result in an improvement, as compared to the No Action Alternative. As such, when compared to the No Action Alternative, the Proposed Project would not disrupt local traffic patterns.

Impacts associated with socioeconomics from implementation of the Proposed Project would not be significant, when compared to the No Action Alternative.

Environmental Justice. As identified in Section 3.13.2 of the Final EA, the average percentage of minority population in the study area is approximately 15 percent lower than San Diego County as a whole and approximately 18 percent lower than the City as a whole. The percentage of low-income population (below the national poverty level) in the study area is approximately 5.7 percent (approximately 5.9 percent lower than the County on average and 7.1 percent lower than the City as a whole). Thus, on average, the minority or low-income population of the analysis area is not "meaningfully greater" than that of the surrounding areas.

Under the No Action Alternative, there would be no construction impacts, and operations and maintenance would continue as they currently operate; therefore, there would be no change or effect to minority or low-income populations.

Section 4.13.2.3 states that no significant adverse impacts during construction are anticipated, including impacts to air quality, climate, noise, or traffic. Further, there is no impact that would affect a minority or low-income population in a unique manner or place impacts on minority and low-income populations greater than the overall population. Therefore, there would not be disproportionately high or adverse impacts to an environmental justice community from constructing the Proposed Project.

While the minority or low-income population of the analysis area is not "meaningfully greater" than that of the surrounding areas, seven of the 32 census tracts within the GSA have a minority population of 50 percent or greater and, therefore, can be considered environmental justice populations. These individual census tracts typically located near the edges of the study area, which, given the greater distance from SAN, are less affected by the Proposed Project (including associated aircraft and traffic noise, air pollutant emissions, and traffic) than the communities closer to SAN and, thus, would not be disproportionately impacted. As described above, the Proposed Project would not disrupt local traffic patterns or substantially reduce the levels of service of roads serving an airport and its surrounding communities. Therefore, the Proposed Project would not create a disproportionately high or adverse impact to minority or low-income populations.

Children's Environmental Health and Safety Risks. Section 4.13.3 of the Final EA states that the GSA was used to evaluate children's environmental health and safety. Under the No Action Alternative, there would be no construction activity; the SDCRAA would continue to operate the airport, perform maintenance and serve the public. Therefore, the No Action Alternative would not result in a disproportionate health or safety risk to children.

Under the Proposed Project, construction-related air quality impacts on the residential and recreational areas, including schools, near and within the Proposed Project area, would not exceed applicable significance thresholds (see Section 4.3). Similarly, no significant noise, hazardous materials, or health-related impacts are expected during construction. Therefore, construction of the Proposed Project would not result in disproportionate health and safety risks to children. For operational impacts, as described throughout this EA, no significant adverse impacts relative to air, climate, land use, noise or other resource areas would occur during construction or operation of the Proposed Project, as compared to the No Action Alternative. Additionally, no relocation, acquisition, or alteration of schools, residences, day cares, parks, or any other facilities associated with children or childcare would occur. Therefore, the operation of the Proposed Project would not create environmental health or safety risks that may disproportionately affect children.

L. Visual Effects. Section 4.14 of the Final EA states that no construction activities would occur under the No Action Alternative. Therefore, the No Action Alternative would not result in construction-related or operational visual or light emission impacts.

Section 4.14.3.2 of the Final EA states that all construction activities would incorporate temporary construction fencing/barriers to screen construction activities and equipment and would be further screened from off-site adjacent areas by existing airport buildings, elevated roadways, and landscaping. Construction activities would not block or obstruct public views of a visual resource. Construction activities would occur primarily during the daytime; any nighttime construction activities would generate similar sources of light compared to existing conditions and would need to adhere to FAA guidance to avoid causing light impacts or glare to aircraft or air traffic controllers. The light emissions from construction activities would not create annoyance or interfere with normal activities. Refer to Section 4.4, Biological Resources, and Appendix C1 for discussion of conservation measures that would be implemented should nighttime construction be necessary within the vicinity of the CLT nesting ovals. In summary, construction of the Proposed Project would not produce any of the factors that FAA considers significant for visual effects.

As shown in the conceptual visual simulation in Appendix H, the proposed new facilities (with building heights ranging between 60 and 90 feet) would be compatible and consistent with the existing urban character of the surrounding environment, and they would not block or obstruct public views of a visual resource. The same would be true relative to the proposed relocation of three FAA ASDE-X sensors. The size and design of the sensors are not of a nature that would block views or be inconsistent with the existing urban character of the surround environment.

The Proposed Project would contribute new sources of lighting typical of a modern airport, which currently contains moderate to high levels of ambient lighting. The Proposed Project would incorporate adequate nighttime lighting similar to existing development at SAN, and all lighting for new facilities would be shielded and directed downward to minimize light spillover. These measures, as well as diligent maintenance of fencing around the perimeter of the CLT ovals, would shield the California least terns from adverse lighting effect (refer to Section 4.4, Biological Resources). Thus, the light emissions from the proposed new facilities would not create annoyance or interfere with normal activities. Refer to Appendix C1 and Appendix A4 for discussion of operations and site enhancement conservation measures that would be implemented within the vicinity of the CLT nesting ovals.

In summary, operation of the Proposed Project would not produce any of the factors that FAA considers potentially significant for visual effects. Since the construction phase and the operational phase of the Proposed Project would not produce any factor that may lead to a significant impact to visual effects, the Proposed Project would not have a significant visual impact.

M. Water Resources. Under the No Action Alternative, construction of the proposed facilities would not occur and there would be no construction impacts to water resources. However, under this scenario the SAN Stormwater Capture and Reuse System would not be expanded, and new sub-surface infiltration areas associated with the Proposed Project would not be built and, as such, continued release of copper and zinc would occur in increasing quantities as aviation activities continued to increase.

Under the Proposed Project, as addressed in Section 4.8.3.2 and Appendix D of the Final EA, there is the potential for contaminated groundwater to be encountered. Prior to construction activities, an Hazardous Materials Management Plan would be prepared, subject to approval by SDCRAA, establishing procedures for identification, screening, and notification, of contaminated groundwater encountered during site excavation. Remediation measures would be set forth in a site-specific treatment plan, as required by applicable federal, state, and local laws.

Construction of the Proposed Project would include materials containing chemicals and other potential water quality pollutants, which if released to the environment could lead to a violation in water quality standards or waste discharge requirements. Such materials are regulated by various federal, state, and local requirements related to hazardous materials/wastes. Additionally, construction of the Proposed Project would be subject to the requirements of the SWRCB Construction General Permit (Order No. 2010-0014-DWQ, NPDES No. CAS000002), which requires construction projects with coverage under the Construction General Permit to implement a storm water pollution prevention plan (SWPPP.) Based on the above, the potential for the Proposed Project's construction impacts would not be significant, when compared to the No Action Alternative.

Section 4.15.3.2 states that there is no surface water on SAN property. Groundwater underlying SAN ranges from approximately seven to 12 feet below ground surface and does not support beneficial uses. Thus, operation of the Proposed Project would not affect public drinking water sources. Implementation of the Proposed Project would involve development of airfield components, a new/replacement terminal and other buildings, apron areas, and roadway improvements, all of which are similar in nature and operation to those of existing facilities at SAN. However, under the proposed project, the SAN Stormwater Capture and Reuse System, designed to capture at least 80 percent of the average annual runoff volume, would decrease the flow and volume of stormwater exiting the airport through the outfalls. The Proposed Project's storm water management plan and the storm water elements would help ensure that the SDCRAA will comply with the State's MS4 Permit and the Industrial General Permit, treating copper and zinc and meeting the numeric action levels in the Industrial General Permit, and the SDCRAA's goals listed in the San Diego Bay Watershed Management Area Water Quality Improvement Plan. Based on the above, the Proposed Project's operations-related pollutants would not cause an exceedance of water quality standards established by federal, state, local, or tribal regulatory; therefore, the Proposed Project's impact would not be significant.

N. Cumulative Impacts. The past, present and reasonably foreseeable cumulative actions included in the cumulative impact analysis are presented in Section 4.16 of the Final EA, Cumulative Impacts. Tables 4.16-1, 4.16-2 and 4.16-3 of the Final EA identify the various Past, Present, and Reasonably Foreseeable Projects from Civic San Diego and City of San Diego, the Port of San Diego and SAN respectively. The evaluation of cumulative impacts from these cumulative actions is discussed in Section 4.16 of the Final EA. No significant cumulative impacts were identified when comparing the Proposed Project to the No Action Alternative.

6. Environmentally Preferred Alternative and FAA Preferred Alternative.

In connection with its decision to approve the proposed ALP revisions, the FAA considered the environmental impacts from the Proposed Project and the No Action Alternative. Based on the analysis of environmental impacts in the Final EA, the No Action Alternative has fewer environmental effects than the Proposed Project Alternative and thus would be the environmentally preferred alternative. In addition to identifying the environmentally preferred alternative, the FAA also identifies the FAA preferred alternative. In selecting the agency's preferred alternative, the FAA considers a variety of factors, including the ability of the alternatives to satisfy the purpose and need of the project as well as environmental impacts of the alternatives examined in the EA. However, the No Action Alternative does not meet the Purpose and Need for the Proposed Project. Furthermore, after mitigation, there are no significant impacts associated with the Proposed Project. Finally, the Proposed Project fully satisfies the purpose and need. Thus, the FAA's preferred alternative is the Proposed Project as defined in the Final EA and this FONSI/ROD. FAA selected this alternative because it meets the Purpose and Need of the Proposed Project with various mitigation measures resulting in no significant adverse environmental effects.

7. Public Participation.

SDCRAA issued a Notice of Availability of the Draft EA on June 16, 2021. The Notice of Availability also announced that a Public Meeting would take place on July 19, 2021. The Notice of Availability was published in the San Diego Union-Tribune (including the Spanish language version) and the Daily Transcript newspapers on June 16, 2021 and placed on the SDCRAA's website the same day at www.san.org/plan. Hard copies of the Draft EA were available for public review at the SDCRAA Airport Authority Administration Building and nearby public libraries. The Draft EA was also available electronically (in PDF format) for download from the SDCRAA's website at www.san.org/plan. The Draft EA was available for review and comment by the public, government agencies, and interested parties until the close of the comment period on August 2, 2021. Eight comment submittals (two submittals via U.S. mail and six submittals via electronic mail [email]) were received on the Draft EA. The submittals and responses to these submittals are presented in Appendix N. No issues were raised in these comments that resulted in a change in a determination of effects.

8. Inter-Agency Coordination.

In accordance with 49 USC § 47101(h), the FAA has determined that no further coordination with the U.S. Department of Interior or the U.S. Environmental Protection Agency is necessary because the Proposed Project does not involve construction of a new airport, new runway or major runway extension that has a significant impact on natural resources including fish and wildlife; natural, scenic, and recreational assets; water and air quality; or another factor affecting the environment.

9. Reasons for the Determination that the Proposed Project will have No Significant Impacts.

The attached Final EA examines each of the various environmental resources that were determined present at the project location, or had the potential to be impacted by the Proposed Project. The proposed Airfield Improvements and Terminal 1 Replacement Project at SAN would not involve any environmental impacts, after mitigation, that would exceed a threshold of significance as defined by FAA Orders 1050.1F and 5050.4B. Based on the information contained in the Final EA, the FAA has determined that the Proposed Project meets the purpose and need for the proposed action, would not cause any significant environmental impacts that cannot be mitigated, and is the most reasonable, feasible and prudent alternative. The FAA has decided to approve the FAA's Federal actions relative to the Proposed Project as is described in Section 3 of this FONSI/ROD.

10. Agency Findings.

The FAA makes the following determinations for this project based on information and analysis set forth in the Final EA and other portions of the administrative record.

a. **The project is reasonably consistent with existing plans of public agencies for development of the area [49 U.S.C. 47106(a)].** The proposed project is consistent with the plans, goals and policies for the area. The Proposed Project improvements would be limited to within the existing SAN boundaries and adjacent public rights-of-ways and would not extend into or cross through surrounding communities. SAN is under the jurisdiction of the SDCRAA and is not under the land use authority of the City of San Diego or its General Plan. As described in Section 4.10.3.2 of the Final EA, the Proposed Project would be consistent with, and not conflict with, the applicable land use plans. The Proposed Project is also consistent with the applicable regulations and policies of federal, State and local agencies.

b. **Independent and Objective Evaluation:** As required by the Council on Environmental Quality (40 CFR § 1506.5) the FAA has independently and objectively evaluated this proposed project. As described in the Final EA, the Proposed Project and the No Action Alternatives were studied extensively to determine the potential impacts and appropriate mitigation measures for those impacts. The FAA provided input, advice, and expertise throughout the analysis, along with administrative and legal review of the project

c. **National Historic Preservation Act**: The Proposed Project will not adversely affect the two buildings (UAHT and CWT buildings) determined to be eligible for listing on the National Register of Historic Places. FAA conducted the required consultation with the California SHPO pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended. FAA requires as a condition of this FONSI/ROD, the avoidance and minimization measures described in Section 5(G) above to ensure compliance with Section 106 of the NHPA.

d. **Air Quality**. SAN is located in the San Diego County Air Basin. This air basin is classified by the U.S. Environmental Protection Agency as a severe non-attainment area for Ozone and maintenance for Carbon Monoxide (CO). As shown in Tables 4.3-4 and 4.3-5, operational emissions in 2026 and 2031 would be substantially less than the operational emissions that would otherwise occur under the No Action Alternative. The reduced

emissions associated with the Proposed Project are due to a combination of improved aircraft taxiing efficiency associated with the new linear concourse for Terminal 1 coupled with a new Taxiway A and emission reductions from project design features including, but not limited to, ground support equipment conversion to alternative fuels. Since emissions are less than *de minimis,* a general conformity determination is not required. The Proposed Project will not induce additional aircraft traffic into or out of SAN nor would it change aircraft type. Airport operational emissions will not change since there would be no change in the number and type of aircraft operating at SAN resulting from these projects.

e. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*: and Department of Transportation Order 5610.2, *Environmental Justice in Minority and Low-Income Populations*: The Proposed Project would not cause a significant impacts. Therefore, the Proposed Project would not result in surface traffic impacts that would create disproportionately high and adverse human health or environmental impacts on minority or low-income populations. There is no disproportionately high and adverse human health or environmental impacts on minority or low-income populations caused by the Proposed Project.

f. Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*: The FAA has determined there would be no change in risk to health or safety for children caused by the Proposed Project.

g. Surface Transportation. The Proposed Project would not induce additional aircraft and surface operations at SAN.

h. Avoidance and Minimization Measures. Based on the information contained in the Final EA, the FAA has determined that all practicable means to avoid or minimize environmental harm from the Proposed Project have been adopted. The Proposed Project avoids and minimizes environmental harm in a variety of ways by including minimization elements for air quality and climate, biological resources, hazardous materials, archaeological and cultural resource and construction traffic. These minimization measures include, but are not limited to, converting vehicles to zero emissions, providing gate electrification at all new gates, requiring LEED Silver Certification and a cool roof for the terminal, providing charging stations for the public, minimizing impacts to the California least tern from noise, light and other construction impacts, implementing a hazardous materials management plan, asbestos and lead paint removal, conducting a vapor intrusion assessment and constructing a vapor barrier if necessary, having a cultural monitor at excavation areas, establishing a construction coordination office that will work with the traffic department, and requiring an orientation for all construction personnel. See Appendix A4 for a complete list. Therefore, the FAA has concluded that all practicable means to avoid or minimize environmental harm from the selected alternative have been adopted.

i. As necessary, before construction begins, FAA review of a Construction Safety and Phasing Plan to maintain aviation and airfield safety during construction pursuant to FAA Advisory Circular 150/5370-2F, *Operational Safety on Airports During Construction*, [14 CFR Part 139 and 49 USC § 44706].

j. As necessary, after construction is completed, FAA review of changes to the airport's certification manual following completion of construction of the proposed project pursuant to [14 C.F.R. Part 139].

k. As necessary, after construction is completed, FAA review of appropriate amendments to air carrier operations specifications pursuant to 49 U.S.C. § 44705.

10. Decision and Orders.

Based on the information in this FONSI/ROD and supported by detailed discussion in the Final EA, the FAA has selected the proposed Airfield Improvements and Terminal 1 Replacement Project as the FAA's Preferred Alternative. The FAA must select one of the following choices:

- Approve agency actions necessary to implement the Proposed Project, or
- Disapprove agency actions to implement the Proposed Project.

Approval signifies that applicable federal requirements relating to the proposed airport development and planning have been met. Approval permits the SDCRAA to proceed with implementation of the Proposed Project and associated mitigation measures. Disapproval would prevent the SDCRAA from implementing the Proposed Project elements within SAN.

Under the authority delegated to me by the Administrator of the Federal Aviation Administration, I find that the project is reasonably supported. I, therefore, direct that action be taken to carry out the agency actions discussed more fully in Section 3 of this FONSI/ROD.

1. Unconditional approval of the ALP to depict the proposed improvements subject to FAA approval pursuant to 49 U.S.C. 47107(a)(16).

2. Determinations under 49 U.S.C. §§ 47106 and 47107 that are associated with the eligibility of the Proposed Project for federal funding under the Airport Improvement Program and under 49 U.S.C. § 40117, as implemented by 14 CFR § 158.25, to use passenger facility charges collected at the airport to assist with construction of potentially eligible development items from the ALP.

3. Approval for and relocation of ASDE-X sensors (49 U.S.C 44502 (a)(1)).

This order is issued under applicable statutory authorities, including 49 USC §§ 40101(d), 40103(b), 40113(a), 44701, 44706, 44718(b), and 47101 et seq.

I have carefully and thoroughly considered the facts contained in the attached EA. Based on that information, I find the proposed Federal action is consistent with existing national environmental policies and objectives of Section 101(a) of the National Environmental Policy Act of 1969 (NEPA) and other applicable requirements. I also find the proposed Federal action will not significantly affect the quality of the human environment or include any condition requiring any consultation pursuant to section 102(2)(C) of NEPA. As a result, FAA will not prepare an Environmental Impact Statement for this action.

APPROVED:

RAQUEL GIRVIN Digitally signed by RAQUEL GIRVIN
Date: 2021.10.22 12:50:13 -07'00'

Raquel Girvin
Regional Administrator
Western-Pacific Region, AWP-1

Date

DISAPPROVED:

Raquel Girvin
Regional Administrator
Western-Pacific Region, AWP-1

Date

RIGHT OF APPEAL

This FONSI/ROD constitutes a final order of the FAA Administrator and is subject to exclusive judicial review under 49 U.S.C. § 46110 by the U.S. Circuit Court of Appeals for the District of Columbia or the U.S. Circuit Court of Appeals for the circuit in which the person contesting the decision resides or has its principal place of business. Any party having substantial interest in this order may apply for review of the decision by filing a petition for review in the appropriate U.S. Court of Appeals no later than 60 days after the order is issued in accordance with the provisions of 49 U.S.C. § 46110.

FINAL
ENVIRONMENTAL ASSESSMENT

Volume 1: Main Report
(Chapter 1 – Chapter 8)

SAN DIEGO INTERNATIONAL AIRPORT (SAN)
AIRFIELD IMPROVEMENTS AND
TERMINAL 1 REPLACEMENT PROJECT

San Diego International Airport
San Diego, California

Prepared for:

SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

Prepared by:

CDM Smith

October 2021

This environmental assessment becomes a Federal document when evaluated, signed and dated by the Responsible FAA Official.

D.T.S.

Responsible FAA Official

October 20, 2021

Date

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General information about this document

WHAT IS IN THIS DOCUMENT? This document contains the Final Environmental Assessment (EA) for the San Diego County Regional Airport Authority's (SDCRAA) proposed Airfield Improvements and Terminal 1 Replacement Project at San Diego International Airport (SAN). This Final EA provides information on the Proposed Project; discloses the purpose and need for the Proposed Project; describes alternatives considered; and discloses the analysis and findings of potential environmental, social, and economic impacts associated with the Proposed Project and reasonable alternatives.

BACKGROUND. SAN is owned and operated by SDCRAA. SAN encompasses 661 acres and is the busiest single-runway commercial airport in the nation. The SDCRAA proposes to undertake a number of components to enhance the passenger experience and airfield efficiency. Such components include the replacement of Terminal 1 with a 30-gate facility and the addition of a new Taxiway A. Other proposed components necessary for the Project to function include relocating part of Taxiway B, relocating SDCRAA's existing administration building, constructing a new parking structure adjacent to the replacement terminal, constructing airport circulation and entry roadway components, expanding the Central Utility Plant and the Storm Water Capture and Reuse System, relocating five designated aircraft parking positions (called Remain Overnight or RON positions) and demolishing two others RON positions, and relocating three Federal Aviation Administration (FAA) Airport Surface Detection Equipment – Model X (ASDE-X) sensors.

This document is the Final EA for the federal decision-making process, in fulfillment of FAA's policies and procedures relative to the National Environmental Policy Act (NEPA) and other related federal requirements.

WHAT SHOULD YOU DO? Read this Final EA to understand the potential environmental effects of SDCRAA's proposed SAN Airfield Improvements and Terminal 1 Replacement Project and the actions that SDCRAA and FAA may take relative to this proposal. This document is available online at www.san.org/plan.

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

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Chapter 1 Purpose and Need

1.1 Project Introduction

The San Diego County Regional Airport Authority (SDCRAA), the project sponsor, which owns and operates San Diego International Airport (SAN, or "the airport"), in San Diego, California, has prepared the SAN Airport Development Plan (ADP) as the latest master plan for facilities needed to meet the forecasted travel demand in the region through 2035. The ADP describes various projects that are proposed to be constructed in the near term, as well as projects that are long-range development actions that will be required in the future. Certain improvements set forth in the ADP require FAA authorization/approval prior to construction. Such improvements, which are a subset of the overall ADP, include proposing to construct a replacement Terminal 1 and make associated infrastructure changes and to construct a new Taxiway A and make associated airfield changes (cumulatively referred to as the Proposed Project, as addressed in this EA). SDCRAA proposes these changes to raise the level of service for passengers traveling through Terminal 1 and to reduce congestion on the airfield for aircraft transiting to and from the terminals and to reduce traffic on North Harbor Drive. Building a new, larger replacement terminal and making associated infrastructure changes, including roadway access, would reduce the crowding of the terminal, increase the efficiency of terminal functions such as security and baggage sorting, provide a terminal that meets existing building codes, and alleviate airport-related traffic congestion on North Harbor Drive by increasing airport access, thus enhancing the level of service for passenger transiting to and within the airport in general and Terminal 1 specifically. Constructing an additional taxiway and associated airfield changes would reduce delays for aircraft to reach and depart their gates, as well as facilitate transition to the opposite end of the runway, by allowing bidirectional taxi movement adjacent to the terminals. Construction of the proposed Taxiway A would require relocating corresponding portions of Taxiway B south to meet the FAA lateral separation distance standards between the runway and Taxiway B.[1]

Components of SDCRAA's Proposed Project would include the airfield improvements (construction of parallel Taxiway A and relocation of the part of Taxiway B west of approximately Taxiway Connector B4); construction of a replacement Terminal 1, including the associated relocation and demolition of SDCRAA's existing administration offices (formerly known as the Commuter Terminal); landside/ground access improvements that include a parking structure adjacent to the replacement terminal and airport circulation and roadway improvements; expansion of the Central Utility Plant (CUP) and the Storm Water Capture and Reuse System; relocation of five and elimination of two designated aircraft parking positions called Remain Overnight (RON) positions; and relocation of three FAA Airport Surface Detection Equipment – Model X (ASDE-X) sensors. Various utility connections would also be constructed.

Recent changes in federal law have required the FAA to revisit whether FAA approval is needed for certain types of airport projects throughout the nation. On October 5, 2018, House Resolution (H.R.) 302, the "FAA Reauthorization Act of 2018" (the Act) was signed into law (Public Law (P.L.) 115-254). In general, Section 163(a) limits the FAA's authority to directly or indirectly regulate an airport operator's transfer or disposal of certain types of airport land. Section 163(d) of the Act limits the FAA's review and approval authority for Airport Layout Plans (ALPs) to those portions of ALPs or ALP revisions that:

1. Materially impact the safe and efficient operation of aircraft at, to, or from the airport;
2. Adversely affect the safety of people or property on the ground adjacent to the airport as a result of aircraft operations; or
3. Adversely affect the value of prior Federal investments to a significant extent.

Thus, the FAA does not have approval authority for the entire Proposed Project. With respect to the components that comprise SDCRAA's Proposed Project, the FAA's federal actions include unconditional approval of portions of the ALP depicting those components subject to 49 U.S.C. §47107(a)(16),

[1] U.S. Department of Transportation, Federal Aviation Administration, *Advisory Circular (AC) 150/5300 13A, Airport Design, Change 1, including errata,* July 24, 2019.

determinations that are associated with the eligibility of components of the Proposed Project for federal funding under the Airport Improvement Program or the Passenger Facility Charge Program, and approval for the relocation of the ASDE-X sensors. Those components of the SDCRAA's Proposed Project, for which the FAA has an associated federal action that are a prerequisite prior to implementation, comprise the Proposed Federal Action for this EA. A description of the Proposed Project components is provided in Section 1.3, **Table 1-1**, and includes any associated federal action(s). A detailed description of each component is provided in **Appendix A1**. The proposed components subject to FAA approval (the Proposed Action) include the following:[2]

- Demolish the existing Terminal 1.
- Construct new parallel Taxiway A.
- Construct 30-gate replacement Terminal 1 facility.
- Relocate three FAA ASDE-X sensors.
- Relocate five RON positions east of new Terminal 1.
- Eliminate two current RON positions.
- Construct new circulation roadways, including elevated departure curb, for new Terminal 1.
- Construct new on-airport entry roadway.

This EA has been prepared pursuant to the requirements of Section 102(2)(c) of the *National Environmental Policy Act of 1969* (NEPA), as amended; and Title 40, Code of Federal Regulations (CFR) §§ 1500-1508.[3] This EA has also been prepared in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (FAA, 2015a), and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* (FAA, 2006). This EA is intended to identify and consider potential environmental impacts related to SDCRAA's Proposed Project at SAN. The FAA is the lead federal agency to ensure compliance with NEPA.

This chapter provides a brief background of SAN, a description of the Proposed Project, a list of Proposed Project components including any associated federal actions, and a discussion of the purpose and need for SDCRAA's Proposed Project.

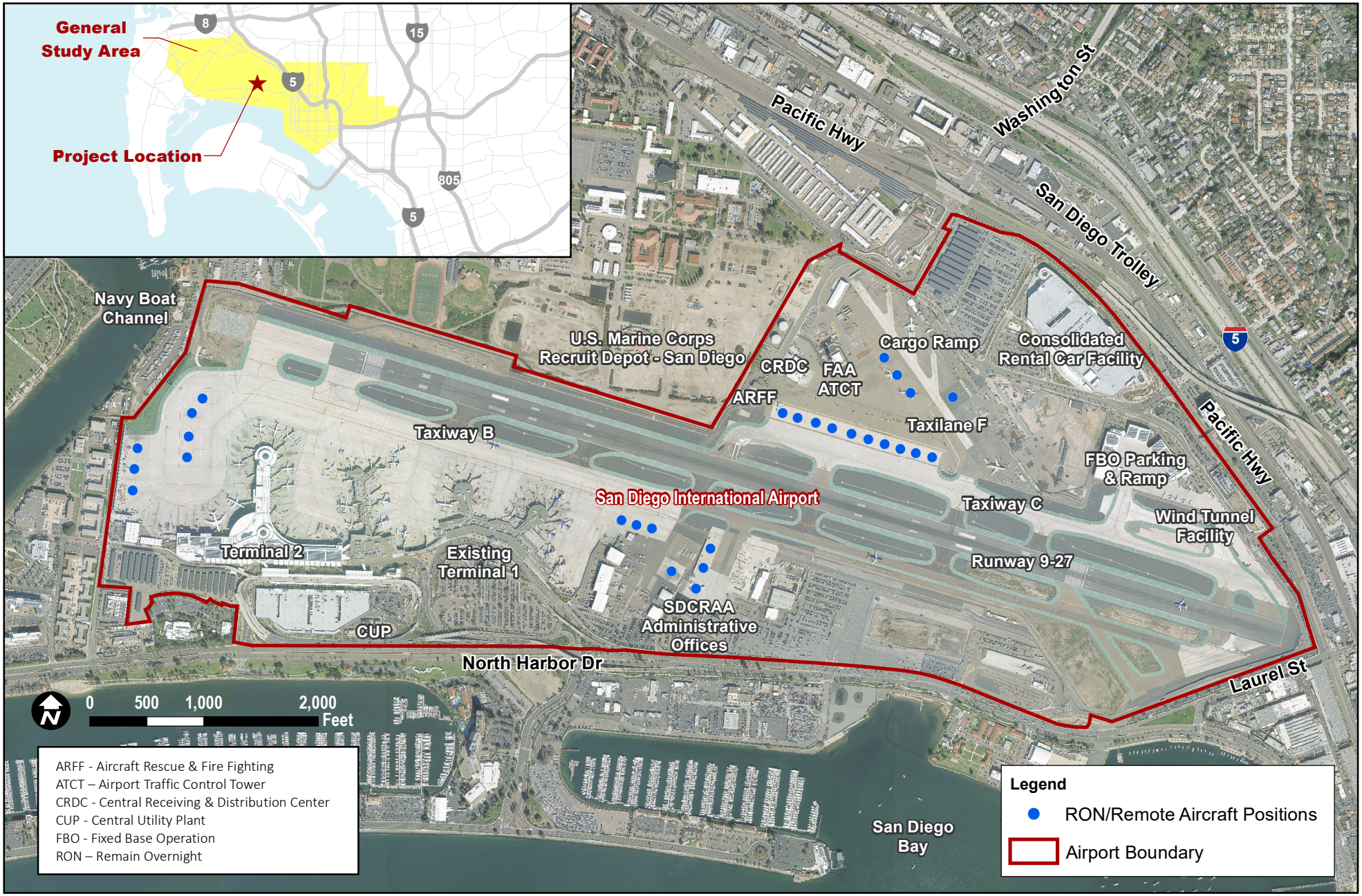
1.2 SAN Location and Description

SAN, a public use airport, is classified as a Large Hub in the FAA's National Plan of Integrated Airport System (NPIAS) (FAA, 2020a). SAN is in the northwest portion of the downtown area of the City of San Diego and is generally bounded by North Harbor Drive and San Diego Bay to the south, the Navy Boat Channel and Liberty Station mixed-use development to the west, the U.S. Marine Corps Recruit Depot (MCRD) San Diego to the north, and Pacific Highway and Interstate 5 (I-5) to the east. **Figure 1-1** shows the airport location. SAN is located within a dense urban area with a range of uses, including residential, commercial, industrial, and open space.

SAN covers 661 acres and based on annual aircraft operations, is the busiest single-runway commercial service airport in the nation. The airfield consists of Runway 9-27, five taxiways (Taxiways B, C, D, H, and J), and two taxilanes (Taxilanes A and F). SAN's terminal complex is comprised of three buildings: Terminal 1, Terminal 2-East, and Terminal 2-West. The combined terminals include 51 gates, ticketing counters, baggage handling, security screening, bathrooms and restaurants, and other amenities to serve the needs of commercial airline passengers. Terminal 1 opened in 1967 and is the oldest terminal facility at SAN. It is located at the east end of the terminal area and has 19 gates. Terminal 2-East, immediately

[2] U.S. Department of Transportation, Federal Aviation Administration, *San Diego International Airport (SAN) Airport Development Project (ADP) Section 163 Applicability*, letter to San Diego County Regional Airport Authority, dated May 15, 2020.

[3] Note that this document was initiated prior to the September 2020 revisions of the Council on Environmental Quality (CEQ) regulations and, thus, complies with the earlier regulation, and remains in compliance with FAA Orders 1050.1F and 5050.4B.



Source: CDM Smith, 2018. Aerial source: SDCRAA, 2019.
Note - this reflects RON positions in ramp areas as of March 2021.

Figure 1-1

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

PROJECT LOCATION

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west of Terminal 1, has 13 gates. Terminal 2-West, the newest terminal facility, provides 19 gates total. The ground transportation system located south of the terminals provides access roads, vehicle curbfronts, and parking facilities.

On the north side of Runway 9-27, apron area is available for air cargo and one general aviation Fixed Base Operator (FBO). FedEx, DHL, UPS, and other cargo aircraft operators use this apron area for loading/unloading, but cargo carriers maintain their own off-airport sorting facilities. Freight forwarding cargo facilities, including the processing of cargo carried aboard passenger flights (also referred to as "belly cargo"), were relocated to the south side of the airport, east of Terminal 1 and the current airport administration building, in spring 2021 as an independent action. The northern side of SAN also has the FAA-staffed Airport Traffic Control Tower (ATCT), an aircraft rescue and fire-fighting facility (ARFF), a central receiving and distribution center (CRDC), the Facilities Management Department offices and warehouse, a fuel farm, and the San Diego Air & Space Technology Center's (Convair) Wind Tunnel facility. A Rental Car Center that houses most of the rental car companies serving SAN is also located in this area.

As of March 2021, there are 28 RON aircraft parking positions in SAN's ramp areas. Fourteen RON positions are located on the north airfield adjacent to Taxiway C and Taxilane F. The remaining 14 RON positions are located adjacent to the terminal areas on the south airfield, seven of which are adjacent to Terminal 1 and the current airport administration building.

1.3 SDCRAA's Proposed Project

As shown in **Figure 1-2**, the primary components of SDCRAA's Proposed Project are: airfield improvements consisting of a new parallel Taxiway A and a slight shift of existing parallel Taxiway B; terminal area improvements consisting of the replacement of the existing Terminal 1 with 30 gates; demolition of the SDCRAA's administration building (also referred to as the former Commuter Terminal) and construction of a new administration building; relocation/elimination of RON positions; associated landside/ground transportation improvements (such as a new parking structure adjacent to the replacement terminal and a new airport access roadway coupled with a new multi-use pedestrian and bicycle pathway); and expansion of the CUP and Storm Water Capture and Reuse System. If approved, construction of the Proposed Project would be completed in two phases to allow the airport to continue functioning, while construction takes place. Phase A would construct the eastern portion of the terminal and associated taxiways while the existing Terminal 1 continues to function. Once Phase A is complete, the remaining portion of the taxiways and new terminal would be constructed in Phase B, while the eastern portion of the new terminal handles the passenger demand. Table 1-1 provides a description of the project components, the federal action (if applicable), and the associated phasing. **Appendix A1** provides a comprehensive description of the Proposed Project. Facilities to be demolished as part of the Proposed Project are shown in **Figure 1-3**.

As previously stated, some components of the project require a federal approval prior to construction and some components of the project do not require any federal action. However, all components of SDCRAA's Proposed Project are being evaluated for potential environmental impacts pursuant to NEPA.

1.3.1 Proposed Project Components Subject to FAA Approval (Federal Action)

Based on review of the improvements requested by SDCRAA, the FAA identified the following components that are subject to FAA's review and approval authority (FAA, 2020b). The components described in this section comprise the Federal Action:

1.3.1.1 Airfield Components:

- Relocate parallel Taxiway B south, replacing asphalt pavement sections with concrete.
- Construct new parallel Taxiway A, south of relocated parallel Taxiway B.

Source: Jacobsen | Daniels, 2021.

Figure 1-2

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

PROPOSED PROJECT

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LEGEND

Buildings
- A Airport Administration Building
- B Terminal 1

Surface Elements
- C On-Airport Roadway
- D Airport Administration Building Parking Lot and Access Roads
- E Taxiway B
- F Employee/Public Parking Lots
- G Terminal 1 Parking Lot
- H Airport Apron (including 5 RON Positions)
- I Airfield Ovals

Buildings that have been, or will be, removed prior to construction, separate and independent from the Proposed Project

Source: SDCRAA 2021

Figure 1-3

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

FACILITIES TO BE REMOVED

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The new Taxiway A centerline would be laterally separated about 219 feet south of a relocated parallel Taxiway B from the very west end of Runway 9-27 east to Taxiway Connector B4. Its configuration would accommodate Airplane Design Group (ADG)-III sized aircraft.[4] Realignment of Taxiway B to meet FAA standards is required in areas where Taxiway A is being constructed. The realignment would create a 400-foot runway separation to accommodate ADG-V aircraft movements. Additionally, subsurface infiltration areas would be constructed in certain airfield ovals formed after relocating Taxiway B, to allow stormwater infiltration. See Table 1-1 for phasing of construction and required Federal actions.

1.3.1.2 Landside/Terminal Components:

- Construct 30-gate replacement Terminal 1 facility.
- Relocate three FAA ASDE-X sensors.
- Demolish the existing Terminal 1.
- Relocate five RON positions east of new Terminal 1.
- Eliminate two current RON positions.

The replacement Terminal 1 would be a linear building that encompasses the general footprint of the existing Terminal 1 and the area to the southeast. The terminal would be constructed in two phases. Phase A would demolish the eastern end (3 gates) of the existing terminal and construct 19 new gates while the remaining portion of the existing Terminal 1 (16 gates) continues to operate. Phase B would demolish this remaining portion of the existing Terminal 1 and complete construction of the replacement Terminal 1 by constructing 11 more gates. At completion, the replacement Terminal 1 would be approximately 1,210,000 square feet in size and would have 30 gates. Two of the new gates would be able to accommodate ADG-V-sized aircraft, while the rest of the new gates would be sized for ADG-III aircraft. Five RONs, sized for ADG-III aircraft, would be relocated due to the construction of the new terminal, while two RONs would be eliminated. Finally, three FAA ASDE-X sensors would be displaced by SDCRAA's Proposed Project and would be relocated to the existing Airline Support Building to the east of the terminal project area.

1.3.1.3 Landside/Ground Transportation Components:

- Construct new circulation roadways, including elevated departure curb, for new Terminal 1.
- Construct new on-airport entry roadway.

The Proposed Project would include a new loop road with an at-grade arrivals curb and an elevated departures curb structure to serve the new Terminal 1. The new loop road would also connect to the Terminal 2 frontage and the airport's current exit roadways. In addition, a new three-lane, on-airport entry roadway with an accompanying bicycle and pedestrian pathway would be constructed that would connect to North Harbor Drive and allow westbound SAN traffic to enter SAN at the existing intersection of North Harbor Drive and Laurel Street. The new entry roadway would include construction of an east-bound roadway segment to connect to the on-airport Terminal Link Road, allowing airport shuttles and fleet vehicles to travel from the airport's south side to its north side (and vice versa) without accessing public streets.

1.3.2 Project Components Not Subject to FAA Approval

The components not subject to FAA approval, but necessary for the project to function and are evaluated as part of SDCRAA's Proposed Project, include:

- Demolition of the SDCRAA administration building.
- Construction of the replacement SDCRAA administration building.

[4] Aircraft are grouped by the FAA based on wingspan or tail height ("Airplane Design Group" or "ADG"). ADG III aircraft, such as the Boeing 737 and Airbus 320, have a wingspan from 79 feet up to 118 feet or tail height from 30 up to 45 feet. ADG V aircraft, such as the Boeing 787 and Airbus 340, have a wingspan from 171 feet up to 214 feet or tail height from 60 up to 66 feet.

- Construction of a new 5,500-space automobile parking structure adjacent to new Terminal 1.
- Expansion of the stormwater capture and reuse system.
- Expansion of the existing CUP.

The existing SDCRAA administration building is currently within the footprint of the proposed replacement Terminal 1. It would be demolished, and a replacement administration building, approximately 150,000-square-foot in size, would be constructed near the intersection of McCain Road and Airport Terminal Road. A new 5-story parking structure would be developed adjacent to the replacement Terminal 1 and would provide up to 5,500 parking stalls. The parking structure would increase the net number of parking spaces at SAN by approximately 650 stalls. The existing SAN Stormwater Capture and Reuse system diverts runoff from approximately eight acres of the Terminal 2 Parking Plaza area, which is then treated by a series of high-rate media filters and ultraviolet light before being pumped to the airport's CUP, where it is used as make-up water. The Proposed Project would increase the system's capture area by approximately 170 acres and include construction of an underground cistern tank with up to 3.4 million gallons of storage. Stormwater runoff from these areas is currently being treated using more traditional Best Management Practices, such as catch basin inlet filters. Finally, the existing CUP would be expanded by 12,000 square feet at its existing location to increase its capacity to provide heat and chilled water for climate control for all airport terminals.

Table 1-1: Proposed Project Description

SDCRAA's Proposed Project Components	Federal Action(s)[5]
Airfield Improvements (including required utilities)	
Construct a new parallel Taxiway A about 219 feet south of the relocated Taxiway B from the very west end of Runway 9-27 east to the Taxiway Connector B4. Taxiway A would be 75 feet wide and about 6,300 feet long. Taxiway A would be appropriately marked, lighted, and signed. *Phase A:* • Construct the central and eastern sections of Taxiway A. *Phase B:* • Construct the western section of Taxiway A, in conjunction with completion of the new Terminal 1.	FAA ALP approval. FAA approval for AIP/PFC funding decisions.
Relocate Taxiway B, from the west end of Runway 9-27 east to Taxiway Connector B4, 37.5 feet south of its present location. The eastern portion of Taxiway B would remain in its current location of 362.5 feet south of the runway. A slight jog/curve at Taxiway Connector B4 would connect the Taxiway B segments. The relocated Taxiway B would be 75 feet wide and about 6,800 feet long. Taxiway B would be appropriately marked, lighted, and signed. *Phase A:* • Relocate the central portion of Taxiway B and replacement of its asphalt pavement between Taxiway Connectors B4 and B6 with concrete. *Phase B:* • Relocate remaining western section of Taxiway B and form the airfield oval infiltration areas.	FAA ALP approval. FAA approval for AIP/PFC funding decisions.

[5] The Proposed Project components that are subject to a Federal action comprise the Proposed Action as described in 40 CFR §1502.14.

SDCRAA's Proposed Project Components	Federal Action(s)[5]
Replacement Terminal 1 and Associated Apron Improvements (including required utilities)	
Demolish the existing 284,000-square-foot Terminal 1. Construct a new, 3-story Terminal 1 with 30 gates and approximately 1,210,000 square feet in space. The maximum height on the new Terminal 1 would be 90 feet at the southern façade/ticketing lobby. Two gates would be sized to allow ADG-V-sized aircraft. All other gates and apron would be sized for ADG-III aircraft. *Phase A:* • Relocate three ASDE-X sensors from the existing administration building to the Airline Support Building. • Demolish Gates 1, 1A, and 2 of existing Terminal 1. • Construct 19 gates of the new Terminal 1. *Phase B:* • Demolish the existing Terminal 1's remaining gates and building and construct 11 gates to the new terminal by extending the new terminal to the west.	FAA ALP approval. Federal approval for AIP/PFC funding decisions.
Relocate three FAA ASDE-X sensors from the current administration building prior to demolishing the building. This work would be accomplished during Phase A of the Proposed Project.	FAA ALP approval. FAA approval for, and relocation of, ASDE-X sensors.
Relocate five of seven existing RON positions on the eastern side of existing Terminal 1 to an area east of the replacement Terminal 1 and eliminate the two other RON positions. The five RON positions would be relocated during Phase A of the Proposed Project and be sized to accommodate ADG-III aircraft.	FAA ALP approval. FAA approval for AIP/PFC funding decisions.
Landside/Ground Transportation Improvements (including required utilities)	
Construct an inbound on-airport road, with multi-use pedestrian and bicycle pathway, connecting at North Harbor Drive and Laurel Street. Complete limited transition improvements at the on-airport road's intersection with the public roadways. All work would be conducted in Phase A.	Federal approval for AIP/PFC funding decision.
Construct on-airport circulation roadways and curbfronts connecting the terminals, parking, and transit stops, including a new loop road that would provide separate arrival and departure curbs for the new Terminal 1 and a new east-bound lane to connect with the on-airport Terminal Link Road, which connects the south and north sides of the airport, allowing SAN shuttles and fleet vehicles to no longer need to access public streets. *Phase A:* • Construct circulation roadways to serve the new Terminal 1, including an elevated departure curb structure. • Construct a roadway segment to connect to the on-airport Terminal Link Road. *Phase B:* • Extend the at-grade arrivals curb in front of the new Terminal 1.	Federal approval for AIP/PFC funding decision.
Items That Do Not Require Federal Action:	
Construct a 5,500-space parking structure south of the new terminal at the current Terminal 1's surface parking lot. The structure would be up to five levels and 60 feet in height for the main roof deck. *Phase A:* • Construct the new parking structure's western section. *Phase B:* • Construct the eastern section of the parking structure.	No FAA approvals.
Install a new stormwater drainage system in conjunction with the replacement Terminal 1 that includes an underground storage tank to connect to and expand upon the existing SAN Stormwater Capture and Reuse System, as well as subsurface infiltration areas. *Phase A:* • Construct an underground storage tank (cistern) with a capacity of up to 3.4 million gallons. The cistern's dimensions would be approximately 140 feet in diameter and 32 feet in height. • Install infiltration areas under the airfield ovals in Phase A project areas.	No FAA approvals.

SDCRAA's Proposed Project Components	Federal Action(s)[5]
Expand the existing CUP, located along Airport Terminal Road adjacent to the existing Terminal 2 Parking Plaza, by 12,000 square feet. The CUP expansion would be completed during Phase A.	No FAA approvals.
Demolish the existing SDCRAA's administration building. Construct a new administration building near the intersection of McCain Road and Airport Terminal Road with a maximum height of 84 feet during Phase A.	No FAA approvals.

Source: SDCRAA, February 2021.
Key:
AIP = Airport Improvement Program; PFC = Passenger Facility Charge; TIFIA = Transportation Infrastructure Finance and Innovation Act; ALP =Airport Layout Plan

1.3.3 Forecast Activity Levels and Airport Capacity

An aviation forecast provides the basis of the aircraft movements and passenger numbers that, in turn, assist in defining the types and timing of SAN improvements that may be required. Further, the aviation forecast is the basis for the analysis in determining certain environmental impacts (such as aircraft noise and air quality). This EA considered the capacity of the existing airport facilities and how the Proposed Project might affect existing and future capacity. As noted in Section 5 of the SAN Aviation Activity Forecast Technical Memorandum included in **Appendix A2** of this EA, the single runway at SAN limits the number of arrivals and departures to about 50 per hour. In addition, a mandatory nighttime curfew was established in 1989 that restricts departures by any aircraft between the hours of 11:30 p.m. and 6:30 a.m. and gate departures between the hours of 11:15 p.m. and 6:15 a.m.[6] The single runway, the normal pattern of when people prefer to fly, and the mandatory curfew limit SAN to approximately 292,000 annual aircraft operations.

This EA uses the SAN Aviation Activity Forecast that was approved by FAA in June 2019. The forecast is based on a 2018 baseline year, which represented the most recent complete year of operations at the time, and projected activity levels. However, in 2020, the world experienced the COVID-19 pandemic (also known as the Coronavirus pandemic), which resulted in a significant reduction in aviation activity. Activity at SAN similarly decreased from its 2019 levels of 25.2 million passengers and 231,352 operations to 9.2 million passengers and 132,566 operations, respectively, in 2020. During 2021, nationwide aviation activity, including at SAN, has been slow to rebound pending the availability of a vaccine and a resumption of normal leisure and business activities. Various industry experts predict that activity may not rebound to 2019 levels until 2026 or 2027, while others suggest shorter or longer timeframes. The FAA's most recent Terminal Area Forecast, which was released in May 2021[7] and incorporates COVID-19 impacts, predicts that aircraft operations and passenger levels at SAN will return to 2019 levels by 2025.

Nonetheless, SDCRAA's Proposed Project remains justified. Efficient airfield circulation, improved gate availability, and passenger level of service improvements are warranted for existing, as well as future, aviation activity. Terminal 1 still needs to meet modern building requirements independent of passenger demand. Finally, aviation activity is predicted to recover at SAN at about the same time that construction is completed. Since the Proposed Project would not increase runway capacity, continued use of the currently approved forecast would only overestimate potential operational impacts. Therefore, the constrained scenario in the 2018 baseline forecast is being used for environmental review purposes.

This EA also considered the effect that the Proposed Project, including the additional gates and improved taxiway flow, would have on airfield capacity. The existing 51 gates, 28 RON positions, and taxiway system at SAN can accommodate the runway constrained airfield capacity of SAN (approximately 292,000 annual aircraft operations). Improving the taxiway efficiency would not alter the runway's acceptance rate for

[6] San Diego County Regional Airport Authority Codes, Section 9.40, *Airport Use Regulation at San Diego International Airport*. Available: https://www.san.org/Airport-Authority/codes-policies.

[7] Available at https://taf.faa.gov/.

aircraft or increase operational capacity; the taxiway improvement would reduce delays for aircraft to reach and depart their gates, as well as facilitate transition to the opposite end of the runway, by allowing bidirectional taxi movement adjacent to the terminals. Without the Proposed Project, SAN would serve the forecasted annual enplanements using all its terminal gates along with some RONs acting as hardstands[8] during the daytime hours. Multiple RON spots are capable of accommodating ADG-V aircraft. Therefore, increasing the number of gates and enabling dual parallel taxiways would not increase SAN's ability to accommodate more aircraft operations than what it can now with the single runway. No changes to the runway configuration, aircraft fleet mix, number of operations, time of aircraft operations, air traffic procedures, or airspace would occur as a result of the Proposed Project.

Although the proposed Terminal 1 square footage is larger than the existing terminal, forecast enplanements are not based on terminal size, but rather market factors as described in **Appendix A2**.[9] That is, the larger terminal square footage is meant to provide better service to the enplaning/deplaning passengers that are independently predicted to use SAN due to market (e.g., socioeconomic, proximity, population, employment, per capita income) factors, but with the limitation of a single runway. The Proposed Project is not designed to expand airfield capacity, but rather enable the existing and forecasted level of passengers to experience a higher level of customer service in the passenger terminal facilities and enable the taxiway system to operate more efficiently. **Table 1-2** lists the forecasted activity levels that serve as the basis for this EA. **Appendix A2** documents the forecasting process and the consideration of the constraints.

Table 1-2: Constrained Aviation Activity Forecast Summary

	Historical 2018	2026	2031
Annual Aircraft Operations			
Commercial Aircraft Operations			
Air Carrier			
Passenger Airlines	197,244	239,400	252,600
Cargo Airlines	3,850	4,400	5,300
Other	372	400	600
Total Air Carrier	**201,466**	**244,200**	**258,500**
Air Taxi			
Passenger Airlines	---	---	---
Cargo Airlines	2,530	2,900	3,100
Other	9,967	2,300	1,800
Total Air Taxi	**12,497**	**5,200**	**4,900**
Total Commercial Aircraft Operations	213,963	249,400	263,400
General Aviation	10,337	8,760	8,030
Military	758	640	650
TOTAL ANNUAL AIRCRAFT OPERATIONS	**225,058**	**258,800**	**272,080**
Annual Enplaned Passengers	**12,125,938**	**16,238,000**	**18,360,000**

Source: Leigh Fisher analysis, April 2021.
Note: Years 2026 and 2031 are interpolated from the Constrained Forecast in **Appendix A2**, based upon the Flight Schedules prepared for the study. Historical 2018 based upon SDCRAA records.

[8] A "hardstand" represents an aircraft parking area where passengers are transported between the aircraft and the terminal via a shuttle bus, or walk, and typically board the aircraft or deplane through the use of portable stairs or, for those with mobility limitations, a portable elevator.

[9] To estimate facility requirements for the terminal a number of resources were used, including FAA Advisory Circular 150/5360-13A, Airport Terminal Planning, available at https://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentNumber/150_5360-13; Airport Cooperative Research Program Report 25, Airport Passenger Terminal Planning and Design Volume 1; Guidebook; 2009. Available: http://onlinepubs.trb.org/onlinepubs/acrp/acrp_rpt_025v1.pdf.

1.4 Purpose and Need

The purpose and need for the Proposed Federal Action is to support development and maintenance of safe and efficient facilities at SAN addressing airside and landside deficiencies, including opportunities for improved passenger experience, and airfield operation, consistent with the goals and objectives of SDCRAA's Proposed Project. The SDCRAA's goals and objectives are outlined below.

1.4.1 SDCRAA's Proposed Project Goals and Objectives

The following goals and objectives were identified for the Proposed Project (**Appendix A1** provides planning information to support the Proposed Project purpose and need):

- Goal and Objective: Address inefficient airfield circulation adjacent to the terminals that delay aircraft going to or departing from their gates.
  - Need: The current airport layout requires aircraft using the northern ends of the Terminal 1 and Terminal 2-East concourses to push back directly onto active Taxiway B. This conflicts with arriving flights needing to exit Runway 9-27, impedes free flow taxi movements on Taxiway B, and results in the need for FAA Air Traffic Control intervention and increasing controller workload to hold aircraft on the apron short of the runway exits. This adds to congestion in the apron area and at the existing gates. The existing taxiway system does not accommodate bidirectional aircraft movement and does not enable an optimal path for aircraft to exit the runway. This lack of bidirectional flow results in aircraft being held/delayed, especially while aircraft flow in the opposite direction and/or wait at gates for pushback.
- Goal and Objective: Modernize the oldest terminal (Terminal 1) at SAN to meet the current California building code requirements, especially for seismic resiliency and energy efficiency, while improving the level of service to existing and projected future passengers and increasing gate availability within the constraints of the existing airfield's runway capacity.
  - Need: Terminal 1 was built in 1967 and does not meet current building codes, including seismic resiliency, accessibility requirements, and energy efficiency standards. Terminal 1 is operating beyond its design capability. With the forecasted aviation activity levels, the level (quality) of service is expected to further decline due to the overcrowding of the facility. Additional passenger processing space would be needed to efficiently serve this forecasted demand. **Table 1-3** shows the terminal area facility requirements associated with different Passenger Activity Levels (PALs), which are based on millions of enplaned passengers (for example, PAL 12 is equivalent to 12 million enplanements which coincided with 2018 levels). As activity levels grow, longer lines and wait times would occur in the ticketing areas, security checkpoints, and at most passenger amenities (i.e., bathrooms, restaurants, and concession stores). Eventually, once current gates are fully utilized, some SAN passengers would be bused to remote hardstands to board their flights. These hardstand operations would further lower the quality of service to passengers. Accordingly, 11 additional gates are needed based upon airport planning guidance and industry research to better accommodate projected passengers and aircraft operations. The additional gates would also serve to improve on-time flight performance due to improved gate availability and schedule reliability. **Appendix A1**, Section A2.3 discusses the need for gates and the method used to identify terminal and gate needs.

Table 1-3: Terminal Area Facility Requirements at Various Passenger Activity Levels (PALs)

Functional Area	PAL (Millions of Enplaned Passengers)			
	PAL 12 (2018)	PAL 14	PAL 16 (Expected in 2026)	PAL 18 (Expected in 2031)
Gates				
Terminal 1	19	19	30	30
All Terminals	51	62	68	73
Recommended Terminal 1 Space (square footage) by Function:				
Check-In/Ticketing	17,559	24,600	25,800	30,300
Outbound Bag Screening and Makeup	38,459	167,700	176,700	207,300
Security Screening Checkpoint	23,659	53,700	55,900	65,500
Passenger Lounge/Holdroom	48,359	139,900	147,400	148,500
Baggage Claim and Inbound Baggage Handling	30,463	60,200	60,200	60,200
Custom and Border Protection	0	0	0	0
Concessions	25,700	121,000	155,500	174,000
Restrooms	6,900	44,300	45,900	53,500
Secondary Function	66,000	72,900	76,100	83,500
All Other Areas	27,200	233,900	244,100	266,700
Total Terminal 1 Area	284,300	918,200	987,600	1,089,500
TOTAL Airport Terminal Space (Terminal 1 and 2)	**1,351,100**	**1,639,800**	**1,801,000**	**2,105,300**

Source: Leigh Fisher, September 2019.
Note: Totals may reflect rounding.

- Goal and Objective: Alleviate congestion caused by airport traffic on Harbor Drive, increase parking availability, and improve connection to the terminal complex.
  - Need: As activity levels grow, passengers would experience difficulty finding on-airport parking, resulting in vehicles circulating within the airport parking facilities in search of a parking spot. In addition, some drivers, who are unable to find on-site parking, may choose to continue to recirculate on airport roadways until a parking stall becomes available, increasing roadway congestion. Today, SAN is accessed by motorists via an arterial roadway system, which is also heavily used by local commuters and visitors to the San Diego Bay waterfront. Unlike many large commercial service airports, there is no direct highway access to/from SAN. SAN's forecasted increase in enplanements would continue to contribute to area roadway congestion.

1.5 Requested Federal Action

SDCRAA is requesting the following actions for the proposed components subject to FAA approval (see Section 1.3.1 above):[10]

- Unconditional approval of the ALP to depict the proposed improvements subject to FAA approval pursuant to 49 U.S.C. 47107(a)(16).
- Determinations under 49 U.S.C. §§ 47106 and 47107 that are associated with the eligibility of the Proposed Project for federal funding under the Airport Improvement Program and under 49 U.S.C. § 40117, as implemented by 14 CFR § 158.25, to use passenger facility charges collected at the airport to assist with construction of potentially eligible development items from the ALP.
- Approval for and relocation of ASDE-X sensors (49 U.S.C. 44502 (a)(1)).

[10] Recent changes in federal law have required the FAA to revisit whether FAA approval is needed for certain types of airport projects throughout the nation. Section 163(d) of the FAA Reauthorization Act of 2018 limits the FAA's review and approval authority for ALPs to those portions of ALPs or ALP revisions that:

- materially impact the safe and efficient operation of aircraft at, to, or from an airport;
- adversely affect the safety of people or property on the ground adjacent to an airport because of aircraft operations; or
- adversely affect the value of prior federal investments to a significant extent.

Chapter 2 Alternatives

2.1 Introduction

The Council on Environmental Quality (CEQ) has considered the review of alternatives as the heart of the NEPA process. It includes identifying reasonable and feasible alternatives that meet the Purpose and Need with a lesser environmental consequence. This chapter describes alternatives to the airfield modifications and replacement terminal and associated infrastructure, the primary components of SDCRAA's Proposed Project. Landside and ground access improvements at airports are designed around the airfield and terminal needs and, thus, were considered in relation to the terminal alternatives. In addition, this chapter summarizes the screening process and evaluation criteria used to identify, compare, and evaluate alternatives.

