Flight Procedures Cover Page	Task Action: FLIGHT CHECK	Task Type: SID	Estimated Chart Date: 03/21/2024	APWS Task ID: ABEAFCB5EFE34FEEB451EBEFFD7D6A22	APWS Project ID: A7B8EF90C9634458A2CF01386C256CEF
Procedure: SEGUL ONE (RNAV) SID		Enroute: YES	Specialist: Mccartney, Michael		Agreement Number:
Airport ID: KSFO			Airport City: SAN FRANCISCO		State: CA
Facility ID:	Facility Type:	Flight Inspection Remark Type: New FC Slot			

Procedure Comments:
ORIGINAL PROCEDURE USING ACTIVE DATA.

CONTACT: ERIC SUSKI, AJV-A431, MANAGER, (405) 954-7331.

QUALITY 20 CHECKED

Digitally signed by
ERIC N SUSKI
Feb 14, 2024

QUALITY 41 CHECKED

Data as of: 10/02/2023 14:41:43 CDT

FIPC BASIC FORM

PROCEDURE:	AIRPORT NAME:	AIRPORT ID:	SPECIAL CONTROL NO:
SEGUL ONE (RNAV) SID	SAN FRANCISCO INTL	KSFO	SG-02-188-24

FAC ID: SEGUL1	CITY: SAN FRANCISCO	ST: CA	ORIG CHART DATE: 07/11/2024

DFL TYPE:	THIRD PARTY:	EST. TIME ON SITE:	REIMB. NUMBER:	PTS TASK ID:
PROC/D	☐ YES	1.0		ABEAFCB5EFE34FEEB451EBEFFD7D6A22

PREFLIGHT NOTES

REVIEWER:	DATE:
COMMENTS:	CHECK ONE: ☐ FLT CK REQ ☐ NFCR ☐ REJECT

	YES	NO
CPV COMPLETE?	X	

PROCEDURE RESULTS

INSPECTION DATE:	CREW #:	N #:	INSTRUMENT PROCEDURE STATUS:	ARINC CODING:
05/21/2024	VN235	N83	☒ SAT ☐ SAT W/CHANGES ☐ UNSAT	☒ SAT ☐ SAT/GOLD ☐ UNSAT

FLIGHT INSPECTOR SIGNATURE:	PRINTED NAME:	NOTAM INITIATED?
thomas e molokie @ 05/21/2024 17:19	MOLOKIE, THOMAS EDWARD	☐ YES ☒ NO

FLIGHT INSPECTOR REMARKS:

Procedure satisfactory for GNSS operations, DME/DME awaiting AFS/WAJR approval.

IN-FLIGHT OBSTACLE REPORT

OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CATEGORICAL EXCLUSION DECLARATION

SEGUL ONE DEPARTURE (RNAV) (New)
ALWYS THREE ARRIVAL (RNAV) (Amend)
BDEGA FOUR ARRIVAL (RNAV) (Amend)
STLER FOUR ARRIVAL (RNAV) (Amend)
WWAVS TWO ARRIVAL (RNAV) (Amend)
PIRAT THREE ARRIVAL (RNAV) (Amend)
RNAV (GPS) RWY 10L (Amend)
OFFSHORE TWO DEPARTURE (Cancel)

San Francisco International Airport (KSFO)
San Francisco, California

Description of Proposed Action

The Federal Aviation Administration (FAA) is proposing to implement one new departure procedure, amend five arrival procedures, amend one approach procedure, and cancel one departure procedure at San Francisco International Airport (KSFO), San Francisco, California. The proposed procedures are as follows:

- SEGUL ONE DEPARTURE (Area Navigation [RNAV]) – New
- ALWYS THREE ARRIVAL (RNAV) – Amend
- BDEGA FOUR ARRIVAL (RNAV) – Amend
- STLER FOUR ARRIVAL (RNAV) – Amend
- WWAVS TWO ARRIVAL (RNAV) – Amend
- PIRAT THREE ARRIVAL (RNAV) – Amend
- RNAV (Global Positioning System [GPS]) Runway (RWY) 10 Left (L) – Amend
- OFFSHORE TWO DEPARTURE – Cancel

Amendments to the ALWYS TWO ARRIVAL (RNAV), BDEGA THREE ARRIVAL (RNAV), STLER THREE ARRIVAL (RNAV), WWAVS ONE ARRIVAL (RNAV), and PIRAT TWO ARRIVAL (RNAV) would update design criteria, add RWY 10 L/Right (R) transitions, and deconflict aircraft from Bay Area departures. Canceling the conventional OFFSHORE TWO departure procedure (a turbojet-only procedure) and replacing it with the SEGUL ONE DEPARTURE (RNAV) (also a turbojet-only procedure) will enable aircraft flight crews to enter the procedure into the aircraft's flight management system, thereby reducing the potential for error.

Proposed Action amendments to the ALWYS TWO ARRIVAL (RNAV), BDEGA THREE ARRIVAL (RNAV), STLER THREE ARRIVAL (RNAV), and PIRAT TWO ARRIVAL (RNAV) either occur well above altitudes necessary for environmental consideration, or over

water. Therefore, when considering study areas, only the proposed RNAV (GPS) RWY 10L, WWAVS TWO ARRIVAL (RNAV), and SEGUL ONE DEPARTURE (RNAV) procedures required further analysis with study areas.

Annual aircraft operational statistics at KSFO were obtained from the Performance Data Analysis and Reporting System (PDARS) database for a period of December 6, 2022–December 5, 2023, and are presented in **Tables 1** and **2**.

Table 1. PDARS Operational Statistics at KSFO Fleet Mix

Category	Annual Aircraft Operations 12/6/2022–12/5/2023	Percentage	Average Per Day
Jet Heavy	62,237	16.67	170.51
Jet Large	292,201	78.29	800.55
Jet Small	15,177	4.07	41.58
Turboprop	2,740	0.73	7.51
Piston Props	104	0.03	0.28
Helicopter	733	0.20	2.01
Unknown	25	0.01	0.07
Total	***373,217***	***100.00***	***1,022.51***

Table 2. PDARS Operational Statistics at KSFO Runway Use

Runway	Arrivals	Departures	Totals
RWY 10L	247	4,803	5050
RWY 10R	218	3,140	3,358
RWY 28L	64,853	56,785	121,638
RWY 28R	113,161	13,968	127,129
RWY 1L	0	39,136	39,136
RWY 1R	3	66,431	66,434
RWY 19L	8,034	104	8,138
RWY 19R	436	823	1,259
Unknown	314	761	1,075
Totals	***187,266***	***185,951***	***373,217***

Table 3. Description of Proposed Action

Proposed Procedure	Proposed Changes
SEGUL ONE DEPARTURE (RNAV) (New)	Would replace the OFFSHORE TWO DEPARTURE. • SEPDY waypoint (WP) would move approximately (~)0.64 nautical miles (NM) east from its current location. • WAMMY WP would be added ~19.69 NM southwest of SEPDY WP and ~13.65 NM southwest of SENZY WP. • MCKEY WP would be replaced with YYUNG WP located ~2.10 NM northeast of MCKEY WP. Runway transition to common WP—SEGUL WP—would be: • From RWY 1 L/R: Climb on heading 014° to 513 ft MSL, then climbing left turn direct SEPDY WP, then left turn direct WAMMY WP, then track 154° to cross SEGUL WP at or above (AOA) 16,000 feet (ft) mean sea level (MSL) (over water). • From RWY 28 L/R: Climb on heading 284° to 513 ft MSL, then climbing left turn direct SENZY WP, then left turn direct WAMMY WP, then track 154° to cross SEGUL WP AOA 16,000 ft MSL (over water). En route transition from SEGUL WP to YYUNG WP would be: • From SEGUL WP track 154° to cross CYPRS WP AOA flight level (FL) 220 (over water). [1] Minimum en route altitude (MEA) of 16,000 ft MSL would be established between SEGUL WP and CYPRS WP. Minimum obstruction clearance altitude (MOCA) would be 2,200 ft MSL. • From CYPRS WP track 115° to cross YYUNG WP. MEA would be FL220, MOCA would be 4,600 ft MSL.
ALWYS THREE ARRIVAL (RNAV) (Amend)	• MEA from RUSME WP to DYAMD WP would decrease from FL220 to FL200. • MOCA of 15,300 ft MSL would be established between INYOE WP and DYAMD WP. • MOCA of 15,300 ft MSL would be established between RUSME WP and DYAMD WP. • MEAs and MOCAs between DYAMD WP and ALWYS WP would be removed. • Would add RWY 10 L/R transition to the procedure.

[1] In aviation, a flight level (FL) is an aircraft's altitude at standard air pressure and therefore is not necessarily the same as the aircraft's actual altitude, either above sea level or above ground level. Aircraft altitudes AOA 18,000 ft will be referenced in FL.

Proposed Procedure	Proposed Changes
BDEGA FOUR ARRIVAL (RNAV) (Amend)	• PEENO transition—PEENO WP to LOZIT WP—would be removed. • PYLLE WP would move approximately (~)5.35 nautical miles (NM) north of its current location. Course heading from LEGGS WP to PYLLE WP would change from 216° to 219°. Course heading from PYLLE WP to BGGLO WP would change from 216° to 205°. • QUINN WP would move ~2.98 NM northwest of its current location and along the existing flight path. • JONNE WP would move ~4.12 NM north-northwest of its current location and along the existing flight path. • MSCAT WP would move ~3.50 NM north-northeast of its current location and along the existing flight path. • RWY 1R and RWY 28 L/R identifiers would be added to the published procedure description. Altitudes would remain the same except: • MOCA between AMAKR WP and QUINN WP would increase from 4,600 ft MSL to 4,700 ft MSL. • Crossing restriction at LOZIT WP would change from at or below (AOB) 16,000 ft MSL to between 14,000 ft MSL and 16,000 ft MSL, inclusive. • MEA between LEGGS WP and PYLLE WP would increase from 11,000 ft MSL to 15,000 ft MSL. • MEA between MLBEC WP and JONNE WP would increase from 11,000 ft MSL to 15,000 MSL. • MOCA between JONNE WP and BGGLO WP would increase from 3,800 ft MSL to 4,300 ft MSL. • MOCA between MSCAT WP to BGGLO WP would increase from 4,500 ft MSL to 5,400 ft MSL. Speed restrictions would remain the same except: • Speed restriction of At 280 knots indicated airspeed (KIAS) would be established at MLBEC WP. • Speed restriction of At 280 KIAS would be established at MRRLO WP.
STLER FOUR ARRIVAL (RNAV) (Amend)	Flight paths and WP locations would remain the same except: • PEENO transition—PEENO WP to LOZIT WP—would be removed. • QUINN WP would move ~2.98 NM northwest of its current location and along the existing flight path. • PYLLE WP would move ~5.35 NM north of its current location. Course heading from LEGGS WP to PYLLE WP would change from 216° to 219°. Course heading from

