

1 | INVENTORY

14 CFR
PART 150
UPDATE



14 CFR PART 150 UPDATE

CHAPTER 1. INVENTORY



An airport undertakes a Title 14, Code of Federal Regulations (CFR) Part 150 Study Update (14 CFR Part 150 Study) to evaluate ways to reduce non-compatible land uses related to aircraft-related noise. This study is an update to San Diego International Airport's (SDIA) previous Part 150 Study Update (2010 Part 150 Study) completed in 2010, *SDIA Part 150 Study Update*. The Noise Exposure Maps (NEMs) were previously accepted in 2009 and the Noise Compatibility Program (NCP) was approved by the Federal Aviation Administration (FAA) in 2011. The NEMs were recertified by the FAA in November 2016. Approval letters of the previous NCP and acceptance of the NEMs have been included in **Appendix B – FAA Approvals**.

The San Diego County Regional Airport Authority (SDCRAA), airport sponsor and owner, has implemented many of the recommendations contained in the previous Part 150 Study Update; however, since the completion of that study, changes in operations, fleet mix and the implementation of the FAA's Southern California Metroplex Area Navigation (RNAV) flight procedures have resulted in potential changes in the noise contours. In response to community concerns, the Airport Noise Advisory Committee (ANAC) made several recommendations to the SDCRAA Board to look at additional procedural changes that could affect the 65 Community Noise Equivalent Level (CNEL). As a result of the ANAC recommendations, the SDCRAA staff proposed an action plan to the SDCRAA Board to update the 14 CFR Part 150 Study, which the SDCRAA Board approved. The full list of ANAC recommendations can be found in **Appendix C - ANAC Recommendations**.

The purpose of the Inventory chapter is to establish a baseline of information about existing airport facilities and operations, as well as local land use to give context for the Study. The inventory includes data concerning airport facilities, flight procedures, existing noise abatement procedures, noise complaints, as well as land use conditions and policies within the environs of SDIA.

1.1 AIRPORT DETAILS

SDIA is the primary commercial air transportation facility serving the greater San Diego Metropolitan area (see **Figures 1.1** and **1.2**). The airport's owner, SDCRAA, was created on January 1, 2003 as an independent agency to manage the day-to-day operations of the SDIA. The SDCRAA is governed by a nine-member board, the SDCRAA Board.

SDIA is classified by the FAA as a large-hub primary commercial service airport,¹ an airport that has one percent or more of all annual passenger boardings in the United States.² SDIA is the busiest single runway commercial service airport in the United States.³ SDIA is served by 23 passenger air carriers and three air cargo carriers that operate both domestic and international flights. SDIA also serves General Aviation (GA), cargo, and military operators.

SDIA sits on 661 acres three miles from the city center of San Diego. The airport is bounded by Harbor Drive and San Diego Bay to the south, Navy Lagoon to the west, the United States Marine Corps Recruit Depot to the north, and Interstate 5 and Pacific Coast Highway to the east. Land in SDIA's vicinity is densely developed and has a high monetary value due to SDIA's nearby location to Downtown San Diego and other residential areas.

Figure 1.3 illustrates the current generalized layout for SDIA.

¹ FAA. (2018). Report to Congress National Plan of Integrated Airport Systems (NPIAS) 2019-2023. Appendix A: List of NPIAS Airports with 5-Year Forecast Activity and Development Estimate (pp. A-22). Retrieved October 2019 from

https://www.faa.gov/airports/planning_capacity/npias/reports/media/NPIAS-Report-2019-2023-Appendix-A.pdf

² FAA. (2018, November 23). Airport Categories. Retrieved October 2019 from

https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/categories/.

³ San Diego International Airport. (n.d.). Airport History. Retrieved October 2019 from <https://www.san.org/Education/History>.





SOURCE: Google Maps, 2019.
 NOTE: Font Size Indicative of General City Size.

FIGURE 1.1 AIRPORT LOCATION

INTERSTATE HIGHWAY STATE HIGHWAY



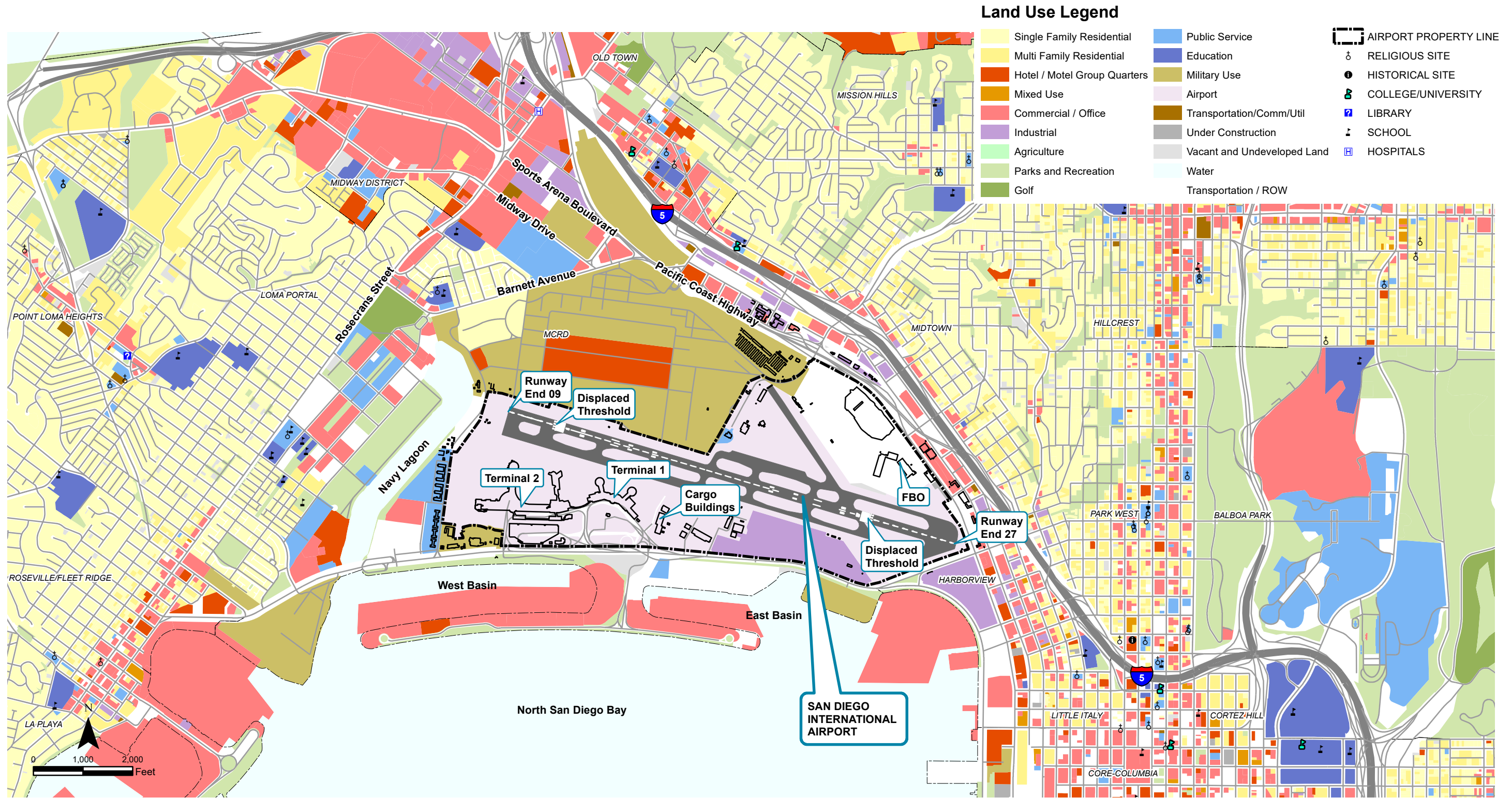


SOURCE: Google Maps, 2019.
 NOTE: Font size indicative of general city size.

FIGURE 1.2 AIRPORT VICINITY

 INTERSTATE HIGHWAY  STATE HIGHWAY





SOURCE: SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.

FIGURE 1.3 GENERALIZED AIRPORT LAYOUT

14 CFR PART 150 REQUIRED MAP



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1.1.1 Airside Inventory

1.1.1.1 Runways

Runway 09/27, the sole runway at SDIA, is 9,400 feet long, 200 feet wide, and constructed of grooved asphalt concrete. The runway is oriented in an east/west direction. Runway 09 has a 1,000 feet displaced landing threshold and Runway 27 has an 1,810 feet displaced landing threshold. Both runway ends have precision approach runway markings.