2.2 Identification of Potential Alternatives

2.2.1 Range of Alternatives Considered

The following alternatives were considered:

- Off-Site Alternatives:
  - Use other area airports and/or construction of a new airport.
  - Use other modes of transportation.
- On-Site Alternatives:
  - Extend Taxiway C on north side and renovate Terminal 1 in place.
  - Extend Taxiway C on the north side and relocate Terminal 1 to north side.
  - Add Taxiway A on south side and remove portions of Terminal 1.
  - Add Taxiway A on south side and construct a larger replacement Terminal 1 extending to the southeast, adding net 11 gates (SDCRAA's Proposed Project).
- No Action Alternative

Each alternative is described in Section 2.3. Section 2.2.2 provides an overview of the screening process.

2.2.2 Alternatives Screening Process Overview

The alternatives evaluation involved a two-step screening process, as depicted in **Figure 2-1**. The first step addressed whether the alternatives would satisfy the purpose and need. The second step was used to determine if an alternative was feasible. In this case, feasibility was reviewed to ensure that the alternative could be implemented, or be practical, from a technical or economic perspective. Alternatives that did not meet the criteria established at Steps 1 and 2 were eliminated from further consideration and were not subject to a detailed analysis of environmental consequences provided in Chapter 4.

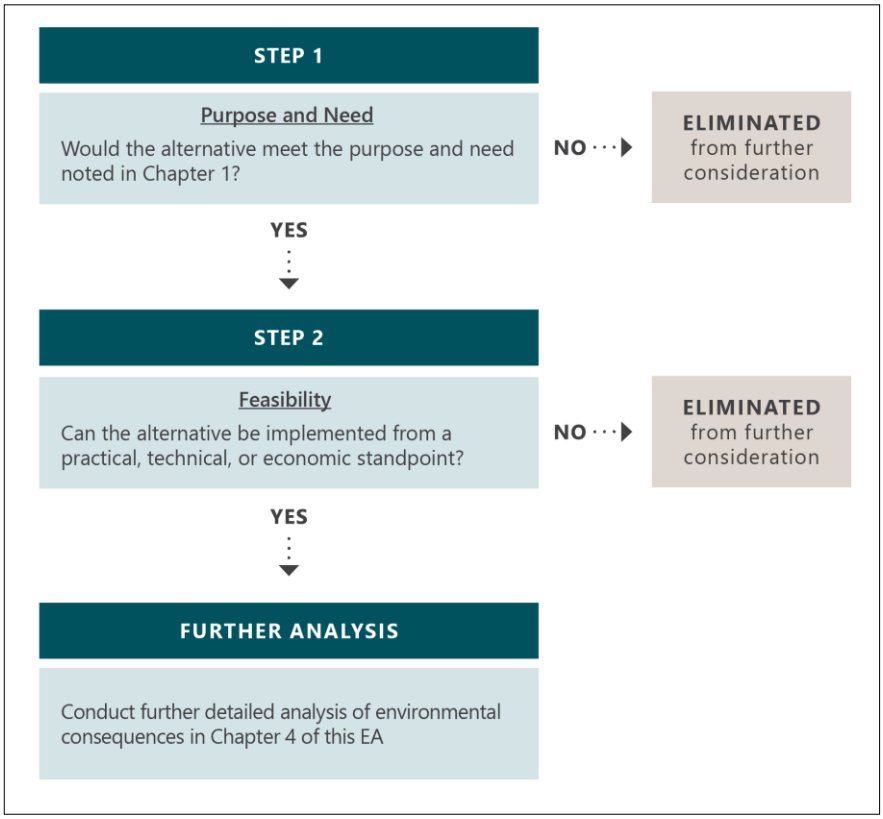
2.3 Alternatives Considered

The following subsections discuss the alternatives considered. The sections begin with identifying the breadth of the alternative (what it includes) and then documents results of each applicable screening step.

2.3.1 Off-Site Alternatives (Construct a New Airport, Use of Other Existing Airports, or Use Other Modes of Transportation)

Two primary categories of off-site alternatives were considered: a) use of another existing airport or construction of a new airport; and b) use of other modes of transportation. A third option is a combination of a) and b) which would be represented by the Cross Border Xpress (CBX). The CBX is a pedestrian bridge to the Tijuana International Airport for passengers traveling from the U.S. to locations within Mexico. In effect, these alternatives might help accommodate the San Diego region's forecasted increase in commercial air service demand, as there would be other mode options for passengers to travel to and from the region.

Figure 2-1 Alternative Screening Process



Source: CDM Smith, 2021.

Even if a new airport was constructed, another existing airport in the region was improved, or other transportation modes (such as rail, bus, or auto) were improved to accommodate forecasted aviation demand, or a combination of the two (CBX), SAN would continue to operate and, due to its well-established air service and close proximity to downtown San Diego, would continue to attract high numbers of passengers and aircraft operations.

The existing airport layout would then still require aircraft using the northern ends of Terminal 1 and Terminal 2-East concourses to push back directly onto active Taxiway B, impeding free flow taxi movements on Taxiway B. In addition, bidirectional taxiway flow would not be able to occur in the terminal apron area. Passengers using the existing Terminal 1 would continue to experience long lines and wait times in the ticketing areas, security checkpoints, and at most passenger amenities (i.e., restrooms, restaurants, and concession stores), as well as experience over-crowded holdrooms (passenger seating/waiting areas within the concourse). And while opening a new airport or enhancement of other modes of transportation might alleviate traffic on North Harbor Drive by diverting passengers from SAN to other transportation modes or another airport, these alternatives would not meet all of the purpose and need. SDRCAA and the FAA do not have the authority to require passengers or airlines to use another airport.

The off-site alternatives would not meet the first criteria and, therefore, would not advance to Step 2 of the screening analysis.[11] No further consideration was given to them in the environmental consequences analysis.

[11] An extensive analysis of alternative airport locations and a new airport for the San Diego Region have been considered for years. Such an airport could not be completed in 15-20 years and thus would not meet purpose and need. See **Appendix A2**, Section D2.2 and https://www.san.org/plan.

2.3.2 On-Site Alternatives (Extend Taxiway C with Terminal 1 Renovations, Extend Taxiway C with Constructing North Side Terminal, Add Taxiway A with Removal of Portions of Terminal 1, Add Taxiway A and Replace Terminal 1 with Larger Terminal Extending Southeast [SDCRAA's Proposed Project])

Four on-site alternatives for addressing the airfield and terminal needs were also considered: a) extend Taxiway C on the north side of the runway and renovate the existing Terminal 1 in-place; b) extend Taxiway C on the north side and construct a North Side Terminal; c) add a new Taxiway A on the south side of the runway and remove portions of existing Terminal 1, as needed; and d) add a new Taxiway A on the south side and replace Terminal 1 with larger terminal extending Southeast (SDCRAA's Proposed Project) (see **Figures 2-2A** through **2-2D**).

2.3.2.1 Extend Taxiway C to Full Runway Length and Renovate Existing Terminal 1 In Place

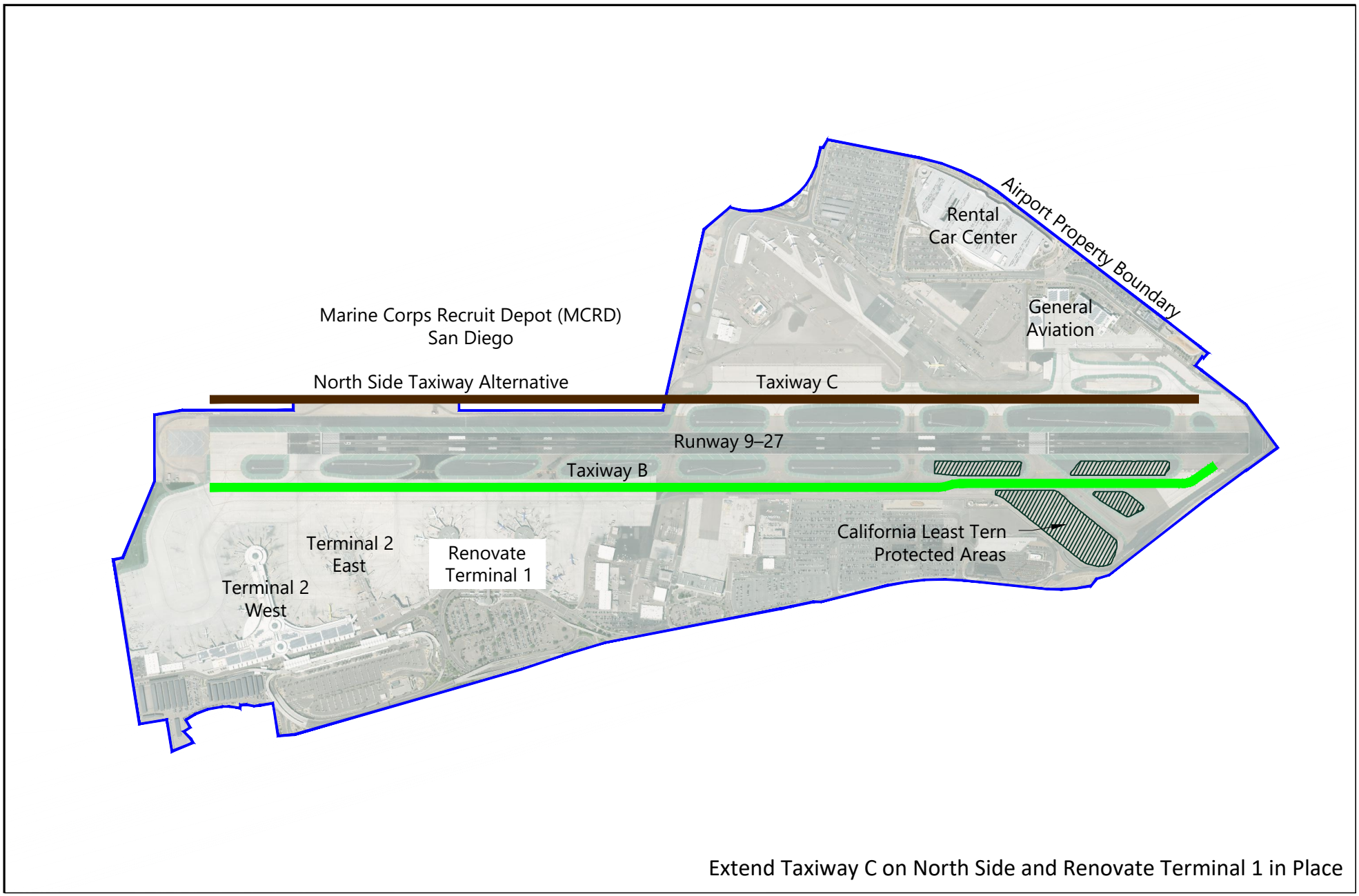
The first on-site alternative would extend Taxiway C towards the west on the airport's north side creating a full-length taxiway. Terminal 1 would remain in its current location, size, and configuration and there would be little ability to improve roadways. Limiting Terminal 1 to its current 19-gate configuration would ultimately require hardstand boarding operations, in which passengers would be bused to remote aircraft parking positions to board and/or deplane their flight and, thus, would decrease passenger levels of service. This alternative would not decrease surface traffic on North Harbor Drive. With the extension of Taxiway C, SAN would have two full-length taxiways parallel to its single runway, thus allowing bidirectional aircraft taxiway flow. However, the resulting airport layout would cause an increase in the number of aircraft runway crossings, as all passenger aircraft would still need to travel to the airport's terminal area on the south side (i.e., new operational inefficiencies would be created) in conflict with Advisory Circular 150/5300-13A, *Airport Design, Change 1*; aircraft are not able to cross a runway until sufficient separation occurs with landing and departing aircraft. Additionally, this alternative would require use of MCRD San Diego property, which would require the base to be closed. Since there are no plans being considered at this time to close or relocate MCRD San Diego, it is not considered feasible because SDCRAA could not access the property. Therefore, this alternative would not meet purpose and need and, thus, was eliminated from further consideration.

2.3.2.2 Extend Taxiway C to Full Runway Length and Relocate Terminal 1 to North Side

The second on-site alternative would construct a full-length parallel taxiway on the north side of the runway by extending Taxiway C. Like the prior alternative, the resulting airport layout would cause an increase in the number of aircraft runway crossings, as passenger aircraft using Terminal 2 would still need to travel to the south side and as such would not improve the airfield operational conditions. This alternative would also relocate Terminal 1 to the airport's north side to meet the spatial needs for improved passenger level of service, as well as construct a new airport entry road and on-airport roadways on the north side to serve a north side terminal. There would be no new administration building or change in the on-airport roadways on the south side of SAN. The resulting split-terminal operations (north and south terminals divided by the runway) could be confusing for passengers/airport users, require duplicate shuttle buses, and would create challenges for airline/tenant operations. For example, some connecting passengers would need to transfer from this new north terminal to Terminal 2 (East or West) and vice versa. In addition, the relocated Terminal 1 would displace other essential airport operations, such as SAN's air cargo facilities. For these reasons, the alternative does not meet purpose and need and was eliminated from further consideration. Additionally, this alternative would require use of MCRD San Diego property, which would require the base to be closed. Since there are no plans being considered at this time to close or relocate MCRD San Diego, it is not considered feasible because SDCRAA could not access the property. Therefore, this alternative would not meet purpose and need and, thus, was eliminated from further consideration.

2.3.2.3 Add Taxiway A and Remove Portions of Terminal 1

The third on-airport alternative would add Taxiway A on the airport's south side (similar to SDCRAA's Proposed Project) but would require removal of portions of the existing Terminal 1's west and east concourses to accommodate the new taxiway. This alternative would improve airfield efficiencies by



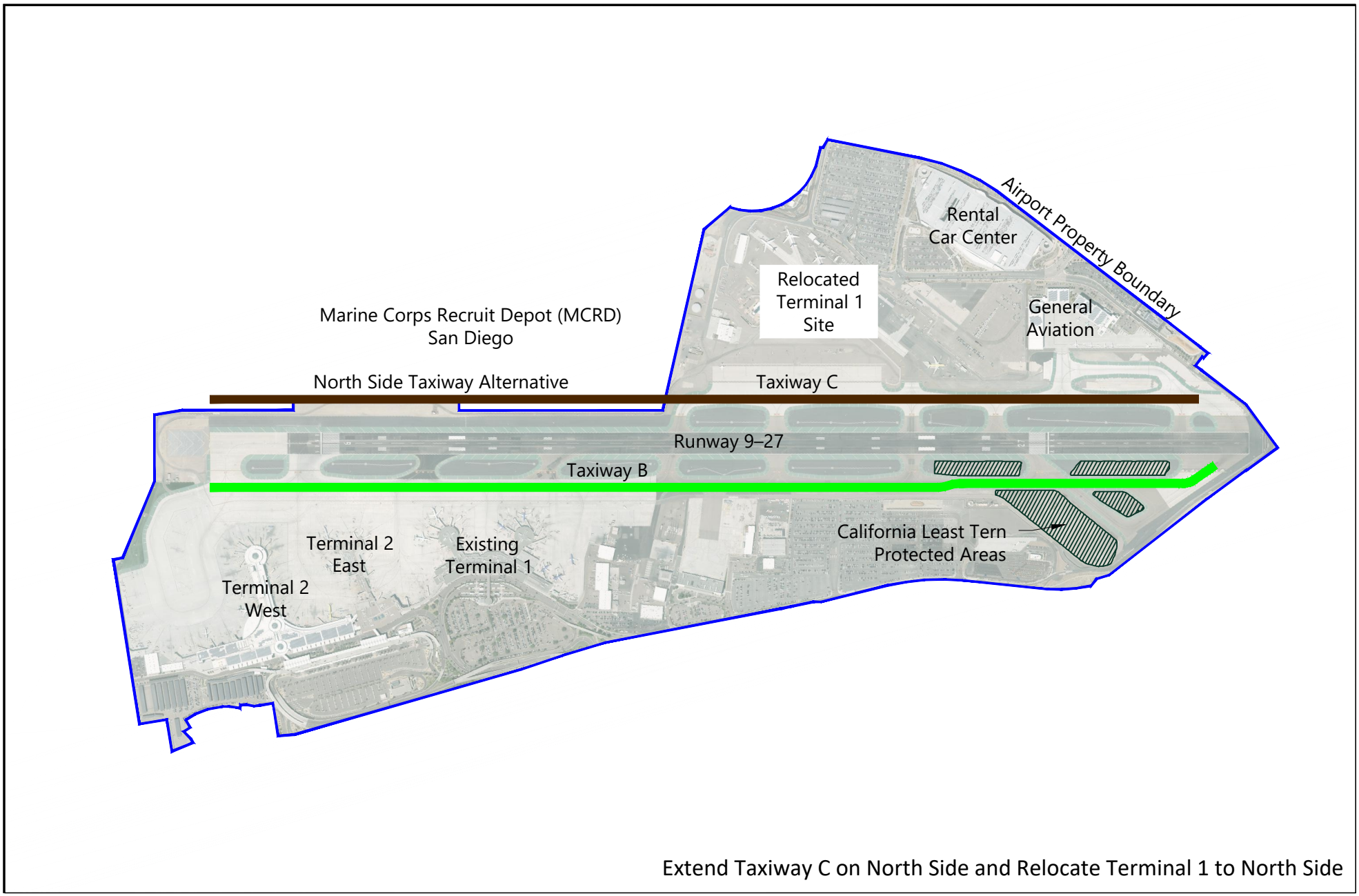
Source: CDM Smith, May 2021.

Figure 2-2A

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

ALTERNATIVE TERMINAL AND TAXIWAY LOCATIONS

2021 | Final Environmental Assessment



Source: CDM Smith, May 2021.

Figure 2-2B

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

ALTERNATIVE TERMINAL AND TAXIWAY LOCATIONS

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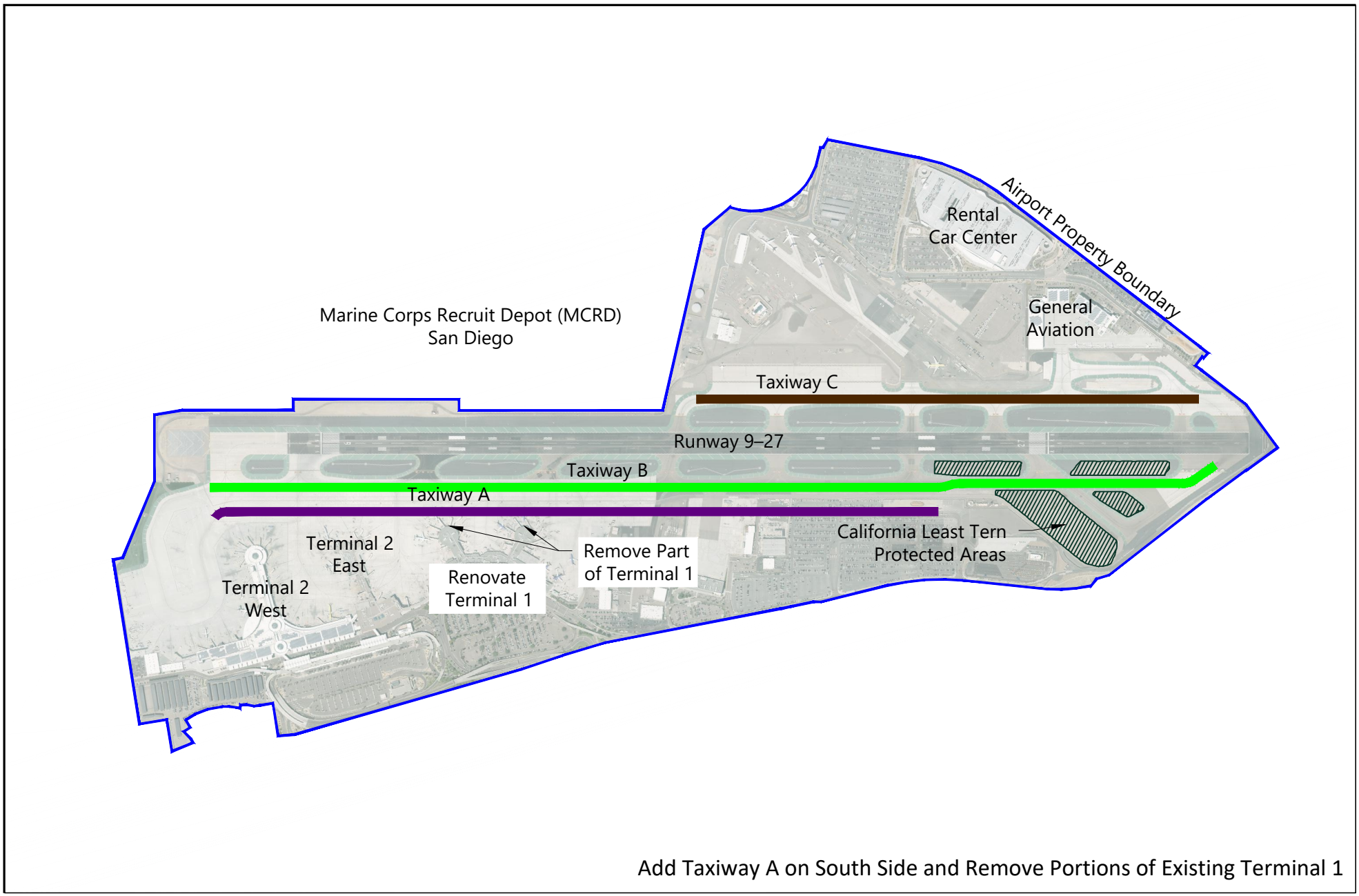
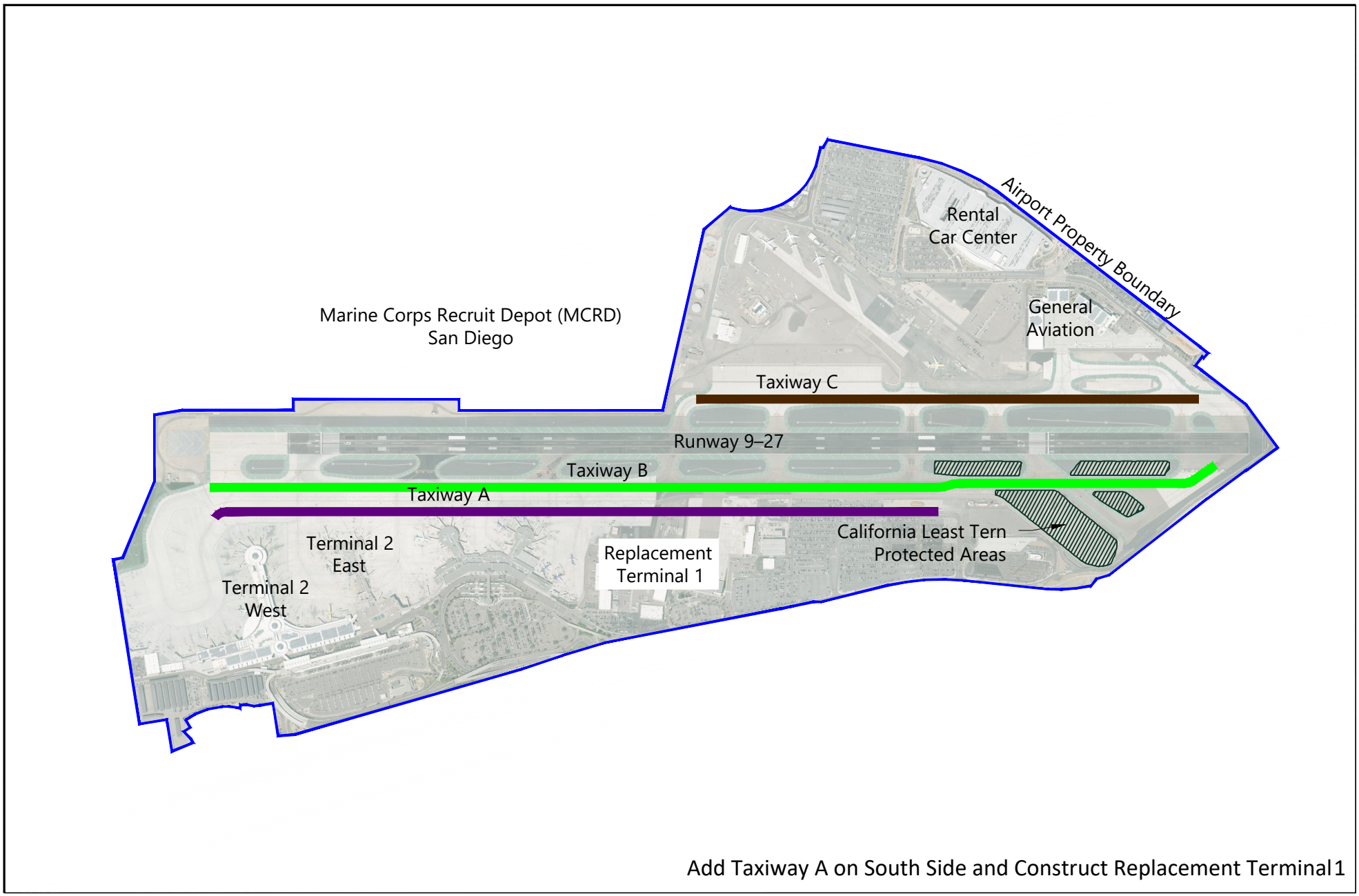


Source: CDM Smith, May 2021.

Figure 2-2C



Source: CDM Smith, May 2021.

Figure 2-2D

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

ALTERNATIVE TERMINAL AND TAXIWAY LOCATIONS

2021 | Final Environmental Assessment

allowing bidirectional aircraft flow on the taxiway system in the terminal area, as well as avoid aircraft pushing back from the northern end of Terminal 2-East concourse onto Taxiway B. Removing portions of Terminal 1, however, would exacerbate current low passenger levels of service by further reducing passenger processing space and amenities, such as holdrooms and restrooms, in the existing facility. The remaining, smaller Terminal 1, even if renovated, would require hardstand boarding operations to occur, further reducing the level of service for passengers, who would be required to board a bus for transport to their remotely parked aircraft. While there would be no need to move the SDCRAA's administration building, there would be little ability to change the on-airport roadways and access road. As a result, there would be little opportunity to relieve the traffic on North Harbor Drive because of the limited space. The failure to enhance the passenger level of service and relieve crowding in Terminal 1 would make this alternative unable to meet the purpose and need and it was dropped from further consideration.

2.3.2.4 Add Taxiway A and Replace Terminal 1 with Larger Terminal Extending Southeast (SDCRAA's Proposed Project)

The last on-site alternative was the Proposed Project, which would include airfield improvements consisting of a new partial parallel Taxiway A and a slight shift/relocation of existing Taxiway B; terminal area improvements consisting of the replacement of the existing Terminal 1 with 30 gates (and replacement of SDCRAA's administrative offices); associated landside/ground transportation improvements (such as a new parking structure adjacent to the replacement terminal and a new airport access roadway, coupled with a new multi-use pedestrian and bicycle pathway); the expansion of the Central Utility Plant and Stormwater Capture and Reuse System; relocation of five and elimination of two designated aircraft parking positions called Remain Overnight (RON) positions; and relocation of three FAA Airport Surface Detection Equipment – Model X (ASDE-X) sensors.

This alternative would improve airfield efficiencies by allowing bidirectional aircraft flow on the taxiway system in the terminal area, as well as avoid aircraft pushing back from the northern end of Terminal 2-East concourse onto Taxiway B. In addition to achieving substantial operational efficiencies, the replacement terminal would provide space to enable the SDCRAA and its tenants to better serve passengers. Specifically, Table 1-3 shows that to properly serve 18 million enplaned passengers (which would likely occur in 2031), the total terminal space needed at SAN would be approximately 2.1 million square feet (see Table 1-3). As a result, SDCRAA determined that the replacement Terminal 1 should be sized to over 1 million square feet.

Appendix A1 further discusses the methods used to identify the spatial needs of SAN at various forecast levels which then formed the basis for identifying Terminal 1 needs. One primary resource, Airport Cooperative Research Program (ACRP) Report 25, *Airport Passenger Terminal Planning and Design Volume 1; Guidebook* (ACRP, 2009), provides general guidelines for spatial requirements per activity levels. Using the guidelines for terminal space, the replacement terminal would substantially increase space for various functions. For example, SDCRAA's Proposed Project could enable the security checkpoint allocation to increase from 23,659 square feet in the existing Terminal 1 to 65,500 square feet in the replacement Terminal 1, reducing the time necessary to screen passengers. Restroom space could increase from 6,900 square feet to 53,500 square feet, reducing restroom lines. Passenger holdrooms could increase from 48,359 square feet to 148,500 square feet, enabling more seating, workspace, and places for passenger to recharge their electronic devices. Collectively, this increase in space would materially improve the level and quality of service provided to passengers. Further, the 11 additional gates (compared to the existing Terminal 1 as noted in Table 1-3) would enable all future passenger boarding activities to occur at the facility, as opposed to needing hardstand operations, in which passengers are bused to remote aircraft parking positions to board and deplane their flight.

Finally, with the construction of the replacement Terminal 1 and removal of the administrative offices, the landside entry to the airport and on airport circulation roads can be redesigned to enable traffic to get off North Harbor Drive earlier. The new design would also include a new parking structure with a net increase in parking of 650 parking spaces and allow shuttle buses to transit to and from the rental car facility without accessing public roadways. These three design capabilities would decrease the traffic on North Harbor Drive (as shown in Section 4.13 and **Appendix G**) by not only increasing parking capacity

but also decreasing vehicle trips from drivers not finding a parking spot in one lot and needing to search in other lots.

In summary, this alternative would decrease airfield congestion, increase the level and quality of service for passengers transiting through Terminal 1, and decrease traffic levels on North Harbor Drive. This alternative would meet the purpose and need for the Proposed Project. Therefore, it passed the first screening criteria and was then screened for feasibility.

Development of a dual taxiway system on the south side of the runway would be feasible since this alternative would redesign the replacement terminal in a more linear configuration creating room for the new Taxiway A and relocated Taxiway B. Development of a replacement Terminal 1 on the site of the current SDCRAA administrative offices would be feasible since this alternative would include relocating the administrative offices. Finally, the relocation of the administrative offices would enable the redesign of roadway circulation patterns and provide room for the parking structure, as well as the three-lane entry road. The components of the Proposed Project, which are described above, would be feasible to construct and operate as described in the planning documentation for the replacement of Terminal 1 (SDCRAA, 2019a).

SDCRAA's Proposed Project satisfied both Step 1 and Step 2 of the screening process and was carried forward for detailed environmental evaluation in this EA.

2.3.3 No Action Alternative

Under the No Action Alternative, the current facilities at SAN would remain unchanged and implementation of the Proposed Project would not occur, and Terminal 1 would continue to not meet building codes. The No Action Alternative does not meet the purpose and need for the Proposed Project as it would not improve the level and quality of service to passengers, nor would the efficiency of aircraft taxiing movements improve. In accordance with 40 CFR §1502.14(d)[1978],[12] NEPA's implementing regulations, the No Action Alternative was evaluated throughout this EA for comparison against any other alternative that passed the screening criteria, in this case, SDCRAA's Proposed Project.

2.4 Conclusion

The results of the alternatives screening analysis are summarized in **Table 2-1**. Only the No Action Alternative and SDCRAA's Proposed Project were carried forward for detailed evaluation in the Environmental Consequences chapter (Chapter 4). Only the Proposed Project meets purpose and need, but the No Action Alternative was also carried forward in accordance with 40 CFR §1502.14(d)[1978].

Table 2-1: Summary of Alternatives Screening Analysis Results

Alternative	Screening Steps		Screening Analysis Conclusion
	Step 1: Does It Meet the Purpose and Need?	Step 2: Is It Feasible?	
Off-Site Alternatives			
Construction of a New Airport or Use of Other Airports	No	NA	This alternative would not address the fact that the existing terminal does not meet current building codes. Nor would it resolve the one-way aircraft taxi flow on the airfield and because of its size does not provide the needed quality or level of service to passengers. Even if a new airport was constructed or another existing airport in the region was improved to accommodate forecasted aviation demand, there is no guarantee it would reduce congestion at the existing airport. Passengers and airlines are free to choose where they fly to. Therefore, this alternative was not considered further in this EA.

[12] Preparation of this EA was initiated prior to the enactment of the September 2020 revisions to the CEQ regulations.

Table 2-1: Summary of Alternatives Screening Analysis Results

Alternative	Screening Steps		Screening Analysis Conclusion
	Step 1: Does It Meet the Purpose and Need?	Step 2: Is It Feasible?	
Use of Other Modes of Transportation	No	NA	Even if this alternative could siphon off some of the demand at SAN, the existing Terminal 1 would not meet current building codes, nor would it provide the enhanced level of service to passengers desired by SDCRAA. In addition, this alternative would not correct the one-way aircraft traffic flow on the airfield, which leads to congestion. SDCRAA and FAA do not have the authority to require passengers using SAN to use other modes of transportation instead of aviation. Therefore, this alternative does not meet purpose and need and was not considered further in this EA.
On-Site Alternatives			
Extend Taxiway C to Full Runway Length and Renovate Terminal 1 in place	No	NA	This alternative would improve airfield efficiencies by allowing bidirectional taxiway flows, but also would create new airfield inefficiencies by increasing the number of required runway crossings – as aircraft are not able to cross until sufficient separation occurs with landing and departing aircraft. This alternative would not alleviate airport traffic impacts on North Harbor Drive. As it would not meet purpose and need, it was not considered further in this EA. Additionally, this alternative would require use of MCRD San Diego property, which would require the base to be closed. Since there are no plans being considered at this time to close or relocate MCRD San Diego, it is not considered feasible because SDCRAA could not access the property.
Extend Taxiway C to Full Runway Length and Relocate Terminal 1 to North Side	No	No	Although a new Terminal 1 on the north side would meet current building codes, it would cause the displacement of SAN's existing cargo facilities and operations. While a new north side terminal could improve passenger amenities, placing a new terminal on the north side would also create issues for passengers needing to transfer from this new north terminal to Terminal 2 (East or West) and vice versa. This alternative would not alleviate airport traffic impacts on North Harbor Drive. While this alternative would improve airfield efficiencies by allowing bidirectional taxiway flows, it would create new airfield inefficiencies by increasing the number of required runway crossings – as aircraft are not able to cross until sufficient separation occurs with landing and departing aircraft. Therefore, this alternative does not meet purpose and need and was not considered further in this EA. Additionally, this alternative would require use of MCRD San Diego property, which would require the base to be closed. Since there are no plans being considered at this time to close or relocate MCRD San Diego, it is not considered feasible because SDCRAA could not access the property.
Add Taxiway A and Remove Portions of Terminal 1	No	NA	This alternative would improve airfield efficiencies by allowing two-way directional aircraft taxi flow but would require portions of the existing Terminal 1 to be removed. The remaining, smaller Terminal 1 would reduce passenger service to levels less than those that exist at the current facility and would trigger hardstand boarding operations sooner, further decreasing the level of service. This alternative would not alleviate congestion on North Harbor Drive. Therefore, this alternative does not meet purpose and need and was not considered further in this EA.

Table 2-1: Summary of Alternatives Screening Analysis Results

Alternative	Screening Steps		Screening Analysis Conclusion
	Step 1: Does It Meet the Purpose and Need?	Step 2: Is It Feasible?	
Add Taxiway A and replace Terminal 1 with larger Terminal Extending Southeast (SDCRAA's Proposed Project)	Yes	Yes	This alternative would reduce congestion on the airfield by providing two-way directional aircraft taxiway flow; increase the size of the terminal to provide a higher level of service to travelers; increase the number of gates, thus allowing improved turnover rates at gates; and decrease the congestion on North Harbor Drive by allowing vehicles to depart North Harbor Drive earlier and enter a three-lane entry to the airport. Therefore, this alternative does meet purpose and need and was considered further in this EA.
No Action	NA	NA	Although this alternative would not satisfy the purpose and need, it was carried forward as a requirement of 40 CFR § 1502.14(d)(1978). The No Action alternative serves as a basis for comparing the impacts of all the reasonable alternatives evaluated.

Source: CDM Smith and Synergy, 2021.
Note: NA = Not Applicable.

2.5 Federal Laws, Regulations, Executive Orders, and NEPA Guidance Considered

Relevant federal laws and statutes, executive orders, and other federal regulations considered during preparation of this EA are listed in **Table 2-2**, **Table 2-3**, and **Table 2-4**.

Table 2-2: Federal Laws and Statutes Considered

Airport and Airway Improvement Act of 1982, as amended	P.L. 97-248.
Aviation Safety and Capacity Expansion Act of 1990	P.L. 101-508.
Aviation Investment and Reform Act for the 21st Century, 2000	P.L. 106-181.
Vision 100--Century of Aviation Reauthorization Act of 2003	P.L. 108-176.
FAA Modernization and Reform Act of 2012	49 U.S.C. 40101.
FAA Reauthorization Act of 2018	P.L. 115-254
National Environmental Policy Act of 1969	42 U.S.C. 4321 *et seq.*
Noise Control Act of 1972	P.L. 92-574; 42 U.S.C. Section 4901.
Aviation Safety and Noise Abatement Act of 1979	P.L. 96-193.
Airport Noise and Capacity Act of 1990	49 U.S.C. 4752 *et seq.*
Clean Air Act of 1970, as amended	42 U.S.C. 7401 *et seq.*
Endangered Species Act of 1973, as amended	16 U.S.C. 1531 *et seq.*
Fish and Wildlife Coordination Act of 1958	P.L. 85-624.
Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended	16 U.S.C. 1801 *et seq.*
Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Community Environmental Response Facilitation Act of 1992	42 U.S.C. 9601 *et seq.*
Resource Conservation and Recovery Act of 1976, as amended by the Solid Waste Disposal Act of 1980	42 U.S.C. 6901 *et seq.*
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*]	49 U.S.C. Section 303.
National Historic Preservation Act of 1966, as amended	54 U.S.C. §§ 300101 – 307108.
Archaeological and Historic Preservation Act of 1974, as amended	16 U.S.C. 469 *et seq.*
Land and Water Conservation Fund Act of 1965	16 U.S.C. 4601 *et seq.*
Clean Water Act, as amended	33 U.S.C. 1251 *et seq.*
Rivers and Harbors Act of 1899	33 U.S.C. 403 *et seq.*

Farmland Protection Policy Act	7 U.S.C. 4201 *et seq.*
Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs	42 U.S.C. 61
Wild and Scenic Rivers Act of 1968	16 U.S.C. 1271 *et seq.*
Toxic Substances Control Act	15 U.S.C. 2601 *et seq.*
Coastal Zone Management Act of 1972	16 U.S.C. 1452 *et seq.*
Migratory Bird Treaty Act of 1972	16 U.S.C. 703-711

Abbreviations: U.S.C. = United States Code, P.L. = Public Law

Table 2-3: Executive Orders Considered

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

Table 2-4: 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, *Environmental Impacts: Policies and Procedures*
U.S. DOT, FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*
U.S. DOT, Order 5650.2, *Floodplain Management and Protection*
U.S. DOT Order 5610.1C, *Procedures for Considering Environmental Impacts*
U.S. DOT, Order 5660.1A, *Preservation of the Nation's Wetlands*
U.S. DOT, Order 5610.2B, *Final Order to Address Environmental Justice in Low-Income and Minority Populations*
U.S. DOT, FAA Joint Order 7110.65Y, *Air Traffic Control*
FAA Advisory Circulars (AC)
U.S. DOT, FAA AC 91-53A, *Noise Abatement Departure Profile.*
U.S. DOT, FAA AC 150/5070-6B, *Airport Master Plans.*
U.S. DOT, FAA AC 150/5200-33C, *Hazardous Wildlife Attractants on or Near Airports.*
U.S. DOT, FAA AC 36-3H, *Estimated Airplane Noise Levels in A-Weighted Decibels.*
U.S. DOT, FAA AC 150/5300-13A, *Airport Design.*
U.S. DOT, FAA AC 150/5320-6F, *Airport Pavement Design and Evaluation.*
U.S. DOT, FAA AC 150/5370-10H, *Standard Specifications for Construction of Airports.*
U.S. DOT, FAA AC 150/5360-13A, *Airport Terminal Planning*
Code of Federal Regulations
Title 14 CFR Part 77, *Safe, Efficient Use and Preservation of the Navigable Airspace.*
Title 14 CFR Part 139, *Certification of Airports.*
Title 14 CFR Part 150, *Airport Noise Compatibility Planning.*
Title 14 CFR Part 151, *Federal Aid to Airports.*
Title 14 CFR Part 152, *Airport Aid Program.*
Title 14 CFR Part 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports.*
Title 14 CFR Part 158, *Passenger Facility Charges*
Title 14 CFR Part 169, *Expenditure of Federal Funds for Nonmilitary Airports or Air Navigation Facilities Thereon.*
Title 23 CFR Part 772, *Procedures for Abatement of Highway Traffic Noise and Construction Noise.*
Title 33 CFR Section 328.3, Definition of Waters of the United States.
Title 36 CFR Part 68, The Secretary of the Interior's Standards for the Treatment of Historic Properties.
Title 36 CFR Part 800, *Protection of Historic Properties.*

Title 40 CFR Part 93, Subpart B, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*.
Title 40 CFR Part 122, *EPA Administered Permit Programs: The National Pollutant Discharge Elimination System.*
Title 40 CFR Part 124, *Procedures for Decisionmaking.*
Title 40 CFR Part 172, *Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans.*
Title 40 CFR Parts 1500-1508, *President's Council on Environmental Quality National Environmental Policy Act Implementing Regulations.*
Title 50 CFR Part 402, *Interagency Cooperation – Endangered Species Act of 1973, as amended.*
Title 50 CFR Section 10.13, *List of Migratory Birds.*

Abbreviations:
AC = Advisory Circular
CFR = Code of Federal Regulations

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Chapter 3 Affected Environment

3.1 Introduction

This chapter describes existing physical, natural, and human environmental conditions within those areas that would be directly, or indirectly, affected by the Proposed Project and its alternative. The information describes the airport environs and provides information by which potential environmental impacts of the alternatives retained for detailed evaluation can be assessed and compared. The environmental resource categories described in this chapter are organized as identified in the Desk Reference for Federal Aviation Administration (FAA) *Order 1050.1F, Environmental Impacts: Policies and Procedures*. The potential environmental impacts of the Proposed Project and No Action Alternative are discussed in Chapter 4, Environmental Consequences & Mitigation Measures.

FAA Order 5050.4B, Section 706(e), states that the affected environment section of an Environmental Assessment (EA) should succinctly describe only those environmental resources the Proposed Project and its reasonable alternatives are likely to affect. The amount of information on potentially affected resources is based on the expected impact and is commensurate with the impact's importance as directed in FAA Order 1050.1F and the 1050.1F Desk Reference.

3.2 Study Area

Study areas were identified to describe existing conditions in the vicinity of San Diego International Airport (SAN, or "the airport") and to assess direct and indirect impacts of the Proposed Project and its alternative. For the purposes of this EA, two study areas have been defined, a Detailed Study Area (DSA) and a General Study Area (GSA). The DSA is where the Proposed Project is physically located and incorporates the area where direct physical impacts would occur. Impacts within the DSA include environmental considerations that deal with specific and direct physical construction or operational issues that directly affect natural resources such as water resources, biological resources, and hazardous materials. The DSA for the Proposed Project encompasses the entirety of the 661-acre SAN property, which is generally bounded by North Harbor Drive and San Diego Bay to the south, the Navy Boat Channel and Liberty Station mixed-use development to the west, MCRD San Diego to the north, and Pacific Highway and I-5 to the east. The DSA is shown in **Figure 3.2-1**.

The GSA is defined as the area where both direct and indirect impacts may result from the development of the Proposed Project. The purpose of the GSA is to establish the study area for the evaluation of impacts to resource categories that involve issues that are regional in scope and scale, including noise, land use, socioeconomic impacts, and Section 4(f) and 6(f) resources. For the purposes of this EA, the GSA consists of the region around the airport within the 2018 Proposed Project community noise equivalent level (CNEL) 65 decibel (dB) and higher aircraft noise contours, the airport property, and the neighborhoods in proximity to the airport, through which vehicle and truck traffic is expected to flow to and from the Proposed Project site. The GSA boundary lines were squared off to follow logical boundaries such as major roadways and other identifiable features, where available (see Figure 3.2-1). Total acreage of the GSA for this EA is approximately 7,664 acres.

Finally, specialized study areas were developed based on special purpose laws and other regulatory requirements. Information regarding these specialized study areas is described, where applicable, within each environmental impact category. All resource areas (including specialized study areas) are contained within the GSA.

3.3 Environmental Resources Affected and Not Affected

The following environmental resource categories were determined to be possibly affected by the Proposed Project or the No Action Alternative and, in accordance with the guidance provided in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, are evaluated in this EA:

Source: CDM Smith, 2018. Aerial source: ESRI, 2021.

Figure 3.2-1

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

PROJECT STUDY AREAS

2021 | Final Environmental Assessment

- Air Quality
- Biological Resources
- Climate
- Coastal Resources
- Department of Transportation Act, Section 4(f) and Land and Water Conservation Fund Act, Section 6(f)
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archeological, and Cultural Resources
- Land Use
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
- Visual Effects
- Water Resources: Surface Water and Groundwater

Other resource categories were determined not to be affected by either the Proposed Project or the No Action Alternative. In accordance with guidance provided in FAA Orders 1050.1F and 5050.4B, no further analysis of these resources is provided within this EA. The resources not affected and, therefore, not further analyzed are listed below along with the rationale for this determination:

- Farmlands - No prime or unique farmlands are present in the immediate SAN vicinity. SAN is located in a dense urbanized area and is underlain by artificial fill dredged from the harbor in the 1930s and 1940s.
- Wetlands - No federally protected wetlands are located on SAN property (see **Appendix C3** – Wetlands Assessment Survey Technical Memo).
- Floodplains - SAN is mapped as Zone X and is not within a 500-year floodplain (see **Appendix M** for Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps Panels 1877H and 1881H, dated December 20, 2019 applicable to SAN). As such, there are no floodplains in the DSA.
- Wild and Scenic Rivers - There are no Wild and Scenic Rivers in any of the study areas for this EA (U.S. Department of Interior, 2016). The nearest designated river is Bautista Creek, which is classified as recreational and located in the San Bernardino National Forest in Riverside County, approximately 50 miles northeast of SAN.

3.4 Air Quality

3.4.1 Regulatory Setting

Air quality is regulated by federal, state, and local laws. This includes rules and standards contained in the federal Clean Air Act (CAA) (42 U.S.C. §7401 *et seq.* [1970]), which is administered by the U.S. Environmental Protection Agency (USEPA) in coordination with state and local governments; and the California Clean Air Act (CCAA) of 1988, which is administered by the California Air Resources Board (CARB) and regional air quality management districts. Air quality in the San Diego region is subject to the rules and regulations established by CARB and the San Diego County Air Pollution Control District (SDAPCD), with oversight provided by the USEPA.

The USEPA is responsible for promulgating the National Ambient Air Quality Standards (NAAQS) for outdoor concentrations of the following "criteria" pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulfur dioxide (SO_2), lead (Pb), and particulate matter with aerodynamic diameters of

10 or 2.5 microns and less ($PM_{10/2.5}$). The USEPA regulates stationary sources of emissions as well as mobile sources of emissions (i.e., motor vehicles, aircraft, and equipment).

Under the CAA, each state must identify nonattainment areas that do not meet the NAAQS. For any area with a nonattainment or maintenance designation, a State Implementation Plan (SIP) is developed to demonstrate future attainment of the applicable NAAQS. The USEPA is responsible for the approval of the SIP.

On the state level, CARB serves to help ensure that federal air quality requirements and guidelines are met. CARB also enforces the California Ambient Air Quality Standards (CAAQS), monitors air quality, and regulates mobile sources of emissions (i.e., on-road and off-road motor vehicles and equipment); however, CARB does not regulate emissions from aircraft as those emissions are under the authority of the Federal Government (42 U.S.C. §7573).

An Attainment Area is any area that meets the NAAQS; a Nonattainment Area is any area that does not meet the NAAQS; and a Maintenance Area was formerly in nonattainment and is currently under a maintenance plan.[13]

On the local level, SDAPCD is responsible for administrating federal and state air quality regulations, permitting of stationary sources of air pollutant emissions, and monitoring of air quality conditions in the county. Together, CARB and the SDAPCD, along with the San Diego Association of Governments (SANDAG), are involved in the preparation and implementation of the SIP for San Diego County.

The most notable emissions sources in the general area of SAN include I-5 and Amtrak/Coaster/Metro rail lines to the east, Naval Air Station North Island to the south, marine port and terminal facilities to the southeast, and City of San Diego Wastewater Pump Station 2 located immediately west of the airport. Emissions sources at SAN, in addition to aircraft operations and motor vehicles, include 23 generators, each of which is permitted with the SDAPCD, and one boiler, which is also permitted with the SDAPCD.

3.4.2 Ambient Air Quality Standards

Listed in **Table 3.4-1** are the NAAQS air quality standards set for the following "criteria" air pollutants: O_3, $PM_{10/2.5}$, CO, NO_2, SO_2, and Pb. Those criteria pollutants are included in the CAAQS, which also include sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles (particles that contribute to "regional haze").

Table 3.4-1: National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards (CAAQS)		Federal Standards (NAAQS)		
		Standard	Form	Standard[a]	Form	Primary/ Secondary
Ozone (O_3)	1-hour	180 µg/m³	Not to be exceeded	—	--	--
	8-hour	137 µg/m³	Not to be exceeded	0.07ppm/ 137 µg/m³	Annual 4th highest daily maximum, averaged over 3 years	Both
Particulate Matter (PM_{10})	24-hour	50 µg/m³	Not to be exceeded	150 µg/m³	Not to be exceeded more than once per year on average over 3 years	Both
	Annual	20 µg/m³	Not to be exceeded	—	--	--
Particulate Matter ($PM_{2.5}$)	24-hour	—	--	35 µg/m³	98th percentile, averaged over 3 years	Both
	Annual	12 µg/m³	Not to be exceeded	12 µg/m³	Annual mean, averaged over 3 years	Primary
				15 µg/m³	Annual mean, averaged over 3 years	Secondary

[13] 40 CFR 93.152 – Definitions

Pollutant	Averaging Time	California Standards (CAAQS)		Federal Standards (NAAQS)		
		Standard	Form	Standard[a]	Form	Primary/ Secondary
Carbon Monoxide (CO)	1-hour	23,000 µg/m³	Not to be exceeded	35 ppm/ 40,000 µg/m³	Not to be exceeded more than once per year	Primary
	8-hour	10,000 µg/m³	Not to be exceeded	9 ppm/ 10,000 µg/m³	Not to be exceeded more than once per year	Primary
Nitrogen Dioxide (NO_2)	1-hour	339 µg/m³	Not to be exceeded	100 ppb/ 189 µg/m³	98th percentile of 1-hour daily maximum, averaged over 3 years	Primary
	Annual	57 µg/m³	Not to be exceeded	53 ppb 100 µg/m³	Annual mean	Both
Sulfur Dioxide (SO_2)	1-hour	655 µg/m³	Not to be exceeded	75 ppb/ 196 µg/m³	99th percentile of 1-hour maximum, averaged over 3 years	Primary
	3-hour	—	--	0.5 ppm 1,300 µg/m³	Not to be exceeded more than once per year	Secondary
	24-hour	105 µg/m³	Not to be exceeded	—	--	—
Lead (Pb)	30-day average	1.5 µg/m³	Not to be equaled or exceeded	—	--	—
	Rolling 3-month average	—	--	0.15 µg/m³	Not to be exceeded	Both
Sulfates	24-hour	25 µg/m³	Not to be equaled or exceeded	--	--	--
Hydrogen Sulfide (H_2S)	1-hour	42 µg/m³	Not to be equaled or exceeded	--	--	--
Vinyl Chloride	24-hour	26 µg/m³	Not to be equaled or exceeded	--	--	--
Visibility Reducing Particles	--	Reduction of 0.23 per kilometer	Not to be exceeded	--	--	--

Sources: CARB (https://www.arb.ca.gov/research/aaqs/aaqs2.pdf) and USEPA (https://www.epa.gov/criteria-air-pollutants/naaqs-table).
-- Not applicable
Abbreviations: µg/m³=micrograms per cubic meter; ppb = parts per billion; ppm = parts per million
Note:
a. NAAQS are set forth by the USEPA in measurement terms of parts per million and parts per billion.

3.4.3 Attainment/Nonattainment Status

As discussed above, the USEPA designates areas as Attainment, Nonattainment, or Maintenance based on air quality monitoring data and according to their compliance with the NAAQS; CARB makes similar "attainment" designations as to areas subject to the CAAQS. For the San Diego area (including the area surrounding SAN), these designations are listed and discussed in **Table 3.4-2**.

As shown, the San Diego area is designated Attainment under the NAAQS for PM_{10}, $PM_{2.5}$, NO_2, SO_2, and Pb and as Nonattainment for O_3 NAAQS (for both the 2008 and 2015 standards). Relative to CO, the area is in Maintenance.

With respect to the CAAQS, the area is designated Attainment for CO, NO_2, SO_2, Pb, and sulfates, and designated as Nonattainment for O_3, PM_{10}, and $PM_{2.5}$.

The air quality assessment for this EA is based on NAAQS standards.

Table 3.4-2: Attainment/Nonattainment Designations for Project Area

Pollutants[a]	Project Area Designations		Comments
	CAAQS	NAAQS	
Ozone (O_3)	Nonattainment	Nonattainment (Severe Nonattainment relative to 2008 O_3 standard and Severe Nonattainment relative to 2015 O_3 standard)	Designations based on violations of the NAAQS. NAAQS nonattainment levels for O_3 range from Marginal to Moderate to Serious to Severe to Extreme. O_3 is a regional pollutant and generated from numerous sources of emissions throughout the Nonattainment area. The current deadline for the San Diego region to attain the 2008 O_3 standard is July 20, 2027 and the current deadline to attain the 2015 O_3 standard is August 3, 2033.
Particulate Matter (PM_{10})	Nonattainment	Attainment	Meets the NAAQS. Particulate matter consists of solid and liquid particles of dust, soot, aerosols, and other matter small enough to remain suspended in the air for a long period of time. PM_{10} refers to particulate matter with an aerodynamic diameter less than or equal to 10 micrometers. Particles smaller than 10 micrometers (i.e., PM_{10} and $PM_{2.5}$) represent that portion of particulate matter thought to represent the greatest hazard to public health.
Particulate Matter ($PM_{2.5}$)	Nonattainment	Attainment	Meets the NAAQS. $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers.
Carbon Monoxide (CO)	Attainment	Maintenance[b]	Meets NAAQS.[c] Attainment was reached in 2018, but the area has continued under a maintenance plan to ensure attainment.
Nitrogen Dioxide (NO_2)	Attainment	Attainment	Meets the CAAQS and NAAQS.
Sulfur Dioxide (SO_2)	Attainment	Attainment	Meets the CAAQS and NAAQS.
Lead (Pb)	Attainment	Attainment	Meets the CAAQS and NAAQS.
Sulfates	Attainment	NA	No NAAQS for this pollutant.
Hydrogen Sulfide	Unclassified	NA	There are no air quality data collected for this pollutant in the area and there are no NAAQS.
Visibility Reducing Particles	Unclassified	NA	There are no air quality data collected for this pollutant in the area and there are no NAAQS.

Sources: SDAPCD Attainment Status. Available: https//www.sandiegocounty.gov/content/sdc/apcd/en/air-quality-planning/attainment-status.html; U.S. Environmental Protection Agency, Nonattainment Area for Criteria Pollutants (Green Book). Available: https://www.epa.gov/green-book; SDAPCD, 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County. Available: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/Att%20A%20(Attainment%20Plan)_ws.pdf; U.S. Environmental Protection Agency, "Designation of Areas for Air Quality Planning Purposes; California; San Diego County Ozone Nonattainment Area; Reclassification to Severe" (Final Rule), Federal Register 86:104 (June 2, 2021) p. 29522. Available: https://www.govinfo.gov/content/pkg/FR-2021-06-02/pdf/2021-11524.pdf.

NA = Not applicable

Notes:

a. Regarding vinyl chloride, for which there is a standard under CAAQS, but not NAAQS, concentrations above the state standard have not been measured within California since the 1970s.

b. The SIP includes the 2004 Revisions to the Carbon Monoxide Maintenance Plan, which demonstrates that 10 urban areas in California (including the San Diego region) have attained the federal standard for carbon monoxide since the early 1990s and will continue to meet the standard through 2018. Available: https://ww3.arb.ca.gov/planning/sip/planarea/sansip.htm.

c. Carbon monoxide concentrations in San Diego County continued to meet the federal standard through 2018 and beyond, as anticipated in the aforementioned 2004 Carbon Monoxide Maintenance Plan. The fact that those concentrations have been, and continue to be, well below the federal standard is evidenced in the County's Air Quality Monitoring Data for the 5-year period between 2015 and 2019, available at https://www.sandiegocounty.gov/content/dam/sdc/apcd/monitoring/5-Year_Air_Quality.pdf. As indicated therein, the maximum 1-hour concentration during that period was 3.1 ppm in 2015 compared to the federal standard of 35 ppm, and the maximum 8-hour concentration during that period was 2.0 ppm in 2015 compared to the federal standard of 9 ppm. The maximum concentrations in 2018 were much less than that (i.e., 1.9 ppm and 1.4 ppm, for the respective standards).

3.4.4 State Implementation Plan and Regional Air Quality Strategy

In accordance with the federal CAA for Nonattainment and Attainment/Maintenance areas, San Diego County is included in the SIP for O_3 and CO (SDAPCD, 2016 [for O_3]; CARB, 2004 [for CO]). SAN air pollutant emissions are also accounted for in the SIP.[14]

SDAPCD is responsible for developing the SIP information applicable to San Diego County, which is submitted to CARB for review and approval, and then to the USEPA for review and approval. In addition to preparation of information and plans for the SIP, which pertain to the requirements of the federal CAA, the SDAPCD also prepares the Regional Air Quality Strategy (RAQS) for San Diego County, which pertains to the requirements of the CCAA.[15] The RAQS was originally published in 1991 with measures to reduce ozone levels and was revised in 2005 to add measures for the reduction of particulate matter levels. The RAQS was last revised in 2016 to include emission trends and projections for ozone precursors for the years 2000 through 2035.

3.4.5 Air Quality Monitoring Data

SDAPCD collects air quality monitoring data at several monitoring stations located throughout San Diego County. **Table 3.4-3** provides a compilation of the most recent data available (years 2017 to 2019) from this network. The distance and direction of the monitoring stations from SAN and compliance with the CAAQS and NAAQS are also indicated. It should be noted that measured levels for some pollutants will differ between the CAAQS and the NAAQS, based on differences in how the respective standards are characterized (i.e., whether it is based on the maximum measured concentration or a specific percentile of the measured maximum as averaged over several years).

