Flight Procedures Cover Page	Task Action: FLIGHT CHECK	Task Type: SID	Estimated Chart Date: 07/16/2020	APWS Task ID: A6A5363CA6DA46A4A60A89E0B874A5F1	APWS Request ID: 27111511ED094900AFF794B3DCA4011C
Procedure: PLMTO THREE DEPARTURE (RNAV)		Enroute: YES	Specialist: Fulks, Matthew		Agreement Number:
Airport ID: KCHS	Airport Name: CHARLESTON AFB/INTL		Airport City: CHARLESTON		State: SC
Facility ID:	Facility Type:	Flight Inspection Remark Type: New FC Slot			

Procedure Comments:
CONTACT: DONALD LANIER 405-954-8242

Data as of: 02/26/2020 11:01:26 CST

FIPC DME/DME FORM

PROCEDURE:	AIRPORT NAME:	AIRPORT ID:	SPECIAL CONTROL NO:
PLMTO THREE DEPARTURE (RNAV)	CHARLESTON AFB/INTL	KCHS	AG-07-128-20

FAC ID: PLMTO3	CITY: CHARLESTON	ST: SC	ORIG CHART DATE: 11/05/2020

DFL TYPE:	THIRD PARTY:	EST. TIME ON SITE:	REIMB. NUMBER:	PTS TASK ID:
PROC/D	☐ YES	1.0	AC0683	

PREFLIGHT NOTES

REVIEWER: marc j hinck

DATE: 07/27/2020

COMMENTS:

CHECK ONE:
☐ FLT CK REQ ☒ NFCR ☐ REJECT

	YES	NO
CPV COMPLETE?	X	

PROCEDURE RESULTS

INSPECTION DATE:	CREW #:	N #:	INSTRUMENT PROCEDURE STATUS:	ARINC CODING:
07/27/2020	VN077		☒ SAT ☐ SAT W/CHANGES ☐ UNSAT	☐ SAT ☒ SAT/GOLD ☐ UNSAT

FLIGHT INSPECTOR SIGNATURE:	PRINTED NAME:	NOTAM INITIATED?
elizabeth whaley @ 08/04/2020 15:03	HINCK, MARC JOHN	☐ YES ☒ NO

FLIGHT INSPECTOR REMARKS:
NFCR - changes meet requirements of TI8200.52A, Para 13-10

DME/DME STATUS:	SPECIALIST SIGNATURE:	PRINTED NAME:
☐ SAT ☐ UNSAT		

SPECIALIST REMARKS:

IN-FLIGHT OBSTACLE REPORT

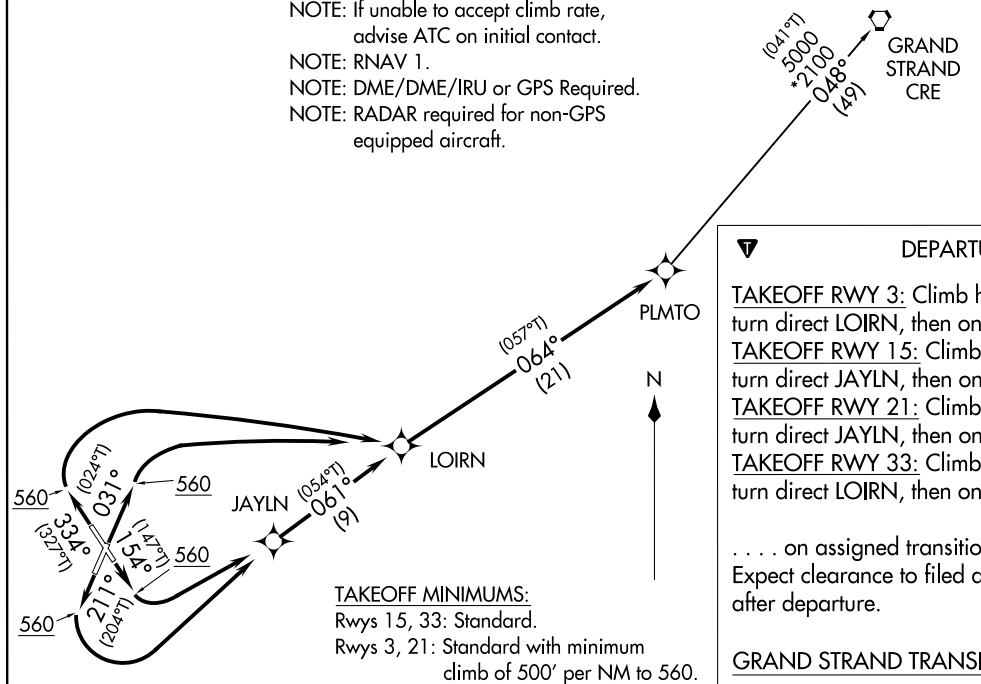
OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:

ATIS
124.75
CLNC DEL
127.325 291.65
CPDLC
GND CON
121.9 348.6
CHARLESTON TOWER
126.0 239.0
DEP CON
119.3 379.925 (331°-150°)

TOP ALTITUDE: 4000

PROTOTYPE-NOT FOR NAVIGATION

NOTE: If unable to accept climb rate, advise ATC on initial contact.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS Required.
NOTE: RADAR required for non-GPS equipped aircraft.



NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWY 3: Climb heading 031° to 560, then right turn direct LOIRN, then on depicted route to PLMTO, thence. . . .
TAKEOFF RWY 15: Climb heading 154° to 560, then left turn direct JAYLN, then on depicted route to PLMTO, thence. . . .
TAKEOFF RWY 21: Climb heading 211° to 560, then left turn direct JAYLN, then on depicted route to PLMTO, thence. . . .
TAKEOFF RWY 33: Climb heading 334° to 560, then right turn direct LOIRN, then on depicted route to PLMTO, thence. . . .

. . . . on assigned transition/route, maintain 4000. Expect clearance to filed altitude within 10 minutes after departure.

GRAND STRAND TRANSITION (PLMTO3.CRE):

TAKEOFF MINIMUMS:
Rwys 15, 33: Standard.
Rwys 3, 21: Standard with minimum climb of 500′ per NM to 560.

(PLMTO3.PLMTO) FIG
PLMTO THREE DEPARTURE (RNAV)

CHARLESTON AFB/INTL (CHS)
CHARLESTON, SOUTH CAROLINA

PLMTO TWO DEPARTURE (RNAV)

(PLMTO2.PLMTO) 21JUL16

CHARLESTON, SOUTH CAROLINA
CHARLESTON AFB/INTL (CHS)

ATIS
124.75
CLNC DEL
127.325 291.65
GND CON
121.9 348.6
CHARLESTON TOWER
126.0 239.0
DEP CON
119.3 379.925 (331°-150°)

TOP ALTITUDE: 4000

NOTE: For non-GPS equipped aircraft: CHS DME must be operational for Takeoff Rwys 15, 21, 33; FLO DME must be operational for BARTL and ILM transitions.