1.1.1.2 Taxiways

The taxiway system provides airfield circulation for aircraft and connects Runway 09/27 with the terminal areas, cargo areas, and other airfield facilities. The south side of Runway 09/27 is served by Taxiway B, a full-length parallel taxiway. Taxiway connectors B1 through B10 connect Taxiway B to the Runway. The Taxiway B centerline is offset 362.5 feet from the runway centerline. Taxiway C is a partial parallel taxiway serving the northeast side of the airfield. Taxiway connectors C1 through C6 connect the Runway to Taxiway C. Taxiway C was reconstructed and is now 400 feet for its entire length. Taxiway A serves the west terminal area. Taxiway H and J serve the GA area north of Runway 09/27 and Taxiway F serves the air cargo area, which is also located north of Runway 09/27.

1.1.1.3 Navigational Aids

Navigational Aids (NAVAIDS) located on the airport include a Localizer (LOC) antenna array at the ends of both Runway 09 and 27. There is also a glide slope (GS) antenna for the approach to Runway 09. Together, the LOC and GS comprise the Instrument Landing System (ILS) for Runway 09. The LOC and GS both have FAA-mandated critical areas that must remain clear to prevent signal interference. Global Positioning System (GPS) based instrument approach procedures are also available to both runway ends.

Table 1.1 summarizes the characteristics of Runway 09/27 including approach aids available.



TABLE 1.1 RUNWAY 09/27 SUMMARY

Characteristics	Runway End	
	09	27
Length	9,400'	
Displaced Thresholds	1,000'	1,810'
Landing Distance Available (LDA)	7,280'	7,590'
Width	200'	200'
Runway Markings	Precision	Precision
Pavement	Grooved Asphalt/Concrete	Grooved Asphalt/Concrete
Latitude	32-44-13.6413N	32-43-48.0086N
Longitude	117-12-15.6841W	117-10-29.9018W
Approach Aids	09	27
Runway Lightings	HIRLs Centerline Lights MALSR	HIRLs Centerline Lights MALSR
PAPI	Yes	Yes
ILS	Yes	No
RNAV/RNP	No	Yes
RNAV/GPS	Yes	Yes

SOURCE: Airport Master Record, 2019.

NOTES:

PAPI — Precision Approach Path Indicator Lights; ILS — Instrument Landing System

RNAV/GPS — Area Navigation / Global Positioning System; RNP — Required Navigation Performance

AGL — Above Ground Level; RVR — Runway Visual Range

LOC — Localizer



1.1.2 Airspace and Air Traffic Control

1.1.2.1 Area Airspace

Airspace over the SDIA area and all of the US is under the jurisdiction of the FAA. This authority was granted by Congress via the Federal Aviation Act of 1958.⁴ The FAA established the National Airspace System (NAS) to protect persons and property on the ground and to establish a safe and efficient airspace environment for civil, commercial, and military aviation. The NAS is defined as the common network of US airspace, including air navigation facilities; airports and landing areas; aeronautical charts; associated rules, regulations, and procedures; technical information; personnel; and material. System components shared jointly with the military are also included. Title 14, Code of Federal Regulations Parts 71, 73, and 91 define categories of airspace, each with distinct operating requirements, which conform in both name and description with airspace designations used internationally. The categories are classified as Class A, B, C, D, E, and G, and each has decreasingly restrictive requirements regarding Air Traffic Control (ATC) communications, aircraft entry, aircraft separation, and Visual Flight Rules (VFR) operations.

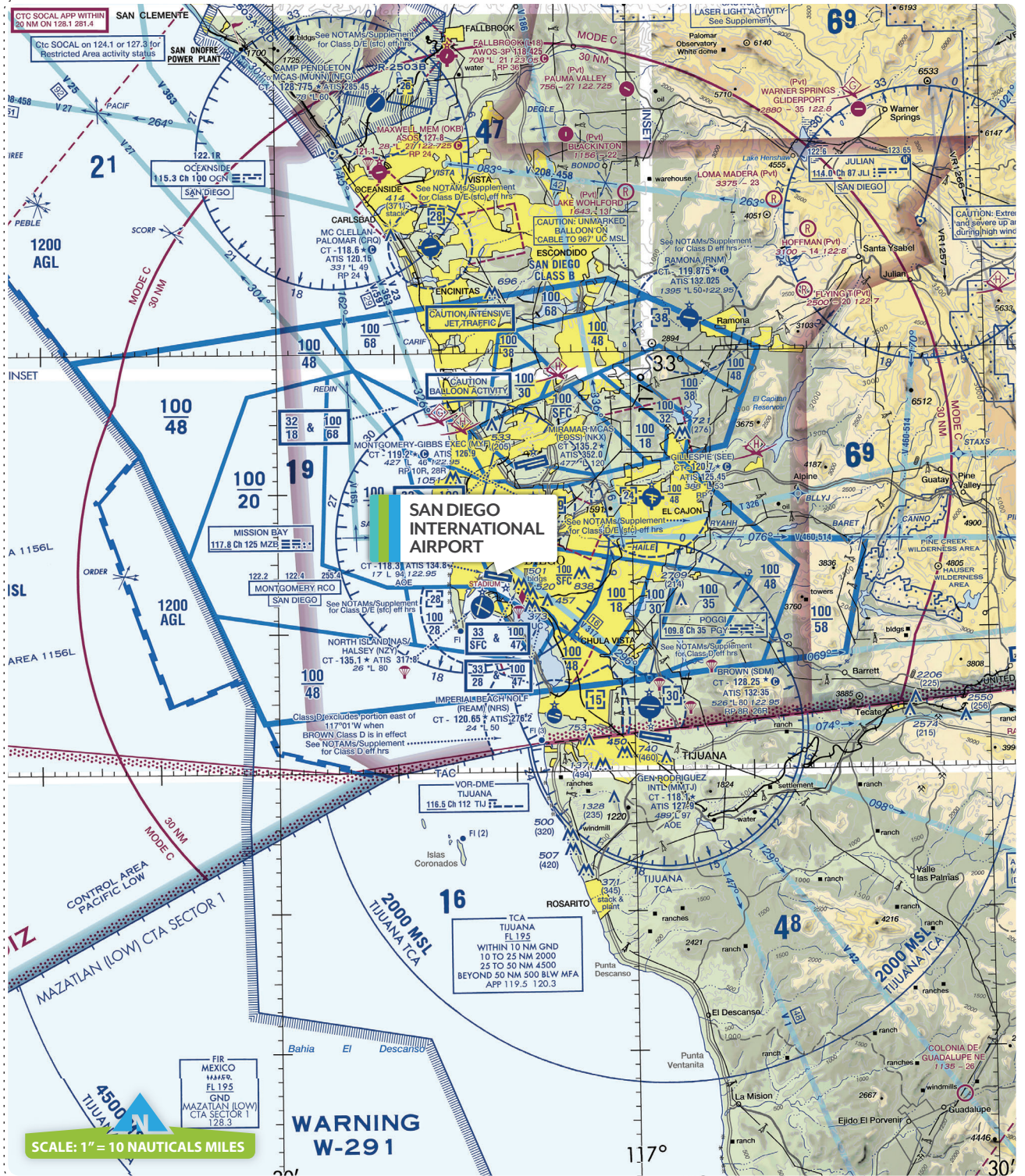
The local controlled airspace in the vicinity of SDIA is designated as Class B, which is uniquely configured to also incorporate the Marine Corps Air Station Miramar (MCAS) Airport, located eight nautical miles north of SDIA. The boundaries of this airspace, as depicted on the San Diego VFR Terminal Area Chart, is shown in **Figure 1.4** and a detail view of the Class B boundaries are presented in **Figure 1.5**. Due to the close proximity of MCAS Miramar Airport and several other adjacent airfields (e.g., Naval Air Station (NAS) North Island/Halsey Field, Montgomery-Gibbs Executive Airport, and Gillespie Field Airport), the FAA initiated a study to examine modifications to the boundary and altitude restrictions of the San Diego Class B Airspace. The final recommendations of that planning evaluation are still pending.