Table 3.4-3: San Diego Air Quality Monitoring Data (µg/m³)

			Applicable to the CAAQS			Applicable to the NAAQS			
Pollutant	**Averaging Time**	**Dist. and Dir. from SAN (Miles)[1]**	**Measured Levels[2]**	**Standard**	**Above Standard (Yes/No)**	**Measured Levels[2]**	**Standard (NAAQS)**	**Primary/ Secondary[3]**	**Above Standard (Yes/No)**
Ozone (O3)	1-hour	10 SE	177	180	No	--	--	--	--
	8-hour	10 SE	149	137	Yes	122	137	Both	No
Particulate Matter (PM10)	24-hour	10 SE	68	50	Yes	57	150	Both	No
	Annual	10 SE	22	20	Yes	--	--	--	--
Particulate Matter (PM2.5)	24-hour	10 SE	--	--	--	25	35	Both	No
	Annual	10 SE	10	12	No	9	12	Primary	No
							15	Secondary	No
Carbon Monoxide (CO)	1-hour	14 NE	1,719	23,000	No	1,719	40,000	Primary	No
	8-hour	14 NE	1,604	10,000	No	1,604	10,000	Primary	No
Nitrogen Dioxide (NO2)	1-hour	10 SE	107	339	No	85	189	Primary	No
	Annual	10 SE	17	57	No	17	100	Both	No
Sulfur Dioxide (SO2)	1-hour	14 NE	9	655	No	3	196	Primary	No
	3-hour	14 NE	--	--	--	3	1,300	Secondary	No
	24-hour	14 NE	1	105	No	--	--	--	--
Lead (Pb)	30-day	14 NE	0.05	1.5	No	--	--	--	--
	3-month	14 NE	--	--	--	0.02	0.15	Both	No

Source: USEPA AirData and CARB Air Quality Data Statistics (https://www.arb.ca.gov/adam/index.html) extracted May 2020.
-- Not applicable

[14] The SIP includes approved air quality management plans specific to San Diego County including, but not limited to, the *2008 Eight-Hour Ozone Attainment Plan for San Diego County*. Available: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/8-Hr-O3%20Attain%20Plan-08%20Std.pdf. Attachment C of the *2008 Eight-Hour Ozone Attainment Plan* provides an inventory of emissions associated with SAN, which are included as part of the Plan.

[15] Available: https://www.sdapcd.org/content/sdc/apcd/en/air-quality-planning.html.

			Applicable to the CAAQS			Applicable to the NAAQS			
Pollutant	Averaging Time	Dist. and Dir. from SAN (Miles)[1]	Measured Levels[2]	Standard	Above Standard (Yes/No)	Measured Levels[2]	Standard (NAAQS)	Primary/ Secondary[3]	Above Standard (Yes/No)

Notes:
1. The air quality monitoring station located closest to SAN is approximately 10 miles southeast in Chula Vista. Data for O_3, PM, NO_2, and the 30-day Pb CAAQS are recorded at this station. The next closest monitoring station is located in El Cajon, approximately 14 miles northeast of SAN. Data for CO and SO_2 are recorded at this station. The closest monitoring station, which provides data for the 3-month Pb NAAQS, is located in Carlsbad and is approximately 27 miles north of SAN.
2. For standards that are not to be exceeded or not to be exceeded more than once per year, the reported values represent the highest measured level over the period of measurement (i.e., 2017 through 2019), with the exception of the CAAQS for annual PM_{10}, which is based on available data (i.e., 2017).
3. Primary standards provide public health protection. Secondary standards provide public welfare protection (e.g., protection against decreased visibility and damage to animals, crops, vegetation, and buildings).

3.4.6 Existing Emissions and Air Quality at SAN

3.4.6.1 Sources and Types of Emissions

The main sources of air pollutant emissions at SAN are grouped into five primary categories: (1) aircraft main engines (including commercial air carriers, regional jets, and general aviation aircraft); (2) aircraft auxiliary power units (APUs); (3) ground support equipment (GSE); (4) motor vehicles (including cars, trucks, vans, buses); and (5) stationary sources.

The types of air pollutant emissions are mostly those that are generated by the burning of fossil fuels and include CO, oxides of nitrogen (NO_X), sulfur oxides (SO_X), PM_{10}, and $PM_{2.5}$. Organic gases, such as volatile organic compounds (VOCs), are also emitted.

These sources and types of emissions at SAN are listed and described in **Table 3.4-4**.

Table 3.4-4: SAN Airport-Related Sources of Air Pollutant and Pollutant Precursor Emissions

Source	Criteria-related Pollutant[1]	Characteristics
Aircraft in the LTO[2]	VOC, NO_X, PM, CO, SO_X, Pb	Exhaust products of fuel combustion that vary depending on aircraft engine type (e.g., turbo-jet, turbo-prop, etc.), fuel type (e.g., Jet-A, Aviation Gas [AvGas]), number of engines, power setting (e.g., startup, taxi/idle, take-off), and period of operation.
Auxiliary Power Units (APUs)	VOC, NO_X, PM, CO, SO_X	Exhaust products of fuel combustion from on-board power units to provide electricity to an aircraft when parked and the main engines are off.
Ground Support Equipment (GSE)	VOC, NO_X, PM, CO, SO_X	Exhaust products of fuel combustion from equipment and vehicles to service aircraft. These include baggage tugs, tow tractors, belt loaders, and other portable equipment.
Stationary Sources	VOC, NO_X, PM, CO, SO_X	Exhaust products of fossil fuel combustion. Emissions are generally well controlled with operational techniques and post-burn collection methods. Sources include boilers, emergency generators, paint and surface coating operations, etc.
Motor Vehicles	VOC, NO_X, PM, CO	Exhaust products of fuel combustion from motor vehicles using SAN parking facilities and on- and off-airport roadways. These included motor vehicles, taxis, limousines, vans, rental cars, buses, and shuttles, as well as SAN-owned vehicles. Emissions vary depending on vehicle type (e.g., gasoline, diesel, etc.), distance traveled, and operating speed.
Energy Use	VOC, NO_X, PM, CO, SO_X	Emissions associated with the generation/consumption of energy. In this respect, there is some overlap and duplication in the emissions inventory relative to the Stationary Sources category, which captures emissions from boilers and emergency generators. Energy use also includes consumption of electricity in buildings. Emissions from purchased electricity are included in the emissions inventory but not in the dispersion analysis, as the emissions associated with the generation of electricity occur off-site.

Source	Criteria-related Pollutant[1]	Characteristics

Source: KB Environmental Sciences, Inc., 2019.
Notes:
1. Although lead (Pb) is a criteria pollutant, it was not evaluated because the Proposed Project would not use any fuels or coatings with lead additives, nor would the Proposed Project result in a change in the number or operational modes for SAN general aviation aircraft that are powered by fuel containing Pb (AvGas). As indicated in Table 2 in **Appendix F2**, the number of general aviation aircraft operations in 2026 and 2031 for the Proposed Project are the same as in the No Action Alternative and, as compared to existing (2018) conditions, are anticipated to decrease in the future. As such, the Proposed Project would have no impacts on Pb levels in the San Diego air basin.
2. LTO – Landing and takeoff cycle

3.5 Biological Resources

3.5.1 Regulatory Setting

The federal Endangered Species Act of 1973, as amended, protects plants and wildlife that are listed as endangered or threatened by the U.S. Fish and Wildlife Services (USFWS) and/or the National Marine Fisheries Service (NMFS).

The Migratory Bird Treaty Act (MBTA) prohibits take of birds listed under the MBTA. Birds protected under the MBTA are listed under 50 CFR Section 10.13. The list includes nearly all native birds.

3.5.2 Affected Environment

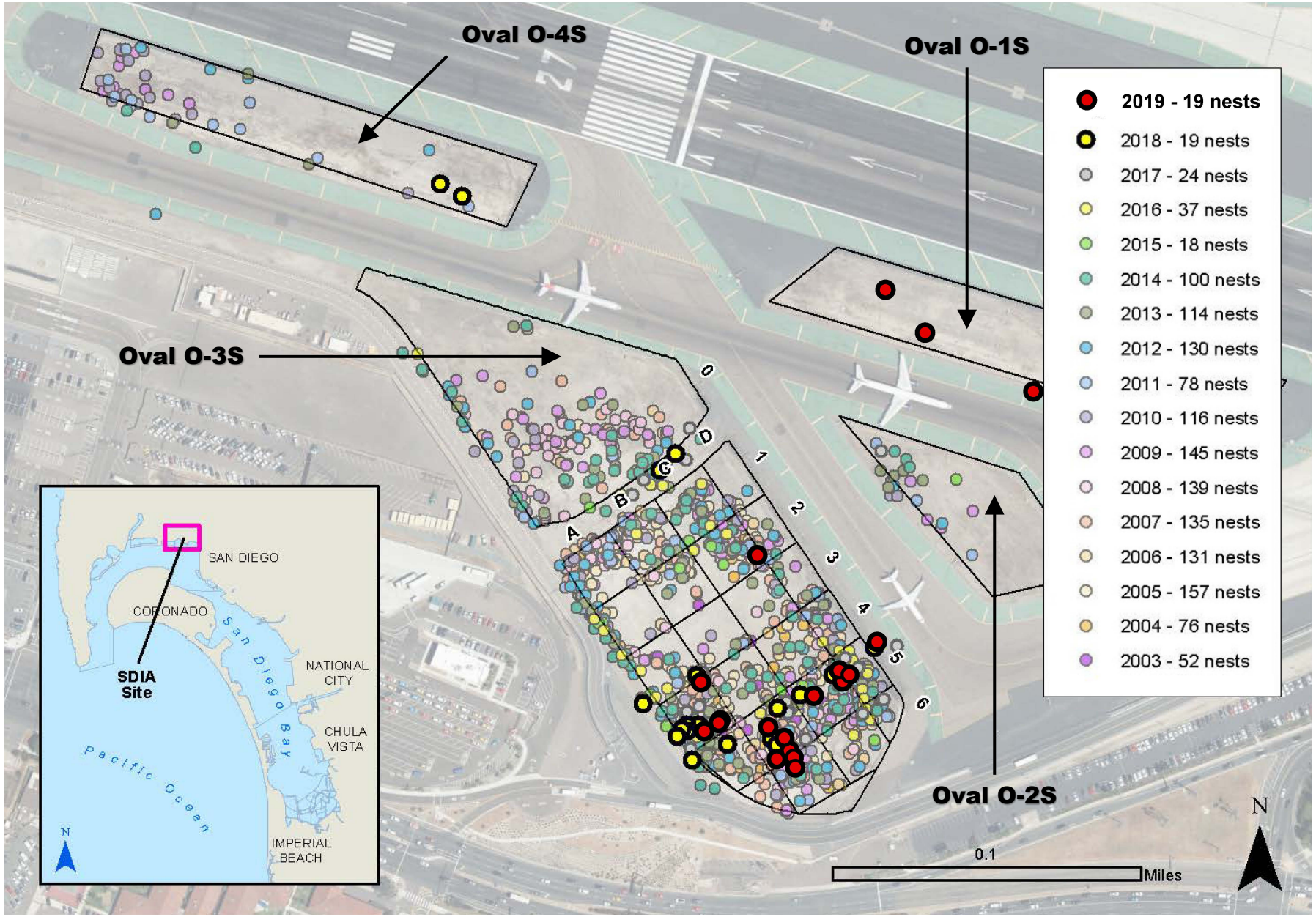
The habitat surrounding and including SAN supports a limited number of biological resources/wildlife, because much of the area is extensively developed and the secured perimeter deters mammals' access to the Air Operations Area (AOA).[16] Except for the four ovals used by California least tern ([CLT]; *Sterna antillarum browni*), the entire area within the perimeter of the SAN boundaries is developed or disturbed in some manner, with no native vegetation existing on the site. Vegetation on-site is limited primarily to ornamental landscaping along the perimeter of SAN. There is no habitat for fish at SAN.

The USFWS Carlsbad Fish and Wildlife Office provided an Official Species List on August 20, 2020, which identified 10 federally threatened and endangered species of plants, birds, and mammals that may be present in the area of the Proposed Project (the Official Species List is included as an appendix to the Biological Assessment [BA] - refer to **Appendix C2**). The 10 species are: Orcutt's spineflower (*Chorizanthe orcuttiana*); San Diego ambrosia (*Ambrosia pumila*); San Diego button-celery (*Eryngium aristulatum var. parishii*); San Diego thornmint (*Acanthomintha ilicifolia*); CLT; coastal California gnatcatcher (*Polioptila californica californica*); least Bell's vireo (*Vireo bellii pusillus*); southwestern willow flycatcher (*Empidonax traillii extimus*); western snowy plover (*Charadrius nivosus nivosus*); and Pacific pocket mouse (*Perognathus longimembris pacificus*).

No designated or proposed critical habitat occurs within the Proposed Project area. San Diego Natural History Museum (SDNHM) staff determined that 9 (4 plants and 5 animals) of the 10 federally listed species are not likely to occur on the project site (see Table 1 of the BA in **Appendix C2**). The only federally listed species known to occur at the project site is the CLT, as further discussed below.

Land cover in the ovals between taxiways, the runway, and service roads is composed of paved surfaces. However, there are four ovals south of the runway and east of Taxiway crossing B4 that consist primarily of bare soil, gravel, and non-contiguous patches of low, sparse vegetation. Combined, these four ovals in the southeast corner of the airfield are approximately 13.5 acres in area and are occupied seasonally by the CLT. CLT have nested at SAN continuously since at least 1969. Field monitoring data regarding CLT nesting at SAN and statewide has been compiled, tracked, and reported annually by California Department of Fish and Wildlife (CDFW) since 1976. **Figure 3.5-1** shows the location of the CLT nests at SAN for the

[16] Although infrequent, mammals have been observed at SAN. Spot-light surveys conducted in 2014-2015 for a wildlife hazard assessment at SAN resulted in the observance of eight desert cottontail rabbits (*Sylvilagus audubonii*), and one feral cat (*Felis catus*) (Wildlife Services, 2015).



Source: Robert T. Patton, 2019

Figure 3.5-1

CALIFORNIA LEAST TERN NESTS AT SAN 2003-2019

years 2003-2019. The proximity of the nesting sites to foraging areas in San Diego Bay is an important factor attracting CLT to SAN. As discussed in the BA, fluctuations in the number of breeding pairs is due to several regional and local factors including the long-term overall decline in the tern population, limited prey availability resulting from above-average water temperatures, changes in habitat suitability of nearby tern nesting sites, predation, and disturbances during the early formative period of colony establishment.

The primary past and current human activities in the Proposed Project area affecting the CLT are those related to the ongoing operations and maintenance at SAN. CLT at SAN are exposed to near continuous noise and light disturbance associated with airfield movements, landings, and takeoffs. Vehicles traveling on the nearby Pacific Highway, I-5, and North Harbor Drive are another continual source of noise disturbance.

SDCRAA has created a program to protect the CLT at SAN, which includes the measures specified in the 1993 Biological Opinion from the USFWS for the SAN Lindbergh Field Facilities Improvements (USFWS, 1993), the 2013 Informal Section 7 Consultation between the FAA and USFWS for the SAN Northside Improvements Project (USFWS, 2013), and the 2018 Informal Section 7 Consultation between the FAA and USFWS for the SAN Taxiway B Object-Free Area Improvement Project (USFWS, 2018).

The San Diego Bay, located to the south of SAN, is an important stop for migrating birds on the Pacific Flyway. As noted previously, SAN is highly disturbed and there is no natural habitat at SAN for migratory birds. Nonetheless, various avian species utilize SAN (falcons, hawks, owls, ravens, crows, and gulls), all of which are predators of CLT. Consistent with FAA Advisory Circular No. 150/5200-33C, *Hazardous Wildlife Attractants on or Near Airports*, and with measures specified in the 1993 BO and 2013 and 2018 Informal Section 7 Consultations, SAN has an ongoing predator control program to protect CLT in the ovals. The predator control program has the added benefit of reducing potential aircraft bird strikes. Measures included in SDCRAA's predator control program include use of anti-perch treatments such as stainless steel bird spike barriers that can be applied to potential perch sites (e.g., Nixalite®); limiting landscaping to plant species and materials not conducive to perching by birds; maintenance of fencing around the perimeter of the ovals to shield the terns from avian predators; and habitat management within the ovals including application of herbicide and removal of vegetation. Such predatory control measures do not interfere with the migratory activities of birds along the Pacific Flyway and are in compliance with the Migratory Bird Treaty Act.

3.6 Climate

Climate change is a change in the average climatic conditions of the earth, as characterized by changes in wind patterns, storms, precipitation, and temperature. Climate change is a global phenomenon that has local impacts.[17] Therefore, the affected environment for climate change effects is defined as the entire geographic area that could be either directly or indirectly affected by the Proposed Project. The study area consists of both the DSA and the GSA. The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. Greenhouse gases (GHGs) include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Increasing concentrations of GHGs in the atmosphere affect global climate. Anthropogenic (i.e., man-made) sources of GHG emissions are primarily associated with the combustion of fossil fuels, including aircraft fuel, and there is a direct relationship between fuel combustion and metric tons of CO_2 ($MTCO_2$).

[17] U.S. Department of Transportation, Federal Aviation Administration – Office of Environment and Energy, *1050.1F Desk Reference, Version 2*, Chapter 3. Climate, February 2020. Available: https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/faa_nepa_order/desk_ref/media/desk-ref.pdf.

Consistent with CEQ guidance on GHG accounting and report and to provide a single metric that embodies all GHGs, emissions are reported in metric tons of CO_2 equivalent ($MTCO_2e$).[18]

3.6.1 Regulatory Setting

There are no Federal significance thresholds for aviation GHG emissions, and it is not required for the NEPA analysis to attempt to link specific climate impacts to the Proposed Project or alternative(s) given the small percentage of emissions that aviation projects contribute.[19]

3.6.2 SAN GHG Emissions Inventory

GHG emissions for existing (Year 2018) conditions at SAN are presented in **Table 3.6-1** (expressed in units of MT of carbon dioxide equivalent (CO_2e) per year).[20]

Table 3.6-1: SAN Existing (Year 2018) Conditions - GHG Emissions Inventory (in metric tons of CO_2e)

Source	CO_2	CH_4	N_2O	Total CO_2e	Percent of Total
Aircraft in the LTO[1]	247,486	<1	2,018	249,504	74
APUs	2,205	<1	18	2,223	1
GSE	12,060	6	26	12,091	4
Stationary Sources	12,927	7	7	12,940	4
Motor Vehicles[2]	54,347	267	820	55,434	16
Other[3]	5,266	12	<1	5,597	2
Total	334,290	292	2,888	337,789	100

Source: KB Environmental Sciences, Inc., 2019.
Notes: Totals reflect rounding.
1. LTO – Landing and takeoff cycle
2. GHG emissions for motor vehicles based on average trip length for travel to and from SAN.
3. Emissions from purchased electricity, water usage, and solid waste disposal.

3.6.3 Climate Resilience Strategies

Relative to the current level of preparedness at SAN with respect to climate change, the SDCRAA has developed a Climate Resilience Plan (SDCRAA, 2020) that provides a strategy for achieving business continuity in future climate conditions by adapting existing and future assets and operations to projected climate conditions. SAN is implementing adaptive strategies that help address flood resilience, extreme heat, and drought preparedness. Additionally, SAN is participating in collaborative efforts to address sea level rise at a regional level. This includes currently working with the Center for Climate Change Impacts and Adaptation at the Scripps Institution of Oceanography to install sea level and wave energy sensors within San Diego Bay to collect data to better inform the potential extent of flooding impacts in the future.

3.7 Coastal Resources

3.7.1 Regulatory Setting

The Coastal Zone Management Act (CZMA) of 1972 ensures effective management, beneficial use, protection, and development of the coastal zone. The CZMA is administered by the National Oceanic and Atmospheric Administration (NOAA) and delegated to the states. Each participating state develops and implements their own Coastal Zone Management program, in accordance with NOAA-issued guidelines. California's management program is called the California Coastal Act and is designed to address issues affecting California's coastal areas.

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[18] 79 Federal Register 77801, *Revised Draft Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews*, December 24, 2014. Available: https://www.federalregister.gov/documents/2014/12/24/2014-30035/revised-draft-guidance-for-federal-departments-and-agencies-on-consideration-of-greenhouse-gas.

[19] Per Section 6.3.1 of the *Aviation Emissions and Air Quality Handbook, Version 3 Update 1* (Federal Aviation Administration Office of Environment and Energy, January 2015), GHG emissions from aircraft account for roughly three percent of all anthropogenic GHG emissions globally.

[20] Greenhouse gases comprise carbon dioxide (CO_2), methane (CH_4) and other compounds. For uniformity, the GHGs are converted to carbon dioxide equivalents (CO_2e).

The SDCRAA plans and manages the 661 acres that comprise SAN. The 661 acres are state tidelands, most of which are located within the California Coastal Zone. At the formation of the SDCRAA in 2003, the California Coastal Commission (CCC) determined that it would retain permitting oversight for SAN projects in accordance with the California Coastal Act. Airport projects that are determined to be "development" in accordance with the California Coastal Act are submitted by the SDCRAA, and then reviewed, approved, and permitted by the CCC.

3.7.2 Affected Environment

SAN is located north of San Diego Bay, the largest marine and bay estuary in Southern California, within California's Coastal Zone, as designated by the California Coastal Act. SAN is located landward of the nearest public roadway to the shoreline (North Harbor Drive). The Bay varies from 250 to 1,000 feet south of SAN's boundary. Specific California Coastal Act policies relevant to development at SAN include ensuring that development does not interfere with public access to the shoreline, preserving coastal recreation uses and scenic views, and protecting biological habitats and water quality.

SAN does not limit public access to the shoreline or San Diego Bay, which is accessible from North Harbor Drive.

As discussed further in Section 3.16, drainage from SAN flows through storm drains primarily towards the south, to San Diego Bay, and the west-southwest, to the Navy Boat Channel, which ultimately empties into San Diego Bay.

3.8 Department of Transportation Act, Section 4(f) and Land and Water Conservation Fund Act, Section 6(f)

3.8.1 Regulatory Setting

Section 4(f) of the DOT Act requires that the Secretary of Transportation may approve a proposed transportation project that requires the use of publicly owned land of a public park, recreational area, or wildlife or waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance only if:

(1) There is no prudent and feasible alternative that would avoid using those resources.

(2) The program or project includes all possible planning to minimize harm resulting from the use.

Use of a Section 4(f) property includes both physical and constructive uses. FAA Order 1050.1F states, "the concept of constructive use is that a project that does not physically use land in a park, for example, may still, by means of noise, air pollution, water pollution, or other impacts, dissipate its aesthetic value, harm its wildlife, restrict its access, and take it in every practical sense" (FAA, 2015a).

Section 6(f) of the Land and Water Conservation Fund Act (LWCF) (16 U.S.C. §§ 4601-4 *et seq*.), as amended, provides funding for the purchase and improvement of recreational lands, wildlife and waterfowl refuges, and other similar resources. The LWCF established a fund for federal acquisition of park and recreational lands and also provides matching grants to state and local governments for recreation planning, acquisition, and development. Lands purchased by this fund are protected from conversion to uses other than public outdoor recreation.

3.8.2 Affected Environment

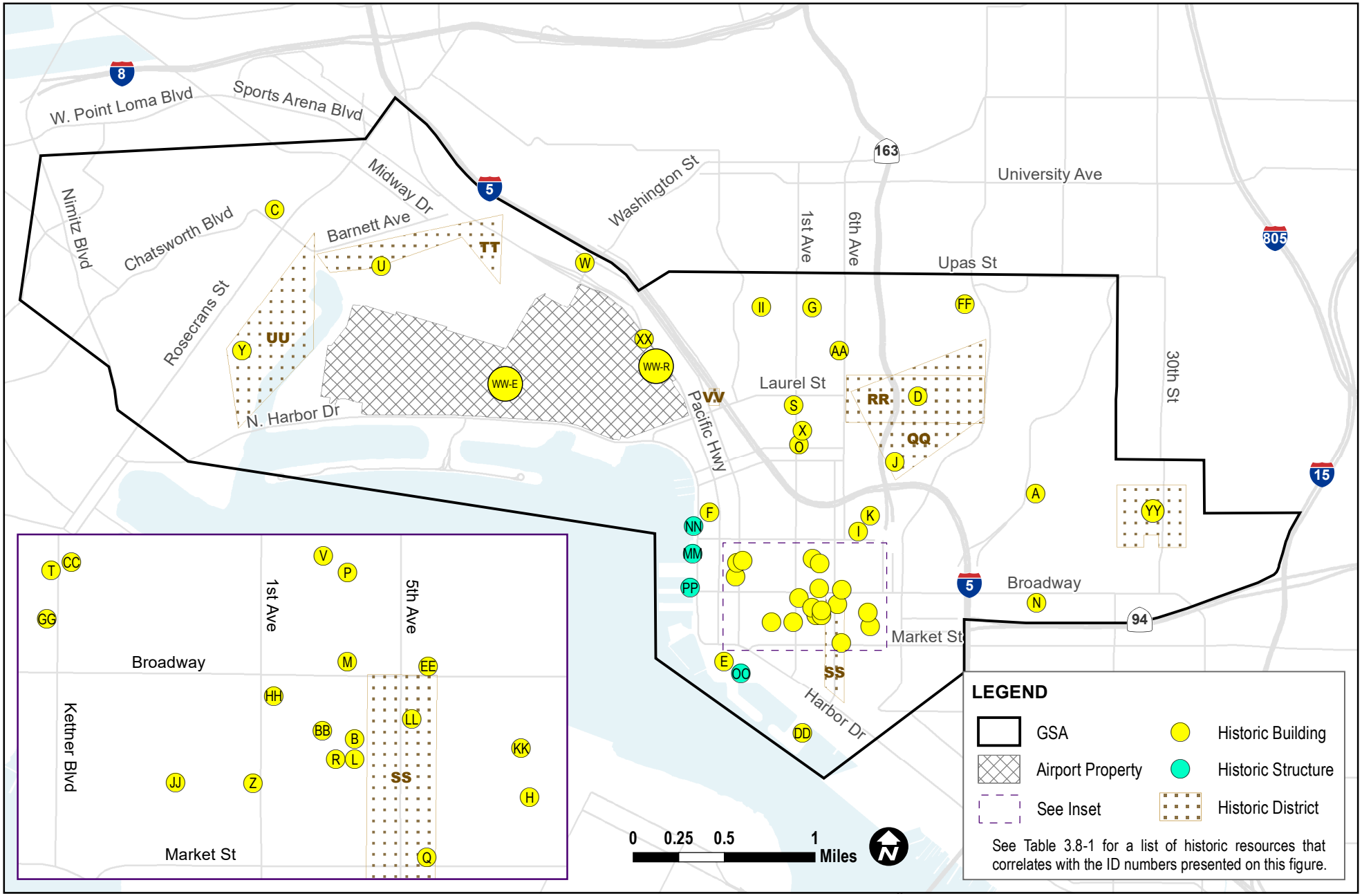
There are Section 4(f) and Section 6(f) properties within the GSA, as characterized by historic resources and by publicly owned parks and recreational areas. There are no wildlife and waterfowl resources, as defined by Section 4(f), within the GSA.

Historic Resources - **Table 3.8-1** lists the historic buildings/structures located within the GSA and **Figure 3.8-1** shows their locations. As further described in Section 3.10, Historic, Architectural, Archaeological, and Cultural Resources, there are two historic structures, eligible for listing in the National Register of Historic Places, located within the DSA (i.e., located within the boundary of SAN) – the Convair Wind Tunnel facility and the former United Airlines Hangar and Terminal.

Table 3.8-1: Section 4(f) Historic Resources

ID Letter (for Figure 3.8-1)	Name	Type
A	Balboa Park	Historic Building
B	Balboa Theatre	Historic Building
C	Beardsley, John R. and Florence Porterfield, House	Historic Building
D	California Quadrangle	Historic Building
E	City of San Diego Police Headquarters, Jails and Courts	Historic Building
F	Civic Center Administration Building	Historic Building
G	Coulter House	Historic Building
H	Eagles Hall	Historic Building
I	El Cortez Apartment Hotel	Historic Building
J	Ford Building	Historic Building
K	Ginty, John, House	Historic Building
L	Grand-Horton Hotel	Historic Building
M	Grant, U.S. Hotel	Historic Building
N	Haines, Alfred, House	Historic Building
O	Hawthorne Inn	Historic Building
P	Holzwasser--Walker Scoot Building and Owl Drug Building	Historic Building
Q	Independent Order of Odd Fellows Building	Historic Building
R	Lee, Robert E., Hotel	Historic Building
S	Long-Waterman House	Historic Building
T	McClintock Storage Warehouse	Historic Building
U	Marine Corps Recruit Depot	Historic Building
V	Medico-Dental Building	Historic Building
W	Mission Brewery	Historic Building
X	Moylan, Major Myles, House	Historic Building
Y	Naval Training Center	Historic Building
Z	Panama Hotel	Historic Building
AA	Park Place Methodist Episcopal Church South	Historic Building
BB	Pythias Lodge Building	Historic Building
CC	San Diego Armed Services YMCA	Historic Building
DD	San Diego Rowing Club	Historic Building
EE	San Diego Trust and Savings Bank Building	Historic Building
FF	San Diego Veterans' War Memorial Building--Balboa Park	Historic Building
GG	Santa Fe Depot	Historic Building
HH	Spreckels Theatre Building	Historic Building
II	Sweet, A. H., Residence and Adjacent Small House	Historic Building
JJ	U.S. Courthouse	Historic Building
KK	U.S. Post Office--Downtown Station	Historic Building
LL	Watts Building	Historic Building
MM	Berkeley (Steam Ferry)	Historic Structure
NN	Pilot (Pilot Boat)	Historic Structure
OO	Renown (Yacht)	Historic Structure
PP	Star of India (Sailing Ship)	Historic Structure
QQ	Balboa Park Historic District	Historic District
RR	El Prado Complex Historic District	Historic District
SS	Gaslamp Quarter Historic District	Historic District
TT	Marine Corps Recruit Depot Historic District	Historic District
UU	Naval Training Station Historic District	Historic District
VV	San Diego Civic Center Historic District	Historic District
WW-E/WW-R	United Airlines Hangar and Terminal – Existing Location/Relocation Site	Historic Building
XX	Convair Wind Tunnel Building	Historic Building
YY	South Park Historic District	Historic District

Source: Off-Airport Historic Resources - National Park Service, *National Register of Historic Places Public Dataset*, 2014. On-Airport Historic Resources - Brian F. Smith Associates, 2021. City of San Diego Planning Department, *South Park Historic District Property Owner Workshop Presentation*, August 2017.



Source: National Park Service, National Register Geospatial Dataset, March 2021; City of San Diego Planning Department, South Park Historic District Property Owner Workshop Presentation, Aug. 2017.

Figure 3.8-1

San Diego Interational Airport
Airfield Improvements and Terminal 1 Replacement Project

SECTION 4(F) HISTORIC RESOURCES

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Parks and Recreational Facilities - **Table 3.8-2** lists the publicly owned parks and recreational areas located within the GSA and **Figure 3.8-2** shows their locations. There are no publicly owned parks and recreational areas located within the DSA.

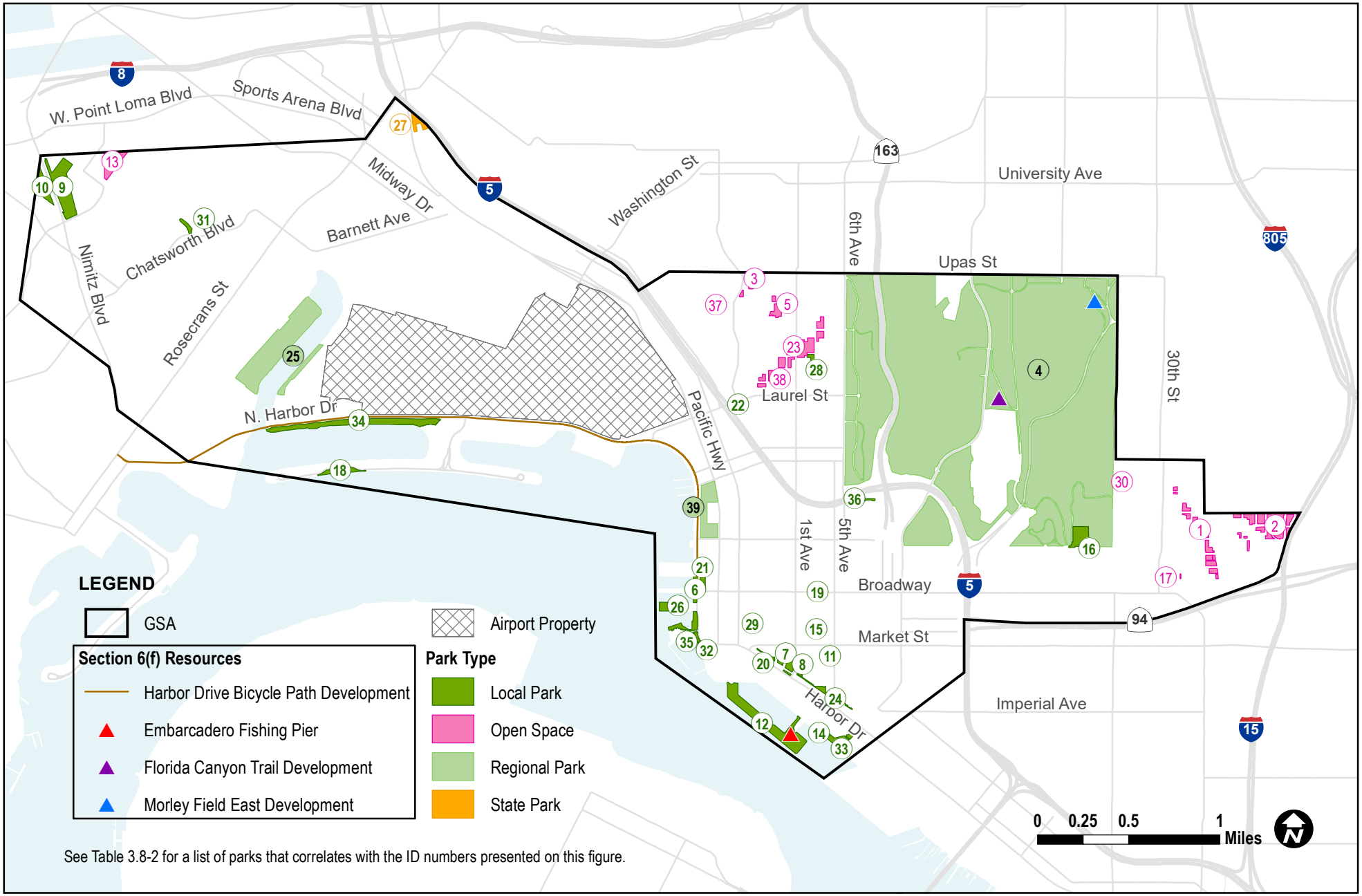
Table 3.8-2: Section 4(f) Publicly Owned Parks and Recreational Areas

ID # (for Figure 3.8-2)	Name	Type
1	32nd Street Canyon Open Space	Open Space
2	34th Street Canyon Open Space	Open Space
3	Albatross Canyon Open Space	Open Space
4	Balboa Park	Regional Park
5	Bankers Hill Canyon Open Space	Open Space
6	Broadway Landing	Local Park
7	Childrens Museum Park	Local Park
8	Childrens Park	Local Park
9	Cleator Bill Park	Local Park
10	Collier Park	Local Park
11	Davis House Park	Local Park
12	Embarcadero Marina Park North	Local Park
13	Famosa Slough	Open Space
14	Fifth Avenue Landing Lawn Area	Local Park
15	G Street Park	Local Park
16	Golden Hill Park	Local Park
17	Golden Hills Open Space	Open Space
18	Harbor Island Park	Local Park
19	Horton Plaza Park	Local Park
20	King Promenade Park	Local Park
21	Lane Field Park	Local Park
22	Laurel Street Park	Local Park
23	Maple Canyon Open Space	Open Space
24	Marina Linear Park	Local Park
25	Naval Training Center (NTC) Park	Regional Park
26	Navy Pier	Local Park
27	Old Town San Diego State Park	State Park
28	Olive Street Park	Local Park
29	Pantoja Park	Local Park
30	Park Northeast Open Space	Open Space
31	Plumosa Park	Local Park
32	Ruocco Park	Local Park
33	San Diego Bayfront Park	Local Park
34	Spanish Landing Park (East)	Local Park
35	Tuna Harbor Park	Local Park
36	Tweet Street Park	Local Park
37	Uptown Open Space	Open Space
38	West Maple Canyon Park	Local Park
39	Waterfront Park	Regional Park

Source: SanGIS, 2021.

Section 6(f) Resources – Also shown on Figure 3.8-2 are Section 6(f) resources, at which there are four such resources located within the GSA and none within the DSA. The four Section 6(f) resources are described below.

Harbor Drive Bicycle Path Development – 3.1-mile bike path and associated landscaping along the south side of North Harbor Drive, for which LWCF funding assistance was provided in 1971/1972.



Source: SanGIS, 2021

Figure 3.8-2

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

SECTION 4(F) PARKS AND 6(F) RESOURCES

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Embarcadero Fishing Pier – Development of fishing pier/lighting off of South Embarcadero Park, for which LWCF funding assistance was provided in 1978/1979.

Florida Canyon Trail Development – Renovation of existing trail with interpretive signage, for which LWCF funding assistance was provided in 1994/1995.

Morley Field East Development – Picnic Facility, play area, comfort station, landscaping, and pedestrian/bike path, for which LWCF funding assistance was provided in 1976/1977.

3.9 Hazardous Materials, Solid Waste, and Pollution Prevention

3.9.1 Hazardous Materials/Pollution Prevention

3.9.1.1 Regulatory Setting

At the federal level, hazardous materials are regulated by several federal laws and regulations, most of which are promulgated by the USEPA. The two statutes most applicable to airport projects are the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended (also known as Superfund). RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for cleanup of any release of a hazardous substance (excluding petroleum) in the environment. In addition to RCRA and CERCLA, additional federal laws governing the storage, use, and transportation of hazardous and other regulated materials include the Hazardous Materials Transportation Act (HMTA), the Emergency Planning and Community Right-to-Know Act (EPCRA), and the Toxic Substances Control Act. Additionally, the Occupational Safety and Health Act (OSHA) establishes procedures and standards for the safe handling and storage of hazardous chemicals. Executive Order 12088, *Federal Compliance with Pollution Control*, mandates that necessary actions be taken to prevent and control environmental pollution, when federal activities or federal facilities are involved.

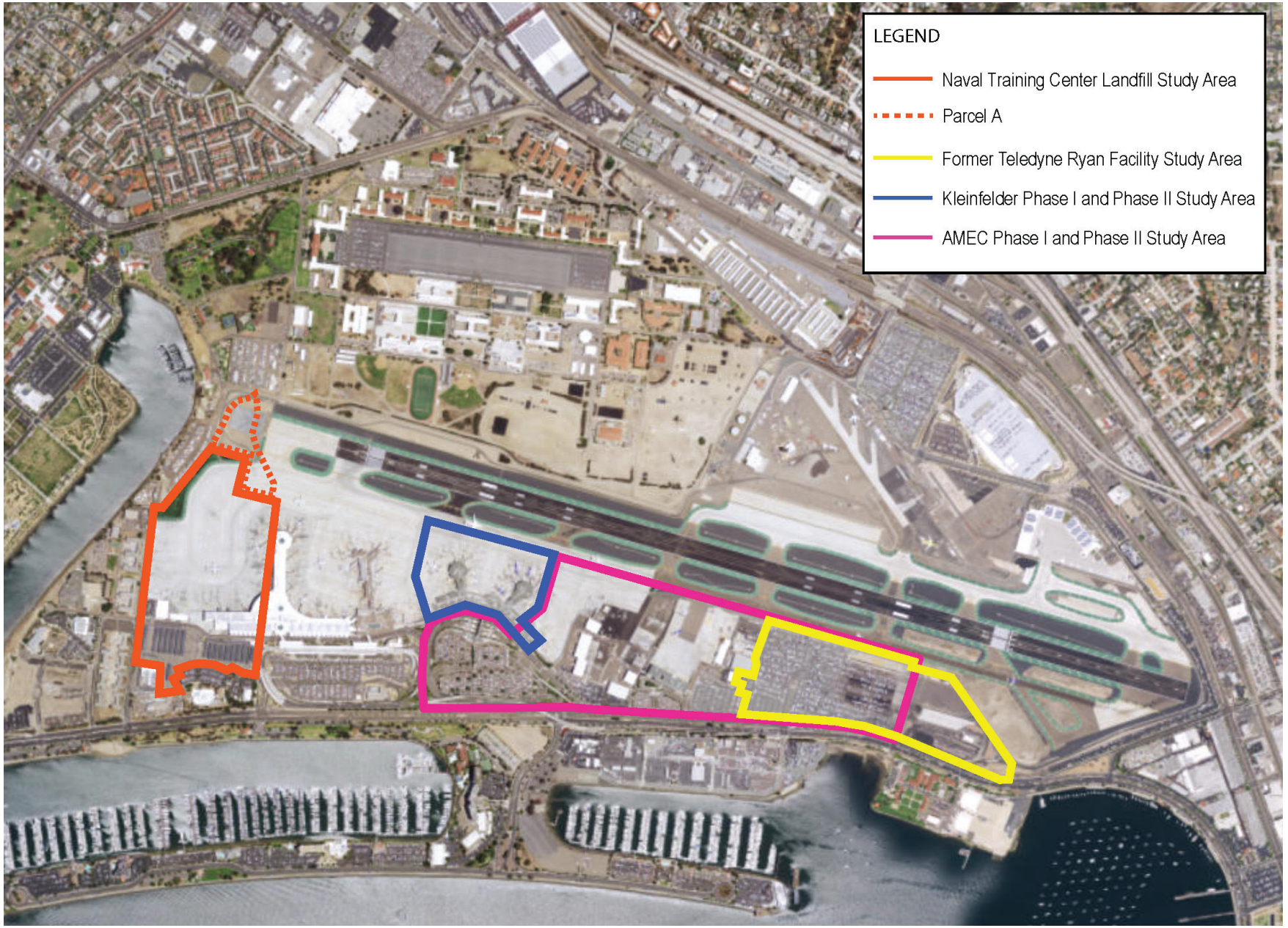
3.9.1.2 Affected Environment

SAN uses the kinds of hazardous materials and regulated substances typically used at commercial service airports. These hazardous materials and substances include, among others, diesel fuel, compressed natural gas, jet fuel, propane, waste oil, fire retardants, and cleaning chemicals. Other, smaller amounts of petroleum-products (e.g., lubricants and solvents), waste materials (i.e., used oils, cleaning residues, and spent batteries), and manufactured chemicals (i.e., herbicides, fertilizers, paints, per- and polyfluoroalkyl substances [PFAS]-containing aqueous fire-fighting foam,[21] de-icing fluids, etc.) are used in various locations throughout SAN. These are characteristically used or stored on a routine basis in support of aircraft, GSE, and motor vehicle maintenance activities and for a range of other functions to keep SAN operational and meet aviation safety requirements.

As further discussed in **Appendix D**, regional groundwater beneath the site has been impacted by long-term historical use of the area for industrial purposes, including SAN, the former Naval Training Center (NTC) a portion of which is now within the western boundary of SAN and to the west of SAN, MCRD San Diego to the north of SAN, and the former Teledyne Ryan Property (TDY site) south of the runway and east of the SDCRAA airport administration building, which is also now within the SAN boundary. As described further in **Appendix D**, several ongoing and completed remediation efforts have been implemented to address this contamination, including at the former NTC waste disposal site and TDY site. The locations of the NTC waste disposal site, TDY site, and other hazardous materials study areas discussed below are identified on **Figure 3.9-1.**

The proposed new SDCRAA administration office building site is located at the former NTC Inactive Landfill, which was formerly used by the NTC and MCRD from the 1940s to 1971 as a municipal landfill for consumer waste, burn ash, and construction debris. The site has undergone extensive remediation and the area, where the proposed SDCRAA administration office building would be constructed, has been

[21] See **Appendix D** for additional discussion of PFAS.



Source: Ninyo & Moore, 2007 and October 30, 2018; Geosyntec, December 12, 2014; Amec Foster Wheeler, 2017; Kleinfelder, 2018.

Figure 3.9-1

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

PREVIOUS SITE EVALUATIONS STUDY AREA

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released from any further permitting or monitoring requirements by the San Diego Regional Water Quality Control Board (RWQCB) (Ninyo and Moore, 2018; California Regional Water Quality Control Board, 2015).

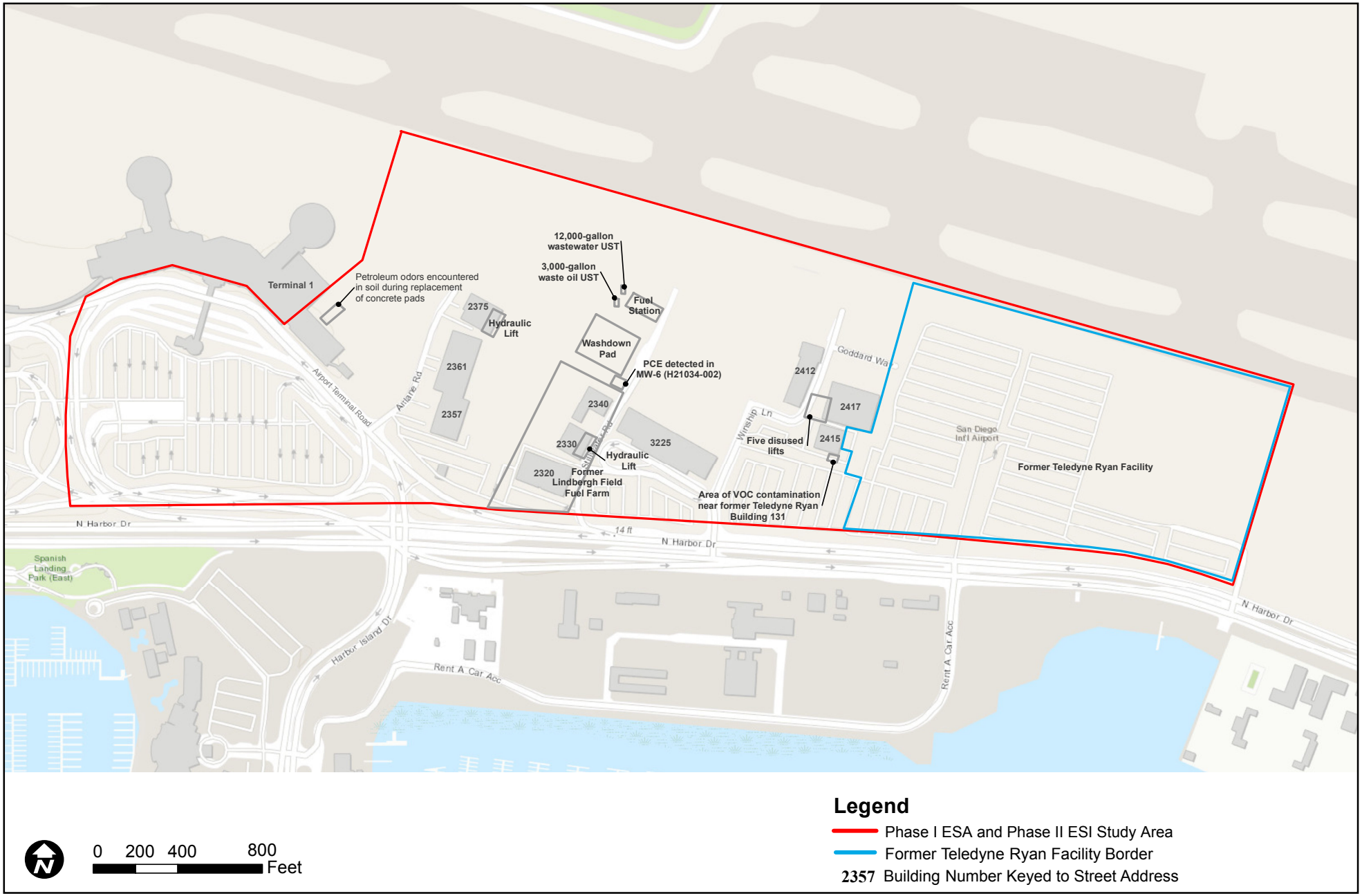
Remediation activities have also occurred at the TDY site, where the underground cistern tank would be located. Remediation of the TDY site was completed in 2014 and by a letter dated February 13, 2015, the San Diego RWQCB issued a finding that no further action related to remediation activities or monitoring was required (California Regional Water Quality Control Board, 2015). Thus, the site has been released from further permitting and monitoring requirements.

Based on a review of the various federal, state, and local databases and historical records, additional site research, and site reconnaissance, several "Recognized Environmental Conditions" (RECs) and "Historical Recognized Environmental Conditions" (HRECs) have been identified within the footprint of the proposed replacement Terminal 1, parking structure, and adjacent surface improvements. These RECs and HRECs are shown on **Figures 3.9-2** and **3.9-3** and further discussed in **Appendix D** of this EA. For this EA, RECs are defined as the presence or likely presence of a hazardous substance or petroleum products in, on, or at a site: (1) because of a release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. HRECs are RECs from a previous release of any hazardous substances or petroleum products that has occurred in connection with the site and has been addressed to the satisfaction of the applicable regulatory authority or meets unrestricted residential use criteria established by a regulatory authority, without subjecting the site to any required controls.

Subsurface investigations were conducted in soil and groundwater in the areas identified as RECs and HRECs, which determined that soil and groundwater have been impacted by contaminants east of the existing Terminal 1. Contaminant levels that exceed regional screening levels (RSLs) consisted of total petroleum hydrocarbons (TPH) in soil and at elevated levels in groundwater.[22] VOCs were detected in groundwater at concentrations above their respective Maximum Contaminant Levels (MCLs) in several areas east of the existing Terminal 1. Arsenic was also detected in the soil samples at concentrations above its established RSL east and south of the existing Terminal 1, but its presence in soil is likely not the result of previous site use but rather represents background conditions of the area as a whole (i.e., is considered to be naturally-occurring) (Amec Foster Wheeler Environment & Infrastructure, Inc., 2018). RSLs identify areas where contaminants and conditions have been impacted by human behavior and, therefore, as the presence of arsenic is not a result of human activities, the RSL is not applicable. **Figure 3.9-4** shows soil sample locations and identifies those soil samples with RSL exceedances of TPH and/or arsenic. **Figure 3.9-5** shows soil boring with groundwater sample locations and identifies those groundwater samples with MCL exceedances. The specific areas of concern identified on Figures 3.9-4 and 3.9-5 are at the southside of Building 2320, where levels of TPH and metals were detected in samples from Soil Boring B30; the westside of Building 2417, southside of Building 2415, and northside of the washdown pad, where elevated levels of VOCs were detected in groundwater samples.

As shown on **Figure 3.9-6**, there have been widespread detections of TPH and semi-volatile organic compounds (SVOCs) in soil, but below the RSL throughout the area near the existing Terminal 1 rotundas. Elevated TPH and SVOCs in soil and groundwater were detected in the area around former underground storage tanks (UST) north of the existing Terminal 1 East Rotunda. The SVOC detected in groundwater did not exceed the MCL and there are no TPH MCLs. The sources of the soil and groundwater contamination were determined to likely be from former USTs and surface leaks (Kleinfelder, 2018).

[22] Screening levels (SLs) represent health risk-based concentrations derived from standardized equations combining exposure information assumptions with USEPA toxicity data. RSLs are determined by each USEPA region, which in the case of projects located in California is USEPA Region 9. Regional screening levels help identify areas, contaminants, and conditions that have been impacted by human use such that further investigation and/or remediation may be warranted. Generally, at sites where contaminant concentrations fall below screening levels, no further action or study is warranted.



Source: Amec Foster Wheeler Environment & Infrastructure, Inc., July 26, 2017.

Figure 3.9-2

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

AREAS OF CONCERN IDENTIFIED IN THE AMEC PHASE I ESA

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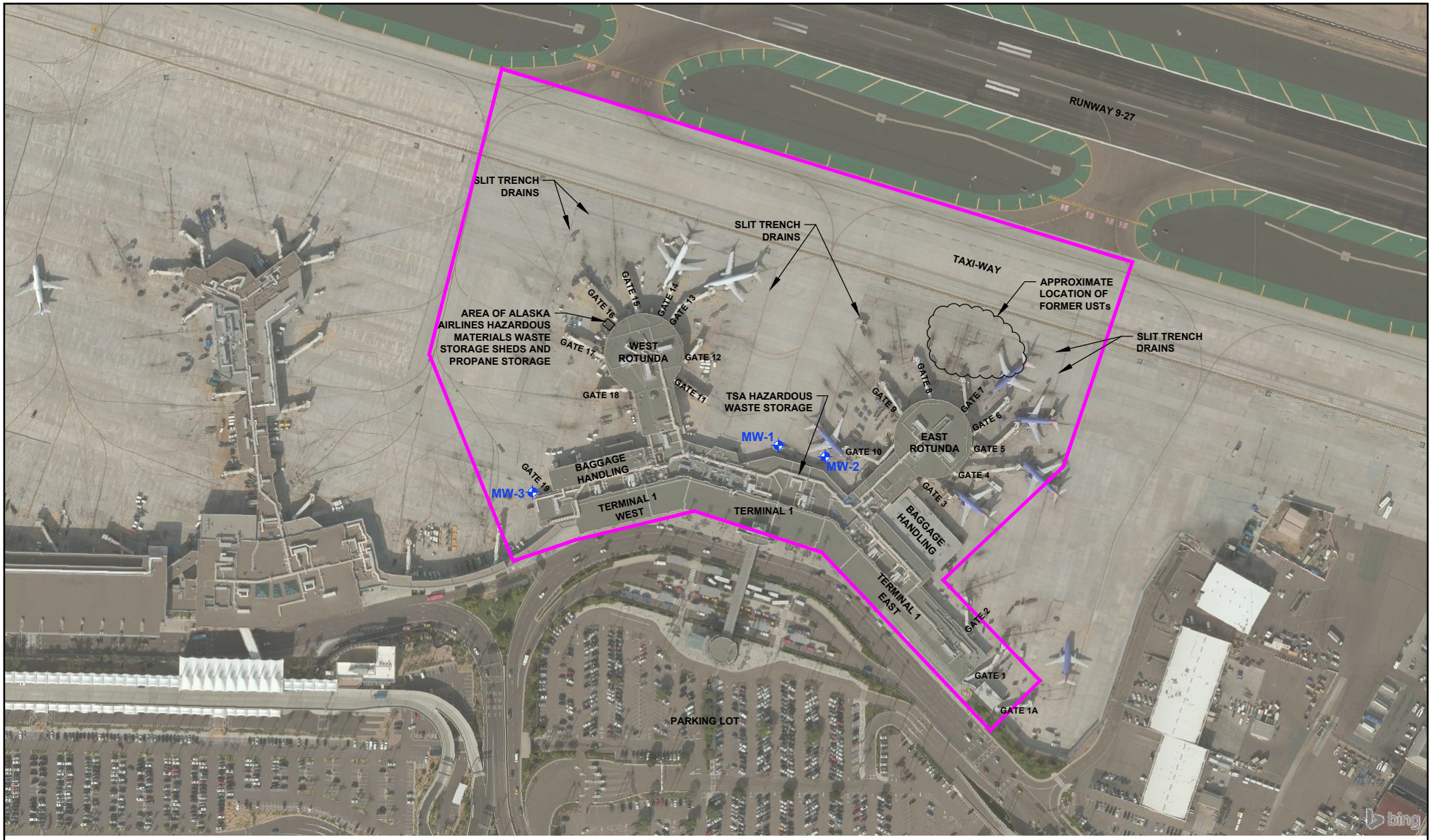

Source: Kleinfelder, October 3, 2017.