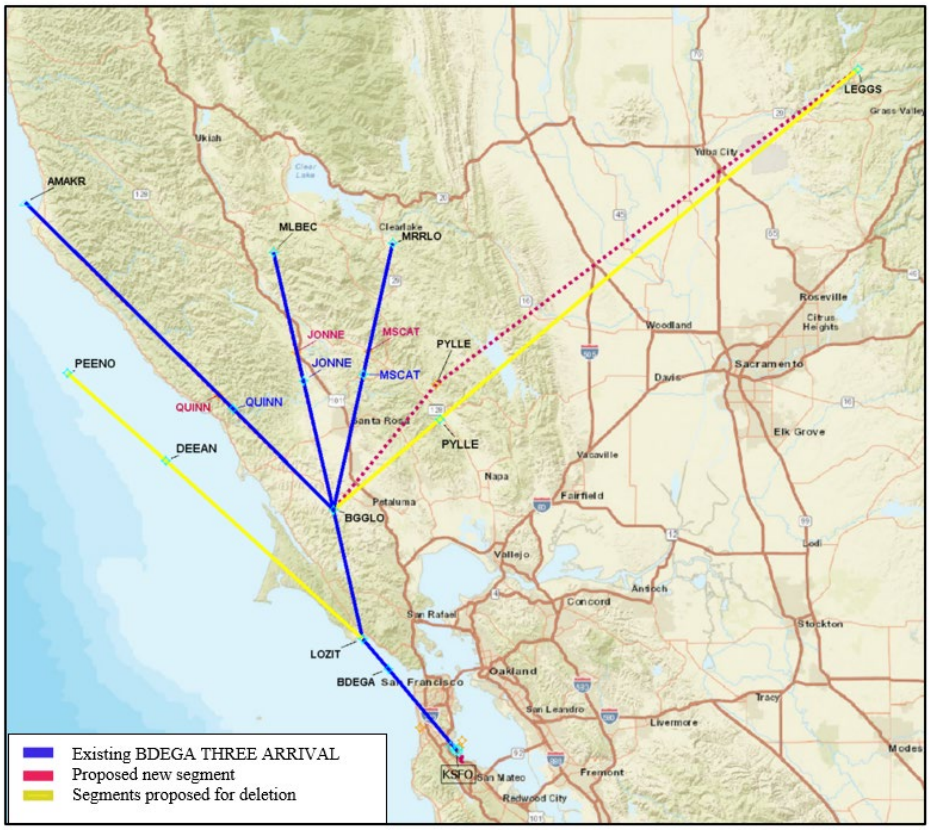
Proposed Procedure	Proposed Changes
	PYLLE WP to BGGLO WP would change from 216° to 205°. • JONNE WP would move ~4.12 NM north-northwest of its current location and along the existing flight path. • MSCAT WP would move ~3.50 NM north-northeast of its current location and along the existing flight path. • PDROW WP would be added ~3.5 NM south of STLER WP. • Would add a RWY 10 L/R transition to the procedure. From STLER WP aircraft would track 175° to cross PDROW WP At 7,000 ft MSL, then on track 180°. Expect radar vectors to final approach course. Altitudes would remain the same except: • MOCA between AMAKR WP and QUINN WP would increase from 4,600 ft MSL to 4,700 ft MSL. • MOCA of 4,400 ft MSL would be added between QUINN WP and BGGLO WP. • Minimum crossing restriction at BGGLO WP would increase from block altitude 15,000 ft MSL to FL190 inclusive to block altitudes 16,000 MSL to FL190 inclusive.[2] Maximum crossing restriction would remain the same. • MOCA of 4,100 ft MSL would be added between BGGLO WP and LOZIT WP. • MOCA of 5,600 ft MSL would be added between LEGGS WP and PYLLE WP. • MEA between LEGGS WP and PYLLE WP would increase from 11,000 ft MSL to 15,000 ft MSL. • MOCA of 4,400 ft MSL would be added between PYLLE WP and BGGLO WP. • MOCA of 4,100 ft MSL would be added between BGGLO WP and LOZIT WP. • MEA between MLBEC WP and JONNE WP would increase from 11,000 ft MSL to 15,000 ft MSL. • MOCA of 5,700 ft MSL would be added between MLBEC WP and JONNE WP. • MOCA of 6,600 ft MSL would be added between MRRLO WP and MSCAT WP.

[2] In aviation, a flight level (FL) is an aircraft's altitude at standard air pressure and therefore is not necessarily the same as the aircraft's actual altitude, either mean sea level or above ground level. Aircraft altitudes AOA 18,000 ft will be referenced in FL.

Proposed Procedure	Proposed Changes
WWAVS TWO ARRIVAL (RNAV) (Amend)	• PLLAR WP would be added ~30.75 NM northwest of WPOUT WP. • Transition to RWY 10 L/R would be added: From WPOUT WP aircraft would track 305° to cross PLLAR WP At 6,000 ft MSL and AT 210 KIAS, then track 310°. Expect radar vectors to final approach course. • THEEZ WP would move ~0.10 NM southeast of its current location and along the existing flight path. • Speed restriction at THEEZ WP would decrease from 240 KIAS to 230 KIAS. • Would add a crossing restriction of At 6,000 ft MSL at MVRKK WP. • All MEAs would be removed from the procedure.
PIRAT THREE ARRIVAL (RNAV) (Amend)	Altitudes would remain the same except: • MOCA of 2,200 ft MSL would be added between SUPER WP and PIRAT WP. • MEA between SUPER WP and PASIF WP would decrease from 15,000 ft MSL to 10,000 ft MSL. • Crossing restriction at PASIF WP would decrease from AOB FL195 to AOB 14,000 ft MSL. • Crossing restriction at PIRAT WP would decrease from AOB 15,000 ft MSL to At 10,000 ft MSL. • MOCA of 2,200 ft MSL would be added between HUNTS WP and PASIF WP. • MEA between HUNTS WP and PASIF WP would decrease from 15,000 ft MSL to 10,000 ft MSL. • MOCA of 2,200 ft MSL would be added between PAINT WP and SUPER WP. • MOCA of 2,200 ft MSL would be added between WUSES WP and SUPER WP. • Crossing and speed restrictions at BRINY WP would be removed.
RNAV (GPS) RWY 10L (Amend)	Flight paths, WP locations, and altitudes would remain the same, with some changes: • Crossing restriction at STINS WP would be AOA 3,700 ft MSL. • NORMM WP would be removed from the procedure and replaced with ILUDY WP located ~0.62 NM north-northeast of NORMM WP. Course heading from STINS WP to ILUDY WP would be 114°. • Crossing restriction at ILUDY WP would be AOA 3,500 ft MSL (over water).

Proposed Procedure	Proposed Changes
	• XATTU WP would move ~0.26 NM north-northeast from current location. Course heading from ILUDY WP to XATTU WP would be 107°. • Crossing restriction at XATTU WP would be AOA 1,800 ft MSL (~1,216 ft AGL). • Final approach course heading from XATTU WP would be change from 104° to 107°. Missed approach procedure would change to: Climb to 3,000 ft MSL direct DUMBA WP and hold.
OFFSHORE TWO DEPARTURE (Cancel)	Procedure would be cancelled.[3]

Figure 1. Proposed Amended BDEGA FOUR ARRIVAL



[3] Cancellation of a routes is a publication action and would remove the route from publication. No environmental impacts are anticipated with the implementation of the cancellation. There would be no increase in operations nor a change in aircraft fleet mix with the implementation of the cancelation.

Figure 2. Proposed Amended STLER FOUR ARRIVAL

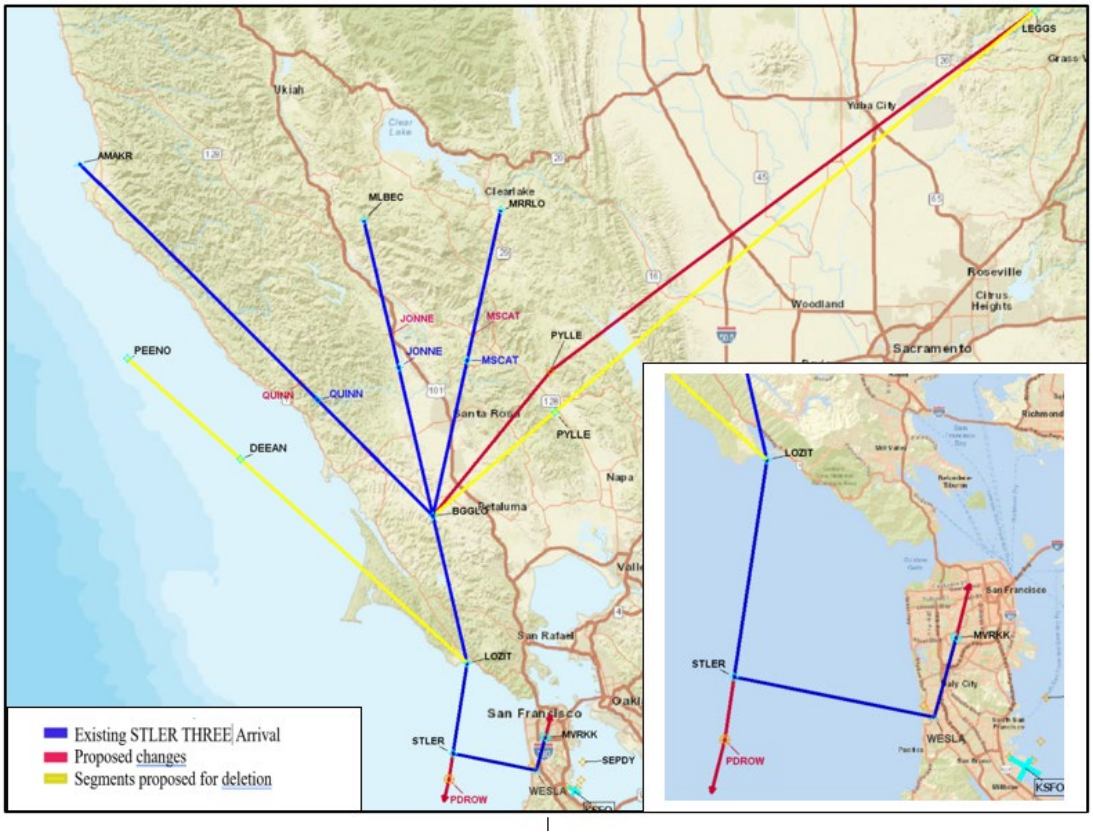


Figure 3. Proposed Amended WWAVS TWO ARRIVAL (RNAV)