Class B airspace is typically designated at the nation's busiest airports, in terms of airport operations or passenger enplanements, and encompasses the airspace extending from the surface, with two or more layers, up to 10,000 feet mean sea level (MSL). The airspace is designed to contain all published instrument procedures, and ATC clearance is required for all aircraft to operate in the area. Additional operating rules and pilot/equipment requirements include:

- **Aircraft must be equipped with an operable two-way radio capable of communicating with ATC on appropriate frequencies for that Class B airspace**
- **The pilot in command must hold at least a Private Pilot certificate, Recreational Pilot certificate meeting the requirements of 14 CFR 61.101(d), Sport Pilot certificate meeting the requirements of 14 CFR 61.325, or a student pilot who has met the requirements of 14 CFR 61.94 or 14 CFR 61.95 as applicable**
- **Unless otherwise authorized by ATC, each person operating a large turbine engine-powered aircraft to or from a primary airport shall operate at or above the designated floors while within the lateral limits of the Class B Airspace**
- **For Instrument Flight Rules (IFR) operations, aircraft must be equipped with an operable VOR or TACAN receiver or an operable and suitable RNAV system**
- **Aircraft must be equipped with an operable radar beacon transponder with automatic altitude reporting equipment**

⁴ Federal Aviation Act of 1958. (1958). Retrieved October 2019 from <https://www.govinfo.gov/content/pkg/STATUTE-72/pdf/STATUTE-72-Pg731.pdf>





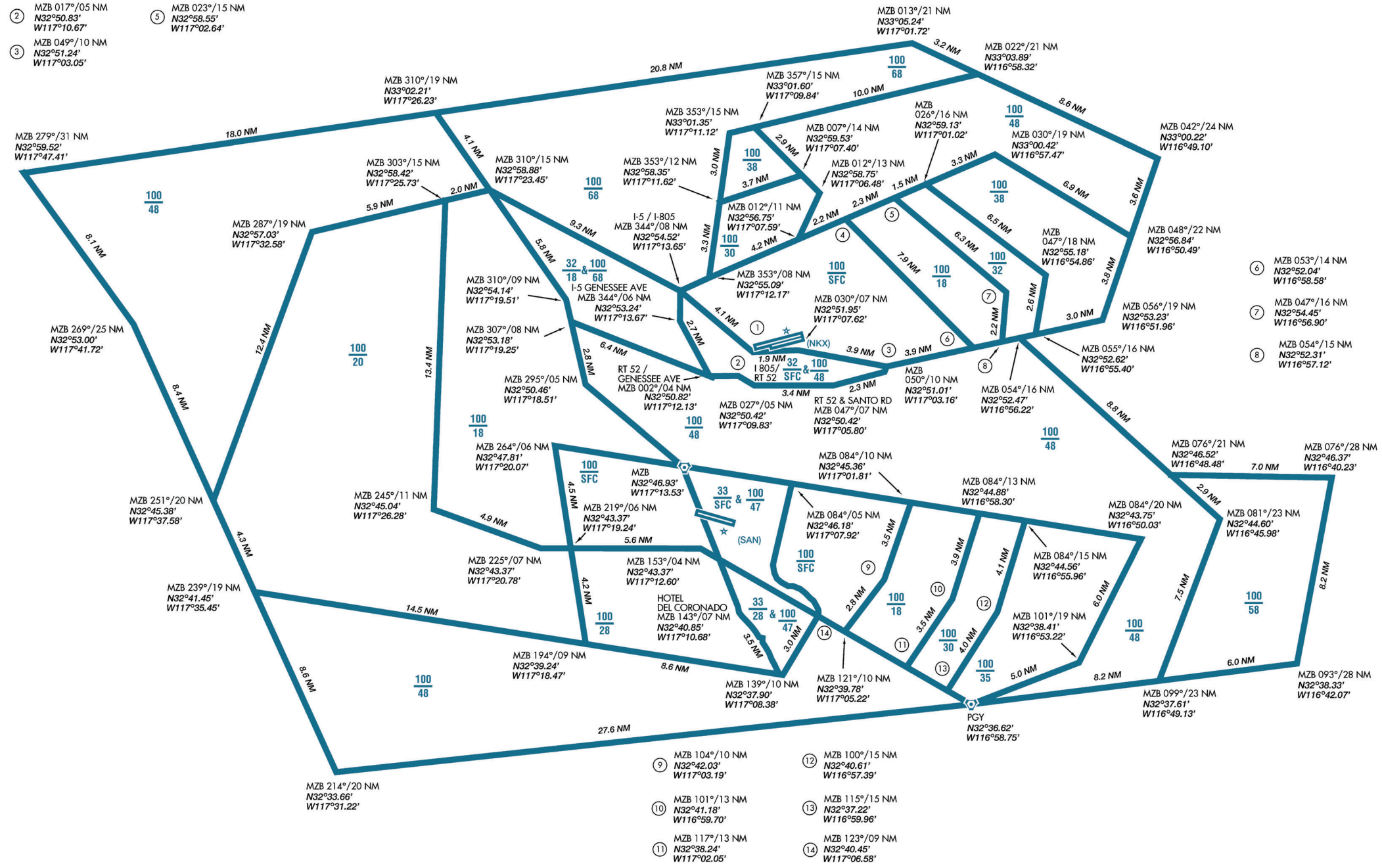
SOURCE: Los Angeles Sectional, 104th Edition, June, 2019.

FIGURE 1.4 AIRSPACE/NAVAIDS SUMMARY



- ① MZB 017°/06 NM
N32°51.87'
W117°09.92'
- ② MZB 017°/05 NM
N32°50.83'
W117°10.67'
- ③ MZB 049°/10 NM
N32°51.24'
W117°03.05'

- ④ MZB 018°/13 NM
N32°57.63'
W117°05.16'
- ⑤ MZB 023°/15 NM
N32°58.55'
W117°02.64'



LEGEND

I-805/RT 52	Geographic Reference (Selected)
MZB 344°/08 NM	Magnetic Fix Radial/DME to MZB VOR
7.0 NM	Class B Boundary Segment Distance
⑩	Class B Boundary Intersection

- ⑥ MZB 053°/14 NM
N32°52.04'
W116°58.58'
- ⑦ MZB 047°/16 NM
N32°54.45'
W116°56.90'
- ⑧ MZB 054°/15 NM
N32°52.31'
W116°57.12'

- ⑨ MZB 104°/10 NM
N32°42.03'
W117°03.19'
- ⑩ MZB 101°/13 NM
N32°41.18'
W116°59.70'
- ⑪ MZB 117°/13 NM
N32°38.24'
W117°02.05'
- ⑫ MZB 100°/15 NM
N32°40.61'
W116°57.39'
- ⑬ MZB 115°/15 NM
N32°37.22'
W116°59.96'
- ⑭ MZB 123°/09 NM
N32°40.45'
W117°06.58'

SOURCE: Federal Aviation Administration (FAA).

FIGURE 1.5 SAN DIEGO CLASS B AIRSPACE

NOT TO BE USED FOR NAVIGATION



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In addition, a Mode C Transponder veil encompasses the airspace surrounding both SDIA and MCAS Miramar Airport, requiring all aircraft within a 30-mile lateral radius extending vertically from the surface to 10,000 feet MSL to have a Mode C Transponder.

The inner most portion of the Class B airspace above and surrounding SDIA extends from the surface to a ceiling of 3,300 feet Mean Sea Level (MSL) and from a floor of 4,700 feet MSL to a ceiling of 10,000 feet MSL. The Class B airspace immediately west and east of SDIA extends from the surface to 10,000 feet MSL. The Class B airspace to the north extends from a floor of 4,800 feet to 10,000 feet MSL, and to the southwest extends from a floor of 2,800 feet to 10,000 feet MSL. The Class B airspace to the east and north steps up as it is located farther from the airport. The farthest most portion of the Class B airspace has a floor of 6,800 feet MSL and a ceiling of 10,000 feet MSL. These elevation differentials help establish the location of the various VFR flight corridors that operate beneath the Class B airspace adjacent to both SDIA and MCAS Miramar Airport.

International boundaries, military airports, military operations areas, restricted areas, temporary flight restrictions, and prohibited areas can also impact airspace use in the vicinity of a civil airport. This is particularly true in the vicinity of SDIA given the proximity of MCAS Miramar Airport to the north, the U.S.-Mexico border to south (with its associated Air Defense Identification Zone), including the existing Special Use Airspace areas, both Restricted and Warning areas, located north and west of the airport.

