

A

Agency Consultation

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APPENDIX A: AGENCY CORRESPONDENCE

| Item Number | Type of Correspondence | From | To | Date Sent/Received | Corresponding Entities |
|----------------------|---|------|------|--------------------|---|
| November 2011 | | | | | |
| A-1 | Cooperating Agency Request Letter | Navy | FAA | 15 Nov 11 | Letter from Navy (Mr. J.W. Murphy) to the FAA (Mr. Terry Page). |
| A-2 | Cooperating Agency Request Letter | Navy | NASA | 18 Nov 11 | Letter from Navy (Mr. J.W. Murphy) to NASA (Ms. Caroline Massey). |
| A-3 | Cooperating Agency Response Letter | FAA | Navy | 29 Nov 11 | Letter from the FAA (Mr. Terry Page) to the Navy (Mr. J.W. Murphy). |
| December 2011 | | | | | |
| A-4 | Cooperating Agency Response Letter | NASA | Navy | 2 Dec 11 | Letter from NASA (Ms. Caroline Massey) to the Navy (Mr. J.W. Murphy). |
| A-5 | Section 106 letter – Emporia-Greenville | Navy | VDHR | 5 Dec 11 | Letter from Navy (Mr. W.D. Lewis) to VDHR (Mr. Marc Holma). |
| | | VDHR | Navy | 5 Jan 12 | The last page of the Navy’s letter has been substituted with the signed response from Mr. Marc Holma, dated 5 January 2012, completing Section 106 consultation for Emporia-Greenville. |
| January 2012 | | | | | |
| A-6 | Section 106 letter - WFF | Navy | VDHR | 17 Jan 12 | Letter from Navy (Mr. W.D. Lewis) to VDHR (Mr. Marc Holma). |
| | | VDHR | Navy | 5 Mar 12 | The last page of the Navy’s letter has been substituted with the signed response from Mr. Marc Holma, dated 5 March 2012, completing Section 106 consultation for WFF. |

| Item Number | Type of Correspondence | From | To | Date Sent/Received | Corresponding Entities |
|----------------------|------------------------------------|--------|-------|--------------------|---|
| February 2012 | | | | | |
| N/A | N/A | N/A | N/A | N/A | N/A |
| March 2012 | | | | | |
| A-7 | Initial Notification Letter | Navy | USACE | 8 Mar 12 | Letter from Navy (Mr. W.D. Lewis) to USACE (Mr. John Evans). |
| A-8 | Initial Notification Letter | Navy | VDGIF | 8 Mar 12 | Letter from Navy (Mr. W.D. Lewis) to VDGIF (Mr. Andy Zadnick). |
| A-9 | Initial Notification Letter | Navy | VDOAV | 8 Mar 12 | Letter from Navy (Mr. W.D. Lewis) to VDOAV (Mr. P. Clifford Burnette, Jr.). |
| A-10 | Initial Notification Letter | Navy | USEPA | 8 Mar 12 | Letter from Navy (Mr. W.D. Lewis) to USEPA (Ms. Karen DelGrosso). |
| A-11 | Initial Notification Letter | Navy | V-DEQ | 8 Mar 12 | Letter from Navy (Mr. W.D. Lewis) to V-DEQ (Ms. Ellie Irons). |
| A-12 | Initial Notification Letter | Navy | V-DCR | 8 Mar 12 | Letter from Navy (Mr. W.D. Lewis) to V-DCR (Ms. Rene Hypes). |
| A-13 | Initial Notification Letter | Navy | USFWS | 8 Mar 12 | Letter from Navy (Mr. W.D. Lewis) to USFWS (Mr. Tylan Dean). |
| A-14 | Response Letter | VADOAV | Navy | 13 Mar 12 | Letter from VADOAV (Mr. R. N. Harrington) to Navy (Mr. W.D. Lewis). |
| A-15 | Response Letter | V-DEQ | Navy | 19 Mar 12 | Letter from V-DEQ (Ms. Ellie Irons) to Navy (Mr. W.D. Lewis). |
| A-16 | Response Letter | USEPA | Navy | 21 Mar 12 | Letter from USEPA (Ms. Barbara Rudnick) to Navy (Ms. Sara Upchurch). |
| A-17 | Response Letter / Scoping Comments | V-DEQ | Navy | 28 Mar 12 | Letter from V-DEQ (Mr. G. Stephen "Steve" Coe) to Navy (Ms. Sara Upchurch). |

| Item Number | Type of Correspondence | From | To | Date Sent/Received | Corresponding Entities |
|-----------------------|--|-------|-------|--------------------|--|
| April 2012 | | | | | |
| A-18 | Response Letter | V-DCR | Navy | 6 Apr 12 | Letter from V-DCR (Ms. Alli Baird) to Navy (Ms. Sara Upchurch). |
| May 2012 | | | | | |
| A-19 | Email | USACE | Navy | 24 May 12 | Memorandum from USACE (Mr. Peter R. Kube, signed for by Mr. John D. Evans) regarding EA comments for Emporia Airport Field Carrier Landing Practice. |
| June 2012 | | | | | |
| N/A | N/A | N/A | N/A | N/A | N/A |
| July 2012 | | | | | |
| A-20 | Coastal Consistency Determination | Navy | V-DEQ | 3 July 12 | Letter from Navy (Mr. W.D. Lewis) to V-DEQ (Ms. Ellie Irons). |
| August 2012 | | | | | |
| A-21 | Email | USACE | Navy | 30 Aug 12 | Email from USACE (Mr. John D. Evans) to Navy (Mr. Paul Block) |
| September 2012 | | | | | |
| A-22 | Coastal Consistency Determination Response | V-DEQ | Navy | 6 Sept 12 | Letter from V-DEQ (Ms. Ellie Irons) to the Navy (Mr. W.D. Lewis) regarding consistency determination. |
| A-23 | Delivery of Draft EA | Navy | FAA | 6 Sept 12 | Letter from Navy (Mr. Edwards) to FAA (Mr. Terry Page) delivering the Draft EA. |
| A-24 | Delivery of Draft EA | Navy | FAA | 6 Sept 12 | Letter from Navy (Mr. Edwards) to FAA (Mr. Jeffery Breeden) delivering the Draft EA. |
| A-25 | Delivery of Draft EA | Navy | NASA | 6 Sept 12 | Letter from Navy (Mr. Edwards) to NASA (Ms. Shari Silbert) delivering the Draft EA. |

| Item Number | Type of Correspondence | From | To | Date Sent/Received | Corresponding Entities |
|---------------------|----------------------------|-------|-------------------------------------|--------------------|---|
| A-26 | Delivery of Draft EA | Navy | NASA | 6 Sept 12 | Letter from Navy (Mr. Edwards) to NASA (Ms. Caroline Massey) delivering the Draft EA. |
| A-27 | Delivery of Draft EA | Navy | Emporia-Greenville Regional Airport | 6 Sept 12 | Letter from Navy (Mr. Edwards) to the Emporia-Greenville Regional Airport (Mr. Richard Franklin) delivering the Draft EA. |
| A-28 | Delivery of Draft EA | Navy | USEPA | 6 Sept 12 | Letter from Navy (Mr. Edwards) to USEPA (Ms. Karen DelGrosso) delivering the Draft EA. |
| A-29 | Delivery of Draft EA | Navy | USFWS | 6 Sept 12 | Letter from Navy (Mr. Edwards) to USFWS (Mr. Tylan Dean) delivering the Draft EA. |
| A-30 | Delivery of Draft EA | Navy | USACE | 6 Sept 12 | Letter from Navy (Mr. Edwards) to USACE (Mr. John Evans) delivering the Draft EA. |
| A-31 | Delivery of Draft EA | Navy | VDGIF | 6 Sept 12 | Letter from Navy (Mr. Edwards) to VDGIF (Mr. Andy Zadnick) delivering the Draft EA. |
| A-32 | Delivery of Draft EA | Navy | V-DCR | 6 Sept 12 | Letter from Navy (Mr. Edwards) to V-DCR (Ms. René Hypes) delivering the Draft EA. |
| A-33 | Delivery of Draft EA | Navy | V-DEQ | 6 Sept 12 | Letter from Navy (Mr. Edwards) to V-DEQ (Ms. Ellie Irons) delivering the Draft EA. |
| A-34 | Delivery of Draft EA | Navy | VDOAV | 6 Sept 12 | Letter from Navy (Mr. Edwards) to VDOAV (Mr. P. Clifford Burnette, Jr.) delivering the Draft EA. |
| A-35 | Delivery of Draft EA | Navy | VDHR | 6 Sept 12 | Letter from Navy (Mr. Edwards) to VDHR (Mr. Marc Holma) delivering the Draft EA. |
| October 2012 | | | | | |
| A-36 | Agency Comment on Draft EA | VDHR | Navy | 4 Oct 12 | Letter from VDHR (Mr. Marc Holma) to the Navy (Mr. Edwards) regarding the Draft EA. |
| A-37 | Agency Comment on Draft EA | USEPA | Navy | 5 Oct 12 | Letter from USEPA (Ms. Barbara Rudnick) to the Navy (Ms. Sara Upchurch) regarding the Draft EA. |

| Item Number | Type of Correspondence | From | To | Date Sent/Received | Corresponding Entities |
|----------------------|-------------------------------|-------------|-----------|---------------------------|---|
| A-38 | Agency Comment on Draft EA | HRMFFA | Navy | 12 Oct 12 | Letter from HRMFFA (Mr. Kenneth Wright) to the U.S. Congress (Honorable J. Randy Forbes and Honorable Scott Rigell) regarding the Draft EA. |
| A-39 | Agency Comment on Draft EA | V-DEQ | Navy | 18 Oct 12 | Letter from V-DEQ (Mr. Richard Weeks) to the Navy regarding the Draft EA. |
| November 2012 | | | | | |
| A-40 | E-mail Correspondence | Navy | USACE | 2 Nov 12 | E-mail from Navy (Mr. Paul Block) to USACE (Mr. John Evans) summarizing phone conversation. |
| December 2012 | | | | | |
| A-41 | Response Letter | Navy | USEPA | 14 Dec 12 | Letter from Navy (Mr. W.D. Lewis) to USEPA (Ms. Barbara Rudnick) regarding the Draft EA. |
| A-42 | Project Review Package | Navy | USFWS | 14 Dec 12 | Letter from Navy to USFWS (Ms. Cynthia Schulz) regarding project review in accordance with the ESA and BGEPA. |



DEPARTMENT OF THE NAVY
COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVE, SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/035
November 15, 2011

Mr. Terry Page
Manager, Washington-Dulles
Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, VA 20166

Dear Mr. Page:

With the October 20, 2011 media release concerning the addition of the National Aeronautics and Space Administration (NASA) Wallops Flight Facility to the Emporia-Greensville Regional Airport Environmental Assessment (EA), the Department of the Navy (Navy) is updating our cooperating agency request to the Federal Aviation Administration (FAA). In accordance with the National Environmental Policy Act (NEPA), the Navy is preparing the EA to study the environmental effects of using the Emporia-Greensville Regional Airport, and or the NASA Wallops Flight Facility to conduct E-2/C-2 turbo prop aircraft Field Carrier Landing Practice operations.

The special expertise of the FAA will ensure adequate evaluation of the potential environmental effects within your jurisdiction. Therefore, in accordance with 40 Code of Federal Regulations Part 1501.6 and the Council on Environmental Quality Cooperating Agency guidance issued on January 30, 2002, the Navy requests the FAA serve as a cooperating agency for this project.

It is the Navy's goal to complete the environmental analysis for the proposed action by February 2013 which will support a summer 2013 initial operating schedule while employing the best scientific information available. As the lead agency, the Navy will be responsible for overseeing preparation of the EA that includes, but is not limited to, the following:

- a. Gathering all necessary background information and preparing the EA.
- b. Determining the scope of the EA, including the alternatives evaluated.
- c. Working with appropriate district FAA personnel to evaluate potential impacts of the airfield use-agreement.
- d. Circulating the appropriate NEPA documentation to the general public and any other interested parties.

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Ser N46/035
November 15, 2011

e. Scheduling and supervising public informational meetings held in support of the NEPA process.

f. Maintaining an administrative record and responding to any Freedom of Information Act (FOIA) requests relating to the EA.

As the cooperating agency, the Navy requests FAA support in the following manner:

a. Providing expertise in the area of airfield use.

b. Providing timely comments on working drafts of the EA documents. Timelines are to be determined by the Navy, with the first milestone requirement to review the Description of the Proposed Action and Alternatives scheduled for January 2012.

c. Responding to Navy requests for information. FAA input will be critical to ensure a successful NEPA process.

d. Participating as appropriate in meetings hosted by the Navy for discussion of EA related issues, and for receipt of public comments on the NEPA document and environmental analysis.

e. Scheduling meetings requested by the Navy in a timely manner.

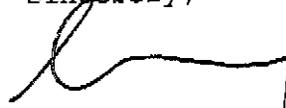
f. Adhering to the overall schedule as set forth by the Navy.

g. Forwarding to the Navy any FOIC requests received for Navy-originated documents within the scope of this project.

h. Providing a formal, written response to this request.

FAA assistance as a cooperating agency is vitally important to the Navy, and will help ensure that the EA contains the environmental information necessary to make informed and timely decisions. Commander, U.S. Fleet Forces Command point of contact for this issue is Ms. Patsy Kerr, (757) 836-6336 or e-mail: patricia.kerr@navy.mil.

Sincerely,



J. W. MURPHY
Deputy Chief of Staff for
Shore and Environmental Readiness

Copy to: Commander, Naval Facilities Engineering Command, Atlantic



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVE, SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/040
November 18, 2011

Ms. Caroline Massey
Assistant Director
Management Operations Directorate
NASA Wallops Flight Facility
Wallops Island, VA 23337

Dear Ms. Massey:

In accordance with the National Environmental Policy Act (NEPA), the Department of the Navy (Navy) is preparing an environmental assessment (EA) to study the environmental effects of using the Emporia-Greenville Regional Airport and/or the National Aeronautics and Space Administration (NASA) Wallops Flight Facility to conduct E-2/C-2 turbo prop aircraft Field Carrier Landing Practice (FCLP) operations. NASA personnel have special expertise that can ensure that we evaluate all of the potential environmental effects on your installation and under your jurisdiction. Therefore, in accordance with 40 Code of Federal Regulation Part 1501.6 and the Council on Environmental Quality Cooperating Agency guidance issued on January 30, 2002, the Navy requests that NASA serve as a cooperating agency for this project.

It is the Navy's goal to complete the environmental analysis for the proposed action by February 2013, which will support a Summer 2013 initial operating schedule.

As the lead agency, the Navy will be responsible for overseeing preparation of the EA that includes, but is not limited to;

a. Gathering all necessary background information and preparing the EA.

b. Determining the scope of the EA, including the alternatives evaluated.

c. Working with appropriate NASA personnel to identify potential impacts of the airfield use-agreement.

d. Circulating the appropriate NEPA documentation to the public and any interested parties.

e. Providing NASA with all necessary data for public informational meetings held in support of the NEPA process.

f. Maintaining an administrative record and responding to any Freedom of Information Act requests relating to the EA.

As the cooperating agency, the Navy requests NASA support with the following:

a. Providing expertise in the area of airfield use.

b. Providing timely comments on working drafts of the EA documents. To that end, the Navy will develop the timelines. The first milestone, reviewing the Description of the Proposed Action Alternatives (DOPAA), is scheduled for January 2012.

c. Timely response to Navy requests for NASA's input.

d. Participating, as appropriate, in meetings hosted by the Navy for discussion of EA related issues, and for receipt of public comments on the NEPA document and environmental analysis.

e. Scheduling meetings the Navy requests in a timely manner.

f. Adhering to the maximum extent practicable with the Navy's schedule.

g. Forwarding to the Navy any FOIA requests received for Navy originated documents within the scope of this project.

h. Providing a formal, written response to this request.

5090
Ser N46/040
November 17, 2011

NASA assistance as a cooperating agency is vitally important to the Navy and will help ensure that the EA contains the environmental information necessary to make informed and timely decisions. My point of contact for this issue is Ms. Patsy Kerr, (757) 836-6336 or E-Mail: patricia.kerr@navy.mil.

Sincerely,



J. W. MURPHY
Deputy Chief of Staff
for Shore and Environmental
Readiness

Copy to: NAVFAC LANT



U. S. Department
of Transportation

Federal Aviation
Administration

November 29, 2011

WASHINGTON AIRPORTS DISTRICT OFFICE
23723 Air Freight Lane, Suite 210
Dulles, Virginia 20166
Telephone: 703/661-1354
Fax: 703/661-1370

Mr. J. W. Murphy
Deputy Chief of Staff
U.S. Department of the Navy
U.S. Fleet Forces Command, Fleet Readiness and Training
1562 Mitscher Avenue, Suite 250
Norfolk, Virginia 23551

**Re: Department of Navy – Airfield Use Agreement – FAA Cooperating Agency
Request**

Dear Mr. Murphy:

This is in response to your letter dated November 15, 2011, requesting the Federal Aviation Administration participation as a cooperating Federal Agency, with the Department of the Navy, in the preparation of an Environmental Assessment (EA) to study the environmental effects of using the Emporia-Greenville Regional Airport to conduct E-2 / C-2 turbo-prop aircraft Field Carrier Landing Practice Operations. The EA has also included the National Aeronautics and Space Administration (NASA) Wallops Flight Facility as a potential practice facility.

The FAA will be pleased to participate as a cooperating agency in accordance with 40 CFR Part 1501 and the Council on Environmental Quality Cooperating Agency Guidance issued in January 2002.

The FAA agrees to support the areas identified in your letter. However the FAA requests an additional role in the proposal for the Emporia-Greenville Regional Airport. The Emporia-Greenville Regional Airport is a public-use airport, which is federally obligated and bound by FAA Grant Assurances. As such, all proposed development projects must have a FAA environmental finding before implementation begins. Therefore FAA must participate in developing information and analyses for inclusion in the EA, beyond review and comment of draft and final documentation for the development being proposed. It is our intent to assist the Navy with the development of the assessment by providing guidance for project components occurring on or adjacent to airport property in order to meet FAA airfield design standards and National Environmental Policy Act (NEPA) requirements. The FAA does not have a land-use or federal obligation role in the Wallops Flight Facility, however we will provide FAA airspace and flight procedures review and internal FAA coordination. We believe the described expanded role will enhance the coordination of the environmental study.

We look forward to working with the Navy on the environmental and planning process for the use of a public or private airfield. Should you have any questions please contact me at (703) 661-1354 or Jeff Breeden at (703) 661-1363.

Sincerely,



Terry J. Page, Manager
Washington Airports District Office

cc: Ms. Patsy Kerr, Navy Fleet Forces ✓
Mr. P. Clifford Burnette, Virginia Department of Aviation
Mr. Jeffrey Breeden, FAA WADO

National Aeronautics and
Space Administration
Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337



December 2, 2011

Reply to Attn of: 250.W

Mr. J. W. Murphy
Deputy Chief of Staff, Shore and Environmental Readiness
U.S. Fleet Forces Command
1562 Mitscher Avenue, Suite 250
Norfolk, VA 23551-2487

Dear Mr. Murphy:

Thank you for your invitation to participate as a Cooperating Agency in developing the US. Fleet Forces Command's Environmental Assessment to conduct E-2/C-2 turbo prop aircraft Field Carrier Landing Practice (FCLP) operations at the Emporia-Greenville Regional Airport and/or the National Aeronautics and Space Administration (NASA) Wallops Flight Facility (WFF). On behalf of WFF, I am happy to accept your invitation.