Figure 4. Proposed Amended RNAV (GPS) RWY 10L

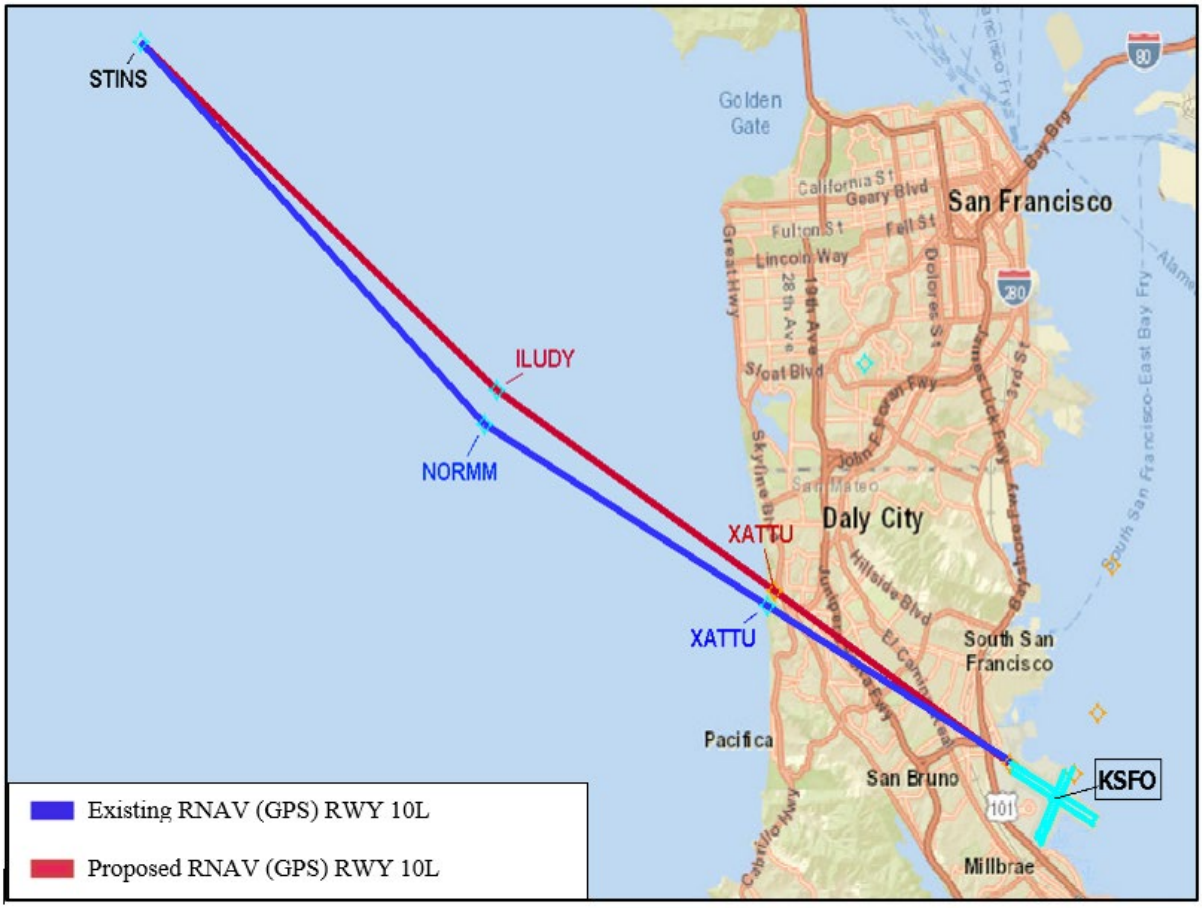
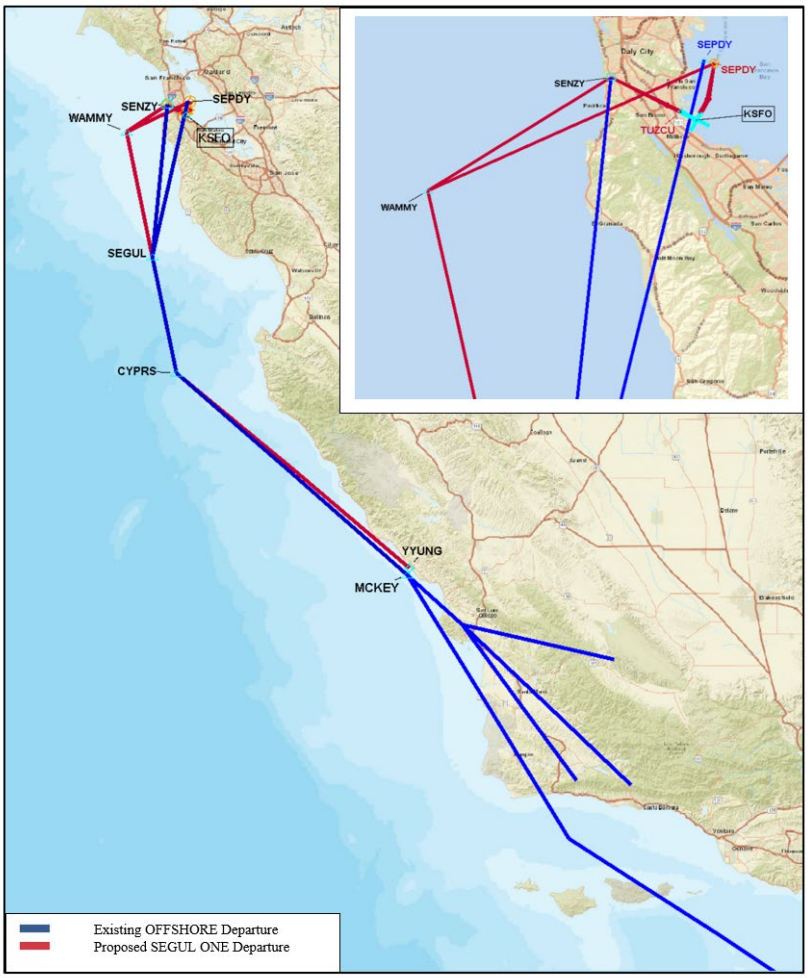


Figure 5. Proposed SEGUL ONE DEPARTURE (RNAV) Compared to Canceled OFFSHORE TWO DEPARTURE



The Proposed Action is an air traffic action and does not involve land acquisition, any physical ground disturbance, construction, excavation or development activities, or discharges to water bodies. The following environmental impact categories were assessed and were considered either to not be present or to have negligible or nonexistent effects from the Proposed Action and, in accordance with Council on Environmental Quality (CEQ) regulations, did not warrant further analysis:

- Biological Resources (including Fish, Wildlife, and Plants)
- Climate
- Coastal Resources
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Architectural and Archeological Resources (except Historical and Cultural Resources)

- Land Use
- Natural Resources and Energy Supply
- Socioeconomic Impacts and Children's Environmental Health and Safety Risks (except Environmental Justice)
- Visual Resources (except Visual Impacts)
- Water Resources (including Wetlands, Floodplains, Surface Waters, Groundwater, and Wild and Scenic Rivers)

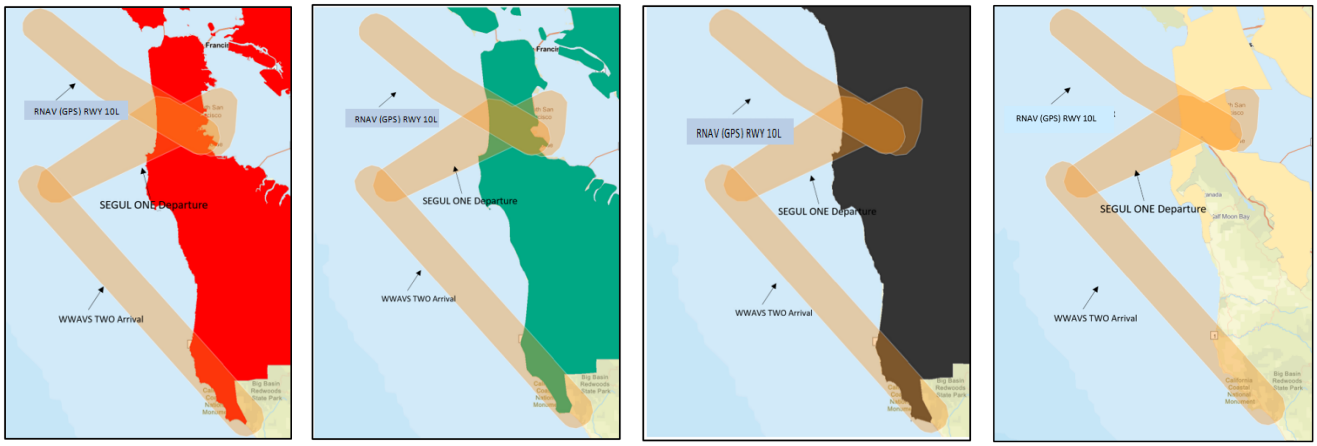
A project study area of approximately one nautical mile on either side centerline of the proposed procedure track was established for the Proposed Action. For the Proposed Action, the FAA assessed the following environmental impact categories, which, if they result in a significant impact, would preclude use of a categorical exclusion to satisfy National Environmental Policy Act (NEPA) requirements:

- Air Quality
- Biological Resources (Bird and Bat Species)
- Department of Transportation Act, Section 4(f)
- Historical and Cultural Resources (except Architectural and Archaeological Resources)
- Environmental Justice (except Socioeconomic Impacts and Children's Environmental Health and Safety)
- Noise and Noise-Compatible Land Use
- Visual Impacts (except Light Emissions)
- Cumulative Impacts

Air Quality

The NEPAssist tool identified that the proposed SEGUL ONE DEPARTURE (RNAV), RNAV (GPS) RWY 10L, and WWAVS TWO ARRIVAL (RNAV) procedures are located within the following nonattainment and/or maintenance areas within the project study area: nonattainment area for Ozone (O_3) 8-hour (2008 Standard) (red), nonattainment for O_3 (2015 Standard) (green), nonattainment for Particulate Matter 2.5 microns (PM2.5) 24-hour (2006 Standard) (black), and maintenance area for carbon monoxide (CO) (1971 Standard) (tan).

Figure 6. Nonattainment and Maintenance Areas within the Project Study Areas



Additionally, the Proposed Action would not change project-related aircraft emissions below 3,000 feet AGL. The Proposed Action is not intended to change the number of aircraft operations and fleet mix. The Proposed Action is presumed to conform to the State Implementation Plan (SIP). The Proposed Action is a type of action that promotes the safe, orderly, and expeditious flow of aircraft traffic, including airport, approach, departure, and enroute air traffic control (ATC) procedures. Therefore, these changes are presumed to conform as emissions from these types of actions are below the applicable *de minimis* levels (40 CFR 93.153[c][2][xxii]). The EPA regulations identify certain actions that would not exceed these thresholds, including ATC activities and adoption of approach, departure, and enroute ATC procedures for aircraft operations above the mixing height specified in the applicable SIP (or 3,000 feet AGL) in places without an established mixing height. FAA Order 1050.1F provides that further analysis for NEPA purposes is normally not required where emissions do not exceed the EPA's *de minimis* thresholds.

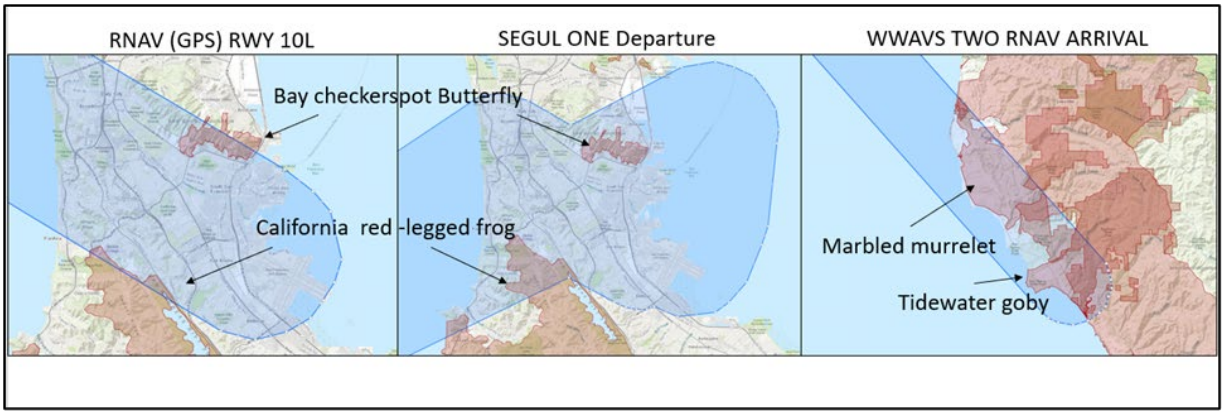
Implementation of this Proposed Action is not expected to affect air quality and is presumed to conform as Category 14, "Air Traffic Control Activities and Adopting Approach, Departure and Enroute Procedures for Air Operations," as identified in the General Conformity Rule, 72 Fed. Reg. 41565–41580 (July 30, 2007).

Biological Resources (Avian and Bat Species)

The United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) database was reviewed to identify critical habitat located within the project study areas for the amended RNAV (GPS) RWY 10L and WWAVS TWO ARRIVAL (RNAV) and the new SEGUL ONE DEPARTURE (RNAV) procedures.

Critical habitat areas for the Bay checkerspot Butterfly (*Euphydryas editha bayensis*), California red-legged frog (*Rana draytonii*), Tidewater goby (*Eucycogobius newberryi*), and Marbled Murrelet (*Brachyramphus marmoratus*) have each been identified in the project study area for the Proposed Action. See **Figure7.**

Figure 7. Critical Habitat within the Proposed Action Study Areas



The IPaC database identified 52 migratory bird species that could potentially be located within the project study area. The project study area falls within the Pacific Flyway. Every year, migratory birds travel some or all of this distance in spring and fall, following food sources, heading to breeding grounds, or traveling to overwintering sites. The Proposed Action is an air traffic action only. Based on the analysis of existing flight track data obtained from the PDARS, aircraft are currently overflying this area of the Western Pacific Flyway. See **Figure 11**.

The greatest potential for impacts to wildlife species would result from wildlife strikes on avian and/or bat species at altitudes below 3,000 feet AGL. Changes to flight paths under the Proposed Action would primarily occur above 3,000 feet AGL. The Proposed Action is not intended to increase the number of aircraft operations or change the aircraft fleet mix. Therefore, the Proposed Action is not anticipated to result in an impact to biological resources.