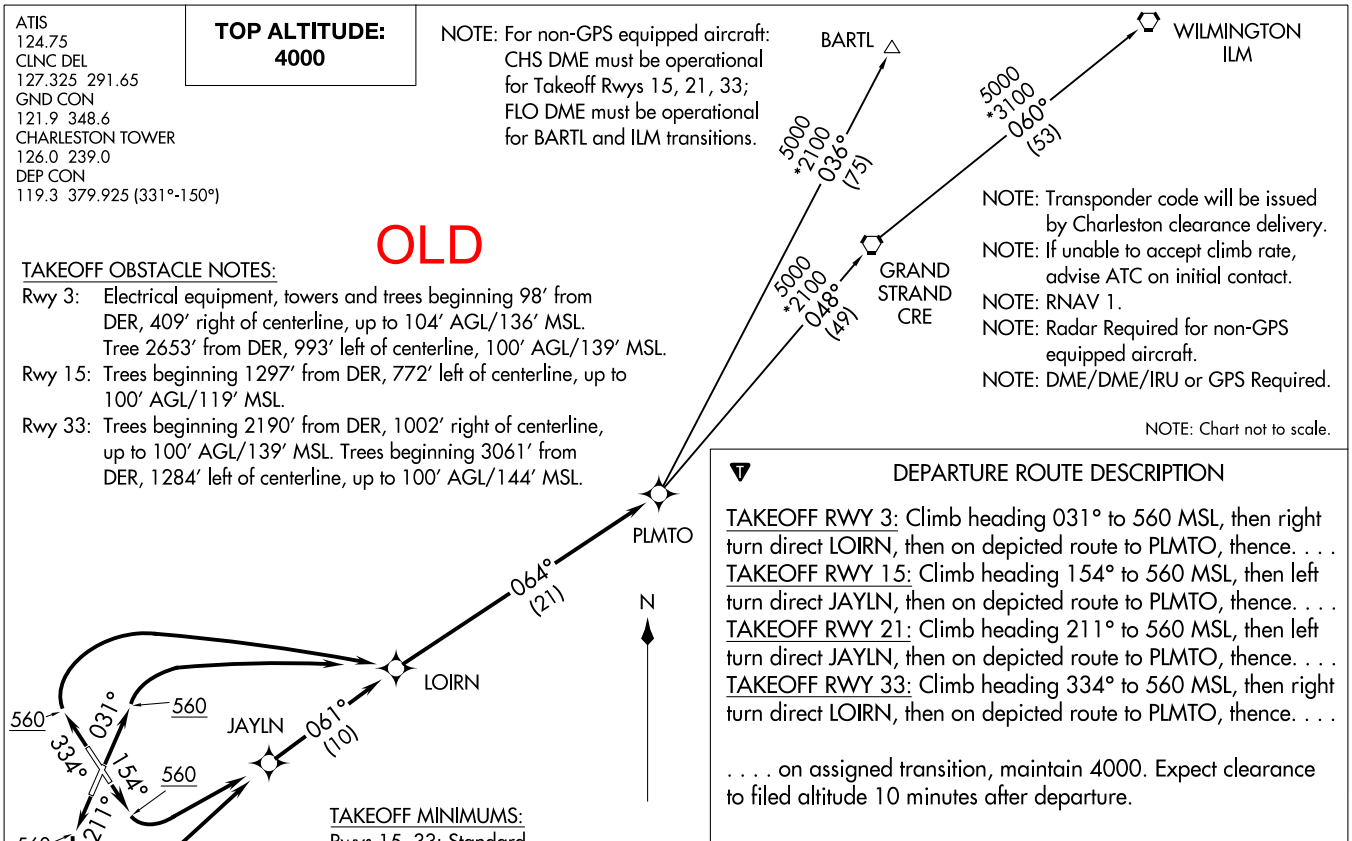
OLD

TAKEOFF OBSTACLE NOTES:

Rwy 3: Electrical equipment, towers and trees beginning 98' from DER, 409' right of centerline, up to 104' AGL/136' MSL. Tree 2653' from DER, 993' left of centerline, 100' AGL/139' MSL.

Rwy 15: Trees beginning 1297' from DER, 772' left of centerline, up to 100' AGL/119' MSL.

Rwy 33: Trees beginning 2190' from DER, 1002' right of centerline, up to 100' AGL/139' MSL. Trees beginning 3061' from DER, 1284' left of centerline, up to 100' AGL/144' MSL.



TAKEOFF MINIMUMS:
Rwys 15, 33: Standard.
Rwys 3, 21: Standard with minimum climb of 500' per NM to 560.

NOTE: Transponder code will be issued by Charleston clearance delivery.
NOTE: If unable to accept climb rate, advise ATC on initial contact.
NOTE: RNAV 1.
NOTE: Radar Required for non-GPS equipped aircraft.
NOTE: DME/DME/IRU or GPS Required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWY 3: Climb heading 031° to 560 MSL, then right turn direct LOIRN, then on depicted route to PLMTO, thence. . . .
TAKEOFF RWY 15: Climb heading 154° to 560 MSL, then left turn direct JAYLN, then on depicted route to PLMTO, thence. . . .
TAKEOFF RWY 21: Climb heading 211° to 560 MSL, then left turn direct JAYLN, then on depicted route to PLMTO, thence. . . .
TAKEOFF RWY 33: Climb heading 334° to 560 MSL, then right turn direct LOIRN, then on depicted route to PLMTO, thence. . . .

. . . . on assigned transition, maintain 4000. Expect clearance to filed altitude 10 minutes after departure.

BARTL TRANSITION (PLMTO2.BARTL):
GRAND STRAND TRANSITION (PLMTO2.CRE):
WILMINGTON TRANSITION (PLMTO2.ILM):

(PLMTO2.PLMTO) 16203
PLMTO TWO DEPARTURE (RNAV)
SL-76 (FAA)
CHARLESTON AFB/INTL (CHS)
CHARLESTON, SOUTH CAROLINA

FAA Eastern Service Center, Air Traffic Division
Categorical Exclusion

Description of Federal Action: The Federal Aviation Administration (FAA) will implement changes to the Charleston Air Force Base/International Airport (KCHS), Charleston, South Carolina PLMTO THREE Standard Instrument Departure (SID) procedure.

Description of Changes:

- PLMTO THREE will:
  - → Replace the existing KCHS PLMTO TWO SID procedure.
  - → Will have an enroute departure transition beginning at waypoint (wp) PLMTO and terminating at Grand Strand (CRE) Very High Frequency Omnidirectional Range and Tactical Air Navigation System Beacon (VORTAC), North Myrtle Beach, South Carolina.
  - → Have four runway departure routes for RWYs 3, 15, 21 and 33.
    - → The runway (RWY) 3 departure route will begin at the departure end of runway (DER) 3 with a climb heading of 031° to 560 MSL (Mean Sea Level), then right turn direct LORIN, then on depicted route to PLMTO, thence...
    - → The RWY 15 departure route will begin at the DER 15 with a climb heading of 154° to 560 MSL, then left turn direct JAYLN, then on depicted route to PLMTO, thence...
    - → The RWY 21 departure route will begin at the DER 21 with a climb heading of 211° to 560 MSL, then left turn direct JAYLN, then on depicted route to PLMTO, thence...
    - → The RWY 33 departure route will begin at the DER 33 with a climb heading of 334° to 560 MSL, then right turn direct LORIN, then on depicted route to PLMTO, thence...

Basis for this Determination: An environmental review was conducted to ensure that the federal action is in compliance with the National Environmental Policy Act and its implementing regulations. This review was conducted in accordance with policies and procedures in FAA Order 1050.1F, "Environmental Impacts: Policies and Procedures."

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 and will not result in any extraordinary circumstances according to FAA Order 1050.1F.

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. (ATO, AVS)

After review of the MITRE Guidance for Noise Screening Air Traffic Actions, review of the amended procedures presented on Google Earth (with and without tracks), and noise screening performed by AJV-P21, it was determined that the changes would present no significant increase in noise from the proposed action. Additionally, based on the environmental review of the proposed action, there are no adverse impacts associated with the proposed action on any communities located beneath the proposed route path.

FAA Eastern Service Center, Air Traffic Division
Categorical Exclusion

Reviewed by:

Date January 16, 2020

Chuck Armstead
NISCIII Contract Support - Environmental Engineer
Environmental, CI and NAS Analytics (ECINA)
Eastern Service Center Air Traffic Organization
Phone: Office: (404) 305-6692

Concurrence by:

Andrew Pieroni

Date January 17, 2020

Andrew Pieroni
Environmental Protection Specialist
Environmental, CI and NAS Analytics (ECINA)
Eastern Service Center Air Traffic Organization
Phone: Office: (404) 305-5586

Approved by:

Charles J Gibson

Date 01/17/2020

Charles Gibson
Manager - Environmental, CI and NAS Analytics (ECINA)
Eastern Service Center Air Traffic Organization
Phone: Office: (404) 305-5618

ATTACHMENTS
Noise Modeling Report - AJV-P21

Noise Screening Analysis Report

For

Charleston Air Force Base

KCHS

Charleston, South Carolina

Wednesday, January 15, 2020

1. Summary

Noise analysis was completed to assess potential impacts resulting from proposed air traffic actions at Charleston Air Force Base (CHS) in Charleston, South Carolina, using the Terminal Area Route Generation, Evaluation, and Traffic Simulation (TARGETS) Environmental Plug-in tool and the Aviation Environmental Design Tool (AEDT).

Historical radar track data was used to create a baseline scenario. After the baseline scenario was built, aircraft operations assigned to the proposed procedure were modeled as flying the proposed procedure, 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. In the case of CHS, there was no significant or reportable increase in noise resulting from the proposed action.

2. Purpose

The purpose of this report is to document the process used to analyze the noise impact of proposed air traffic actions at Charleston Air Force Base (CHS) in Charleston, South Carolina and to present the results of that analysis. The analysis of the instrument flight procedures at CHS was performed using the Terminal Area Route Generation, Evaluation, and Traffic Simulation (TARGETS) Environmental Plug-in tool and the Aviation Environmental Design Tool (AEDT).