WFF shares your desire of planning for future actions and the FCLP mission, and supports your effort to comply with National Environmental Protection Act (NEPA) responsibilities. We understand and accept our role to provide support to your effort in the form of technical expertise, document reviews, and active participation throughout the NEP A process.

During the process, the WFF representatives will be Ms. Carolyn Turner, who can be reached at (757) 824-1720 or Carolyn.Turner-1@nasa.gov and Ms. Shari Silbert who can be reached at (757) 824-2327 or Shari.A.Silbert@nasa.gov. Please contact them directly to coordinate times and availability.

A handwritten signature in black ink, appearing to read "Caroline Massey", written over a large, light-colored scribble or watermark.

Caroline Massey
Assistant Director, Management Operations Directorate

cc:
250/Mr. E. Connell
250/Ms. C. Turner



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK, VA 23508-1278

IN REPLY REFER TO:
5090
Ser EV21SU/482
December 5, 2011

Mr. Marc Holma
Virginia Department of Historic Resources
Office of Review and Compliance
2801 Kensington Avenue
Richmond, Virginia 23221

Dear Mr. Holma:

In accordance with the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); and Navy procedures for implementing NEPA (32 CFR 775), the Navy is preparing an Environmental Assessment (EA) to analyze the potential impacts of using the Emporia-Greenville Regional Airport and/or National Aeronautics and Space Administration (NASA) Wallops Flight Facility as a near-term, interim measure to support Field Carrier Landing Practice (FCLP), the required flight training that immediately precedes aircraft carrier qualification, for the E-2C Hawkeye (transitioning to the E-2D Advanced Hawkeye) and C-2A Greyhound aircraft squadrons, hereinafter referred to as the E-2/C-2 aircraft, home-based at Naval Station (NS) Norfolk Chambers Field in Norfolk, Virginia.

This letter initiates Section 106 consultation on the Navy's proposed action specific to the Emporia-Greenville Regional Airport. Information on NASA Wallops Flight Facility will be sent for your consideration via a separate package in the next couple of months.

The Navy has determined that the area of potential effect (APE) for the undertaking at Emporia is the Emporia-Greenville Regional Airport property (Enclosure (1)). Aerial views and photographs of Emporia-Greenville Regional Airport included with this package show existing runways, buildings, and other facilities at the airport (Enclosures (2) and (3)). In accordance with Section 106 of the National Historic Preservation Act (NHPA), as amended, and as part of NEPA coordination, we are submitting for your information and review the enclosed documentation for Emporia-Greenville Regional Airport, including: a project location map (Enclosure (1)); aerial maps (Enclosure (2)); photographs of the existing conditions (Enclosure (3)); and figures of proposed construction locations (Enclosure (4)).

Emporia-Greenville Regional Airport is publicly owned by the Emporia-Greenville Airport Commission and is located almost wholly within Greenville County, with a small area of the southeast portion of the property located in Southampton County (see project location map in Enclosure (1)). The airport lies several miles east of Emporia, adjacent to the north side of US Route 58 and east of

Interstate 95. It has one active runway (Runway 15/33) and two closed runways (Runway 09/27 and Runway 03/21). Recent airport data show approximately 2,500 annual aircraft operations occur at the airport. Most aircraft using Emporia-Greenville Regional Airport are general aviation (private) aircraft.

Construction to support use of the airport facilities by the Navy for FCLP operations would include the following minor modifications:

- Installation of simulated carrier deck markings and lighting;
- Installation of concrete pads for the placement of the following: Improved Fresnel Lens Optical Landing System (IFLOLS), Manually Operated Visual Landing Aid System (MOVLAS), and Landing Signal Officer (LSO) workstation;
- Fencing around storage areas; and
- Utility and infrastructure modifications to provide the electrical power requirements for IFLOLS, MOVLAS, and LSO workstations; lighted windsock/tetrahedron; abeam position light; and additional miscellaneous improvements which have yet to be determined. Equipment inside or near the LSO workstation for which electrical modifications are needed include: one UHF and one VHF radio, one telephone land line, and overhead and desk lighting.

Edge and crosswise deck lights would form a 70-foot by 775-foot rectangle depicting a simulated carrier deck, as seen from the landing aircraft. Runway lights would be semi-flush with the runway pavement, uni-directional, white, and hook-resistant. White and yellow high-visibility markings would be non-reflective. Black markings would be matte-finished. General locations of these proposed modifications at the airport are shown in Enclosure (4). None of the existing buildings or structures at the airport terminal would be impacted by proposed construction activities to support FCLP operations.

The present site of Emporia-Greenville Regional Airport was built during World War II as an Outlying Landing Field (OLF) for Marine Corps Air Station (MCAS) Edenton, North Carolina. MCAS Edenton is currently a civilian airport, known today as Northeastern Regional Airport. The OLF became a civilian airport in the 1960s. There are no previously recorded cultural resources or historic properties within the current confines of the airport. However, a recent cultural resources survey for an unrelated runway extension, beyond the northeast portion of the airfield, identified six archaeological sites, none of which were recommended as eligible for inclusion in the National Register of Historic Places (National Register) (Browning, DHR File #2011-0821). Based on a July 2011 site visit by Navy cultural resources staff, the proposed construction areas, primarily located along Runway 15/33, show evidence of grading, filling and other subsurface disturbance that likely occurred during clearing and construction of the runway beginning in the 1940s, and/or during

maintenance of the airfield, as evidenced from the presence of existing paved areas, underground utilities, and lights.

No buildings dating to the 1940s, when the airport was originally developed, appear to be extant within the APE. However, the footprint of at least one building, located between the former and current terminal buildings, may have dated from the airport's early period (see Enclosure (3), Image 5). The original triangle runway configuration is evidenced in the remains of closed runways 09/27 and 03/21 (see Enclosure (2), Figure 1) and the edges of active runway 15/33 (see Enclosure (3), Image 12). The pavement of the abandoned runways is in unusable condition and some areas have been altered or cut through by the current configuration of active Runway 15/33 (see Enclosure (2) and Enclosure (3), Image 15). The earliest extant building on the property appears to be the corporate hangar, and this building may date to the 1950s or 1960s (see Enclosure (3), Image 8). The former terminal building may date to the 1960s (see Enclosure (3), Image 6). All other buildings and structures appear to post-date the 1960s. The main terminal building was constructed in 1999 (see Enclosure (3), Image 2). A truck driving school utilizes the western corner of the airport and has recently erected a simple gabled building parallel to US Route 58 (see Enclosure (3), Image 10). The Virginia Army National Guard (VAARNG) leases a small area at the southwest corner of the airfield, and its Emporia Armory dates to 1992 (see Enclosure (3), Image 11, background). The VAARNG currently considers this property as not eligible for listing in the National Register. Additional buildings or structures at the airport, which do not front on the airfield, include several utility sheds, fuel tanks, an antenna, airport localizers, a fire training area on the northeast side of the airfield, and other small structures and objects used in airport operations (see Enclosure (3)).

The Navy is submitting the enclosed documentation pursuant to Section 106 of the NHPA, as amended, to initiate consultation with your agency and to facilitate effective planning in conjunction with the NEPA process. Based on the information enumerated above, specific to the Emporia-Greenville Regional Airport, the Navy has determined: 1) that the resources within the APE are not individually eligible for inclusion in the National Register, nor do they constitute an eligible historic district; and 2) the proposed undertaking will have no effect on historic archaeological or architectural resources.

In accordance with Section 106 of the NHPA, the Navy invites you to concur with these findings by completing the attached signature block and returning the original signature and any additional comments to: D. Lewis, NAVFAC Atlantic Business Line Manager, at NAVFAC Atlantic, 6506 Hampton Boulevard, Norfolk, Virginia, 23508-1278, within 30 days of receipt of this letter.

5090
Ser EV21SU/482
December 5, 2011

Please contact Darrell E. Cook, NAVFAC Atlantic Cultural Resources Specialist, at (757) 322-4282, or by email at darrell.e.cook@navy.mil, if you have questions about this project.

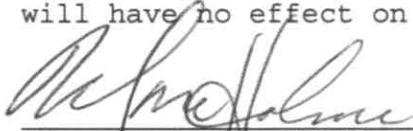
Sincerely,



W. D. LEWIS
Environmental Business Line Manager
By direction of the Commander

Enclosures: (4)

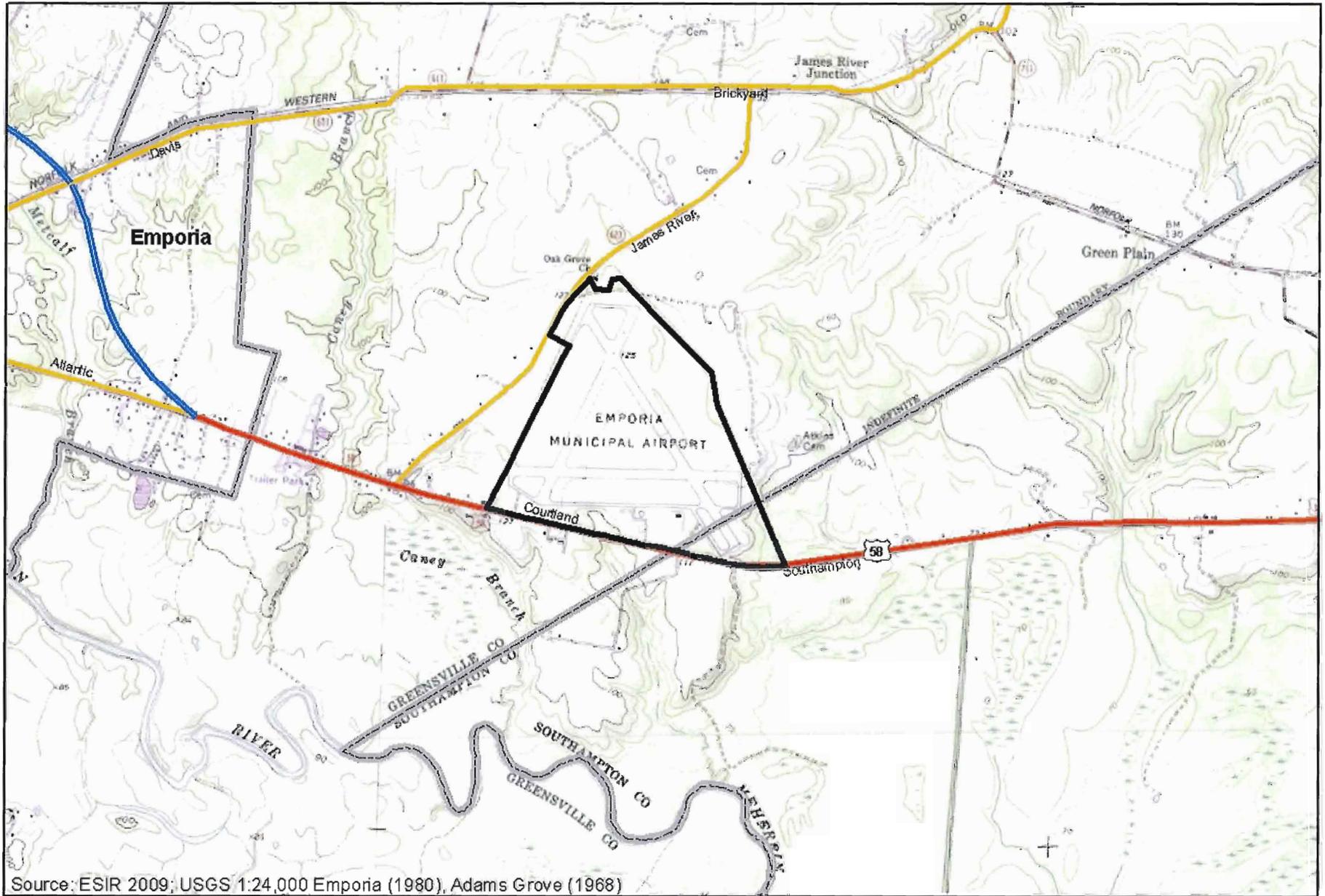
The Virginia Department of Historic Resources concurs with the Navy that the proposed undertaking (upgrades to and use of the airfield facilities at Emporia-Greensville Regional Airport to support Field Carrier Landing Practice operations for E-2/C-2 aircraft squadrons) will have no effect on National Register-eligible properties.



Marc Holma, Architectural Historian
Office of Review and Compliance
Virginia Department of Historic Resources

5 JAN 12
Date

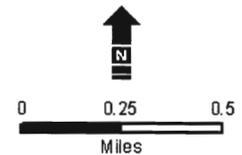
DHR# 2011-2033



Legend

- Emporia-Greenville Regional Airport
- Interstate
- Highway
- Major Road
- County Boundary

**Attachment 1
Regional Topographic Map**



Enclosure 2: Emporia–Greenville Regional Airport Aerial Maps

(Arrows with image numbers indicate photograph direction in Enclosure 3)



1: Emporia-Greenville Regional Airport. (Google)

Enclosure 2: Emporia–Greenville Regional Airport Aerial Maps
(Arrows with image numbers indicate photograph direction in Enclosure 3)



2: Emporia-Greenville Regional Airport Administration/Terminal Area. (Google)

Enclosure 2: Emporia–Greenville Regional Airport Aerial Maps

(Arrows with image numbers indicate photograph direction in Enclosure 3)



3: Close-up of Administration/Terminal Area. (Google)

Enclosure 2: Emporia–Greenville Regional Airport Aerial Maps

(Arrows with image numbers indicate photograph direction in Enclosure 3)



4: Emporia-Greenville Regional Airport. (Google)

Enclosure 3: Emporia-Greenville Regional Airport Photographs



1. Airport Sign (c.1990), Looking Southeast
July 19, 2011.

Enclosure 3: Emporia-Greenville Regional Airport Photographs



**2. Terminal Building (1999), Looking Northwest
July 19, 2011**

Enclosure 3: Emporia-Greenville Regional Airport Photographs



**3. Utility Shed Near Terminal Area (c.1970), Looking East
July 19, 2011**

Enclosure 3: Emporia-Greenville Regional Airport Photographs



4. Fuel Tanks and Tower (post-1970), Looking Northwest
July 19, 2011

Enclosure 3: Emporia-Greenville Regional Airport Photographs



5. Building Ruins, Looking West
July 19, 2011

Enclosure 3: Emporia-Greenville Regional Airport Photographs



6. Former Terminal (c.1965), Looking Southeast
July 19, 2011.

Enclosure 3: Emporia-Greenville Regional Airport Photographs



**7. Maintenance Building (c.1990), Looking Southwest
July 19, 2011.**

Enclosure 3: Emporia-Greenville Regional Airport Photographs



**8. Hangar (c.1950), Looking Southwest
July 19, 2011**

Enclosure 3: Emporia-Greenville Regional Airport Photographs



9. Hangar (c.2008), Looking Southwest
July 19, 2011

Enclosure 3: Emporia-Greenville Regional Airport Photographs



**10. Truck Driving School (c.2008), Looking Southeast
July 19, 2011**

Enclosure 3: Emporia-Greenville Regional Airport Photographs



11. Utility Shed with Tank in Foreground (c.1965) and National Guard Armory in Background (1992), Looking Southwest
July 19, 2011