1.1.2.2 Navigational Aids

The en route environment related to SDIA consists of several low altitude Victor Airways, which span between the ground-based NAVAIDS in the region. A Victor Airway includes the airspace within parallel lines located 4 Nautical Miles (NM) on either side of the airway and extending from 1,200 feet MSL up to, but not including, 18,000 feet MSL. The ground-based NAVAIDS near SDIA include the Mission Bay Very High Frequency Omni-Directional Range/Tactical Air Navigation (VORTAC) (117.8 MZB) and the POGGI VORTAC (109.8 PGY). The Mission Bay VORTAC is located approximately 3.4 NM northwest of SDIA; the POGGI VORTAC is located approximately 13 NM southeast of SDIA. A VORTAC radiates azimuth and distance information signals in all directions.

1.1.2.3 Air Route Traffic Control Center

SDIA is located in one of the nation's 22 FAA operated Air Route Traffic Control Centers (ARTCCs). These facilities control aircraft operating under IFR within controlled airspace while in the en route phase of flight. The Los Angeles ARTCC controls airspace that encompasses parts of California, Arizona, Nevada, and Utah using radar and radio facilities located throughout the region. However, control of the airspace in the vicinity of SDIA has been delegated to the Southern California (SoCal) Terminal Radar Approach Control (TRACON) by the ARTCC.



1.1.2.4 VFR Operations

Aircraft operating under VFR and departing SDIA are under positive control of the SDIA ATCT, which is transitioned to the control of the SoCal TRACON. Pilots landing at SDIA must contact SoCal TRACON prior to entering San Diego's Class B airspace. Pilots of aircraft transitioning from the San Diego Class B airspace for arrivals must contact the SDIA ATCT and receive permission prior to entering. The arrival procedure will vary, depending on the operational flow and volume of traffic, and SDIA has one published VFR arrival procedure (i.e., the Sweetwater Visual RWY 27). This procedure is published by the FAA's Air Traffic Organization (ATO) and can be found online at the following link:

https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/

In addition, there are several identified VFR flight corridors that intersect the San Diego Class B airspace at specified altitudes. For pilots transiting the VFR corridor that passes over SDIA, no communications or clearances with air traffic control are required. However, a specified frequency is provided for communication to pilots using the corridor.

1.1.2.5 IFR Operations

Aircraft under IFR are generally under control of the ARTCC outside of the TRACON airspace. When ARTCC personnel prepare to transfer arriving turbojet or other high-performance IFR aircraft to SoCal TRACON control, they clear aircraft to SDIA via a Standard Terminal Arrival Route (STAR). A STAR is a preplanned IFR ATC arrival procedure published for pilot use. STARs use a combination of published VOR radials and intersections, ATC assigned vectors, altitudes, and speeds to route aircraft into the arrival flow sequence. In addition, Standard instrument departure (SID) routes are published flight procedures followed by aircraft on an IFR flight plan following takeoff from an airport.

The current arrival and departure procedures used by Los Angeles ARTCC and SoCal TRACON, and SDIA ATCT personnel at SDIA are listed below and published by the FAA's ATO. The specific details of the procedures can be found online at the following link:

https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/

Table 1.2 illustrates the SDIA IFR operational procedures for arrivals and departures.



TABLE 1.2 IFR OPERATIONS

SDIA Standard Terminal Arrivals (STARs) Procedures	
Method	Arrival
Conventional	BARET FIVE
	HUBRD ONE
	SHAMU ONE
RNAV	COMIX TWO
	LUCKI ONE
	PLYYA ONE
	TOPGN TWO
SDIA Standard Instrument Departure (SID) Procedures	
Method	Departure
Conventional	BORDER SEVEN
	FALCC ONE
	PEBLE SIX
RNAV	CWARD TWO
	ECHHO TWO
	MMOTO TWO
	PADRZ TWO
	SAYOW TWO
	ZZOOO TWO

SOURCE: FAA U.S. Terminal Procedures, 03 JAN 2019 to 28 FEB 2019.

1.1.3 Air Traffic Control

Air traffic at SDIA is managed by a daily 24-hour Airport Traffic Control Tower (ATCT) managed and staffed by the FAA ATO. The ATCT is located on the north side of the airfield, approximately mid-way down the runway and approximately 1,160 feet north of the runway centerline. The top of the ATCT is 152 feet above sea-level or 135 feet above Airport elevation.

Controllers at an on-site ATCT provide air traffic services for phases of flight associated with aircraft takeoff and landing (includes final approach to runway). The ATCT typically controls airspace extending from the airport out to a distance of several miles. For SDIA, the ATCT manages airfield taxiway movements in the Aircraft Operations Area (AOA), takeoff and landings on Runway 09/27, final approach to the runway and initial departure headings from the runway. As noted previously, air traffic controllers located in the SoCal TRACON provide instruction and separation to approaching and departing aircraft within SDIA's Class B airspace. The SoCal TRACON typically transfer control of traffic to SDIA ATCT within 5 NM from the airport. SDIA ATCT typically transfers control of departing aircraft to SoCal TRACON after aircraft are established on the assigned initial departure heading.



1.1.4 Instrument Approach Procedures

SDIA currently has several published instrument approach procedures to each end of their single runway, Runway 9/27. An instrument approach is represented by a series of predetermined maneuvers for the orderly transfer of an aircraft under IFR from the beginning of the initial approach to a landing or to a point from which a landing may be made visually.⁵ Approach procedures at SDIA include two ILS procedures, three (RNAV/GPS) procedures, and one LOC procedure. All published instrument approach procedures are listed in **Table 1.3**, including their associated Threshold Crossing Height (TCH), Glide Slope Angle (GSA), visibility minimums, and DHs⁶. Additional information regarding the procedures can be found online at the following link:

https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/

An ILS is a precision instrument approach procedure consisting of a localizer antenna, a glide slope antenna, and outer, middle, and inner marker beacons. There are three Categories (CAT) of ILS approach procedures – CAT I, II, III – each of which have defined minimum DH and Runway Visual Range (RVR) values, as shown in **Table 1.4**. The CAT I ILS procedure to Runway 9 (ILS Z or LOC Z RWY 09) has the lowest visibility minimums and DH available at SDIA (1/2 mile and 200 feet, respectively). Special equipment and aircraft/aircrew authorization are required for CAT II and III operations.

One of the GPS-based approach procedures is a Required Navigation Performance (RNP) procedure to Runway 27, which optimizes the descent flight paths, cuts fuel burn, reduces carbon dioxide emissions, and shifts noise away from residential areas where possible. Special aircraft/aircrew authorization and certification requirements apply. Published GPS approaches are typically used by general aviation aircraft and RNP procedures are typically used by commercial carriers. The RNP standard procedure at SDIA can be flown by some aircraft.

⁵ Title 14, Code of Federal Regulations Part 170. Retrieved October 2019 from <https://www.law.cornell.edu/cfr/text/14/170.3>

⁶ TCH: the theoretical height of the glide slope above the runway threshold.

GSA: the angle of descent plane which provides vertical guidance for a pilot on approach.

DHs: the lowest altitude on approach at which, if required visual reference to the approach (approach lights, runway markings, etc.) are not visible to the pilot, the pilot must initiate a missed approach.



TABLE 1.3 INSTRUMENT APPROACH PROCEDURES

Runway	Approach Name	TCH	GSA	Visibility Minimum	Decision Height
RWY 09	ILS Y or LOC Y	55' AGL	3.10°	3/4 statute mile (4,000 feet RVR)	300'
RWY 09	ILS Z or LOC Z	55' AGL	3.10°	1/2 statute mile (2,400 feet RVR)	200'
RWY 27	RNAV/RNP Z	65' AGL	3.5°	1 1/2 statute miles	600'
RWY 09	RNAV/GPS	55' AGL	3.10°	3/4 statute mile (4,000 feet RVR)	300'
RWY 27	RNAV/GPS Y	65' AGL	3.50°	1 ¾ statute miles	700'
RWY 27	LOC	65' AGL	3.50°	1 ¾ statute miles	700'

SOURCE: FAA U.S. Terminal Procedures, 03 JAN 2019 to 28 FEB 2019.

NOTES:

All minimums shown are for Category C aircraft, aircraft with approach speeds between 121 and 140 knots. Alternate minimums are pre-specified visibility minimums used at an alternate airport selected at the time of flight planning. These may apply under Instrument Meteorological Conditions (IMC) for aircraft that choose the airport as an alternate.

ILS – Instrument Landing System; RNAV/GPS – Area Navigation / Global Positioning System

RNP – Required Navigation Performance; AGL – Above Ground Level

RVR – Runway Visual Range; LOC – Localizer

TABLE 1.4 ILS CATEGORY DEFINITIONS

Category	DH Minimum	RVR Minimum
CAT I	Not less than 200'	Not less than 2,400'*
CAT II	Not less than 100'	Not less than 1,200'
CAT IIIa	No DH, or DH below 100'	Not less than 700'
CAT IIIb	No DH, or DH below 50'	Not less than 150'
CAT IIIc	None	None

SOURCE: Federal Aviation Administration/Aeronautical Information Manual (FAA AIM) 2020.