Department of Transportation Act, Section 4(f)

The NEPAssist tool identified the following Section 4(f) resources within the project study area:

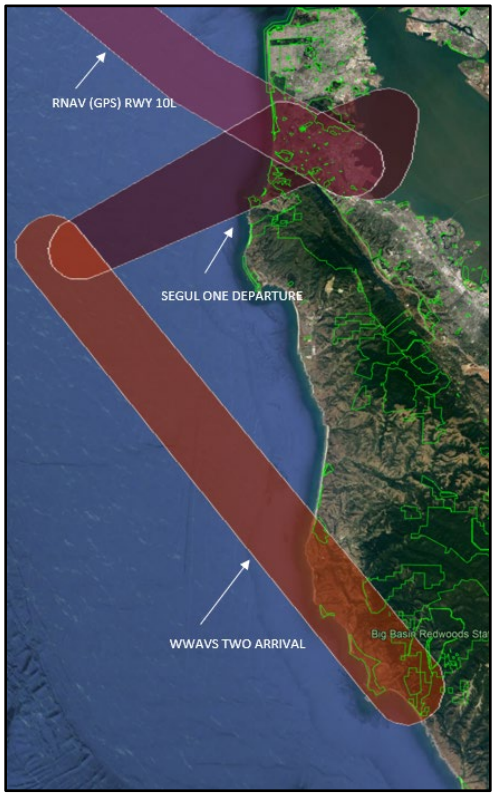
Table 4. List of 4(f) Resources within the Project Study Area

Name of 4(f) Resource	Governing Authority
Fort Funston	National Park Service
Thornton State Beach	California State Beach
Palisades Park	San Mateo County
Mussel Rock Park	National Park Service
Pacifica Esplanade Beach	City of Pacifica
Pacifica Municipal Pier	City of Pacifica
Rockaway Beach	City of Pacifica
Point San Pedro	National Park Service
Bacquiano Trail/ Sweeney Ridge	National Park Service
Pacifica State Beach (Linda Mar)/ San Pedro Beach	National Park Service
Mori Point	National Park Service
Pacifica Land Trust	National Park Service
Crestmoor Canyon	City of San Bruno
Ano Nuevo State Marine Reserve	State of California
Butano State Park	State of California
Bean Hollow State Beach	State of California

Pescadero State Beach	State of California
California Coastal National Monument*	Bureau of Land Management

**Not shown in Fig. 8*

Figure 8. Section 4(f) Resources within the Project Study Area in Google Earth



The Proposed Action would not involve land acquisition, construction, or other physical ground disturbance. The FAA considered that certain protected resources may be potentially sensitive to the effects of overflights that introduce a visual or audible element. The number of aircraft operations and the aircraft fleet mix are not expected to change as a result of the implementation of the Proposed Action. Additionally, civilian jet aircraft are currently overflying the area and would continue to overfly the area. See **Figure 11**. Furthermore, a noise screening of potential noise impacts was completed for this Proposed Action using the TARGETS Environmental Plug-in tool and the TARGETS Aviation Environmental Design Tool (AEDT) plug-in. Proposed procedures in the study area passed the noise analysis. Therefore, no noise impacts are anticipated with the implementation of the Proposed Action.

No new areas would be overflown, and the areas overflown are predominantly over water; aircraft would continue to overfly the area as they would with the No Action Alternative. Thus, the FAA determined that there would be no potential to introduce either new visual elements or

reportable or significant audible elements that could constitute a constructive use of protected resources.

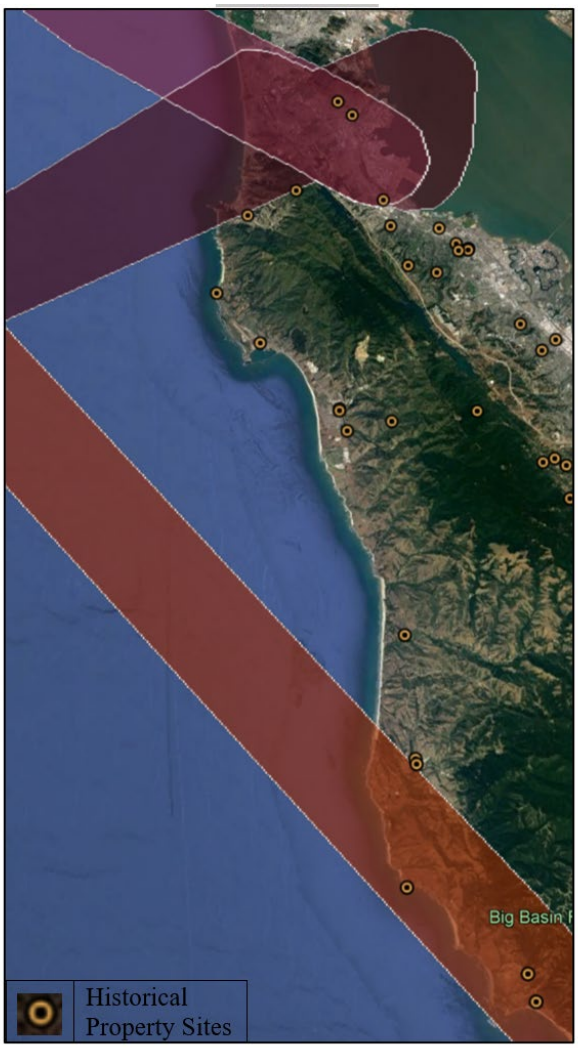
Historical, Architectural, Archaeological, and Cultural Resources

A search of the National Register of Historic Places (NRHP), accessed through the NPS Google Earth plug-in are summarized in **Table 5** and depicted in **Figure 9**.

Table 5. List of Historic Properties in the Study Area

Procedure	Historic Property	NPS Number	Significance
WWAVS TWO ARRIVAL (RNAV)	Dickerman Barn	82002259	Agriculture/Architecture
	Green Oaks Ranch House	76000526	Agriculture/Industry
	Pigeon Point Lighthouse	77000337	Architecture; Commerce; Engineering; Military; Politics/Government; Transportation
RNP (GPS) RWY 10L & SEGUL ONE DEPARTURE (RNAV)	Southern Pacific Depot	78000770	Transportation/Architecture
	Martin Building	97000043	Community Planning and Development
	South San Francisco Hillside Sign	96000761	Social History; Other

Figure 9. Historical Sites near the Proposed Procedure Using Google Earth



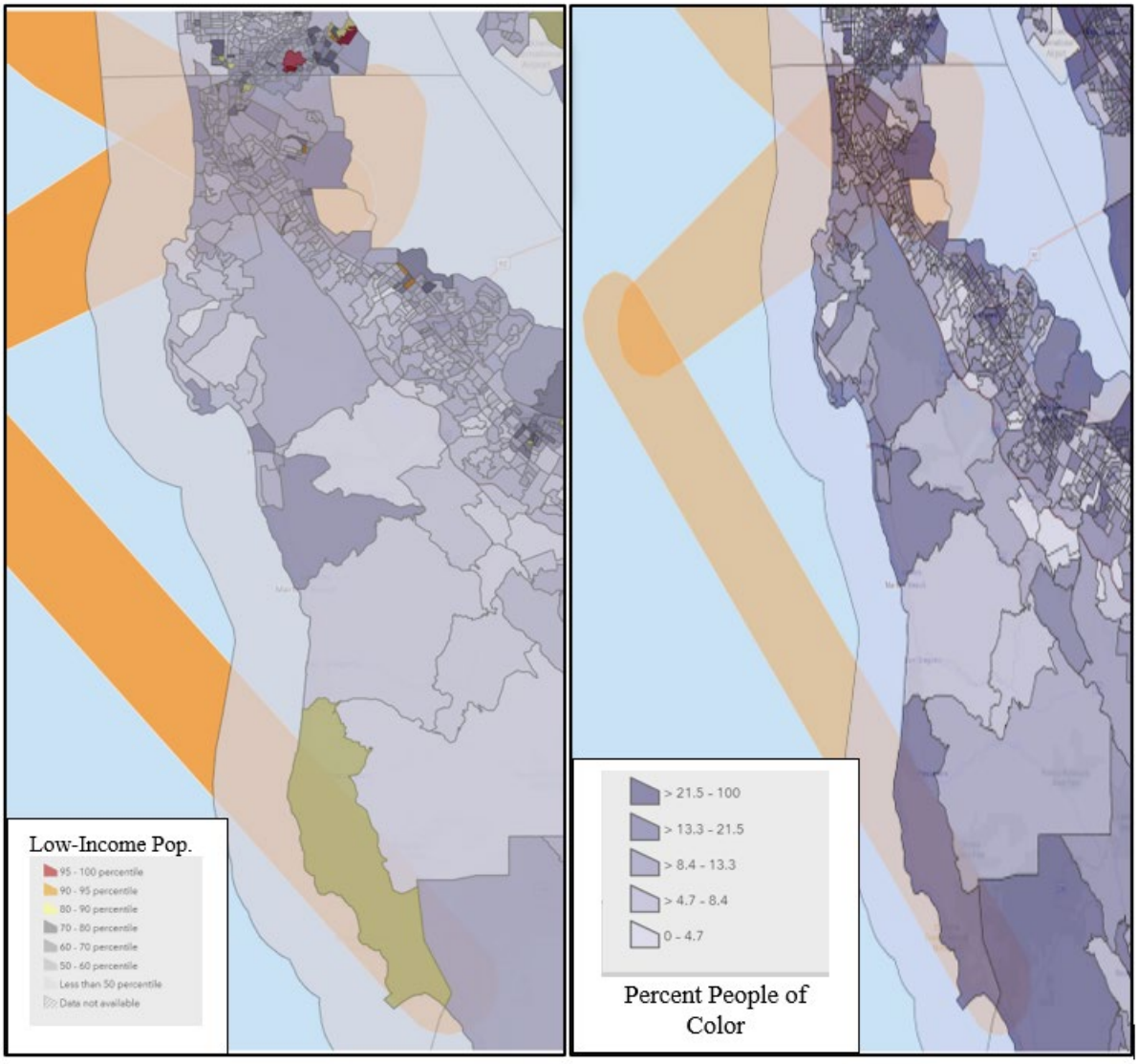
The identified historic resources are currently overflown, and the results of the noise analysis indicate that no significant or reportable noise impacts are expected near these resources as a result of the implementation of the Proposed Action. Furthermore, there would be no land acquisition, construction activities, or other physical ground disturbance with the implementation of the Proposed Action. Therefore, the FAA has concluded that an impact to known listed historical properties is not anticipated.

Environmental Justice (Subcategory under the General Heading of Socioeconomic Impacts)

An environmental justice analysis considers the potential for impact on minority and low-income populations of the Proposed Action compared to the No Action Alternative. Considering whether the Proposed Action raises environmental justice concerns, the FAA considers whether a Proposed Action may have disproportionately high and adverse human health or environmental effects on minority and low-income populations. This analysis draws on the findings of the other impact analyses, particularly noise, land use, and air quality. If these factors exist, there is not

necessarily a significant impact; rather, the FAA must evaluate these factors in light of the context and intensity to determine if there are significant impacts.

Figure 10. Low-Income and People of Color Percentiles in the Study Area



While the concentration of low-income households and percentage of people of color in the study areas may be somewhat elevated, the study area was previously overflown by aircraft. See **Figure 11.** Implementation of the Proposed Action would not adversely affect air quality or land use within the vicinity of the Proposed Action. Furthermore, a noise screening of potential noise impacts was not completed for this Proposed Action because the proposed amendments are de minimis in nature and would not appreciably change where aircraft are currently flying. No new areas would be overflown, and the areas overflown are predominantly unpopulated; aircraft would continue to overfly the area as they would with the No Action Alternative. Furthermore, a change in the number of aircraft operations—including those occurring between 10 p.m. and 7

a.m.—and a change to the aircraft fleet mix are not part of the purpose and need of the Proposed Action.

Based on the available information, there would be no disproportionate impacts on minority or low-income populations due to the Proposed Action when compared to the No Action Alternative. Therefore, an impact related to environmental justice is not anticipated.

Noise and Noise-Compatible Land Use

Historical radar track data for KSFO was obtained from PDARS. Dates were randomly selected within a recent 60-day period (December 6, 2022 through December 5, 2023). The random dates are assumed to represent average runway usage, flight paths, and day/night traffic ratios by capturing a range of temperature and wind conditions. See **Figure 11**.

A noise screening/analysis was completed to assess the potential impacts from a change in aircraft noise exposure resulting from the Proposed Action. The noise screening/analysis was conducted in the Terminal Area Route Generation, Evaluation, and Traffic Simulation (TARGETS) Environmental Plug-in tool and the Aviation Environmental Design Tool (AEDT).