Enclosure 3: Emporia-Greenville Regional Airport Photographs



12. Active Runway 15/33, Looking North
July 19, 2011

Enclosure 3: Emporia-Greenville Regional Airport Photographs



13. Utility Shed at Northwest Corner of Airport (post-1970) , Looking North
July 19, 2011.

Enclosure 3: Emporia-Greenville Regional Airport Photographs

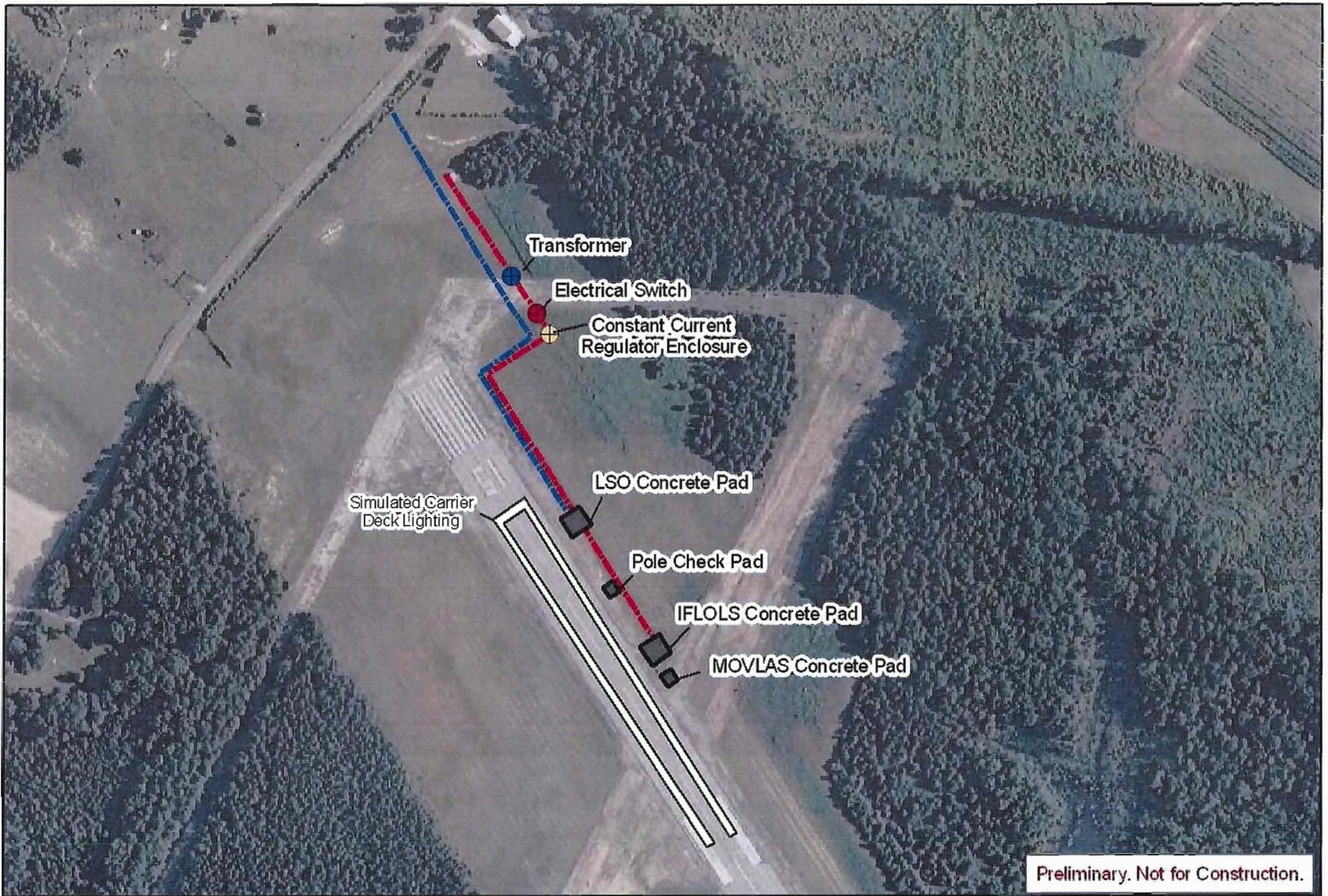


14. Localizers (post-1990), Looking Northwest
July 19, 2011.

Enclosure 3: Emporia-Greenville Regional Airport Photographs



15. Inactive Runway, Looking West
July 19, 2011.

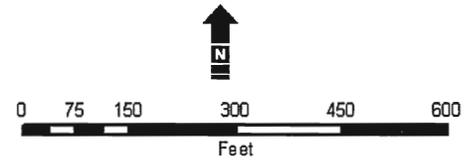


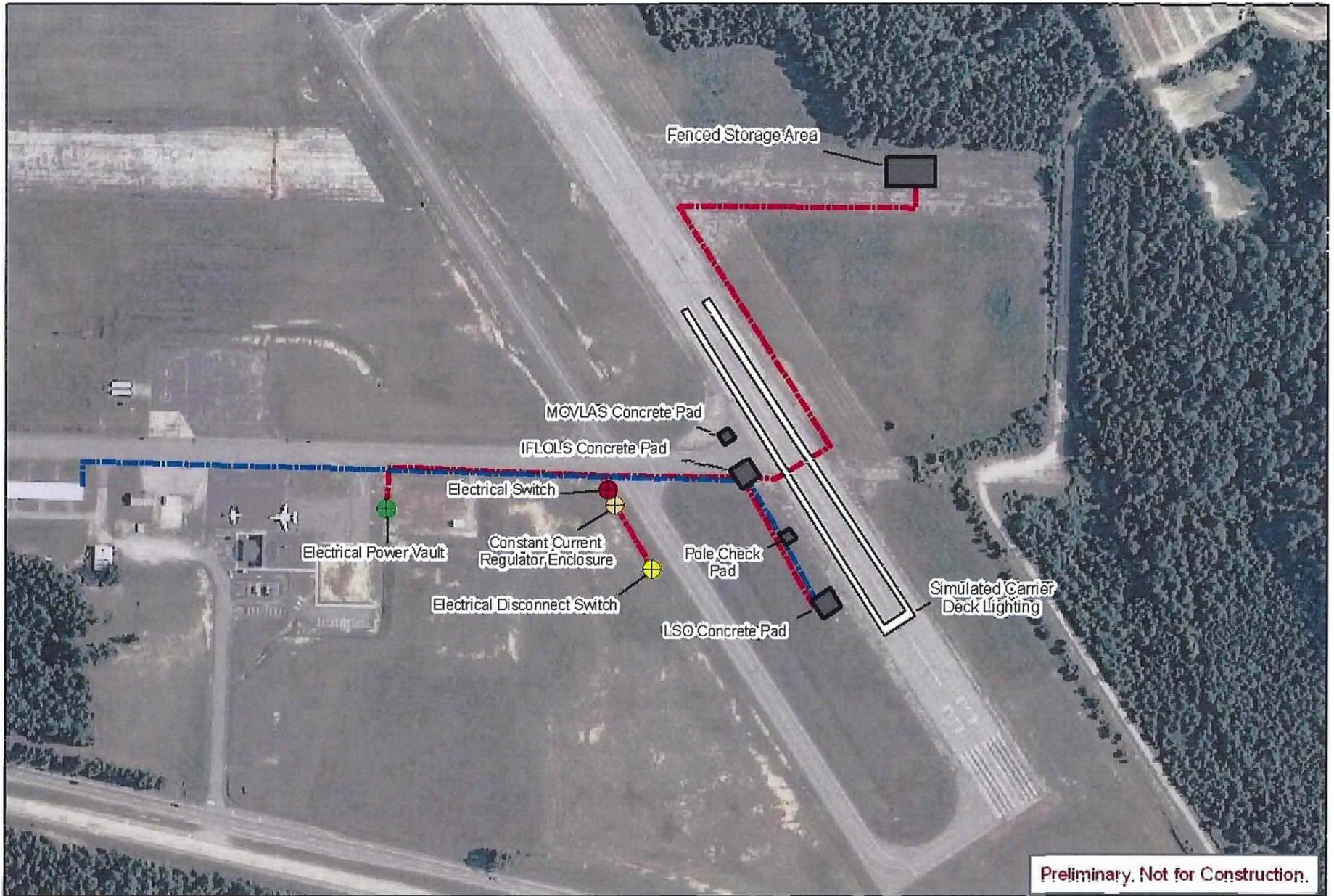
Preliminary. Not for Construction.

Legend

- | | |
|--------------------------------------|------------------------------|
| Simulated Carrier Deck Lighting | Electrical Disconnect Switch |
| Concrete Pad | Electrical Power Vault |
| Electrical Ductbank | Electrical Switch |
| Telephone Ductbank | Transformer |
| Constant Current Regulator Enclosure | |

**Runway 15
Proposed Modifications**

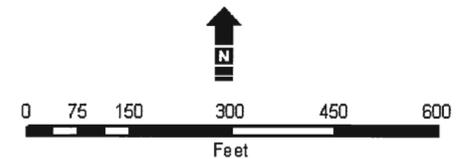




Legend

- | | |
|--------------------------------------|-----------------------------------|
| Simulated Carrier Deck Lighting | Electrical Disconnect Switch |
| Concrete Pad | Electrical Power Vault - Existing |
| Electrical Ductbank | Electrical Switch |
| Telephone Ductbank | Transformer |
| Constant Current Regulator Enclosure | |

**Runway 33
Proposed Modifications**





DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK, VA 23508-1278

IN REPLY REFER TO:

5090
Ser EV21SU/017
January 17, 2012

Mr. Marc Holma
Virginia Department of Historic Resources
Office of Review and Compliance
2801 Kensington Avenue
Richmond, Virginia 23221

Dear Mr. Holma:

This letter continues Section 106 consultation on the Navy's proposed use of Emporia-Greensville Regional Airport (Emporia), Virginia or National Aeronautics and Space Administration (NASA) Wallops Flight Facility (WFF), Wallops Island, Virginia as an interim measure to support Field Carrier Landing Practice (FCLP) training for the E-2C Hawkeye (transitioning to the E-2D Advanced Hawkeye) and C-2A Greyhound aircraft squadrons, hereinafter referred to as the E-2/C-2 aircraft. Discussion in this letter is specific to the proposed undertaking at Wallops; a letter dated December 5, 2011 detailed the proposed undertaking at Emporia.

In accordance with the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); and Navy procedures for implementing NEPA (32 CFR 775), the Navy is preparing an Environmental Assessment (EA) to analyze the potential impacts of modifying and using Emporia or WFF for FCLP training. In accordance with Section 106 of the National Historic Preservation Act (NHPA), as amended, and as part of NEPA coordination, the Navy, as the lead federal agency, is submitting for your information and review the enclosed documentation for WFF, including a project location map (Enclosure (1)) and an archaeological probability area map, which also shows proposed construction locations (Enclosure (2)). The Navy has determined that the area of potential effect (APE) for the undertaking at WFF is the WFF Main Base area of the installation (Enclosure (1)). As the actions may occur at NASA's WFF, NASA is a Cooperating Agency for the EA process and will be participating in the Navy's Section 106 consultation. Please include NASA in all future correspondence regarding this project.

WFF is located in Accomack County, part of Virginia's Eastern Shore on the Delmarva Peninsula. WFF is divided into three distinct areas, WFF Main Base (1,800 acres), WFF Mainland (100 acres), and Wallops Island (4,600 acres). During World War II, the Main Base (subject of the proposed undertaking) was constructed as the Chincoteague Naval Auxiliary Air Station. The property became a NASA facility in 1959. As part of NASA's Goddard Space Flight Facility, WFF has been the subject of intense cultural resources inventory and evaluation efforts, including the most recent 2011 *Historic Resources Eligibility Survey, Wallops Flight Facility, Accomack County, Virginia* (DHR File No. 2010-2274). Within the APE (the Main Base), no architectural resources were found eligible for the National Register of Historic Places (NRHP).

WFF Main Base contains offices, laboratories, maintenance and service facilities, a NASA-owned airport, air traffic control facilities, hangars, runways, aircraft maintenance and ground support buildings, water and sewer treatment plants, and rocket motor storage magazines. The National Oceanic and Atmospheric Administration (NOAA), Navy, and Coast Guard also have housing, administration, and/or other miscellaneous resources at WFF Main Base. The airfield currently features three active runways (04/22, 10/28, and 17/35), with approximately 10,000 annual operations, including existing Navy E-2/C-2 operations of aircraft based at Naval Station Norfolk.

Construction to support use of the airport facilities by the Navy for FCLP operations would include the following minor modifications:

- Installation of simulated carrier deck markings and lighting;
- Installation of concrete pads for the placement of the following: Improved Fresnel Lens Optical Landing System (IFLOLS), Manually Operated Visual Landing Aid System (MOVLAS), and Landing Signal Officer (LSO) workstation;
- Fencing around storage areas; and
- Utility and infrastructure modifications to provide the electrical power requirements for IFLOLS, MOVLAS, and LSO workstations; lighted windsock/tetrahedron; abeam position light; and additional miscellaneous improvements which have yet to be determined. Equipment inside or near the LSO workstation for which electrical modifications are needed include: one UHF and one VHF radio, one telephone land line, and overhead and desk lighting.

Edge and crosswise deck lights would form a 70-foot by 775-foot rectangle depicting a simulated carrier deck, as seen from the landing aircraft. Runway lights would be semi-flush with the runway pavement, unidirectional, white, and hook-resistant. White and yellow high-visibility markings would be non-reflective. Black marking would be matte-finished. General locations of these proposed modifications at the airport are shown in Enclosure (2). None of the existing buildings or structures at the airport terminal would be impacted by proposed construction activities to support FCLP operations.

Based on a December 2011 site visit by Navy cultural resources staff, consultation with the WFF Federal Preservation Officer and environmental staff, and comparison of archaeological predictive models of the airfield (Enclosure (2)), the proposed construction areas have a low probability of intact cultural remains. The proposed construction areas show evidence of grading, filling and other subsurface disturbance that likely occurred during clearing and construction of the runway beginning in the 1940s, and/or during maintenance of the airfield, as evidenced from the presence of existing paved areas, underground utilities, and lights.

The Navy is submitting the enclosed documentation pursuant to Section 106 of the NHPA, as amended, to continue consultation with your agency and to facilitate effective planning in conjunction with the NEPA process. Based on the information enumerated above, specific to WFF, the Navy has determined that the proposed undertaking will have no effect on historic archaeological or architectural resources.

In accordance with Section 106 of the NHPA, the Navy invites you to concur with these findings by completing the attached signature block and returning the original signature and any additional comments to: D. Lewis, NAVFAC Atlantic Business Line Manager, at NAVFAC Atlantic, 6506 Hampton Boulevard, Norfolk, Virginia, 23508-1278, within 30 days of receipt of this letter. Please contact Darrell E. Cook, NAVFAC Atlantic Cultural Resources Specialist, at (757) 322-4282, or by email at darrell.e.cook@navy.mil, if you have questions about this project.

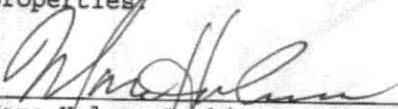
Sincerely,



W. D. LEWIS
Environmental Business Line Manager
By direction of the Commander

- Enclosures: (1) NASA WFF Project Location Map/APE
(2) Archaeological Probability Area map, including Proposed Construction Locations

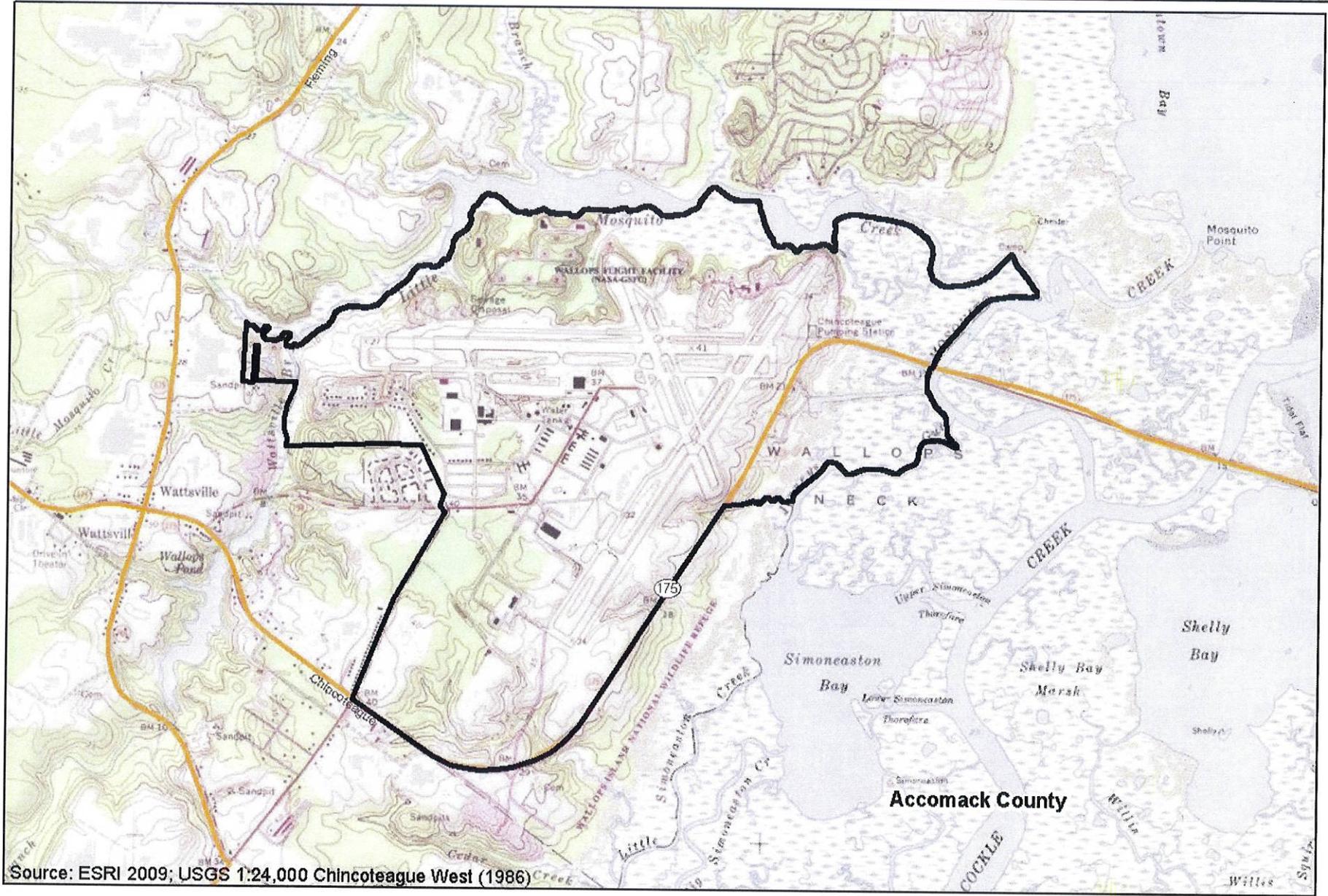
The Virginia Department of Historic Resources concurs with the Navy that the proposed undertaking (upgrades to and use of the airfield at NASA Wallops Flight Facility to support Field Carrier Landing Practice operations for E-2/C-2 aircraft squadrons) will have no effect on National Register-eligible properties.



Marc Holma, Architectural Historian
Office of Review and Compliance
Virginia Department of Historic Resources

5 MARCH 12
Date

DHR# 2011-2033

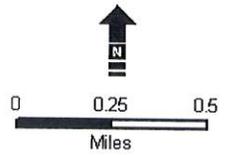


Source: ESRI 2009; USGS 1:24,000 Chincoteague West (1986)

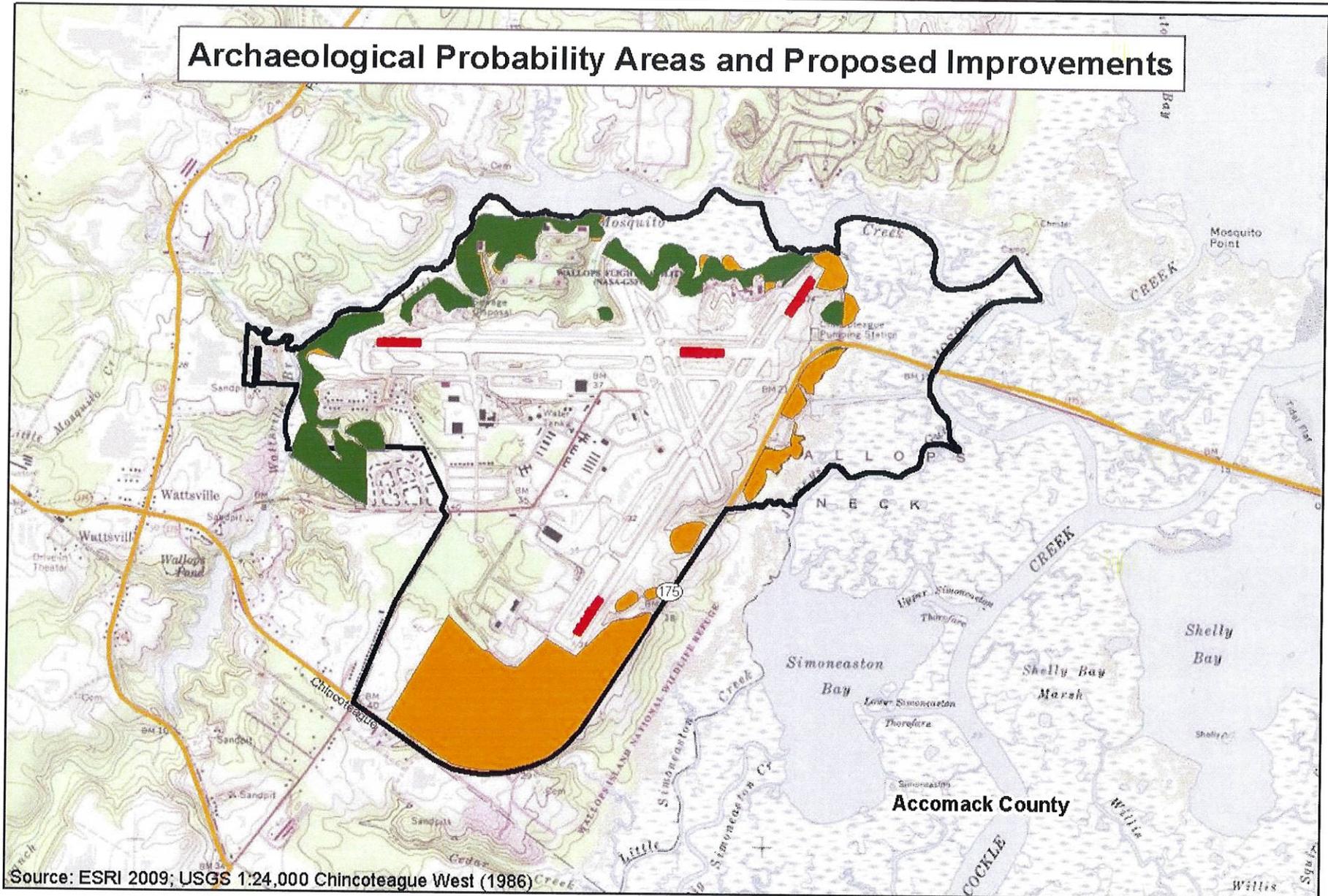
Legend

-  installation_area
-  Interstate
-  County Boundary
-  Highway
-  Major Road

**Enclosure 1
Regional Topographic Map**



Archaeological Probability Areas and Proposed Improvements

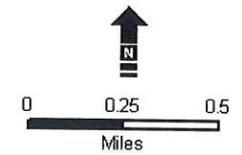


Source: ESRI 2009; USGS 1:24,000 Chincoteague West (1986)

Legend

- | | | |
|----------------------------|-----------------------|------------|
| Cultural Restricted Area | Airfield Improvements | Interstate |
| Archaeological Probability | Installation Area | Highway |
| High | | Major Road |
| Medium | | |

Enclosure 2 Cultural Restricted Areas





DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK, VA 23508-1278

IN REPLY REFER TO:
5090
Ser EV21SHU/00094
8 MAR 2012

From: Commander, Naval Facilities Engineering Command, Atlantic
To: District Engineer, U.S. Army Corps of Engineers, Norfolk
District (John Evans)

Subj: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL ASSESSMENT
(EA) FOR E-2/C-2 FIELD CARRIER LANDING PRACTICE (FCLP)
AT EMPORIA-GREENSVILLE REGIONAL AIRPORT AND WALLOPS
FLIGHT FACILITY

Encl: (1) Regional Maps

1. The Navy is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq., and its implementing regulations for the above-referenced project. A previous letter was sent to your office in January 2011 addressing the same proposed action at a different airport, an effort which was suspended in February 2011. The intent of this letter is to inform your office of the scope of the proposed project and of the kickoff of the new EA.
2. The EA will evaluate the potential environmental consequences of the U.S. Department of the Navy's (the Navy's) proposed action to conduct regular, scheduled E-2 Hawkeye and C-2 Greyhound (hereinafter referred to as the E-2/C-2) Field Carrier Landing Practice (FCLP) operations at a local airfield which meets the Navy's minimum airfield requirements. The Navy proposes to use the facilities at either Emporia-Greensville Regional Airport ("Emporia") or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility ("WFF"), as an interim bridge until the Navy increases local FCLP capacity at a permanent facility.
3. The proposed action would support up to 45,000 annual FCLP operations for E-2/C-2 squadrons operating from Naval Station (NS) Norfolk Chambers Field, in Norfolk, Virginia. The E-2 aircraft is a turboprop, twin-engine surveillance/command and control aircraft, while the C-2 aircraft is a turboprop, twin-engine cargo aircraft. This EA analyzes the environmental consequences associated with both the proposed FCLP operations and minor modifications to airfield facilities to support the E-2/C-2 FCLP operations.
4. Emporia-Greensville Regional Airport is publically owned and managed by an Airport Commission. The Airport is primarily located within Greensville County, with the approach end of Runway 33 located in Southampton County. It is approximately 2.6 miles east of the City of Emporia, Virginia and approximately 65 nautical miles from NS Norfolk Chambers Field in Norfolk, Virginia (see Attachment 1,

Subj: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL ASSESSMENT
(EA) FOR E-2/C-2 FIELD CARRIER LANDING PRACTICE (FCLP)
AT EMPORIA-GREENSVILLE REGIONAL AIRPORT AND WALLOPS
FLIGHT FACILITY

Regional Map). The Navy is currently analyzing runway 15/33 for potential E-2/C-2 FCLP use.