Figure 3.9-3

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

AREAS OF CONCERN IDENTIFIED IN THE KLEINFELDER PHASE I ESA

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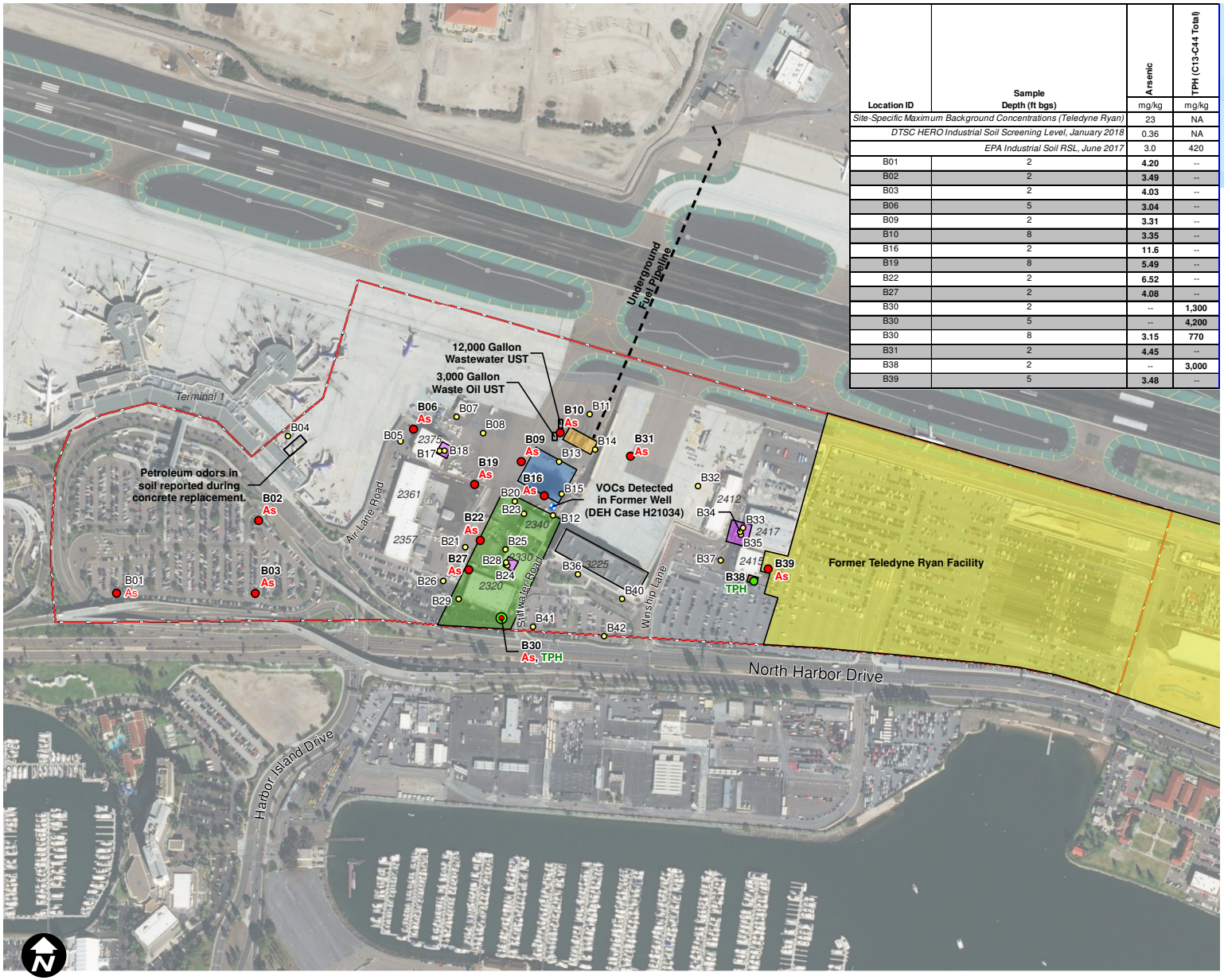

Location ID	Sample Depth (ft bgs)	Arsenic	TPH (C13-C44 Total)
		mg/kg	mg/kg
Site-Specific Maximum Background Concentrations (Teledyne Ryan)		23	NA
DTSC HERO Industrial Soil Screening Level, January 2018		0.36	NA
EPA Industrial Soil RSL, June 2017		3.0	420
B01	2	**4.20**	--
B02	2	**3.49**	--
B03	2	**4.03**	--
B06	5	**3.04**	--
B09	2	**3.31**	--
B10	8	**3.35**	--
B16	2	**11.6**	--
B19	8	**5.49**	--
B22	2	**6.52**	--
B27	2	**4.08**	--
B30	2	--	**1,300**
B30	5	--	**4,200**
B30	8	**3.15**	**770**
B31	2	**4.45**	--
B38	2	--	**3,000**
B39	5	**3.48**	--

LEGEND

- Soil Sample Location
- As — Soil Sample Location with Arsenic Exceeding RSL's
- TPH — Soil Sample Location with TPH Exceeding RSL's
- As, TPH — Soil Sample Location with Arsenic and TPH Exceeding RSL's
- Fuel Pipeline
- Approximate Location of Former Well
- Phase I ESA and Phase II ESI Study Area
- Area of VOC contamination near former Teledyne Ryan Building 131.
- Former Commuter Terminal with Former USTs (DEH Case H02431)
- Former Lindbergh Field Fuel Farm (DEH Case H03605)
- Former Teledyne Ryan Facility (DEH Cases H00419-001 through -008)
- Fuel Station
- Hydraulic Lift
- Washdown Pad
- 2417 Building Number

0 250 500 1,000
In Feet

NOTES:

BOLD = value exceeds RSL

All locations are approximate.

-- = value did not exceed RSL or background concentration
As = Arsenic
bgs = below ground surface
DEH = San Diego County Department of Environmental Health
DTSC = California Department of Toxic Substances Control
EPA = United States Environmental Protection Agency
ft = feet
HERO = Heath and Ecological Risk Office
mg/kg = milligrams per kilogram
NA = Not Applicable
RSL = Regional Screening Level
TPH = Total Petroleum Hydrocarbons
UST = Underground Storage Tank
VC = Vinyl Chloride
VOC = Volatile Organic Compound

Aerial Photo/Base Map Source : ESRI ArcGIS Online Service 2017

Source: Amec Foster Wheeler Environment & Infrastructure, Inc. February 18, 2018.

Figure 3.9-4

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

AMEC PHASE II ESI SOIL SAMPLES WITH RSL EXCEEDANCES

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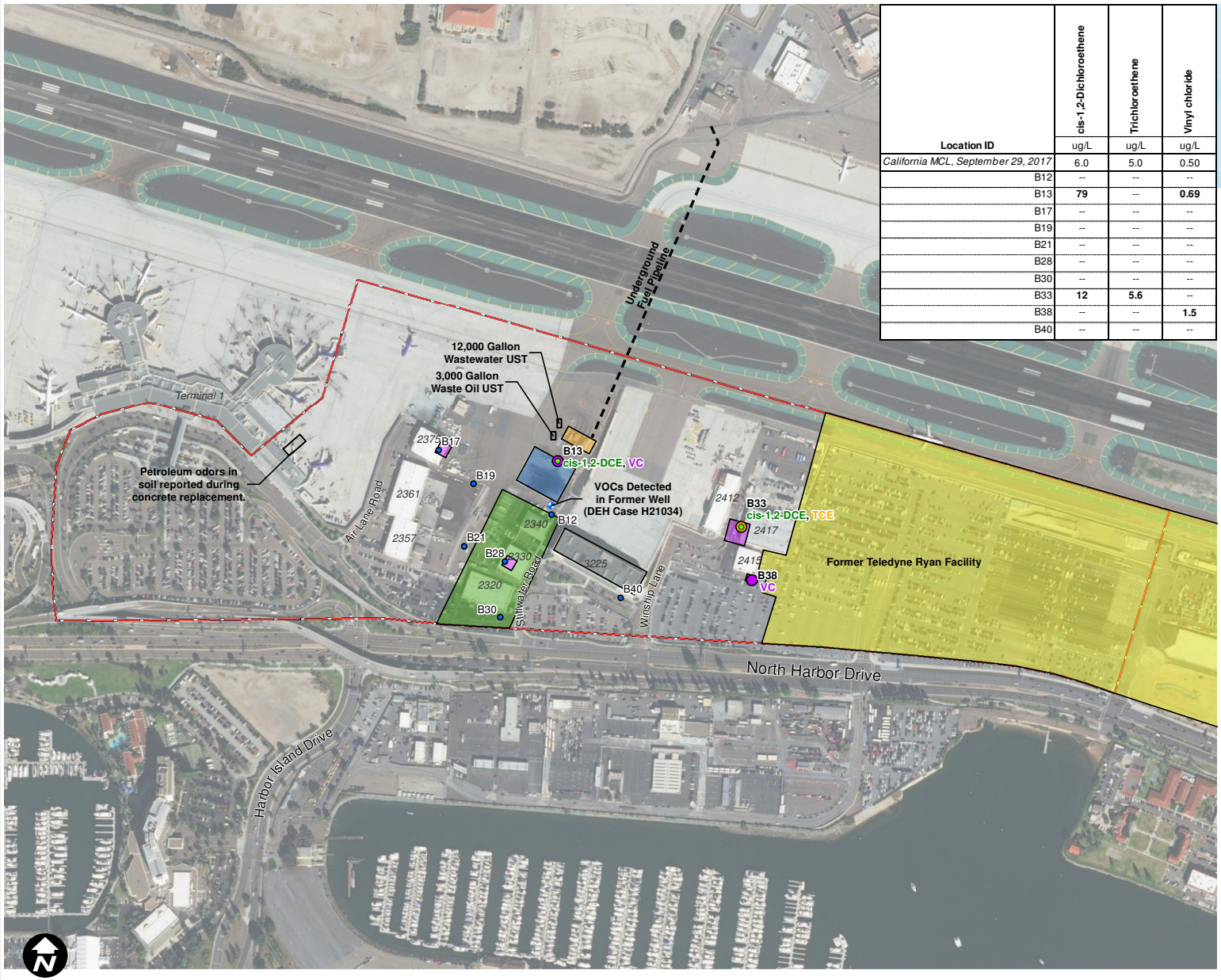

Location ID	cis-1,2-Dichloroethene	Trichloroethene	Vinyl chloride
	ug/L	ug/L	ug/L
California MCL, September 29, 2017	6.0	5.0	0.50
B12	--	--	--
B13	**79**	--	**0.69**
B17	--	--	--
B19	--	--	--
B21	--	--	--
B28	--	--	--
B30	--	--	--
B33	**12**	**5.6**	--
B38	--	--	**1.5**
B40	--	--	--

LEGEND

- Soil Boring with Groundwater Sample Location
- Soil Boring with Groundwater Sample Location with cis-1,2-DCE and VC Exceeding MCL's (cis-1,2-DCE, VC)
- Soil Boring with Groundwater Sample Location with cis-1,2-DCE and TCE Exceeding MCL's (cis-1,2-DCE, TCE)
- Soil Boring with Groundwater Sample Location with VC Exceeding MCL's (VC)
- Approximate Location of Former Well
- Fuel Pipeline
- Phase I ESA and Phase II ESI Study Area
- Area of VOC contamination near former Teledyne Ryan Building 131.
- Former Commuter Terminal with Former USTs (DEH Case H02431)
- Former Lindbergh Field Fuel Farm (DEH Case H03605)
- Former Teledyne Ryan Facility (DEH Cases H00419-001 through -008)
- Fuel Station
- Hydraulic Lift
- Washdown Pad
- 2417 Building Number

0 250 500 1,000
In Feet

NOTES:
All locations are approximate.
-- = value did not exceed MCL
ug/L = micrograms per liter
DEH = San Diego County Department of Environmental Health
DCE = Dichloroethene
MCL = Maximum Contaminant Level
TCE = Trichloroethylene
UST = Underground Storage Tank
VC = Vinyl Chloride
VOC = Volatile Organic Compound

California MCLs established by the State Water Resources Control Board, updated September 29, 2017.

Aerial Photo/Base Map Source : ESRI ArcGIS Online Service 2017

Source: Amec Foster Wheeler Environment & Infrastructure, Inc. February 18, 2018.

Figure 3.9-5

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

AMEC PHASE II ESI GROUNDWATER SAMPLES WITH MCL EXCEEDANCES

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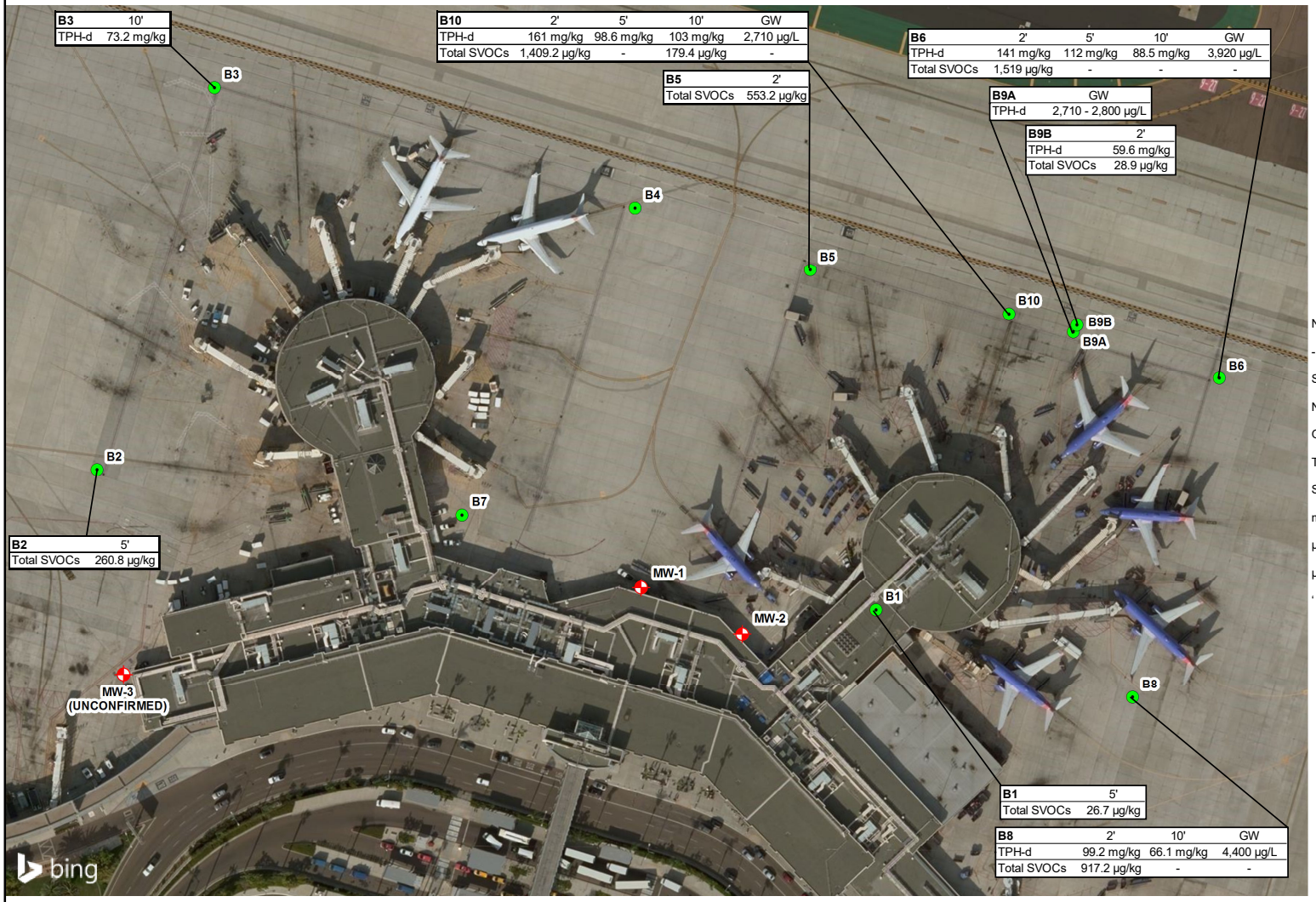

LEGEND

MONITORING WELL LOCATION

SOIL BORING LOCATION

SAMPLE LOCATION

B1 5' — SAMPLE DEPTH

Total SVOCs 26.7 µg/kg — RESULT UNITS

SAMPLE RESULT

NOTES:

- – not detected above laboratory reporting limits

Sample results show detected TPH-D and total SVOCs

No PCBs or VOCs were detected above laboratory reporting limits

GW - groundwater

TPH-d – total petroleum hydrocarbons as diesel

SVOCs – semi-volatile organic compounds

mg/kg – milligrams per kilogram

µg/kg – micrograms per kilogram

µg/L – micrograms per liter

‘ – feet below bottom of concrete

0 60 120 240

Feet

Source: Kleinfelder, February 15, 2018.

Figure 3.9-6

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

KLEINFELDER PHASE II ESA SELECT SAMPLING RESULTS

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Asbestos-containing materials (ACM) are present in the structures to be demolished (Terminal 1, the former Commuter Terminal, and the other buildings to be removed as shown on Figure 1-3). Additionally, materials such as lead-based paint (LBP), mercury-containing equipment, polychlorinated biphenyls (PCB)-containing equipment, lead-containing batteries, chlorofluorocarbon (CFC)-containing equipment, and Universal Wastes (e.g., fluorescent light tubes) are present in Terminal 1 and are likely to be present in the other buildings as well.

3.9.2 Solid Waste

3.9.2.1 Regulatory Setting

The USEPA regulates household, industrial, and manufacturing solid wastes under RCRA. Subtitle D of RCRA establishes the Solid Waste Program, which encourages states to develop comprehensive plans to manage nonhazardous solid waste, sets criteria for municipal solid waste landfills, and prohibits the open dumping of solid waste.

3.9.2.2 Affected Environment

Solid waste generated in San Diego County is disposed in three large solid waste landfills: Miramar, Sycamore, and Otay. Based on projected generation rates, San Diego County has sufficient permitted landfill capacity to accommodate disposal for the next 15 years and beyond; the current permitted capacity is estimated to extend through 2052 (County of San Diego, 2018).

SDCRAA has implemented waste management programs to help achieve progress towards zero waste (diversion of 90 percent of waste from landfills), such as an organics composting program, an edible food recovery program, a Green Concessions education and recognition program for concession tenants at SAN to encourage resource efficiency and conservation, and increasing diversion of construction and demolition debris from landfills through efforts, such as incorporating more robust waste management reporting into SDCRAA's capital project specifications.

3.10 Historical, Architectural, Archaeological, and Cultural Resources

3.10.1 Regulatory Setting

Cultural resources are prehistoric and historic sites, districts, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Numerous laws and regulations require that possible effects on cultural resources be considered during the planning and execution of federal actions. These laws and regulations stipulate a process of compliance, define the responsibilities of the federal agency proposing the actions, and prescribe the relationships among involved agencies. NEPA directs federal agencies to assess the environmental impacts of proposed actions, including impacts to historic and cultural resources.

The primary federal laws that pertain to the treatment of cultural resources are:

- The National Historic Preservation Act (NHPA) establishes the National Register of Historic Places (referred to below as either the National Register or NRHP), and Section 106 of the NHPA requires federal agencies to consider whether proposed activities have the potential to have an adverse effect on historic properties that are already listed, determined eligible, or not yet evaluated under the NRHP criteria. Properties that are either listed in or eligible for listing in the NRHP are provided the same measure of protection under Section 106. Federal agencies are required to consider the effects of proposed undertakings on historic properties through consultation with the State Historic Preservation Officer (SHPO) and Tribal Historic Preservation Officers (THPOs).
- The American Indian Religious Freedom Act requires federal agencies to consult with Native American groups concerning federal actions that may affect sacred sites.
- The Archeological and Historic Preservation Act provides for the preservation of historical and archaeological data that might otherwise be destroyed or irreparably lost due to a federal action.

- The Native American Graves Protection and Repatriation Act addresses the disposition of certain Native American cultural items, including human remains, and governs the inadvertent discovery of Native American cultural items on federal and tribal lands.

3.10.2 Affected Environment

A detailed summary of the historic, architectural, archaeological, and cultural resources is provided in **Appendix E2** of this EA.

3.10.2.1 Area of Potential Effects

The Area of Potential Effects (APE) is defined as the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties.[23] As required by 36 CFR § 800.4 (a)(1), the FAA delineated an APE, as shown on **Figure 3.10-1**, and submitted to the California SHPO for review and concurrence (see **Appendix E1**). The California SHPO concurred with the APE by letter dated October 23, 2020 (see **Appendix E1**). For the purpose of evaluating the potential effects of the Proposed Project (also called an "undertaking" for Section 106 purposes), the APE has been defined as the entire 661-acre SAN property, notwithstanding that the proposed improvements are located primarily in the southern portion of SAN, south of the runway. All construction staging and laydown areas, and associated construction access points, would also be within the APE.

Table 3.10-1: Historic Resources Identified Within the Project APE

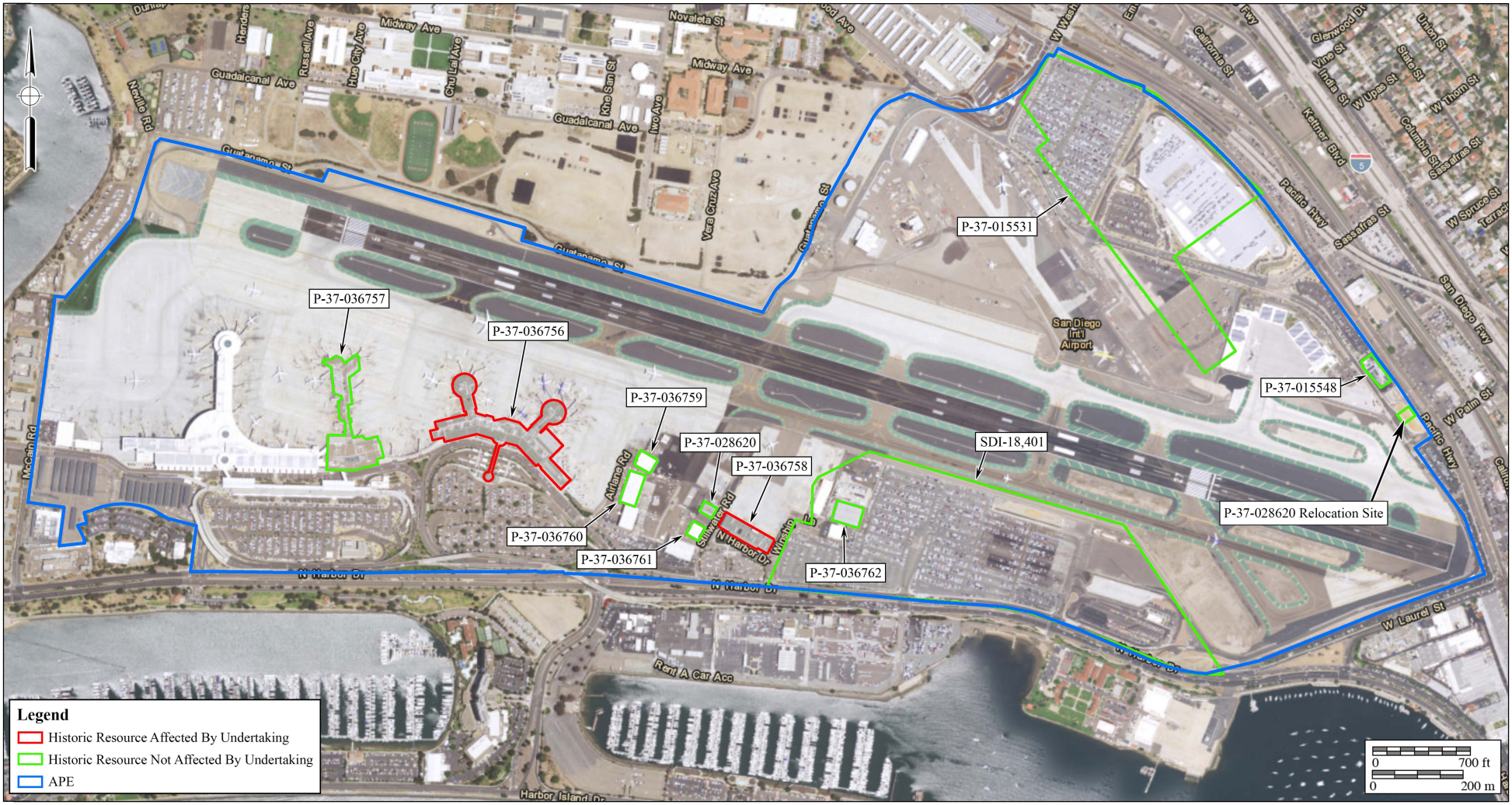
Site Number	Building	Year Constructed	NRHP Eligibility
P-37-036756	Terminal 1	1967	Ineligible
P-37-036757	Terminal 2-East	1979	Ineligible
P-37-036758	Pacific Southwest Airlines administrative and maintenance facility (PSA AMF) building	1968	Ineligible
P-37-036759	United Air freight (UAF) building[1]	1968	Ineligible
P-37-036760	Air Support Facilities (ASF) building[1]	1970	Ineligible
P-37-036761	Air Oasis hangar (AOH) building[1]	1962-1964	Ineligible
P-37-028620	United Airlines hangar and terminal (UAHT) building[2]	1931	Eligible
P-37-036762	Jet engine overhaul (JEO) building[1]	1956-1961	Ineligible
P-37-015548	Convair wind tunnel (CWT) building	1947	Eligible

Source: Brian F. Smith & Associates, 2020.
Notes:
1. To be demolished and removed prior to the Proposed Project's construction.
2. To be relocated prior to the Proposed Project's construction.

Details regarding the history, characteristics, and significance of each historic building within the APE are presented in **Appendix E2**. It should be noted that, of the nine existing buildings listed above in **Table 3.10-1**, four would be demolished and removed prior to start of construction of the Proposed Project and one building would be relocated to the northern portion of SAN prior to the Proposed Project's construction. Such demolition and relocation would be separate from, and independent of, the Proposed Project. As such, only four of the nine buildings listed above would be present at the time of the Proposed Project's construction. It should also be noted that although there are two recorded historic districts within the APE, identified in Figure 3.10-1 as P-37-015531 and SDI-18,401, the historic buildings/features that constituted those districts are no longer present.

The following summarizes the characteristics of the two buildings within the APE that are eligible for the NRHP.

[23] An "Area of Potential Effects" is a term of art used in cultural resource impact assessments and may be different than the "Detailed Study Area" and the "General Study Area" as evaluated in an Environmental Assessment.



Source: Brian F. Smith and Associates, Inc., 2019

Figure 3.10-1

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

HISTORIC RESOURCES CURRENT LOCATION MAP

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Site P-37-028620 – United Airlines Hangar and Terminal Building (UAHT)

The UAHT building was originally constructed along Pacific Highway in 1931 as a Spanish Revival/Modernistic-style hangar and terminal for Pacific Air Transport/United Airlines, until it was moved to its current location in 1952. At that time, the building was rotated approximately 180 degrees and the original passenger corridor and terminal were removed, which also removed the majority of the building's Spanish Revival characteristics. The building does, however, retain a curved parapet on what is currently its west façade. Currently, the building only exhibits Modernistic-style elements, such as the square, stepped, concrete, Art Deco-style pillars clad in stucco and the thick, stucco-clad architrave with stepped horizontal grooves at the cornice line. Despite having been relocated and modified, the UAHT building is still the oldest surviving building within SAN, and as such, is associated with the "earliest period of development at Lindbergh Field between 1928 and 1933." The UAHT building still meets National Register Criteria Consideration B, which allows moved properties that are significant as a surviving property associated with historic events to be considered eligible for the NRHP. Because the building qualifies for National Register Criteria Consideration B, it is considered eligible for listing on the NRHP under Criterion A/1 for its association with the early development of Lindbergh Field. It should be noted that the UAHT will be moved from its current location back to the northern portion of the airport as part of the SAN Airport Support Facility program, a separate and independent project from the Proposed Project, and one where there is no Federal action. This same project is removing the four buildings. The relocation of the UAHT would occur prior to implementation of the Proposed Project.

Site P-37-015548 – Convair Wind Tunnel Building (CWT)

The CWT building was constructed as a low-speed wind tunnel facility in 1947, and still functions as such. In addition, the building functions as the San Diego Air and Space Technology Center for the San Diego Air and Space Museum. The building retains five out of seven aspects of original integrity and is a good example of a specific type, method, and period of construction (International-style, 1940s, wind tunnel testing facility). The CWT building is significant under NRHP Criteria A/1, C/3, and D/4 for its construction as the first low-speed wind tunnel facility in San Diego and its ability to provide further information in the study of aerospace and aviation technology through continued testing. It is, therefore, considered eligible for listing on the NRHP.

3.10.2.2 Archaeological Resources

The land upon which SAN was constructed was dredged from the bottom of the San Diego Bay, prehistoric features or archaeological deposits are not expected to be encountered. Based on the setting of the site and the results of the archaeological records search, which found only historic resources to have been present within the APE, no unique archaeological resources are considered to exist at the project site.

3.10.2.3 Native American Consultation

Based upon the Sacred Lands File (SLF) search conducted by the Native American Heritage Commission (NAHC), no sacred sites or locations of religious or ceremonial importance are located within the Proposed Project APE; however, the NAHC did indicate that the area is culturally sensitive.

3.11 Land Use

3.11.1 Regulatory Setting

Prior to approval of an FAA-funded airport development project, an airport sponsor must provide written assurance that appropriate action has been, or will be, taken to ensure existing and planned land uses adjacent to or in the immediate vicinity of SAN are restricted to uses that are compatible with normal airport operations (49 U.S.C. § 47107(a)(10)).

There are various plans and policies governing development in areas surrounding SAN. Those that are relevant to the Proposed Project, in terms of land use compatibility, include the Port of San Diego's Port Master Plan (PMP), City of San Diego's General Plan, and SANDAG's Regional Plan. The PMP is the land use document governing land and water development within the Port of San Diego's jurisdiction on state tidelands. Although the PMP does not provide mandatory planning goals for SAN/SDCRAA, SDCRAA reviews and considers, where possible and practicable, these planning goals.

The City of San Diego General Plan outlines the City's objectives and guidelines for all phases of future development within the City. SAN is not under the land use authority of the City of San Diego or its General Plan; however, as shown on **Figure 3.11-1**, the City's General Plan designates SAN as having Institutional and Public/Semi-Public Facilities and Industrial land use designations. Additionally, the General Plan includes goals specific to airport-land use planning in the areas of close proximity to SAN, as well as other public use and military aviation facilities. The airport-specific goals identified in the General Plan address protection of the health, safety, and welfare of persons within the vicinity of airports by minimizing the public's exposure to high levels of noise and risk of aircraft accidents, and address protection of public use airports and military air installations from the encroachment of incompatible land uses that could unduly constrain airport operations.

Finally, the SANDAG Regional Plan provides a vision and implementation plan for growth in the San Diego region by 2050. The Regional Plan identifies an implementation action for maximizing the efficiency and effectiveness of aviation facilities and improving access to and from SAN.

3.11.2 Affected Environment

SAN is located in a densely urbanized area that supports a diverse array of land uses, including military training and headquarters areas, mixed-use residential, commercial, and civic developments, port operations, parks, recreation and boating, single-family residential, commercial, and industrial areas. Specifically, to the north of SAN is MCRD San Diego. To the northeast/east along Pacific Highway are industrial and commercial uses and the Port of San Diego administration building. Development farther to the north and east, consists primarily of residential and commercial uses. Across North Harbor Drive to the south, there is a complex of hotels, restaurants, and marinas located on Harbor Island, the Spanish Landing Park, and the U.S. Coast Guard Office. Uses south/southwest of the SAN property and north of North Harbor Drive include the City of San Diego Sewer Pump Station No. 2, the Naval Information Warfare Training Command San Diego facility, and two newly constructed hotels. To the south/southeast is downtown San Diego with varied uses such as industrial and commercial development and recreational and tourist facilities. To the west on the east side of Liberty Station, east of the Navy Boat Channel and adjacent to SAN, are former military housing, public institutional uses including the City of San Diego Police and Fire-Rescue Training Facility, the City of San Diego Public Services Department laboratory facilities, and the San Diego State University Coastal and Marine Institute Laboratory. Farther west, opposite the Navy Boat Channel, is the Liberty Station mixed-use development that includes residential, commercial, office, and civic uses and parks. The surrounding land uses are illustrated on **Figures 3.11-1** and **3.11-2**. Figure 3.11-1 identifies the General Plan land use designations within the GSA and Figure 3.11-2 presents an aerial view of the project area and calls out the locations of specific features in the vicinity of SAN.

3.12 Natural Resources and Energy Supply

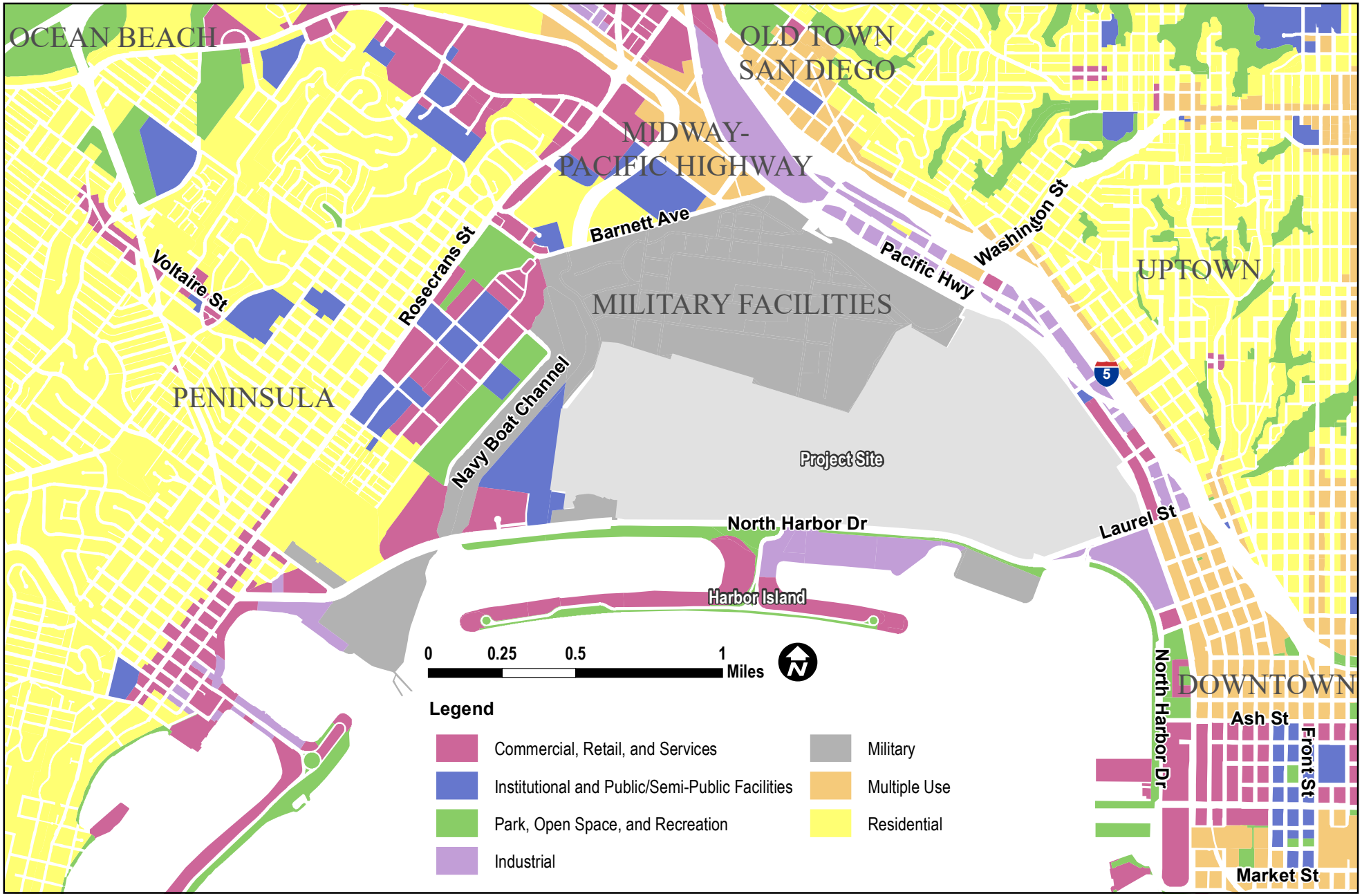
3.12.1 Affected Environment

3.12.1.1 Natural Resources

The San Diego area is a highly-developed urban area with ample natural resources to support aircraft operations, construction projects, and facility operations. SAN has access to water supplies, energy sources, and construction materials and these resources are not in short supply.

3.12.1.2 Water Supply

The City of San Diego's Public Utilities Department (PUD) provides water to SAN. Approximately 90 percent of the San Diego region's potable water is imported from other areas in California, while 10 percent is supplied from water produced locally through a system of reservoirs and pipelines. The primary sources of imported water are the State Water Project (SWP) and the Colorado River. SDCRAA has implemented measures to reduce water consumption, including utilizing non-potable water, such as collected condensate water generated from pre-conditioned air units at jet bridges to reuse for dust control during construction, and water from the SAN Stormwater Capture and Reuse System for use at SAN's CUP.



Source: City of San Diego, 2018. Data available online at http://www.sangis.org.

Figure 3.11-1

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

GENERAL PLAN LAND USE DESIGNATIONS

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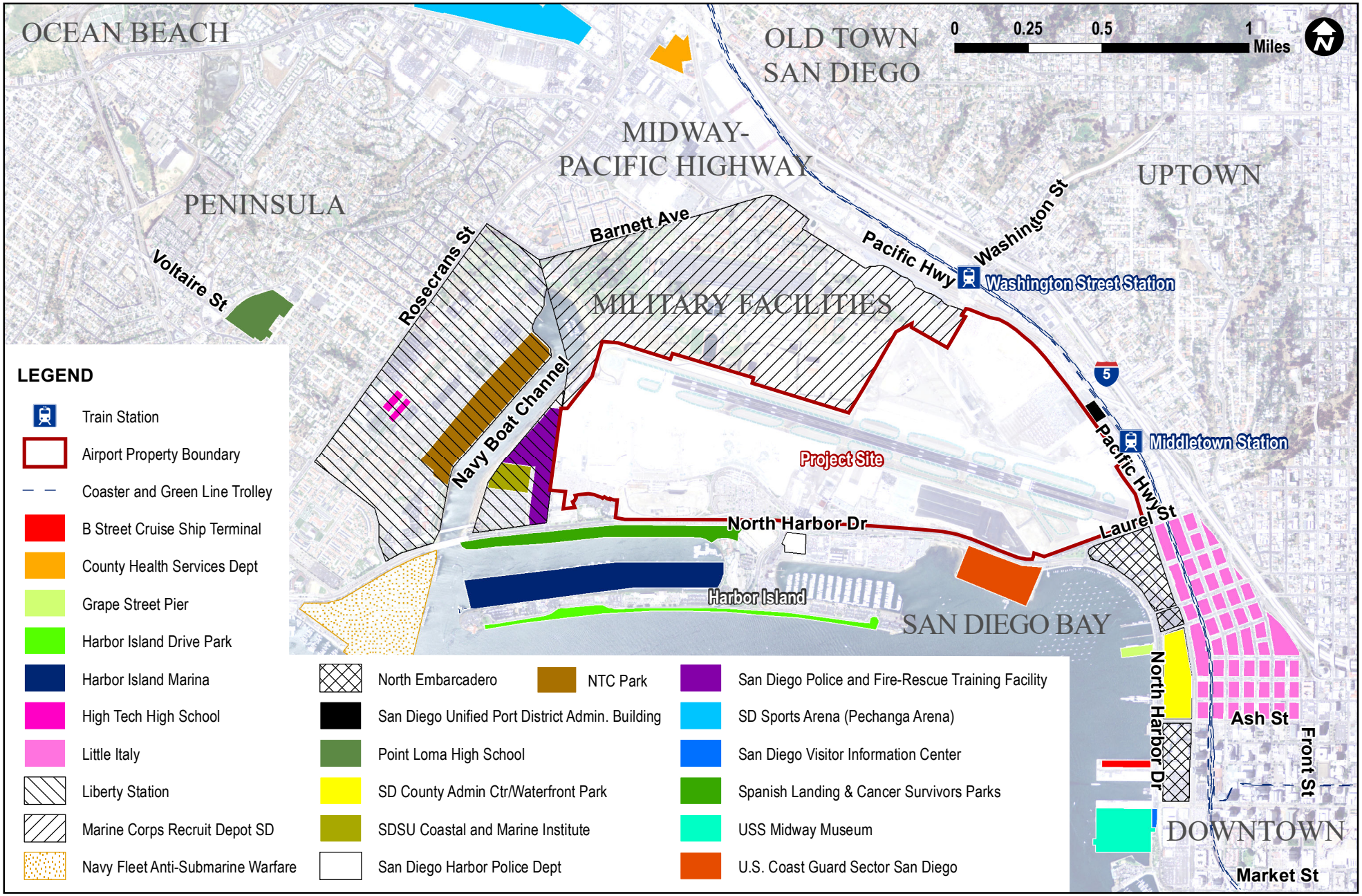

Source: CDM Smith, 2018. Aerial source: SDCRAA, 2019.

Figure 3.11-2

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

SURROUNDING DEVELOPMENT MAP

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3.12.1.3 Energy Supply

Electrical power and natural gas services at SAN are provided by San Diego Gas and Electric (SDG&E). Electric power needed to meet the demands of SDG&E's service territory is provided by power plants within San Diego County, as well as imported from plants outside the County, including from Imperial County.

The CUP meets the existing peak cooling and heating demand and has some additional capacity. On-site renewable energy is generated by over 5.5 megawatts (MW) of solar photovoltaic energy installed on the roof of Terminal 2-West and on shade structures in the Terminal 2-West Parking Lot and the Employee Parking Lot off of Pacific Highway. These installations typically offset 15 to 20 percent of SAN's annual electricity consumption. On-site solar, combined with SDCRAA's subscription to SDG&E's "EcoChoice" green electricity tariff, allows SAN's total renewable electricity mix to be approximately 85 percent.

3.12.1.4 Construction Materials

Construction materials include asphalt, fill material, gravel, water, and wood. These resources are abundant in the area and available from various sources and suppliers in San Diego County. Sand and aggregate in San Diego County are supplied both from local quarries and imports. Timber is not harvested in San Diego County, but is brought in from other parts of California, other states (such as Oregon and Washington), or Canada. Oil from California, Alaska, and foreign sources is provided to California refineries and used in asphalt production.

3.13 Noise and Noise-Compatible Land Use

This section addresses the existing aircraft noise environment in the area surrounding SAN, as related to its compatibility with the underlying existing land uses. Airport noise must be evaluated in terms of yearly Day/Night Average Sound Level (DNL). DNL is the FAA's primary noise metric. FAA Orders 1050.1F and 5050.4B recognize CNEL as an acceptable metric for airport projects in California.[24] In accordance with FAA Order 1050.1F, detailed noise analyses must be performed through noise modeling using an FAA-approved model. The FAA's Aviation Environmental Design Tool version 2d (AEDT 2d) was used for the aircraft noise exposure analysis documented in this EA.[25] The 2018 existing noise environment at SAN is based upon data including number of operations, time of day, operation type (departure or arrival), and aircraft type. See **Appendix F** for additional information on the methodology and assumptions used in modeling/estimating aircraft noise levels.

3.13.1 Affected Environment

3.13.1.1 Existing CNEL Contours

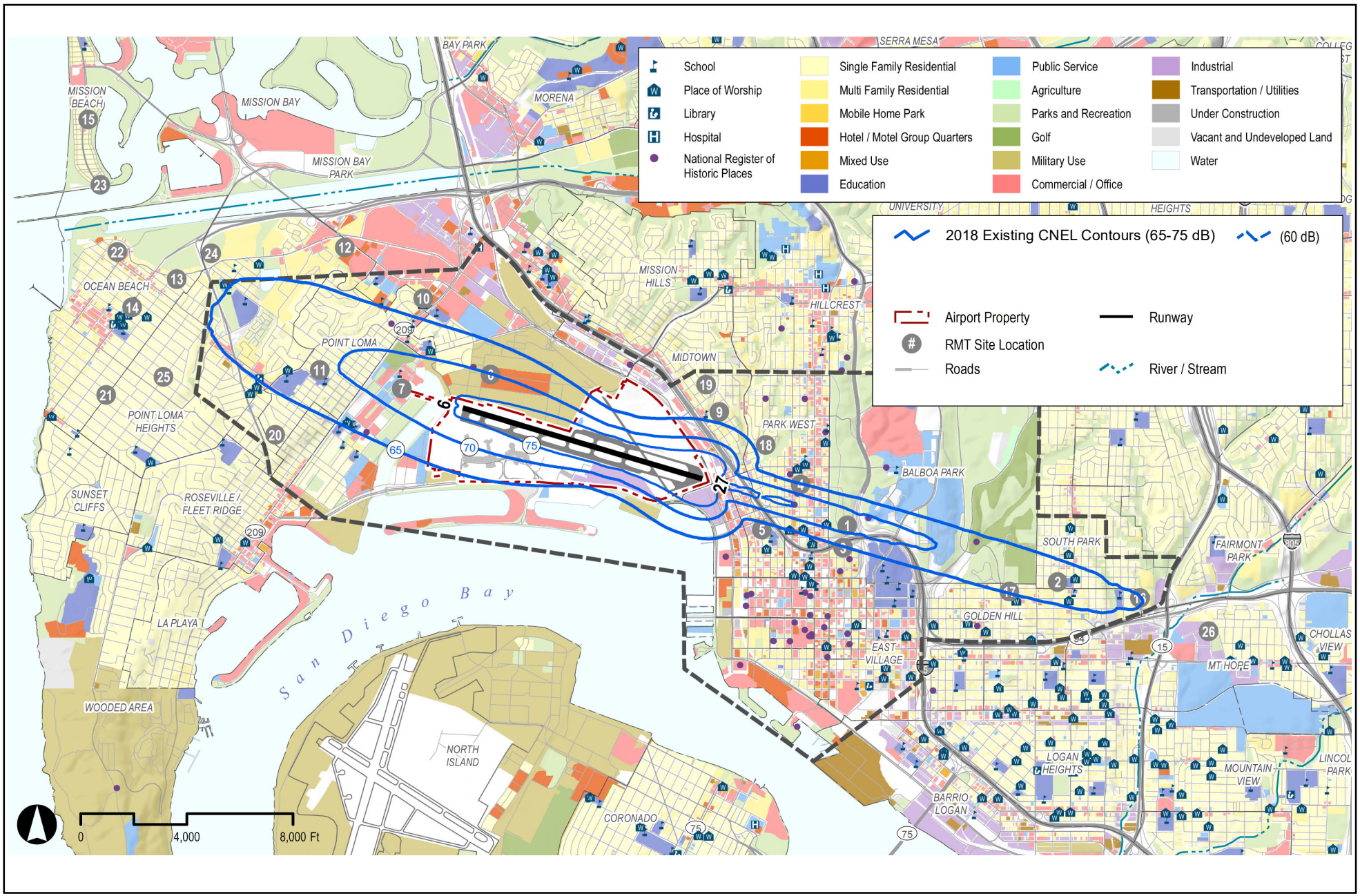
Figure 3.13-1 delineates the 65-75 dB CNEL aircraft noise contours for existing (Year 2018) conditions, as well as shows the underlying land use types. As shown, the 65 CNEL extends southeast, along the aircraft approach path to Runway 9-27, for approximately four miles from the end of the runway, and extends northwest, for aircraft departure routes, for approximately 2.25 miles.

3.13.1.2 Land Use Compatibility

Table 3.13-1 below shows the estimated population and housing unit counts within the 65-70 CNEL, 70-75 CNEL, and 75+ CNEL contours for existing (Year 2018) conditions.

[24] FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, Appendix B, Paragraph B-1; FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions, Paragraph 9(n).

[25] An updated version of AEDT, specifically AEDT 3c, was released by the FAA on March 6, 2020; however, the environmental analysis process for this EA, including modeling with AEDT 2d, was already well underway at that time. Paragraph 4-2.b. of FAA Order 1050.1F states: "*In the event a model is updated or replaced after the environmental analysis process is underway, the updated or replacement model may be used to provide additional disclosure concerning noise or air quality impacts, but use of the updated or replacement model is not required.*" As such, the aircraft noise modeling and aircraft air quality modeling for the EA were completed using AEDT 2d.



Source: HMMH, 2021.

Figure 3.13-1

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

CNEL CONTOURS (65-75 DB) FOR EXISTING (2018) CONDITIONS

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Table 3.13-1: Estimated Population and Housing Unit Counts within the Aircraft Noise Contours for Existing (Year 2018) Conditions

Population				Housing Units			
65-70 CNEL	70-75 CNEL	75+ CNEL	TOTAL	65-70 CNEL	70-75 CNEL	75+ CNEL	TOTAL
16,292	2,984	178	19,454	6,569	1,105	131	7,805

Source: HMMH, 2020.

SAN has an Airport Noise Mitigation Office responsible for implementing numerous measures and programs for the management of aircraft noise at SAN and efforts to reduce noise impacts to the surrounding communities. That includes implementation of a residential sound insulation program which, as of June 2019, has sound insulated 3,918 dwelling units with 9,795 persons in areas within aircraft noise levels of 65 CNEL and above.

Table 3.13-2 below shows the count of other noise-sensitive uses, such as churches, schools, libraries, hospitals, colleges, and historic uses, within the 65-70 CNEL, 70-75 CNEL, and 75+ CNEL contours for existing (Year 2018) conditions.

Table 3.13-2: Other Noise-Sensitive Uses Counts for Existing (Year 2018) Conditions

	65-70 CNEL	70-75 CNEL	75+ CNEL
Churches	7	1	0
Schools	13	1	0
Libraries	1	0	0
Hospitals	2	1	0
Colleges	1	0	0
Historic Properties	7	2	1
Total	**31**	**5**	**1**

Sources: HMMH, 2020; CDM Smith, 2021.

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

Socioeconomic issues relevant to the evaluation of environmental impacts include population, ethnicity and poverty status, employment, income and housing distribution, children's environmental health and safety, and public services as related to transportation characteristics.

3.14.1 Regulatory Setting

Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* enacted in 1994, focuses federal attention on the environmental and human health effects of federal actions on minority and low-income populations with the goal of achieving environmental protection for all communities. The EO directs federal agencies to identify and address the disproportionately high, adverse human health or environmental effects of their actions on minority and low-income populations, to the greatest extent practicable and permitted by law. The order is also intended to promote nondiscrimination in federal programs that affect human health and the environment, as well as provide minority and low-income communities' access to public information and public participation.

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, enacted in 1997, applies to environmental health or safety risk that may disproportionately affect children. Environmental health risks or safety risks can be attributable to products or substances that the child is likely to come in contact with or ingest (such as air, food, water [both potable and recreational], soil, and products children use or are exposed to).

3.14.2 Affected Environment

3.14.2.1 Demographic Data

The study area for evaluating potential socioeconomic, environmental justice, and children's environmental health and safety risk impacts is the GSA, which is comprised of 32 census tracts. Data is presented for the GSA along with corresponding data for the entire City of San Diego and County of San Diego in the tables below. The GSA, City, and County boundaries are shown on **Figure 3.14-1**. The census tracts are shown on **Figures 3.14-2** and **3.14-3**.

According to the U.S. Census Bureau, San Diego County has a total of 3,316,073 persons and the City of San Diego has a total population of 1,409,573 persons, whereas the population of the GSA is 136,408. Selected demographic information for San Diego County, City of San Diego, and the GSA are shown in in **Table 3.14-1**.

Table 3.14-1: Population and Housing Data

	San Diego County	City of San Diego	General Study Area
Population	3,316,073	1,409,573	136,408
Families	756,963	307,217	25,143
Households	1,125,286	507,580	64,780

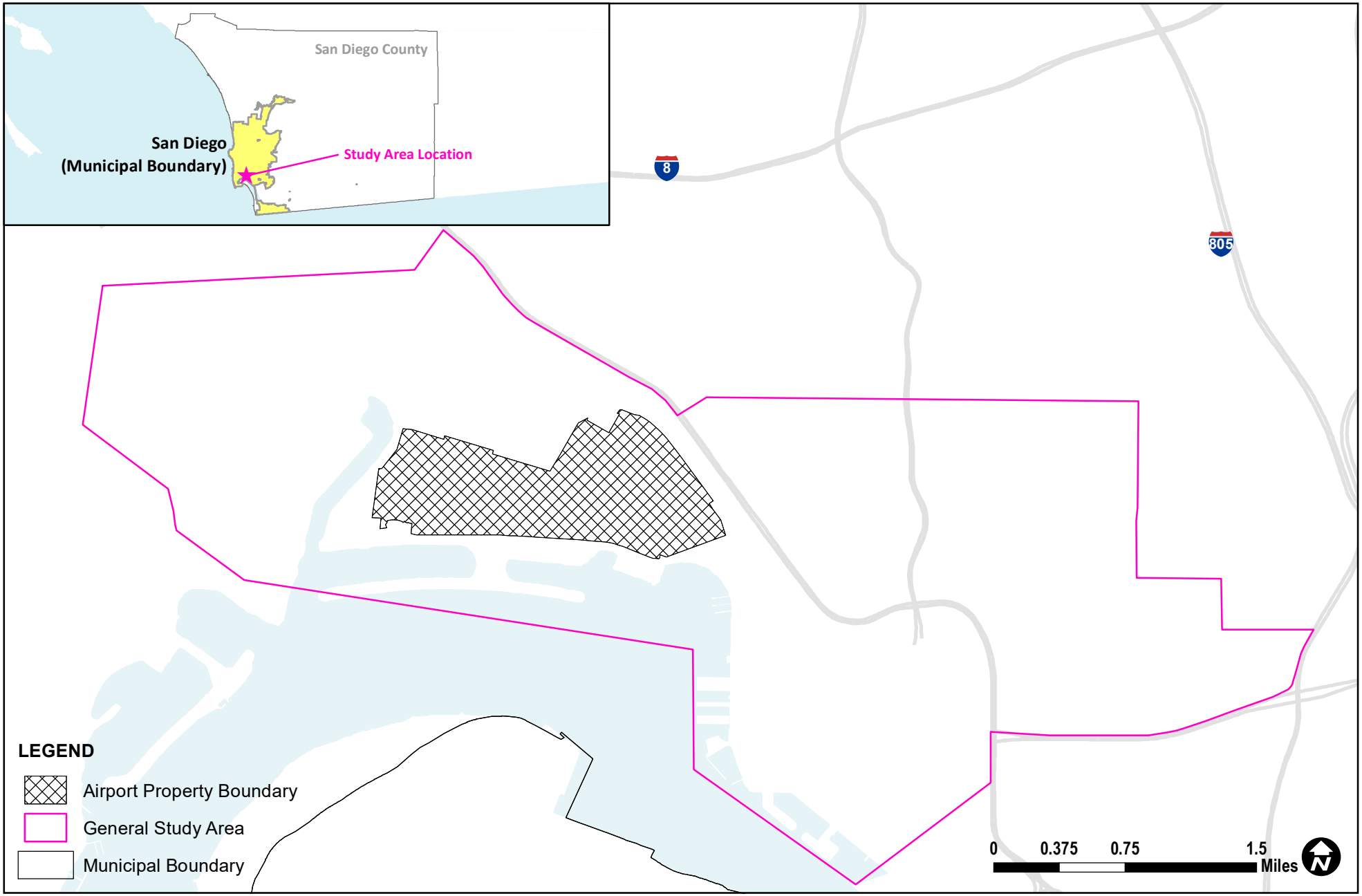
Source: U.S. Census Bureau, 2015-2019 ACS 5-Year Estimate.

As shown in **Table 3.14-2** approximately 39 percent of the population living in the 32 census tracts that make-up the socioeconomic, environmental justice, and children's environmental health and safety risk study area is minority, which is a lower percentage than both San Diego County and the City of San Diego. The largest minority group in the study area is Hispanics or Latinos by far, accounting for 22 percent of the population, followed by Asians at 6.2 percent and African Americans at 6.1 percent. In general, the minority population percentage is similar to the County and City, although the percentage of African Americans living in the GSA is higher than in San Diego County, and the percentage of Asian and Hispanic and Latino populations is lower than both the County and City of San Diego. Figure 3.14-2 shows the percent minority living in the GSA by census tract. While the average minority population of the GSA is less than the County and City as a whole, seven out of 32 individual census tracts in the study area have a minority population that is greater than 50 percent. Six of the seven census tracts are generally located at the southeastern edge of the study area, and not in the immediate vicinity of SAN. The other census tract is located in the northwest corner of the GSA. The census tracts closest to SAN generally have minority populations in the range of 27 to 49 percent, which is below the County and City average.

Table 3.14-2: Race/Ethnicity Characteristics

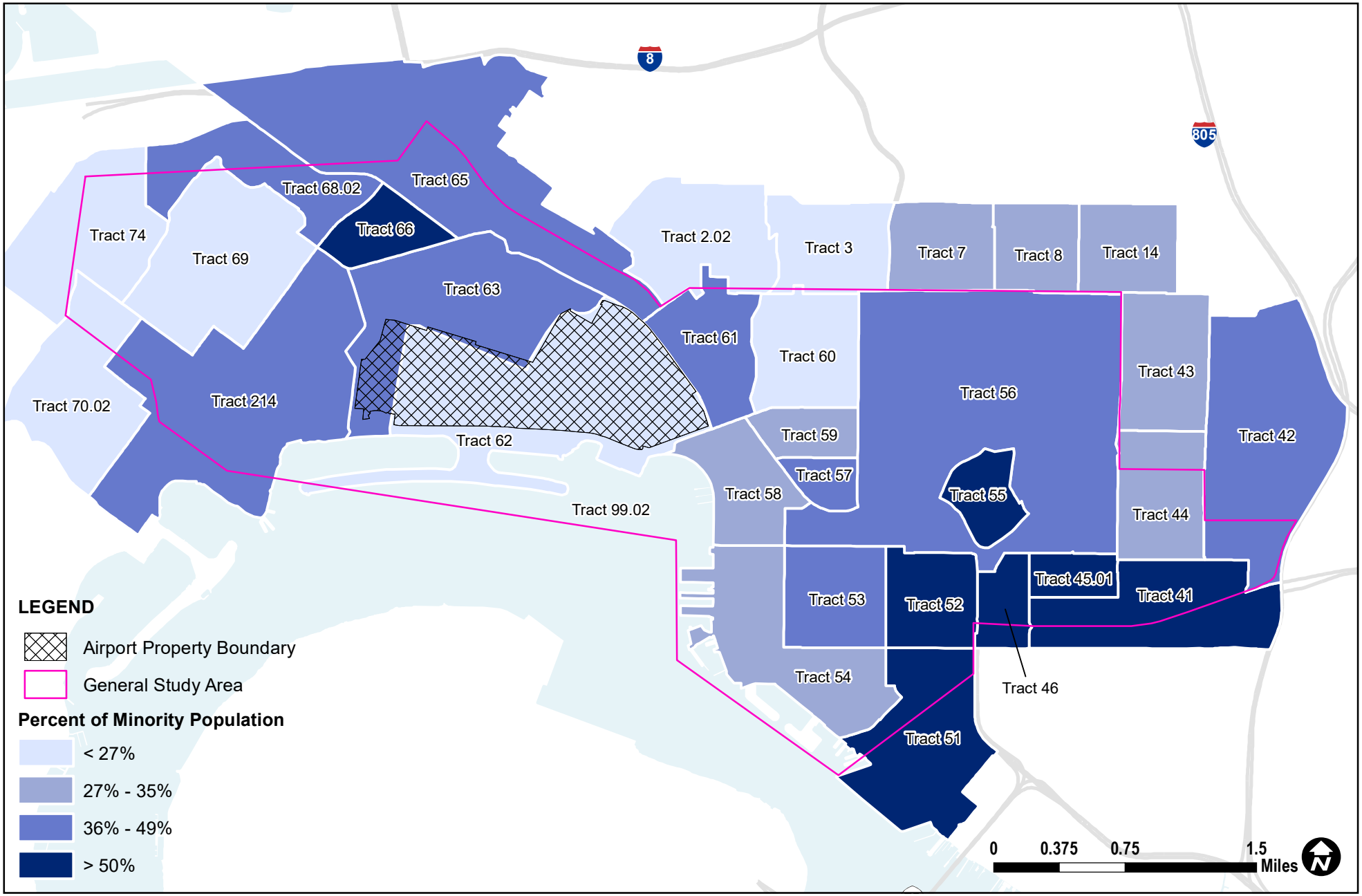
	San Diego County		City of San Diego		General Study Area	
Total Population	3,316,073		1,409,573		136,408	
White	1,510,756	45.6%	602,690	42.8%	83,308	61.1%
Populations considered Minority						
African American	156,084	4.7%	85,221	6.0%	8,333	6.1%
American Indian or Alaskan Native	12,474	0.4%	3,040	0.2%	509	0.4%
Asian	385,657	11.6%	231,511	16.4%	8,503	6.2%
Native Hawaiian or Pacific Islander	12,747	0.4%	5,417	0.4%	474	0.3%
Some Other Race	6,560	0.2%	3,002	0.2%	343	0.3%
Two or More Races	114,278	3.4%	51,106	3.6%	4,694	3.4%
Hispanic or Latino (Any Race)	1,117,517	33.7%	427,586	30.3%	30,244	22.2%
Total Minority Population	1,805,317	54.4%	806,883	57.1%	53,100	38.9%

Source: U.S. Census Bureau, 2015-2019 ACS 5-Year Estimate.