RNAV (GPS) RWY 10L

For screening of the amended RNAV (GPS) RWY 10L approach procedure, the Operations Test (OPS Test) was used in accordance with MITRE's Center for Advanced Aviation System Development's *Guidance for Noise Screening of Air Traffic Actions* (December 2012). The OPS Test is a tool to help determine if further noise screening is required based on the number of operations on the RNAV (GPS) RWY 10L. An increase in operations and a change in fleet mix is not part of the purpose and need. RNAV (GPS) RWY 10L passed the OPS Test and no further noise analysis was required for the procedure.

WWAVS TWO ARRIVAL (RNAV)

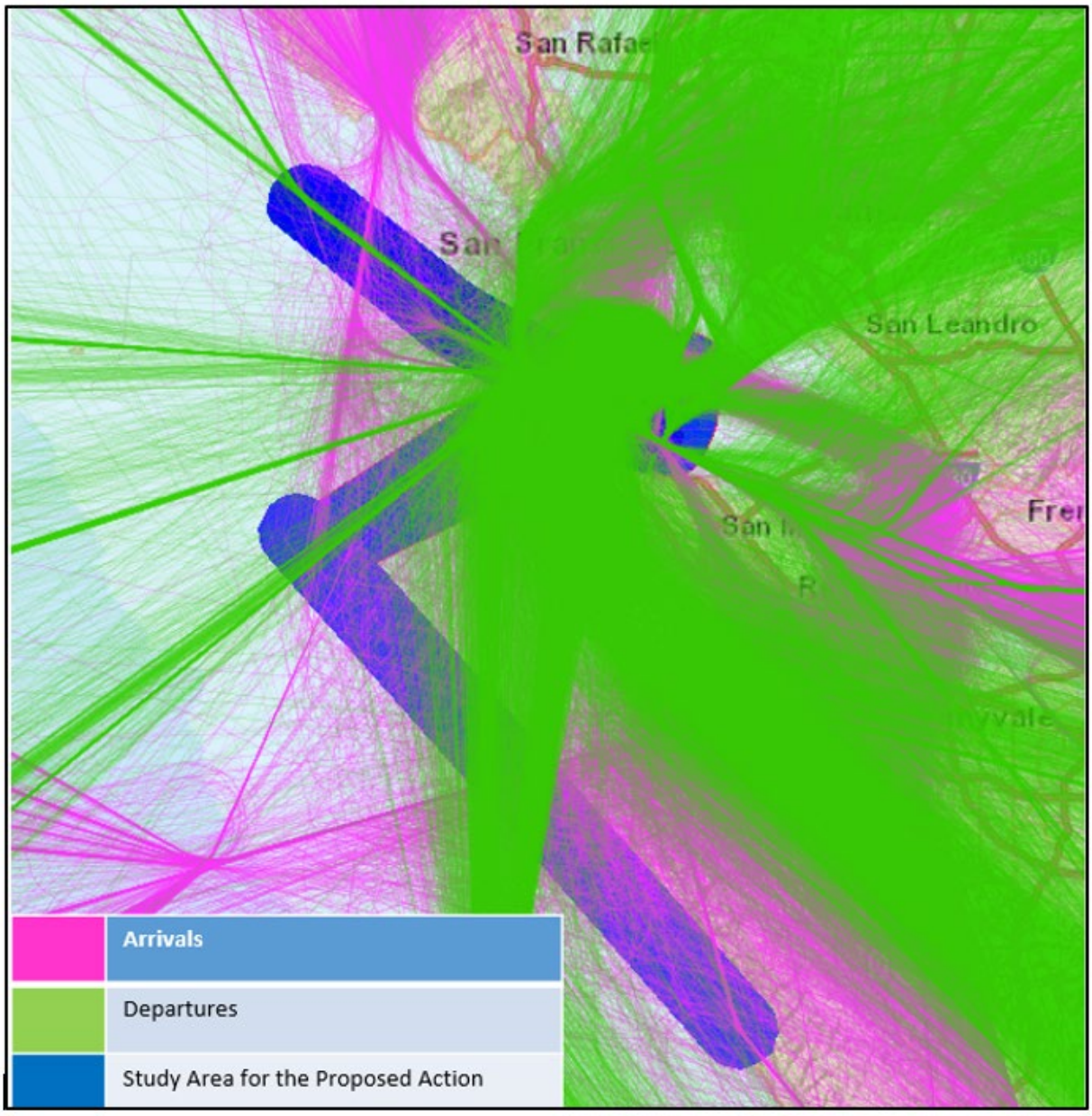
For screening of the WWAVS TWO ARRIVAL (RNAV), the Traffic Test (TRAF Test) was used in accordance with MITRE's Center for Advanced Aviation System Development's *Guidance for Noise Screening of Air Traffic Actions* (December 2012). The TRAF Test is a tool to help determine if the number of operations on a particular route or procedure is high enough to generate noise levels that exceed noise screening thresholds based on the fleet mix. ATC anticipates the new segment of the WWAVS TWO ARRIVAL (RNAV) from WPOUT WP to PLLAR WP would be used by ~5% of aircraft landing to RWY 10L/R. An increase in operations and a change in fleet mix is not part of the purpose and need. The WWAVS TWO ARRIVAL (RNAV) passed the TRAF Test and no further noise analysis was required for this procedure.

SEGUL ONE DEPARTURE (RNAV)

Noise analysis was completed to assess potential impacts resulting from proposed air traffic actions at KSFO using the TARGETS Environmental Plug-in tool and the AEDT. Historical radar track data was used to create a baseline scenario. After the baseline scenario was built, aircraft operations were reassigned to the proposed procedures, which provides the alternative scenario. Once the baseline and alternative scenarios were built, the TARGETS Environmental Plug-in Tool was used to generate noise outputs for both scenarios using AEDT. The scenarios

were then compared to determine the potential for significant noise impacts. In the case of KSFO, there were **no reportable and no significant** impacts resulting from the proposed action.

Figure 11. Historical Flight Tracks in TARGETS with Proposed Procedures



*Tracks at 90% Transparency

Cumulative Impacts

Consideration of cumulative impacts applies to the impacts resulting from the implementation of the Proposed Action combined with other actions. A cumulative impact is defined as an impact on the environment, which results from the incremental impact of the action when added to other, recent and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions.

Analyzing cumulative impacts is considered within geographic (spatial) and time (temporal) boundaries. Reasonably foreseeable future actions refer to projects that would likely be completed within the next five years and do not include those actions that are highly speculative or indefinite. The types of projects considered under the cumulative impact analysis were primarily limited to airfield projects, specifically projects that directly affect or involve runways and modifications to parallel taxiways (TWY) (e.g., lengthening and/or widening). These types of projects may affect aircraft flight operations.

A comprehensive search identified the KSFO Draft Airport Development Plan (DADP) (2016).[4] The DADP provides a road map for efficiently meeting aviation demand through the reasonably foreseeable future while preserving the flexibility necessary to respond to changing airport needs and industry conditions. The KSFO DADP established a phasing plan broken down into Ongoing Development Projects (2011-2016), Near-Term Development Projects (2016-2021), and Long-Term Development Projects (2022 forward).

The following RWY/TWY projects were identified in the near-term development projects (2016-2021):

- TWY F2 would provide a second runway-entrance TWY to RWY 28L.
- TWY S3 fillet was added to TWY S (to be renamed TWY S3) at the end of RWY 10R.
- TWY C East would shift TWY C to a separation distance of 550 feet from the RWY 28R centerline along the eastern 6,850 feet of the RWY. Relocate the existing stormwater pump station 1B to the northwest. Rename TWY W to TWY C2.
- TWY C3 would realign TWY C1 perpendicular to RWY 10L/28R and rename it to TWY C3.
- TWY R North would realign TWY R perpendicular to the RWY between RWY 10L/28R and TWY C.
- TWY R South would upgrade TWY R between RWYs 10L/28R and 10R/28L to accommodate larger aircraft and close TWY U between TWY C and RWY 10R/28L.
- TWY F1 would realign TWY F1 at a separation of 800 feet from TWY F and rename it TWY W.
- TWYs T and D would realign TWY T to a similar angle as TWY Q and separate TWYs D and T at the RWY 10R/28L crossing point.
- TWYs E and J would reconfigure TWY E as an acute-angled exit TWY and realign and shift TWY J farther from RWY 1L/19R.
- TWY F West would shift TWY F farther from RWY 10R/28L between TWYs B and L.

[4] KSFO ADP (2016), https://www.flysfo.com/about-sfo/sfo-tomorrow/draft-final-airport-development-plan, accessed January 25, 2024.

- TWY F East would shift TWY F farther from RWY 10R/28L between TWYs L and N.
- TWY N would realign TWY N at its intersection with TWY F.
- Helipad would provide a dedicated helipad northwest of Building 1050.
- TWYs H and M would realign TWYs H and M to the southwest; rename to TWYs M1 and M2, respectively, to conform to FAA naming convention.

The following RWY/TWY projects were identified in the long-term development projects (2022 forward):[5]

- TWY B realignment would shift TWY B 22 feet to the northwest to meet FAA design standards.
- TWY A realignment would shift TWY A 15 feet to the northwest to meet FAA design standards.

A review of historical FAA Airport Improvement Program (AIP) grants indicated that KSFO has received the following grants for RWY/TWY modifications/improvements within the last five years.[6] The Airport Improvement Program (AIP) grant funding indicates that the total amount of grants for infrastructure projects at KSFO in 2023 was $15,207,247 for taxiway rehabilitation. Between 2019 and 2022, KSFO was awarded $52,299,930 in AIP entitlements or discretionary funding to reconstruct runways, rehabilitate taxiways and runways.

The Terminal Area Forecast (TAF) report projects that total aircraft operations at KSFO are expected to increase by 36.19% between 2023 and 2028.[7]

Table 6 summarizes proposals for amendments to flight procedures that have been recently published, are under development, or are pending.

Table 6. Proposals for Amendments to KSFO Flight Procedures

Procedure Name	Scheduled Pub. Date	Status
GLS RWY 19R, AMDT 1	11/30/2023	Published
GLS RWY 19L, AMDT 1	11/30/2023	Published
ILS OR LOC RWY 19L, AMDT 23	11/30/2023	Published
RNAV (GPS) RWY 19L, AMDT 4	11/30/2023	Published
RNAV (GPS) Y RWY 19R, AMDT 4	11/30/2023	Published
RNAV (GPS) Z RWY 19R, ORIG	11/30/2023	Published

[5] KSFO ADP (2016), https://www.flysfo.com/sites/default/files/default/about/Chapter_6_Recommended_ADP_Draft_Final.pdf, accessed January 28, 2024.
[6] FAA AIP Histories, https://www.faa.gov/airports/aip/grant_histories, accessed January 28, 2024.
[7] Federal Aviation Administration (taf.faa.gov), accessed on January 28, 2024.

NIITE FOUR (RNAV) SID	7/11/2024	Under Development
RNAV (GPS) X RWY 28R, AMDT 1B	7/11/2024	Awaiting Cancellation
GLS RWY 10L, ORIG	2/20/2025	Pending
GLS RWY 10R, ORIG	2/20/2025	Pending
GLS T RWY 28R, ORIG	2/20/2025	Pending
GLS W RWY 28R, ORIG	2/20/2025	Pending
GLS X RWY 28R, ORIG	2/20/2025	Pending
GLS Y RWY 28L, ORIG	2/20/2025	Pending
GLS Y RWY 28R, ORIG	2/20/2025	Pending
GLS Z RWY 28L, ORIG	2/20/2025	Pending
GLS Z RWY 28R, ORIG	2/20/2025	Pending

The Proposed Action has independent utility and is unrelated to the projects above. There would be no anticipated change in aircraft operations or change to aircraft fleet mix in connection with the Proposed Action. The Proposed Action would have no long-term impacts on air traffic operations; therefore, cumulative impacts are not anticipated when compared to the No Action Alternative.

Extraordinary Circumstances

In accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* Paragraph 5-2, Extraordinary Circumstances, the FAA has reviewed the Proposed Action for factors and circumstances in which a normally categorically-excluded action may have a significant environmental impact requiring further analysis. The FAA has determined that no extraordinary circumstances exist that warrant additional environmental review.