NOTES:

* For runways with touchdown zone and centerline lighting, RVR is not less than 1,800 feet.

RVR – Runway Visual Range; DH – Design Height

CAT – Category; ILS – Instrument Landing System



1.2 CURRENT NOISE COMPATIBILITY PROGRAM

1.2.1 Noise Compatibility Program

The previous NCP was reviewed by the FAA in 2011, and federally eligible measures were approved. The SDCRAA recommended three noise abatement (NA) measures, six land use (LU) measures, and ten program management (PM) measures. Many of the recommended measures approved in the 14 CFR Part 150 Study have been completed or are continuing to be implemented. The FAA approval allowed the airport to obtain federal noise discretionary funding for approved measures in the NCP, such as maintaining residential and non-residential sound insulation programs, improving its noise and operations monitoring system (NOMS) at the airport, and implementing a Fly Quiet Program. **Table 1.5** provides a summary of the NCP recommendations and indicates the FAA approval or disapproval made in the NCP Record of Approval (ROA) for the 2010 Part 150 Study.



TABLE 1.5 NOISE COMPATIBILITY PROGRAM RECOMMENDATIONS (2010)

Noise Mitigation Measures	FAA Approval
Non-residential sound insulation program: Sound attenuate eligible non-residential sensitive receptor buildings, such as schools and churches.	Approved
Residential sound insulation program: Sound attenuate eligible residential units.	Approved
Residential sound insulation program: Incorporate hill effects to identify eligible residential units in addition to Measure Land Use (LU)-2.	Disapproved
Land Planning Measures	FAA Approval
Prohibit new incompatible land uses: The San Diego County Regional Airport Authority (SDCRAA) will continue to urge the City of San Diego to prohibit new incompatible land use development within the SDIA environs. For noise sensitive land uses proposed for development within the CNEL 60 dB contour, the SDCRAA will continue to urge the City to obtain aviation easements and engineered structural designs that provide compatible interior noise levels per Table 1 of 14 CFR Part 150.	Approved
Compatibility planning process: The SDCRAA, in its role as the San Diego County Airport Land Use Commission (ALUC), will continue to encourage City of San Diego participation in the compatibility planning process for SDIA and will assist the City in reviewing and, as appropriate, modifying the City's plans, policies, and ordinances to best address airport land use compatibility concerns.	Approved
Airport Land Use Commission: The SDCRAA will continue to serve as the San Diego County ALUC in accordance with State law.	Approved
Program Management Measures	FAA Approval
Noise Information Office and Officer: Maintain adequate staff for the airport noise mitigation department	Approved
Noise and Operations Monitoring System (NOMS): Continue to maintain and improve the NOMS to assist in the acquisition, analyses, and reporting of the aircraft noise environment in the SDIA environs.	Approved
Fly Quiet Program: Study, design and implement a Fly Quiet Program to assess how a change in air carrier and general aviation fleet mix and operational procedures could positively impact SDIA noise contours.	Approved
Airport Noise Advisory Committee (ANAC): Continue the ANAC.	Approved
Communicate noise issues with airlines: The Director, Noise Mitigation will meet on a regular basis with representatives from commercial airlines and GA using SDIA to discuss noise problems, issues and/or potential solutions.	Approved



TABLE 1.5 NOISE COMPATIBILITY PROGRAM RECOMMENDATIONS (2010)

Program Management Measures (Continued)	FAA Approval
Provide Airport Use Regulations to airlines: The SDCRAA will deliver to each existing and future airline serving SDIA correspondence containing the Airport Use Regulations.	Approved
California quarterly noise reports: The SDCRAA will continue to provide to the County of San Diego, and will make available for public inspection and review, the noise and aircraft operations related information contained in the quarterly reports pursuant to the California Noise Standards.	Approved
Update the Noise Exposure Maps (NEMs): The SDCRAA will compare the noise exposure contours contained in its quarterly noise reports to determine when the contours have changed sufficiently to warrant an update per 14 CFR Part 150.	Approved
Update the Noise Compatibility Program (NCP): This 14 CFR Part 150 NCP will be reviewed by the SDCRAA for possible revisions, modifications, or amendments to the program at such time as the Program requires update.	Approved
Air service studies: The SDCRAA will cooperate with any study conducted by public agencies in San Diego County concerning air service in the San Diego Region. This cooperation does not obligate the SDCRAA to expend funds in support of any program.	Disapproved
Noise Abatement Measures	
Over-the-bay departure route: Develop and implement a left turn (over the bay) departure procedure for Runway 27 to be used by aircraft less than 41,000 lbs. max certificated takeoff weight that would normally be directed to 250-degree heading after takeoff.	Disapproved
Continuous Descent Approach (CDA): Encourage the FAA and airlines operating at SDIA to use CDAs for arrival to Runway 27.	Disapproved
Early Turns on Departure Runway 27: Maintain westerly heading until 1 NM offshore, weather, airspace, and safety permitting.	Disapproved

SOURCE: 2011 FAA Record of Approval for San Diego International Airport Part 150 Noise Compatibility Program.



1.2.2 Airport Noise Advisory Committee (ANAC)

In 1981, the ANAC was formed consisting of individuals from various organizations, residential areas, and professional associations. The committee is composed of 18 voting members and provides a forum for collaboration and discussion regarding airport noise issues and other related topics. The ANAC is formally adopted as Airport Authority Policy 9.20.

SDCRAA staff provide support to ANAC for committee operation and technical analyses. An acoustician serves on the committee as a technical noise resource. The committee is run by a professional facilitator. ANAC makes recommendations to the SDCRAA Board regarding the Residential Sound Attenuation Program, Part 150 Programs, aircraft noise monitoring and mitigation efforts, community outreach programs and other airport noise-related topics.

1.2.3 Curfew Violation Review Panel

Originally adopted by the Board of Port Commissioners of the San Diego Unified Port District in a comprehensive form in 1979, SDIA has a curfew in place that has been formally adopted as part of the Airport Use Regulations in SDCRAA Code 9.40, *Airport Use Regulations at San Diego International Airport*. The curfew is a time-of-day restriction that limits nighttime aircraft departures. Penalties are enforced for violation of the restrictions.

1.2.3.1 Restriction Details

- There are no noise related time-of-day restrictions on arriving aircraft. Arrivals are permitted 24-hours a day.
- No person shall perform an engine run-up at a power setting above idle power between 11:30 p.m. and 6:30 a.m. (2330-0630) local time, unless they meet the exceptions criteria.
- No person shall operate any aircraft on departure from the airport between the hours of 11:30 p.m. and 6:30 a.m. (2330-0630) local time, unless they meet the exceptions criteria.
- No person shall operate any non-stage 3 aircraft on departure or perform an engine run-up at a power setting above idle power between the hours of 10:00 p.m. and 7:00 a.m. (2200-0700) local time.

1.2.3.2 Restriction Exceptions

- Time-of-day restrictions shall not be applicable to any aircraft operation at the airport which is conducted in an emergency, or to any mercy flight authorized in advance by the senior airport official on duty. Per State law, the operator must provide a written report with full details on the nature of the emergency to the Aircraft Noise Office no later than three days after the occurrence.
- Restrictions to engine run-ups shall not be applicable when the run-up is necessary to allow an aircraft engaged in an emergency or mercy flight to comply with safety, legal, or regulatory obligations or requirements prior to commencing operation.



1.2.3.3 Restriction Violation Penalties

Aircraft operators may be fined for violation of the curfew policies. The Curfew Violation Review Panel (CVRP) evaluates and enforces compliance with Airport Use Regulations, time-of-day restrictions (curfew) and makes recommendations for the disposition of these incidents.

- 1st offense per calendar 6-month compliance period: \$2,000
- 2nd offense per calendar 6-month compliance period: \$6,000
- 3rd offense per calendar 6-month compliance period: \$10,000

Additionally, fine amounts are increased by the operator's multiplier factor, which is the number of penalized violations that occurred by that operator during the previous 6-month compliance period. Collected funds are applied to the Quieter Home Program budget.