Source: California Department of Conservation

Figure 3.14-1



Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Figure 3.14-2

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

PERCENT OF MINORITY POPULATION IN THE GENERAL STUDY AREA

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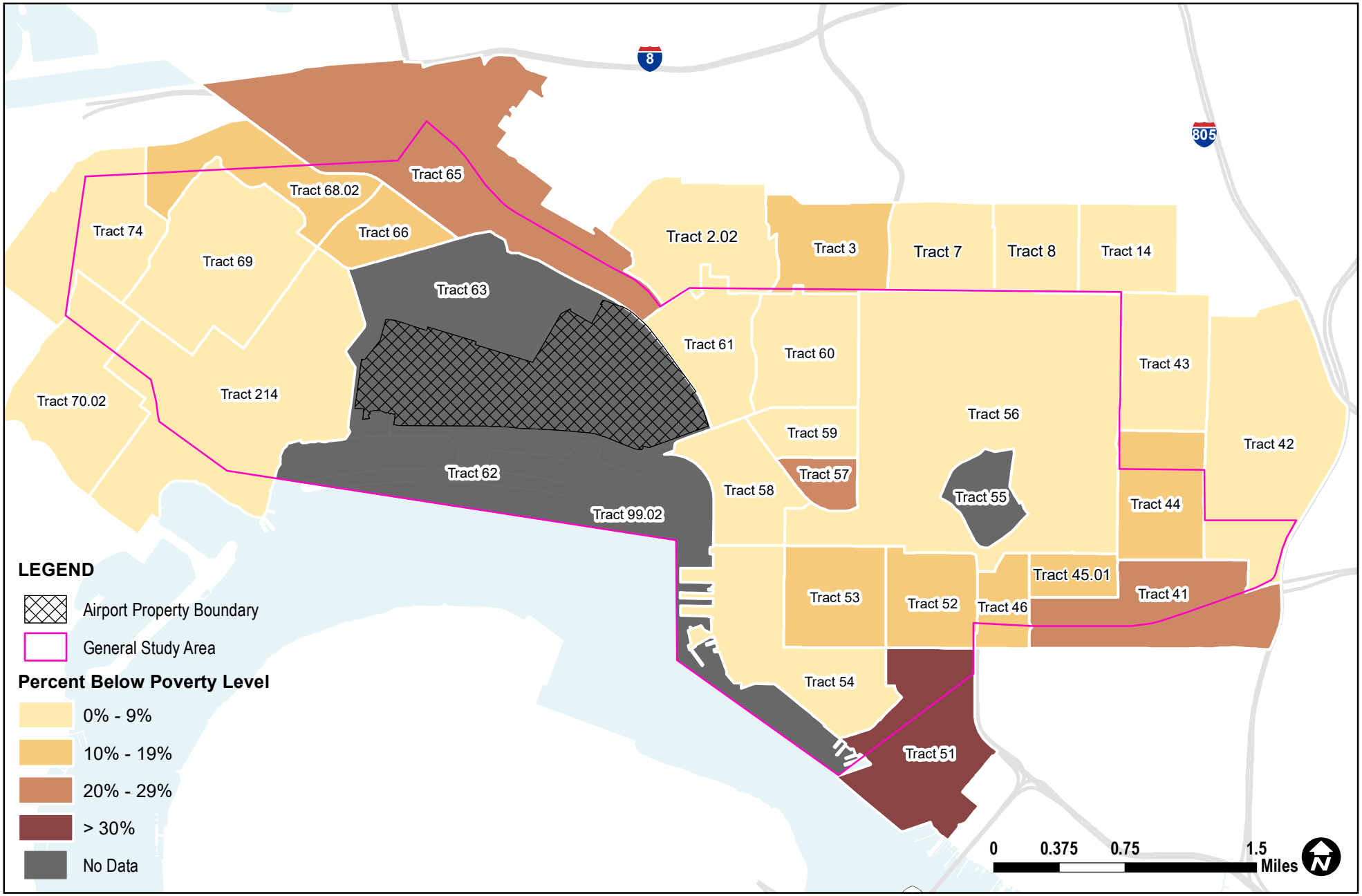


Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Figure 3.14-3

PERCENT OF INDIVIDUALS WITH INCOME BELOW NATIONAL POVERTY LEVEL IN THE GENERAL STUDY AREA

Approximately 12 percent of the residents in the study area are minors (under 18 years of age). As listed in **Table 3.14-3**, this is a lower population of children, percentage-wise, compared to both San Diego City and County. Two out of 32 individual census tracts have a higher-than-average population of minors compared to the City (from 27 to 50 percent) and four census tracts have a higher than average population of minors compared to the City (from 20 to 50 percent).

Table 3.14-3: Child Demographic Data

	San Diego County		City of San Diego		General Study Area	
Total Population	3,316,073		1,409,573		136,408	
Minors (under 18 Years)	722,738	21.8%	280,476	19.9%	16,559	12.0%
Percent by Age Group						
Under 5 Years	209,680	6.3%	83,747	5.9%	6,534	5%
5 to 9 Years	195,758	5.9%	76,574	5.4%	4,309	3.2%
10 to 14 Years	199,915	6.0%	75,907	5.4%	4,045	3.0%
15 to 19 Years	207,980	6.3%	84,429	6.0%	5,229	3.8%

Source: U.S. Census Bureau, 2015-2019 ACS 5-Year Estimate.
Note: Total population presented for "Percent by Age Group" includes population from age 0 – 19, and does not match the total population of Minors, which is the population from age 0 – 18.

There are 32 primary and secondary schools located within the GSA as determined by San Diego Geographic Information Source data, including the following (SanGIS, 2021):

- 9 public elementary schools
- 5 public middle schools
- 9 public high schools
- 1 public kindergarten – 12th grade (K-12) schools
- 3 private kindergarten – 8th grade (K-8) schools
- 3 private schools
- 1 alternative school
- 1 continuation high school

Additionally, there are approximately 10 preschools and 14 daycares in the study area, based on a review of current maps.

3.14.2.2 Economic Data

The estimated median household income in the study area is $73,372, slightly lower than that of San Diego County and the City of San Diego. The study area has a lower percentage of its population with an income below the national poverty level, as compared to the County and the City. **Table 3.14-4** summarizes the income characteristics of the study area and the San Diego City and County. Figure 3.14-3 shows the percent of the population by census tract with an income below the national poverty level. The percentage of low-income population (below the national poverty level) in the study area is approximately 5.7 percent overall (approximately 5.9 percent lower than the County on average and 71 percent lower than the City as a whole). Twelve out of 32 individual census tracts in the study area have a low-income population that is 10 percent or greater. As shown on Figure 3.14-3, these twelve census tracts are generally located at the northwest and southeastern edges of the study area, and not in the immediate area near SAN. None of the census tracts have a low-income population greater than 33 percent. As further shown on Figure 3.14-3, the census tracts closest to SAN generally have low-income populations in the range of zero to nine percent, which is below the County and City average.

Table 3.14-4: Income Characteristics

	San Diego County	City of San Diego	Study Area
Median Household Income	$78,980	$79,673	$73,372
Income Below National Poverty Level	11.6%	12.8%	5.7%

Source: U.S. Census Bureau, 2015-2019 ACS 5-Year Estimate.

In January 2021, the unemployment rate for the San Diego-Carlsbad Metropolitan Statistical Area was 8.1, an unemployment rate ranking of 41 of the 51 large metropolitan areas in the U.S. (U.S. Bureau of Labor Statistics, 2019).

SAN, along with airport-related businesses, comprises one of the region's largest employers and centers of economic activity, including the airport itself, and off-airport parking and air cargo facilities affiliated with the airport. Additional contributors to SAN's economic impact are spending by visitors that arrive in the region via the airport and on-airport construction projects (CDM Smith, 2018).

According to CDM Smith (2018), direct economic impacts, including those generated by on-airport tenants and visitor expenditures, produced approximately $6.0 billion in economic output and supported more than 67,200 jobs in 2017. Indirect multiplier impacts on the regional economy were found to account for more than 49,300 jobs, and over $5.7 billion in annual output. In 2017, nearly 118,000 residents in the region were employed directly or indirectly due to the activities at SAN, which is nearly 5.7 percent of the nearly 2.1 million employed persons in San Diego County.

3.14.2.3 Surface Traffic and Circulation

As discussed in Section 4.13.1.2 below, factors to consider related to socioeconomic impacts include those related to the potential to disrupt traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities. Airport traffic currently uses the I-5 and I-8 freeways and local streets, including Pacific Highway, North Harbor Drive, Laurel Street, Kettner Boulevard, and Grape Street. Existing traffic operations were evaluated at 43 intersections and 44 roadways segments within the GSA. With the exception of two intersections, all study area intersections operate at Level of Service (LOS)[26] A, B, C, or D under existing conditions during the weekday AM peak hour (8:00 a.m. to 9:00 a.m.), Airport peak hour (9:00 a.m. to 10:00 a.m.), and PM peak hour (5:00 p.m. to 6:00 p.m.). The two intersections not at those service levels are Intersection #16 - Kettner Boulevard at W Laurel Street (operates at LOS F during AM and Airport Peaks) and Intersection #41 Kettner Boulevard at Palm Street (operates at LOS F during PM Peak). See **Figure 3.14-4** for location of the intersections and roadway segments evaluated. See **Appendix G** for details regarding the existing transportation characteristics at and around SAN.

3.15 Visual Effects

3.15.1 Regulatory Setting

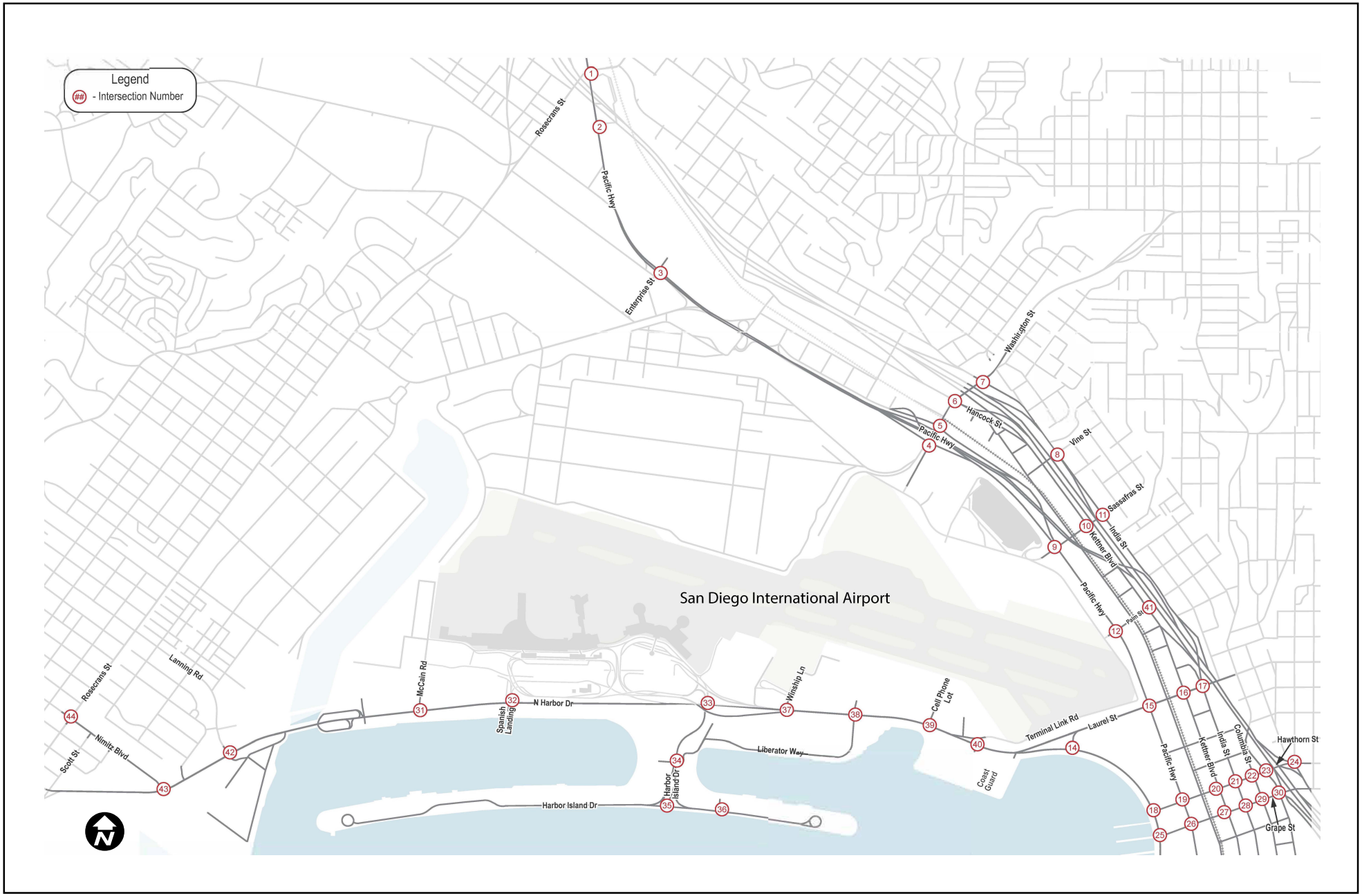
There is no specified regulatory context for visual effects.

3.15.2 Affected Environment

3.15.2.1 Light Emissions

SAN is located in a dense urbanized area that supports an array of land uses that generate varying degrees of light emissions. Portions of SAN are well lit at night, with sources including light emanating from SAN buildings and terminal lighting, parking areas, security lighting, roadway and street lighting, wayfinding, landscaping lighting, navigational aids, and airfield and apron lighting. Light emissions within the GSA are typical of an urban environment and consist of roadway lighting and vehicle lights along I-5 and local

[26] LOS is used to determine whether traffic operations at an intersection or on a roadway segment are free flowing or congested. LOS A represents the optimal operating condition, characterized by uninterrupted free flow operations. At the other end of the scale, LOS F represents the worst operating condition, characterized by severe congestion and delay. (Transportation Research Board of the National Academies. Highway Capacity Manual, 6th Edition, 2016)



Source:

Figure 3.14-4

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

TRAFFIC ANALYSIS STUDY AREA

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roadways, considerable light emissions associated with military, industrial, and commercial uses along I-5, as well as lighting emissions from downtown structures and recreational facilities/activities (e.g., sporting and musical/community events along the Embarcadero and at Petco Park) to the southeast of SAN, and moderate light emissions within the residential areas to the west and east/northeast of SAN.

3.15.2.2 Visual Resources and Visual Character

SAN is located in a fully urbanized area that is surrounded by existing commercial, industrial, military, residential, and recreational uses, and San Diego Bay. The Proposed Project area is located on the south side of SAN facing North Harbor Drive within the SAN terminal complex, which includes Terminal 1 (48 feet in height), Terminal 2-East and Terminal 2-West (both 90 feet in height), and the former Commuter Terminal building/current SDCRAA administrative offices (65 feet in height). The ground transportation system located south of the terminals provides at-grade and elevated access roads, vehicle curbfronts, and surface parking, as well as a 66-foot-high parking plaza south of Terminal 2 and north of North Harbor Drive.

Existing visual resources identified in state, regional, and local regulations, policies, and ordinances within the SAN project area include San Diego Bay and the Pacific Ocean to the south, the Navy Boat Channel to the west, the Point Loma peninsula to the southwest, and the San Diego downtown skyline to the southeast. Existing SAN facilities do not materially obstruct views of these visual resources from recreational facilities to the south of SAN (Spanish Landing Park and Harbor Island) and west of SAN (NTC Park within Liberty Station), roadways surrounding SAN, including I-5 and North Harbor Drive, or the elevated residential areas to the east/northeast of SAN (refer to **Appendix H**).

3.16 Water Resources

3.16.1 Surface Waters

3.16.1.1 Regulatory Setting

The Clean Water Act (CWA) is the principal statute that governs water quality in the United States; it provides the legal framework to several state and local regulations. Under CWA Section 303(d), states are required to submit to USEPA a list of waters within its boundaries that do not meet water quality standards (impaired waters) and the water quality parameter (i.e., pollutant) not being met (referred to as the 303(d) List). Section 402 regulates point-source and nonpoint-source discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program. In California, the State Water Resources Control Board (SWRCB) oversees the NPDES program, which is administered by the RWQCBs. In addition, operations at SAN are subject to the requirements of the Municipal Separate Storm Sewer System (MS4) Permit (NPDES Permit No. CAS0109266), the Industrial General Permit (NPDES Permit No. CAS000001), and the SAN Storm Water Management Plan (SWMP) (SDCRAA, 2019b), which provide the framework for operation of existing facilities and development of new facilities at SAN. The SWMP serves as the Storm Water Pollution Prevention Plan (SWPPP) for meeting the applicable requirements of the Industrial General Permit issued to SAN by the State Water Resources Control Board. The SWMP identifies requirements to manage potential on-site sources of non-stormwater discharge, such as control of wash water from vehicle washing and methods to contain spills in outdoor material storage areas.

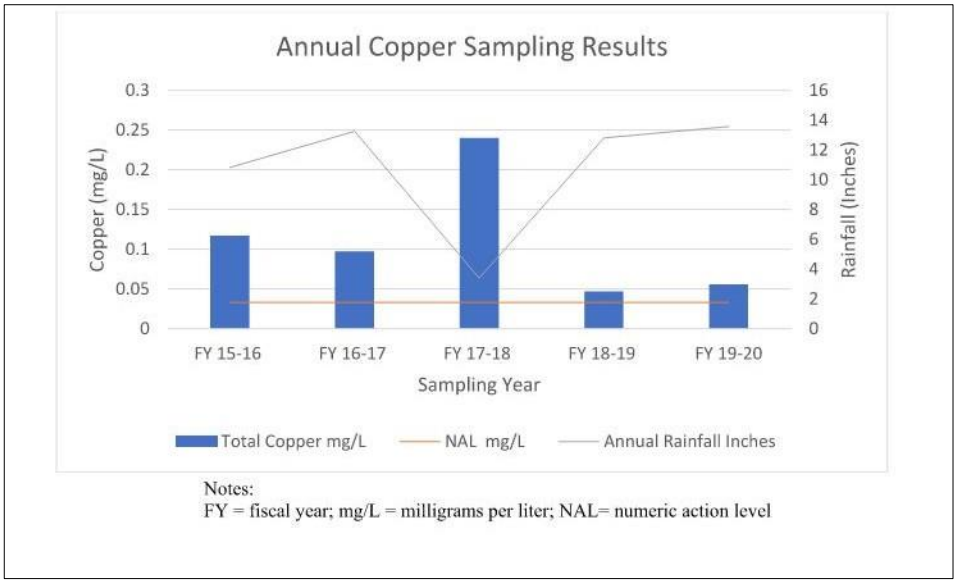
3.16.1.2 Affected Environment

Surface water in the vicinity of SAN is dominated by San Diego Bay to the south and a leg of the Bay called the Navy Boat Channel, which runs north-south along the western boundary of SAN. There are no surface waters on SAN. Approximately 90 percent of SAN property is considered impervious area as the surface is covered by buildings and paved surfaces. Surface runoff at SAN flows primarily towards the south, to San Diego Bay, and the west-southwest, to the Navy Boat Channel, which ultimately empties into San Diego Bay. Currently, the airport discharges its stormwater runoff into the San Diego Bay via sheet flow into gutters and drainage outfalls located around the perimeter of the airport property. All of San Diego Bay is currently listed under Section 303(d) as "impaired" for impacts due to mercury, polycyclic aromatic hydrocarbons (PAHs), and PCBs. In addition, San Diego Bay shorelines at Harbor Island East Basin and West Basin, which are in the vicinity of SAN outflows, are listed under CWA Section 303(d) as "impaired" for impacts due to copper, sediment toxicity, and benthic community effects.

On-site stormwater discharge monitoring evaluates whether such discharges contain pollutants over established stormwater quality thresholds called Numeric Action Levels (NALs). From 2015 to 2020, all annual average sampling results for copper, two results for zinc, and one result each for biological oxygen demand (BOD) and chemical oxygen demand (COD) have exceeded the annual NALs for SAN. **Figures 3.16-1** and **3.16-2** depict annual copper and zinc sampling results from 2015 through 2020, respectively.

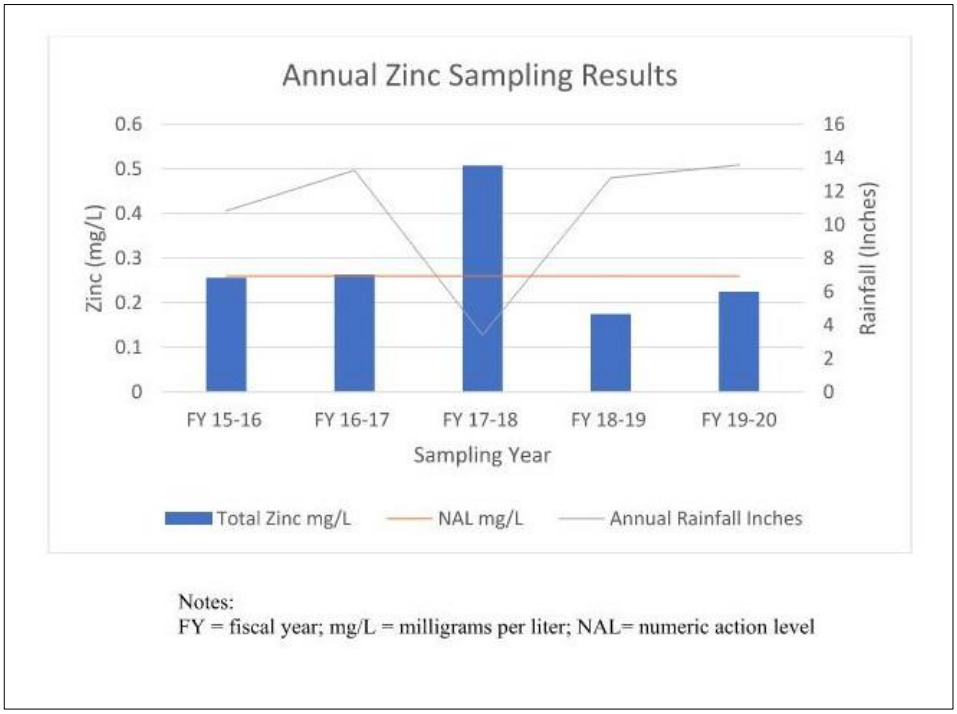
Current strategies for meeting copper and zinc water quality goals include increasing sweeping locations and frequencies, optimizing catch basin cleaning, Best Management Practices (BMP) implementation and enforcement, and implementing treatment control BMPs, where feasible. Additional information and data regarding water quality of San Day Bay is included in **Appendix I** of this EA.

Figure 3.16-1 Annual Copper Sampling Results (2015 – 2020)



Source: Wood PLC Environment and Infrastructure Solutions, *Stormwater Sampling Report 2019-2020 (Draft)*, November 2020.

Figure 3.16-2 Annual Zinc Sampling Results (2015 – 2020)



Source: Wood PLC Environment and Infrastructure Solutions, *Stormwater Sampling Report 2019-2020 (Draft)*, November 2020.

3.16.2 Groundwater

3.16.2.1 Regulatory Setting

Groundwater quality is regulated under various federal and state requirements, including the Federal Safe Drinking Water Act of 1974, which sets health-related standards for aboveground and underground sources of water that are designated or potentially designated for drinking use. Additionally, Division 7 of the California Water Code, also known as the Porter-Cologne Water Quality Control Act, contains provisions that cover water quality protection and management for Waters of the State. The Porter-Cologne Water Quality Control Act applies to surface waters, wetlands, and groundwater, and to both point and nonpoint sources of pollution.

3.16.2.2 Affected Environment

Groundwater depths at the project site range from approximately 7 to 12 feet below ground surface. Flow rate is low due to flat topography and low permeability Groundwater underlying SAN is in the San Diego Mesa Hydrologic Area, which has no designated existing or potential beneficial uses, because the groundwater in this hydrologic area is of poor quality due to its high salinity resulting from the close proximity to San Diego Bay. As discussed in Section 3.9.1, groundwater contamination has been detected at SAN due to past uses at and near the airport.

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Chapter 4 Environmental Consequences & Mitigation Measures

4.1 Introduction

The potential environmental consequences associated with the Proposed Project and the No Action Alternative are discussed in this chapter. The following environmental resources were determined to be potentially affected by the Proposed Project and are evaluated as part of this Environmental Assessment (EA) in the following sections:

- Air Quality—Section 4.3
- Biological Resources—Section 4.4
- Climate—Section 4.5
- Coastal Resources—Section 4.6
- Department of Transportation Act, Section 4(f) and Land and Water Conservation Fund Act, Section 6(f)—Section 4.7
- Hazardous Materials, Solid Waste, and Pollution Prevention—Section 4.8
- Historic, Architectural, Archaeological, and Cultural Resources—Section 4.9
- Land Use—Section 4.10
- Natural Resources and Energy Supply—Section 4.11
- Noise and Noise-Compatible Land Use—Section 4.12
- Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks—Section 4.13
- Visual Effects—Section 4.14
- Water Resources—Section 4.15
- Cumulative Impacts—Section 4.16

As noted in Section 1.3.3, aviation activity at SAN in 2020 declined drastically due to the effects of the COVID-19 pandemic, and recovery to 2019 demand levels is not expected until 2025. Air travel demand is reasonably expected to resume over time as the economy recovers, even as leisure and business travelers adapt to new norms after the COVID-19 pandemic. This EA evaluates the environmental impact of constructing the Proposed Project by analyzing the project in two different years of full operation. Study year 2026 represents the first year that the Proposed Project would be open and operational. Study Year 2031 is the fifth full year after project opening. It provides a reasonable time frame to evaluate ongoing operation-related environmental impacts, such as those associated with aircraft noise and air quality. In addition to those two operational years, the analysis of construction-related air quality impacts includes each of the six years of construction activity (i.e., 2021 through 2026) associated with development of the Proposed Project.

4.2 Chapter Organization

Each environmental topic section of this chapter is organized into the following subsections: Methodology; Significance Thresholds; Construction and Operational (2026 and 2031) Impacts, first for the No Action Alternative then for the Proposed Project 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 4.16).

4.3 Air Quality

The Desk Reference for FAA Order 1050.1F states that an air quality assessment prepared under NEPA should include an analysis and conclusion of a proposed action's impacts on air quality, as well as an evaluation of the effects on the NAAQS. FAA Orders 1050.1F and 5050.4B further provide that, for NEPA purposes, environmental analyses must determine if the alternatives would generate significant air emissions to exceed the NAAQS for the time periods analyzed.

Section 176(c) of the CAA Amendments of 1990 (CAAA) requires federal agencies to ensure that their actions conform to the appropriate SIP for air basins that are in non-attainment with the NAAQS or are maintenance areas. Conformity is defined as demonstrating that an action conforms to the SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. Federally funded and approved actions at airports are subject to the USEPA's General Conformity Regulations (40 CFR Part 93). A General Conformity Determination for the Proposed Project is required if the total direct and indirect pollutant emissions resulting from a proposed action are above *de minimis* emissions threshold levels specified in the General Conformity Regulations.

4.3.1 Methodology

4.3.1.1 Criteria Air Pollutants

An *Air Quality and Greenhouse Gases Technical Report* was prepared to identify the technical assumptions, methodologies, databases, and models used to develop the air pollutant emission inventories for criteria pollutants and to conduct the air quality impact analyses under NEPA. A copy of the Technical Report is included in **Appendix B** of this EA.

The air quality analysis for this EA includes direct and indirect emissions inventories, as well as air dispersion modeling for landside sources (energy and mobile) and airside sources (aircraft operations and GSE). Mass emissions inventories were prepared for both construction and operations of the Proposed Project and No Action Alternative. The criteria pollutant emission inventories developed as part of this EA used standard industry software/models, including, but not limited to, the FAA's Aviation Environmental Design Tool version 2d (AEDT 2d), and federal, state, and locally approved methodologies. Emissions of regulated pollutants were calculated in order to assess the Proposed Project's relationship to the CAA General Conformity Rule, which is further described below. Details regarding the methodologies, assumptions, and the models used are provided in the *Air Quality and Greenhouse Gases Technical Report* – see **Appendix B** of this EA.

4.3.1.2 Hazardous Air Pollutants

Hazardous air pollutants (HAPs) are pollutants that do not have established NAAQS, but present potential adverse human health risks from short-term (acute) or long-term (chronic) exposures, as defined by Section 112 of the CAAA. Specifically, the 2015 FAA Air Quality Handbook Chapter 6.2 (Hazardous Air Pollutants) was used to determine if an emission inventory of HAPs generated from the Proposed Project should be prepared (FAA, 2015b). The flow chart notes that a HAPs emissions inventory should be prepared when: (a) the project is "major"; (b) the project is located in nonattainment or maintenance areas; and (c) a criteria air pollutant emissions inventory is also prepared. As previously stated, the San Diego area is categorized as a nonattainment area for ozone; therefore, an emissions inventory for HAPs generated by the Proposed Project was developed.

The HAPs emissions inventory was prepared using the same assumptions and models that were used to prepare the criteria pollutant emissions inventory discussed earlier. The methodology and assumptions used in quantifying HAPs emissions associated with the Proposed Project are described in the *Air Quality and Greenhouse Gases Technical Report* – see **Appendix B** of this EA. The HAPs included in the inventory are those identified as showing discernable levels in the AEDT modeling outputs and are as follows:

- 1,3-butadiene
- acetaldehyde
- acrolein
- benzene
- ethylbenzene
- formaldehyde
- isopropylbenzene
- methyl alcohol
- p-xylene
- naphthalene
- o-xylene
- phenol
- propionaldehyde
- styrene
- toluene

4.3.1.3 General Conformity

The USEPA first promulgated the General Conformity Rule in 1993 to implement the conformity provision of Title I, Section 176(c)(1) of the CAAA. Section 176(c)(1) requires that the federal government not engage in, support, or provide financial assistance for licensing, permitting, or approving any activity not conforming to an approved CAA implementation plan (here, the California SIP). The General Conformity Rule is designed to ensure that air pollutant emissions associated with federal actions do not contribute to air quality degradation or prevent achievement of state and federal air quality goals of meeting the NAAQS. Compliance with the General Conformity Rule is based on a comparison of the changes in total direct and indirect air pollutant emissions (Proposed Project minus the No Action Alternative) with the *de minimis* thresholds, in accordance with FAA Order 1050.1F. Established *de minimis* thresholds can vary by pollutant, by the severity of nonattainment, and, in some cases, by geographic location.

Federally-supported actions (or portions thereof) that do not fall under a CAA exemption or are not listed on FAA's approved Presumed to Conform List must undergo an applicability analysis, which compares the emissions attributable to the federal action to the applicable *de minimis* threshold(s). If emissions are above the *de minimis* threshold, a general conformity determination is required. If emissions are less than the *de minimis* threshold levels, then the action is considered to be too small to adversely affect the air quality status of the area and is automatically considered to conform with the applicable SIP; therefore, the general conformity requirements have been complied with and the process is complete.

Within the portion of San Diego County where the Proposed Project is located, the *de minimis* threshold for O_3 applies, given that the subject area is designated as Nonattainment/Severe for the 2008 federal O_3 standard and Nonattainment/Severe for the 2015 federal O_3 standard, as well as the carbon monoxide Maintenance designation. The criteria pollutants associated with formation of O_3 (i.e., precursors) are NO_x and VOC. Per the General Conformity *de minimis* tables published by the USEPA (USEPA, 2021), which are based on 40 CFR § 93.153, the applicable *de minimis* level (i.e., threshold) for NO_x and VOC is 25 tons per year, while the threshold for a CO maintenance area is 100 tons per year.

4.3.2 Significance Thresholds

As stated in 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.

4.3.3 Impacts

4.3.3.1 No Action Alternative

Construction Impacts

No construction activities would occur under the No Action Alternative; therefore, the No Action Alternative would not result in construction-related air pollutant emissions.

Operational Impacts

Under the federal guidelines, the No Action Alternative represents the condition to which the Proposed Project is compared. The emissions inventory for the No Action Alternative in 2026 and 2031 is summarized in **Table 4.3-1**. The emissions inventory in Table 4.3-1 accounts for the fact that increased airport activity is projected to occur at SAN by 2026 and 2031, even without implementation of the Proposed Project.

Table 4.3-1: No Action Alternative Emissions Inventory (Annual Tons)

Year	Sources	Pollutants (tons/year)					
		VOC	NO_X	PM_{10}	$PM_{2.5}$	CO	SO_X
2026	**Aircraft in the LTO[1]**	127	1,204	8	8	1,150	116
	APUs	<1	8	1	1	4	1
	GSE	29	79	2	2	922	<1
	Stationary Sources	4	17	5	2	11	1
	Motor Vehicles	2	15	10	1	105	1
	Energy Use[2]	<1	2	<1	<1	1	<1
	Construction	--	--	--	--	--	--
	Totals	**162**	**1,325**	**26**	**14**	**2,193**	**119**
2031	**Aircraft in the LTO**	150	1,466	9	9	1,373	137
	APUs	<1	8	1	1	4	1
	GSE	27	61	1	1	963	<1
	Stationary Sources	4	17	5	2	11	1
	Motor Vehicles	1	12	11	1	97	1
	Energy Use	<1	2	<1	<1	1	<1
	Construction	--	--	--	--	--	--
	Totals	**182**	**1,566**	**27**	**14**	**2,449**	**140**

Source: KB Environmental Sciences, Inc., 2021.
Notes:
1. LTO – Landing and takeoff cycle
2. "Energy Use" refers to emissions associated with off-site purchased energy.
Values may reflect rounding.

Hazardous Air Pollutants

HAPs from aircraft under the No Action Alternative were calculated for 2026 and 2031 and are shown in **Table 4.3-2** below.

Table 4.3-2: Hazardous Air Pollutant Emissions

	2026 (tons per year)		2031 (tons per year)	
Hazardous Air Pollutant[1]	No Action Alternative	Proposed Project	No Action Alternative	Proposed Project
1,3-butadiene	10.8	9.6	12.1	11.4
acetaldehyde	1.7	1.4	1.9	1.7
acrolein	3.5	3.2	4.0	3.8
benzene	1.1	0.9	1.2	0.9
ethylbenzene	0.5	0.5	0.5	0.5
formaldehyde	0.4	0.1	0.3	0.0
isopropylbenzene	0.2	0.2	0.3	0.3
methanol	0.3	0.2	0.3	0.3
p-xylene	0.8	0.7	0.8	0.7
naphthalene	1.4	1.3	1.6	1.5
o-xylene	2.3	2.0	2.6	2.4
phenol	0.9	0.9	1.0	1.0
propionaldehyde	0.7	0.5	0.7	0.6
styrene	0.6	0.6	0.7	0.7
toluene	2.0	1.8	1.9	1.6
Total HAPs	**27.2**	**23.9**	**29.9**	**27.4**

Source: KB Environmental Sciences, Inc., 2020.
Note:
1. While the AEDT model has the ability to estimate emissions for 45 specific HAPs, the AEDT modeling completed for the Proposed Project and No Action Alternative identified only the 15 HAPs listed in this table as having values greater than zero.

4.3.3.2 Proposed Project

Construction Impacts

Under the Proposed Project, construction-related emissions are expected from the following construction activities: demolition, grading, building construction, paving, and architectural coating. Construction would be completed in two phases over a six-year period. The construction emissions inventory for the Proposed Project is presented in **Table 4.3-3**. As indicated in the table, construction emissions would be highest over the first four years of construction and then would substantially decrease. Construction of the Proposed Project would not exceed the *de minimis* thresholds, would not increase the frequency or severity of any existing exceedances of the NAAQS, and would not create a new exceedance of one or more of the NAAQS for any of the time periods analyzed; therefore, impacts would not be significant when compared to the No Action Alternative. Detailed assumptions and calculations associated with the construction emissions inventory are provided in **Appendix B**.

Table 4.3-3: Construction Emissions Inventory

Project Phase	Years	Pollutants (tons/year)					
		VOCs	NO_X	PM_{10}	$PM_{2.5}$	CO	SO_X
A	2021	3	18	5	1	13	<1
A	2022	2	14	5	1	12	<1
A	2023	2	12	5	1	12	<1
A/B	2024	3	15	9	1	17	<1
B	2025	1	4	5	1	5	<1
B	2026	1	4	5	1	5	<1
de minimis Threshold		***25***	***25***	***NA***	***NA***	***100***	***NA***
Do any Years Exceed de minimis Threshold?		***No***	***No***	***NA***	***NA***	***No***	***NA***

Sources: KB Environmental Sciences, Inc., 2019; CDM Smith, 2021.
Note: NA = Not Applicable

Operational Impacts

The 2026 and 2031 operational emissions inventories for the Proposed Project are presented in **Table 4.3-4** and **Table 4.3-5**, respectively.

Table 4.3-4: 2026 Proposed Project Operational Emissions Inventory

Year	Sources	Pollutants (tons/year)					
		VOC	NO_X	PM_{10}	$PM_{2.5}$	CO	SO_X
2026	Aircraft in the LTO	119	1,184	8	8	1,030	111
	APUs	<1	8	1	1	4	1
	GSE	19	51	2	2	351	<1
	Stationary Sources	4	17	6	2	11	1
	Motor Vehicles	1	10	8	1	92	1
	Energy Use	<1	1	<1	<1	1	<1
	Totals	**144**	**1,271**	**25**	**13**	**1,489**	**113**
2026 No Action Alternative Emissions		***162***	***1,325***	***26***	***14***	***2,193***	***119***
2026 Net Emissions		***(18)***	***(54)***	***(1)***	***(<1)***	***(704)***	***(6)***
de minimis Threshold		***25***	***25***	***NA***	***NA***	***100***	***NA***
Exceeds de minimis Threshold?		***No***	***No***	***NA***	***NA***	***No***	***NA***

Sources: KB Environmental Sciences, Inc., 2020; CDM Smith, 2021.
Notes: NA = Not Applicable
LTO = Landing and take-off cycle
Values may reflect rounding.

Table 4.3-5: 2031 Proposed Project Operational Emissions Inventory

Year	Sources	Pollutants (tons/year)					
		VOC	NOX	PM10	PM2.5	CO	SOX
2031	Aircraft in the LTO	137	1,435	8	8	1,193	128
	APUs	<1	8	1	1	4	1
	GSE	15	31	1	1	309	<1
	Stationary Sources	4	17	6	2	11	1
	Motor Vehicles	1	8	9	1	87	<1
	Energy Use	<1	<1	<1	<1	2	<1
	Totals	**157**	**1,499**	**25**	**13**	**1,606**	**130**
2031 No Action Alternative Emissions		***182***	***1,566***	***26***	***14***	***2,441***	***140***
2031 Net Emissions		***(25)***	***(67)***	***(1)***	***(1)***	***(835)***	***(10)***
de minimis Threshold		***25***	***25***	***NA***	***NA***	***100***	***NA***
Exceeds de minimis Threshold?		***No***	***No***	***NA***	***NA***	***No***	***NA***

Sources: KB Environmental Sciences, Inc., 2020; CDM Smith, 2021.

Notes: NA = Not Applicable
LTO = Landing and take-off cycle
Values may reflect rounding.

The operational emissions inventories for the Proposed Project were identified by subtracting the No Action Alternative emissions for the appropriate study year to identify the project-related change in operational emissions.

As shown in Tables 4.3-4 and 4.3-5, operational emissions in 2026 and 2031 would be substantially less than the operational emissions that would otherwise occur under the No Action Alternative. The reduced emissions associated with the Proposed Project are due to a combination of improved aircraft taxiing efficiency associated with the new linear concourse for Terminal 1 coupled with a new Taxiway A and emission reductions from project design features including, but not limited to, ground support equipment conversion to alternative fuels.

It should also be noted that there is some overlap in construction emissions and operational emissions in 2026, as project construction is being completed and operational emissions start to occur (i.e., even the combined construction and operational emissions in 2026 for VOC emissions would be -17 tons per year and for NO_x emissions would be -50 tons per year, and for CO emissions would be -699 tons per year, as can be determined from Tables 4.3-3 and 4.3-4).

Operational emissions would not exceed the *de minimis* thresholds.

Hazardous Air Pollutants

HAPs from aircraft under the Proposed Project were calculated for 2026 and 2031 and are shown in Table 4.3-2 above.

General Conformity Conclusion

The general conformity rules require the consideration of the total direct and indirect project-related emissions for these years are then compared to the applicable *de minimis* threshold to determine if a general conformity determination is required; if emissions are less than *de minimis,* a general conformity determination is not required. **Table 4.3-6** compares the analysis results from the previous sections, for construction emissions combined with operational emissions for 2026 and the operational emissions for 2031, to the applicable *de minimis* thresholds.

Table 4.3-6: General Conformity Applicability Analysis

Year	Sources	Pollutants (tons/year)					
		VOC	NO_X	PM_{10}	$PM_{2.5}$	CO	SO_X
Project-Related Emissions							
2021 Construction only		3	18	5	1	13	<1
2022 Construction only		2	14	5	1	12	<1
2023 Construction only		2	12	5	1	12	<1
2024 Construction only		3	15	9	1	17	<1
2025 Construction only		1	4	5	1	5	<1
2026							
Operational Emissions (see Table 4.3-4)		(18)	(54)	(1)	(<1)	(704)	(6)
Construction Emissions		1	4	5	1	5	<1
Subtotal		(17)	(50)	4	1	(699)	(5)
2031							
Operational Emissions (see Table 4.3-5)		(25)	(67)	(1)	(1)	(835)	(10)
Construction Emissions		NA	NA	NA	NA	NA	NA
Subtotal		(25)	(67)	(1)	(1)	(835)	(10)
		25	***25***	***NA***	***NA***	***100***	***NA***
Exceeds de minimis Threshold?		**No**	**No**	***NA***	***NA***	***No***	***NA***

Source: KB Environmental Sciences, Inc. data in Tables 4.3-3 through 4.3-5.
Notes: Values shown in parentheses indicate a project-related reduction in emissions. Project-related emissions represents the change in emissions relative to the No Action Alternative. Values may reflect rounding.
NA = Not applicable

Currently, SAN is located in an area designated by the USEPA as nonattainment for ozone and maintenance for carbon monoxide (CO). Therefore, the general conformity rules require the consideration of conformity for the ozone precursors (NO_X and VOC) and CO. As the table above shows, the Proposed Project would result in construction through 2026, with a one-year overlap of construction and operational emissions. After adding the project-related operational emissions with construction emissions, the emissions would be below the applicable *de minimis* thresholds for all applicable pollutants.

The San Diego Region's ozone attainment status has been recently reclassified by the USEPA, by changing the nonattainment designation for the 2008 ozone NAAQS from serious to severe and for the 2015 ozone NAAQS from moderate to severe (Federal Register Document 86 FR 29522, published June 2, 2021). The applicable *de minimis* threshold for a severe nonattainment area is 25 tons per year for each VOC and NO_X. As shown, the Proposed Project would produce emissions well below the *de minimis* thresholds. Therefore, a general conformity determination is not required in accordance with 40 CFR Part 93. The Proposed Project would not cause pollutant concentrations to exceed one or more of the NAAQS for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations. Therefore, the Proposed Project would not cause significant air quality impacts when compared to the No Action Alternative.

4.3.4 Avoidance, Minimization, and Mitigation Measures

As indicated above in Section 4.3.3.2, impacts to air quality with implementation of the Proposed Project would not exceed or delay timely attainment of the NAAQS; therefore, no mitigation measures are required.

Several best management practices that serve to minimize impacts to air quality would be implemented as design features of, and commitments for, the Proposed Project. Such measures include the use of no- or low-emission ground support equipment, renewable energy, cool roofs, Leadership in Energy and Environmental Design (LEED) Silver certifications, clean vehicle parking, electric vehicle chargers, a

ground transportation clean vehicle program, electric on-airport shuttles, and bicycle facilities (see **Appendix A4** of this EA).

4.4 Biological Resources

4.4.1 Methodology

The only biological resource potentially affected by the Proposed Project is the federally listed California least tern (CLT). The fencing around the airfield prevents most wildlife from entering the property with the exception of those species able to fly. While migratory birds may pass through the airport environment, SAN's existing Wildlife Hazard Mitigation Plan (WHMP) inhibits these birds taking up residence, with the exception of the CLT. SAN has managed its operations to allow continued nesting by the CLT. The WHMP incorporates measures that deter wildlife occurring on the airport by eliminating roosting sites, fencing, and hazing of wildlife, including birds, among other actions. Consequently, wildlife, including migratory birds other than CLT, would not be affected by the Proposed Project.

Therefore, this section focuses on the potential effects of the Proposed Project and the No Action Alternative on CLT, which as discussed in Section 3.5 above, is the only federally listed species known to occur in the vicinity of the project site. A BA was prepared to address potential construction and operational effects of the Proposed Project (see **Appendix C2**). Preparation of the BA included database searches, a field survey of the DSA, review of design drawings of Proposed Project facilities, and creation of photo renderings to show the difference before and after the Proposed Project is completed from the vantage point of nesting CLT towards San Diego Bay (CLT foraging area). After reviewing the current status of the species; the effects of the Proposed Action; and built-in measures proposed to avoid, minimize, and compensate for effects to CLT; FAA has determined that the Proposed Action "may affect, not likely to adversely affect" the CLT. The FAA initiated Informal Section 7 consultation with the USFWS on December 17, 2020. Correspondence with the USFWS is included in **Appendix C1**.

4.4.2 Significance Thresholds

A significant impact would occur when the USFWS determines that the action would be likely to jeopardize the continued existence of federally listed threatened or endangered species or the destruction or adverse modification of federally designated critical habitat.[27]

4.4.3 Impacts

4.4.3.1 No Action Alternative

Construction Impacts

No construction activities would occur under the No Action Alternative; therefore, the No Action Alternative would not result in construction-related impacts to CLT.

Operational Impacts

Ongoing operations at SAN under the No Action Alternative would include continued aircraft movements near the CLT ovals. Such operations would continue to be subject to the existing applicable measures specified in the 1993 BO and in the 2013 and 2018 Informal Section 7 Consultations between the FAA and USFWS regarding potential effects of the SAN Northside Improvements Project and the Taxiway B Object-Free Area Improvement Project, respectively (USFWS, 1993; USFWS, 2013; USFWS, 2018). Operations at SAN under the No Action Alternative would not jeopardize the continued existence of the CLT.

4.4.3.2 Proposed Project

Construction Impacts

As discussed in the BA (see **Appendix C2**), no surface or subsurface disturbance of the CLT nesting habitat at SAN would occur from construction of the Proposed Project. The vast majority of project-related

[27] As indicated in Section 3.5.2 above and in the BA included in **Appendix C2**, there is no federally designated critical habitat within the Proposed Project area; thus, no further discussion of this potential impact is included in the impacts discussions in this section.

construction, such as that associated with the proposed terminal improvements,[28] would occur more than one-half mile from the CLT nesting ovals. However, construction associated with the (1) on-airport entry roadway and associated pedestrian and bicycle path; (2) the new Taxiway A and Taxiway B improvements; and (3) stormwater elements of the Proposed Project would occur near the CLT area, especially the southernmost runway oval, Oval O-3S (see Figure 12 of the BA in **Appendix C2**). As discussed and presented in the April 27, 2021 letter from USFWS to FAA (included as **Appendix C1**), the USFWS concurred with the FAA's "may affect, not likely to adversely affect" determination. The SDCRAA has committed to implementing conservation measures to avoid and minimize indirect effects on CLT during construction of the Proposed Project, especially related to increased lighting, noise, and activities that may increase perching for predatory species. As indicated in **Appendix C1**, with incorporation of such conservation measures, construction of the Proposed Project would not jeopardize the continued existence of the CLT; the impact would not be significant.

Operational Impacts

No above-ground improvements are proposed within or directly adjacent to the nesting ovals between the taxiway and the runway and no direct physical disturbance would occur from operation of the Proposed Project. The Proposed Project's stormwater elements closest to the on-airfield CLT nesting habitat would be underground infiltration features, which would be installed in some airfield ovals in proximity of CLT nesting oval O-3S. However, no surface or subsurface disturbance to the CLT nesting habitat would occur during operation of the project component. Likewise, neither noise nor vibrations at levels high enough to affect CLT would be emitted by the underground infiltration features.

The type of aircraft operations occurring in proximity to the CLT nesting areas at SAN – i.e., taxiing, takeoff, and landing of aircraft on the runway and taxiways near the ovals – would not change as a result of the Proposed Project. As discussed in the BA, CLT have long nested in areas subject to sustained noise levels throughout the day associated with arriving, departing, and taxiing aircraft operations. Projected increases in projected aircraft operations under both the No Action Alternative and the Proposed Project are not anticipated to result in any additional impacts to nesting CLT.

Proposed Taxiway A would terminate over 470 feet to the west of nesting oval O-3S. As the existing Taxiway B allows for aircraft to move directly adjacent to the CLT nesting areas, proposed Taxiway A would not alter the existing aircraft movement patterns adjacent to the nesting areas to which the terns have become habituated. The closest portion of Taxiway A would be farther from the nesting areas than the centerline of Runway 9, on which aircraft move at a much higher rate of speed and produce significantly more noise than would aircraft on Taxiway A. Thus, the existing aircraft operations on Runway 9 and Taxiway B dominate the existing and future visual and noise environment of the CLT nesting areas.

The new on-airport access road and multi-use path would be constructed south of the existing Terminal Link Road, near the southern end of nesting oval O-3S (see Figure 3 of the BA in **Appendix C2**). CLT that nest in the ovals on SAN typically travel to the south, southeast, and southwest to reach the north end of San Diego Bay to forage for small fish to feed their young. The proposed access road would incorporate a raised overpass that would begin its elevation above grade to the southwest and west of nesting oval O-3S, approximately 195 feet away from the edge of the CLT nesting area to minimize impacts to CLT foraging activities. The proposed elevated portion of the new on-airport access road is not expected to substantially alter the ability of CLT at SAN to continue to efficiently forage at San Diego Bay.

The proposed bicycle/pedestrian path would be positioned as close as 62 feet away on the far side of the existing Terminal Link Roadway and would be shielded from view by two eight-foot-tall fences. The existing use in this area is a short-term parking lot with the majority of parking spaces pointed to the north, resulting in headlights being directed toward the CLT nesting area. With the removal of the short-

[28] Apron improvements are proposed along the north side of the new Terminal 1 concourse along with the provision of a new aircraft RON area to the east of the new concourse. As noted in the BA included in **Appendix C2,** no effects on CLT breeding sites are anticipated due to these apron improvements.

term lot and all parking in this area, the multi-use path would result in a net reduction in noise and light disturbance to the nesting area compared to the existing conditions.

There are a substantial number of light poles and signs adjacent to the nest sites currently. With the Proposed Project, the total number of light poles or beacons within 200 feet of the nesting ovals would increase from 11 to 13. All proposed lighting adjacent to the nesting ovals would be shielded to prevent any direct illumination of the breeding area. The additional light impacts caused by the increased number of light poles is counteracted by the elimination of the short-term parking lot and its associated lighting impacts (i.e., car headlights) from vehicle traffic and parking spaces within the lot, much of it facing the nesting area. The existing 25-foot-tall sign structure that is approximately 205 feet southwest of the oval would be replaced with a similar sign structure approximately 222 feet southeast of the oval.

Elevated structures, such as light poles, provide attractive perches for predators of CLT adults, chicks, and eggs. As with the current light poles, proposed poles would be topped with predator deterrents (e.g., Nixalite®).

As discussed and presented in the April 27, 2021 letter from USFWS to FAA (included as **Appendix C1**), the USFWS concurred with FAA's determination of "may affect, not likely to adversely affect" the CLT. The SDCRAA has incorporated conservation measures into the Proposed Project's design that would avoid and minimize indirect effects on CLT, related to operation of the Proposed Project elements. As indicated in **Appendix C1**, with incorporation of such conservation measures, operation of the Proposed Project would not jeopardize the continued existence of the CLT; the impact would not be significant.

4.4.4 Avoidance, Minimization, and Mitigation Measures

As noted above, the SDCRAA has committed to implementing the USFWS conservation measures to avoid and minimize indirect effects on CLT associated with the Proposed Project. These 17 conservation measures are provided in **Appendix C1**. The implementation of these conservation measures, as listed in the USFWS April 27, 2021, letter, and listed below, would be a required mitigation measure if the Proposed Action is approved. They are:

CM 1. New facilities will be designed to minimize potential perching locations for avian predators, and will include anti-perch structures and materials where appropriate. All structures taller than 10 feet that are necessary within 800 feet of the nesting ovals (including light poles, sign structures, and buildings) will incorporate treatments such as stainless-steel bird spike barriers (e.g., Nixalite®, Bird-be-gone), electrical strips, or other anti-perch materials to reduce potential perches for avian predators. SDCRAA will coordinate with the CFWO regarding anti-perch structures and materials.

CM 2. Permanent lighting and signage within 800 feet of the nesting ovals will be minimized to the extent consistent with public safety, including along the pedestrian pathway. In addition, lights within 800 feet of the nesting ovals will be fully downcast and of the minimum illumination necessary to meet public safety requirements. SDCRAA will coordinate with the CFWO regarding lighting and signage within 800 feet of the nesting ovals.

CM 3. SDCRAA will coordinate with the CFWO regarding landscaping proposed within 800 feet of the nesting ovals to ensure that selected landscaping plants and materials will include only plant species and materials not conducive to perching by avian predators. Plant species selected for landscaping in this area will be plants that grow to less than 6 feet high when mature.

CM 4. All project construction within 800 feet of the nesting ovals will occur between September 16 and March 31 to avoid the least tern nesting season.

CM 5. A least tern biologist (i.e., can identify the least tern, recognize their vocalizations, and identify agitated or distressed tern behavior) will monitor construction occurring between 800 and 1,200 feet of any nesting ovals during the least tern nesting season (April 1–September 15) to ensure that activities and personnel do not disrupt the least tern. For example, construction activities will be conducted in a manner that prevents individuals or groups of least terns from

displaying agitated or stressed behavior and/or suddenly leaving their nest(s) and not resettling on the nest(s) within 5 minutes. The biologist will immediately notify the Resident Engineer (RE; or acting RE) of any construction activity that may disrupt least tern nesting. If the least tern biologist determines that construction has disrupted least terns, the RE will be notified and all project construction activities will cease immediately, except those activities necessary to make SDIA safe and operational. The least tern biologist, in coordination with the RE, will contact the FAA and CFWO immediately after stopping construction. Construction will not resume until approved by the FAA and CFWO.

CM 6. The least tern biologist will submit daily field reports to the FAA and CFWO on the status of the nesting activity, any construction-related incidents that disrupted least tern nesting, and any action taken by the RE to avoid further incidents, within 24 hours of each monitoring date. The least tern biologist will also submit a final summary report of monitoring to the FAA and CFWO within 30 days of completing project construction.

CM 7. Trash will be properly disposed of, in covered trash receptacles. SDCRAA will require the contractor to provide trash dumpsters or other covered trash receptacles for use by construction personnel. All food items or containers that previously held food items obtained/handled/controlled by construction personnel will be immediately disposed of in these dumpsters or containers, so as not to attract avian or mammalian predators of the least tern.

CM 8. Construction personnel will not be permitted to feed cats, gulls, pigeons, ravens, or any other wildlife, as this may result in an increase in the numbers of these potential predators in the vicinity of least tern chicks and eggs.

CM 9. Crane booms or similar equipment that have heights of 25 feet or greater and are located between 800 feet to 1,200 feet of any nesting oval during the least tern nesting season (April 1–September 15) will be lowered at the close of each construction day.

CM 10. All contractor personnel and construction staff will be required to attend a pre-construction briefing to ensure their awareness of least tern nesting and specific minimization measures required during construction. Project status meetings will be regularly held to remind personnel of the measures required to protect the tern as well as any modifications made to ensure their effectiveness. The CFWO will be notified of the date and time of the preconstruction and status meetings in order to attend, if needed or desired. Contractor personnel and construction staff required to attend the meeting include all those involved with project activities between 800 and 1,200 feet of the nesting ovals during the least tern nesting season (April 1- September 15).

CM 11. The SDCRAA will schedule nighttime construction to occur more than 1,200 feet from Oval O-3S, where feasible; however, it is possible that some nighttime construction between 800 and 1,200 feet from the nesting ovals will be unavoidable. For nighttime construction that is necessary during the least tern nesting season (April 1–September 15), and will occur between 800 feet and 1,200 feet from the nesting ovals, a least tern biologist will be onsite and perform the duties specified above.

CM 12. Night lighting for project construction occurring between 800 feet and 1,200 feet of the nesting ovals will be kept to a minimum during the least tern nesting season, and will not be used unless active construction or other essential work is occurring. Should such nighttime construction or other essential work be conducted, all lighting associated with the work will be shielded from or directed away from the nesting ovals.

CM 13. Equipment will be staged at least 1,200 feet from the nesting ovals.

CM 14. Diligent maintenance of fencing around the perimeter of the nesting ovals shall continue in order to shield the least terns from lighting, predators, and unauthorized human access.

CM 15. SDCRAA will implement annual habitat management for least terns on nesting ovals, including maintenance of a chick fence, annual application of herbicide, and removal of vegetation to support a vegetation cover goal of less than 20 percent vegetative cover during the nesting season. Work will be done in coordination with the biological monitor, and close attention will be paid to precipitation patterns to maximize effectiveness of vegetation management.

CM 16. SDCRAA will implement least tern habitat enhancement on O-3S on an annual basis and in coordination with the CFWO, biological monitors, and airfield operation personnel. Least tern habitat enhancement will occur only where consistent with airfield operations, and may include application of sand, shell or pebble material, and appropriate chick shelters or native vegetation to help shield chicks.