Declaration of Exclusion

The FAA has reviewed the above referenced proposed action and it has been determined, by the undersigned, to be categorically excluded from further environmental documentation according to FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*. The implementation of this action will not result in any extraordinary circumstances in accordance with FAA Order 1050.1F.

Basis for this Determination

The IFP Environmental Pre-Screening Filter was used to document the analysis, which was reviewed by the Western Service Center. This review was conducted in accordance with policies and procedures in Department of Transportation Order 5610.1C, *Procedures for Considering*

Environmental Impacts, and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*.

The applicable categorical exclusion is:

5-6.5.i. Establishment of new or revised air traffic control procedures conducted at 3,000 feet or more above ground level (AGL); procedures conducted below 3,000 feet AGL that do not cause traffic to be routinely routed over noise sensitive areas; modifications to currently approved procedures conducted below 3,000 feet AGL that do not significantly increase noise over noise sensitive areas; and increases in minimum altitudes and landing minima. For modifications to air traffic procedures at or above 3,000 feet AGL, the Noise Screening Tool (NST) or other FAA-approved environmental screening methodology should be applied.

Recommended by

Facility Manager Review/Concurrence

Signature: _____ Date: _____
Name: Michael Galvan
Air Traffic Manager
Oakland Air Route Traffic Control Center

Signature: _____ Date: _____
Name: Francine Malabo
Air Traffic Manager
Northern California Terminal Radar Approach Control

Concurrence by

Western Service Area Environmental Protection Specialist

Signature:_____Date:_____
Name: Suzanne Nelson-Pittle
Environmental Protection Specialist, Operations Support Group
Western Service Center

Approval by

Western Service Area Director or Designee Approval

Signature:_____Date:_____
Name: B. G. Chew
Group Manager, Operations Support Group
Western Service Center

(SEGUL1.SEGUL) FIG

SEGUL ONE DEPARTURE (RNAV)

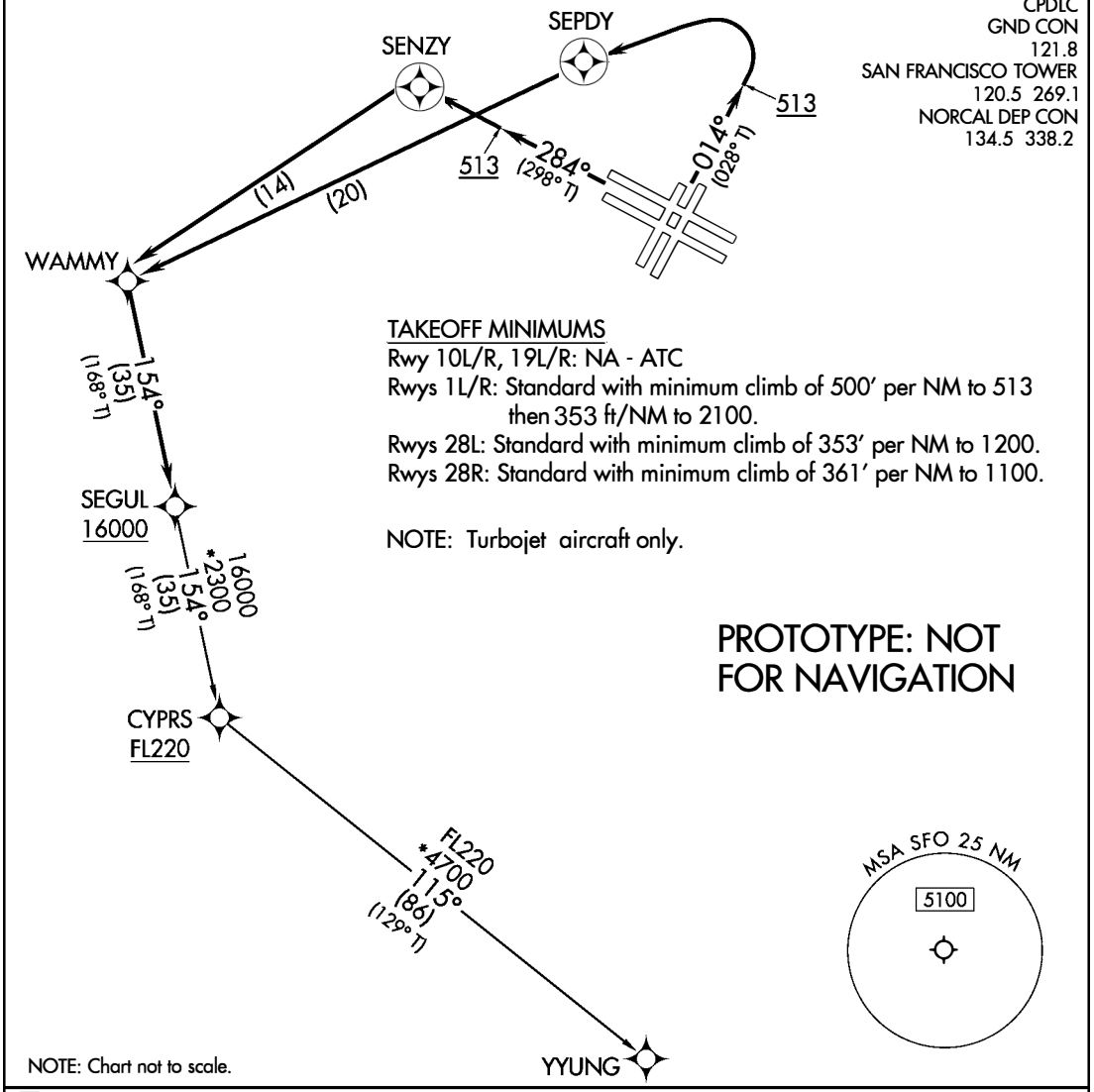
SAN FRANCISCO INTL (SFO)
SAN FRANCISCO, CALIFORNIA

AL-375 (FAA)

RNAV1 - DME/DME/IRU or GPS
RADAR required for non-GPS equipped aircraft.

TOP ALTITUDE: ASSIGNED BY ATC

D-ATIS 113.7 115.8 118.85
CLNC DEL 118.2
CPDLC
GND CON 121.8
SAN FRANCISCO TOWER 120.5 269.1
NORCAL DEP CON 134.5 338.2



TAKEOFF MINIMUMS
Rwy 10L/R, 19L/R: NA - ATC
Rwys 1L/R: Standard with minimum climb of 500′ per NM to 513 then 353 ft/NM to 2100.
Rwys 28L: Standard with minimum climb of 353′ per NM to 1200.
Rwys 28R: Standard with minimum climb of 361′ per NM to 1100.

NOTE: Turbojet aircraft only.

PROTOTYPE: NOT FOR NAVIGATION

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAY 1L/1R: Climb on heading 014° to 513, then left turn direct SEPDY then left turn direct WAMMY, then on track 154° to cross SEGUL at or above 16000, thence . . . .
TAKEOFF RUNWAYS 28L/R: Climb on heading 284° to 513, then direct SENZY then left turn direct WAMMY, then on track 154° to cross SEGUL at or above 16000, thence . . . .

. . . . on YYUNG transition. Maintain ATC assigned altitude, expect filed altitude 10 minutes after departure.

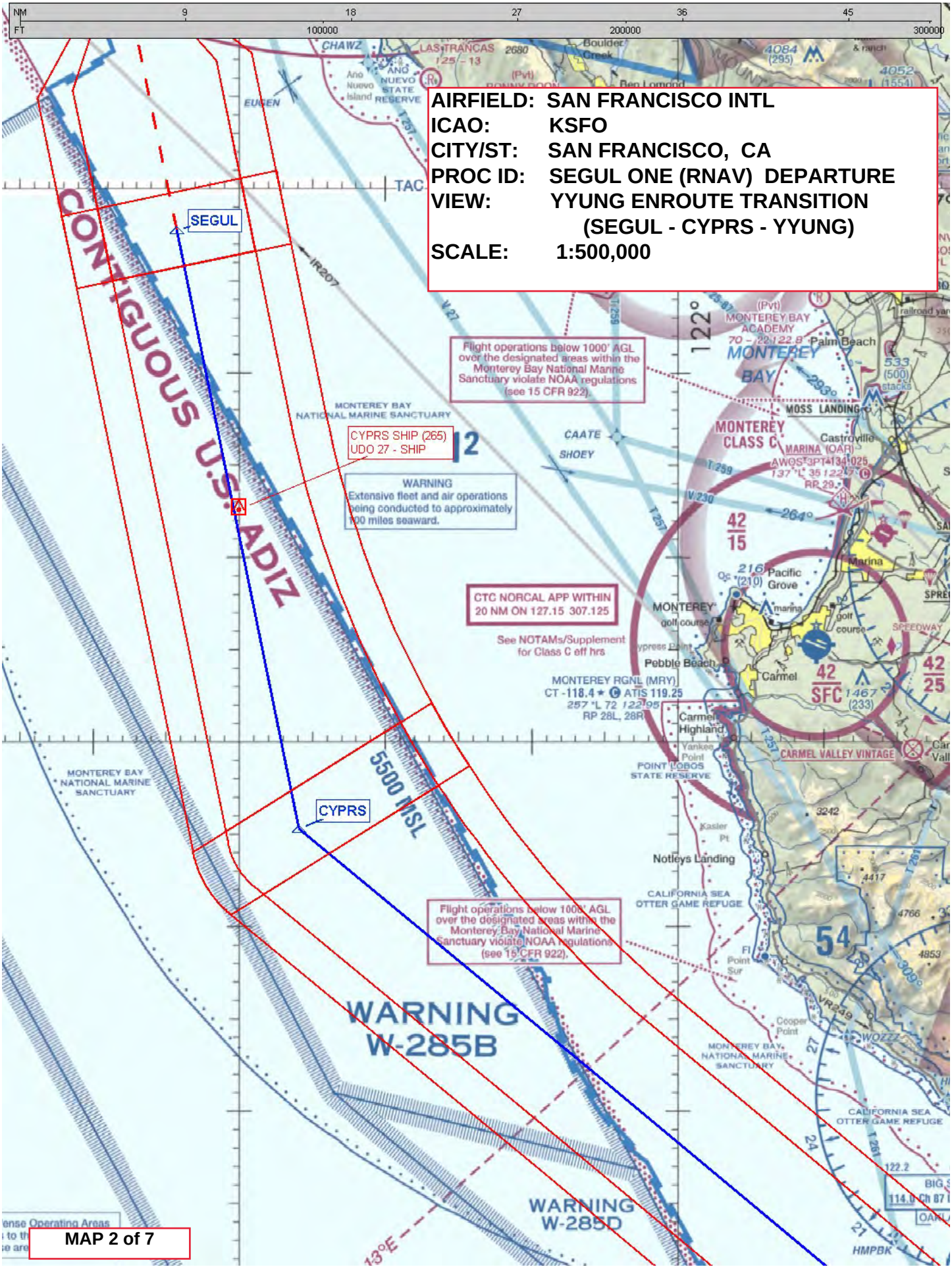
YYUNG TRANSITION (SEGUL1.YYUNG)