5. NASA Wallops Flight Facility is a federally-owned airfield on the Eastern Shore of Virginia, approximately 5 miles west of Chincoteague, Virginia, and approximately 70 nautical miles from NS Norfolk (see Attachment 1, Regional Map). WFF consists of three parcels: Main Base, Mainland, and the Wallops Island launch site; the airfield is located on the Main Base. The Navy is currently analyzing two of three runways for potential E-2/C-2 FCLP use (runways 04/22 and 10/28).

6. E-2/C-2 squadrons currently train at Naval Auxiliary Landing Field (NALF) Fentress. NALF Fentress is the primary Outlying Landing Field (OLF) used for FCLP training requirements by squadrons stationed at and transient to NAS Oceana and NS Norfolk Chambers Field. NALF Fentress lacks the capacity to support all carrier-based aircraft FCLP requirements under all conditions. Capacity and scheduling issues frequently push FCLP operations at NALF Fentress into the late-night and early-morning hours (from 10:00 p.m. to 7:00 a.m.), to NAS Oceana, or to overnight detachments outside the local area, resulting in increased training costs. The purpose of the proposed action to be analyzed in the EA is to provide additional FCLP training capacity for E-2/C-2 squadrons operating from NS Norfolk Chambers Field as an interim bridge until the Navy increases local FCLP capacity at a permanent facility. The proposed action is needed to support required E-2/C-2 FCLP training and to reduce or eliminate both the need for out-of-area FCLP detachments by the E-2/C-2 Fleet Replacement Squadron and periodic FCLP capacity shortfalls at NALF Fentress.

7. This EA will analyze the environmental consequences, at both Emporia and WFF, associated with both the proposed E-2/C-2 FCLP operations and modifications to airfield facilities to support the FCLP operations. Significant impacts to natural resources such as wetlands or threatened and endangered species are not expected as a result of flight operations or associated construction, which would include the following minor modifications:

- a. Installation of simulated carrier deck markings and lighting;
- b. Installation of concrete/asphalt pads for equipment to include Improved Fresnel Lens Optical Landing System (IFLOLS); Manually Operated Visual Landing Aid System (MOVLAS); and Landing Signal Officer (LSO) workstation;
- c. If not already available, a secure storage area located outside the Runway Safety Area (RSA) sufficient to store the equipment

Subj: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL ASSESSMENT
(EA) FOR E-2/C-2 FIELD CARRIER LANDING PRACTICE (FCLP)
AT EMPORIA-GREENSVILLE REGIONAL AIRPORT AND WALLOPS
FLIGHT FACILITY

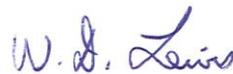
listed above when not in use by the Navy (required per FAA regulations);

d. Minor utility and infrastructure enhancements.

8. All construction activity would occur within the Emporia or Wallops property boundary. The target initial operating capability (IOC) for the proposed action is summer 2013. No aircraft squadrons or squadron personnel would be permanently stationed or homebased at Emporia or WFF.

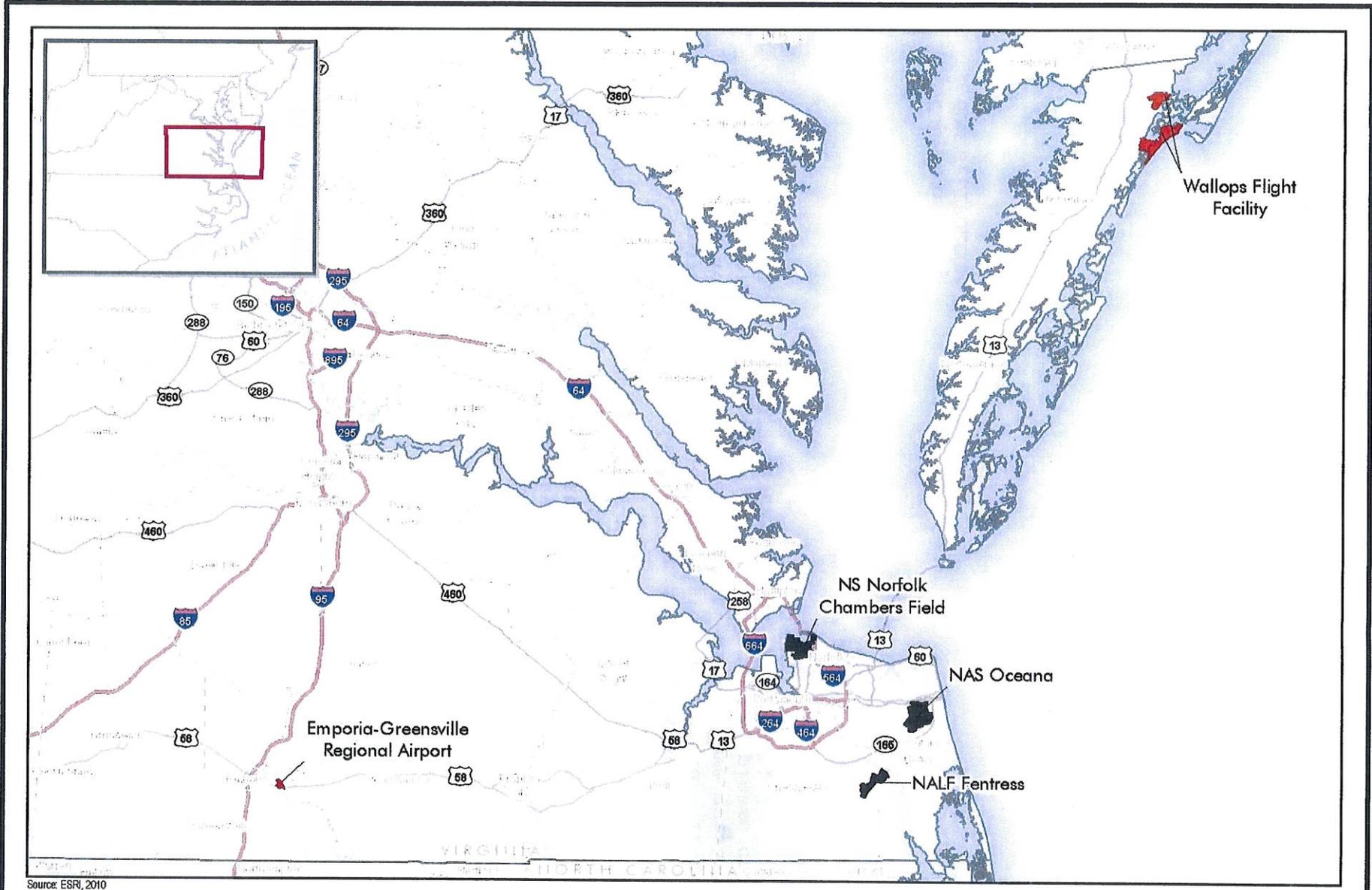
9. It is the Navy's intent that its environmental review process will also fulfill the requirements incumbent upon its partner Federal agencies, including NASA and the FAA. As Federal agencies, both have requirements under NEPA and other relevant statutes and Executive Orders (EOs) related to the Navy's proposed action. As such, both agencies will serve as Cooperating Agencies in the preparation of the EA. The Navy plans to release the Draft EA for public review in September 2012. We will notify you once a draft has been released.

10. Mr. Paul Block, EV will be contacting you soon to discuss the proposed project and schedule site visits, if needed. If you would like to provide us with any feedback, or if you have questions regarding the proposed action or scope of the EA, please contact Sara Upchurch at (757) 322-4332 or sara.upchurch@navy.mil.



W. D. LEWIS
By direction

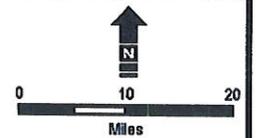
Copy to:
COMUSFLTFORCOM



Source: ESRI, 2010

- | | | | | | |
|---|---------------|---|----------------|---|------------------|
|  | Airfield |  | Waterbody |  | Interstate |
|  | Military Base |  | Swamp/Marsh |  | Other Major Road |
|  | Urban Area |  | State Boundary |  | County Boundary |

Attachment 1:
Regional Location Map





DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK, VA 23508-1278

IN REPLY REFER TO:

5090
Ser EV21SHU/00087
8 MAR 2012

Mr. Andy Zadnick
Virginia Department of Game and Inland Fisheries
Environmental Services Section
P.O. Box 11104
Richmond, VA 23230

Dear Mr. Zadnick:

Subject: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL ASSESSMENT
(EA) FOR E-2/C-2 FIELD CARRIER LANDING PRACTICE (FCLP) AT
EMPORIA-GREENSVILLE REGIONAL AIRPORT AND WALLOPS FLIGHT
FACILITY.

The Navy is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq., and its implementing regulations for the above-referenced project. A previous letter was sent to your office in January 2011 addressing the same proposed action at a different airport, an effort which was suspended in February 2011. The intent of this letter is to inform your office of the scope of the proposed project and of the kickoff of the new EA. We plan to obtain data on federally-listed threatened and endangered species and critical habitats from the U.S. Fish and Wildlife Service to include in our analysis.

The EA will evaluate the potential environmental consequences of the U.S. Department of the Navy's (the Navy's) proposed action to conduct regular, scheduled E-2 Hawkeye, and C-2 Greyhound (hereinafter referred to as the E-2/C-2) Field Carrier Landing Practice (FCLP) operations at a local airfield which meets the Navy's minimum airfield requirements. The Navy proposes to use the facilities at either Emporia-Greensville Regional Airport ("Emporia") or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility ("WFF"), as an interim bridge until the Navy increases local FCLP capacity at a permanent facility.

The proposed action would support up to 45,000 annual FCLP operations for E-2/C-2 squadrons operating from Naval Station (NS) Norfolk Chambers Field, in Norfolk, Virginia. The E-2 aircraft is a turboprop, twin-engine surveillance/command and control aircraft, while the C-2 aircraft is a turboprop, twin-engine cargo aircraft. This EA analyzes the environmental consequences associated with both the proposed FCLP operations and minor modifications to airfield facilities to support the E-2/C-2 FCLP operations.

Emporia-Greenville Regional Airport is publically owned and managed by an Airport Commission. The Airport is primarily located within Greenville County, with the approach end of Runway 33 located in Southampton County. It is approximately 2.6 miles east of the City of Emporia, Virginia and approximately 65 nautical miles from NS Norfolk Chambers Field in Norfolk, Virginia (see Attachment 1, Regional Location Map). The Navy is currently analyzing runway 15/33 for potential E-2/C-2 FCLP use.

NASA Wallops Flight Facility is a federally-owned airfield on the Eastern Shore of Virginia, approximately 5 miles west of Chincoteague, Virginia, and approximately 70 nautical miles from NS Norfolk (see Attachment 1, Regional Location Map). WFF consists of three parcels: Main Base, Mainland, and the Wallops Island launch site; the airfield is located on the Main Base. The Navy is currently analyzing two of three runways for potential E-2/C-2 FCLP use (runways 04/22 and 10/28).

E-2/C-2 squadrons currently train at Naval Auxiliary Landing Field (NALF) Fentress. NALF Fentress is the primary Outlying Landing Field (OLF) used for FCLP training requirements by squadrons stationed at and transient to NAS Oceana and NS Norfolk Chambers Field. NALF Fentress lacks the capacity to support all carrier-based aircraft FCLP requirements under all conditions. Capacity and scheduling issues frequently push FCLP operations at NALF Fentress into the late-night and early-morning hours (from 10:00 p.m. to 7:00 a.m.), to NAS Oceana, or to overnight detachments outside the local area, resulting in increased training costs. The purpose of the proposed action to be analyzed in the EA is to provide additional FCLP training capacity for E-2/C-2 squadrons operating from NS Norfolk Chambers Field as an interim bridge until the Navy increases local FCLP capacity at a permanent facility. The proposed action is needed to support required E-2/C-2 FCLP training and to reduce or eliminate both the need for out-of-area FCLP detachments by the E-2/C-2 Fleet Replacement Squadron and periodic FCLP capacity shortfalls at NALF Fentress.

This EA will analyze the environmental consequences, at both Emporia and WFF, associated with both the proposed E-2/C-2 FCLP operations and modifications to airfield facilities to support the FCLP operations. Significant impacts to natural resources such as wetlands or threatened and endangered species are not expected as a result of flight operations or associated construction, which would include the following minor modifications:

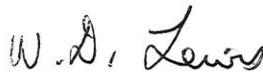
- a. Installation of simulated carrier deck markings and lighting;
- b. Installation of concrete/asphalt pads for equipment to include Improved Fresnel Lens Optical Landing System (IFLOLS); Manually Operated Visual Landing Aid System (MOVLAS); and Landing Signal Officer (LSO) workstation;
- c. If not already available, a secure storage area located outside the Runway Safety Area (RSA) sufficient to store the equipment listed above when not in use by the Navy (required per FAA regulations);
- d. Minor utility and infrastructure enhancements.

All construction activity would occur within the Emporia or WFF property boundary. The target initial operating capability (IOC) for the proposed action is summer 2013. No aircraft squadrons or squadron personnel would be permanently stationed or homebased at Emporia or WFF.

It is the Navy's intent that its environmental review process will also fulfill the requirements incumbent upon its partner Federal agencies, including NASA and the FAA. As Federal agencies, both have requirements under NEPA and other relevant statutes and Executive Orders (EOs) related to the Navy's proposed action. As such, both agencies will serve as Cooperating Agencies in the preparation of the EA. The Navy plans to release the Draft EA for public review in September 2012. We will notify you once a draft has been released.

If you would like to provide us with any feedback, or if you have questions regarding the proposed action or scope of the EA, you may contact Sara Upchurch at 757-322-4332 or sara.upchurch@navy.mil.

Sincerely,



W. D. LEWIS
Environmental Business Line Manager
By direction of the Commander

Enclosure: (1) Regional Location Map

Copy To:
United States Fleet Forces Command



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK, VA 23508-1278

IN REPLY REFER TO:
5090
Ser EV21SHU/00091
8 MAR 2012

Mr. P. Clifford Burnette, Jr.
Virginia Department of Aviation
Director, Airport Services Division
5702 Gulfstream Road
Richmond, Virginia 23250-2422

Dear Mr. Burdette:

Subject: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL ASSESSMENT (EA) FOR E-2/C-2 FIELD CARRIER LANDING PRACTICE (FCLP) AT EMPORIA-GREENSVILLE REGIONAL AIRPORT AND WALLOPS FLIGHT FACILITY.

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- a. Installation of simulated carrier deck markings and lighting;
- b. Installation of concrete/asphalt pads for equipment to include Improved Fresnel Lens Optical Landing System (IFLOLS); Manually Operated Visual Landing Aid System (MOVLAS); and Landing Signal Officer (LSO) workstation;
- c. If not already available, a secure storage area located outside the Runway Safety Area (RSA) sufficient to store the equipment listed above when not in use by the Navy (required per FAA regulations);
- d. Minor utility and infrastructure enhancements.

All construction activity would occur within the Emporia or WFF property boundary. The target initial operating capability (IOC) for the proposed action is summer 2013. No aircraft squadrons or squadron personnel would be permanently stationed or homebased at Emporia or WFF.

It is the Navy's intent that its environmental review process will also fulfill the requirements incumbent upon its partner Federal agencies, including NASA and the FAA. As Federal agencies, both have requirements under NEPA and other relevant statutes and Executive Orders (EOs) related to the Navy's proposed action. As such, both agencies will serve as Cooperating Agencies in the preparation of the EA. The Navy plans to release the Draft EA for public review in September 2012. We will notify you once a draft has been released.

If you would like to provide us with any feedback, or if you have questions regarding the proposed action or scope of the EA, you may contact Sara Upchurch at 757-322-4332 or sara.upchurch@navy.mil.