1.2.4 Fly Quiet Program

The SDCRAA operates a Fly Quiet Program to encourage commercial aircraft operators to operate as quietly as possible in the San Diego area by acknowledging those operators that attempt to follow the noise abatement goals of the airport. The system is based on publishing and praising participation rather than using punitive actions. By grading an operator's performance and making the scores available to the public, the program creates a participatory atmosphere for operators to actively reduce noise. The Fly Quiet Program scores commercial operators on three factors: curfew violations, noise exceedances, and overall fleet noise quality (see below). A higher score reflects quieter operations.

1.2.4.1 Scoring

CURFEW VIOLATIONS. Aircraft operators that are not responsible for any curfew violations during the time period are awarded 10 points. Aircraft operators that are determined to have violated the curfew are penalized by having 2 points subtracted. The 2-point reduction can be adjusted to a 1-point reduction if it is determined that the curfew was violated, but the operator is not to be penalized. Aircraft operators can earn 1 point for each instance that a flight is canceled to avoid violating curfew.

NOISE EXCEEDANCE. The Noise Exceedance element is based on actual noise levels at SDIA. The airport uses two Noise Monitoring Terminals (NMTs) to monitor and record arriving and departing noise levels. One monitor is located approximately one mile from the arrival end of Runway 27 and the other is located approximately one-half mile from the departure end of Runway 27. In the event that a landing or departing aircraft produces a noise level higher than the threshold, a noise exceedance occurs. Each noise exceedance is logged by the exact operation including aircraft type and operator.

FLEET NOISE QUALITY. The Fleet Noise Quality score measures the noise contribution associated with each operator's fleet of aircraft that operates at the airport based on the FAA certified noise levels. The Fly Quiet Program assigns a higher score to aircraft operators which use newer, quieter aircraft rather than older, louder aircraft. The goal of this measurement is to fairly compare operators – not just by the fleet they own, but by the frequency that they schedule and fly quieter aircraft into SDIA. The scoring is based on the FAA's noise certification data as established in Title 14, Code of Federal Regulations Part 36 noise certification data.



1.2.4.2 Quarterly Noise Reporting

As part of the Fly Quiet Program, each quarter, the Aircraft Noise Office publishes a report that outlines the trends on how quietly each operator flies in and out of SDIA. These reports are available to the public on the airport's website. The purpose of the quarterly Fly Quiet report is to communicate results in a clear, understandable format for the public. Further, operators and flight personnel can measure exactly how they stand compared to other operators and how their proactive involvement can positively reduce noise. In this way, the reports encourage individual commercial operators to fly as quietly as possible in the San Diego area.

1.2.5 Airport Noise and Operations Monitoring System (ANOMS)

The Airport Noise and Operations Monitoring System (ANOMS) collects and analyzes flight data and associated noise levels from 23 noise monitoring sites located within noise impacted areas around the airport. One of the key components of the ANOMS is that it matches aircraft noise events with FAA radar tracking information, which can only be done at locations where SDIA-related aircraft noise is the predominant noise source. The data are used to respond to community noise complaints as well as provide detailed analysis for reporting. The data from the ANOMS is compiled on a quarterly basis and used to generate noise contours which define a Noise Impact Area (NIA) and Federal Military Impact Area (MIA) surrounding the airport. The NIA and MIA size and shape vary from each quarterly report to the next.

The NIA, MIA, and operational specifics from the ANOMS allow for the airport to identify specific parcels that are impacted by Airport noise and the specific flights associated with noise-related events. The data from ANOMS is used as a source to conduct noise complaint analysis, ANAC-requested flight operation analyses, noise level pattern analyses, and conduct aircraft noise contour analysis.

1.2.6 Quieter Home Program (QHP)

The SDCRAA has a Residential Sound Insulation Program for those residences that qualify. In order to qualify, the residence must be located inside the 65 decibel (dB) CNEL contour and have habitable areas inside the home with average noise levels of 45 dB CNEL or greater with all windows closed. To date the sound insulation program has spent over \$200 million and completed 4,000 residential insulation improvement projects.⁷

1.2.7 Noise Concern Management

Understanding that the community plays a valuable role in managing noise, the SDCRAA provides an online web-based flight tracking system, WebTrak™, to allow residents to review specific aircraft that create noise concerns within the greater San Diego area. The flight tracking system identifies an aircraft's type, altitude, origin/destination airports, and flight identification. Further, it allows residents to review specific aircraft that create a noise concern and lodge a complaint to the Aircraft Noise Office directly from the website.

More recently, the SDCRAA launched a mobile application (app) that provides members of the public an easy-to-use, no-cost option for submitting an aircraft noise complaint. The app is part of the upgraded ANOMS and use

⁷ Quieter Home Program, November 2019.



near real-time flight tracking (5-minute or less delay), which is the most accurate data of aircraft movement that is available from the FAA.

1.3 AIRPORT ENVIRONS AND SURROUNDING COMMUNITIES

This section discusses the multiple zoning districts and land uses that may affect or be affected by Airport operations. Additionally, this section identifies existing protection measures in place to reduce noise effects to the surrounding community. San Diego, home to approximately 1.3 million residents, is the second largest city in California and the eighth largest city in the United States. The city lies at the center of metropolitan San Diego County, a 4,200 square mile area that includes 18 cities and a total of 3 million residents. Surrounding communities include Loma Portal, Point Loma, and Ocean Beach to the west, Mission Beach to the northwest, and Park West and Golden Hill to the east, among others.

1.3.1 Zoning

Zoning is a useful tool for controlling land use development and promoting compatibility while supporting private land ownership. The purpose of zoning is to establish regulations that guide development throughout the city to adhere to the City of San Diego's vision for development and growth. Most land use surrounding the airport is classified as Residential-Single Unit (RS) or Commercial Community (CC), with scattered areas zoned for open space or industrial activities (see **Figure 1.6**). Land uses are broken down into 40 different zoning class types. For illustrative purposes, generalized land use categories are combined by type instead of showing the numerous individual classes. **Table 1.6** defines the purpose and permitted uses for specific zoning designations located near the airport.

1.3.2 Airport Land Use Commission (ALUC)

The state of California, per Section 21670 of the California Public Utilities Code, requires each county that has an airport served by a scheduled airline to establish an ALUC to:

- Provide for orderly development of the area surrounding each airport to promote overall goals and objectives of the California airport noise standards and prevent the creation of new noise and safety problems; and
- Protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that those areas are not already devoted to incompatible land uses.

The SDCRAA serves as the ALUC for the County of San Diego. While an ALUC has no jurisdiction over the operation of the airport or its existing land uses, the ALUC is responsible for the preparation, adoption, and amendment of the SDIA ALUCP. The ALUCP provides guidance to agencies that have jurisdiction over land use and zoning policy on appropriate land uses surrounding the airport to protect the health and safety of people and property within the vicinity of an airport, as well as the public in general. Specifically, the ALUCP provides airport land use compatibility policies and standards related to four airport-related factors: noise, safety, airspace protection, and overflight.



The most recent SDIA ALUCP was adopted by SDCRAA in May 2014. As described in the previous section, the City of San Diego amended its zoning ordinances to include the three overlay zones for protection of the AIA identified in the ALUCP.

According to the San Diego Municipal Code, there are three overlay zones that pertain to the airport for the purpose of providing supplemental regulations for the surrounding property and implementing the ALUCP, developed and adopted by SDCRAA:

1.3.2.1 Airport Land Use Compatibility Overlay Zone (ALUCOZ)

The Airport Land Use Compatibility Overlay Zone (ALUCOZ) implements the ALUCP to ensure new development within the Airport Influence Area (AIA) is compatible with airport and aircraft noise, public safety, airspace protection, and aircraft overflight area. This zone applies to property in all areas of the AIA.

1.3.2.2 Airport Approach Overlay Zone (AAOZ)

The purpose of the Airport Approach Overlay Zone (AAOZ) is to provide supplemental regulations for the property surrounding the approach path for SDIA. Section 21659 of the California Public Utilities Code states the following, “No person shall construct or alter any structure or permit any natural growth to grow at a height which exceeds the obstruction standards set forth in the regulations of the Federal Aviation Administration relating to objects affecting navigable airspace contained in Title 14, Code of Federal Regulations Part 77, Subpart C, unless the Federal Aviation Administration has determined that the construction, alteration, or growth does not constitute a hazard to air navigation or would not create an unsafe condition for air navigation.” The Airport Approach Overlay Zone helps to ensure Section 21659 and obstruction regulations set in place by the FAA.