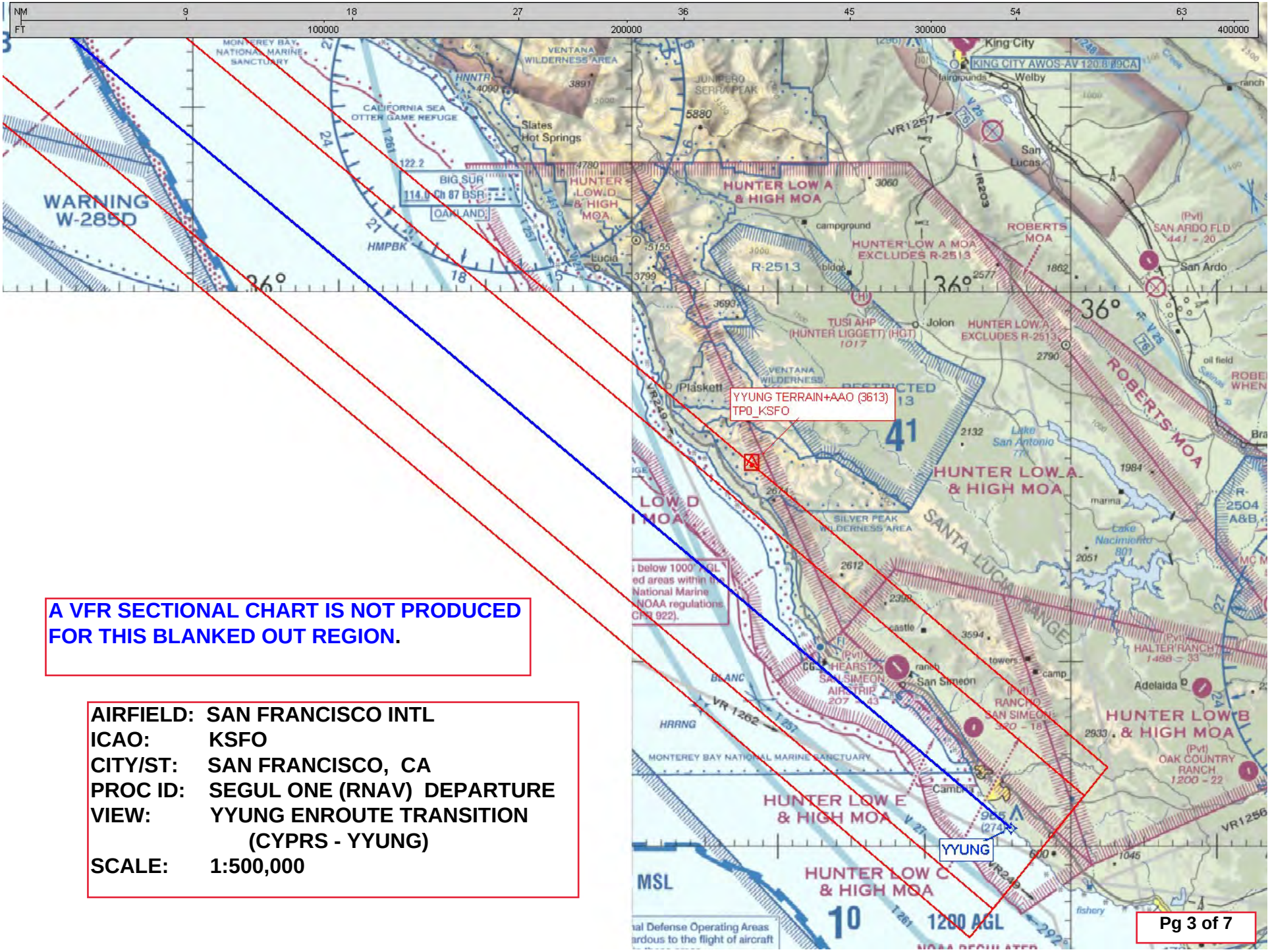
SEGUL ONE DEPARTURE (RNAV)
(SEGUL1.SEGUL) FIG
SAN FRANCISCO, CALIFORNIA
SAN FRANCISCO INTL (SFO)

AUTOMATED AL-375 SEGUL DEPARTURE

SW-2
27 NOV 2023
COMPILER: CG
REVIEWER:
DBL CHKR:
EFF: FIG

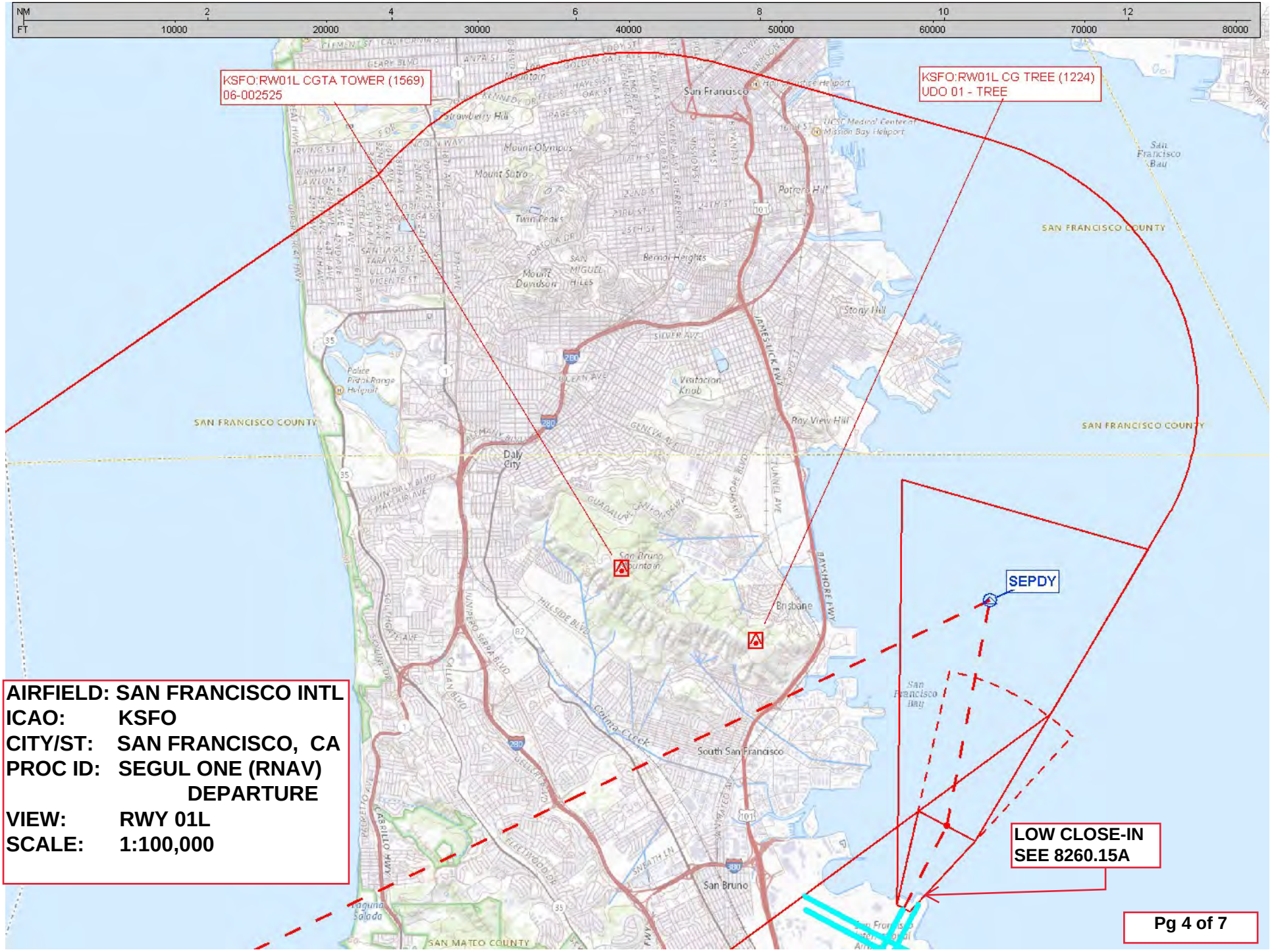

KSFO:RW01R CG TREE (1224)
UDO 01 - TREE
KSFO:RW01R CGTA TOWER (1569)
06-002525
KSFO:RW01L CG TREE (1224)
UDO 01 - TREE
KSFO:RW01L CGTA TOWER (1569)
06-002525
SENZY
SEPDY
WAMMY
KSFO:RW28R CG TREE (684)
UDO 39 - TREE
KSFO:RW28L CGTA AAO (879)
UDO 15 - AAO
KSFO:RW28L CG TREE (684)
UDO 39 - TREE
KSFO:RW28R CGTA AAO (879)
UDO 17 - AAO
SEGUL
AIRFIELD: SAN FRANCISCO INTL
ICAO: KSFO
CITY/ST: SAN FRANCISCO, CA
PROC ID: SEGUL ONE (RNAV) DEPARTURE
VIEW: RWY 01L, 01R, 28L, 28R RUNWAY TRANSITIONS TO FIX SEGUL ON YYUNG ENROUTE TRANSITION
SCALE: 1:500,000
MAP 1 of 7

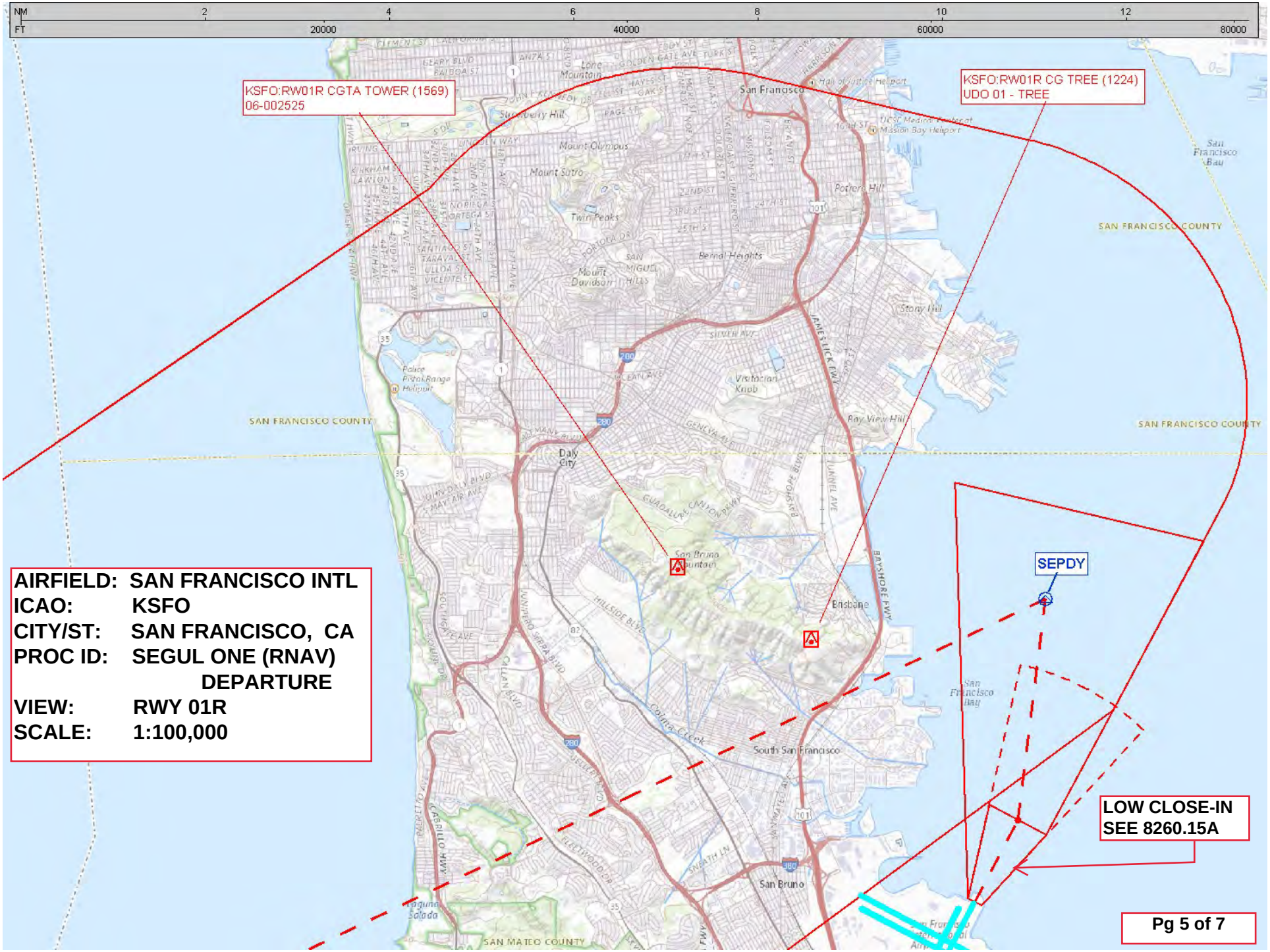

AIRFIELD: SAN FRANCISCO INTL
ICAO: KSFO
CITY/ST: SAN FRANCISCO, CA
PROC ID: SEGUL ONE (RNAV) DEPARTURE
VIEW: YYUNG ENROUTE TRANSITION
(SEGUL - CYPRS - YYUNG)
SCALE: 1:500,000
SEGUL
CYPRS
CONTIGUOUS U.S. ADIZ
5500 MSL
CYPRS SHIP (265)
UDO 27 - SHIP
WARNING
Extensive fleet and air operations being conducted to approximately 100 miles seaward.
Flight operations below 1000' AGL over the designated areas within the Monterey Bay National Marine Sanctuary violate NOAA regulations (see 15 CFR 922).
CTC NORCAL APP WITHIN 20 NM ON 127.15 307.125
See NOTAMs/Supplement for Class C eff hrs
MONTEREY BAY NATIONAL MARINE SANCTUARY
WARNING W-285B
WARNING W-285D
MONTEREY CLASS C
MONTEREY RGNL (MRY)
CT -118.4 ATIS 119.25
RP 28L, 28R
CARMEL VALLEY VINTAGE
CALIFORNIA SEA OTTER GAME REFUGE
MOSS LANDING
Pebble Beach
Carmel
Notleys Landing
Point Sur
Cooper Point
Marina
Pacific Grove
Palm Beach
Castroville
MONTEREY BAY ACADEMY
Boulder Creek
Ben Lomond
LAS TRANCAS
ANO NUEVO STATE RESERVE
CHAWZ
EUGEN
CAATE
SHOEY
IR207
V27
V230
T257
T259
T261
122°
264°
293°
309°
MAP 2 of 7