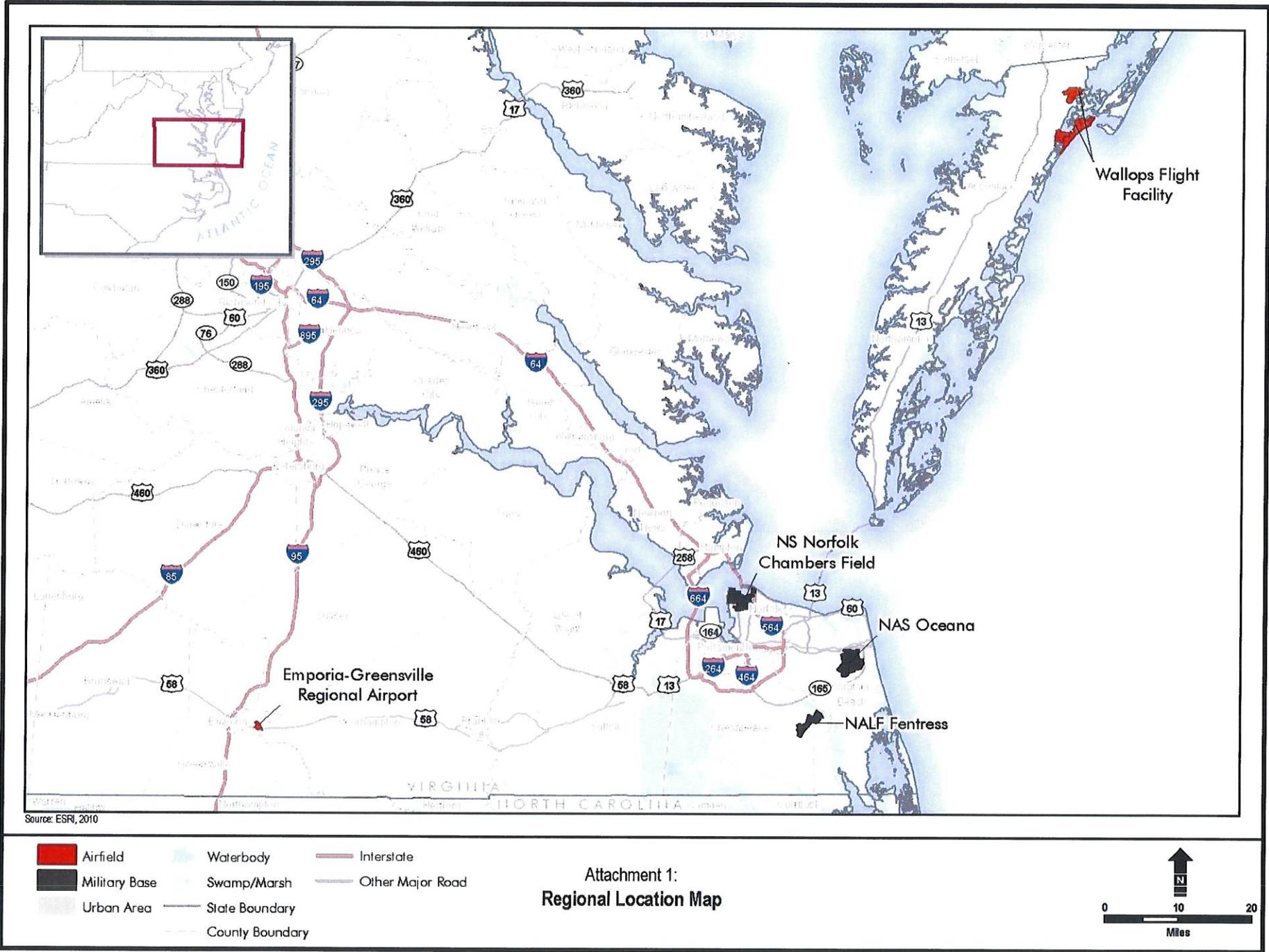
Sincerely,



W. D. LEWIS
Environmental Business Line Manager
By direction of the Commander

Enclosure: (1) Regional Location Map

Copy To:
United States Fleet Forces Command



Source: ESRI, 2010

Attachment 1:
Regional Location Map



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK, VA 23508-1278

IN REPLY REFER TO:

5090

Ser EV21SHU/00090

8 MAR 2012

Ms. Karen DelGrosso, NEPA Team Member
Office of Environmental Programs (3EA30)
U.S. Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103-2029

Subject: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL ASSESSMENT
(EA) FOR E-2/C-2 FIELD CARRIER LANDING PRACTICE (FCLP) AT
EMPORIA-GREENSVILLE REGIONAL AIRPORT AND WALLOPS FLIGHT
FACILITY.

Dear Ms. DelGrosso:

The Navy is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq., and its implementing regulations for the above-referenced project. A previous letter was sent to your office in January 2011 addressing the same proposed action at a different airport, an effort which was suspended in February 2011. The intent of this letter is to inform your office of the scope of the proposed project and of the kickoff of the new EA.

The EA will evaluate the potential environmental consequences of the U.S. Department of the Navy's (the Navy's) proposed action to conduct regular, scheduled E-2 Hawkeye and C-2 Greyhound (hereinafter referred to as the E-2/C-2) Field Carrier Landing Practice (FCLP) operations at a local airfield which meets the Navy's minimum airfield requirements. The Navy proposes to use the facilities at either Emporia-Greensville Regional Airport ("Emporia") or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility ("WFF"), as an interim bridge until the Navy increases local FCLP capacity at a permanent facility.

The proposed action would support up to 45,000 annual FCLP operations for E-2/C-2 squadrons operating from Naval Station (NS) Norfolk Chambers Field, in Norfolk, Virginia. The E-2 aircraft is a turboprop, twin-engine surveillance/command and control aircraft, while the C-2 aircraft is a turboprop, twin-engine cargo aircraft. This EA analyzes the environmental consequences associated with both the proposed FCLP operations and minor modifications to airfield facilities to support the E-2/C-2 FCLP operations.

Emporia-Greensville Regional Airport is publically owned and managed by an Airport Commission. The Airport is primarily located within Greensville County, with the approach end of Runway 33 located in Southampton County. It is approximately 2.6 miles east of the City of Emporia, Virginia and approximately 65 nautical miles from NS

Norfolk Chambers Field in Norfolk, Virginia (see Attachment 1, Regional Location Map). The Navy is currently analyzing runway 15/33 for potential E-2/C-2 FCLP use.

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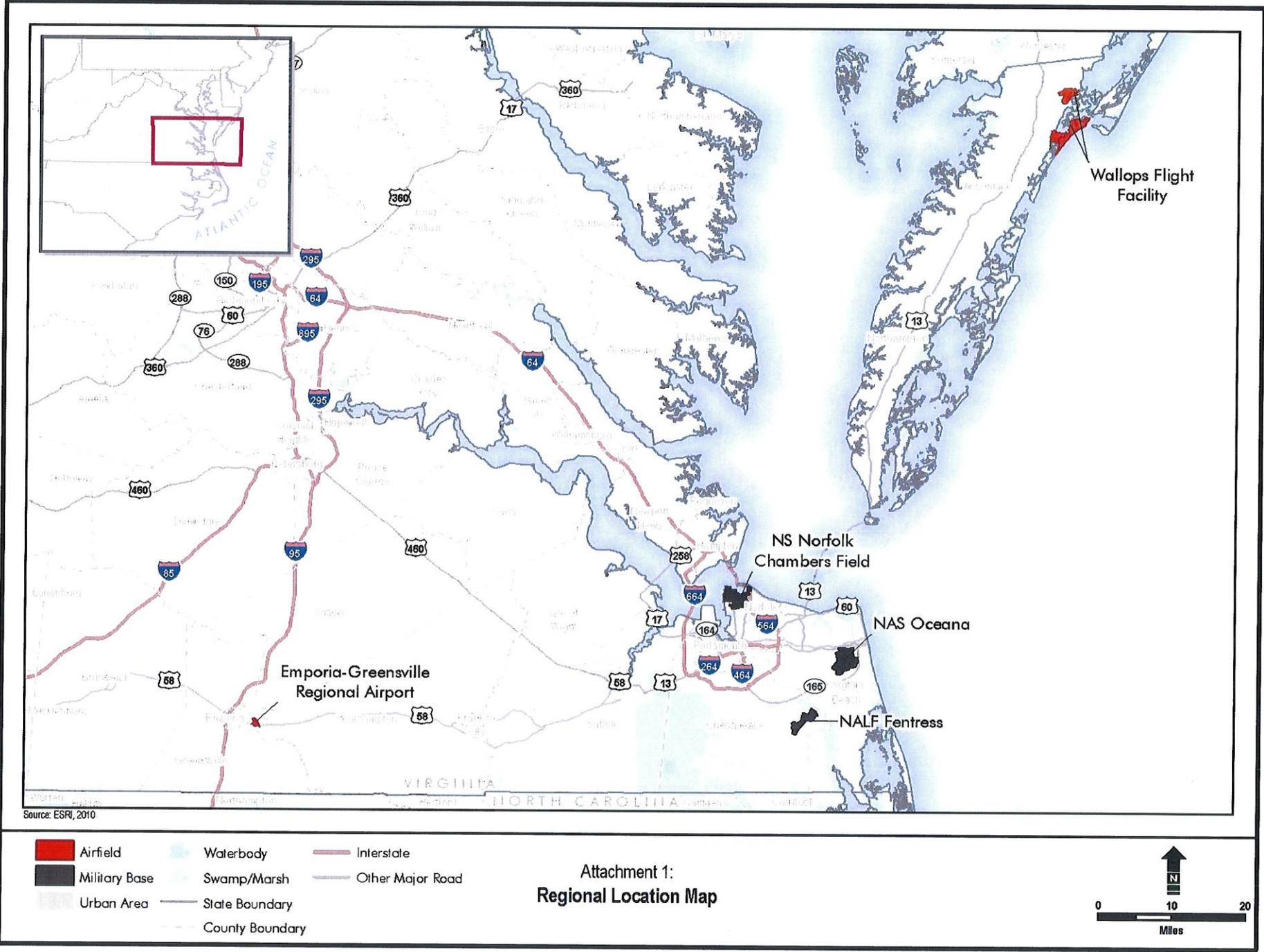
Sincerely,



W. D. LEWIS
Environmental Business Line Manager
By direction of the Commander

Enclosure: (1) Regional Location Map

Copy To:
United States Fleet Forces Command



Attachment 1:
Regional Location Map



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK, VA 23508-1278

IN REPLY REFER TO:

5090

Ser EV21SHU/00093

8 MAR 2012

Ms. Ellie Irons, OEIR Manager
Department of Environmental Quality
Office of Environmental Impact Review
P.O. Box 1105
Richmond, Virginia 23218

Dear Ms. Irons:

Subject: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL
ASSESSMENT (EA) FOR E-2/C-2 FIELD CARRIER LANDING
PRACTICE (FCLP) AT EMPORIA-GREENSVILLE REGIONAL AIRPORT
AND WALLOPS FLIGHT FACILITY

The Navy is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq., and its implementing regulations for the above-referenced project. A previous letter was sent to your office in January 2011 addressing the same proposed action at a different airport, an effort which was suspended in February 2011. The intent of this letter is to inform your office of the scope of the proposed project and of the kickoff of the new EA.

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located within Greensville County, with the approach end of Runway 33 located in Southampton County. It is approximately 2.6 miles east of the City of Emporia, Virginia and approximately 65 nautical miles from NS Norfolk Chambers Field in Norfolk, Virginia (see Attachment 1, Regional Map). The Navy is currently analyzing runway 15/33 for potential E-2/C-2 FCLP use.

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c. Manually Operated Visual Landing Aid System (MOVLAS); and Landing Signal Officer (LSO) workstation;

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e. Minor utility and infrastructure enhancements.

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It is the Navy's intent that its environmental review process will also fulfill the requirements incumbent upon its partner Federal agencies, including NASA and the FAA. As Federal agencies, both have requirements under NEPA and other relevant statutes and Executive Orders (EOs) related to the Navy's proposed action. As such, both agencies will serve as Cooperating Agencies in the preparation of the EA. The Navy plans to release the draft EA for public review in September 2012. We will notify you once a draft has been released.

If you would like to provide us with any feedback, or if you have questions regarding the proposed action or scope of the EA, please contact Ms. Sara Upchurch at (757) 322-4332 or e-mail: sara.upchurch@navy.mil.

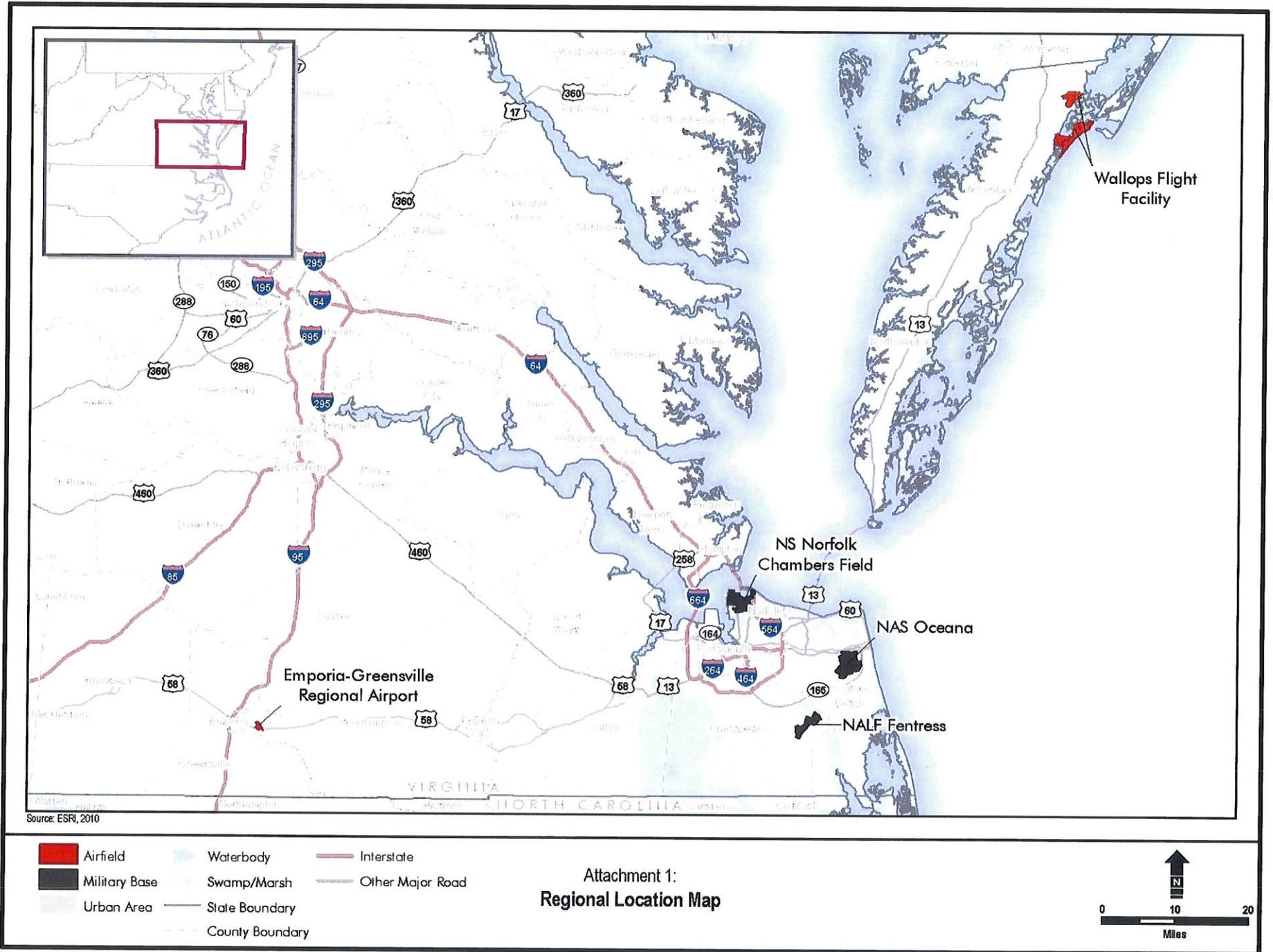
Sincerely,



W. D. LEWIS
Environmental Business Line
Manager
By direction of the Commander

Enclosure: Regional Map

Copy To:
United States Fleet Forces Command





DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK, VA 23508-1278

IN REPLY REFER TO:
5090
Ser EV21SHU/00088
8 MAR 2012

Ms. René Hypes
Environmental Review Coordinator
Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor St., 2nd Floor
Richmond, VA 23219

Dear Ms. Hypes:

Subject: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL ASSESSMENT
(EA) FOR E-2/C-2 FIELD CARRIER LANDING PRACTICE (FCLP) AT
EMPORIA-GREENSVILLE REGIONAL AIRPORT AND WALLOPS FLIGHT
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The EA will evaluate the potential environmental consequences of the U.S. Department of the Navy's (the Navy's) proposed action to conduct regular, scheduled E-2 Hawkeye and C-2 Greyhound (hereinafter referred to as the E-2/C-2) Field Carrier Landing Practice (FCLP) operations at a local airfield which meets the Navy's minimum airfield requirements. The Navy proposes to use the facilities at either Emporia-Greensville Regional Airport ("Emporia") or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility ("WFF"), as an interim bridge until the Navy increases local FCLP capacity at a permanent facility.

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8 MAR 2012

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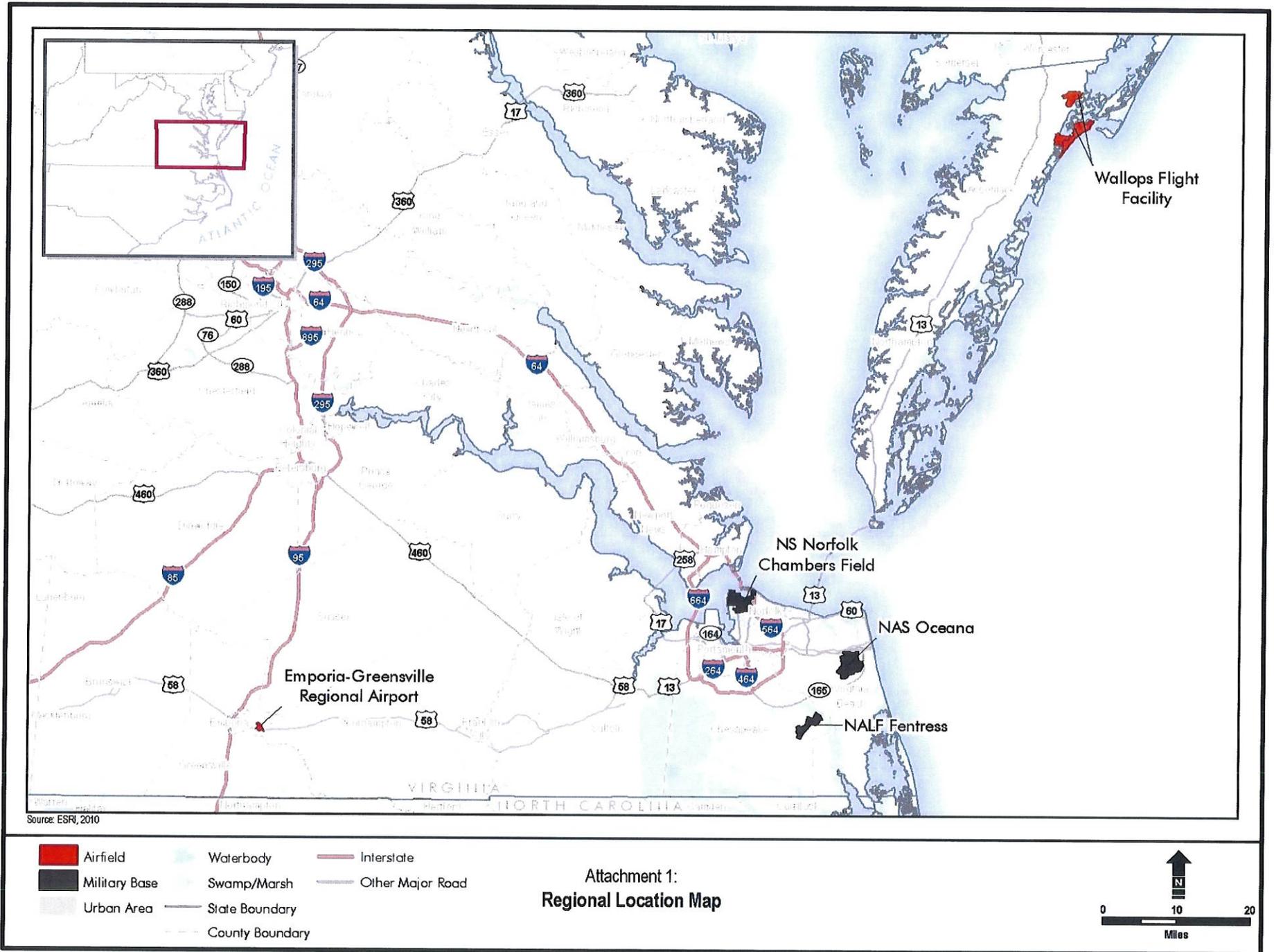
Sincerely,



W. D. LEWIS
Environmental Business Line Manager
By direction of the Commander

Enclosure: (1) Regional Location Map

Copy To:
United States Fleet Forces Command





DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK, VA 23508-1278

IN REPLY REFER TO:

5090
Ser EV21SHU/00085

8 MAR 2012

Mr. Tylan Dean
U.S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Dear Mr. Dean:

Subject: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL ASSESSMENT
(EA) FOR E-2/C-2 FIELD CARRIER LANDING PRACTICE (FCLP) AT
EMPORIA-GREENSVILLE REGIONAL AIRPORT AND WALLOPS FLIGHT
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The Navy is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq., and its implementing regulations for the above-referenced project. A previous letter was sent to your office in January 2011 addressing the same proposed action at a different airport, an effort which was suspended in February 2011. The intent of this letter is to inform your office of the scope of the proposed project and of the kickoff of the new EA. We will follow the new Project Review Process, as outlined on the USFWS Virginia Field Office web site, in order to certify that we have completed required coordination with the U.S. Fish and Wildlife Service under the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended, and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended. We will also be sending notification letters to the Virginia Department of Game and Inland Fisheries and the Virginia Department of Conservation and Recreation.