Figure 1 shows the airport diagram for CHS, which provides the runway layout and the airport's field elevation. Table 1 shows the procedure name, type and publication date. Figures depicting the existing and proposed procedures are shown in Figure 2 and Figure 3

Table 1: Proposed Procedure Modeled for CHS

Procedure Name	Procedure Type
PLMTO THREE	RNAV SID

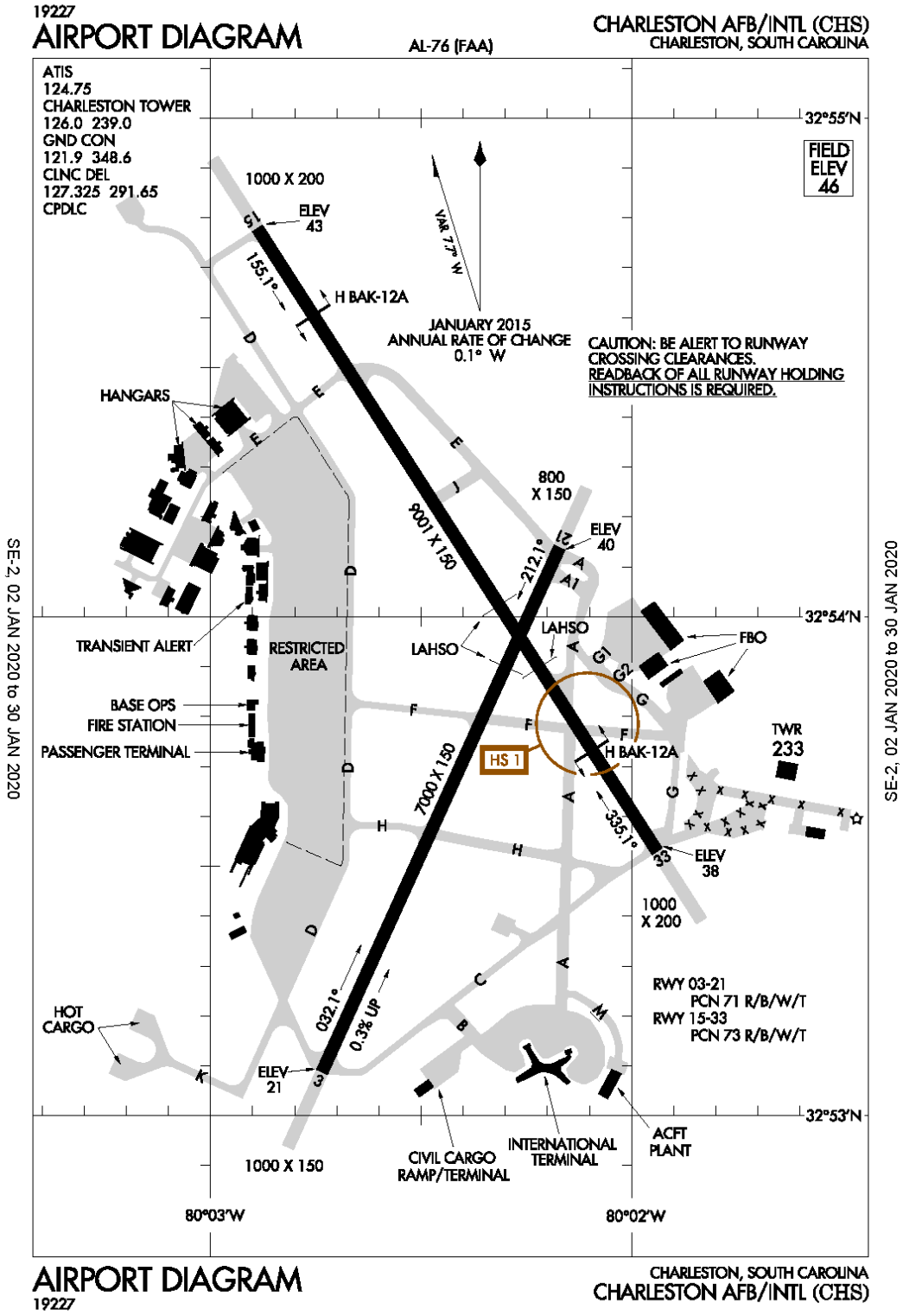


Figure 1: Airport Diagram of CHS

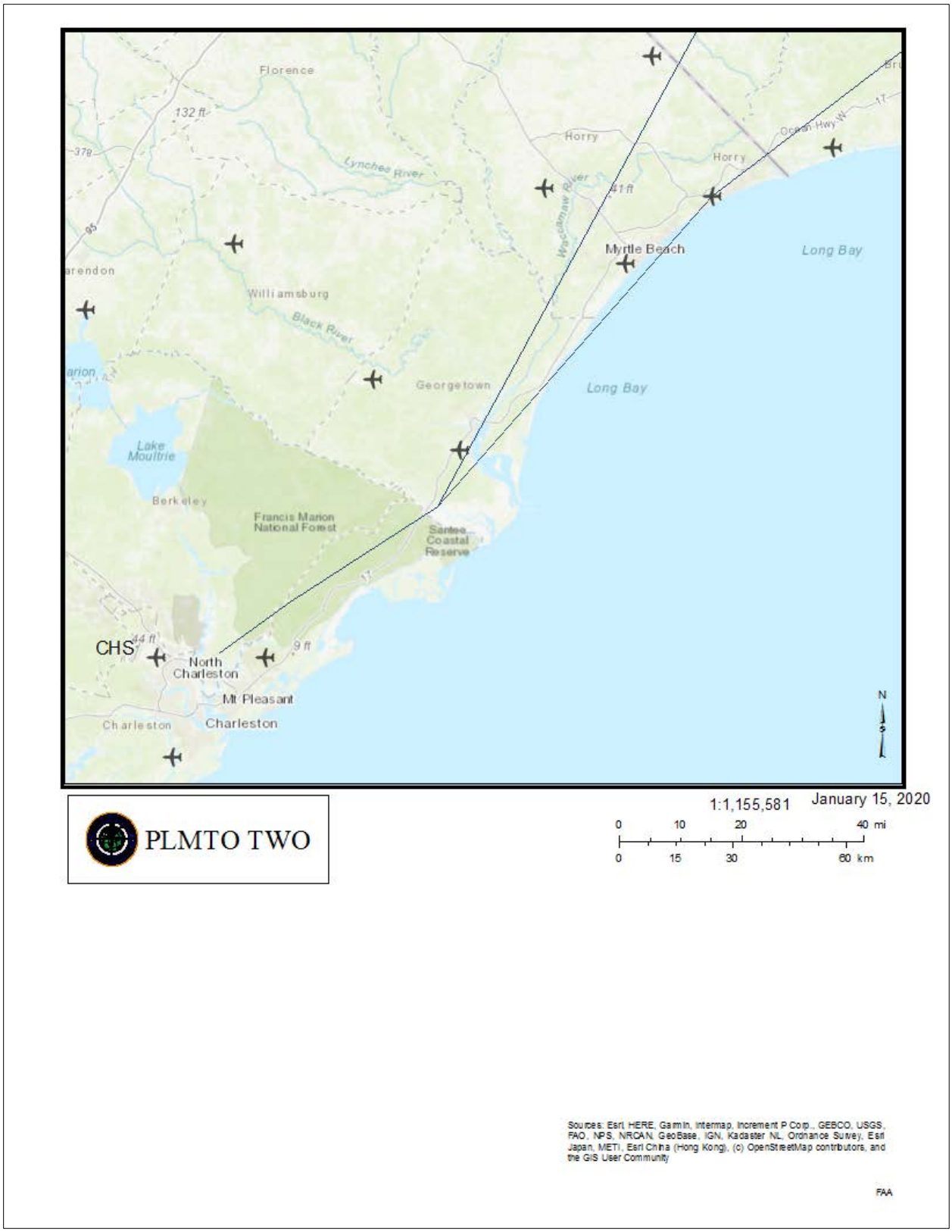


Figure 2: Current Departure Procedure PLMTO TWO at CHS

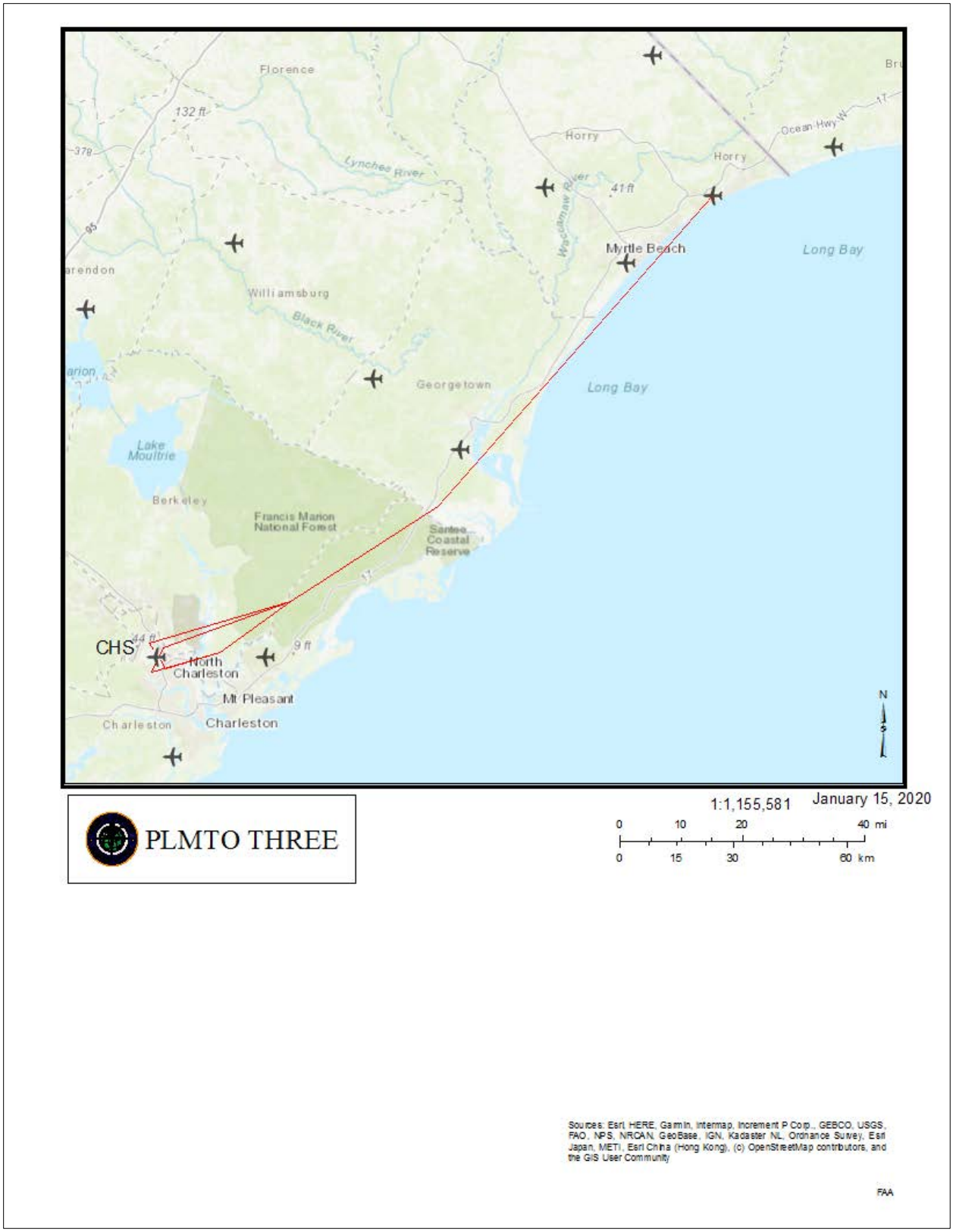


Figure 3: Proposed Departure Procedure PLMTO THREE at CHS

3. Methods

Noise screening was completed using the TARGETS Environmental Plug-in tool to calculate Day-Night Average Sound Levels (DNL) from existing operations (baseline) and modeled operations to replicate the proposed action (alternative). Historical radar track data for CHS was obtained from the Performance Data Analysis and Reporting System (PDARS). After concurrence of the dates to be used by the environmental specialist and air traffic facility, 60 days of random radar track data were selected for the CHS analysis representing a range of temperature and wind conditions as well as being representative of the average runway usage. A list of the tracks selected for analysis are shown in Appendix A.

After the removal of overflights, incomplete track segments, and other unusable tracks, 9,271 tracks were used for the analysis. The altitude of the historical tracks was considered and a range ring was set to contain the area where most of the tracks reached above 10,000 feet Above Field Elevation (AFE). This established the study area and the tracks outside of the study area were removed from the analysis. In the case of CHS, the study area is a circle with a radius of 50 nautical miles (nm) centered over the airport.

The randomly selected dates are presumed to represent average traffic counts and traffic flows through various seasons and peak travel times for CHS. In order to calculate the Average Annual Day (AAD) impacts, traffic counts for average daily departures and arrivals used for annualization in this analysis were obtained through the FAA's AFS Data Analytics Runway Usage Module.