CM 17. SDCRAA will monitor illumination that results from necessary lighting, and address any unanticipated illumination of the least tern nesting area in coordination with the Service, biological monitors, and airfield operation personnel.

4.5 Climate

4.5.1 Methodology

FAA Order 1050.1F, Exhibit 4-1, determines the need for and establishes the extent of the greenhouse gas (GHG) assessment required for airport-related actions and projects. Where the proposed action or alternative(s) would result in an increase in GHG emissions, the emissions can be assessed either qualitatively or quantitatively. This EA provides a quantitative assessment. The GHG assessment for this EA includes direct and indirect emissions inventories for landside sources (area, energy, and mobile) and airside sources (aircraft operations and GSE). GHG emissions inventories were prepared for both construction and operations of the Proposed Project and No Action Alternative. Operational emissions were estimated for two future conditions: 2026 and 2031. As previously stated, the same level of future aircraft operations, including the same aircraft fleet mix, is anticipated to occur under the No Action Alternative and the Proposed Project. The analysis of GHG emissions generally follows the same methodology and modeling tools as the air quality criteria pollutant emissions analysis as discussed in Section 4.3.1.

In terms of analyzing GHG emissions from the Proposed Project, the analysis includes the area within the airport's geographical boundary, which is defined as the geographic boundary of the airport plus the airspace around the airport, extending upward to the full extent of AEDT's modeled flight paths, as well as the roads and public transit routes that deliver employees, passengers, and suppliers to and from the airport. The altitude used in the analysis include AEDT's modeled flight paths is 3,000 feet Above Field Elevation (AFE), which is the default value in AEDT. The GHG inventory clearly distinguishes the Proposed Project's GHG emissions from other relevant indirect sources affiliated with airport operations.

GHGs of concern from construction and operational sources are primarily CO_2, CH_4, and N_2O. For ease in reviewing and interpreting the analysis results, GHGs are reported as CO_2 equivalents (CO_2e) based on their global warming potential and expressed in metric tons (MT). The results of the analysis are presented on an annual basis, by analysis year. The technical components of the analysis are contained in **Appendix B**.

4.5.2 Significance Thresholds

As indicated in FAA Order 1050.1F, Exhibit 4-1, and Section 3.3.4 of the Desk Reference for FAA Order 1050.1F, there are no significance thresholds for aviation and commercial space launch GHG emissions, and the FAA has not identified specific factors to consider in making a significance determination for GHG emissions. Additionally, there are currently no accepted methods of determining significance applicable to aviation projects given the small percentage of GHG emissions that they contribute worldwide. Accordingly, it is not useful to attempt to determine the significance of such impacts for the Proposed Project.

4.5.3 Impacts

4.5.3.1 No Action Alternative

Construction Emissions

No construction activities would occur under the No Action Alternative; therefore, the No Action Alternative would not result in construction-related GHG emissions.

Operational Emissions

GHG emissions inventories from airport operations for the No Action Alternative in 2026 and in 2031 are presented below in **Table 4.5-1**. The GHG emissions inventory in Table 4.5-1 accounts for the fact that increased airport activity is projected to occur at SAN by 2026 and 2031 even without implementation of the Proposed Project.

Table 4.5-1: No Action Alternative Operational GHG Emissions Inventory

Year	Source	Annual Metric Tons of CO_2e
2026	**Aircraft in the LTO**	312,855
	APUs	2,580
	GSE	13,799
	Stationary Sources	12,940
	Motor Vehicles	59,504
	Other[a]	5,597
	Total Emissions	**407,275**
2031	**Aircraft in the LTO**	364,620
	APUs	2,713
	GSE	12,593
	Stationary Sources	12,940
	Motor Vehicles	57,777
	Other[a]	5,597
	Total Emissions	**456,240**

Source: KB Environmental Sciences, Inc., 2021.
Notes:
LTO = Landing and take-off cycle
a. Estimates of emissions resulting from energy consumption associated with electricity usage, water usage (conveyance, consumption and treatment), and solid waste disposal. Emissions associated with natural gas consumption within the built environment are captured by the "Stationary Sources" category, as natural gas consumption is associated with SAN's existing, on-site CUP.

4.5.3.2 Proposed Project

Construction Emissions

Under the Proposed Project, construction would be completed in two phases over a six-year period. The construction-related GHG emissions inventory for the Proposed Project is presented in **Table 4.5-2**. Detailed assumptions and calculations associated with the construction-related GHG emissions inventory are provided in **Appendix B**.

Table 4.5-2: Proposed Project Construction GHG Emissions

Year	Annual CO_2e Emissions in Tons
2021	4,458
2022	4,384
2023	4,321
2024	5,980
2025	1,670
2026	1,662

Source: KB Environmental Sciences, Inc., 2019.

Operations Emissions

GHG emissions inventories from airport operations for the Proposed Project in 2026 and in 2031 are presented in **Table 4.5-3**.

Table 4.5-3: Proposed Project Operational GHG Emissions Inventory

Year	Source	Annual Metric Tons of CO_2e
2026	Aircraft in the LTO	298,965
	APUs	2,580
	GSE	8,853
	Stationary Sources	13,399
	Motor Vehicles	47,898
	Other[a]	11,587
	Construction	1,662
	Total Emissions	**384,944**
	No Action Alternative	**407,275**
	Net Emissions	**(22,331)**
2031	Aircraft in the LTO	343,868
	APUs	2,713
	GSE	7,681
	Stationary Sources	13,399
	Motor Vehicles	50,091
	Other[a]	11,587
	Total Emissions	**429,339**
	No Action Alternative	**456,240**
	Net Emissions	**(26,901)**

Source: KB Environmental Sciences, Inc., 2021.
Notes: Values shown in parentheses indicate a project-related reduction.
LTO – Landing and takeoff cycle

As shown in Table 4.5-3, the Proposed Project would result in a net decrease in operations-related annual GHG emissions of approximately 22,331 MT CO_2e and 26,901 MT CO_2e, when compared to the No Action Alternative in 2026 and 2031, respectively. The reductions in GHG emissions associated with the Proposed Project would be due to a combination of improved aircraft taxiing efficiency associated with the new linear concourse for Terminal 1 coupled with the new Taxiway A and emission reductions from design features and other commitments that would be part of the Proposed Project including, but not limited to, ground support equipment conversion to alternative fuels and several commitments related to improved ground transportation.

SAN's strategies listed in **Appendix A4** that are supportive of sustainability and climate resilience would be incorporated into the Proposed Project to minimize the airport's vulnerabilities associated with future climate change. Requirements identified for implementation as part of the Proposed Project to address potential climate risks include capturing and reusing stormwater, using "cool" paving and roofing materials (i.e., having a high solar reflectivity), raising building pads, and elevating critical infrastructure such as emergency back-up generators. These improvements would improve SAN's overall climate resiliency.

In summary, impacts of the Proposed Project on climate would not be significant, when compared to the No Action Alternative.

4.5.4 Avoidance, Minimization, and Mitigation Measures

Several best management practices that serve to minimize GHG emissions would be implemented as design features of, and commitments for, the Proposed Project. Such measures include the use of no- or low-emission ground support equipment, renewable electricity, LEED Silver (or equivalent) certification, clean vehicle-designated parking, electric vehicle chargers, a commercial transportation clean vehicle incentive program, and bicycle facilities (see **Appendix A4** of this EA). Implementation of the Proposed Project would result in less GHG emissions than would otherwise occur under the No Action Alternative. Therefore, no mitigation is required for the Proposed Project.

Relative to preparedness measures for the effects of climate change, the Proposed Project would incorporate climate resilience strategies. These strategies include capturing and reusing stormwater, using "cool" paving and roofing materials (i.e., having a high solar reflectivity), raising building pads, and elevating critical infrastructure such as emergency back-up generators.

4.6 Coastal Resources

4.6.1 Methodology

Impacts from the Proposed Project and the No Action Alternative on coastal resources were addressed with regard to consistency with the California Coastal Act, which included a review of all relevant Coastal Resources Planning and Management Policies contained in Chapter 3, Article 2 through Article 6, of the California Coastal Act. This section also documents the FAA's and SDCRAA's coordination with the CCC on coastal development permits for the Proposed Project. Documentation of the coastal development permit process is in **Appendix J**.

4.6.2 Significance Thresholds

The FAA has not established a significance threshold for coastal resources in FAA Order 1050.1F, but rather identifies factors to be considered. The factors listed in 1050.1.F include considering if a project would: (1) be inconsistent with the relevant state coastal zone management plan; (2) impact a coastal barrier resources system unit; (3) pose an impact to coral reef ecosystems (and the degree to which the ecosystem would be affected); (4) cause an unacceptable risk to human safety or property; or (5) cause adverse impacts to the coastal environment that cannot be satisfactorily mitigated.

4.6.3 Impacts

4.6.3.1 No Action Alternative

Operational and Construction Impacts

Under the No Action Alternative, the Proposed Project would not be constructed or operated. As with existing conditions, operation of SAN would not interfere with public access to the shoreline, coastal recreation uses and scenic views would be preserved, and biological habitats and water quality would be protected.

4.6.3.2 Proposed Project

Operational and Construction Impacts

Appendix J1 presents the Coastal Resources Planning and Management Policies contained in Chapter 3, Article 2 through Article 6, of the California Coastal Act and analyzes the Proposed Project's consistency with each. As described in **Appendix J1**, the Proposed Project would be consistent with each applicable policy, and public access to the shoreline would be maintained, coastal recreation uses and scenic views would be preserved, biological habitats and water quality would be protected, and no risks to human safety or property or other adverse impacts to the coastal environment that cannot be mitigated would occur. Additionally, the Proposed Project includes elements supportive of increasing transit opportunities and access to SAN. These elements serve to indirectly support public access to coastal areas by improving access to SAN (a coastal-supporting use) and reducing the number of vehicle trips on North Harbor Drive (a major coastal access roadway). Further, the Proposed Project includes expansion of the SAN Stormwater Capture and Reuse System, which would reduce the amount of stormwater runoff discharging into coastal waters, thereby resulting in water quality benefits to San Diego Bay.

Under the Proposed Project, the FAA would relocate three ASDE-X sensors that it owns. The ASDE-X system is currently located on the roof of the SDCRAA administration building, which would be demolished. The new location of the ASDE-X is the east portion of the north facing side of the Airline Support Building (see Figure 1-2). At this location, the system consists of two wall mount equipment cabinets (approximately 3 feet by 1 feet) mounted on the ground and three antennas; two omni directional antennas mounted on the same mast at a height of 60 feet and one single-sector antenna mounted on an additional mast at a height of 60 feet.

FAA provided detailed plan information to the CCC about the ASDE-X system and included a visual representation for the before and after images of the "installed system." The relocation of the system would occur in a secured area that does not currently allow access to the public. In addition, the sensor equipment would be installed with devices (spikes) to prevent perching by predatory birds that could harm the CLT. The proposed relocation of the system was included in the consultation with USFWS, who concluded that the entire project, including the ASDE-X system relocation, would "may affect, not likely to adversely affect" the CLT. FAA determined the Proposed Project is consistent "to the maximum extent practicable" with Section 30240(a) of the California Coastal Act and has made a Negative Determination, meaning the project will not have reasonably foreseeable effects on any coastal uses or resources, and therefore, does not require a consistency determination. The FAA submitted this Negative Determination to the CCC on June 8, 2021, seeking its concurrence. On July 1, 2021, the CCC concurred with FAA's negative determination (see **Appendix J**).

The SDCRAA submitted applications for coastal development permits for all Proposed Project components. The following provides the status of each application (see also **Appendix J2**):

- New administration office building: Coastal development permit (Item 16a – Application No. 6-20-0154) approved at the August 13, 2020 hearing;
- Airside improvements and stormwater capture program: Coastal development permit (Item 11a – Application No. 6-20-0447) approved at the June 10, 2021 hearing; and
- Terminal, roadway/circulation, and parking structure: Coastal development permit (Application No. 6-20-0611) approved at the September 10, 2021 hearing.

SAN's strategies that are supportive of sustainability and climate resilience (See **Appendix A4**, Section A4.1) would be incorporated into the Proposed Project to also minimize risks associated with coastal hazards. Requirements identified for implementation as part of Proposed Project to specifically address sea level rise and flooding include raising building pads and elevating critical infrastructure such as emergency back-up generators.

Impacts of the Proposed Project on coastal resources would not be significant, when compared to the No Action Alternative.

4.6.4 Avoidance, Minimization, and Mitigation Measures

Impacts to coastal resources from implementation of the Proposed Project would not be significant, when compared to the No Action Alternative; therefore, no mitigation measures are required.

4.7 Department of Transportation Act, Section 4(f) and Land and Water Conservation Fund Act, Section 6(f)

4.7.1 Methodology

Resources covered under Section 4(f) of the DOT Act were identified in the GSA and analyzed for potential direct or indirect impacts by the Proposed Project or the No Action Alternative. Impacts to Section 6(f) properties were evaluated in terms of whether the Proposed Project would convert such properties in whole or in part to uses other than public outdoor recreation.

4.7.2 Significance Thresholds

FAA Order 1050.1F states that a significant impact to Section 4(f) properties would occur if 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."

4.7.3 Impacts

4.7.3.1 No Action Alternative

Construction Impacts

No construction activities would occur under the No Action Alternative; therefore, the construction of the No Action Alternative would not result in a physical or constructive use of any Section 4(f) or any conversion of Section 6(f) properties to uses other than public outdoor recreation.

Operational Impacts

Continued operation of SAN under the No Action Alternative would not result in a physical or constructive use of any Section 4(f) or any conversion of Section 6(f) properties to uses other than public outdoor recreation.

4.7.3.2 Proposed Project

Construction Impacts

Historic Properties – As indicated in Section 3.8.2, there are two historic buildings eligible for listing in the NRHP within the DSA; the Convair Wind Tunnel Building and the UAHT. The Convair Wind Tunnel Building is located approximately one-half mile north of the boundary of the Proposed Project. Similarly, the site for the UAHT will also be approximately one-half mile north of the boundary of the Proposed Project. The UAHT will be relocated prior to construction of the Proposed Project, under a separate and independent project that does not require any federal action.

The distance between the Proposed Project site and the two buildings would preclude indirect construction-related impacts such as dust, noise, or construction traffic, and the project will not inhibit access to either building by the public. As such, and as further described in more detail in Section 4.9.3.2 below, implementation of the Proposed Project would not directly impact or constructively use either of these historic buildings.

Parks and Recreational Facilities – Construction-related impacts associated with implementation of the Proposed Project would not involve any physical alterations (i.e., direct impacts) to Section 4(f) parks and recreational resources located within the GSA, nor would such construction substantially impair any of those resources or result in constructive use of the resources. Potential construction-related indirect impacts (i.e., dust, noise, and construction traffic) would be temporary and immediate to the Proposed Project site and would not substantially affect these off-site resources.

Section 6(f) Resources – Construction of the Proposed Project would not result in any conversion of Section 6(f) properties to uses other than public outdoor recreation.

Operational Impacts

Operation of the Proposed Project would not have any direct impacts to Section 4(f) resources within the GSA and would not result in any conversion of Section 6(f) properties to uses other than public outdoor recreation. With respect to the potential for constructive use (i.e., indirect impacts under Section 4[f]), operation of the Proposed Project would result in the same number and type of aircraft operations as the No Action Alternative, and, therefore, would have the same noise levels (see Section 4.12.3). Historic resources within the GSA may be exposed to higher noise levels from increased aircraft operations at SAN in the future; however, such noise exposure would not constitute a constructive use impact of the Proposed Project, because these noise levels would occur regardless of the Proposed Project.

4.7.4 Avoidance, Minimization, and Mitigation Measures

The Proposed Project would not result in a physical or constructive use of any Section 4(f) resources and would not result in any conversion of Section 6(f) properties to uses other than public outdoor recreation. Therefore, no mitigation measures for DOT Section 4(f) or Section 6(f) impacts are proposed.

4.8 Hazardous Materials, Solid Waste, and Pollution Prevention

4.8.1 Methodology

The Proposed Project and the No Action Alternative were evaluated for the potential to result in impacts associated with the generation, use, and/or disposal of hazardous materials and municipal solid waste. Regarding hazardous materials, the Proposed Project area was assessed and existing and proposed future uses were evaluated to: (1) address the potential for encountering existing contamination or hazardous materials in the Proposed Project area; (2) identify the types/quantities of hazardous materials generated during operation and construction of the proposed development; and (3) evaluate these findings with respect to appropriate significance criteria. Regarding solid waste, the amount of solid waste anticipated to require disposal was estimated using waste disposal generation rates from California Department of Resources Recycling and Recovery (CalRecycle) data for square footage by land uses, as well as an assessment of construction and demolition waste and evaluated in light of the Proposed Project's anticipated recycling and reuse requirements and future permitted capacity of landfills serving SAN.

4.8.2 Significance Thresholds

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention. FAA Order 1050.1F, Exhibit 4-1, identifies factors to consider in evaluating the context and intensity of potential environmental impacts for hazardous materials, solid waste, or pollution prevention. These factors are whether an action would:

- Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site;
- 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.

4.8.3 Impacts

4.8.3.1 No Action Alternative

Construction Impacts

Under the No Action Alternative, existing groundwater and soils located at the Proposed Project site would not undergo remediation and hazardous building materials in the existing structures to be demolished (such as Terminal 1) would not be abated; however, no disturbance of these materials would occur under the No Action Alternative and no new buildings would be constructed in areas, where vapor-forming chemicals from a subsurface source may be present that could migrate into the overlying building (i.e., soil gas) and, therefore, no new risks would occur.

No construction activities would occur under the No Action Alternative; therefore, the No Action Alternative would not result in construction-related impacts related to solid waste.

Operational Impacts

Under the No Action Alternative, the Proposed Project would not be constructed or operated. However, the forecasted increase in aviation activity levels would result in a corresponding increase in handling, use, storage, and disposal of regulated materials associated with activities such as fuel use, equipment cleaning, and maintenance. Airport workers would continue to be required to handle, store, and dispose of regulated materials in accordance with applicable federal, state, and local laws and regulations and SDCRAA solid waste management programs. Therefore, while there would be an increase in hazardous waste generated, it would be handled and disposed of as required. No significant impacts would occur under the No Action Alternative.

4.8.3.2 Proposed Project

Construction Impacts

Hazardous Materials and Pollution Prevention

As discussed in Section 3.9.1.2 and in **Appendix D**, past contamination at the Proposed Project site, although remediated at the former NTC landfill and TDY site, still exists at several locations east of the existing Terminal 1. A number of soil samples taken at the site exceed the RSLs for TPH, and several groundwater samples exceed MCLs for VOCs at the southside of Building 2320, the westside of Building 2417, southside of Building 2415, and northside of the washdown pad (Figures 3.9-4 and 3.9-5) and north of Terminal 1 East Rotunda (Figure 3.9-6). Therefore, the Proposed Project's ground disturbing activities could encounter contaminated soils and/or contaminated groundwater. Further, there is the potential for contaminated soils to be unexpectedly encountered in other areas of the project site.

Prior to construction, the construction contractor would prepare a Hazardous Materials Management Plan (HMMP) subject to review by SDCRAA, which would establish procedures for identification, screening, and agency notification, when contaminated soil and/or groundwater is encountered during site excavation. Areas identified as having contamination above acceptable limits would require encapsulation, removal and disposal, or other remediation measures set forth in a site-specific treatment plan and as required by applicable federal, state, and local laws. Encapsulation, which would involve leaving the soil in place and isolating it to prevent it from coming into contact with the surrounding soil, is SDCRAA's preferred method to contain the contamination. This would occur in coordination with, and under oversight of, the appropriate federal, state, or county agencies, which, depending on the nature of contamination, could include County of San Diego Department of Environmental Health (DEH), RWQCB, and/or the California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC). The HMMP would identify the procedures for developing the approach for managing the contamination, including identification of the appropriate regulatory agency.

Should the construction program or regulatory agencies require removal of contaminated soils instead of encapsulation, the contaminated soils would be disposed of in accordance with federal, state, and local requirements, which could include disposal as fill or daily cover material at a local landfill permitted to accept such wastes, such as Sycamore, Otay, or Miramar landfills located in the County of San Diego, which accept certain types of contaminated soils (i.e., petroleum hydrocarbon-impacted soils with hydrocarbon and/or metals concentrations below specified limits). To date, SDCRAA has worked under the oversight of the County DEH and the RWQCB on various development projects to ensure proper permits and approvals have been obtained, including disposal of contaminated groundwater. The intent of the HMMP is to clearly outline in a single document the appropriate procedures for managing contaminated soil and groundwater that have been developed and implemented by SDCRAA during previous construction activity over the past 17 years and that would continue to be implemented during construction of the Proposed Project.

Arsenic was also detected at concentrations above the RSL; however, the detected levels are consistent with background concentrations, and are naturally occurring and not a result of past human activities. Thus, soils containing arsenic at background concentration levels at the site are not RSL exceedances and would not adversely affect human health and the environment. Such soils can be considered for excavation, movement, and reuse of soil (Amec Foster Wheeler Environment & Infrastructure, Inc., 2018).

As discussed in **Appendix I**, PFAS chemicals have been detected above laboratory reporting limits in groundwater, but not soils, at one location within the Proposed Project construction footprint (current remote fueling facility). The primary concerns of PFAS contamination in groundwater is associated with the potential for drinking water contamination. The SWRCB Division of Drinking Water Notification Levels (NLs) for PFAS in drinking water are not promulgated standards but are risk-based standards used to inform decision-making in the absence of maximum contaminant levels for drinking water. Per the Water Quality Control Plan for the San Diego Basin, groundwater in the area around SAN is exempted by the San Diego RWQCB from the municipal use designation, including use as drinking water. As such, construction activities in the vicinity of the current remote fueling facility, where PFAS contamination has been detected in groundwater, would not affect drinking water. The presence of PFAS is not anticipated

to create a hazard to the public and workers given implementation of the notification, handling, and management procedures for contaminated media, including saturated soils, in the HMMP described above.

ACMs and LBP are present in some of the structures to be demolished and/or modified, including Terminal 1 and the former Commuter Terminal. The demolition of structures during construction could release LBP particles and/or asbestos fibers to the air, creating a hazard to the public and workers. ACMs would be abated in compliance with applicable state and federal rules and regulations, which include implementation of dust control and abatement procedures to ensure that no "visible emissions" (i.e., dust) are discharged to the outside air during collection/handling of ACMs as required by San Diego Air Pollution Control District Rule 1206. Abatement of LBP, if required, would be conducted in compliance with the City of San Diego Lead Hazard Prevention and Control Ordinance and lead safe work practices would be implemented. This would include implementation of required safe handling and disposal practices, such as preparing the worksite to prevent the release of lead-contaminated dust and lead paint contaminants, to limit worker and environmental risks.

Construction of the Proposed Project would involve hazardous materials typical to construction, including gasoline, motor oils, and other similar materials. All potentially hazardous construction materials would be used and stored in accordance with manufacturers' instructions and handled in compliance with applicable standards and regulations. Any risk associated with transport, use, or disposal of these materials would be minimized through compliance with these standards and regulations.

The use of construction BMPs implemented as part of a SWPPP, as required by the NPDES General Construction Permit, would minimize the potential adverse effects to the general public and environment from a potential release of hazardous materials during construction. Construction contract specifications would include strict on-site handling rules to keep construction and maintenance materials, including hazardous materials, out of groundwater and soils. Compliance with regulations, including implementation of BMPs, would limit both the frequency and severity of potential releases of hazardous materials.

Existing federal, state, and local regulatory programs generally serve to minimize reasonably foreseeable risks involving the accidental release of hazardous materials into the environment. Additionally, as part of the Proposed Project, SDCRAA has committed to implementing specific measures during site development in order to address areas of known or suspected contamination, summarized below and listed in full in **Appendix A4**:

- Preparation of Hazardous Materials Management Plan (HMMP): Prior to site excavation activities and/or construction-related dewatering at the project site, a HMMP shall be prepared by the contractor, subject to SDCRAA review. As noted above, the HMMP would identify the procedures for managing the contamination, if discovered, including identification of the appropriate regulatory agency to provide oversight.
- Existing Groundwater Monitoring Wells: In conjunction with demolition of the existing Terminal 1, a well survey program addressing the potential presence of a monitoring well(s) in or near the subject area shall be completed, and include provisions for proper well destruction, as warranted. All monitoring wells that could be disturbed by project construction should be properly destroyed subject to County Department of Environmental Health permit. While there are no known monitoring wells associated with an open case, should any unexpectedly be disturbed, the lead agency overseeing the open case shall be notified and any requirements of the lead agency shall be adhered to, including well destruction, as warranted.
- Hazardous Building Materials Abatement: Prior to building demolition, SDCRAA shall retain a State of California-licensed asbestos/lead abatement contractor to perform abatement of any ACM and LBP. The contractor must provide written notification of the abatement/demolition work to the SDAPCD and local CalOSHA district office.

In complying with existing federal, state, and local regulations and implementing the Project commitments, construction of the Proposed Project would address the factor of hazardous sites within the project area. These commitments would enable SDCRAA to prevent any further contamination on the site or spreading of contamination off-site.

Solid Waste

Construction of the Proposed Project would require grading, excavation, and demolition of existing facilities. The sustainability objectives for the Terminal 1 replacement component of the Proposed Project include requiring diversion of solid waste from landfill disposal through source reduction, recycling, composting, and reuse. The requirements are to achieve diversion of 90 percent of inert material (i.e., material not subject to decomposition such as concrete and asphalt) and to achieve diversion of 75 percent of the remaining construction waste produced by the project (SDCRAA, 2019a). In the City of San Diego, there are several transfer stations, mixed construction and demolition process facilities, materials recovery facilities, composting and mulching facilities, and recycling facilities for materials such as concrete, asphalt, rock, dirt, metal, cardboard, paper, and other materials (City of San Diego Environmental Services Department, 2015). The specific facilities used for solid waste disposal/recycling would be selected by the construction contractors.

The existing buildings to be demolished/modified contain asbestos and may also contain lead-based paint. Local landfills, such as Otay Landfill and Miramar Landfill, are authorized to accept some hazardous building materials, including asbestos-containing materials and lead-based paint. These materials, and all hazardous building materials, would be handled, transported, and disposed of in accordance with applicable laws and regulations by a certified hazardous materials handler.

As discussed above, contaminated soil is known to exist at the project site. It is anticipated that, as feasible, the contaminated soils would be encapsulated on-site, which would entail leaving the soil in place and covering it and isolating it to prevent it from coming into contact with the surrounding soil; however, should any excavation and removal be required during or prior to site development, this would occur in accordance with applicable regulatory requirements, such as the federal Hazardous Materials Transportation Act, the Occupational Safety and Health Act, and the state Hazardous Waste Control Law. Such wastes would be disposed of at a local landfill permitted to accept such wastes, such as Sycamore, Otay, or Miramar landfills, which are authorized to accept certain types of contaminated soils (i.e., petroleum hydrocarbon-impacted soils with hydrocarbon concentrations below specified limits).

There is adequate capacity available in San Diego County to handle projected solid waste generation during the Proposed Project's construction period and beyond and, thus, temporary solid waste generation would not produce an appreciably different quantity or type of solid waste that would exceed local capacity and no significant impacts to solid waste would occur, when compared to the No Action Alternative.

Operational Impacts

Hazardous Materials and Pollution Prevention

The Proposed Project would continue the existing aviation-related land uses that involve the generation, use, and storage of hazardous materials. The quantities and types of such materials would be the same as those of the No Action Alternative, with the exception of small increases in the amount of cleaning supplies for the larger terminal. The use, storage, and handling of such hazardous materials would continue to occur as it currently does at SAN in compliance with applicable regulations and standards, including HMTA, EPCRA, the Toxic Substances Control Act, and OSHA standards for the safe handling and storage of chemicals (see Section 3.9.1.1). Thus, the Proposed Project would not create additional long-term risks to the public or the environment from these substances.

Soil gas was detected at the TDY site, a portion of which underlies the proposed footprint of the new Terminal 1. The presence of soil gas could pose a risk during project operation by migrating into the proposed new Terminal 1 building and accumulating in levels that could pose a risk to human health. During a vapor intrusion investigation at the TDY site, soil gas was remediated to levels below regulatory thresholds. However, based on the information that soil gas vapor was present at the former TDY site and

the Phase II ESI recommendation for an additional survey and human health risk assessment,[29] it is not possible to conclude that soil vapor gas would not be present underneath the proposed new Terminal 1 building.

SDCRAA has committed to implementing specific measures during site development in order to address areas of known or suspected contamination, summarized below and listed in full in **Appendix A4**:

- A soil vapor survey with accompanying human health risk assessment shall be prepared for the area proposed for the new Terminal 1 building. If results of that assessment warrant remediation, such as in-situ soil vapor extraction (SVE) or ex-situ excavation and treatment, it shall be implemented to reduce levels to below site-specific risk-based concentrations (RBC), or a vapor intrusion mitigation system shall be incorporated into the design of the new Terminal 1 building to ensure that indoor air concentrations do not exceed regulatory thresholds.

In complying with existing federal, state, and local regulations and implementing the Project commitments, operation of the Proposed Project would not result in a significant impact relative to potential vapor intrusion, when compared to the No Action Alternative.

The Proposed Project includes the expansion of the existing CUP. As with operations at the existing CUP, the expanded CUP would comply with all relevant federal, state, and local safety regulations to minimize the risk of an upset. Thus, the likelihood of an accidental release at the expanded CUP would be similar to that under the No Action Alternative.

Solid Waste

Using solid waste generation rates from CalRecycle, the new square footage to be developed under the Proposed Project would generate an increase of approximately 829.56 tons of solid waste per year as compared to the No Action Alternative. As discussed in Section 3.9.2.2, sufficient regional disposal capacity has been identified for municipal solid waste. Solid waste would be recycled to the extent practical, and the remaining waste would be disposed of in accordance with all applicable federal, state, and local laws and regulations. The operation of the Proposed Project would not produce an appreciably different quantity or type of solid waste that would exceed local capacity.

4.8.4 Avoidance, Minimization, and Mitigation Measures

As stated, there is no significance threshold for hazardous waste, solid waste, and pollution prevention. However, there are five factors to consider. Of these factors, two (involvement of a contaminated site and adversely affect human health and the environment) may be involved relative to the Proposed Project. However, project avoidance and minimization measures are incorporated into the Proposed Project, so that these factors are addressed. These measures include preparation of a Hazardous Materials Management Plan (HMMP) to identify procedures for managing the contamination, including identification of the appropriate regulatory agency to provide oversight; completion of a monitoring well survey program; abatement of asbestos and lead prior to building demolition; and preparation of the soils vapor survey (see **Appendix A4** of this EA).

Consequently, impacts related to hazardous materials, solid waste, and pollution prevention from implementation of the Proposed Project would not reach a significance threshold and, therefore, no mitigation measures are required.

4.9 Historical, Architectural, Archaeological, and Cultural Resources

4.9.1 Methodology

This section analyzes potential direct and indirect impacts to cultural, archaeological, and Native American resources that could result from construction or operation of the Proposed Project. This section includes the findings of a cultural resources investigation for the Proposed Project, which is documented in **Appendix E2** of this EA. This section also documents the FAA's consultation with: (1) the California SHPO pursuant to Section 106 of the NHPA and its implementing regulations at 36 CFR Part 800; and (2)

[29] Preparation of a human health risk assessment is the responsibility of SDCRAA. FAA does not have a statutory or regulatory obligation to prepare a human health risk assessment.

federally-recognized Native American Indian tribes regarding Native American cultural resources that could be affected by the Proposed Project. Documentation of the FAA's consultation with the California SHPO is included in **Appendix E1**.

4.9.2 Significance Thresholds

The FAA has not established a significance threshold that is generally applicable for historical, architectural, archaeological, and cultural resources. However, FAA Order 1050.1F does list one factor to consider when deciding if a significant impact has occurred; that is if the action would result in a finding of *Adverse Effect* through the Section 106 process. Consistent with Section 106 regulations, the FAA's Section 106 handbook indicates that the FAA would determine that the effect of an undertaking is adverse, if it alters any of the characteristics that qualify the historic property for inclusion in the National Register of Historic Places (NRHP) in a manner that diminishes the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. A finding of adverse effect on a historic property is appropriate when the undertaking would:

- Physically destroy or damage the property;
- Alter the property in a way that is inconsistent with the Secretary of the Interior's Standards for Treatment of Historic Properties (see 36 CFR part 68);
- Remove the property from its historic location;
- Change the character of the property's use, or of physical features within the property's setting that contribute to its historic significance;
- Introduce an atmospheric, audible, or visual feature to the area that would diminish the integrity of the property's significant historic features (including its setting, provided the setting has been identified as a contributing factor to the property's historical significance); or
- Result in neglect of a property, which would cause its deterioration or the transfer, sale, or lease of a property out of federal ownership or control without adequate protection to ensure the long-term preservation of the property's historic significance.

4.9.3 Impacts

4.9.3.1 No Action Alternative

Construction Impacts

No construction activities would occur under the No Action Alternative; therefore, construction-related impacts to historical, architectural, archaeological, or cultural resources would occur.

Operational Impacts

Continued operation of SAN under the No Action Alternative would not affect any historical, architectural, archaeological, or cultural resources.

4.9.3.2 Proposed Project

Construction Impacts

As indicated in Section 3.10.2, there are two buildings within SAN (i.e., within the APE) that qualify as historic properties that FAA has determined are eligible for listing in the NRHP: (1) United Airlines Hangar and Terminal Building; and (2) Convair Wind Tunnel Building. Construction of the Proposed Project would not adversely affect these two historic properties, as described below.

Site P-37-028620 – United Airlines Hangar and Terminal (UAHT) Building

As described in Section 3.10.2, the UAHT building qualifies for NRHP Criteria Consideration B and is significant under NRHP Criterion A for its association with the early development of Lindbergh Field. As part of the SAN Airport Support Facilities (ASF) improvement program, which is separate from, and independent of, the Proposed Project, the UAHT is being relocated to a vacant parcel in the northern portion of the SAN that is approximately one-half mile away from the Proposed Project site prior to construction of the Proposed Project. The Proposed Project would not result in a direct impact to the UAHT and, based on the one-half mile distance of the relocation site, no other impact is expected to occur.

In addition, public access to this building will not be impaired by the project. Therefore, FAA finds the Proposed Project would not result in an adverse effect to the UAHT building.

Site P-37-015548 – Convair Wind Tunnel Building

As described in Section 3.10.2, the CWT building is significant under NRHP Criteria A, C, and D for its construction as the first low-speed wind tunnel facility in San Diego and its ability to provide further information in the study of aerospace and aviation technology through continued testing. The CWT building is currently owned by the San Diego Air and Space Museum and would not be affected by the Proposed Project, which is located approximately one-half mile away. Similarly, given that separation distance, no effects from constructed-related issues such as dust, noise, or traffic would impact the resource, nor would there be any impact to public access. Therefore, FAA finds the Proposed Project would not result in an adverse effect to the CWT building.

As described in Section 4.7.3, there are numerous historic resources located within the GSA outside of SAN; however, for the reasons described in that section, the Proposed Project would not affect historic resources within the GSA. With regard to potential effects to subsurface archaeological resources, no unique archaeological resources are considered to exist at the project site, because the land upon which SAN was constructed was dredged from the bottom of the San Diego Bay, as described in Section 3.10.2.2.

FAA completed the required consultation with the California SHPO under Section 106 of the NHPA of 1966, as amended. The FAA initiated consultation on September 15, 2020, with the California SHPO to inform them of the Proposed Project (proposed undertaking), seek concurrence of an APE, and to provide ongoing opportunities for informal and formal review of the Proposed Project's potential effect on historic resources. The APE for direct and indirect impacts is described in Section 3.10.2.1 and shown on Figure 3.10-1. The California SHPO concurred with the FAA's delineation of the APE via letter on October 23, 2020 (see **Appendix E1**).

Based on the information in the Historic Resources Assessment, the FAA found the Proposed Project would not affect any properties listed or eligible for listing on the National Register of Historic Places under 36 CFR Part 800.4(d)(1). The FAA submitted its findings of effect to the California SHPO on May 21, 2021, seeking its concurrence. The California SHPO concurred with the FAA's findings of effect in a letter dated August 17, 2021, completing the Section 106 consultation process (see **Appendix E1**). In the letter to FAA, the California SHPO specifically stated:

"1) SHPO finds the APE delineation adequate to account for direct and indirect effects to historic properties;

2) SHPO concurs that the Convair Wind Tunnel Building and the United Airlines Hangar Terminal Building are eligible for inclusion the National Register of Historic Places (NRHP);

3) SHPO concurs that Terminal 1 and the Pacific Southwest Airlines Administrative and Maintenance Building are ineligible for listing on the National Register of Historic Places;

4) SHPO understands that the San Diego Airport Authority [SDCRAA] will accommodate a request by the Viejas Tribal Government that a Kumeyaay cultural monitor be allowed to observe excavation associated with the San Diego International Airport development plan, as outlined in your May 21, 2021 letter; and

5) SHPO concurs that the undertaking, as described in [FAA's] May 21, 2021 letter, will not adversely affect historic properties."

On July 23, 2020, the State of California Native American Heritage Commission sent the FAA a listing of Native American contacts for the proposed undertaking. The commission recommended FAA contact the following tribes: La Posta Band of Diegueno Mission Indians, San Pasqual Band of Diegueno Mission Indians, Campo Band of Diegueno Mission Indians, Mesa Grande Band of Diegueno Mission Indians, Barona Group of the Capitan Grande, Manzanita Band of Kumeyaay Nation, Sycuan Band of Kumeyaay Nation, Ewiiaapaayp Band of Kumeyaay Indians, Viejas Band of Kumeyaay Indians, Kwaaymil Laguna

Band of Mission Indians, Iipay Nation of Santa Ysabel, Jamul Indian Village, and the Inaja-Cosmit Band of Indians.

On October 28 and October 30, 2020, FAA submitted detailed information about the Proposed Project to the tribal contacts provided by the California Native American Heritage Commission using the U.S. mail. FAA received two responses. The first response was an October 29, 2020 email from Ms. Lisa Cumper, the Jamul Indian Village Tribal Historic Preservation Officer. She requested any "cultural and geo reports that are either available or come available."

The second response was an October 29, 2020 email from Mr. Ray Teran, the Viejas Tribal Government, Resource Management Director, who stated a desire to enter into consultation. In seeking further clarification on the issues of interest to the Viejas Band of Kumeyaay Indians, Mr. Teran, stated in a January 11, 2021 email, that they had already "had a very detailed meeting with the management of the San Diego Airport and their consultants." Mr. Teran requested us to contact Mr. Tracy Stropes, the Senior Project Archaeologist, who is aware of their concerns.

Operational Impacts

Operation of the Proposed Project would not affect any historical, architectural, archaeological, or cultural resources.

4.9.4 Avoidance, Minimization, and Mitigation Measures

Impacts on historical, architectural, archaeological, and cultural resources from implementation of the Proposed Project would not be significant; therefore, no mitigation measures are required. However, the following avoidance and minimization measures resulting from FAA's consultation with the California SHPO under Section 106 of the NHPA would be required should FAA approve the Proposed Action.

- In consultation with the Jamul Indian Village Tribe, the San Diego County Regional Airport Authority will provide the tribe with any cultural and geological reports that are either available or come available.
- In consultation with the Viejas Tribal Government, the San Diego County Regional Airport Authority has agreed to respect the cultural perspective of the Native American Community that the SDIA property was part of the traditional use area for Native Americans during the prehistoric habitation of the bay area. Because of the Native American history in the area, the San Diego County Regional Airport Authority will accommodate the request by the Viejas Tribal Government that a Kumeyaay Cultural Monitor be present during excavation activities associated with implementation of the San Diego International Airport - Airport Development Plan. This Excavation Monitoring will be limited to those areas of the construction project that are located beneath the modern dredge and fill soils that were imported to this location to create the airport. Monitoring the excavation of any soil associated with imported fill material will not be required.
- The Excavation Monitoring will be conducted in the area designated for the Airport Development Plan, which includes the replacement of Terminal 1, a new parking facility, and associated roadway and aircraft apron improvements that are within the planning jurisdiction of the San Diego County Regional Airport Authority. Native American monitoring will always be conducted in conjunction with archaeological monitoring, and a qualified archaeologist will be responsible for the determination of when appropriate soil horizons are encountered that would necessitate Native American and archaeological monitoring.
- The Excavation Monitoring will be conducted within the areas identified in Figure 1-2.
- The specifics of the Excavation Monitoring program will be described in a Memorandum of Agreement, which will be prepared and agreed to by the San Diego County Regional Airport Authority and the Viejas Tribal Government.

4.10 Land Use

4.10.1 Methodology

This section of the EA focuses on the identification of applicable federal, regional, state, and local land use plans and policies and assesses the consistency of the alternatives to these plans and policies. The analysis of plan consistency is designed to determine whether any inconsistencies need to be addressed, before the Proposed Project can be implemented. See Section 1506.2(d) of the CEQ Regulations.

4.10.2 Significance Thresholds

The FAA has not established a significance threshold for land use and the FAA has not provided specific factors to consider in making a significance determination for land use. According to FAA Order 1050.1.F, Exhibit 4-1, the determination that significant impacts exist in the land use impact category is normally dependent on the significance of other environmental or socioeconomic impacts. For this EA, a factor to consider if a project would be considered to have significant impact is if it would be inconsistent with applicable federal, regional, state, and local land use plans and policies.

SDCRAA adheres to all grant assurances and applicable U.S.C. regulations related to land use compatibility. Pursuant to 49 U.S.C. § 47107(a)(10) of the 1982 Airport and Airway Improvement Act, SDCRAA has provided written assurance to the FAA that appropriate action is being taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations. A copy of the written assurance is in **Appendix K**. Under the Airport Improvement Program, the FAA may not approve a grant for an airport development project, unless it is satisfied that the project is consistent with plans (existing at the time the project is approved) of public agencies authorized by the state in which the airport is located, to plan for the development of the area surrounding the airport (49 U.S.C. 47106(a)(1)).

4.10.3 Impacts

4.10.3.1 No Action Alternative

Construction and Operational Impacts

Under the No Action Alternative, there would be no demolition, new construction, or any other change in land use at the project site. In addition, the airport would continue to operate, perform maintenance, and serve the traveling public. There would be no impacts to land use.

4.10.3.2 Proposed Project

Construction and Operational Impacts

Project construction and construction staging would occur within airport boundaries. The Proposed Project improvements would be limited to within the existing SAN boundaries and adjacent public rights-of-ways and would not extend into or cross through surrounding communities. SAN is under the jurisdiction of the SDCRAA and is not under the land use authority of the City of San Diego or its General Plan. SAN land use designations are identified in the Airport Land Use Plan, which is a SDCRAA program-level planning guide that depicts the boundaries of SAN and designates locations for the four general land use categories: Airfield, Terminal, Ground Transportation, and Airport Support.

The terminal modifications and other components of the Proposed Project would be comparable to, and compatible with, the other airport-related uses that currently exist and no new uses would be established. Therefore, the Proposed Project would continue to be consistent with the Airport Land Use Plan's land designations and would also continue to be consistent with existing applicable land use plans governing development in areas surrounding SAN, including the Port of San Diego PMP and San Diego General Plan.

Operations of the airport would continue to grow as they would with the No Action Alternative. There would be no difference in the number and type of aircraft operations at the airport between the No Action Alternative and the Proposed Project. Consequently, there would be no change in the noise contours and no change in land use.

As discussed above, the Proposed Project would be consistent with, and not conflict with, the applicable land use plans. Therefore, the Proposed Project would not result in significant impacts to land use, when compared to the No Action Alternative.

4.10.4 Avoidance, Minimization, and Mitigation Measures

Impacts on land use from implementation of the Proposed Project are consistent with local land use planning. Therefore, no avoidance, minimization, or mitigation measures are required.

4.11 Natural Resources and Energy Supply

4.11.1 Methodology

The demands on Natural Resources and Energy Supply were determined both for the No Action Alternative and the Proposed Project. These projected demands were then compared to the availability of said resources in the general area. For water availability, it was considered what water supplies are available from existing entitlements and resources.

4.11.2 Significance Thresholds

The FAA has not identified significance thresholds for determining impacts to natural resources and energy supply but identifies one factor that should be considered: if a proposed project would have the potential to cause demand to exceed available or future supplies of these resources.

4.11.3 Impacts

4.11.3.1 No Action Alternative

Construction Impacts

No project construction is associated with this alternative. Therefore, no construction impacts to natural resources or energy supply would occur under the No Action Alternative in either 2026 or 2031.

Operational Impacts

Under the No Action Alternative, the use of energy, water, and other natural resources needed to support the operation of facilities at SAN would generally increase in conjunction with increased airport activity projected to occur by 2026 and 2031, including fuel consumption from more aircraft operations and motor vehicle operations (the predominant form of energy use at the airport), and water demands associated with greater numbers of passengers and employees in the future. Such energy demands draw from conventional fuel sources readily available in the worldwide marketplace and are not anticipated to exceed future supply of natural resources or energy supplies. Water demands associated with more passengers and employees at SAN in the future would increase by approximately 141-acre feet per year in 2026 and 162-acre feet per year in 2031 under the No Action Alternative. This increase would not exceed the available supply of water in the region. No impact to natural resources and energy supplies, beyond the general increase in forecasted use, are anticipated under the No Action Alternative in either 2026 or 2031.

4.11.3.2 Proposed Project

Construction Impacts

Natural Resources

During construction, water would be used for dust suppression of exposed soils during excavation and grading, and cement mixing. Water used for dust suppression could be from on-site potable water sources, such as water hydrants, but would also be provided by water trucks that are filled off-site and typically use recycled water. Also, some cement mixing is expected to occur off-site using an off-site water source selected by the contractor. The water use during construction would be temporary and intermittent (i.e., the amount of water used would vary depending on the amount of exposed soil requiring dust suppression and the weather conditions when soil is exposed and the amount of cement mixing occurring during various stages of project construction). Therefore, the water used during construction would include potable and non-potable water sources, and the amount would be variable. SDCRAA estimates that approximately 614-acre feet of water would be used over a five-year construction period. This equates to an average of approximately 123-acre feet per year and, as described above, the demand would be met by both potable and non-potable supplies. The water use would be less than the potable water demand associated with operation of the Proposed Project which, as described below, is 179-acre feet in 2026 and 200-acre feet in 2031 and would not exceed available potable water supplies (see **Appendix L**).

Therefore, the water supply impact during construction in 2026 would not be significant. There would be no construction-related impacts on water supply in 2031.

Construction of the Proposed Project would temporarily increase the use of natural resources at SAN, such as wood, prefabricated building components, aggregate, soils, sub-base materials, and oils. These materials are readily available from local suppliers and are not rare or in short supply. The quantity required for development of the Proposed Project would not place an undue strain on supplies, when compared to the No Action Alternative.

Energy Supply

Energy (primarily in the form of diesel fuel) would be used during construction of the Proposed Project by off-road diesel-powered construction equipment, and on-road diesel-powered delivery and haul trucks. Additional fuel (primarily in the form of gasoline) would be used during construction by worker vehicles traveling to and from the project site. Fuel is widely available in the area being shipped in or refined within California.

Electricity and natural gas would also be used during construction, associated primarily with the use of electric power tools and compressed natural gas used in construction equipment. These energy expenditures would be relatively small and temporary in nature, lasting only the duration of construction for each phase of the Project. SAN sustainability policies and construction contracts include provisions that would contribute to reduced fuel use and energy use during construction.

Electricity and natural gas are readily available from regional sources. The quantity required for development of the Proposed Project would not have the potential to cause demand to exceed available or future supplies, when compared to the No Action Alternative.

Operational Impacts

Natural Resources

A water supply assessment (WSA) prepared by the City of San Diego (see **Appendix L**) identified the water demand based on the number of airport employees, annual number of passengers, and the CUP expansion. The WSA quantified that the water demand associated with the Proposed Project estimated in 2040 would be 213-acre feet per year, or 0.08 percent of the San Diego County Water Authority's Urban Water Management Plan (UWMP) forecast City demands, and that adequate supplies are available to serve that demand (see Table A in the WSA [**Appendix L**]). For this EA, water demands were extrapolated for 2026 and 2031. This demand was estimated to be 179-acre feet per year and 200-acre feet per year, respectively. The projected water demand does not account for water conservation and water demand reduction features, including increasing the collection and reuse of stormwater for on-site non-potable purposes to offset potable water use (including the projected water increase associated with the CUP expansion), installation of ultra-low-flow water fixtures, and use of drought tolerant landscaping. The water demands of the Proposed Project would not have the potential to cause demand to exceed available or future supplies, when compared to the No Action Alternative.

Operation of the Proposed Project would not result in an increased demand for other natural resources such as wood, aggregate, and sand, with the exception of occasional repairs and maintenance (such as repaving). This need would occur occasionally and would be similar to the need that would occur under the No Action Alternative. Further, supplies of such materials are readily available. The natural resources demands of the Proposed Project would not have the potential to cause demand to exceed available or future supplies, when compared to the No Action Alternative.

Energy Supply

As noted above, fuel consumption is the predominant form of energy use at the airport. Increased airport activity is projected to occur at SAN by 2026 and 2031, even without implementation of the Proposed Project. With improved aircraft taxiing efficiency associated with the new linear concourse for Terminal 1 coupled with a new Taxiway A, and ground transportation elements such as the new on-airport entry roadway, and project design features including, but not limited to, ground support equipment conversion to alternative fuels, the Proposed Project would not increase total energy demand as compared to the No

Action Alternative. However, there would be a switch of GSE and other vehicles to electric power, changing demand from diesel and gas to electric power. In response to a request for service, San Diego Gas and Electric, which is the energy utility serving SAN and the broader San Diego region, provided a letter stating that electric and natural gas services can be made available to the SDCRAA's Proposed Project from its existing system (Sanchez, 2018).

While electricity and natural gas demand would increase, as compared to the No Action Alternative, because of the increased square footage of the new Terminal 1, it would be located within an area that has existing energy supplies available to serve it. Further, implementation of the Proposed Project would replace older, less energy efficient structures and facilities and would include the expansion of the CUP. Additionally, energy demand reductions would occur with implementation of supplemental voluntary energy conservation measures, such as incorporating lighting controls and ensuring the new Terminal 1 is solar photovoltaic-ready.

As described above, the increased demand on natural resources and energy supply associated with operation of the Proposed Project would not exceed available or future supplies of these resources; therefore, impacts would not be significant, when compared to the No Action Alternative.

4.11.4 Avoidance, Minimization, and Mitigation Measures

No natural resources proposed for use for this project are in short supply; therefore, no mitigation measures are required.

4.12 Noise and Noise-Compatible Land Use

4.12.1 Methodology

The construction noise assessment is based on guidance provided in the California Department of Transportation's (Caltrans) Traffic Noise Analysis Protocol (TNAP). [30] Consistent with the requirements of FAA Order 1050.1F, Paragraph B-1.7, the TNAP requires use of a reasonable method for evaluating construction noise, such as the Federal Highway Administration's (FHWA's) *Roadway Construction Noise Model* (RCNM). The RCNM describes methodologies of how to assess construction noise.[31]

For the assessment of aircraft noise impacts, the FAA-approved AEDT, Version 2d, was used, as required by FAA Orders 1050.1F and 5050.4B.[32] The modeled aircraft CNEL contours for the forecast operations of the Proposed Project and No Action Alternative are used to allow the comparison of predicted noise contributions from aircraft operations.

4.12.2 Significance Thresholds

4.12.2.1 Construction Noise

The FAA does not have a significance threshold for construction noise, but it can look to accepted methodologies from the appropriate modal administration. The impact threshold for construction noise is defined in the Caltrans TNAP, which is derived from the Caltrans Standard Specifications for 2018 and provides some insight in determining if a significant impact may occur. The TNAP includes factors to consider, when evaluating noise from construction activities, such as:

- Whether activities from construction noise exceed 86 dB at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Whether construction equipment with internal combustion engines are equipped with the manufacturer recommended muffler.

[30] See Section 11.5.1, 1050.1F Desk Reference, FAA (July 2015) (Additional noise analysis guidance).

[31] The FHWA's RCNM is the accepted construction noise model for estimating construction noise for federal and state highway construction projects. Caltrans is the FHWA state lead for construction projects; therefore, Caltrans methodology and toolkit guidance is referenced because Caltrans follows the FHWA requirements.

[32] Version 2d of AEDT was the approved/current version at the time when the environmental analysis of the Proposed Project was initiated.

4.12.2.2 Aircraft Noise

A discussion of when aircraft noise is considered a significant impact is contained in FAA Order 1050.1F. The Order states that a significant noise impact would occur, if analysis shows that the action would increase noise by DNL (CNEL in California) 1.5 dB or more for a noise-sensitive land use within the CNEL 65 dB noise exposure level, or that will be exposed at or above the CNEL 65 dB level due to a DNL 1.5 dB or greater increase over noise sensitive land uses, when compared to the No Action Alternative for the same timeframe.

4.12.3 Impacts

4.12.3.1 No Action Alternative

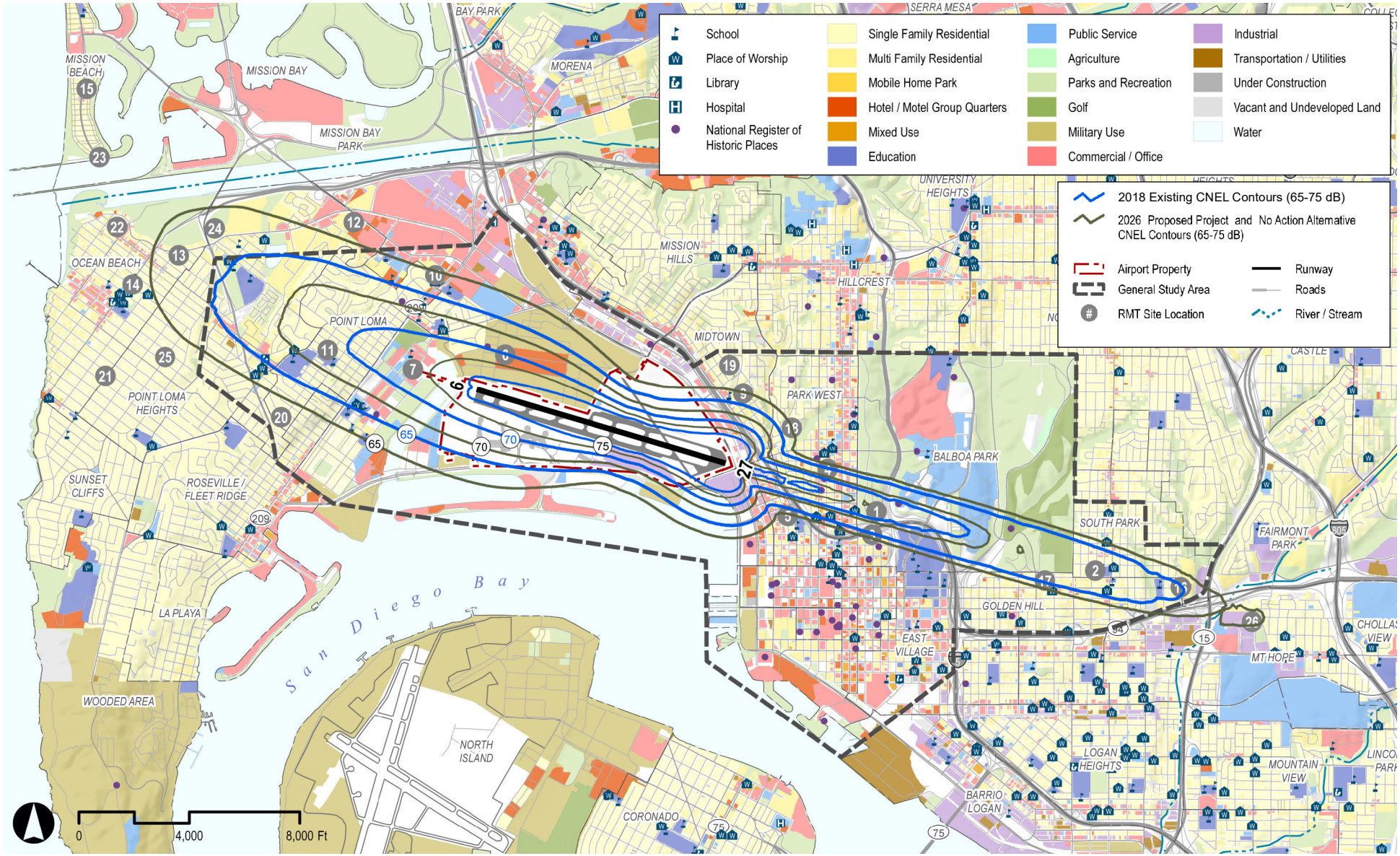
Construction Impacts

No construction activities would occur under the No Action Alternative; therefore, the No Action Alternative would not result in construction-related noise impacts.