The EA will evaluate the potential environmental consequences of the U.S. Department of the Navy's (the Navy's) proposed action to conduct regular, scheduled E-2 Hawkeye and C-2 Greyhound (hereinafter referred to as the E-2/C-2) Field Carrier Landing Practice (FCLP) operations at a local airfield which meets the Navy's minimum airfield requirements. The Navy proposes to use the facilities at either Emporia-Greensville Regional Airport ("Emporia") or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility ("WFF"), as an interim bridge until the Navy increases local FCLP capacity at a permanent facility.

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If you would like to provide us with any feedback, or if you have questions regarding the proposed action or scope of the EA, you may contact Sara Upchurch at 757-322-4332 or sara.upchurch@navy.mil.

Sincerely,

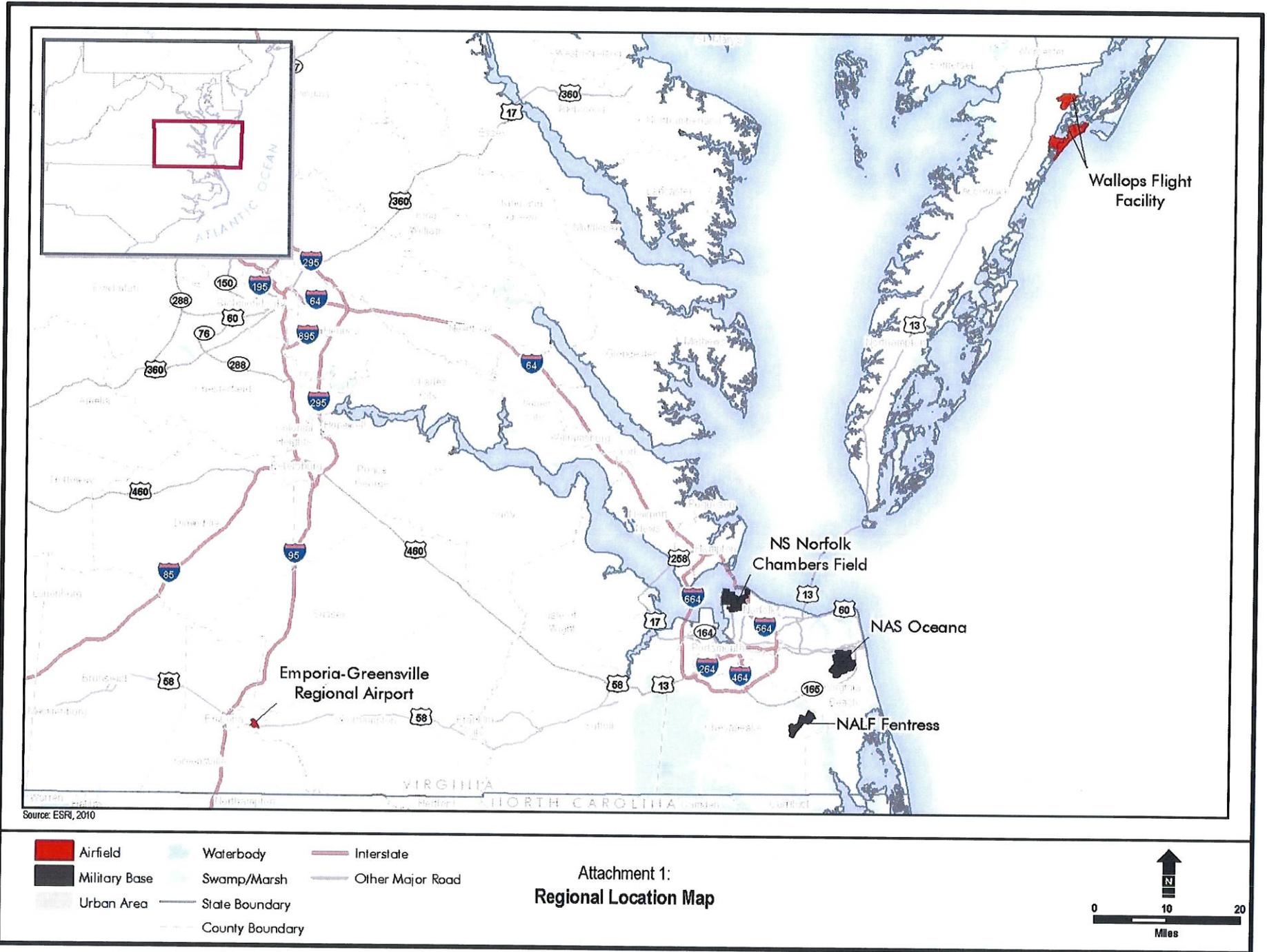


W. D. LEWIS

Environmental Business Line Manager
By direction of the Commander

Enclosure: (1) Regional Location Map

Copy to:
United States Fleet Forces Command





COMMONWEALTH of VIRGINIA

Randall P Burdette
Director

Department of Aviation
5702 Gulfstream Road
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624
FAX • (804) 236-3635

March 13, 2012

Mr. W. D. Lewis
Department of the Navy
Naval Facilities Engineering Command, Atlantic
6506 Hampton Boulevard
Norfolk, Virginia 23508-1278

**Re: National Environmental Policy Act Environmental Assessment (EA) for E-2/C-2
Field Carrier Landing Practice (FCLP) at Emporia-Greenville Regional Airport
And Wallops Flight Facility**

Dear Mr. Lewis:

Thank you for circulating the notice concerning the upcoming National Environmental Policy Act EA for E-2/C-2 Field Carrier Landing Practice at Emporia-Greenville Regional Airport (EMV) and Wallops Flight Facility (WFF).

At this time, as the proposed action is undergoing analysis with respect to the social, economic and environmental impacts, the Virginia Department of Aviation would like to offer our perspective. The Department has been engaged on several different occasions to develop a workable solution to meet the needs of the Navy to provide an adequate training facility to support their mission.

The Department concurs with the purpose of the proposed action and believes that by pursuing this plan many issues that the Navy faces will be resolved as they seek an interim solution to the capacity limitations that exist at Naval Auxiliary Landing Field (NALF) Fentress. This proposed action may reduce or eliminate the need for out-of-area FCLP detachments and offer a reasonable means to mitigate capacity and scheduling issues at NALF Fentress.

In closing, we offer our assistance to you where appropriate in this matter. Should you have any further need to contact me regarding this project, I may be reached at (804) 236-3632, ext. 106

Sincerely,

A handwritten signature in black ink, appearing to read "R. N. Harrington".

R. N. (Rusty) Harrington
Manager, Planning and Environmental Section
Airport Services Division





COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

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1-800-592-5482

March 19, 2012

Mr. W. D. Lewis
Environmental Business Line Manager
Naval Facilities Engineering Command, Atlantic
6506 Hampton Boulevard
Norfolk, Virginia 23508-1278

RE: National Environmental Policy Act, Environmental Assessment for E-2/C-2
Field Carrier Landing Practice at Emporia-Greensville Regional Airport and
Wallops Flight Facility (Ref. 5090, Ser EV21SHU/00093)

Dear Mr. Lewis:

Thank you for your March 8, 2012 letter (received March 12) concerning the scope of the above-referenced project and soliciting comments on the project and the Environmental Assessment (EA) that is being prepared for it.

PROJECT DESCRIPTION

As described in your letter, the Navy proposes to use the facilities at either Emporia-Greensville Regional Airport ("Emporia") or at the Wallops Flight Facility located at the National Air and Space Administration's Goddard Space Flight Center ("WFF") as an interim facility for field carrier landing practice ("FCLP") until the Navy increases local FCLP capacity at a permanent facility. The proposed action would support as many as 45,000 annual FCLP operations for E-2/C-2 squadrons operating from Chambers Field, Naval Station Norfolk. You indicate that the E-2 is a turbo-prop, twin-engine surveillance/command and control aircraft, while the C-2 is a turbo-prop, twin-engine cargo aircraft.

The EA is to analyze environmental consequences of the FCLP operations and minor modifications to airfield facilities to support the operations.

ENVIRONMENTAL REVIEW UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT

The roles of the Virginia Department of Environmental Quality (DEQ) in relation to the project are as follows. First, DEQ's Office of Environmental Impact Review (OEIR) will coordinate Virginia's review of the NEPA document and comment to the Navy on behalf of the Commonwealth. A similar review process will pertain to the Federal Consistency Determination (FCD) (next heading). If the FCD is provided as part of the environmental document, there can be a single review.

As you know, the National Environmental Policy Act (PL 91-190, 1969) (NEPA) and its implementing regulations (Title 40, *Code of Federal Regulations*, Parts 1500-1508) require draft and final Environmental Impact Statements (EISs) for federal or federally-licensed or -funded undertakings which will or may give rise to significant impacts upon the human environment. EISs carry more stringent public participation requirements than EAs and provide more time and detail for comments and public decision-making. The possibility that an EIS may be required for the operations and facilities contemplated in the proposed action should not be overlooked in your planning for it. Accordingly, we refer to "NEPA document" in the rest of this letter.

FEDERAL CONSISTENCY UNDER THE COASTAL ZONE MANAGEMENT ACT

Pursuant to the Coastal Zone Management Act of 1972, as amended, federal activities affecting Virginia's coastal resources or coastal uses must, to the maximum extent possible, be consistent with the Virginia Coastal Zone Management Program (VCP) (see section 307(c)(1) of the Act and the *Federal Consistency Regulations*, 15 CFR Part 930, subpart C, sections 930.30 *et seq.*). The Navy must provide a consistency determination which includes an analysis of the proposed activities in light of the enforceable policies of the VCP (first enclosure) and a commitment to comply with the enforceable policies. In addition, we invite your attention to the advisory policies of the VCP (second enclosure). As indicated, the FCD may be provided as part of the NEPA document or independently, depending on the Navy's preference. We recommend, in the interests of an effective review, that the FCD be provided with the NEPA document and that 60 days be allowed for review, in keeping with the *Federal Consistency Regulations* (see section 930.41(a)). Section 930.39 of these *Regulations*, and Virginia's *Federal Consistency Information Package* (available at <http://www.deq.virginia.gov/eir/federal.html>) give content requirements for the FCD.

PROJECT SCOPING AND AGENCY INVOLVEMENT

While this Office does not participate in scoping efforts beyond the advice given herein, other agencies are free to provide scoping comments concerning the preparation of the NEPA document. Accordingly, we are sharing our response to the letter with selected state and local Virginia agencies which have responsibilities bearing

on the proposed action. These are likely to include the following (note: starred (*) agencies administer one or more of the enforceable policies of the VCP):

Department of Environmental Quality:

- Office of Environmental Impact Review
- Piedmont Regional Office*
- Tidewater Regional Office*
- Air Division*
- Division of Land Protection and Revitalization (formerly Waste Division)

Department of Conservation and Recreation:

- Division of Stormwater Management*
- DSM –Local Implementation*
- Division of Planning and Recreation Resources

Department of Health (Division of Water Programs)*

Department of Game and Inland Fisheries*

Marine Resources Commission*

Department of Historic Resources

Crater Planning District Commission

Accomack-Northampton Planning District Commission

Greensville County

Accomack County

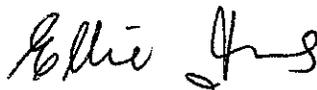
Town of Emporia.

In order to ensure an effective coordinated review of the environmental document and FCD, we will require 19 copies of the EA and FCD when they are published. This submission may include 4 printed copies and 15 CDs, or 4 printed copies and an electronic copy available for download at a web site or ftp site. The document should include a U.S. Geological Survey topographic map as part of its information. We recommend, as well, that project details unfamiliar to people outside the Navy be adequately described.

If you have questions about the environmental review process or the federal consistency review process, please feel free to call me at (804) 698-4325 or John Fisher at (804) 698-4339.

I hope this information is helpful to you.

Sincerely,



Ellie L. Irons, Program Manager
Environmental Impact Review

Attachments

ec: Kelley West, DEQ-PRO
Cindy Keltner, DEQ-TRO
Kotur S. Narasimhan, DEQ-Air
G. Stephen Coe, DEQ-DLPR
Roberta Rhur, DCR
Amy M. Ewing, DGIF
Tony Watkinson, VMRC
Barry Mathews, VDH
Roger W. Kirchen, DHR
Dennis Morris, Crater PDC
Brian S. Thrower, City of Emporia
K. David Whittington, Greensville County
Elaine K. Meil, Accomack-Northampton PDC
Steven B. Miner, Accomack County



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Attachment 1

Enforceable Regulatory Programs comprising Virginia's Coastal Zone Management Program (VCP)

- a. **Fisheries Management** - The program stresses the conservation and enhancement of finfish and shellfish resources and the promotion of commercial and recreational fisheries to maximize food production and recreational opportunities. This program is administered by the Marine Resources Commission (VMRC); Virginia Code 28.2-200 to 28.2-713 and the Department of Game and Inland Fisheries (DGIF); Virginia Code 29.1-100 to 29.1-570.

The State Tributyltin (TBT) Regulatory Program has been added to the Fisheries Management program. The General Assembly amended the Virginia Pesticide Use and Application Act as it related to the possession, sale, or use of marine antifoulant paints containing TBT. The use of TBT in boat paint constitutes a serious threat to important marine animal species. The TBT program monitors boating activities and boat painting activities to ensure compliance with TBT regulations promulgated pursuant to the amendment. The VMRC, DGIF, and Virginia Department of Agriculture Consumer Services (VDACS) share enforcement responsibilities; Virginia Code 3.1-249.59 to 3.1-249.62.

- b. **Subaqueous Lands Management** - The management program for subaqueous lands establishes conditions for granting or denying permits to use state-owned bottomlands based on considerations of potential effects on marine and fisheries resources, tidal wetlands, adjacent or nearby properties, anticipated public and private benefits, and water quality standards established by the Department of Environmental Quality (DEQ). The program is administered by the Marine Resources Commission; Virginia Code 28.2-1200 to 28.2-1213.
- c. **Wetlands Management** - The purpose of the wetlands management program is to preserve wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.

(1) The tidal wetlands program is administered by the Marine Resources Commission; Virginia Code 28.2-1301 through 28.2-1320.

(2) The Virginia Water Protection Permit program administered by DEQ includes protection of wetlands --both tidal and non-tidal; Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act.

Attachment 1 continued

Page 2

- d. Dunes Management - Dune protection is carried out pursuant to The Coastal Primary Sand Dune Protection Act and is intended to prevent destruction or alteration of primary dunes. This program is administered by the Marine Resources Commission; Virginia Code 28.2-1400 through 28.2-1420.
- e. Non-point Source Pollution Control – (1) Virginia's Erosion and Sediment Control Law requires soil-disturbing projects to be designed to reduce soil erosion and to decrease inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by the Department of Conservation and Recreation; Virginia Code 10.1-560 et seq.

(2) Coastal Lands Management is a state-local cooperative program administered by the DCR's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater (see i) Virginia; Virginia Code §10.1-2100 –10.1-2114 and 9 VAC10-20 et seq.
- f. Point Source Pollution Control - The point source program is administered by the State Water Control Board (DEQ) pursuant to Virginia Code 62.1-44.15. Point source pollution control is accomplished through the implementation of:
 - (1) the National Pollutant Discharge Elimination System (NPDES) permit program established pursuant to Section 402 of the federal Clean Water Act and administered in Virginia as the Virginia Pollutant Discharge Elimination System (VPDES) permit program.
 - (2) The Virginia Water Protection Permit (VWPP) program administered by DEQ; Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act.
- g. Shoreline Sanitation - The purpose of this program is to regulate the installation of septic tanks, set standards concerning soil types suitable for septic tanks, and specify minimum distances that tanks must be placed away from streams, rivers, and other waters of the Commonwealth. This program is administered by the Department of Health (Virginia Code 32.1-164 through 32.1-165).
- h. Air Pollution Control - The program implements the federal Clean Air Act to provide a legally enforceable State Implementation Plan for the attainment and maintenance of the National Ambient Air Quality Standards. This program is administered by the State Air Pollution Control Board (Virginia Code 10-1.1300 through §10.1-1320).
- (i) Coastal Lands Management is a state-local cooperative program administered by the DCR's Division of Chesapeake Bay Local Assistance and 84 localities in Tidewater, Virginia established pursuant to the Chesapeake Bay Preservation Act; Virginia Code §10.1-2100 –10.1-2114 and Chesapeake Bay Preservation Area Designation and Management Regulations; Virginia Administrative Code 9 VAC10-20 et seq.



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Attachment 2

Advisory Policies for Geographic Areas of Particular Concern

- a. **Coastal Natural Resource Areas** - These areas are vital to estuarine and marine ecosystems and/or are of great importance to areas immediately inland of the shoreline. Such areas receive special attention from the Commonwealth because of their conservation, recreational, ecological, and aesthetic values. These areas are worthy of special consideration in any planning or resources management process and include the following resources:
- a) Wetlands
 - b) Aquatic Spawning, Nursery, and Feeding Grounds
 - c) Coastal Primary Sand Dunes
 - d) Barrier Islands
 - e) Significant Wildlife Habitat Areas
 - f) Public Recreation Areas
 - g) Sand and Gravel Resources
 - h) Underwater Historic Sites.
- b. **Coastal Natural Hazard Areas** - This policy covers areas vulnerable to continuing and severe erosion and areas susceptible to potential damage from wind, tidal, and storm related events including flooding. New buildings and other structures should be designed and sited to minimize the potential for property damage due to storms or shoreline erosion. The areas of concern are as follows:
- i) Highly Erodible Areas
 - ii) Coastal High Hazard Areas, including flood plains.
- c. **Waterfront Development Areas** - These areas are vital to the Commonwealth because of the limited number of areas suitable for waterfront activities. The areas of concern are as follows:
- i) Commercial Ports
 - ii) Commercial Fishing Piers
 - iii) Community Waterfronts

Although the management of such areas is the responsibility of local government and some regional authorities, designation of these areas as Waterfront Development Areas of Particular Concern (APC) under the VCRMP is encouraged.