Historical radar track data was used to create backbones for the tracks effected by the proposed changes. These backbones, along with the remaining track data in the project, was used to determine a baseline, which provides lateral path definition, aircraft fleet mix, departure/arrival stream proportions for each runway, and day/night traffic ratios. The alternative scenario was built by altering the backbones in the baseline to follow the proposed procedure instead of their historical tracks.

The analysis does not take into account terrain. All calculations were made in reference to the airport's field elevation. The altitude controls were based on AEDT standard aircraft profiles. With respect to lateral distribution, a 0.5 nm dispersion for RNAV procedures was used and a 0.3 nm dispersion for RNP procedures was used based standard methods for noise screening, if applicable. For tracks near the runway where dispersion is normally less than 0.3 nm, dispersion was based on historical track data.

Once the baseline and alternative scenarios were built, the TARGETS Environmental Plug-in Tool was used to generate noise outputs for both scenarios. The Environmental Plug-in Tool uses the Aviation Environmental Design Tool to calculate noise. The noise output files from AEDT for both the baseline and alternative noise exposures consist of a series of equally spaced grid points, each showing the DNL value. The noise grid (receptor set) is a square grid extending 30 nm in each direction of the airport with grid points (receptors) spaced 0.25 nm apart. The noise results of the baseline and alternative scenarios were then compared to test for potential noise impacts.

The noise impact is a comparison between the baseline and the alternative noise exposure that depicts reportable and significant noise changes at all affected locations per the criteria indicated in FAA Order 1050.1F and Chapter 32 of FAA Order 7400.2K. The reportable and significant noise increases and decreases (if any) are then depicted on an aerial map.

4. Results

Noise Exposure

The baseline and alternative noise exposure is shown in Figure 4 and Figure 5, which depict the levels and locations of the noise produced by the historical radar track data for arrivals and departures and the proposed changes.