Operational Impacts

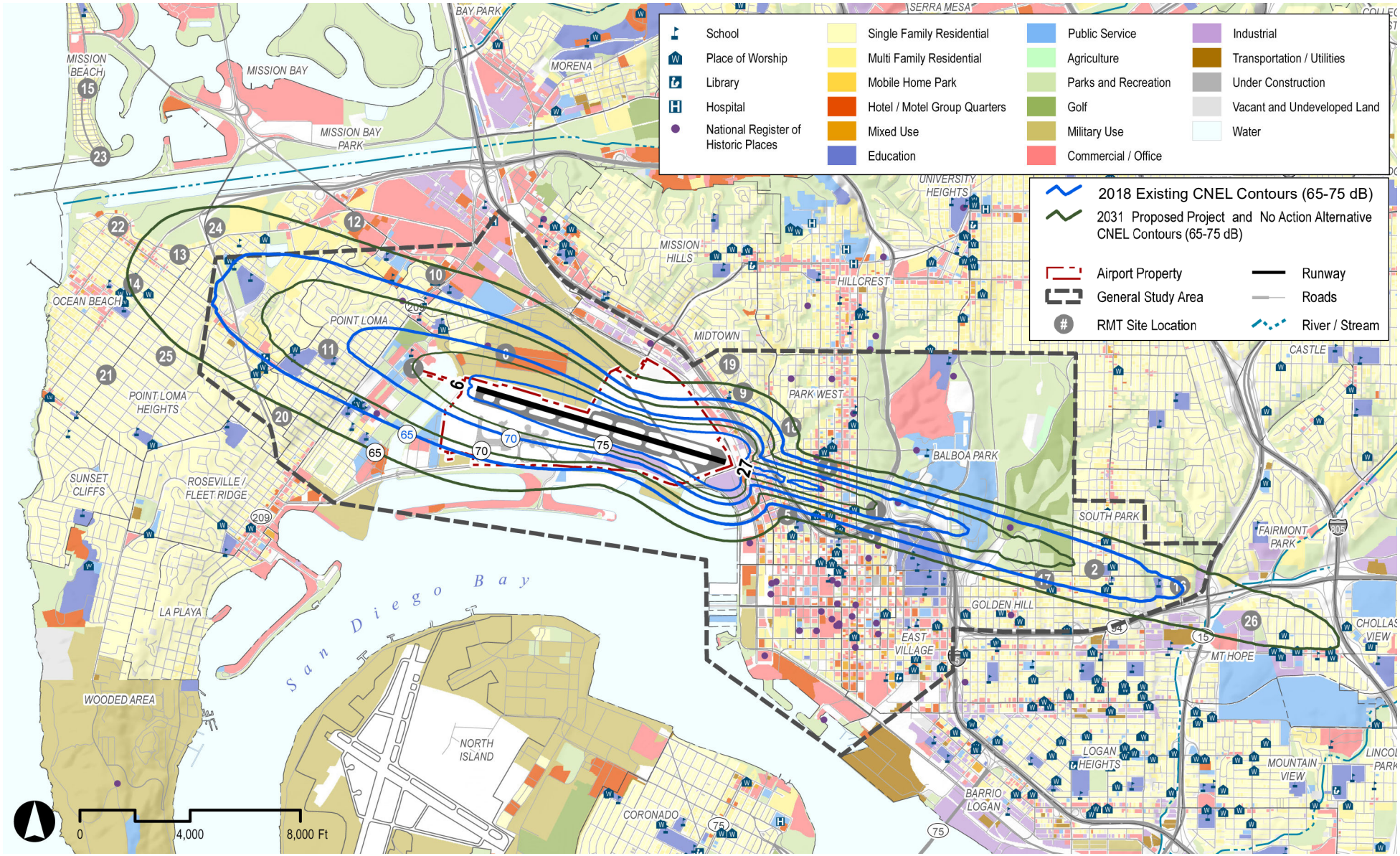
Aircraft Noise

CNEL contours associated with the 2026 and 2031 No Action Alternative were developed using AEDT 2d and are depicted in **Figures 4.12-1** and **4.12-2**, respectively. As shown on these figures, the land uses within the CNEL 65 dB contour include a mix of both noise-sensitive and non-noise-sensitive uses. **Table 4.12-1** indicates the number of people and housing units located within the various noise contours, and **Table 4.12-2** indicates the number of other noise-sensitive uses, such as churches, schools, libraries, hospitals, colleges, and historic buildings within the contours.



Source: HMMH, 2021.

Figure 4.12-1



Source: HMMH, 2021.

Figure 4.12-2

Table 4.12-1: Estimated Population and Housing Unit Counts within the Aircraft Noise Contours for No Action Alternative (2026 and 2031)

	Population				Housing Units[1]			
	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total
2026 – No Action Alternative	26,251	7,238	811	34,300	12,507	2,127	515	15,149
2031 – No Action Alternative	31,536	8,603	1,262	41,401	14,789	2,734	680	18,203

Source: HMMH, 2019 and 2020.
Note:
1. Housing units include single family and multi-family units.

Table 4.12-2: Estimated Other Noise-Sensitive Uses within the Aircraft Noise Contours for No Action Alternative (2026 and 2031)

	Church				School				Library				Hospital				College				Historic				Total of All Uses			
	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total
2026 - No Action Alternative	11	3	0	14	19	4	0	23	1	0	0	1	3	1	0	4	1	0	0	1	7	2	1	10	42	10	1	53
2031 – No Action Alternative	17	3	0	20	21	4	0	25	1	0	0	1	0	0	0	0	0	0	0	0	8	2	1	11	47	9	1	57

Sources: HMMH, 2019 and 2020; CDM Smith, 2021.

4.12.3.2 Proposed Project

Construction Impacts

Construction noise impacts were evaluated based on the source noise emission levels for construction equipment that is contained within the FHWA RCNM. Additional details regarding the assumptions and approach that were used is provided in **Appendix F**.

At this stage of the Proposed Project planning, detailed information about the specific types and numbers of equipment is not yet known; however, as a conservative approach, the analysis of impacts assumes equipment noise levels associated with a broad array of construction equipment contained in the RCNM. **Table 4.12-3** lists such equipment and the associated reference noise levels at 50 feet from the equipment.

Table 4.12-3: Average A-weighted Noise Levels (L_{eq} in dB) for Construction Equipment at 50 ft

Equipment Description	50 ft	Equipment Description	50 ft	Equipment Description	50 ft
Other Equipment > 5 HP	68.0	Excavator	69.0	Refrigerator Unit	62.0
Auger Drill Rig	72.0	Flat Bed Truck	68.0	Rivit Buster/Chipping Gun	72.0
Backhoe	64.0	Front End Loader	64.0	Rock Drill	72.0
Bar Bender	67.0	Generator	65.0	Roller	72.0
Blasting	94.0	Generator (<25 kVA)	56.0	Sand Blasting (one nozzle)	83.0
Boring Jack Power Unit	66.0	Gradall	69.0	Scraper	69.0
Chain Saw	72.0	Grader	69.0	Shears (on backhoe)	80.0
Clam Shovel (dropping)	80.0	Grapple (on backhoe)	71.0	Slurry Plant	58.0
Compactor (ground)	70.0	Horizontal Boring	68.0	Slurry Trenching Machine	65.0
Compressor (air)	64.0	Hydra Break Ram	80.0	Soil Mix Drill Rig	63.0
Concrete Batch Plant	71.2	Impact Pile Driver	88.0	Tractor	68.0
Concrete Mixer Truck	69.0	Jackhammer	76.0	Vacuum Excavator	69.0
Concrete Pump Truck	69.0	Man Lift	72.0	Vacuum Street Sweeper	72.0
Concrete Saw	77.0	Mounted Impact Hammer	77.0	Ventilation Fan	65.0
Crane	73.0	Pavement Scarafier	77.0	Vibrating Hopper	70.0
Dozer	69.0	Paver	68.0	Vibratory Concrete Mixer	67.0
Drill Rig Truck	71.0	Pickup Truck	59.0	Vibratory Pile Driver	88.0
Drum Mixer	63.0	Pneumatic Tools	68.0	Warning Horn	78.0
Dump Truck	68.0	Pumps	64.0	Welder / Torch	58.0

Source: HMMH, 2018.
Notes: L_{eq} = Equivalent Continuous Noise Level
kVA = kilovolt amperes

Based on a conservative assumption that all of the pieces of equipment in Table 4.12-3 were operating on the same site at the same time, the total L_{eq} at a distance of 50 feet from the activity would be 96.9 dB. Based on a point-source noise (i.e., construction equipment noise) fall-off rate of 6 dB per doubling of distance, construction noise would decrease to 86 dB (i.e., the threshold of significance) at a distance of 175 feet from the edge of construction activity. The majority of the Proposed Project site is surrounded by airport uses, such as on-airport roads and parking facilities to the southwest, existing terminals to the west, aircraft taxiways and the runway to the north and northeast, and surface parking to the east. It is only at the southeast portion of the project site, where the proposed on-airport road would begin off of North Harbor Drive near Laurel Street, are there non-airport uses located nearby. There are no noise-sensitive uses located within 175 feet of construction activity areas associated with the Proposed Project. Additionally, equipping internal combustion engines with appropriate mufflers, as provided by the manufacturer, is a standard requirement of construction contracts for projects at SAN. Based on the above, no significant construction noise impacts would occur from the Proposed Project, when compared to the No Action Alternative.

Operational Impacts

Aircraft Noise

Implementation of the Proposed Project would not change the number of aircraft operations, type of aircraft, nor flight paths that would otherwise occur in 2026 and 2031 under the No Action Alternative. CNEL contours associated with the Proposed Project in 2026 and 2031 are the same as those of the No Action Alternative, as depicted earlier in Figures 4.12-1 and 4.12-2, respectively. The only notable difference between the Proposed Project and the No Action Alternative related to aircraft operations is where aircraft park at terminal gates under each scenario. However, the location where individual aircraft park at terminal area gates does not affect the CNEL noise exposure contours. The fact that there would be no difference in aircraft noise impacts between the Proposed Project and the No Action Alternative is reflected in **Table 4.12-4** and **Table 4.12-5**.

Table 4.12-4: Estimated Population and Housing Unit Counts within the Aircraft Noise Contours for No Action Alternative and Proposed Project (2026 and 2031)

	Population				Housing Units[1]			
	65-70 CNEL	70-75 CNEL	75+ CNEL	TOTAL	65-70 CNEL	70-75 CNEL	75+ CNEL	TOTAL
2026 – Proposed Project	26,251	7,238	811	34,300	12,507	2,127	515	15,149
2026 – No Action Alternative	26,251	7,238	811	34,300	12,507	2,127	515	15,149
2026 - Difference between Proposed Project and No Action Alternative	0	0	0	0	0	0	0	0
2031 – Proposed Project	31,536	8,603	1,262	41,401	14,789	2,734	680	18,203
2031 – No Action Alternative	31,536	8,603	1,262	41,401	14,789	2,734	680	18,203
2031 - Difference between Proposed Project and No Action Alternative	0	0	0	0	0	0	0	0

Source: HMMH, 2019 and 2020.
Note:
1. Housing units include single family and multi-family units.

Table 4.12-5: Estimated Other Noise-Sensitive Uses within the Aircraft Noise Contours for No Action Alternative and Proposed Project (2026 and 2031)

	Church				School				Library				Hospital				College				Historic				Total of All Uses			
	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total	65-70 CNEL	70-75 CNEL	75+ CNEL	Total
2026 – Proposed Project	11	3	0	14	19	4	0	23	1	0	0	1	3	1	0	4	1	0	0	1	7	2	1	10	42	10	1	53
2026 - No Action Alternative	11	3	0	14	19	4	0	23	1	0	0	1	3	1	0	4	1	0	0	1	7	2	1	10	42	10	1	53
2026 - Difference Between Proposed Project and No Action Alternative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2031 – Proposed Project	17	3	0	20	21	4	0	25	1	0	0	1	0	0	0	0	0	0	0	0	8	2	1	11	47	9	1	57
2031 – No Action Alternative	17	3	0	20	21	4	0	25	1	0	0	1	0	0	0	0	0	0	0	0	8	2	1	11	47	9	1	57
2031 - Difference Between Proposed Project and No Action Alternative	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sources: HMMH, 2019 and 2020; CDM Smith, 2021.

As indicated above in Section 4.12.2.2, FAA Order 1050.1F states that a significant noise impact would occur if analysis shows that the action would increase noise by CNEL 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 time frame. As indicated above, there is no difference between the aircraft noise levels projected for the Proposed Project and the No Action Alternative in 2026 and 2031; hence, there would not be an increase of CNEL 1.5 dB and no significant impact would occur.

4.12.4 Avoidance, Minimization, and Mitigation Measures

The proposed improvements would not change the noise level from operations between the No Action Alternative and the Proposed Project. In addition, the noise from construction is within the local requirements for the nearest noise receiver. Therefore, no mitigation measures are required.

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

4.13.1 Socioeconomics

4.13.1.1 Methodology

As identified in the Desk Reference for FAA Order 1050.1F, this analysis assesses the impacts of the Proposed Project on broad indicators of economic activity, employment, income, population, housing, public services, and social conditions, and considers the potential for socioeconomic impacts on surrounding communities, such as shifts in patterns of population movement and growth, public service demands, and changes in business and economic activity.

To determine if the Proposed Project could have an effect on the social fabric of the surrounding community, the study area for the analysis of socioeconomics consists of the GSA. The socioeconomic data for the 32 census tracts that are located within, or intersect with the GSA are examined, along with corresponding data for the City of San Diego and County of San Diego to assess potential impacts to socioeconomics resulting from the Proposed Project. Data utilized in the analysis is from the U.S. Census Bureau's 2015 to 2019 American Community Survey (ACS) 5-Year Estimate.

A traffic study evaluated the effects of the Proposed Project on 43 intersections and 44 roadway segments within the GSA for future years 2026 and 2031. The traffic analysis intersections and roadway segments were selected to include the primary locations that the existing airport traffic use to access SAN, as well as locations with existing traffic patterns that the Proposed Project could potentially alter. Figure 3.14-4 shows the location of the transportation facilities surrounding SAN evaluated in this EA. The traffic analysis was conducted for regular AM (8:00 a.m. to 9:00 a.m.) and PM (5:00 p.m. to 6:00 p.m.) commute peak hours and the peak hour of airport travel (9:00 a.m. to 10:00 a.m.). In cooperation with the City of San Diego, the SDCRAA has committed to implementing various intersection and roadway improvements near SAN (see Section 4 and Figures 2 and 3 of **Appendix G**). These improvements will occur whether or not the Proposed Project is implemented, and are assumed to be completed by either 2026 or 2031 as identified in Figures 2 and 3 of **Appendix G**. As such, these improvements have been incorporated into the traffic impact analysis modeling under both the No Action Alternative and the Proposed Project for the year 2026 and year 2031 operational traffic analyses, as applicable. **Appendix G** contains further details of the methodology used to evaluate surface traffic near SAN, including the traffic modeling process and airport trip generation and trip assignments.

4.13.1.2 Significance Thresholds

The FAA has not established significance thresholds for socioeconomics in FAA Order 1050.1F; however, the FAA has identified the following factors to consider for determining a project's impact based on whether the project would:

- 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 of residents when sufficient replacement housing is unavailable;

- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;
- Produce a substantial change in the community tax base; or
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities.

4.13.1.3 Impacts

No Action Alternative

Under the No Action Alternative there would be no construction impacts, and operations and maintenance would continue as they currently operate; therefore, there would be no change or effect to socioeconomic impacts.

Proposed Project

Construction Impacts

The Proposed Project would occur within the existing SAN boundaries and surrounding rights-of way and no displacement of people or residents would occur during construction, because there are no residences or people living on or adjacent to the Proposed Project site. During construction of Phase B, existing concessionaires within the existing Terminal 1 would be displaced, when the existing Terminal 1 is demolished. Affected concessionaires were informed when they signed their lease that they would be affected by the Proposed Project. New concession opportunities would be available at the same time in the portion of the replacement Terminal 1 constructed in Phase A. Therefore, the temporary displacement of concessionaire businesses, when the existing Terminal 1 is demolished, would not cause economic hardship on the local community. Construction would be temporary and would not relocate residences, disrupt communities, or cause a change in tax base.

The Proposed Project would contribute to the local economy directly, through payments for wages and purchases of supplies and equipment, and indirectly, through earnings to businesses and households as Proposed Project expenditures would be spent throughout the region and new employee wages are spent. The temporary construction expenditures and employment opportunities would result in a temporary economic benefit to the community.

Construction would last approximately six years, although the length of temporary employment opportunities associated with construction would vary, because with the ramp-up and ramp-down and the completion of different tasks at different times. This would be a temporary situation, lasting until project construction is completed. However, there are many construction companies, who employ workers that can be assigned to the Proposed Project should bids be accepted. These employees would likely come from the existing large labor pool within the San Diego area and would not result in new workers relocating to the area.

Construction activities associated with the Proposed Project would generate increased traffic associated with construction employees and deliveries in the vicinity of SAN. Construction truck trips would use I-5 and the local roadways between the freeway and SAN. The local roadways would potentially experience an increase in traffic due to construction hauling and employee traffic. Additionally, construction of proposed ground access improvements may result in temporary lane closures along North Harbor Drive to the south of SAN.

As part of the Proposed Project as described in **Appendix A4**, if approved, SDCRAA would implement a Construction Traffic Management Program (CTMP) consisting of the following elements:

- Establish a Construction Coordination Office within the Ground Transportation Department. This office would operate during the life of the Proposed Project construction period to coordinate deliveries, monitor traffic conditions, advise motorists about detours, congested areas, and alternative parking areas, and monitor and enforce delivery times and routes. The SDCRAA will periodically analyze traffic conditions on designated routes during construction to evaluate and optimize the transportation system during the construction period.

This office will undertake a variety of duties, including but not limited to:

- Review traffic control plans that will be required as part of construction contracts in order to ensure that construction worker and truck trips are minimized during a.m. and p.m. peak hours and will not use residential streets to access SAN;
- Inform motorists about detours, alternative parking, and congestion by use of static or changeable message signs, media announcements, airport website, airport information roadway radio station, etc.;
- Work with police to enforce delivery times and routes, including specified truck routes;
- Establish staging areas;
- Coordinate with emergency response agencies to maintain emergency access and response times;
- Coordinate Caltrans and city roadway projects with SAN projects, so as to minimize impacts to travel;
- Monitor and coordinate deliveries, with emphasis on avoiding peak commute hours whenever possible;
- Establish detour routes;
- Work with transit agencies to minimize disturbances to bus routes/stops along Harbor Drive and on SAN;
- Coordinate with the City of San Diego Development Services Department on construction activity proposed to occur in City right-of-way to obtain the necessary traffic control permits, and to accommodate pedestrian and bicycle access at all times during construction, as required;
- Work with neighbors to address their concerns regarding construction activity traffic; and
- Analyze traffic conditions to determine the need for additional traffic controls, communication, signal modifications, lane restriping, rerouting, etc.

- Require Orientation for Construction Personnel. All construction personnel will be required through contractual means to participate in a project-specific orientation that includes where to park, where staging areas are located, construction policies, delivery routes, detours, airport construction area driving protocol, etc., in addition to airport safety and security issues training. It should be noted that construction work hours would typically begin before 7:00 a.m. and end by 3:00 p.m. or 3:30 p.m., which serves to minimize, if not avoid, construction worker commute traffic occurring at the same time as typical morning and afternoon peak commute hours.

Due to the temporary nature of construction activities and limited disruption to local traffic patterns and reduction in the LOS of roads serving SAN and its surrounding communities, construction-related traffic for the Proposed Project would not substantially reduce the levels of service of roads serving the airport and the surrounding community.

Operational Impacts

The Proposed Project would occur within the existing SAN boundaries and surrounding rights-of-way and, therefore, would not disrupt or divide an established community, nor would it displace any residences or people, because there are no residences or people living on or adjacent to the site. It would not extend public service infrastructure into new areas or eliminate or change a regulatory obstacle that could result in new population growth. The replacement Terminal 1 would have increased space for concessionaires, as compared to the existing Terminal 1. This is expected to result in similar or increased opportunities for local business and increased sales that would boost the local economy. No permanent adverse economic impacts, which are associated with disruption of an established community and relocation of people or business, are anticipated.

As described in Section 3.14.2.2, SAN is one the region's largest employers and center of economic activity. The Proposed Project would continue to sustain and grow SAN's role in the regional economy by helping to accommodate future growth in aircraft and passenger growth at SAN. Although it would not increase the number or change the type of operations of aircraft at the airport, it would allow the projected aircraft to dock at the gates instead of using hardstands. In addition, the increased Terminal 1 square footage would allow more room for passenger processing and service. Further, the Proposed Project would not alter the airspace traffic, runway operational characteristics, or the capacity limitations of SAN, as defined by the airport's single-runway system. Operations will continue to grow at SAN and the projected future increase in passenger activity levels would occur at that same level, as would occur under the No Action Alternative.

Projected increases in long-term employment would occur at a similar, but higher, level under the Proposed Project, as would occur under the No Action Alternative. This is due to the increased size of the replacement Terminal 1, which would likely increase the number of security, janitorial, and concessionaire staff needed to support the facility. This modest increase in employment needs is not expected to result in a population increase, because of the large size of the workforce that currently exists in the San Diego region as a whole and it is unlikely that workers would change their place of residence in response to the Proposed Project. Therefore, no significant increase in population and housing would be triggered by implementation of the Proposed Project. Further, the employment opportunities would result in an economic benefit to the community.

Based on FAA guidance, level of service is a factor to consider in addition to potential disruption to local traffic patterns. Refer to **Appendix G** for more information on the traffic analysis. There is no Federal guidance on significance of impacts related to any degradation of LOS. For the purposes of this analysis to screen for potential effect, the following factors were considered to determine if the reduction in level of service would disrupt local traffic patterns: (1) a change from LOS A, B, C, or D under the No Action Alternative to LOS E or F under the Proposed Project, or (2) for those intersections or roadway segments that would remain at the same LOS E or LOS F under both the No Action Alternative and Proposed Project, if they would experience a change in delay or average daily traffic. **Tables 4.13-1** through **4.13-4** below reflect a subset of the result of the traffic analysis for the 43 intersections and 44 roadway segments, which focuses on only those intersections and roadway segments that reflect the above two operational changes. The tables provide such information for Year 2026 and Year 2031.

The analysis results for all 43 intersections and 44 roadway segments evaluated is provided in Tables 5-1 through 5-4 in **Appendix G**. As shown in Tables 5-1 through 5-4 in **Appendix G**, there would not be a degradation of LOS from LOS A, B, C, or D to LOS E or F between the No Action Alternative and the Proposed Project for any intersection or roadway segment in either 2026 or 2031. For those intersections and roadway segments that would remain at LOS E or F under both scenarios, as shown in Tables 4.13-1 and 4.13-3,[33] only one intersection (Intersection #3 – Pacific Highway at Enterprise Street) would have a modest increase in delay (1.7 seconds). Further, as shown in Tables 4.13-2 and 4.13-4,[34] due to the addition of the landside/ground transportation elements included in the Proposed Project, in particular the new on-airport entry roadway, the average daily traffic along North Harbor Drive roadway segments would be substantially reduced which, in turn, would result in an improvement, as compared to the No Action Alternative. As such, when compared to the No Action Alternative, the Proposed Project would not disrupt local traffic patterns.

[33] As shown in Tables 5-1 and 5-3 in **Appendix G**, there would be no intersections that would operate at LOS F under both the No Action Alternative and the Proposed Project that would have a change in delay; as such, the only intersections listed in Tables 4.13-1 and 4.13-3 would operate at LOS E.

[34] As shown in Tables 5-2 and 5-4 in **Appendix G**, there would be no roadway segments that would operate at LOS E under both the No Action Alternative and the Proposed Project that would have a change in average daily traffic; as such, the only roadway segments listed in Tables 4.13-2 and 4.13-4 would operate at a LOS F.

Table 4.13-1: 2026 No Action Alternative and Proposed Project Conditions – Intersections at LOS E or F with Delay Change

Intersection		Peak Hour	2026 No Action Alternative		2026 Proposed Project		Change in Delay from 2026 No Action Alternative (c)
			Delay (a)	LOS (b)	Delay (a)	LOS (b)	
3	Pacific Hwy at Enterprise St	AM	53.9	D	54.2	D	0.3
		AIRPORT	32.9	C	33.7	C	0.8
		PM	61.8	**E**	63.5	**E**	1.7

Source: Kimley-Horn, March 2021.
Notes: **Bold** values indicate intersections operating at LOS E; there are no LOS F intersections.
AM Peak Hour = 8:00 – 9:00 AM; Airport Peak Hour = 9:00 – 10:00 AM; PM Peak Hour = 5:00 – 6:00 PM
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the Highway Capacity Manual, 6th Edition, and performed using Synchro 10.
(c) Change in delay due to addition of the Proposed Project. Addition of the Proposed Project may cause a decrease in delay at some locations due to change in traffic patterns.

Table 4.13-2: 2026 No Action Alternative and Proposed Project Conditions – Roadway Segments at LOS E or F with Average Daily Traffic Change

Roadway Segment	Roadway Classification (a)	LOS E Capacity	2026 No Action Alternative			2026 Proposed Project			2026 Proposed Project Comparison to 2026 No Action Alternative (d)	
			ADT (b)	V/C Ratio (c)	LOS	ADT (b)	V/C Ratio (c)	LOS	Δ in ADT	Δ in V/C
North Harbor Dr										
Winship Ln to Liberator Way	6 Lane Prime Arterial	60,000	109,768	1.829	**F**	70,560	1.176	**F**	-39,207	-0.653
Liberator Way to Cell Phone Lot	6 Lane Prime Arterial	60,000	113,945	1.899	**F**	72,570	1.21	**F**	-41,375	-0.689
Cell Phone Lot to Laurel St / Solar Turbines	6 Lane Prime Arterial	60,000	117,938	1.966	**F**	73,186	1.22	**F**	-44,752	-0.746

Source: Kimley-Horn, March 2021.
Notes: **Bold** values indicate roadway segments operating at LOS F; there are no LOS E roadway segments.
(a) Existing roads street classification is based on the City of San Diego Street Design Manual, March 2017 Edition.
(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by National Data & Surveying Services and measured in June 2017 and in March 2019.
(c) The volume to capacity (v/c) ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.
(d) Change due to addition of the Proposed Project. Addition of the Proposed Project may cause a decrease in volume at some locations due to change in traffic patterns.

Table 4.13-3: 2031 No Action Alternative and Proposed Project Conditions – Intersections at LOS E or F with Delay Change

Intersection		Peak Hour	2031 No Action Alternative		2031 Proposed Project		Change in Delay from 2031 No Action Alternative (c)
			Delay (a)	LOS (b)	Delay (a)	LOS (b)	
3	Pacific Hwy at Enterprise St	AM	55.4	**E**	55.2	**E**	-0.2
		AIRPORT	34.5	C	34.6	C	0.1
		PM	69.8	**E**	65.0	**E**	-4.8
15	Pacific Hwy at W Laurel St	AM	36.7	D	34.8	C	-1.9
		AIRPORT	37.6	D	38.4	D	0.8
		PM	62.4	**E**	57.8	**E**	-4.6
29	Columbia St at W Grape St	AM	37.2	D	39.8	D	2.6
		AIRPORT	38.4	D	38.7	D	0.3
		PM	78.1	**E**	52.3	**E**	-25.8

Source: Kimley-Horn, March 2021.
Notes: **Bold** values indicate intersections operating at LOS E; there are no LOS F intersections.
AM Peak Hour = 8:00 – 9:00 AM; Airport Peak Hour = 9:00 – 10:00 AM; PM Peak Hour = 5:00 – 6:00 PM
(a) Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a two-way stop-controlled intersection, delay refers to the worst movement.
(b) LOS calculations are based on the methodology outlined in the Highway Capacity Manual, 6th Edition, and performed using Synchro 10.
(c) Change in delay due to addition of the Proposed Project. Addition of the Proposed Project may cause a decrease in delay at some locations due to change in traffic patterns.

Table 4.13-4: 2031 No Action Alternative and Proposed Project Conditions – Roadway Segments at LOS E or F with Average Daily Traffic Change

Roadway Segment	Roadway Classification (a)	LOS E Capacity	2031 No Action Alternative			2031 Proposed Project			2031 Proposed Project Comparison to 2031 No Action Alternative (d)	
			ADT (b)	V/C Ratio (c)	LOS	ADT (b)	V/C Ratio (c)	LOS	Δ in ADT	Δ in V/C
North Harbor Dr										
Winship Ln to Liberator Way	6 Lane Prime Arterial	60,000	136,790	2.28	**F**	89,421	1.49	**F**	-47,369	-0.790
Liberator Way to Cell Phone Lot	6 Lane Prime Arterial	60,000	140,780	2.346	**F**	91,110	1.519	**F**	-49,670	-0.827
Cell Phone Lot to Laurel St / Solar Turbines	6 Lane Prime Arterial	60,000	144,341	2.406	**F**	91,168	1.519	**F**	-53,173	-0.887

Source: Kimley-Horn, March 2021.
Notes: **Bold** values indicate roadway segments operating at LOS F; there are no LOS E roadway segments.
(a) Existing roads street classification is based on the City of San Diego Street Design Manual, March 2017 Edition.
(b) Average Daily Traffic (ADT) volumes for the roadway segments were provided by National Data & Surveying Services and measured in June 2017 and in March 2019.
(c) The volume to capacity (v/c) ratio is calculated by dividing the ADT volume by each respective roadway segment's capacity.
(d) Change due to addition of the Proposed Project. Addition of the Proposed Project may cause a decrease in volume at some locations due to change in traffic patterns.

In summary, the Proposed Project's operations would not significantly impact the socioeconomic conditions of surrounding communities, when compared to the No Action Alternative.

4.13.1.4 Avoidance, Minimization, and Mitigation Measures

Impacts associated with socioeconomics from implementation of the Proposed Project would not be significant, when compared to the No Action Alternative. None of the listed factors to consider would occur; therefore, no mitigation measures are required.

4.13.2 Environmental Justice

4.13.2.1 Methodology

The study area for environmental justice consists of the GSA, which is the area in which the collective environmental effects resulting from the Proposed Project would likely occur. The ethnicity/race and income data for the 32 census tracts that are located within, or intersect, this study area are examined, to determine if the tracts have minority and/or low-income populations. Additionally, corresponding data for the City of San Diego and County of San Diego to assess potential impacts to environmental justice communities resulting from the Proposed Project are considered. Data utilized in the analysis is from the U.S. Census Bureau's 2015 to 2019 ACS 5-Year Estimate.

To assess potential environmental justice impacts related to significant impacts, census tracts that (1) have a population of 50 percent or more exceeding the federal poverty level; and/or (2) have a minority population of 50 percent or more are identified.

Additionally, a location is a potential environmental justice area of concern when the minority or low-income population of the analysis area is "meaningfully greater" than that of the surrounding areas. The term "*meaningfully greater*" is identified as a determining factor for identifying minority populations in the CEQ guidance document, *Environmental Justice Under the National Environmental Policy Act* (1997). The guidance states that "Minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent; or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis."

As identified in Section 3.14.2, the average percentage of minority population in the study area is approximately 39 percent, (approximately 15 percent lower than San Diego County as a whole [54 percent] and approximately 18 percent lower than the City as a whole [57 percent]). The percentage of low-income population (below the national poverty level) in the study area is approximately 5.7 percent (approximately 5.9 percent lower than the County on average and 7.1 percent lower than the City as a whole). Thus, on average, the minority or low-income population of the analysis area is not "meaningfully greater" than that of the surrounding areas.

4.13.2.2 Significance Thresholds

The FAA has not established significance thresholds for environmental justice in FAA Order 1050.1F; however, the FAA has identified the following factors to consider when evaluating the context and intensity of potential environmental impacts of an action:

- Cause 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 is unique to the environmental justice population and significant to that population.

As identified in FAA Order 1050.1F, DOT Order 5610.2B provides the following definition for a "disproportionately high and adverse impact" that should be used, when assessing impacts to environmental justice populations:

- Disproportionately high and adverse effect on minority and low-income populations means an adverse effect that:
  - Is predominately borne by a minority population and/or a low-income population; or

- Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population; and
- Disproportionately falls on minority and/or low-income populations even after benefits, including economic benefits, or the program, policy, or activity that accrue primarily to the affected minority and/or low-income populations are factored into the analysis.

4.13.2.3 Impacts

No Action Alternative

Under the No Action Alternative, there would be no construction impacts, and operations and maintenance would continue as they currently operate; therefore, there would be no change or effect to minority or low-income populations. The No Action Alternative would not result in disproportionately high and adverse impacts to an environmental justice population.

Proposed Project

Construction Impacts

No significant adverse impacts during construction are anticipated, including impacts to air quality, climate, noise, or traffic. Further, there is no impact that would affect a minority or low-income population in a unique manner or place impacts on minority and low-income populations greater than the overall population. Therefore, there would not be disproportionately high or adverse impacts to an environmental justice community as a result of construction of the Proposed Project.

Operational Impacts

The minority or low-income population of the analysis area is not "meaningfully greater" than that of the surrounding areas, and as shown on Figure 3.14-3, no census tracts within the GSA have a population of 50 percent or greater exceeding the federal poverty level. However, as shown on Figure 3.14-2, seven of the 32 census tracts within the GSA have a minority population of 50 percent or greater and, therefore, can be considered environmental justice populations. The individual census tracts with a minority population of 50 percent or greater are typically located near the edges of the study area, which, given the greater distance from SAN, are less affected by the Proposed Project (including associated aircraft and traffic noise, air pollutant emissions, and traffic) than the communities closer to SAN and, thus, would not be disproportionately impacted. Further, as described in Section 4.3.3, the operation of the Proposed Project would not produce significant air pollutant emissions; as described in Section 4.12.3, the Proposed Project would not result in a significant increase in construction noise levels or aircraft noise levels as compared to the No Action Alternative; and, as described above, the Proposed Project would not disrupt local traffic patterns or substantially reduce the levels of service of roads serving an airport and its surrounding communities. Additionally, as described throughout this EA, no significant impacts relative to any of the resource categories are expected to occur during construction or operation of the Proposed Project, as compared to the No Action Alternative. Therefore, the Proposed Project would not create a disproportionately high or adverse impact to minority or low-income populations.

4.13.2.4 Avoidance, Minimization, and Mitigation Measures

Impacts associated with environmental justice from implementation of the Proposed Project would not be significant, when compared to the No Action Alternative; therefore, no mitigation measures are required.

4.13.3 Children's Environmental Health and Safety Risks

4.13.3.1 Methodology

The study area for Children's Environmental Health and Safety Risks consists of the GSA, which is the area in which the collective environmental effects resulting from the Proposed Project would likely occur. The population and age data for the 32 census tracts that are located within, or intersect this study area are examined, along with corresponding data for the City of San Diego and County of San Diego to assess potential impacts to children's environmental health and safety risks resulting from the Proposed Project. Data utilized in the analysis is from the U.S. Census Bureau's 2015 to 2019 ACS 5-Year Estimate.

4.13.3.2 Significance Thresholds

The FAA has not established significance thresholds for Children's Environmental Health and Safety Risks in FAA Order 1050.1F; however, the FAA has identified the following factor to consider, when evaluating the context and intensity of potential environmental impacts of an action:

- The action would have the potential to lead to a disproportionate health or safety risk to children.

4.13.3.3 Impacts

No Action Alternative

No construction activities would occur under the No Action Alternative; the SDCRAA would continue to operate the airport, perform maintenance and serve the public, as it currently does. Therefore, the No Action Alternative would not result in a disproportionate health or safety risk to children.

Proposed Project

Construction Impacts

Construction-related air quality impacts on the residential and recreational areas, including schools, in the vicinity of and within the Proposed Project area would not exceed applicable significance thresholds (see Section 4.3). Similarly, no significant noise, hazardous materials, or health-related impacts are expected during construction. Therefore, construction of the Proposed Project would not result in disproportionate health and safety risks to children.

Operational Impacts

As described in Section 4.12, Noise and Noise-Compatible Land Use, there would be no difference in noise impacts between the Proposed Project and the No Action Alternative and no significant impact would occur. Further, the operation of the Proposed Project would not result in significant changes to health and safety risks including air, food, drinking water, recreational waters, soil, or products that may use or be exposed to, and as described in Section 4.3.3, the operation of the Proposed Project would not produce significant air pollutant emissions; as described in Section 4.12.3, the Proposed Project would not result in a significant increase in aircraft noise levels as compared to the No Action Alternative; and as described above, would not disrupt local traffic patterns or substantially reduce the levels of service of roads serving an airport and its surrounding communities. Further, as described throughout this EA, no significant adverse impacts relative to climate, land use, or other resource areas would occur during construction or operation of the Proposed Project, as compared to the No Action Alternative. Additionally, no relocation, acquisition, or alteration of schools, residences, day cares, parks, or any other facilities associated with children or childcare would occur. Therefore, the operation of the Proposed Project would not create environmental health or safety risks that may disproportionately affect children.

4.13.3.4 Avoidance, Minimization, and Mitigation Measures

Impacts associated with health and safety risks to children from implementation of the Proposed Project would not be significant, when compared to the No Action Alternative; therefore, no mitigation measures are required.

4.14 Visual Effects

4.14.1 Methodology

Due to intervening topography and existing structures, SAN is not visible from the westernmost and easternmost portions of the GSA, nor does SAN contribute remarkably to the overall visual character of the entire GSA. Thus, the analysis of visual effects in this EA focuses on areas along the southern and western boundaries of SAN and elevated residential areas to the east and northeast of SAN (see **Figure 4.14-1**). Several long- and short–range views were selected for the visual assessment based on representative viewer groups, public viewing locations, and local policies related to view corridors identified in planning documents (community plans). In addition, because the proposed facilities would be located on the south side of the airport and, therefore, most visible from North Harbor Drive, a number of view locations were identified along North Harbor Drive north/northeast towards SAN to illustrate the proposed facilities in relation to existing airport and other facilities. Conceptual visual simulations of the

Source: CDM Smith and SDCRAA, 2018. Aerial source: NAIP, 2019.

Figure 4.14-1

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

KEY VIEW LOCATION MAP

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proposed facilities were developed, as shown in **Appendix H**. The potential light emissions and glare impacts of the Proposed Project were determined by observing the existing airport light sources and assessing future lighting effects based on the Proposed Project components.

4.14.2 Significance Thresholds

The FAA has not established a significance threshold for visual effects in FAA Order 1050.1F, but rather identified factors to be considered relative to context and intensity of changes to visual character. These factors are: if the action would block or obstruct views of a visual resource; contrast with the visual resources or visual character of the surrounding environment; or, create annoyance or interfere with normal activities from light emissions.

4.14.3 Impacts

4.14.3.1 No Action Alternative

Construction Impacts

No construction activities would occur under the No Action Alternative; therefore, the No Action Alternative would not result in construction-related visual or light emission impacts.

Operational Impacts

Under the No Action Alternative, none of the Proposed Project components would occur. The existing airport facilities do not block or obstruct views of a visual resource (see **Appendix H**) or contrast with the visual resources or visual character of the surrounding environment (see **Appendix H**). Portions of SAN are well lit at night, consistent with the surrounding urban environment. Existing airport light emissions do not create annoyance to light-sensitive resources or interfere with normal activities.

4.14.3.2 Proposed Project

Construction Impacts

Construction of the Proposed Project would result in temporary changes to the visual character of the areas adjacent to SAN. All construction activities would incorporate temporary construction fencing/barriers to screen construction activities and equipment and would be further screened from off-site adjacent areas by existing airport buildings, elevated roadways, and landscaping. Construction activities would not block or obstruct public views of a visual resource or contrast with the urban character of the surrounding environment. Construction activities associated with the Proposed Project would occur primarily during the daytime; however, it is anticipated that construction activities at nighttime would be required from time to time. Nighttime construction activities would generate similar sources of light compared to existing conditions and would need to adhere to FAA guidance to avoid causing light impacts or glare to aircraft or air traffic controllers. Construction activities would be screened from off-site adjacent areas by fencing/barriers, and would follow standard SAN construction practices (i.e., ensuring lighting is shielded and focused downward and establishing a schedule to use lighting only when required) to minimize the spillover of light off the project site. The light emissions from construction activities would not create annoyance or interfere with normal activities. Refer to Section 4.4, Biological Resources, and **Appendix C1** for discussion of conservation measures that would be implemented during construction to protect CLT, should nighttime construction be necessary within the vicinity of the CLT nesting ovals. In summary, construction of the Proposed Project would not produce any of the factors that FAA considers potentially significant for visual effects.

Operational Impacts

The current character of the Proposed Project area is that of a major U.S. airport within a highly urbanized area. As shown in the conceptual visual simulation in **Appendix H**, the proposed new facilities (with building heights ranging between 60 and 90 feet) would be compatible and consistent with the existing urban character of the surrounding environment, and they would not block or obstruct public views of a visual resource (San Diego Bay and the Pacific Ocean to the south, the Navy Boat Channel to the west, the Point Loma peninsula to the southwest, and the San Diego downtown skyline to the southeast). The same would be true relative to the proposed relocation of three FAA ASDE-X sensors from the SDCRAA administration building, which would be demolished as part of the Proposed Project, to the existing

Airline Support Building. The size and design of the sensors are not of a nature that would block views or be inconsistent with the existing urban character of the surround environment.

The Proposed Project would contribute new sources of lighting typical of a modern airport, which currently contains moderate to high levels of ambient lighting. The Proposed Project would incorporate adequate nighttime lighting throughout all of its components to ensure a safe and accessible environment for passengers. Similar to existing development at SAN, all lighting for new facilities would be shielded and directed downward to minimize light spillover. These measures, as well as diligent maintenance of fencing around the perimeter of the CLT ovals, would shield the California least terns from adverse lighting effect (refer to Section 4.4, Biological Resources). Thus, the light emissions from the proposed new facilities would not create annoyance or interfere with normal activities. Refer to **Appendix C1** and **Appendix A4** for discussion of operations and site enhancement conservation measures that would be implemented within the vicinity of the CLT nesting ovals.

In summary, operation of the Proposed Project would not produce any of the factors that FAA considers potentially significant for visual effects. Because both the construction phase and the operational phase of the Proposed Project would not produce any factor that may lead to a significant impact to visual effects, the Proposed Project would not have a significant impact.

4.14.4 Avoidance, Minimization, and Mitigation Measures

Visual effects from implementation of the Proposed Project would not be significant; therefore, no mitigation measures are required.

4.15 Water Resources

4.15.1 Methodology

Potential surface water and groundwater impacts were evaluated by comparing current site conditions and how the improvements are designed and operated to meet water quality permitting requirements.

4.15.2 Significance Thresholds

FAA Order 1050.1F, which defines the water resources impact categories, specifies that a significant impact to surface waters or groundwater would exist, if the action would cause an exceedance of water quality standards established by federal, state, local, or tribal regulatory agencies, or contaminate the public drinking water supply, including an aquifer used for public water supply, such that public health may be adversely affected.

4.15.3 Impacts

4.15.3.1 No Action Alternative

Construction Impacts

Under the No Action Alternative, construction of the proposed facilities would not occur. Therefore, there would be no impacts to water resources.

Operational Impacts

Under the No Action Alternative, there would be no action that would change the existing physical characteristics of the area and, in turn, no change to existing surface runoff patterns. However, the forecasted increase in aviation activity levels could potentially result in increased runoff into the drainage system associated with activities such as increased aircraft washing, equipment cleaning, and maintenance, as well as a proportional increase in the potential for oil and fuel spills. Increases in aviation activity could also lead to increased levels of copper and zinc in stormwater runoff from the airfield. Copper and zinc are released from the wear and tear of tires and brake pads of aircraft and vehicles. As identified in Section 3.16.1, they are the two constituents of concern identified as focus priorities for SDCRAA in the San Diego Bay Watershed Management Area Water Quality Improvement Plan. Under the No Action Alternative, the SAN Stormwater Capture and Reuse System would not be expanded, and new sub-surface infiltration areas associated with the Proposed Project would not be built and, as such, continued release of these two metals would occur in increasing quantities.

4.15.3.2 Proposed Project

Construction Impacts

Surface Waters and Groundwater

It is possible that construction of certain components associated with the Proposed Project, particularly subsurface utilities improvements, may require temporary dewatering during construction. Such dewatering would be relatively short-term in duration and the groundwater impacts, if any, would be localized in nature. Further, groundwater does not support beneficial uses (i.e., it is not used for drinking, irrigation, or industrial supply purposes), largely because the groundwater is highly saline due to the site's close proximity to San Diego Bay. As addressed in Section 4.8.3.2 and **Appendix D**, there is the potential for contaminated groundwater to be encountered. Prior to construction activities, an HMMP would be prepared, subject to approval by SDCRAA, establishing procedures for identification, screening, and notification, of contaminated groundwater encountered during site excavation. Remediation measures would be set forth in a site-specific treatment plan, as required by applicable federal, state, and local laws.

Construction of the Proposed Project would include activities involving the use of chemicals and other potential water quality pollutants, such as paints, solvents, adhesives, concrete curing additives, and other such compounds, which if released to, and/or become entrained in stormwater runoff, could lead to a violation in water quality standards or waste discharge requirements. The storage, handling, use, and disposal of such materials are regulated by various federal, state, and local requirements related to hazardous materials/wastes. Additionally, construction of the Proposed Project would be subject to the requirements of the SWRCB Construction General Permit (Order No. 2010-0014-DWQ, NPDES No. CAS000002), which requires construction projects with coverage under the Construction General Permit to implement a SWPPP.

Based on the above, the potential for the Proposed Project's construction-related pollutants to cause an exceedance of water quality standards established by federal, state, local, or tribal regulatory agencies is considered to be negligible; therefore, the impact would not be significant, when compared to the No Action Alternative.

Operational Impacts

Surface Waters and Groundwater

There is no surface water on SAN property. Groundwater underlying SAN ranges from approximately seven to 12 feet below ground surface and does not support beneficial uses. Thus, operation of the Proposed Project would not affect public drinking water sources.

Implementation of the Proposed Project would involve development of airfield components, a new/replacement terminal and other buildings, apron areas, and roadway improvements, all of which are similar in nature and operation to those of existing facilities at SAN. The level of activities that could involve runoff into the drainage system, such as aircraft washing, equipment cleaning, and maintenance activities, as well as the potential for oil and fuel spills to occur, may increase proportionally with forecasted increases in aviation activity levels at SAN in 2026 and 2031. Such increases in activity could lead to increased levels of copper and zinc in stormwater discharges.

The SWMP identifies requirements to manage potential on-site sources of non-stormwater discharge, such as control of wash water from vehicle washing and methods to contain spills in outdoor material storage areas. Compliance with the SWMP, NPDES permits, and other permits, standards, and regulations, would ensure that non-stormwater runoff would not violate water quality standards.

The landside stormwater conveyance infrastructure would be designed to comply with the City of San Diego Drainage Design Manual (January 2017), which requires that the storm drain system and overflow can carry a 100-year frequency storm event without damaging or flooding adjacent buildings or potential building sites, and that the underground storm drain system be designed to accommodate a 50-year frequency storm. The airside stormwater conveyance infrastructure would comply with the FAA drainage design guidance that in a 5-year storm event, there would be no encroachment of runoff on the taxiway

and runway, and apron ponding around the storm drain inlet is no greater than four inches, and that during a 10-year storm event, 50 percent of the center of runways and taxiways would be free from ponding (FAA, 2013a). Further, in compliance with the SDCRAA BMP Design Manual, the SAN Stormwater Capture and Reuse System would be designed to capture at least 80 percent of the average annual runoff volume. As described above, with expansion of the SAN Stormwater Capture and Reuse System and installation of new sub-surface infiltration areas, the flow and volume of stormwater entering the existing outfalls would decrease overall.

The Proposed Project is subject to the new development/redevelopment requirements of the MS4 Permit and the BMP Design Manual in Appendix C of the SWMP. The MS4 Permit requires that for new development/redevelopment, 100 percent of the pollutants contained in the volume of stormwater runoff produced from a 24-hour 85th percentile storm event over the project footprint or equivalent area be retained on-site. This does not currently occur as stormwater is discharged from the site without retention or treatment (although more traditional BMPs like catch basin filters are currently used). Meeting the permit requirements for new development/redevelopment would be accomplished through the Proposed Project's expansion of the Stormwater Capture and Reuse System and new sub-surface infiltration areas. Instead of discharging into San Diego Bay, these Proposed Project elements would reuse or infiltrate stormwater runoff, along with the pollutants contained therein. The expansion of the SAN Stormwater Capture and Reuse System and installation of new sub-surface infiltration area would, therefore, result in water quality benefits, because the captured stormwater would greatly reduce the amount of pollutants, including copper and zinc, entering San Diego Bay via stormwater from SAN. The SWMP and the Proposed Project's stormwater elements would help ensure that the SDCRAA will comply with the MS4 Permit and the Industrial General Permit, treating copper and zinc and meeting the NALs in the Industrial General Permit, and the SDCRAA's goals listed in the San Diego Bay Watershed Management Area Water Quality Improvement Plan.

Based on the above, the Proposed Project's operations-related pollutants would not cause an exceedance of water quality standards established by federal, state, local, or tribal regulatory; therefore, the Proposed Project's impact would not be significant.

4.15.4 Avoidance, Minimization, and Mitigation Measures

Prior to construction activities, a HMMP would be prepared, subject to approval by SDCRAA, establishing procedures for identification, screening, and notification, of contaminated groundwater encountered during site excavation. Impacts on water resources from implementation of the Proposed Project would not be significant, when compared to the No Action Alternative; therefore, no mitigation measures are required.

4.16 Cumulative Impacts

Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. This cumulative impact analysis considers connected actions, projects related and dependent upon the completion of the Proposed Project. It also considers similar actions or projects having a common geography or timing that provide a basis for considering their impact, together with impacts related to the proposed airport project. In accordance with NEPA, the cumulative impacts analysis evaluates the past, present, and reasonably foreseeable future actions and their cumulative impact on environmental resources. For this analysis, past actions are those known to have occurred within the five years prior to the Proposed Project's environmental review. Present actions are those that are ongoing and will continue during the Proposed Project construction. Future actions are as described in the Desk Reference for FAA Order 1050.1F (Paragraph 15.1), reasonably foreseeable actions are those that are not remote or speculative. For this analysis, future actions are those expected to occur within five years after the Proposed Project environmental review.

For purposes of this analysis, the five-year periods described above for past, present, and reasonably foreseeable projects identified within the GSA are generally considered to define a temporal boundary for consideration of cumulative impacts. The development projects considered in this assessment of potential cumulative impacts include the following types of development projects in the SAN area: (1) past, proposed, and/or future development projects at SAN that are not directly related to the Proposed Project

(i.e., projects having independent utility) (see **Table 4.16-1**); off-airport cumulative projects (see **Table 4.16-2**); and (3) potential program-level development ranges associated with the Port of San Diego's Port Master Plan Update (PMPU) (see **Table 4.16-3**). **Figure 4.16-1** shows the locations of the cumulative projects at and within the vicinity of SAN. Specific thresholds for cumulative impacts are not established in FAA Order 1050.IF, as the significance threshold varies according to the affected resources. Thus, those significance thresholds are defined in the prior sections specific to each environmental discipline.

Table 4.16-1: SAN Cumulative Projects

Project Name	Brief Description	Status
Terminal 2 Parking Plaza	Three-story Parking Plaza with approximately 2,900 parking stalls in front of Terminal 2.	Construction completed and operations began in May 2018.
Federal Inspection Services (FIS) Improvements and Relocation at Terminal 2	This project relocated the existing FIS facility for international arrivals from Terminal 2-East to the newly completed Green Build portion of the existing Terminal 2-West, and included approximately 40,000 square feet of new construction and approximately 85,000 square feet of modifications within the existing terminal, including converting six existing gates to allow for both domestic and international arrivals. The FIS improvements and relocation provides additional and more efficient processing of passengers arriving on international flights.	Construction completed and operations began in June 2018.
Old Town Shuttle Service	Establishment of shuttle service between the Old Town Transit Center and SAN.	Approved. Shuttle service scheduled to begin January 2022.
Off-Airport Intersection and Roadway Segment Improvements	Various off-airport intersection and roadway segment improvements near the southern and eastern boundaries of SAN. Improvements include restriping and signal timing modifications. The locations and details of the improvements are identified and described in Section 4.2 and Figures 2 and 3 in **Appendix G**, Traffic Technical Information and Data, of this EA.	Approved and committed by SDCRAA to be implemented prior to 2026 or 2031, depending upon the specific improvement (refer to Section 4.2 and Figures 2 and 3 in **Appendix G**).
Airport Support Facilities	Several existing Airport Support Facilities provide critical airport and airline operations, but are located in aging, outdated structures and inefficient locations. Existing Airport Support Facilities are proposed to be relocated or demolished, and reconstructed in energy efficient structures and locations to provide operations in areas designated for Airport Support uses long-term. The existing Airport Support Facilities to be relocated or reconstructed within the airport site's total 661 acres are as follows: a. Facilities Management Department (FMD) facilities which include offices, warehouse, machine/ maintenance shops, and parking/storage for maintenance equipment, airport fleet vehicles, and staff vehicles that are proposed to be relocated and consolidated on the north side of the airport; b. Aircraft Fueling Operations which provide dispatch office, maintenance, and parking facilities for aircraft refueling trucks. These operations will be relocated to the north side of the airport; c. An Airline Support Building that will consolidate airline operations, such as airline cargo buildings and GSE maintenance facilities, from separate structures and locations into a single facility on the south side of the airport; d. Relocation of Air Operations Area (AOA) Gate P-18 on the south side of the airport to serve the consolidated Airline Support Building in the southern portion of SAN; e. Modify the existing Rental Car Center Bus Parking facility on the south side of the airport to dispatch and store buses; f. Relocate the storage of solid waste/recycled materials, a wash rack, and connections to the sanitary sewer for the disposal of lavatory waste (also referred to as a triturator) to two enclosures located on the south side of the airport – an east location serving Terminal 1 and a west location serving Terminal 2;	Approved and in process. Construction was initiated in 2020 and will be completed in 2021 (a – g); Under FAA review (h).

Project Name	Brief Description	Status
	g. Relocate the building referred to as the United Airlines Hangar and Terminal (UAHT), which is used for the storage and maintenance of ground support equipment (GSE), to a site in the northern portion of the airport; the relocation site may also include vehicle access, and vehicle parking; and h. FAA relocation of the Automatic Dependent Surveillance – Broadcast (ADS-B) antennas.	
Air Cargo Warehouse Facilities and Associated Improvements	Included in the SAN Airport Master Plan Northside Improvements that were addressed in the 2013 Environmental Assessment is the SAN Air Cargo Warehouse Facilities and Associated Improvements Project to replace the current outdoor activities. (FAA, 2013b) The proposed air cargo facilities would be located parallel to, and on the north side of, Taxiway C, and are anticipated to include approximately 225,000 square feet of warehouse space for air cargo, and an aircraft parking apron with up to nine (9) parking positions for cargo aircraft and a cross taxilane. All current and future air cargo operators would be consolidated into the new cargo facilities.	Construction anticipated to begin in 2022 and completed by 2023.
Additional Fuel Tanks Project	Construction of additional aviation fuel tanks at the existing fuel farm on the north side of the airport to meet industry standards for on-airport aviation fuel reserves. The Additional Fuel Tanks Project will address deficiencies in aviation fuel reserves for existing aircraft operations and will also allow for, as needed, repair of the fuel storage and conveyance system to occur without compromising fuel service.	Approved and in process. Construction was initiated in 2020 and will be completed by 2022.
Aircraft Fuel Hydrant System	The SDCRAA will install a fuel hydrant pit(s) at each gate of Terminal 2, along with the associated fuel pipeline network to improve safety and efficiency of aircraft refueling and reduce environmental effects from existing aircraft refueling operations.[35] The fueling of aircraft at the airport presently occurs through the use of fuel trucks that service aircraft where they are parked, including at terminal gates.	Approved. The construction of the project is to be completed and begin operations by end of 2021.
West Fuel Rack	The existing fuel rack located near the SDCRAA administrative offices building will be removed and a new fuel rack will be constructed at the west end of the airport near Terminal 2.	Approved. The project is to be constructed and placed in to operation by end of 2021.
Part 150 Noise Compatibility Planning Study Update	While the Draft EA was being prepared, the SDCRAA updated its Part 150 Noise Compatibility Plan. Recommendations were approved by the SDCRAA Board at its June 3, 2021 meeting and included 17 actions ranging from continuation of existing noise abatement and land use compatibility programs to pursuing a Noise Abatement Departure Profile and a Ground Based Augmentation System (GBAS) to reduce flight noise and sound attenuation of eligible non-residential noise-sensitive buildings and residential buildings. The Draft Final Report, which is undergoing FAA review and approval, is available at https://www.san.org/Airport-Noise/FAR-Part-150?EntryId=12409.	The study was completed in June 2021 and is currently undergoing FAA review. Implementation of any new recommendations would occur following any requisite FAA approvals and funding.

Source: SDCRAA, 2021.

[35] Given the extent of the on-airport pipeline network for the Aircraft Fuel Hydrant System, this project is not specifically identified on Figure 4.16-1.