Designation will allow the use of federal CZMA funds to be used to assist planning for such areas and the implementation of such plans. The VCRMP recognizes two broad classes of priority uses for waterfront development APC:

- i) water access dependent activities;
- ii) activities significantly enhanced by the waterfront location and complementary to other existing and/or planned activities in a given waterfront area.

Advisory Policies for Shorefront Access Planning and Protection

- a. Virginia Public Beaches - Approximately 25 miles of public beaches are located in the cities, counties, and towns of Virginia exclusive of public beaches on state and federal land. These public shoreline areas will be maintained to allow public access to recreational resources.
- b. Virginia Outdoors Plan - Planning for coastal access is provided by the Department of Conservation and Recreation in cooperation with other state and local government agencies. The Virginia Outdoors Plan (VOP), which is published by the Department, identifies recreational facilities in the Commonwealth that provide recreational access. The VOP also serves to identify future needs of the Commonwealth in relation to the provision of recreational opportunities and shoreline access. Prior to initiating any project, consideration should be given to the proximity of the project site to recreational resources identified in the VOP.
- c. Parks, Natural Areas, and Wildlife Management Areas - Parks, Wildlife Management Areas, and Natural Areas are provided for the recreational pleasure of the citizens of the Commonwealth and the nation by local, state, and federal agencies. The recreational values of these areas should be protected and maintained.
- d. Waterfront Recreational Land Acquisition - It is the policy of the Commonwealth to protect areas, properties, lands, or any estate or interest therein, of scenic beauty, recreational utility, historical interest, or unusual features which may be acquired, preserved, and maintained for the citizens of the Commonwealth.
- e. Waterfront Recreational Facilities - This policy applies to the provision of boat ramps, public landings, and bridges which provide water access to the citizens of the Commonwealth. These facilities shall be designed, constructed, and maintained to provide points of water access when and where practicable.
- f. Waterfront Historic Properties - The Commonwealth has a long history of settlement and development, and much of that history has involved both shorelines and near-shore areas. The protection and preservation of historic shorefront properties is primarily the responsibility of the Department of Historic Resources. Buildings, structures, and sites of historical, architectural, and/or archaeological interest are significant resources for the citizens of the Commonwealth. It is the policy of the Commonwealth and the VCRMP to enhance the protection of buildings, structures, and sites of historical, architectural, and archaeological significance from damage or destruction when practicable.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

March 21, 2012

Sara Upchurch
Department of the Navy
Naval Facilities Engineering Command, Atlantic
6506 Hampton Blvd
Norfolk, Virginia 23508-1278

RE: E-2/C-2 Field Carrier Landing Practice (FCLP) at Emporia-Greenville Regional Airport and Wallops Flight Facility, Virginia

Dear Ms. Upchurch:

EPA has received and reviewed your March 8, 2012 letter regarding the E-2/C-2 Field Carrier Landing Practice (FCLP) at Emporia-Greenville Regional Airport and Wallops Flight Facility, Virginia Environmental Assessment (EA) that is currently being prepared. The proposed action would conduct regular, scheduled E-2 Hawkeye and C-2 Greyhound (E-2/C-2) FCLP operations at a local airfield which meets the U.S. Department of the Navy's minimum airfield requirements as an interim bridge until the Navy increases local FCLP capacity at a permanent facility. Facilities at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF) are being considered for use in the EA. Based on the limited information provided in your letter, we are unable to provide a comprehensive set of comments at this time.

Information regarding the purpose and need, alternatives analyzed, avoidance and minimization of resources, and cumulative effects for the proposed project should be included in the EA. The purpose and need statement is important because it helps explain why the proposed action is being undertaken and what objectives the project intends to achieve. The purpose of the proposed action is typically the specific objective of the activity. The need should explain the underlying problem for why the project is necessary. Information about the amount, duration and timing of FCLP flights needed should be included and discussed. Alternatives analysis should include the suite of other sites or facilities that were considered and the rationale for not carrying these alternatives forward for detailed study. The EA should include a discussion of upgrades that will be needed at each facility in order to accommodate the proposed action and effects on other ongoing operations and activities at these facilities.

The EA should describe potential impacts to the natural and human environment, if operations are moved and facility/operations modifications are needed. Existing resources should be identified and EPA encourages that adverse impacts to natural resources, especially wetlands and other aquatic resources, be avoided and minimized wherever possible. The EA should describe the total size or length of wetland or stream, and impact amount by each

proposed alternative. Stormwater ponds and best management practices (BMPs) should not be located in wetlands and streams. EPA is aware that portions of WFF are located on a barrier island and large amounts of WFF holdings are wetlands. Though EPA is less familiar with the Emporia, Virginia site, an assessment of resources and potential impacts should be presented. EPA suggests coordinating with other appropriate federal, state and local resource agencies on possible impacts to wetlands, streams, historic and/or rare, threatened and endangered species.

An evaluation of community impacts, including noise, light and possible traffic impacts, should be included in the EA. Discussion of impacts from temporarily stationed aircraft or squadron personnel should be included. Environmental justice (EJ) should also be evaluated, including the identification of potential communities of concern, and meaningful and timely community involvement, public outreach, and access to information. Consideration should also be given to all potential impacts to at-risk populations, as well as consideration to sensitive subpopulations, possibly including elderly, children and others.

EPA strongly encourages a thorough cumulative impact analysis for past, present and reasonably foreseeable projects occurring in the project areas. EPA is aware of several other past, present, and reasonably foreseeable projects occurring in some of the proposed project areas, including several projects located at NASA's WFF. The EA should address potential indirect and cumulative effects in the project areas.

Thank you for coordinating with EPA on this project. We look forward to working with you on this project as more information becomes available. If you have any questions and would like to discuss our comments, the staff contact for this project is Ms. Alaina DeGeorgio; she can be reached at 215-814-2741 or degeorgio.alaina@epa.gov.

Sincerely,



Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

cc. Carolyn Turner, NASA WFF





MEMORANDUM

TO: Ms. Sara Upchurch, U.S. Navy Environmental Programs
sara.upchurch@navy.mil

FROM: *G. Stephen "Steve" Coe*
Steve Coe, DLPR Review Coordinator

DATE: March 28, 2012

COPIES: EIR File

SUBJECT: Scoping Request – E-2/C-2 Field Carrier Landing Practice at Emporia-Greenville Regional Airport and Wallops Flight Facility – Review Comments

The staff of the Division of Land Protection and Revitalization (DLPR) has completed a scoping review for the above project dated March 8, 2012. .

The proposed project consists of the potential use of two local airports to conduct Field Carrier Landing Practice (FCLP) as an interim bridge until such time as the Navy can increase local FCLP capacity at a permanent facility.

We have provided the below our recommendations/comments concerning the waste related issues associated with the project:

The proximity of identified waste sites to the operational sites and/or potential impact to the project should be evaluated as well as the environmental impacts created by the FCLP activities. Waste reviews should include a search of EPA and Virginia databases for RCRA/Hazardous Waste Facilities, Solid Waste (SW) Facilities, CERCLA Sites, VRP Sites, and Petroleum Release Sites.

The following websites may prove helpful in locating this information for these sites:

<http://www.epa.gov/superfund/sites/cursites/index.htm>,
http://www.epa.gov/enviro/html/rcris/rcris_query_java.html, and
<http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx>.

GENERAL COMMENTS

Soil, Sediment, and Waste Management

Any soil that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*;

Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.

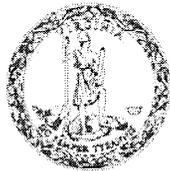
Also, all structures being demolished/renovated/ removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-80-640 for ACM and 9VAC 20-60-261 for LBP must be followed.

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Steve Coe at (804) 698-4029.

Douglas W. Domenech
Secretary of Natural Resources



David A. Johnson
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

Division of Natural Heritage
217 Governor Street
Richmond, Virginia 23219-2010
(804) 786-7951

April 6, 2012

Sara Upchurch
Department of the Navy
Naval Facilities Engineering Command, Atlantic
6506 Hampton Blvd
Norfolk, VA 23508-1278

Re: Field Carrier Landing at Emporia – Greensville Airport and Wallops Island

Dear Ms. Upchurch:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Emporia Site

Biotics documents the presence of natural heritage resources in the project vicinity. However, due to the scope of the activity and the distance to the resources, we do not anticipate that this project will adversely impact these natural heritage resources.

Wallops Main Base

According to the information currently in our files, the Little Mosquito Creek Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Little Mosquito Creek Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

Tidal Oligohaline Marsh

(G3/SNR/NL/NL)

*State Parks • Stormwater Management • Outdoor Recreation Planning
Natural Heritage • Dam Safety and Floodplain Management • Land Conservation*

The Tidal Oligohaline Marsh (Beaked Spikerush – Saltmeadow Cordgrass Estuarine Fringe Type) association is an irregularly flooded oligohaline marsh ranging discontinuously along the coast from Massachusetts to the Eastern Shore of Virginia. It is quite rare in Virginia, where it is apparently restricted to narrow bands at the upper extent of tidal influence and adjacent to upland edges, where groundwater seepage dilutes tidal waters, producing oligohaline conditions. The vegetation is heavily dominated by beaked spikerush (*Eleocharis rostellata*), growing in association with saltmeadow cordgrass (*Spartina patens*), which is usually second in abundance. Narrow-leaved loosestrife (*Lythrum lineare*) and small shrubs of marsh-elder (*Iva frutescens*) are constant minor associates.

In addition, the Wallops Island Seeps Conservation Site is also located within the project area. Wallops Island Seeps Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resources of concern at this site are:

| | | |
|---|--|--------------|
| <i>Crocianthemum propinquum</i> | Low frostweed | G4/S1/NL/NL |
| = formerly <i>Helianthemum propinquum</i> | | |
| | Coastal Plain / Outer Piedmont Seepage Bog | G2/S1/SOC/NL |

Low frostweed is a perennial rhizomatous herb in the rock-rose family (Cistaceae). A plant of sandy, dry soil found from New England south through western North Carolina into Tennessee, in Virginia low frostweed has been documented, mostly historically, from a few locations in open, disturbed habitat scattered from the Outer Coastal Plain, Northern Piedmont, and Ridge and Valley regions. Clusters of 2-6 yellow, 5-petaled flowers arise from June-July on the scattered, alternate-leaved stems (Gleason and Cronquist 1991); self-pollinating flowers lacking petals arise later from July-September (Weakley, A. In prep.). Surveys should be conducted during the June-July blooming period of the earlier flowers as later season plants can be difficult to identify (Virginia Botanical Associates 2011). Threats include habitat destruction, herbicides, and succession to shadier habitat.

The Coastal Plain / Outer Piedmont Seepage Bog is currently known from the inner Coastal Plain from central and southern Maryland to southeastern Virginia. (NatureServe, 2011) The saturated shrub and herbaceous vegetation of this group occupies oligotrophic spring-heads, seepage slopes, and less frequently small, headwater stream bottoms. Sites are scattered throughout the Coastal Plain (except the maritime zone) and outer Piedmont, typically on lower or toe slopes, where groundwater is forced to the surface by impermeable clay layers. Surficial soils are usually peaty or sandy, very acidic, infertile, and covered by dense mats of *Sphagnum* mosses. Natural examples of these communities have nearly been extirpated by decades of fire exclusion, hydrologic alterations (ditching, draining, and impoundments), or outright destruction. The elimination of fire as an ecological process has allowed many former bogs to become overgrown with shrubs and trees. (Fleming, et al., 2012) The most "natural" occurrences of this vegetation are now restricted to military base impact areas and dedicated natural areas that are burned frequently. Compositionally identical vegetation is more common where artificially maintained powerline rights-of-way intersect small streams and swales. (NatureServe, 2011) The vegetation of seepage bogs is usually a mosaic of scattered trees, shrub patches, and graminoid-dominated herbaceous patches. Typical woody species include sweetbay (*Magnolia virginiana*), poison sumac (*Toxicodendron vernix*), highbush blueberries (*Vaccinium corymbosum*, *Vaccinium fuscatum*, and *Vaccinium formosum*), possum-haw (*Viburnum nudum*), and smooth alder (*Alnus serrulata*). Among the most abundant herbaceous species, are twisted spikerush (*Eleocharis tortilis*), beakrushes (*Rhynchosporaspp.*), narrow-leaved bluestem (*Andropogon perangustatus*), panic grasses (*Dichanthelium dichotomum* var. *dichotomum* and var. *ensifolium*), hairy umbrella-sedge (*Fuirena squarrosa*), meadow-beauties (*Rhexia mariana* var. *mariana*, *Rhexia nashii*, and *Rhexia petiolata*), clubmosses (*Lycopodiella alopecuroides* and *Lycopodiella appressa*), sundews (*Drosera brevifolia*, (*Drosera capillaris*), and *Drosera rotundifolia* var. *rotundifolia*), tawny cotton-grass (*Eriophorum virginicum*), bushy bluestem

(*Andropogon glomeratus* var. *glomeratus*), Nuttall's reed-grass (*Calamagrostis coarctata*), yellow-eyed-grasses (*Xyris* spp.), yellow milkwort (*Polygala lutea*), and vervain thoroughwort (*Eupatorium pilosum*). Widely scattered, but nevertheless diagnostic, species of these bogs include red milkweed (*Asclepias rubra*), Rafinesque's seedbox (*Ludwigia hirtella*), large white fringed orchid (*Platanthera blephariglottis* var. *conspicua*), crossleaf milkwort (*Polygala cruciata*), purple pitcher-plant (*Sarracenia purpurea* ssp. *venosa* and ssp. *purpurea*), and large-flowered camas (*Zigadenus glaberrimus*). A large number of state-rare plants and several state-rare odonates (dragonflies and damselflies) are associated with seepage bogs. (Fleming, et al., 2012)

To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations. To minimize impacts to documented natural heritage resources, DCR also recommends avoidance of any hard surface impacts or runoff to the area indicated on the enclosed map.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Shirl Dressler at (804) 367-6913. According to the information currently in our files, the Bald eagle (*Haliaeetus leucocephalus*), Peregrine falcon (*Falco peregrines*), Gull-billed tern (*Gelochelidon* [= *Sterna*] *nilotica*), Wilson's Plover (*Charadrius wilsonia*), Piping Plover (*Charadrius melodus*) and Loggerhead sea turtle (*Caretta caretta*) have all been documented in the project vicinity. Due to the legal status of the Bald eagle, Piping plover, Peregrine falcon, Gull-billed tern and Wilson's Plover, DCR recommends coordination with Virginia's regulatory authority for the management and protection of these species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570). In addition due to the legal status of the, Piping plover and the Loggerhead sea turtle, DCR recommends coordination with the U.S. Fish and Wildlife Service (USFWS) .

Should you have any questions or concerns, feel free to contact me at 804-692-0984. Thank you for the opportunity to comment on this project.

Sincerely,



Alli Baird, LA, ASLA
Coastal Zone Locality Liaison

Cc: Amy Ewing, VDGIF

Kim Smith, USFWS

Literature Cited:

Fleming, G.P., K.D. Patterson, K. Taverna, and P.P. Coulling. 2012. The natural communities of Virginia: classification of ecological community groups. Second approximation. Version 2.5. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA.

Gleason, H.A. and A. Cronquist. 1991. Manual of Vascular Plants of Northeastern United States and Adjacent Canada. Second Edition. The New York Botanical Garden. Bronx, NY. 910 pp.

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Weakley, A. In prep. Flora of the southern and mid-Atlantic states. Working draft of 15 May 2011. University of North Carolina Herbarium, North Carolina Botanical Garden, University of North Carolina at Chapel Hill, NC.

E-2 / C-2 Field Carrier Landing Practice Operations - Wallops Flight Facility Recommended Area of Avoidance



Department of Conservation & Recreation
CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES
Virginia Natural Heritage Program

0.2 0.1 0 0.2 0.4 0.6 Miles



Map created April 4, 2012, Imagery Source: VBMP 2009



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NORFOLK DISTRICT, CORPS OF ENGINEERS
FORT NORFOLK, 803 FRONT STREET
NORFOLK, VIRGINIA 23510-1096

CENAO-WR-RW
NAO-1997-2054 (Emporia FCLP)

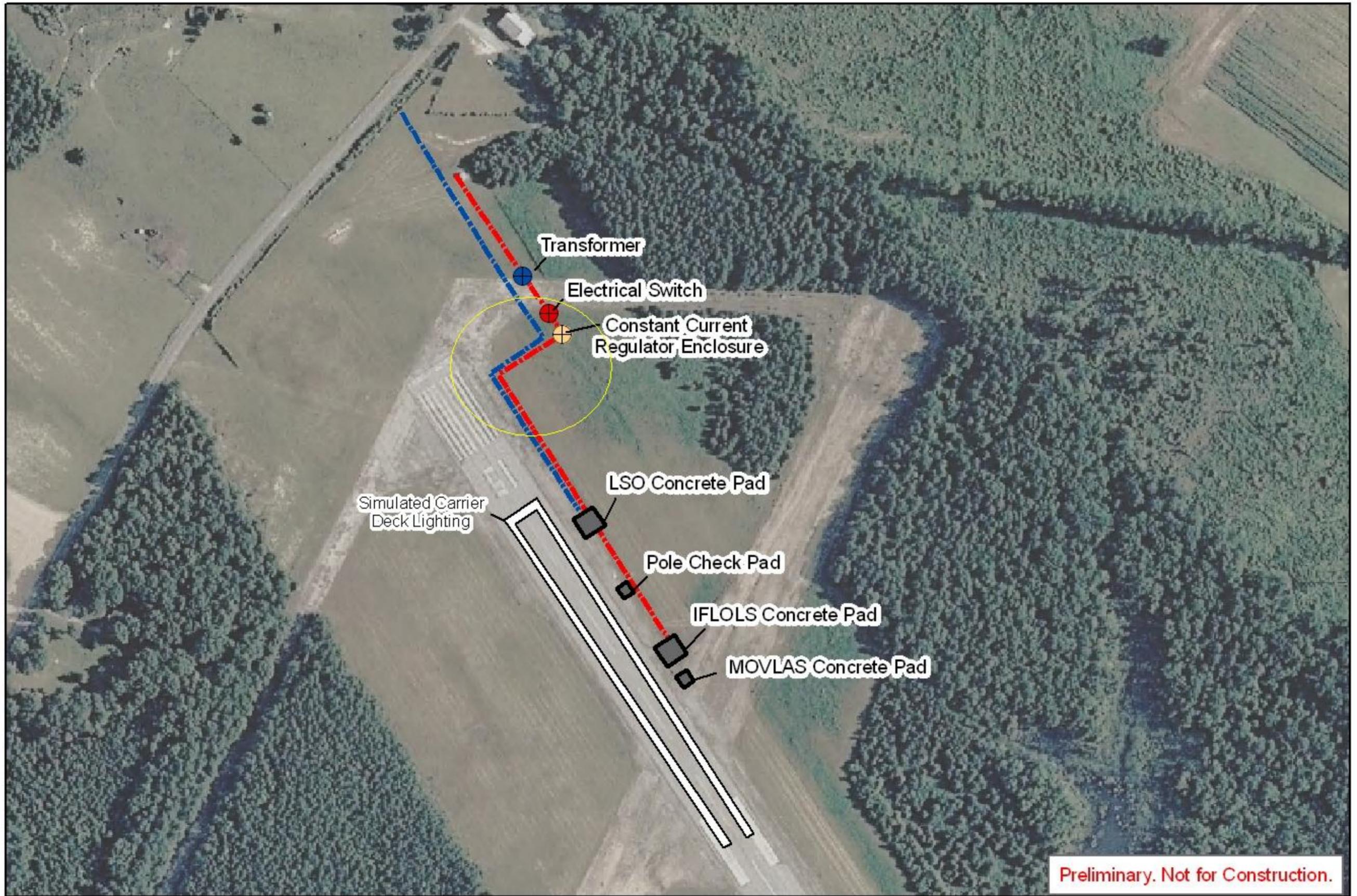
24 MAY 2012

MEMORANDUM FOR Commander, Naval Facilities Engineering Command, Atlantic (Paul Block)

SUBJECT: Environmental Assessment (EA) Comments for Emporia Airport Field Carrier Landing Practice (FCLP)

1. This memo is in regard to the Navy request (memo dated 8 MAR 2012) for EA comments regarding proposed FCLP site work at the Emporia Airport. We have determined that no Corps permit is required for the proposed site work on the north and south runway areas in the vicinity of or affected by proposed FCLP site activities, as specifically show by attached Figure 2-1 and Figure 2-2 as provided by the Navy for our review.
2. We conducted an on-site inspection with Paul Block on 27 April 2012 and found that proposed FCLP site activities would not require a Section 404 Corps permit. The basis for this finding includes application of the Corps' 1987 Wetland Delineation Manual, and use of the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region.
3. During our on-site inspection we did note a small swale adjacent to the west side of the south end taxiway, near the intersection with the taxiway from the aircraft parking area. This small swale receives runoff from 1-2 acres, does show hydric soil characteristics, and includes hydrophytic vegetation. However, the small swale is only to drain nearby upland and no Corps permit is required for proposed utility line activities.
4. These EA comments are valid for a period of five years from the date of this memo unless new information warrants revision prior to the expiration date.
5. If you have any questions, please contact John Evans at 757-201-7794 or john.d.evans@usace.army.mil.