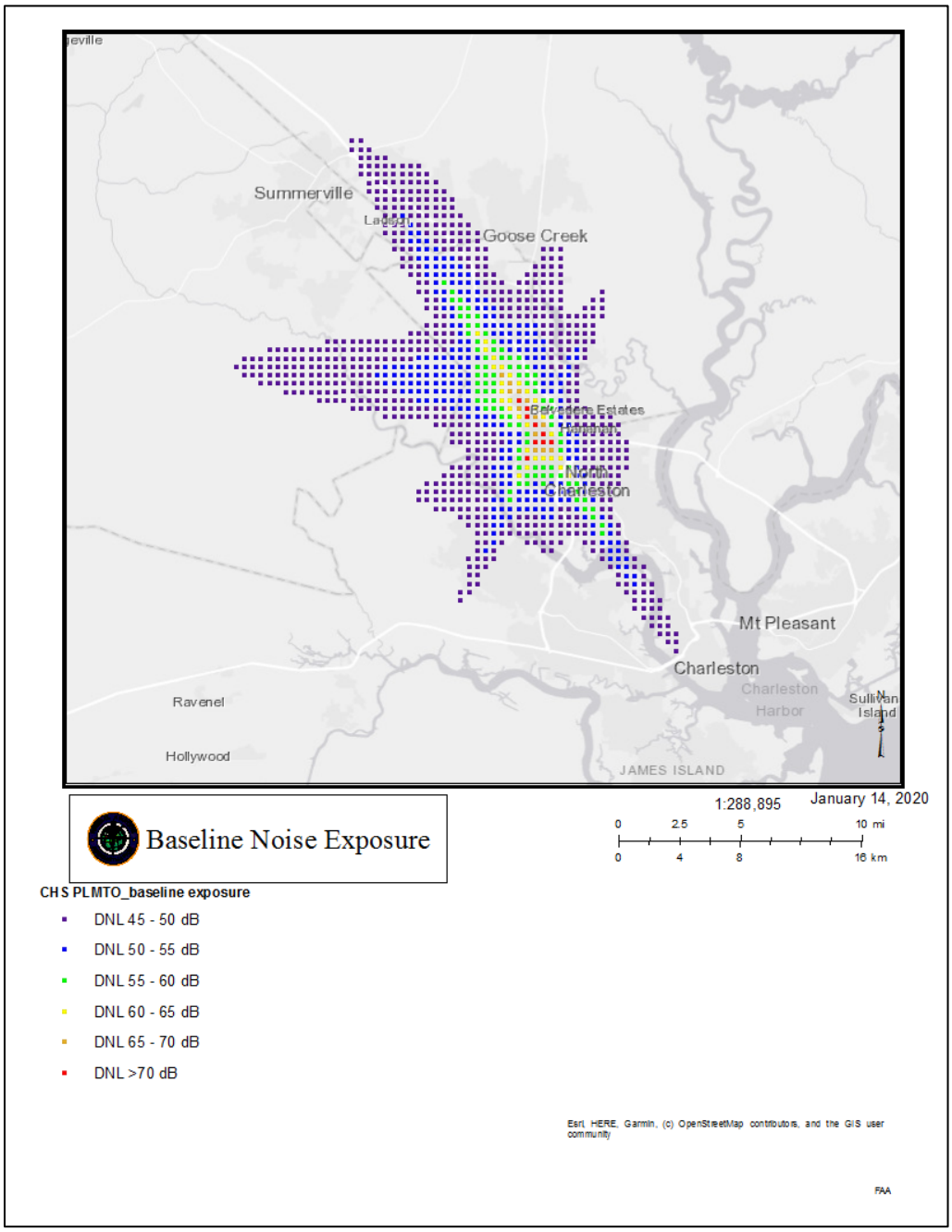


Figure 4: Baseline Noise Exposure in TARGETS

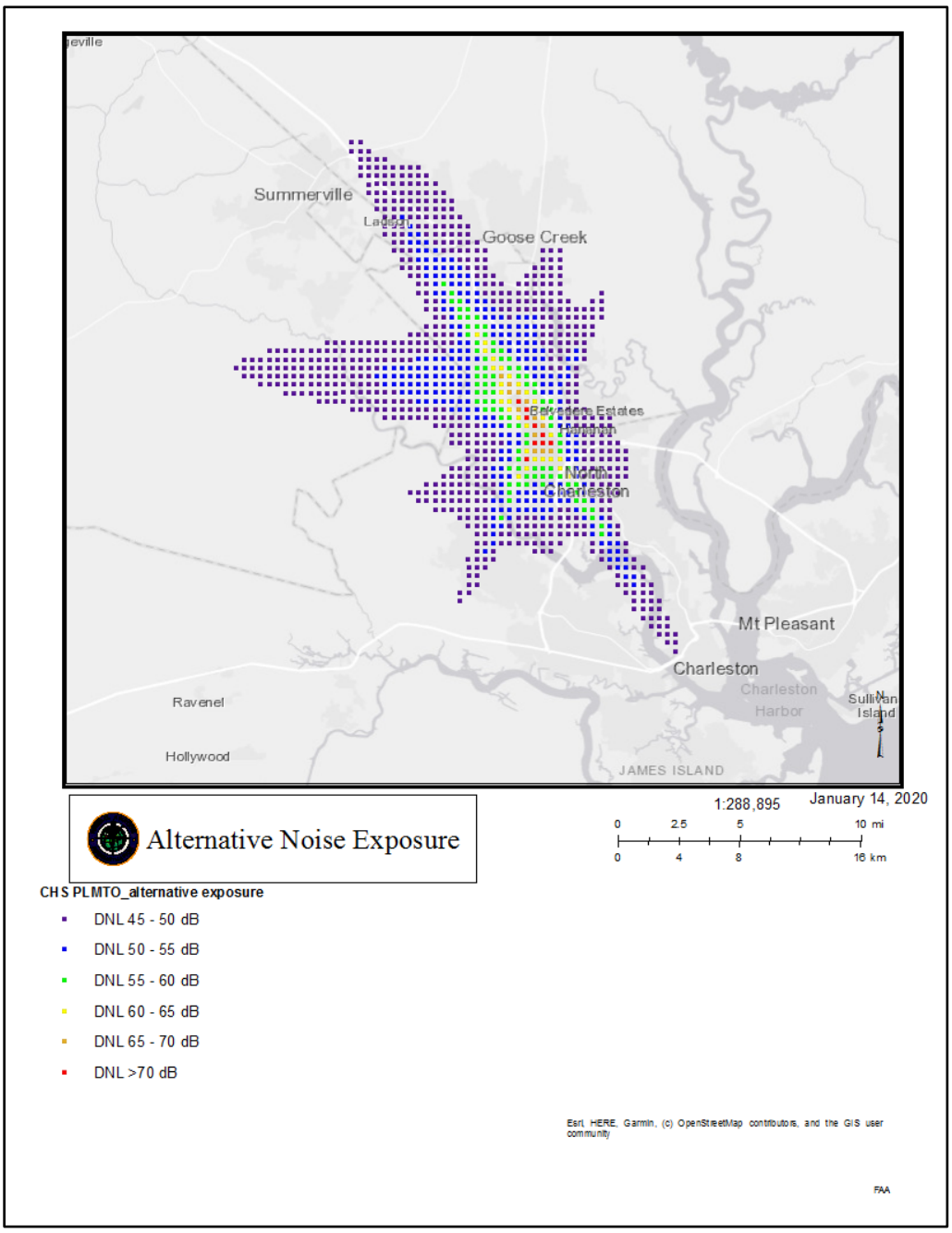


Figure 5: Alternative Noise Exposure in TARGETS

Noise Impacts

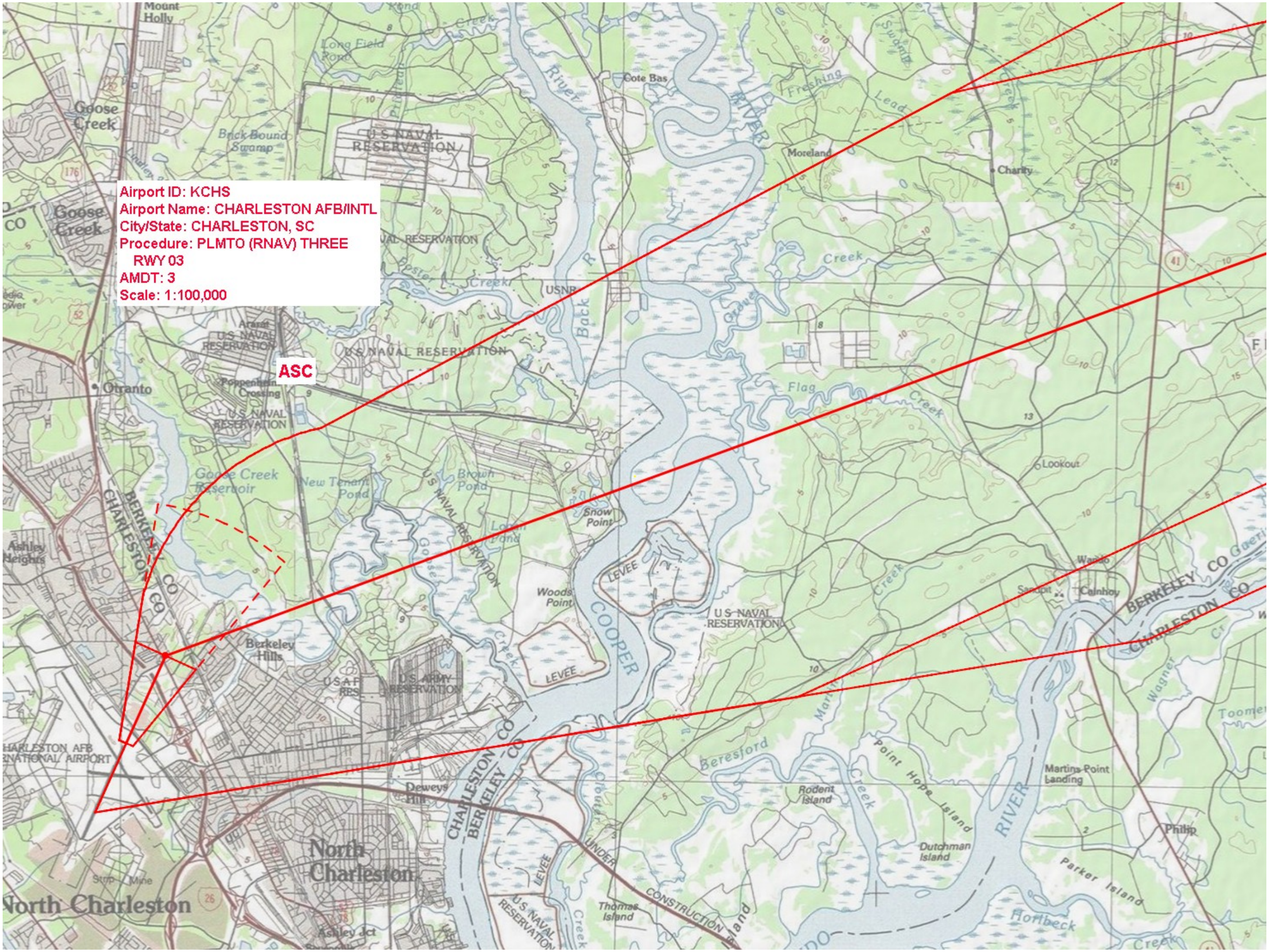
A comparison of the baseline and alternative scenarios by the TARGETS Environmental plug-in determines the noise impacts of the proposed action. Significance of noise impacts is defined by FAA Order 1050.1F[1] which establishes the threshold for significant increases in noise exposure. Where the proposed action results in a noise impact, TARGETS graphically displays a noise impact layer that indicates the locations of reportable and significant changes. When applicable, these impacts are shown overlaying a map view of the area surrounding the airport. In the case of CHS, there was **no significant increase in noise resulting from the proposed action.**