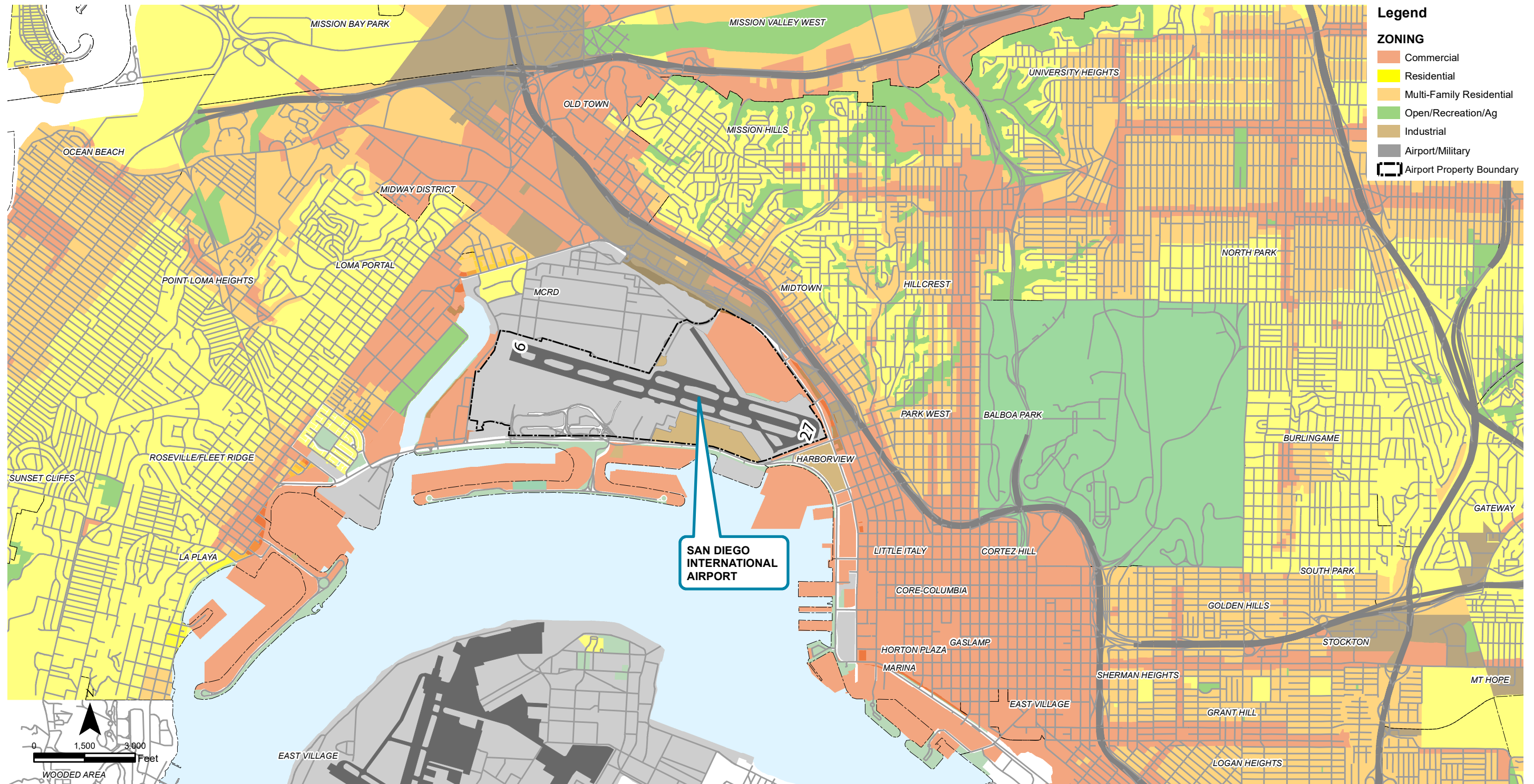
1.3.2.3 Airport Environs Overlay Zone (AEOZ)

The purpose of the Airport Environs Overlay Zone (AEOZ) is to provide supplemental regulations for property surrounding SDIA. This overlay zone implements the ALUCP to ensure land surrounding the airport is compatible with airport operations. This overlay zone applies to properties within the noise contour zone, accident potential zone, or flight activity zone identified in the ALUCP. Owners of such property receive noise impact and safety hazard information associated with relation of their property to the airport and its operations.



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SOURCE: City of San Diego, using rezone ordinances adopted by City Council, and map data provided by the Development Services Department (DSD). Official Zoning Map adopted by the City Council on February 28, 2006, and all subsequent updates.

FIGURE 1.6 EXISTING ZONING

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TABLE 1.6 SURROUNDING ZONING

Base Zone	Category	Zone Purpose	Permitted Land Uses
Commercial	Community	<i>Accommodate community-serving commercial services, retail uses, and limited industrial uses of moderate intensity and small to medium scale</i>	<ul style="list-style-type: none"> Residential care facilities Vehicle equipment and supplies sales and rentals Research and development industrial use Offices (government; business and professional medical, dental, and health practitioner)
	Visitor	<i>Provide areas for establishments catering to the lodging, dining, and recreational needs of both tourists and the local population</i>	<ul style="list-style-type: none"> Residential units and residential care facilities Exhibit halls and convention facilities Museums Hospitals Intermediate care
	Regional	<i>Provide areas for a broad mix of business/professional office, commercial service, retail, wholesale, and limited manufacturing uses</i>	<ul style="list-style-type: none"> Residential care facilities Exhibit halls and convention centers Hospitals Intermediate care facilities and nursing facilities Museums Financial institutions
	Multiple Unit	<i>Provide for multiple dwelling unit development at varying densities</i>	<ul style="list-style-type: none"> Active recreation and passive recreation Natural resources preservation Mobile homes Bed and breakfast establishments Instructional studios Wearing apparel and accessories
Residential	Single Unit	<i>Provide appropriate regulations for the development of single dwelling units that accommodate a variety of lot sizes and residential dwelling types and which promote neighborhood quality, character, and livability</i>	<ul style="list-style-type: none"> Active recreation and passive recreation Natural resources preservation Single dwelling units Residential care facilities



TABLE 1.6 SURROUNDING ZONING - CONTINUED

Base Zone	Category	Zone Purpose	Permitted Land Uses
Residential	Townhouse	<i>Provide for attached, single-dwelling unit residential development on small lots with alley access. It is intended that these zones provide for more urbanized, single-unit living at densities that are historically more typical of multiple-unit zones</i>	<ul style="list-style-type: none"> ▪ Active recreation and passive recreation ▪ Natural resources preservation ▪ Single dwelling units ▪ Residential care facilities
Industrial	Small Lot	<i>Provide for small-scale industrial activities within urbanized areas</i>	<ul style="list-style-type: none"> ▪ Active recreation ▪ Aquaculture facilities ▪ Separately regulated agriculture uses ▪ Commercial service (building, business support, instructional studios, radio, and television studios etc.)
Open Space	Park	<i>For public parks and facilities in order to promote recreation and facilitate the implementation of land use plans. The uses permitted in these zones will provide for various types of recreational needs of the community</i>	<ul style="list-style-type: none"> ▪ Active and passive recreation ▪ Natural resources preservation ▪ Botanical gardens and arboretums ▪ Museums

SOURCE: San Diego Municipal Code, Chapter 13: Zones.

NOTE:
All descriptions for the zone purpose are taken from the listed source.



1.3.3 Existing Land Use

According to the Land Use and Community Planning Element of the 2015 City of San Diego General Plan, airport property is classified as Institutional and Public and Semi-Public Facilities land. Existing land uses in the vicinity of SDIA are illustrated in **Figure 1.7**. Areas north and south of Airport property are designated as military use and are occupied by the Marine Corps Recruit Depot for San Diego and the NAS North Island, respectively. In general, the area is highly urbanized with significant residential development located near the northwest, west, and southwest airport boundaries. The general surrounding communities are depicted on **Figure 1.7**.