Table 4.16-2: Off-Airport Cumulative Projects

Agency Name: City of San Diego			
No.[1]	**Project Name and Location**	**Brief Description**	**Status**
1	VALENTINA East side of Pacific Highway between Cedar Street and Grape Street	110 Apartments	Construction initiated in 2017 and completed in 2019
2	Bayside Fire Station Southeast corner of Pacific Highway and Cedar Street	Fire Station	Construction initiated in 2016 and completed in 2018
3	Kettner Lofts (AV8) East side of Kettner Boulevard between Hawthorn Street and Ivy Street	133 Apartments 10,000 square feet of Retail	Construction initiated in 2016 and completed in 2018
4	Pacific Gate Pacific Highway/Broadway, E St/Rail Corridor	232 Condominiums 16,000 square feet of Retail	Construction initiated in 2014 and completed in 2018
5	Savina Southwest corner of Kettner Boulevard and Ash Street	285 Condominiums 12,000 square feet of Retail	Construction initiated in 2016 and completed in 2019
6	IQHQ Research and Development District Project Broadway/Harbor Drive/Pacific Highway	1,101,000 square feet of Office 1,035 Hotel Rooms 319,000 square feet of Retail	Construction initiated in 2018 and completion estimated in late 2022
7	Pacific & Broadway Parcel 1 Northeast corner of Pacific Highway and Broadway	306 Condominiums 15,000 square feet of Retail	Pending completion of Building Plans. Construction start/completion status not available[2]
8	VICI/AMO India Street/Date Street/Columbia Street	VICI (North Side) -94 Apartments -14,000 square feet of Retail AMO (South Side) -28 Apartments -3,000 square feet of Retail	Construction initiated in 2014 and completed in 2018
9	915 Grape Street Southwest corner of Grape Street and California Street	70 Apartments 1,000 square feet of Retail	Construction initiated in 2017 and completed in 2020
10	Laurel Pacific Valero Southeast corner of Pacific Highway and Laurel Street	4,000 square-foot gas station	Construction initiated in 2018 and completed in 2019
11	Liberty Station Hotels North Harbor Drive at Kincaid Road	3 hotels: Marriott TownePlace Suites - 222 Suites; Hampton Inn - 181 Rooms; and Embassy Suites (Springhill Suites) - 247 Rooms	2 Hotels Completed: Hampton – March 2019; Marriott – August 2019; Embassy Suites (Springhill Suites) – Approved 2015; estimated construction start is 2024/2025 with completion in 2025/2026
12	Post Point A 3250 Barnett Avenue	405 Dwelling Units	Approved[3]
13	Post Point B 3280 Barnett Avenue	253 Dwelling Units	Approved[3]
14	Carte Hotel 401 W. Ash Street	239 Hotel Rooms 4,000 square feet of Retail	Construction initiated in 2017 and completed in 2019

No.[1]	Project Name and Location	Brief Description	Status
15	TownePlace Suites by Marriott East side of 6th Avenue between Ash Street and Beech Street	98 Hotel Rooms	Construction initiated in 2016 and completed in 2018
16	AC Hotel Seventh Avenue and G Street/743 5th Avenue	147 Hotel Rooms 1,200 square-foot Restaurant Space	Construction initiated in 2019 and completion estimated in early 2022
17	Moxy Hotel East side of 6th Avenue between E Street and F Street	126 Hotel Rooms	Construction initiated in 2017 and completed in 2018
18	Broadway Suites 801 Broadway	317 Hotel Rooms, one residential dwelling unit	Permit application submitted August 2020; pending approval. Construction start/completion status not available[2]
19	9G Tower 659 9th Avenue	241 Dwelling Units 35,668 square feet of Commercial/Office Space	Construction initiated in 2021 and completion estimated in 2023
20	Ballpark Village Parcel C Park Blvd and 12th Avenue	646 Residential Units 41,505 square feet of Retail Space	Construction initiated in 2015 and completed in 2018
21	Courthouse Commons Project Between Broadway and C Street and Union Street and Front Street	431 Dwelling Units 19,000 square feet of Retail 269,000 square feet of Office Space 10,260-square foot, 360 feet long concrete tunnel between the existing County Central Jail Building and the new San Diego Central Courthouse	Construction initiated in 2020 and completion estimated in 2023
Agency Name: U.S Department of the Navy			
No.[1]	**Project Name**	**Brief Description**	**Status**
22	Old Town Campus Revitalization Project (Navy OTC Revitalization Project, also sometimes referred to as the "NAVWAR Project") Generally located between I-5 and Midway Drive between Rosecrans Street and Barnett Avenue.	Redevelopment of two sites of approximately 70 acres within the Old Town Campus (OTC). Five action alternatives are being evaluated in the Draft Environmental Impact Statement (EIS) for the Project, one of which (Alternative 1) includes only Navy facility improvements that would replace the existing facilities with approximately 3.3 million square feet of office, laboratory, conference, warehouse, storage, and parking uses, and the other four (Alternatives 2 through 5) are variations in size and intensity of mixed uses developed under a public-private partnership with up to approximately 19.6 million square-feet of mixed-use, office, residential, hotel, retail, and parking uses, in addition to replacement of the existing Navy facilities. Of the five alternatives, only Alternative 1 is considered for the purposes of this EA to be reasonably foreseeable. The land uses proposed under Alternative 1 include the following: Office: 1,019,364 square feet Laboratory: 174,865 square feet Secure Conference/Auditorium: 26,156 square feet	Draft EIS published May 2021. State and local environmental reviews and entitlement approvals have not occurred. The Draft EIS assumes construction to begin in 2021 with completion of Alternative 1 to occur in 2025. Based on the current status of the Navy OTC Revitalization Project, construction will not begin in 2021. For the purposes of evaluating potential cumulative impacts in this EA, it is assumed that construction would occur from 2022 through 2026, which would completely overlap the construction period of the SAN Airfield Improvements and Terminal 1 Replacement Project, thereby providing a conservative cumulative construction impacts analysis.

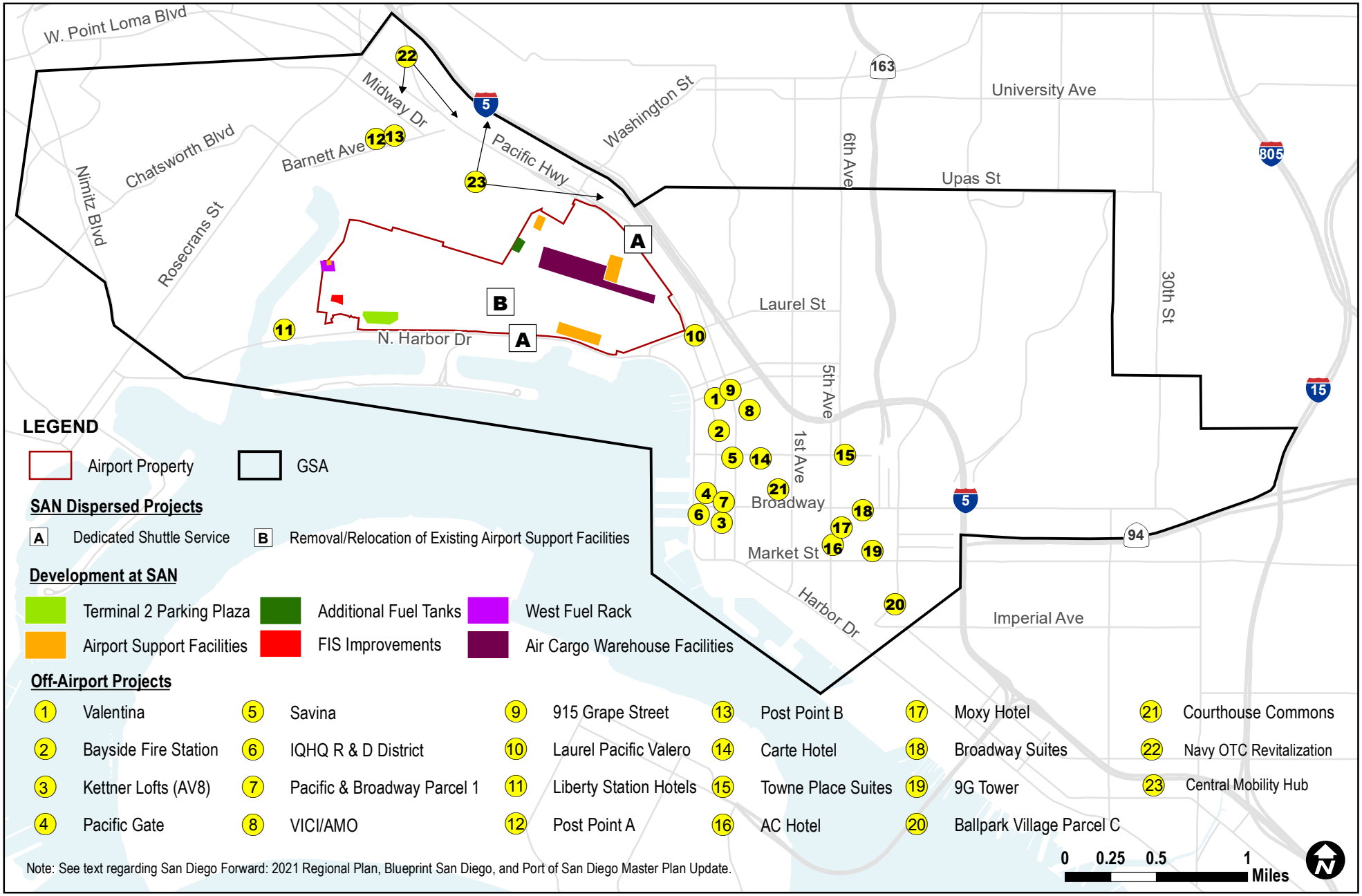
No.[1]	Project Name and Location	Brief Description	Status
		Warehouse/Storage: 481,941 square feet Open Storage: 174,267 square feet Parking: 1,430,415 square feet (4,541 stalls) **Grand Total: 3,307,008 square feet** At this time, the Navy has not selected a private developer as a project partner, and no specific construction, site, or design plans have been prepared for the mixed-use development components (Alternatives 2-5) of the Navy OTC Revitalization Project. The Navy has also indicated that there is currently no certainty about the final development footprints, layouts, densities, number of buildings, heights, proposed uses and inclusion of a transit facility with the Navy OTC Revitalization Project.	
Agency Name: San Diego Association of Governments (SANDAG) and California Department of Transportation (Caltrans)			
No.[1]	**Project Name and Location**	**Brief Description**	**Status**
23	Central Mobility Hub and associated Connections Comprehensive Multimodal Corridor Plan (CMH and Connections CMCP) Two locations being considered; one at the Navy OTC Revitalization Project site, and the other just north of SAN. Only the CMH concept at the site near SAN is considered to be a reasonably foreseeable project	Major transportation center with connections to transit (buses and light rail), freeways/highways (I-5 and Pacific Highway), and SAN.	Currently being considered in coordination with the Navy OTC Revitalization Project (i.e., Alternatives 4 and 5 in the Navy OTC Revitalization Project Draft EIS include a transit center).

Sources: Civic San Diego and City of San Diego Planning Department, 2018; City of San Diego Development Services Department, 2020 and 2021; City of San Diego Urban Division, 2021; and U.S. Department of the Navy, 2021.
Notes:
[1] Numbers correspond to Figure 4.16-1.
[2] Designation in the City of San Diego's Final 2020 Downtown Development Status Log; no further information is available at this time and providing more specific dates would be speculative. For this EA, to be conservative, it is assumed the project would be completed within 5 years prior to or after the Proposed Project's environmental review.
[3] No further information is available at this time and providing more specific dates would be speculative. For this EA, to be conservative, it is assumed the project would be completed within 5 years prior to or after the Proposed Project's environmental review.

Table 4.16-3: Port of San Diego Master Plan Update: Development Potential

Potential Program-Level Development Ranges											
	Hotels (Rooms)		Retail, Restaurant, Commercial Fishing, Marine Sales & Service, Bluetech/ Aquaculture (Sq Ft)		Conv Center Space (Sq Ft)	Slips (Count)		Cruise (# Annual Passengers)		Large- Scale Public Space (Acres)	
	Low	High	Low	High		Low	High	Low	High	Low	High
PD2 - Harbor Island											
0-10 years	750	1,500	40,000	140,000	-	150	200	-	-	-	-
PD3 - Embarcadero											
North Embarcadero Sub-District											
0-10 years	450	550	8,500	17,000	-	-	-	600,000	1,000,000	10	15
Central Embarcadero Sub-District											
0-10 years	400	500	150,000	215,000	-	25	35	-	-	-	-
South Embarcadero Sub-District											
0-10 years	550	650	24,000	26,000	960,000	16	23	-	-	-	-
PD3 - Embarcadero Totals											
0-10 years	1,400	1,700	182,500	258,000	960,000	41	58	600,000	1,000,000	10	15
PD 2, & 3 Totals											
0-10 years	2,150	3,200	222,500	398,000	960,000	191	258	600,000	1,000,000	10	15

Source: Kimley-Horn, based on input from the Port of San Diego, 2019.



Source: CDM Smith, 2021, Kimley-Horn, 2021

Figure 4.16-1

San Diego International Airport
Airfield Improvements and Terminal 1 Replacement Project

CUMULATIVE PROJECTS MAP
2021 | Final Environmental Assessment

Resource issues that are appropriate for analysis under a cumulative impact assessment are addressed below and include potential impacts to: air quality; biological resources; climate; coastal resources; Section 4(f) and Section 6(f) properties; hazardous materials, solid waste, and pollution prevention; historical, architectural, archaeological, and cultural resources; land use; natural resources and energy supply; noise and noise-compatible land use; socioeconomic, environmental justice, and children's environmental health and safety risks; visual effects; and water resources. These categories were identified for cumulative impact analysis, because of the potential for impacts related to the Proposed Project in conjunction with other development projects at SAN, Port of San Diego projects, and/or City projects.

4.16.1 Air Quality

Demolition and construction activities associated with SAN improvement projects and other area development projects would generate temporary impacts to regional and local air quality. Generally, the capital improvement projects at SAN are related to the modifications to, or relocation of, existing facilities and do not represent major new construction projects, with the possible exception of the Terminal 2 Parking Plaza (completed in 2018). The construction impacts for completed projects would not add to the cumulative impacts to this project, since construction activities are complete. While there may be some cumulative impacts from operation of these projects, the Proposed Project would reduce airport emissions, as compared to the No Action Alternative (see Tables 4.3-4 and 4.3-5). The uncompleted off-airport projects could generate moderate amounts of construction-related air pollutant emissions individually.

The SDAPCD's *2020 Ozone Plan* (SDAPCD, 2020) evaluated emissions of VOC and NO_X due to planned or new development in San Diego County, such as planned improvements at SAN, including, but not limited to, the SDCRAA's Proposed Project. The emissions estimates for SAN that went into the *2020 Ozone Plan* include construction emissions and operational emissions. The photochemical modeling analyses in the *2020 Ozone Plan* evaluated a growth projection of 0.141 and 1.756 tons per day of VOC and NO_X emissions, respectively, for SAN (See *2020 Ozone Plan* page 19). The results of the modeling analyses in the *2020 Ozone Plan* showed that the contribution of VOC and NO_X emissions from SAN, including development of SDCRAA's Proposed Project, in combination with emissions from other growth and development in the County, would "*result in slightly higher ozone concentrations, but no additional ozone standard exceedances."* The *2020 Ozone Plan* was approved by CARB in November 2020 and submitted to the USEPA in January 2021 for consideration as a revision to the SIP for attaining ozone standards. It should be noted that the VOC and NO_X emissions growth projections noted above for SAN and for other new development in the County in the *2020 Ozone Plan* are also included in the *2008 Eight-Hour Ozone Attainment Plan for San Diego County* (SDAPCD, 2016) that is incorporated into the existing approved SIP. Similar to above for the *2020 Ozone Plan*, the *2008 Eight-Hour Ozone Attainment Plan for San Diego County* concluded that the emissions from SAN, including development of SDCRAA's Proposed Project, in combination with emissions other growth and development in the County, "*would result in slightly higher ozone concentrations, but no additional ozone standard exceedances*." Based on the above, no significant cumulative air quality impacts are anticipated to occur during construction or operation of the reasonably foreseeable development.

Implementation of the cumulative projects would result in long-term operations-related air quality impacts. The aforementioned construction- and operations-related cumulative air quality impacts would occur under both the Proposed Project and the No Action Alternative and implementation of the Proposed Project would result in a net reduction in operational emissions compared to the No Action Alternative as described in Section 4.3. As such, implementation of the Proposed Project would not have significant cumulative air quality impacts, when compared to the No Action Alternative.

4.16.2 Biological Resources

The BA, included in **Appendix C2,** determined that construction and operation of specific development projects off-airport would not create additional predator threats to the nesting terns, nor would they interfere with CLT flight patterns. General development goals identified in the Port of San Diego's PMP Update are too general in nature and lack of specific locations that make any additional effects analysis

on the CLT nesting ovals impossible. Any project that may affect the CLT must go through either Section 7 consultation (for federal projects) or Section 10 consultation (non-federal projects). Past on-airport projects have already gone through consultation and/or coordination with the USFWS for CLT impacts. Current development projects at SAN, as well as the off-airport development projects, were addressed in the cumulative impacts section of the BA. The BA concluded that impacts from the cumulative projects would not jeopardize the continued existence of the CLT. The USFWS concurred with this determination (see **Appendix C1**) in their April 27, 2021 Informal Consultation letter to FAA. Therefore, cumulative impacts on biological resources would not be significant.

4.16.3 Climate

As described in Section 4.5, Climate, construction and operation of the Proposed Project would result in emissions of GHGs. As noted in Section 3.3.1 of the Desk Reference for FAA Order 1050.1F, the CEQ has indicated, "climate change is a particularly complex challenge given its global nature and inherent interrelationships among its sources, causation, mechanisms of action and impacts…" Given the enormity of GHG emissions worldwide, the contributions of one project, or several geographically related projects are negligible. CEQ has also 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." The Proposed Project would result in a net reduction in operations-related GHG emissions compared to the No Action Alternative (see Tables 4.5-2 and 4.5-3).

4.16.4 Coastal Resources

The Proposed Project, as with all cumulative projects within the California Coastal Zone, must undergo review by, and obtain Coastal Development Permits from, the CCC prior to construction to ensure projects are consistent with the California Coastal Act. As discussed in Section 4.6 and **Appendix J1**, the Proposed Project would be consistent with each applicable policy of the California Coastal Act; public access to the shoreline would be maintained, coastal recreation uses and scenic views would be preserved, and biological habitats and water quality would be protected. Impacts of the Proposed Project on coastal resources would not be significant. A number of the cumulative projects, both on- and off-airport property, are within the California Coastal Zone, and must also obtain Coastal Development Permits. As documented in Sections 4.6.3.2 and 5.2.4, SDCRAA coordinated with the CCC and has obtained coastal development permits for all components of the Proposed Project under SAN's responsibility (see **Appendix J2**). FAA has also completed coordination with the CCC for the relocation of the ASDE-X sensors (see **Appendix J3**). Therefore, cumulative impacts on coastal resources would be addressed and mitigated for and, therefore, would not be significant.

4.16.5 Department of Transportation Act, Section 4(f) and Land and Water Conservation Fund Act, Section 6(f)

There are no publicly owned parks or recreational facilities (i.e., Section 4(f) and Section 6(f) resources) at SAN (i.e., no such resources within the DSA). While there are numerous such resources within the GSA, implementation of the Proposed Project would have no direct or indirect adverse impacts on those resources, as described above in Section 4.7.3.2. As such, implementation of the Proposed Project would not contribute to cumulative impacts to publicly owned parks or recreational facilities. As also described in Section 4.7.3.2, implementation of the Proposed Project would not have direct or indirect impacts on the two significant historic structures located within the DSA or on the other historic resources located within the GSA outside of SAN. Implementation of the Proposed Project would, therefore, not contribute to cumulative impacts to historic resources. In summary, the Proposed Project would not contribute to cumulative impacts to Section 4(f) or Section 6(f) resources.

4.16.6 Hazardous Materials, Solid Waste, and Pollution Prevention

Construction and operation of the Proposed Project and cumulative projects would require the use of various hazardous materials, such as motor fuel, oil, and other petroleum-based products. Compliance with state and federal regulations for the transport, use, and disposal of hazardous materials and hazardous waste would ensure that no significant cumulative impacts would occur relative to hazardous wastes and pollution prevention. The most notable cumulative project in proximity to the Proposed

Project that involves hazardous materials would be the Additional Fuel Tanks Project, approved by the SDCRAA on February 6, 2020. As part of the Additional Fuel Tanks Project, leak detection pipelines would be constructed under the proposed fuel tanks and the expanded fuel farm fire suppression system would be constructed, operated, and maintained in conformance with Chapter 9, Fire Protection Systems, and Chapter 20, Aviation Facilities, of the 2016 California Fire Code. The Additional Fuel Tanks Project would include the construction of containment dike walls that have the capacity to hold contents of the SAN fuel stores, per National Fire Protection Association 30 requirements. Also, 21 foam makers would be installed at the fuel farm as a part of the fire protection system improvements. The proposed Additional Fuel Tanks Project would be subject to strict oversight, including FAA Advisory Circular 150/5230-4B, *Aircraft Fuel Storage, Handling, Training, and Dispensing on Airports*. As such, the likelihood and consequence of a major fuel release from the Additional Fuel Tanks Project would be extremely small. The Proposed Project and the other cumulative projects represent development and redevelopment projects in an existing urbanized area that currently generate solid waste that is disposed of through the County's waste management system. Projections of future solid waste generation take into account future growth within areas of the County, including the GSA and as discussed in Section 3.9.2.2, the future landfill capacity within the County is more than sufficient to meet the projected disposal demand. Therefore, the Proposed Project, in combination with cumulative projects, would not result in a significant impact related to solid waste.

4.16.7 Historical, Architectural, Archaeological, and Cultural Resources

As discussed in Section 4.9.3, there are two significant historic structures at SAN (i.e., within the DSA) and numerous historic resources within the GSA outside of SAN. As indicated in that section, implementation of the Proposed Project would not result in direct or indirect impacts to any of those historic resources. The same is true relative to archaeological resources. Implementation of the Proposed Project would not, therefore, contribute to cumulative impacts to historic, architectural, archaeological, or cultural resources.

4.16.8 Land Use

As discussed in Section 4.10, the Proposed Project would be consistent and not conflict with applicable land use plans, policies, and regulations. Therefore, Proposed Project impacts related to land use would not be significant. The cumulative projects identified in Tables 4.16-1 through 4.16-3 represent further improvement in airport operations infrastructure and further development of the surrounding area. Similar to the Proposed Project, the on-airport and off-airport cumulative projects identified in Tables 4.16-1 through 4.16-3 have been or would be reviewed for consistency with applicable land use plans and policies, such as zoning requirements and general plan policies, during project approvals. Thus, these projects would not create fundamental conflicts with applicable land use plans, policies, and regulations. Therefore, cumulative impacts related to land use would not be significant.

4.16.9 Natural Resources and Energy Supply

The Proposed Project would use commonly available natural resources during construction (e.g., steel, wood, concrete, asphalt). None of the building materials that would be employed by the Proposed Project or any of the cumulative projects is considered to be unusual or in short supply.

The Proposed Project would not generate excessive demands on local energy supplies. No substantial issues related to natural resources, (such as water and materials including wood, aggregate, and sand) and energy supplies (such as fuel electricity and natural gas) were identified for the Proposed Project or the cumulative projects. Each project listed in Tables 4.16-1 through 4.16-3 goes through a development review/approval process, including a zoning consistency review, led by the jurisdiction, where it is located. These concerns are reviewed and addressed during this zoning review/approval process. Therefore, the demands for natural resources and use of the local energy supply, when considered with past, present, and reasonably foreseeable development projects, would not have substantial cumulative natural resource and energy supply-related impacts.

4.16.10 Noise and Noise-Compatible Land Use

None of the projects listed in Tables 4.16-1 through 4.16-3 would change noise from existing or future aircraft operations at SAN. The Proposed Project would not increase noise levels in the GSA compared to

the No Action Alternative. There would be no cumulative impact, since there would be no change in the noise levels, because the number of operations, type of aircraft flying, or the routes being flown would not change. As the Proposed Project would not change aircraft noise exposure, no significant cumulative impacts would be expected.

Relative to the potential for cumulative construction noise impacts, the vast majority of cumulative projects shown in Figure 4.16-1 are located well away from the project site. The nearest project that would contribute most to the potential for a cumulative construction noise impact is the SAN Air Cargo Warehouse Facilities and Associated Improvements, which is located approximately 800 feet to the north of the Proposed Project's Taxiway A/Taxiway B improvements, at its nearest point. Based on the same conservative assumption as the Proposed Project, that all of the pieces of equipment in Table 4.12-5 were operating on the same site at the same time, the total L_{eq} at a distance of 800 feet from the activity would be 72.9 dB. When combined with the 96.9 dB L_{eq} associated with the Proposed Project at 50 feet from activity, as described in Section 4.12.3.2, the cumulative construction noise level would be 96.9 dB L_{eq}. The noise-sensitive use nearest to the Taxiway A/Taxiway B improvements, where the cumulative noise would occur, is approximately 650 feet to the south (i.e., the U.S. Coast Guard Station [considered to be a noise-sensitive use, because of its sleeping quarters]). At that nearest noise-sensitive use, the cumulative construction noise level would be approximately 74.6 dB L_{eq}, which is well below 86 dB L_{eq}, which is California's threshold of significance for construction noise as indicated in Section 4.12.2.1. These noise levels, though, also do not change the noise contours around the airport.

Since there is no change in the noise contours, there is no 1.5 decibel increase within the 65 DNL nor a 1.5 decibel increase outside the 65 DNL that brings a noise sensitive resource within the 65 DNL. As such, there would be no significant impacts relative to cumulative construction noise.

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

As discussed in Section 4.13, the Proposed Project would not result in any significant socioeconomic impacts, environmental justice impacts, or potential environmental health risks and safety risks that could disproportionately affect children.

Other reasonably foreseeable cumulative projects identified in Tables 4.16-1 through 4.16-3 would be required to comply with local regulations, including zoning requirements and general plan policies, and would have low potential to generate extensive residential and business relocations, or disrupt established or planned communities. Accordingly, no cumulative socioeconomic impacts are anticipated.

Cumulative traffic impacts are incorporated into the analysis provided in Section 4.13. The contributions of the Proposed Project to cumulative impacts were determined based on a comparison between future (2026 and 2031) No Action traffic conditions and future (2026 and 2031) Proposed Project traffic conditions. The future No Action and Proposed Project scenarios include traffic associated with future regional growth, which accounts for traffic from cumulative projects. Please see **Appendix G** for additional details regarding the methodology used in the analysis and how it accounts for cumulative surface traffic and circulation impacts. As indicated in Section 4.13, future cumulative traffic, including with the Proposed Project, would not result in a disruption to local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; the impact would not be significant.

The cumulative projects are located in the study area for Environmental Justice as described above for the Proposed Project (see Section 3.14.1). As described previously, the minority or low-income population of the analysis area is not "meaningfully greater" than that of the surrounding areas, and as shown on Figure 3.14-3, no census tracts within the GSA have a population of 50 percent or greater exceeding the federal poverty level. Of the 32 census tracts within the GSA, seven have a minority population of 50 percent or greater and are considered environmental justice populations. The census tracts with a minority population at or above 50 percent are generally on the edges of the study area and would not be disproportionately impacted by the Proposed Project. Implementation of the cumulative projects, in combination with the Proposed Project, would not result in significant adverse impacts, including impacts

to air quality, climate, noise, or traffic, that would disproportionately impact minority or low-income populations.

Air quality and noise impacts on schools resulting from the Proposed Project, as well as identified cumulative projects in the vicinity of the study area or on residential and recreational areas within the project area, would not exceed applicable significance thresholds. The construction and operation of the Proposed Project, in combination with the other development projects, would not cause disproportionate health and safety risks to children.

The Proposed Project's lack of significant socioeconomic impacts, environmental justice impacts, or potential environmental health risks and safety risks that could disproportionately affect children, when considered in addition to those associated with other development projects, is not expected to lead to significant cumulative socioeconomic, environmental justice, or children's health impacts.

4.16.12 Visual Effects

As discussed in Section 4.14, Visual Effects, the current character of the Proposed Project area is that of a major U.S. airport within a highly urbanized setting. In addition to high levels of lighting at the airport, the surrounding area is well lit by a variety of sources including, but not limited to, external lighting from streetlights and industrial, military, commercial, and residential uses. The Proposed Project would require lighting, both exterior and interior that would be present 24 hours a day, seven days a week; however, this lighting would be generally comparable to and consistent with the existing lighting characteristics of the airport. Aesthetically, the Proposed Project facilities would not vary from the surrounding visual setting. Other reasonably foreseeable cumulative projects identified in Tables 4.16-1 through 4.16-3 are consistent with other existing commercial, residential, industrial, and military development within the GSA and, when combined with the Proposed Project, would not result in a substantial increase in light emissions or change in visual character. Thus, cumulative visual effects would not be significant.

4.16.13 Water Resources

Implementation of the Proposed Project would comply with applicable water quality permits, standards, and regulations, including NPDES permit and SWMP requirements, and would reduce impacts to nearby surface waters. Relative to cumulative impacts, the project site and surrounding area are situated within a highly urbanized setting that has been in a developed state for many years. The cumulative projects identified in Tables 4.16-1 through 4.16-3 primarily involve redevelopment of previously improved parcels that are mostly paved and are, or were, occupied by urban uses. Redevelopment of those parcels with other urban uses is not expected to result in adverse impacts to the water quality or stormwater discharge of the overall area.

New development and redevelopment in San Diego are subject to requirements such as the MS4 Permit and local implementing programs, including the SDCRAA BMP Design Manual, the City of San Diego Storm Water Standards, and the Port of San Diego BMP Design Manual, which all include requirements for Low Impact Development (LID) BMPs that emphasize reduction in stormwater discharge through features such as infiltration, use of permeable surface materials, and harvesting/reuse. The MS4 Permit, which sets forth requirements for the local implementing programs, provides the regulatory basis for avoiding adverse water quality impacts from new development and significant redevelopment, as would apply to the cumulative projects. Additionally, the Proposed Project and all cumulative development projects are required to comply with all applicable existing regulations that prevent contamination and must meet regulatory water quality standards. Further, expansion of the SAN Stormwater Capture and Reuse System and installation of new sub-surface infiltration areas would capture and treat stormwater associated with the Proposed Project and result in water quality benefits. Based on the above, cumulative water resources impacts would not be significant.

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Chapter 5 Agency Coordination and Public Involvement

5.1 Introduction

Agency coordination was conducted during the preparation of this EA to obtain information from interested agencies and to meet the consultation requirements of special-purpose environmental laws (i.e., Endangered Species Act, National Historic Preservation Act, American Indian Religious Freedom Act, and Coastal Zone Management Act). The following summarizes the agency coordination and public involvement program conducted and to be conducted for this EA.

5.2 Agency and Tribal Consultation

5.2.1 U.S. Fish and Wildlife Service

In compliance with the Endangered Species Act, the FAA initiated consultation on December 16, 2020, with the USFWS on the California least tern. The FAA made a determination that the Proposed Project may affect, not likely to adversely affect this species. The FAA has also determined that the Proposed Project would not affect the Pacific pocket mouse, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, western snowy plover, Orcutt's spineflower, San Diego ambrosia, San Diego button-celery and San Diego thornmint.

As discussed and presented in the April 27, 2021 letter from USFWS to FAA (included as **Appendix C1**), the USFWS concurred with the FAA's may affect, not likely to adversely affect determination regarding the Proposed Project's impacts to California least tern. The USFWS letter included 17 conservation measures which have become special conditions of the EA (See Section 4.4.4).

5.2.2 California State Office of Historic Preservation

Pursuant to Title 36, Code of Federal Regulations, Section 800.4, the FAA sent a letter on September 15, 2020, seeking concurrence with the APE for the proposed undertaking from the California State Historic Preservation Office (SHPO). The California SHPO concurred with FAA's delineation of both a Direct and Indirect Area of Potential Effects (APE) for the proposed undertaking by letter dated October 23, 2020.

On May 21, 2021, the FAA submitted its resource findings to the California SHPO and requested concurrence on FAA's findings of effect. The FAA had made a determination that there were two historic properties eligible for listing in the NRHP, but that there would be no adverse effect to the two historic properties.

The California SHPO concurred with the FAA's findings of effect in a letter dated August 17, 2021, completing the Section 106 consultation process (see **Appendix E1**).

5.2.3 Native American Tribes

On July 23, 2020, the State of California Native American Heritage Commission sent the FAA a listing of Native American contacts for the proposed undertaking. The commission recommended FAA contact the following tribes: La Posta Band of Diegueno Mission Indians, San Pasqual Band of Diegueno Mission Indians, Campo Band of Diegueno Mission Indians, Mesa Grande Band of Diegueno Mission Indians, Barona Group of the Capitan Grande, Manzanita Band of Kumeyaay Nation, Sycuan Band of Kumeyaay Nation, Ewiiaapaayp Band of Kumeyaay Indians, Viejas Band of Kumeyaay Indians, Kwaaymil Laguna Band of Mission Indians, Iipay Nation of Santa Ysabel, Jamul Indian Village, and the Inaja-Cosmit Band of Indians.

On October 28 and October 30, 2020, FAA submitted detailed information about the Proposed Project to the tribal contacts provided by the California Native American Heritage Commission using the U.S. mail. FAA received two responses.

5.2.4 California Coastal Commission

The FAA submitted a Negative Determination to the CCC on June 8, 2021, seeking its concurrence for the ASDE-X system and included a visual representation for the before and after images of the "installed system." The FAA received a response from the CCC, dated July 1, 2021, concurring with the FAA's negative determination (see **Appendix J3**).

In coordination with the CCC, the SDCRAA has made three separate applications for coastal development permits covering all the project components, as further described below (See **Appendix J2**):

- New administration office building: Coastal development permit (Item 16a – Application No. 6-20-0154) approved at the August 13, 2020 hearing;
- Airside improvements and stormwater capture program: Coastal development permit (Item 11a – Application No. 6-20-0447) approved at the June 10, 2021 hearing; and
- Terminal, roadway/circulation, and parking structure: Coastal development permit (Item 13A – Application No. 6-20-0611) approved at the September 10, 2021 hearing.

5.3 Public Involvement

5.3.1 Notice of Availability of Draft EA

SDCRAA issued a Notice of Availability of the Draft EA on June 16, 2021. The Notice of Availability also announced that a Public Meeting would take place on July 19, 2021. The Notice of Availability was published in the San Diego Union-Tribune (including the Spanish language version) and the Daily Transcript newspapers on June 16, 2021 and placed on the SDCRAA's website the same day at www.san.org/plan.

Hard copies of the Draft EA were available for public review during regular business hours at the locations listed below. The Draft EA was also available electronically (in PDF format) for download from the SDCRAA's website at www.san.org/plan.

- SDCRAA Airport Authority Administration Building (former Commuter Terminal) at San Diego International Airport, 3225 North Harbor Drive, 3rd Floor, San Diego, CA 92101, during the hours of 8:00 a.m. to 5:00 p.m., Monday through Friday (by appointment only at [619] 400-2400)
- San Diego Central Library, 330 Park Boulevard, San Diego, CA 92101
- Point Loma/Hervey Library, 3701 Voltaire Street, San Diego, CA 92107
- Mission Hills Branch Library, 215 W. Washington Street, San Diego, CA 92103

The Draft EA was available for review and comment by the public, government agencies, and interested parties until the close of the comment period on August 2, 2021.

5.3.2 Public Meeting

A virtual public meeting on the Draft EA was held on July 19, 2021 from 5:00 p.m. to 7:00 p.m. Pacific Daylight Time to provide information regarding the Proposed Project and federal environmental review. The format of the meeting included a presentation that summarized the NEPA review process for the Proposed Project, the Project components, the Project purpose and need, the alternatives considered, and the environmental resource categories evaluated in the EA. The presentation was followed by the opportunity for the public to ask questions, which SDCRAA staff then answered. Approximately 15 members of the public participated in the meeting.

5.3.3 Comments on the Draft EA

The comment period on the Draft EA began on June 16, 2021 and closed on August 2, 2021 for a total of 47 days. Comments were received in writing via U.S. mail and electronically via planning@san.org. Eight comment submittals (two submittals via U.S. mail and six submittals via electronic mail [email]) were received on the Draft EA. The submittals and responses to these submittals are presented in **Appendix N**.

5.3.4 Final EA

The Draft EA has been revised, as necessary, to reflect updated information since publication of the Draft EA. The Final EA also reflects consideration of the comments received on the Draft EA. The Final EA has been submitted by SDCRAA to FAA for its review and determination of whether to issue a Finding of No Significant Impact (FONSI) or to prepare an Environmental Impact Statement (EIS).

Chapter 6 List of Preparers

The following individuals were involved in the preparation of this EA. Information provided includes the organization for which each individual works, a brief synopsis of their experience and qualifications, and their responsibilities in preparing the EA document.

6.1 Principal Federal Aviation Administration Reviewers

Name/Title	Qualifications	Responsibilities
Michael Lamprecht, Environmental Protection Specialist, Office of Airport Planning and Environmental Division, National Headquarters, Washington, D.C.	B.S. Biology; M.B.A.; Master of Forestry. Mr. Lamprecht has 28 years of experience, 25 of which are NEPA related.	Responsible for direction and preparation of the EA including detailed FAA evaluation of the document. He is also responsible for federal coordination between federal and state agencies as well as coordination and consultation efforts for archaeological and historic resources under Section 106 of the National Historic Preservation Act and the federal agency consistency process with the Coastal Zone Management Act.
David B Kessler, M.A., AICP, Regional Environmental Protection Specialist, FAA Western-Pacific Region Airports Division, Western-Pacific Region	M.A. Physical Geography; B.A. Physical Geography Geology Minor**,** Mr. Kessler has 38 years of experience in preparation and review of NEPA documents for Airport and Commercial Space Transportation projects.	Responsible for detailed FAA evaluation of federal Environmental Assessments (EAs) and preparation of Environmental Impact Statements (EIS) as well as coordination of comments from various federal and state agencies in the FAA's Western-Pacific Region. Responsible for ensuring the EA and EIS documents prepared in the Office of Airports, Western Pacific Region, comply with NEPA and other special purpose laws and regulations. Also responsible for Regional coordination with FAA's Headquarters Office on NEPA, Section 163, and airport noise related topics.
Justin Guan, ACIP, Community Planner, FAA Western-Pacific Region Airports Division, Los Angeles Airports District Office	Masters of City and Regional Planning, M.E. Transportation Planning, B.A. Urban Studies and Planning, A.S. Geographic Information Systems. Mr. Guan has 5 years of experience in airport planning, forecast, and NEPA compliance reviews.	Responsible for document review for compliance with FAA policy and guidance related to airport planning and forecasting.
Manson Wong, P.E., PMP, Program Manager/Engineer, FAA Western-Pacific Region Airports Division, Los Angeles Airports District Office	M.S.E. Civil and Environmental Engineering (Transportation); B.S. Civil Engineering; B.S. Engineering Physics. Mr. Wong has 24 years of experience in engineering design, project/program management for Airport and Surface Transportation projects.	Responsible for document review of environmental documentation to ensure in compliance with FAA Airport Design Standards.
Kent Duffy, Operations Research Analyst, Office of Airport Planning and Environmental Division, National Headquarters, Washington, D.C.	B.S Aeronautical Science, M.S. Public Policy. Mr. Duffy has 23 years of experience in airport planning, capacity analysis, and environmental review under NEPA.	Responsible for review of capacity and simulation analyses, as well as forecast validity.
Gail Campos, Environmental Protection Specialist, FAA Western-Pacific Region Airports Division, Los Angeles Airports District Office	M.S. Biology. Mrs. Campos has 25 years of experience preparing and reviewing environmental documents for NEPA compliance.	Responsible for the evaluation of environmental documentation and coordination with federal and state agencies for the FAA.

6.2 San Diego County Regional Airport Authority

Name/Title	Qualifications	Responsibilities
Ted Anasis, AICP, Manager – Airport Planning	B.S. Environmental Policy Analysis and Planning. 28 years of planning and environmental compliance experience.	EA review and coordination with FAA staff; SDCRAA divisions; consultant team; and stakeholders. Project description and purpose and need development.
Brendan Reed, Director – Planning & Environmental Affairs	B.S. Biology; M.S. Ecology. 22 years of experience in environmental policy and natural resource management programs.	Oversight of Project planning and environmental review processes.
Richard Gilb, Manager – Environmental Affairs	B.S. Geology; M.P.H. Environmental Health. 29 years of environmental compliance experience in stormwater quality, waste management, and site assessment and remediation.	Project description development, and quality control and technical review of the EA.
Sjohnna Knack, Program Manager – Airport Noise	B.S. Aviation Management, 23 years of experience in managing aircraft noise projects, including technical noise monitoring systems and noise mitigation programs.	Quality control and technical review of the EA aircraft noise analysis.
Ralph Redman, Manager – Airport Planning	B.S. Natural Resources, Focus – Environmental Science. 20 years of experience in airport and environmental planning.	Quality control and technical review of analysis associated with ground transportation and land use.
Chad Reese, Manager – Environmental Affairs	B.A. Biological Anthropology; M.B.A. Sustainable Management. 11 years of experience in clean technology policy and project management.	Quality control and technical review of the EA.
Lynda Tamura, Associate Airport Planner	B.A. Developmental Psychology. 16 years of experience in administrative services and report preparation.	EA project administration and management, including quality control and technical review of the EA.

6.3 Consultant Team

6.3.1 CDM Smith

Name/Title	Qualifications	Responsibilities
Anthony J. Skidmore, AICP, Senior Planner	M.P.A. Public Administration; B.A. Sociology. 40 years of experience in urban planning and environmental studies. Experience includes preparation and review of NEPA documents, ranging from focused EAs to comprehensive programmatic EISs, for numerous airport projects.	EA Project Manager, NEPA documentation, purpose and need, alternatives, affected environment, and environmental consequences.
Kathleen Owston, Environmental Planner	M.M.A. Master of Marine Affairs; B.A. International Studies. 18 years of experience in environmental studies and urban planning, including experience in environmental documentation a variety of transportation and infrastructure projects.	EA Assistant Project Manager, NEPA documentation, purpose and need, alternatives, affected environment, and environmental consequences.
John Pehrson, Senior Chemical Engineer	M.B.A. General; B.S. Chemical Engineering. 37 years of experience in air quality evaluations, including 23 years of preparing airport air quality impact analyses.	Technical review and input on air pollutant calculations.
Jeremy Gilbride, Chemical Engineer	B.S. Chemical Engineering. 4 years of experience in air quality evaluations, including preparing airport air quality impact analysis.	Technical review and input on air pollutant calculations.
Juan Ramirez, Planner	M.S. Environmental Studies; B.S. Urban and Regional Planning. 11 years of experience in GIS, graphic preparation, and environmental analysis for transportation and infrastructure projects.	Preparation of EA graphics.

6.3.2 JBG Environmental Consulting

Name/Title	Qualifications	Responsibilities
Julie Gaa, Principal	B.A. Environmental Studies; B.A. Cultural Anthropology. 32 years of experience in environmental impact analyses, project management, and quality control/quality assurance, with significant experience in preparing EISs, EAs, and categorical exclusions for airport projects.	NEPA documentation, purpose and need, alternatives, affected environment, and environmental consequences.

6.3.3 Synergy Consultants, Inc.

Name/Title	Qualifications	Responsibilities
Mary Vigilante, President	B.S. Math. 43 years of experience in airport environmental and planning studies, with significant experience in preparing NEPA documentation, air quality assessments, climate change evaluations, and sustainability.	Project description, purpose and need, overall documentation review.

6.3.4 AECOM

Name/Title	Qualifications	Responsibilities
Warren Sprague, Vice President, Program Manager	M.P.l. Urban and Regional Planning; B.A. Geography/Environmental Studies. 35 years of experience in aviation and airport planning, environmental compliance and development.	Project description, visual simulations.

6.3.5 Aviation Building Management Collaboration

Name/Title	Qualifications	Responsibilities
Habib Husain, Principal	Masters of Architecture and Urban Design. 36 years of experience in aviation and airport development, specializing in terminal development projects/programs.	Project Description.

6.3.6 Brian F. Smith and Associates, Inc.

Name/Title	Qualifications	Responsibilities
Brian Smith, President	M.A. History; B.A. History. 43 years of experience in the investigation of prehistoric sites of all major cultural complexes, which have existed in the region over the past 12,000 years, and historic sites of the Spanish, Mexican, and early American periods. Mr. Smith has completed historical architectural evaluations of structures and the composition of cultural resource documents for federal and state review (NEPA and NHPA), as well as the design and implementation of mitigation programs.	Historic Property Evaluation; Section 106 Report Preparation; Project Management: Historic American Buildings Survey/ Historic American Engineering Record (HABS/HAER) Program.
Jennifer Stropes, Senior Project Archaeologist / Historian	M.S. Cultural Resources Management Archaeology; B.A. Anthropology. 14 years of experience in the management of archaeological and historic resources, including the survey and evaluation of prehistoric and historic archaeological sites and historic structure analysis and evaluation. Experience includes preparation of Historical Resource Research and Technical Reports and NEPA, NHPA, and HABS/HAER documents.	Research; Photographic Documentation and Survey; Historic Property Evaluation; Section 106 Report Preparation; HABS Report Preparation.
Kimberly Ellis, Historic Analyst	M.H.P. Master of Historic Preservation; B.A. Geographic and Urban Studies. 6 years of experience in historic property research and recordation.	Photographic Documentation and Survey; Research.

Name/Title	Qualifications	Responsibilities
Kristen Reinicke, Archaeologist and GIS Specialist	M.S. Geographical Information Systems; B.A. International Studies – Anthropology. 5 years of experience producing detailed graphics and exhibits for archaeological and historic resource reports.	Preparation of Exhibits and Graphics for Historical Analysis.
Carrie Kubacki, Geologist and GIS Specialist	M.S. Geology; B.S. Geological Sciences. 7 years of experience in geographic information analysis utilizing ArcGIS and the production of detailed graphics and exhibits for archaeological and historic resource reports.	Preparation of Exhibits and Graphics for Historical Analysis.
Elena Goralogia, Senior Editor/Production Manager	B.A. English; Minor in Communications. 13 years of experience in the preparation of Historical Resource Research and Technical Reports and NEPA, NHPA, and HABS/HAER documents, including technical editing and document production and management.	Section 106 Report Preparation; HABS Report Preparation; Technical Editing.
Caitlin Foote, Editor/Report Production	B.A. Economics and English. 5 years of experience in technical editing, report production, and historic property research.	HABS Report Preparation; Technical Editing.
Courtney Accardy, Editor/Report Production	B.A. English Single Subject Teaching. 5 years of experience in technical editing, report production, and historic property research.	Research; HABS Report Preparation; Technical Editing.

6.3.7 HMMH

Name/Title	Qualifications	Responsibilities
Eugene Reindel, Vice President	B.S. Physics Engineering; M. Eng. Acoustics. Over 20 years of experience in managing aviation noise consulting projects and providing technical support on aviation related noise studies and noise measurement programs.	Principal in Charge.
Justin Cook, INCE, LEED GA, Principal Consultant	B.A. Mathematics. More than 20 years of experience in environmental engineering and consulting for aviation, rail, highway, construction/architecture, and federal projects throughout the United States.	Project Manager, Report Preparation.
Dillon Tannler, Senior Consultant	B.S. Economic, Environmental Policy and Management. 9 years of experience in noise modeling and management, including for highway, construction, and environmental projects.	Roadway/Construction Noise Modeling, Analysis, and Report Preparation.
Michael Hamilton, Senior GIS Specialist	B.S. Geographic Information Systems & Cartography; A.S. Survey and Highway Engineering Technology. More than 30 years of experience using GIS to present data and support project decision-making processes. Experience includes utilizing GIS and spatial graphics applications to solve complex geographic analysis for aviation projects.	Roadway/Construction/Aircraft Noise Graphics.
Vincent Ma, Staff Consultant	B.S. in Environmental Biology. 2 years of experience in noise modeling and GIS analysis.	Roadway Noise Modeling and Analysis.
Chris Bajdek, INCE, Principal Consultant	B.S. Mechanical Engineering. Over 25 years of experience in managing noise studies related to transportation and energy-generation projects, including a focus on traffic noise mitigation and prediction.	Assistant Project Manager, Report Preparation.
Scott McIntosh, Staff Consultant	B.S. Physics. 5 years of experience that includes providing data analysis for aircraft noise mitigation with a specialization in noise modeling using the FAA's Aviation Environmental Design Tool (AEDT) and Integrated Noise Model (INM).	Aircraft Noise Modeling, Analysis, and Report Preparation.

Name/Title	Qualifications	Responsibilities
Brad Nicholas, Principal Consultant	M.Eng. Acoustics, B.A. Physics. 20 years of experience that includes noise modeling/analysis for airports and aviation noise field measurements and data processing. Experience includes performing airline fleet analysis, aircraft noise measurements and analysis, radar data analysis, and aircraft noise modeling.	QA/QC of Aircraft Noise Modeling.
Justin Divens, Senior Scientist	B.S. Aeronautical Engineering and Mechanical Engineering. 8 years of experience in aircraft noise modeling. Experience includes analyzing and manipulating flight track data in order to assess noise levels around airports.	Aircraft Noise Modeling.
Eric Cox, Senior Consultant	B.A. in Mathematics. 13 years of experience working on noise and vibration projects, including in the aviation industry. Experience includes expertise with a variety of noise and vibration instrumentation and measurement techniques.	Portable Noise Monitoring.
Joseph Czech, PE, Principal Consultant	B.S. Aerospace Engineering. More than 30 years of experience in the acoustical consulting field in the Federal Programs and Aviation Services sectors. Experience including modeling, measurement and research of aircraft noise projects.	Portable Noise Monitoring.

6.3.8 Jacobson/Daniels

Name/Title	Qualifications	Responsibilities
Jacob N. Sotsky, Director	M.B.A. Finance; B.S. Civil Engineering. 16 years of experience in airport planning with a focus in facility development and project implementation/ phasing. Primary focus is landside access, terminal planning, aircraft parking configurations and airfield planning analyses.	Project description, EA graphics.

6.3.9 Johnson Aviation, Inc.

Name/Title	Qualifications	Responsibilities
Nick Johnson, President/CEO	M.P.A. Public Administration, Aviation Administration; B.S. Aviation Management; A.S. Aviation Flight. 31 years of experience in airport planning and environmental studies with significant experience in preparing airfield, terminal, and landside planning projects, and airfield operational analyses.	Project description, purpose and need, and forecast development.

6.3.10 KB Environmental Sciences, Inc.

Name/Title	Qualifications	Responsibilities
Carrol Fowler, Principal	B.A. Geography. 40 years of experience in airport environmental studies, air quality monitoring, and air emissions inventories.	Discipline management.
Mike Kenney, Principal	M.S. Environmental Engineering; B.A. Environmental Science. 42 years of experience in airport environmental studies, air quality monitoring, air emissions inventories, and climate change studies.	Discipline management.
Paola Pringle, Senior Air Quality Specialist	M.S. Management; B.S. Environmental Engineering. 22 years of experience in the preparation of air pollutant/pollutant precursor and greenhouse gas emission inventories.	Construction and operations air emissions inventory.

Justin Godin, Environmental Scientist	B.S. Meteorology; A.A.S. Computer Information Systems. 15 years of experience in air permitting, air quality assessments, air dispersion modeling, and meteorological data processing.	Air pollutant dispersion analysis.
Christin Gentz, Environmental Scientist	B.S. Civil Engineering. 3 years of experience in air dispersion modeling and preparation of emission inventories for transportation projects**.**	Technical support for preparation of construction and operations inventories.
Robert Nedbor-Gross, Environmental Scientist	PhD Environmental Engineering Sciences. 7 years of experience in the preparation of air pollutant/pollutant precursor and greenhouse gas emission inventories.	Mobile source emissions inventory.

6.3.11 Kimley-Horn and Associates

Name/Title	Qualifications	Responsibilities
David Sorenson, PE	M.S. Transportation Planning; B.S. Civil Engineering. 34 years of experience in transportation planning, traffic engineering, and transit planning with significant experience in preparation and management of large transportation studies for EAs and EISs.	Transportation impact analysis.
Mychal Loomis, PE, TE, PTOE, RSP_1	B.S. Civil Engineering. 13 years of experience in transportation planning, traffic engineering, and traffic safety with significant experience in preparation and management of large transportation studies for EAs and EISs.	Transportation impact analysis.
Joe Shultz, PE	B.S. Civil Engineering. 9 years of experience in transportation design and planning. Significant experience in site planning and intersection design/operations.	Transportation impact analysis.

6.3.12 LeighFisher

Name/Title	Qualifications	Responsibilities
Michael Floyd, Director	B.S. Aviation Management with civil engineering concentrations. 34 years of experience in aviation planning and environmental studies. Significant experience in airside, landside, and terminal planning and conceptual development.	Project description, purpose and need, forecast development, and alternatives development/screening.
Linda Perry, Director	B.A., with honors, Economics and Government. M.A. Economics, Boston College. 35 years of experience specializing in economic analyses, aviation demand forecasting, and comparative evaluations of airline service, route networks, and airfares.	Prepared detailed forecasts of aviation activity for passenger activity, and aircraft operations, including development of design day flight schedules.
Max Vale, Senior Consultant	B.A. Operations Research and Management Science. M.S. Industrial Engineering and Operations Research. Nearly 5 years of experience in aviation planning and operational analyses for terminal area studies. Well versed in modeling and simulation to support discrete event analysis.	Detailed forecasting support, terminal and concourse utilization and sizing, and gate modeling for all terminals.

6.3.13 Ricondo & Associates, Inc.

Name/Title	Qualifications	Responsibilities
Erik T. Wilkins, PE, Director	B.S. Civil Engineering; M.S. Civil and Environmental Engineering. 17 years of experience, with significant experience in preparing and managing airfield and airspace simulation modeling analyses and projects for large-hub airports in the United States and abroad, including airport landside analyses.	Airfield and Airspace Simulation Modeling Coordinator/Manager.

Name/Title	Qualifications	Responsibilities
Kevin M. Markwell, Managing Consultant	B.S. Aviation Management. 11 years of experience in airspace and airfield aircraft simulation analyses, airfield planning, and U.S. Standard for Terminal Instrument Procedures analyses.	Airfield and Airspace Simulation Modeling.
Nikolaos K. Tsikas, Senior Consultant	M.S. Transportation Infrastructure and Systems Engineering. 4 years of experience in airspace and airfield aircraft simulation analyses, airport landside, and parking planning analyses.	Airfield and Airspace Simulation Modeling.

6.3.14 San Diego Natural History Museum

Name/Title	Qualifications	Responsibilities
Kevin Clark, Director of BioServices, San Diego Natural History Museum	M.S. Ecology. Over 25 years of biological resources experience, including surveys for a wide range of endangered species. He holds permits to nest search, monitor, and band rare and endangered birds. Mr. Clark is a former U.S. Fish and Wildlife Service biologist who worked on the recovery of endangered species including the California Gnatcatcher and California Least Tern, and was regional recovery coordinator for the threatened Western Snowy Plover.	Biological Assessment.

6.3.15 Zoological Society of San Diego, dba San Diego Zoo

Name/Title	Qualifications	Responsibilities
Robert T. Patton	M.S. Zoology (candidate). 38 years of experience in wildlife conservation and education, including monitoring of California least terns at SAN.	Consulting Biologist.

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Chapter 7 References

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Chapter 8 Acronyms and Abbreviations

Acronym/Abbreviation	Definition
ACM	Asbestos-Containing Materials
ACRP	Airport Cooperative Research Program
ACS	American Community Survey
ADP	Airport Development Plan
ADS-B	Automatic Dependent Surveillance - Broadcast
ADT	Average Daily Traffic
AEDT	Aviation Environmental Design Tool
AFE	Above Field Elevation
AIP	Airport Improvement Program
ALP	Airport Layout Plan
AOA	Air Operations Area
AOH	Air Oasis Hangar
APE	Area of Potential Effects
APU	Auxiliary Power Unit
ARFF	Aircraft Rescue and Fire-fighting Facility
ASDE-X	Airport Surface Detection Equipment – Model X
ASF	Air Support Facilities
ATCT	Airport Traffic Control Tower
AvGas	Aviation Gas
BA	Biological Assessment
BMPs	Best Management Practices
BOD	Biological Oxygen Demand
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California Ambient Air Quality Standards
Cal-EPA	California Environmental Protection Agency
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBX	Cross Border Xpress
CCAA	California Clean Air Act
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFC	Chlorofluorocarbon
CFR	Code of Federal Regulations
CH_4	Methane
CLT	California Least Tern
CMCP	Comprehensive Multimodal Corridor Plan
CMH	Central Mobility Hub
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
COD	Chemical Oxygen Demand
CRDC	Central Receiving and Distribution Center
CTMP	Construction Traffic Management Program

Acronym/Abbreviation	Definition
CUP	Central Utility Plant
CWA	Clean Water Act
CWT	Convair Wind Tunnel
CZMA	Coastal Zone Management Act
dB	Decibel
DEH	Department of Environmental Health (San Diego County)
DNL	Day-Night Average Sound Level
DOT	Department of Transportation
DSA	Detailed Study Area
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Environmental Site Assessment
ESI	Environmental Site Investigation
FAA	Federal Aviation Administration
FBO	Fixed Base Operator
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIS	Federal Inspection Services
FMD	Facilities Management Department
FONSI	Finding of No Significant Impact
FR	Federal Register
GHG	Greenhouse Gases
GSA	General Study Area
GSE	Ground Support Equipment
H_2S	Hydrogen Sulfide
HAPs	Hazardous Air Pollutants
HFCs	Hydrofluorocarbons
HMMP	Hazardous Materials Management Plan
HMTA	Hazardous Materials Transportation Act
H.R.	House Resolution
HRECs	Historical Recognized Environmental Conditions
I-5	Interstate 5
I-8	Interstate 8
JEO	Jet Engine Overhaul
kVA	Kilovolt Amperes
LBP	Lead-Based Paint
LEED	Leadership in Energy and Environmental Design
L_{eq}	Equivalent Continuous Noise Level
LID	Low Impact Development
LOS	Level of Service
LTO	Landing and take-off cycle
LWCF	Land and Water Conservation Fund
MBTA	Migratory Bird Treaty Act
MCL	Maximum Contaminant Levels
MCRD	Marine Corps Recruit Depot
MS4	Municipal Separate Storm Sewer System
MT	Metric Tons

Acronym/Abbreviation	Definition
$MTCO_2$	Metric Tons of Carbon Dioxide
$MTCO_2e$	Metric Tons of Carbon Dioxide Equivalent
MW	Megawatt
N_2O	Nitrous Oxide
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAL	Numeric Action Level
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NLs	Notification Levels
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NO_X	Oxides of Nitrogen
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPIAS	National Plan of Integrated Airport System
NRHP	National Register of Historic Places
NTC	Naval Training Center
O_3	Ozone
OSHA	Occupational Safety and Health Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PALs	Passenger Activity Levels
Pb	Lead
PCB	Polychlorinated Biphenyls
PFAS	Per- and Polyfluoroalkyl Substances
PFC	Passenger Facility Charge
PFCs	Perfluorocarbons
P.L.	Public Law
$PM_{2.5}$	Particulate Matter less than 2.5 micrometers in diameter
PM_{10}	Particulate Matter less than 10 micrometers in diameter
PMP	Port Master Plan
PMPU	Port Master Plan Update
PPB	parts per billion
PPM	parts per million
PSA AMF	Pacific Southwest Airlines Administrative and Maintenance Facility
PUD	Public Utilities Department (City of San Diego)
RAQS	Regional Air Quality Strategy
RBC	Risk-Based Concentrations
RCNM	Roadway Construction Noise Model
RCRA	Resource Conservation and Recovery Act
RECs	Recognized Environmental Conditions
RON	Remain Overnight
RSL	Regional Screening Levels
RWQCB	Regional Water Quality Control Board
SAN	San Diego International Airport
SANDAG	San Diego Association of Governments
SDAPCD	San Diego County Air Pollution Control District
SDCRAA	San Diego County Regional Airport Authority
SDIA	San Diego International Airport

Acronym/Abbreviation	Definition
SDG&E	San Diego Gas and Electric
SDNHM	San Diego Natural History Museum
SF_6	Sulfur Hexafluoride
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SLs	Screening Levels
SLF	Sacred Lands File
SO_2	Sulfur Dioxide
SO_X	Sulfur Oxides
sq ft	Square Feet
SVE	Soil Vapor Extraction
SWMP	Storm Water Management Plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TDY	Teledyne Ryan
THPO	Tribal Historic Preservation Officer
TIFIA	Transportation Infrastructure Finance and Innovation Act
TNAP	Traffic Noise Analysis Protocol
TPH	Total Petroleum Hydrocarbons
UAF	United Air Freight
UAHT	United Airlines Hangar and Terminal
µg/m3	Micrograms per Cubic Meter
U.S.	United States
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UWMP	Urban Water Management Plan
V/C	Volume to Capacity
VOC	Volatile Organic Compounds
WSA	Water Supply Assessment