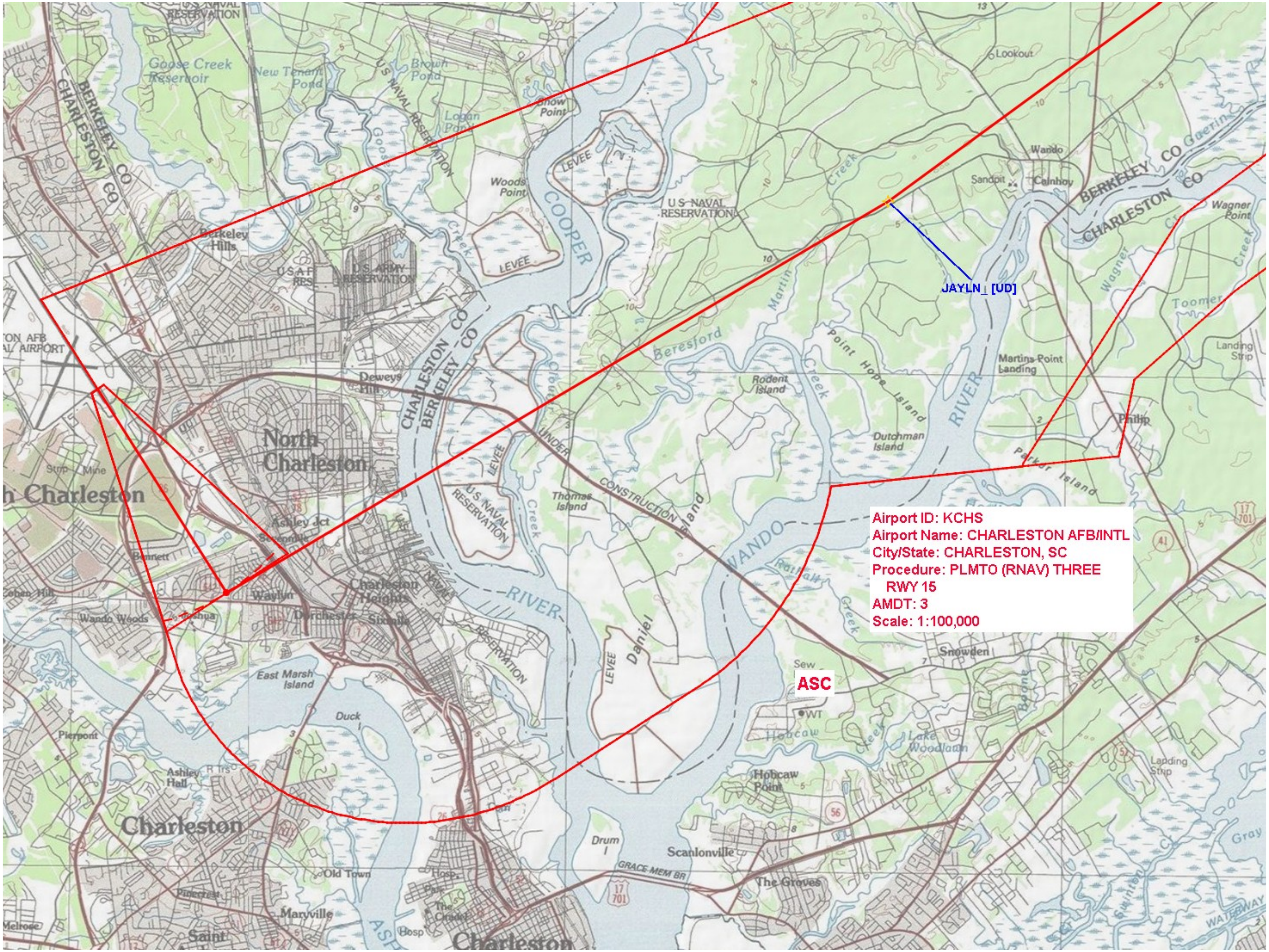
[1] According to Exhibit 4-1 of FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, a noise impact is significant if *"The action would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe."*

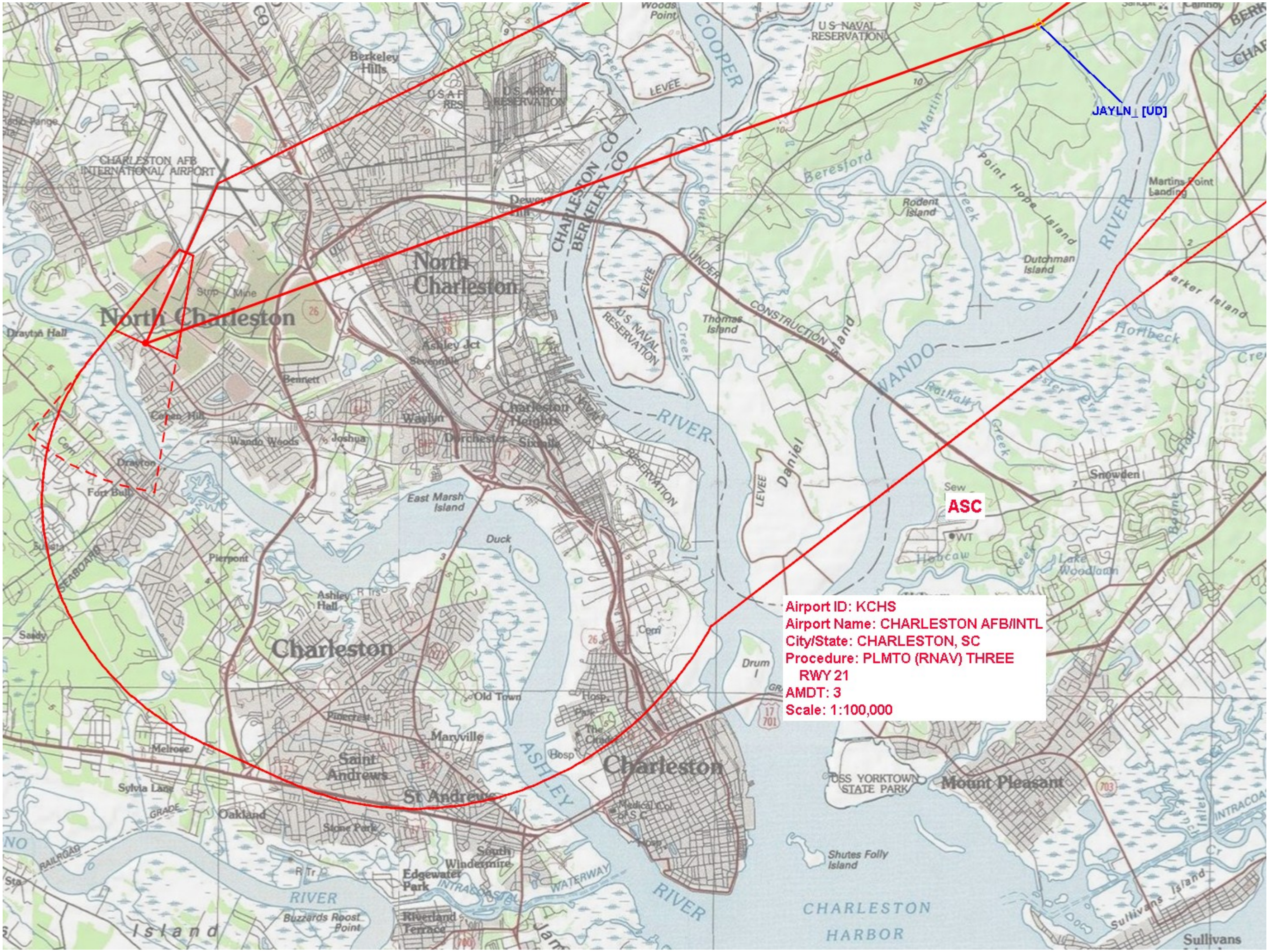
Appendix A Random Tracks Used for Analysis