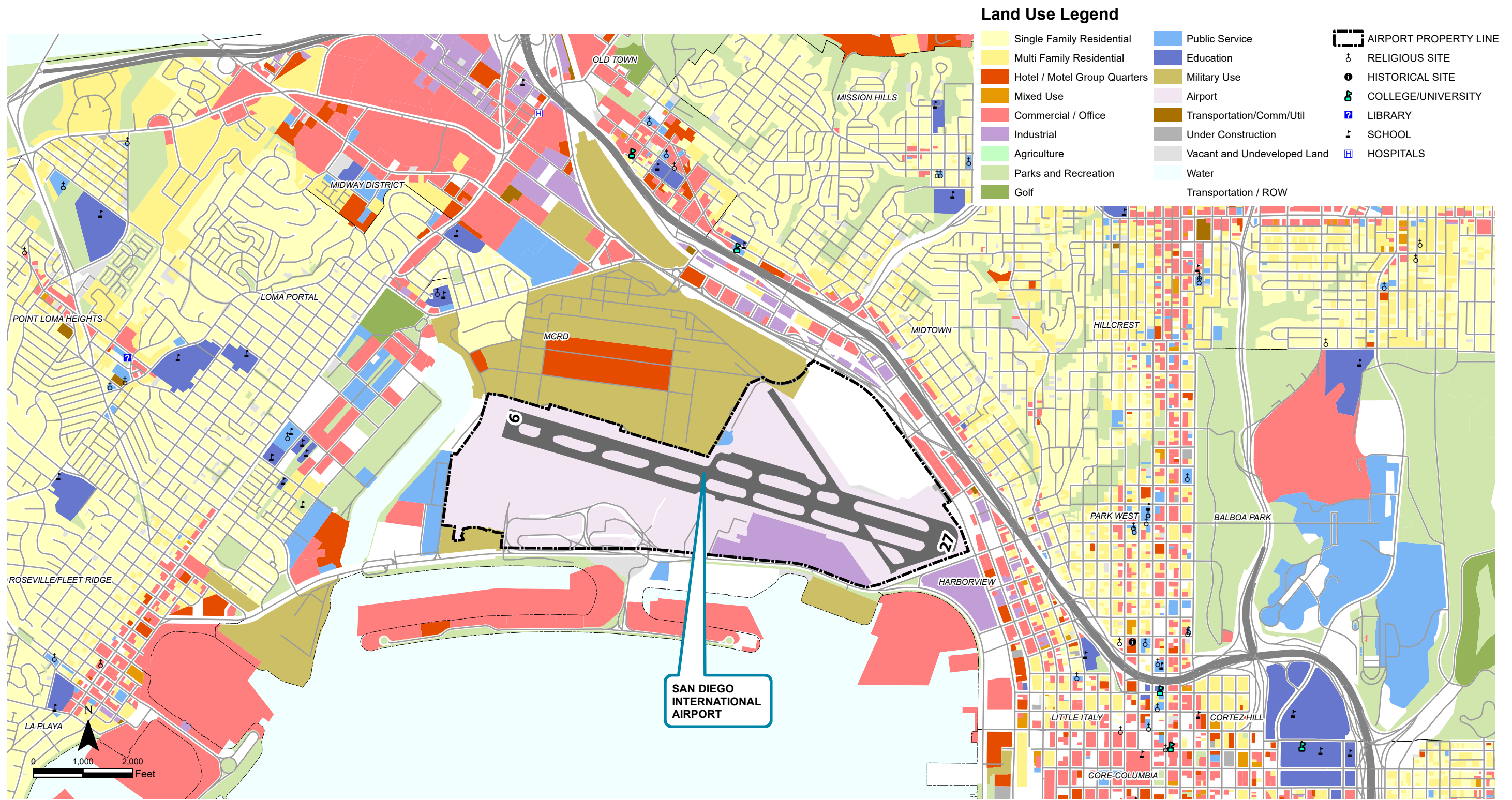
1.3.4 Planned Land Use

Planned land uses are the recommended land use designations as identified in adopted community plans. Airports affect future land uses while, at the same time, land uses outside of airport property can affect airports in that non-compatible land uses can restrict airport operations. The ALUCP addresses future land use compatibility as it relates to noise, overflight, safety, and airspace protection concerns. When a community located within the AIA develops, amends, or updates a land use compatibility plan, general plan, community plan, or other specific plan, the local agency is required to submit the land use plan to the ALUC for a consistency determination. The ALUC determines whether the updates or changes meet noise, safety, airspace protection, and overflight considerations. In this way, future land uses surrounding an airport are made compatible with airport operations and community welfare. Though determinations are made by the ALUC, the committee does not have the authority to approve or reject permits for development that are proposed in a community's plan (**Figure 1.8**).



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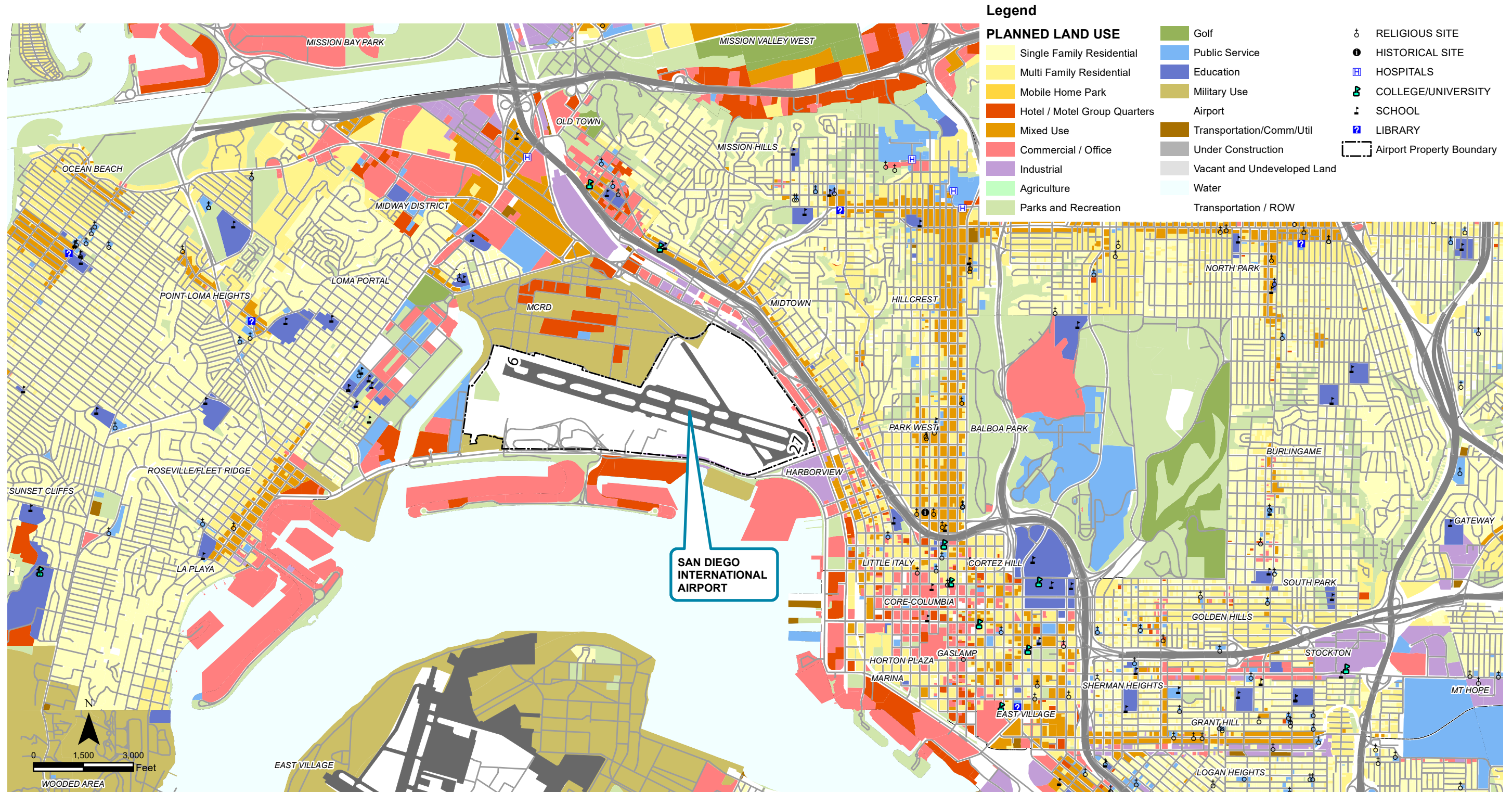


SOURCE: SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.

FIGURE 1.7 EXISTING LAND USE

14 CFR PART 150 REQUIRED MAP





SOURCE: SANDAG Technical Services - GIS, SANDAG Land Layers Inventory Mapping Source: SanGIS landbase (i.e. parcels), SANDAG, County Assessor's Master Property Records file, Cleveland National Forest, Bureau of Land Management (BLM), State Parks, other public agency contacts, and local agency review.

FIGURE 1.8 PLANNED LAND USE