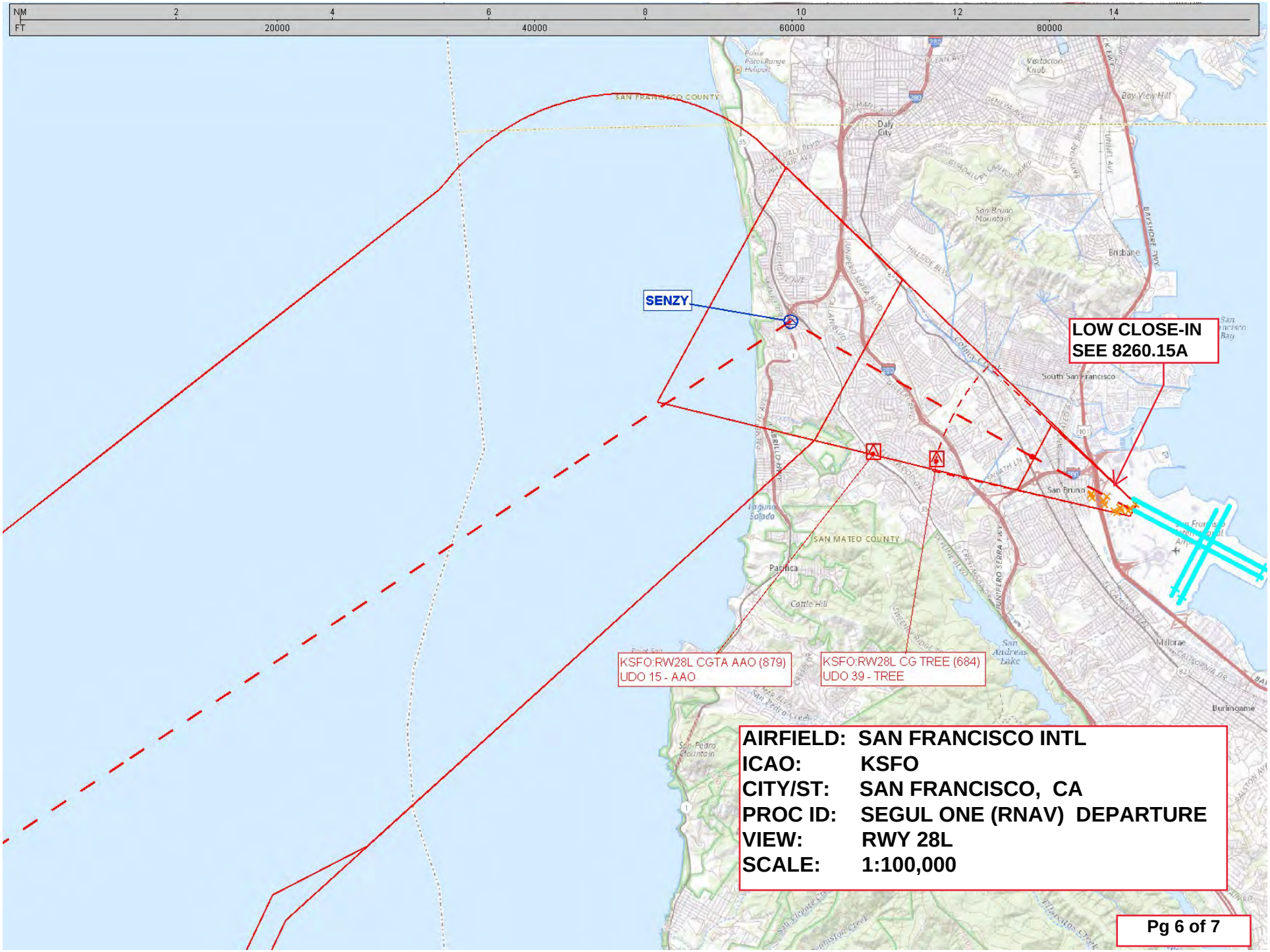


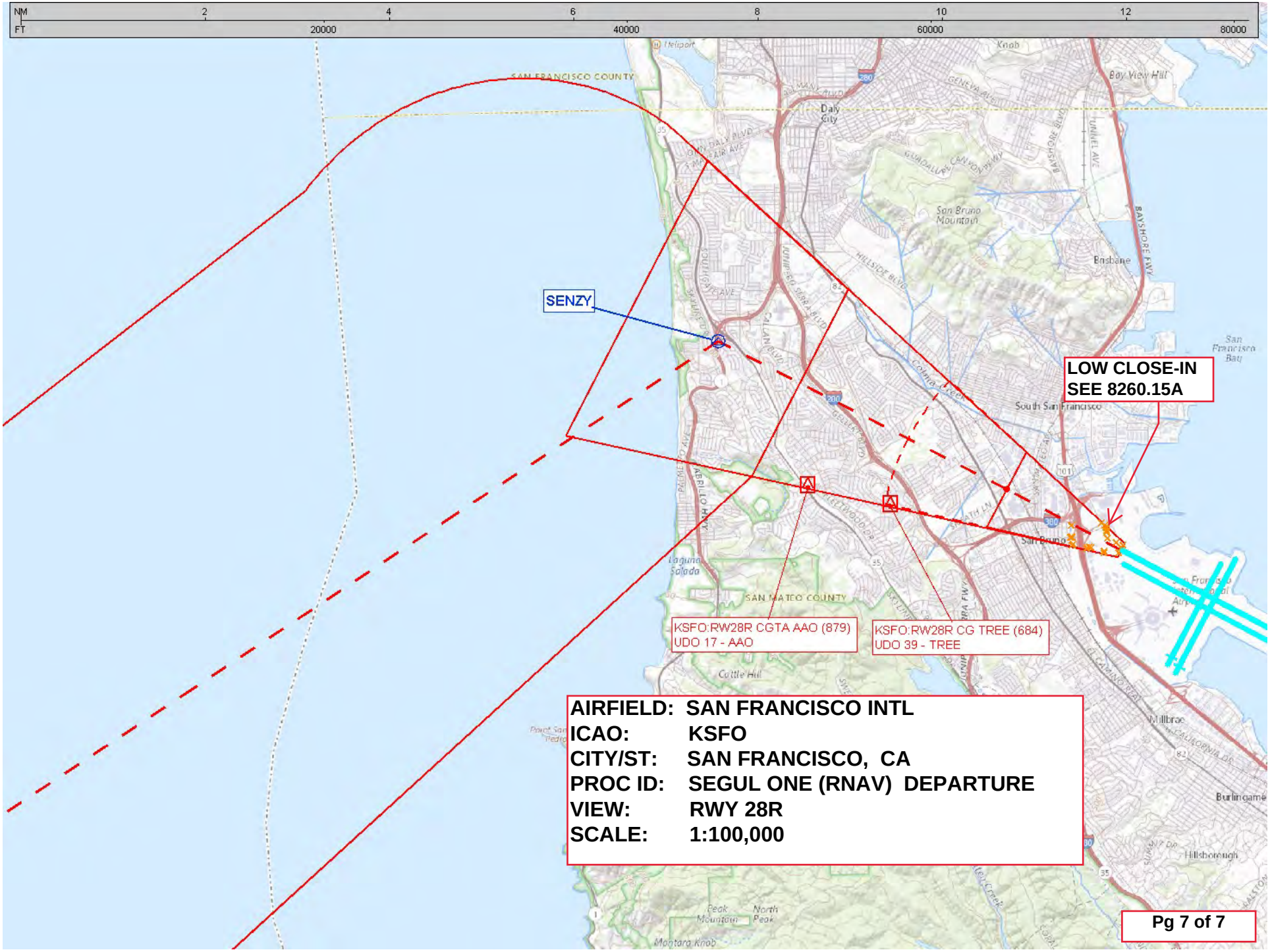
A VFR SECTIONAL CHART IS NOT PRODUCED FOR THIS BLANKED OUT REGION.

AIRFIELD: SAN FRANCISCO INTL
ICAO: KSFO
CITY/ST: SAN FRANCISCO, CA
PROC ID: SEGUL ONE (RNAV) DEPARTURE
VIEW: YYUNG ENROUTE TRANSITION (CYPRS - YYUNG)
SCALE: 1:500,000


NM 2 4 6 8 10 12
FT 10000 20000 30000 40000 50000 60000 70000 80000
KSFO:RW01L CGTA TOWER (1569)
06-002525
KSFO:RW01L CG TREE (1224)
UDO 01 - TREE
SEPDY
LOW CLOSE-IN
SEE 8260.15A
AIRFIELD: SAN FRANCISCO INTL
ICAO: KSFO
CITY/ST: SAN FRANCISCO, CA
PROC ID: SEGUL ONE (RNAV)
DEPARTURE
VIEW: RWY 01L
SCALE: 1:100,000
San Francisco
Daly City
Brisbane
South San Francisco
San Bruno
SAN FRANCISCO COUNTY
SAN MATEO COUNTY


NM 2 4 6 8 10 12
FT 20000 40000 60000 80000
KSFO:RW01R CGTA TOWER (1569)
06-002525
KSFO:RW01R CG TREE (1224)
UDO 01 - TREE
SEPDY
AIRFIELD: SAN FRANCISCO INTL
ICAO: KSFO
CITY/ST: SAN FRANCISCO, CA
PROC ID: SEGUL ONE (RNAV)
DEPARTURE
VIEW: RWY 01R
SCALE: 1:100,000
LOW CLOSE-IN
SEE 8260.15A
San Francisco
Daly City
San Bruno
South San Francisco
Brisbane
SAN FRANCISCO COUNTY
SAN MATEO COUNTY


NM 2 4 6 8 10 12 14
FT 20000 40000 60000 80000
SENZY
LOW CLOSE-IN
SEE 8260.15A
KSFO:RW28L CGTA AAO (879)
UDO 15 - AAO
KSFO:RW28L CG TREE (684)
UDO 39 - TREE
AIRFIELD: SAN FRANCISCO INTL
ICAO: KSFO
CITY/ST: SAN FRANCISCO, CA
PROC ID: SEGUL ONE (RNAV) DEPARTURE
VIEW: RWY 28L
SCALE: 1:100,000


NM 2 4 6 8 10 12
FT 20000 40000 60000 80000
SAN FRANCISCO COUNTY
SENZY
LOW CLOSE-IN
SEE 8260.15A
KSFO:RW28R CGTA AAO (879)
UDO 17 - AAO
KSFO:RW28R CG TREE (684)
UDO 39 - TREE
SAN MATEO COUNTY
AIRFIELD: SAN FRANCISCO INTL
ICAO: KSFO
CITY/ST: SAN FRANCISCO, CA
PROC ID: SEGUL ONE (RNAV) DEPARTURE
VIEW: RWY 28R
SCALE: 1:100,000