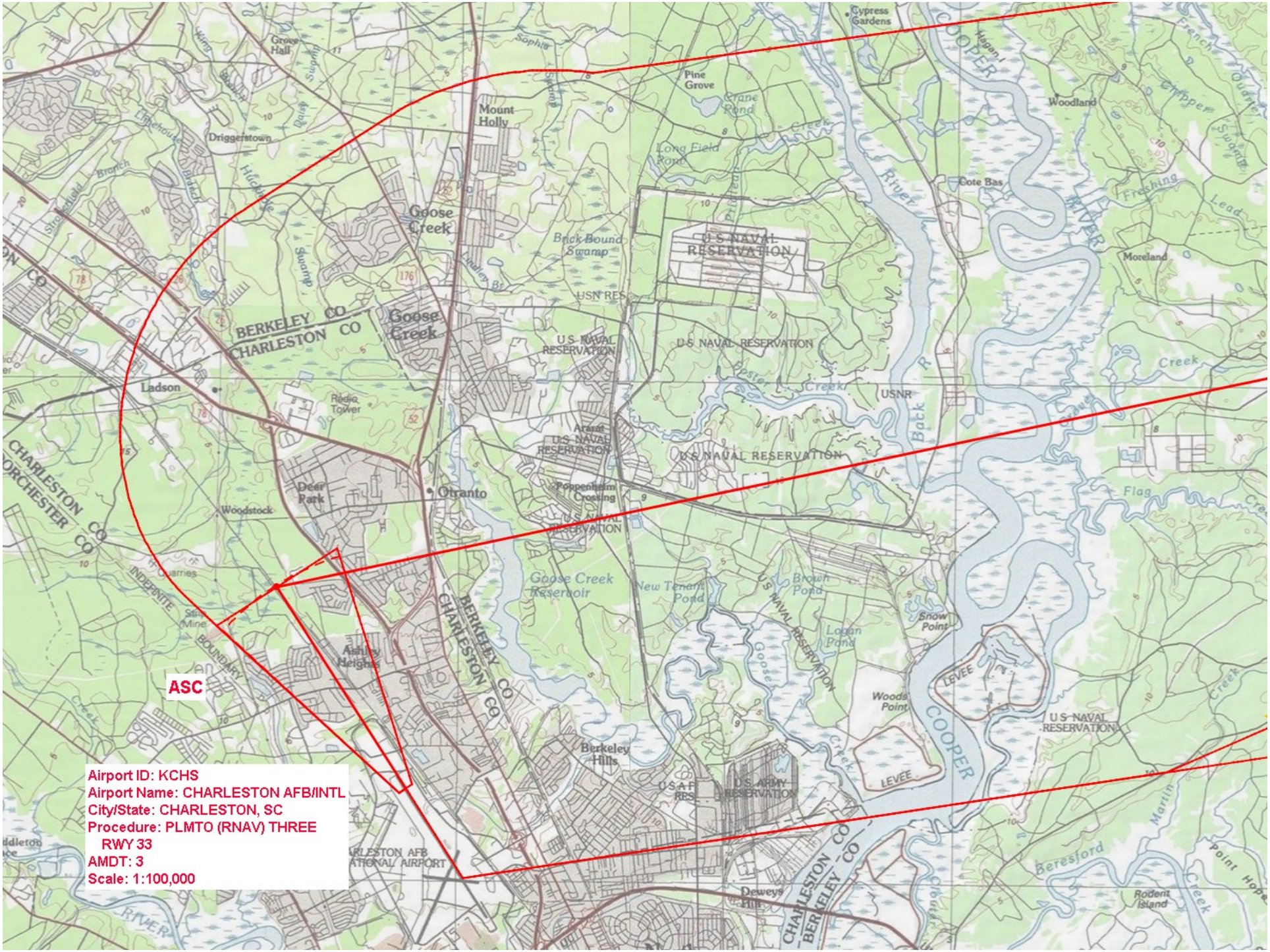
1	1/15/2019
2	1/27/2019
3	1/29/2019
4	1/31/2019
5	2/1/2019
6	2/5/2019
7	2/15/2019
8	2/19/2019
9	3/5/2019
10	3/9/2019
11	3/14/2019
12	3/31/2019
13	4/1/2019
14	4/2/2019
15	4/7/2019
16	4/13/2019
17	4/19/2019
18	4/21/2019
19	5/3/2019
20	5/9/2019
21	5/14/2019
22	5/19/2019
23	5/31/2019
24	6/1/2019
25	6/9/2019
26	6/11/2019
27	6/15/2019
28	6/18/2019
29	6/26/2019
30	6/27/2019

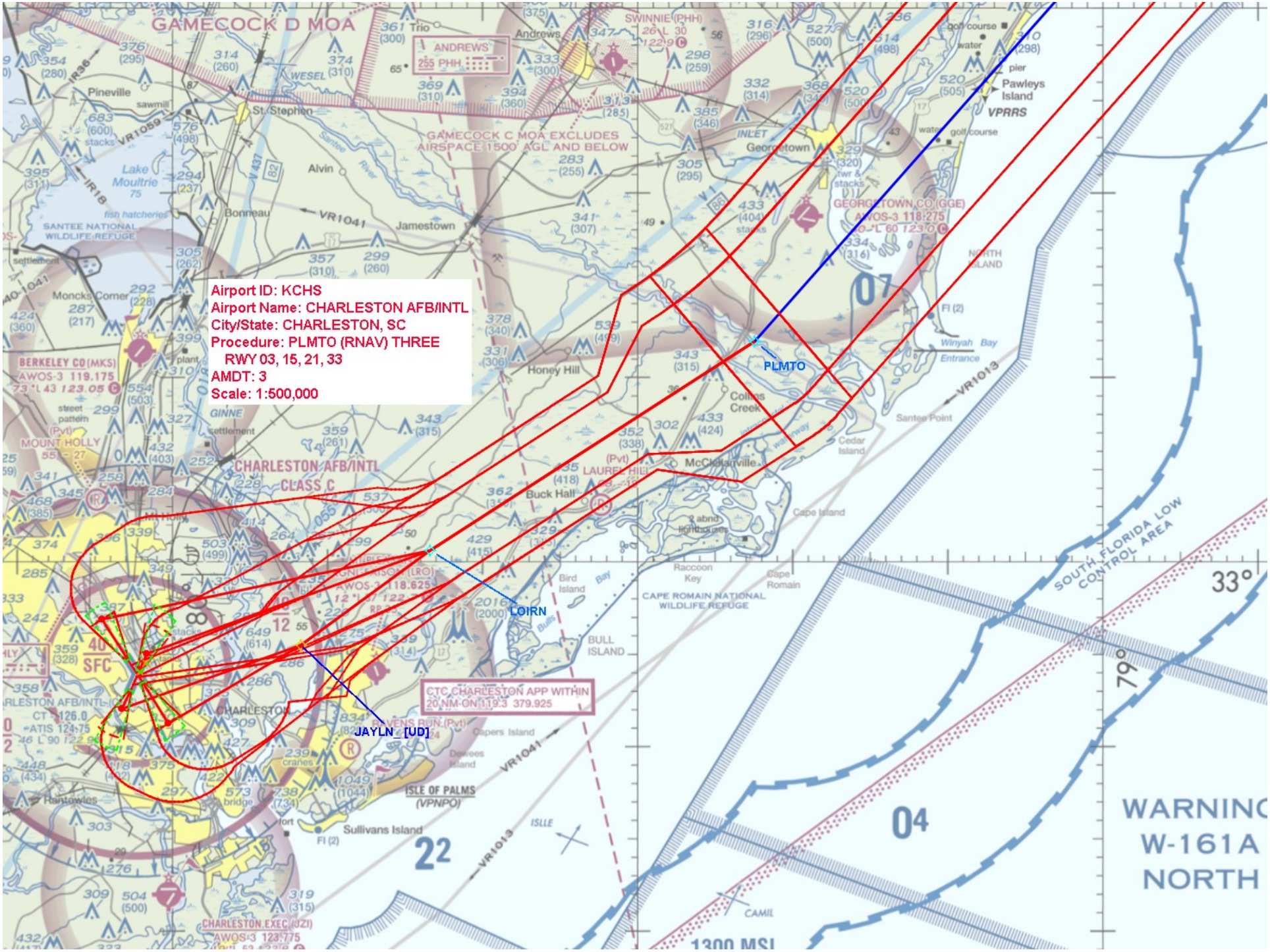
31	6/30/2019
32	7/1/2019
33	7/12/2019
34	7/13/2019
35	7/15/2019
36	7/30/2019
37	8/1/2019
38	8/2/2019
39	8/9/2019
40	8/23/2019
41	9/8/2019
42	9/9/2019
43	9/13/2019
44	9/27/2019
45	9/29/2019
46	10/1/2019
47	10/5/2019
48	10/9/2019
49	10/11/2019
50	10/16/2019
51	10/28/2019
52	10/30/2019
53	11/1/2019
54	11/9/2019
55	11/17/2019
56	11/22/2019
57	11/26/2019
58	12/9/2019
59	12/10/2019
60	12/29/2019

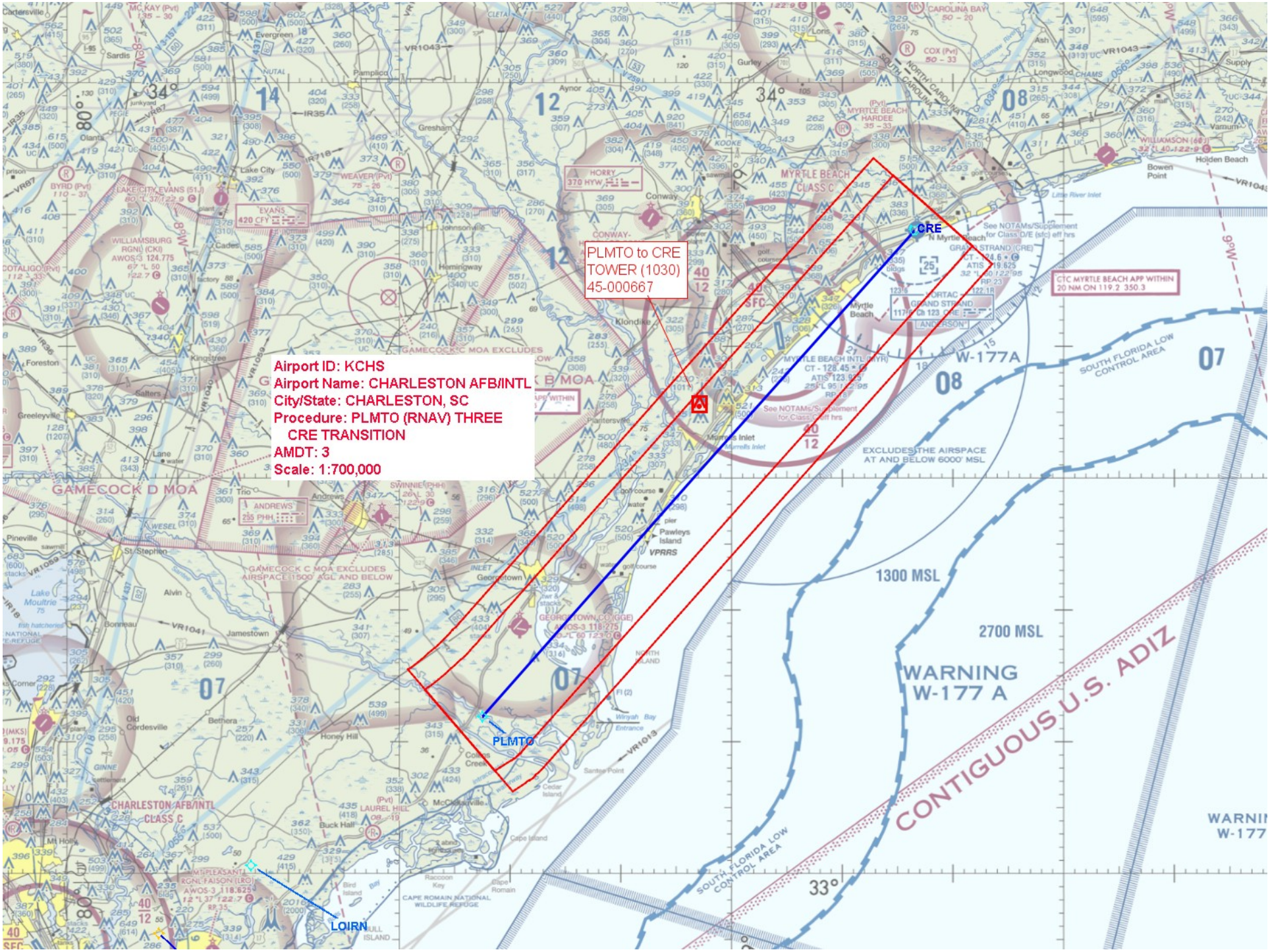

Airport ID: KCHS
Airport Name: CHARLESTON AFB/INTL
City/State: CHARLESTON, SC
Procedure: PLMTO (RNAV) THREE
RWY 03
AMDT: 3
Scale: 1:100,000
ASC
Mount Holly
Goose Creek
Long Field Pond
Brick Bound Swamp
U.S. NAVAL RESERVATION
Cote Bas
Moreland
Charity
Otranto
Goose Creek Reservoir
New Tenant Pond
Brown Pond
Snow Point
Woods Point
LEVEE
COOPER
Berkeley Hills
Ashley Heights
U.S. ARMY RESERVATION
Lookout
Wando
Cainhoy
BERKELEY CO
CHARLESTON CO
Beresford
Point Hope Island
Rodent Island
Dutchman Island
Martins Point Landing
Philip
Parker Island
Horibeck Creek
Deweys Hill
North Charleston
Ashley Jct
Thomas Island
UNDER CONSTRUCTION
RIVER


JAYLN_ [UD]
ASC
Airport ID: KCHS
Airport Name: CHARLESTON AFB/INTL
City/State: CHARLESTON, SC
Procedure: PLMTO (RNAV) THREE
RWY 15
AMDT: 3
Scale: 1:100,000


JAYLN [UD]
ASC
Airport ID: KCHS
Airport Name: CHARLESTON AFB/INTL
City/State: CHARLESTON, SC
Procedure: PLMTO (RNAV) THREE
RWY 21
AMDT: 3
Scale: 1:100,000
CHARLESTON AFB
INTERNATIONAL AIRPORT
North Charleston
Charleston
Mount Pleasant
CHARLESTON HARBOR
COOPER
WANDO
ASHLEY
RIVER
U S NAVAL RESERVATION
Sullivans Island


ASC
Airport ID: KCHS
Airport Name: CHARLESTON AFB/INTL
City/State: CHARLESTON, SC
Procedure: PLMTO (RNAV) THREE
RWY 33
AMDT: 3
Scale: 1:100,000
Goose Creek
Mount Holly
Pine Grove
Cypress Gardens
Woodland
Cote Bas
Moreland
Ladson
Otranto
Deer Park
Woodstock
Berkeley Hills
Dewees Island
U.S. NAVAL RESERVATION
USNR
USAF RES
U.S. ARMY RESERVATION
BERKELEY CO
CHARLESTON CO
DORCHESTER CO
Goose Creek Reservoir
Back R
COOPER
RIVER


Airport ID: KCHS
Airport Name: CHARLESTON AFB/INTL
City/State: CHARLESTON, SC
Procedure: PLMTO (RNAV) THREE
RWY 03, 15, 21, 33
AMDT: 3
Scale: 1:500,000
PLMTO
COIRN
JAYLN [UD]
CHARLESTON AFB/INTL
CLASS C
GAMECOCK D MOA
GAMECOCK C MOA EXCLUDES AIRSPACE 1500' AGL AND BELOW
CTC CHARLESTON APP WITHIN 20 NM ON 119.3 379.925
SOUTH FLORIDA LOW CONTROL AREA
WARNING
W-161A
NORTH
33°
79°
07
04
22


PLMTO to CRE
TOWER (1030)
45-000667
Airport ID: KCHS
Airport Name: CHARLESTON AFB/INTL
City/State: CHARLESTON, SC
Procedure: PLMTO (RNAV) THREE
CRE TRANSITION
AMDT: 3
Scale: 1:700,000
CRE
PLMTO
LOIRN
GAMECOCK D MOA
GAMECOCK C MOA EXCLUDES AIRSPACE 1500' AGL AND BELOW
CHARLESTON AFB/INTL
CLASS C
MYRTLE BEACH
CLASS C
W-177A
1300 MSL
2700 MSL
WARNING
W-177 A
CONTIGUOUS U.S. ADIZ
SOUTH FLORIDA LOW CONTROL AREA
EXCLUDES THE AIRSPACE AT AND BELOW 6000' MSL
CTC MYRTLE BEACH APP WITHIN 20 NM ON 119.2 350.3
34°
33°
80°