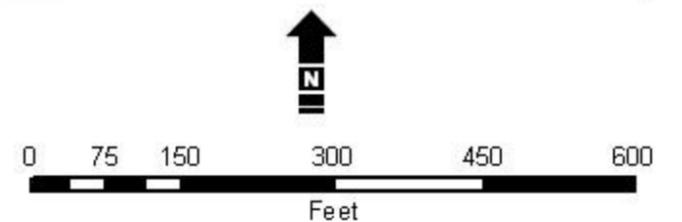

PETER R. KUBE
Chief, Western Section Regulatory Section



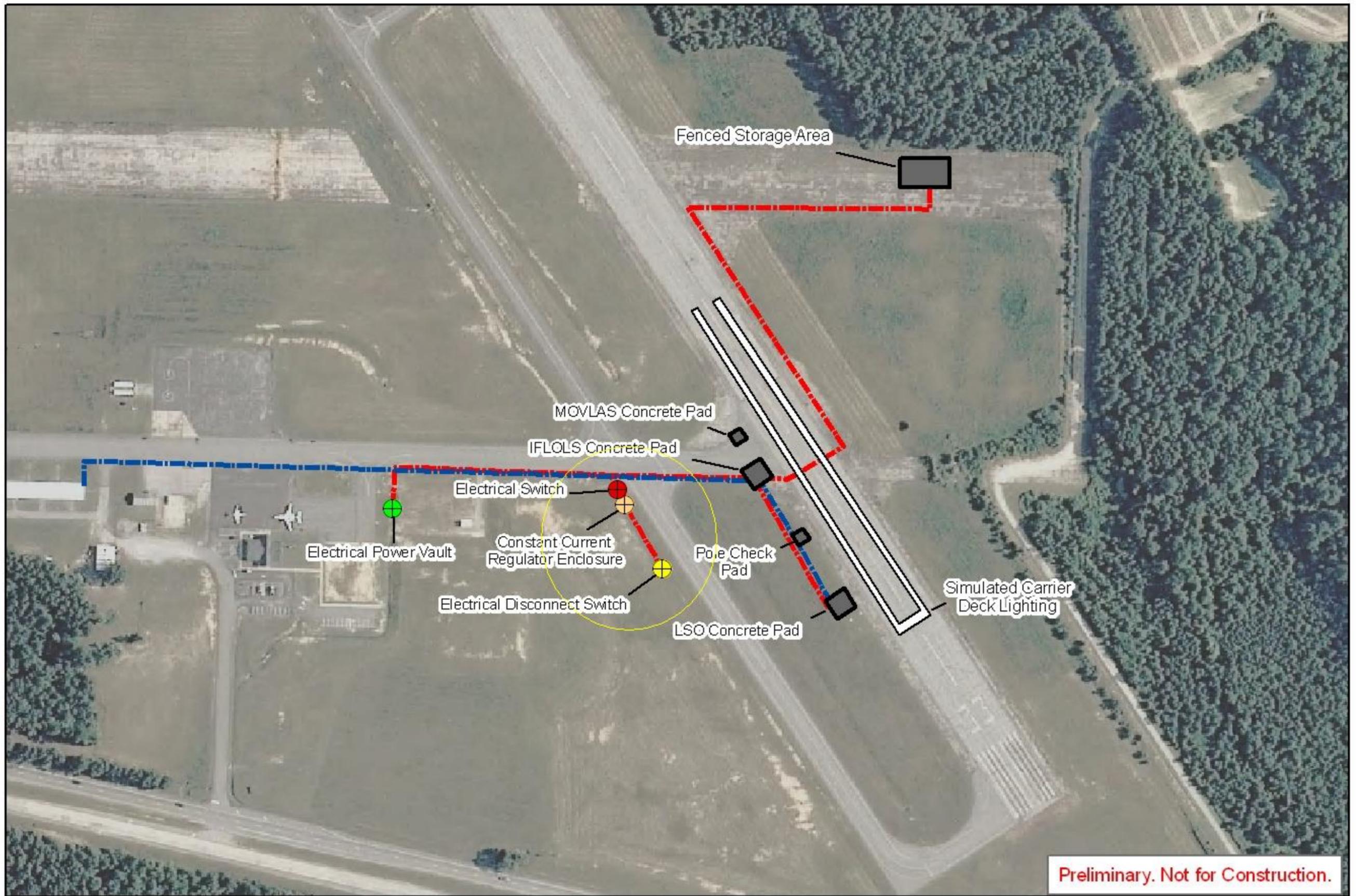
Legend

- | | |
|--|--|
|  Simulated Carrier Deck Lighting |  Electrical Disconnect Switch |
|  Concrete Pad |  Electrical Power Vault |
|  Electrical Ductbank |  Electrical Switch |
|  Telephone Ductbank |  Transformer |
|  Constant Current Regulator Enclosure | |

Figure 2-1
Runway 15
Proposed Modifications



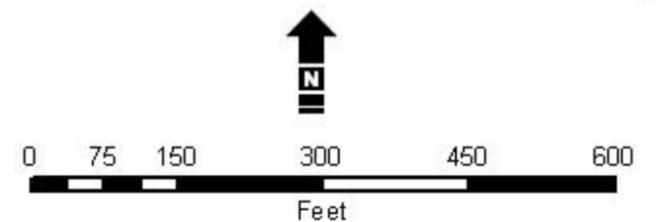
Preliminary. Not for Construction.



Preliminary. Not for Construction.

- Legend**
- Simulated Carrier Deck Lighting
 - Concrete Pad
 - Electrical Ductbank
 - Telephone Ductbank
 - Electrical Disconnect Switch
 - Electrical Power Vault - Existing
 - Electrical Switch
 - Transformer
 - Constant Current Regulator Enclosure

Figure 2-2
Runway 33
Proposed Modifications





DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK VA 23508-1278

5090 IN REPLY REFER TO:
SER EV21SU/278
JULY 3, 2012

Ms. Ellie Irons, Program Manager
Department of Environmental Quality
Office of Environmental Impact Review
P.O. Box 1105
Richmond, Virginia 23218

Dear Ms. Irons:

SUBJECT: Federal Coastal Consistency Determination

Thank you for your March 19, 2012 response to our March 8, 2012 letter. As noted in our original letter, the Navy is proposing to conduct regular, scheduled E-2C Hawkeye, E-2D Advanced Hawkeye, and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at a local airfield. The Navy proposes to use the facilities at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF) until the Navy addresses local FCLP capacity shortfalls on a more permanent basis.

As the project sponsor, the Navy is the lead agency for both the Environmental Assessment (EA) and Coastal Consistency Determination (CCD) for the proposed action. The Federal Aviation Administration (FAA) and NASA are cooperating agencies on the EA. The FAA has jurisdiction over Emporia-Greenville Regional Airport under the FAA's National Plan of Integrated Airport Systems. NASA is a cooperating agency because they own and manage WFF.

The Navy submits the enclosed CCD in accordance with Section 307 (c) (1) of the Federal Coastal Zone Management Act of 1972, as amended, for the proposed action. In cooperation with NASA WFF, the Navy has determined that the proposed federal agency action would be fully consistent with the enforceable policies of the Virginia Coastal Zone Management Program (VCP). Because Emporia is outside of Virginia's coastal zone, the scope of this CCD package is limited to WFF, Main Base (see Enclosure 3).

The Navy plans to release a Draft EA for public review by fall of 2012. We are sending this CCD package prior to releasing the draft to ensure there is time to address any comments you may have. The Navy respectfully requests that you review the enclosed CCD and provide a response within 60 days of receiving this letter.

5090
SER EV21SU/278
JULY 3, 2012

Our point of contact for this project is Ms. Valerie Carpenter-Ho, who may be reached by phone at: (757) 322- 8346, or e-mail: valerie.carpenter-ho@navy.mil.

Sincerely,



W. D. LEWIS
Environmental Business Line Manager
By direction of the Commander

Enclosures:

- (1) Coastal Consistency Determination (CCD)
- (2) Regional Location Map
- (3) Wallops Flight Facility Regional Overview
- (4) U.S. Geological Survey topographic map ("Topography") of Wallops Flight Facility
- (5) Wallops Flight Facility Proposed Limits of Construction
- (6) Runway 4: Proposed Limits of Construction
- (7) Runway 10: Proposed Limits of Construction
- (8) Runway 22 & 28: Proposed Limits of Construction

Copy To:

United States Fleet Forces Command

Coastal Zone Management Act of 1972
COASTAL CONSISTENCY DETERMINATIONProposed E-2/C-2 Field Carrier Landing Practice Operations
at Wallops Flight Facility, Virginia

Proposed Federal Agency Action

The Navy is proposing to conduct regular, scheduled E-2C Hawkeye, E-2D Advanced Hawkeye, and C-2A Greyhound (hereinafter referred to as the E-2/C-2) Field Carrier Landing Practice (FCLP) operations at a local airfield that meets the Navy's minimum airfield requirements. The Navy proposes to use the facilities at either Emporia-Greenville Regional Airport (Emporia) in Greensville and Southampton Counties, Virginia, or at the NASA Goddard Space Flight Center's Wallops Flight Facility (WFF) in Accomack County, Virginia, until the Navy addresses local FCLP capacity shortfalls on a more permanent basis.

The Navy is preparing an Environmental Assessment (EA) to evaluate the potential environmental consequences of the proposed action. Of the two airfields under consideration, only WFF is located within the Commonwealth of Virginia's coastal zone; therefore, only WFF is addressed in this determination. The proposed action would support FCLP operations for E-2/C-2 squadrons operating from Naval Station (NS) Norfolk Chambers Field in Norfolk, Virginia (see Enclosure 2). Currently, six fixed-wing carrier air wing squadrons are operating from NS Norfolk Chambers Field.

FCLP is required flight training, which immediately precedes aircraft carrier qualification. During FCLP, pilots perform repetitive "touch-and-go" field landings at airfields to simulate landing on an aircraft carrier. Pilots of all experience levels and squadrons must routinely practice this skill to maintain the required level of proficiency. During FCLP training, the surrounding airfield lighting, airfield pattern, and airfield pattern altitude must replicate as closely as possible the conditions that a pilot will encounter when landing on an actual aircraft carrier during both daylight and darkness.

Naval Auxiliary Landing Field (NALF) Fentress, a Navy-owned outlying landing field (OLF) located in Chesapeake, Virginia, is the primary FCLP airfield for fixed-wing, carrier air wing squadrons operating from NS Norfolk Chambers Field and Naval Air Station (NAS) Oceana (see Enclosure 2). As a single OLF supporting two major air installations, NALF Fentress can experience periodic FCLP capacity shortfalls and is unable to support FCLP under all training conditions. The result is that FCLP operations must occasionally be conducted at less equipped Navy-owned airfields, or in the case of the E-2/C-2 FRS, through FCLP detachments to Navy-owned facilities outside of the area. These training alternatives can result in increased costs, increased community impacts, and decreased proficiency of training. Therefore, the Navy requires additional local capacity to meet FCLP training requirements.

Located in Accomack County, Virginia, WFF is approximately 70 nautical miles from NS Norfolk. WFF consists of three parcels: the Main Base, Mainland, and the Wallops Island launch site. The WFF airfield, the site of the proposed action, is on the Main Base, which is located off Virginia Route 175, approximately 10 miles east of U.S. Route 13 (see Enclosures 3 and 4). WFF Main Base has three runways, two of which meet the Navy's length requirements to support Navy E-2/C-2 FCLP operations. Runway 04/22 is 8,750 feet long by 150 feet wide, and Runway 10/28 is 8,000 feet long by 200 feet wide. Runway 17/35, at 4,820 feet, does not meet the Navy's length requirement of 5,000 feet; therefore, it is not an alternative. The Navy is only considering Runways 4/22 and 10/28.

In addition to FCLP operations, the proposed action would require minor airfield infrastructure improvements. These include: 1) painted simulated carrier boxes on existing impervious runway surfaces with flush-deck lighting to simulate a day/night carrier deck; 2) five new concrete pads to be placed beside each runway approach end that is outfitted for FCLP (including one 12 x 24 foot rectangular pad; 14 x 14 foot, 6 x 6 foot, and 3 x 3 foot square pads; and one circular pad that is approximately 3-feet in diameter), to simulate carrier decks and for placement of necessary equipment; and 3) underground utilities to supply electricity and telephone lines to the deck lighting, an Improved Fresnel Lens Optical Landing System (IFLOLS), and the Landing Signal Officer (LSO) workstation. The exact locations of the electrical and phone lines are currently being determined; however, the level of impact would not change. This package includes figures showing the proposed limits of construction, within which all electrical and phone lines would be contained (see Enclosures 5-8). All construction would occur on federal property at WFF and the Navy would follow all of NASA's permit requirements, standard operating procedures, and other agreements during construction and maintenance of this infrastructure.

Analysis of Relevant Enforceable Policies

The Commonwealth of Virginia has developed and implemented a federally approved Coastal Zone Management Program. The nine enforceable policy areas of the Virginia Coastal Zone Management Program (VCP) are: (1) fisheries management; (2) subaqueous lands management; (3) wetlands management; (4) dunes management; (5) non-point source water pollution control; (6) point source water pollution control; (7) shoreline sanitation; (8) air pollution control; and (9) coastal lands management.

Of these policy areas, the following are not relevant to the Navy's proposed action, as all proposed construction and on-the-ground impacts are minimal and contained within a small footprint on NASA Wallops property: (1) fisheries management; (2) subaqueous lands management; (3) dunes management; (4) point source water pollution

Therefore, these policy areas are not analyzed further in this CCD. An analysis of the relevant enforceable policy areas of the VCP follows:

1. Wetlands Management

The purpose of the wetlands management program is to preserve wetlands, prevent their despoliation, and accommodate economic development in a manner consistent with wetlands preservation.

- (1) The tidal wetlands program is administered by the Marine Resources Commission; Virginia Code §28.2-1301 through §28.2-1320.
- (2) The Virginia Water Protection program administered by DEQ includes protection of wetlands - both tidal and non-tidal; Virginia Code §62.1-44.15:5 and Water Quality Certification pursuant to Section 401 of the Clean Water Act of 1972.

Consistent? Yes

Analysis - Under the proposed action, no new construction is proposed within tidal or non-tidal wetland areas either within or outside of the WFF Main Base federal property boundary. Although no new construction is proposed within tidal or non-tidal wetlands, there could be the potential to indirectly impact them through non-point source water pollution from the new surface runoff from the concrete pads. However, potential indirect impact from runoff would be negligible and would be mitigated through proper erosion and sediment control measures (see analysis under Non-Point Source Water Pollution Control, below). Since the proposed aircraft operations would not directly or indirectly impact tidal or non-tidal wetlands, the proposed action would be fully consistent with Virginia's approved and enforceable wetlands management policies.

2. Non-point Source Water Pollution Control

Virginia addresses non-point source water pollution control through its Erosion and Sediment Control Law (Code of Virginia § 10.1-560 et.seq.), which requires soil-disturbing projects to be designed to reduce soil erosion and to minimize inputs of chemical nutrients and sediments to the Chesapeake Bay, its tributaries, and other rivers and waters of the Commonwealth. This program is administered by the Virginia Department of Conservation and Recreation (DCR) (Virginia Code §10.1-560 et.seq.).

Consistent? Yes

Analysis - Up to approximately 2,123 square feet, or 0.05 acres, of new impervious surface could be created at WFF due to the installation of multiple concrete pads next to each of up to four possible approach ends of existing runways 04/22 and/or 10/28. The concrete pads are necessary for the placement of Navy equipment integral to the training

operations. Under the Virginia Stormwater Management Program (VSMP) Permit Regulations, construction operations that disturb less than one acre are exempt from the permitting process.

WFF maintains a Storm Water Pollution Prevention Plan (SWPPP) for the facility to ensure that its operations have minimal impact to stormwater quality. Last revised in April 2012, the WFF SWPPP describes current stormwater management systems and associated outfalls, potential pollutant sources, and Best Management Practices (BMPs), all of which would be implemented in conjunction with the proposed project. Since the Navy's proposed action and related construction would not significantly contribute to additional discharge of pollutants to surface waters of the state, WFF would not be required to update its SWPPP if the Navy's proposed action is implemented. Additionally, where construction related land disturbance would be less than 10,000 square feet, the Navy would not be required to submit a formal erosion and sediment control plan to NASA. However, the Navy would still coordinate with NASA during design and construction to ensure that appropriate BMPs are implemented as specified in the Virginia Erosion and Sediment Control Handbook. Additionally, the Navy would follow all additional WFF permit requirements and standard operating procedures during construction and maintenance of proposed infrastructure to control/reduce stormwater runoff and minimize potential adverse effect. Therefore, the proposed action would be fully consistent with Virginia's approved and enforceable non-point source water pollution control policies.

3. Air Pollution Control

Under this policy, Virginia DEQ implements the federal Clean Air Act (CAA) for the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). This program is administered by the State Air Pollution Control Board (Virginia Code § 10.1-1300 through 10.1-1320).

Consistent? Yes

Analysis - Minimal impacts to air quality would occur during proposed activities. The estimated construction emissions, which would be temporary and assumed to occur for approximately 6 months immediately prior to Navy aircraft operations, include the operation of construction equipment and on-road and off-road vehicles, and site preparation (for particulate emissions) and paving operations (for volatile organic compound emissions). Construction emissions are estimated to be: 0.39 TPY of VOCs, 2.92 TPY of CO, 1.43 TPY of NO_x, 0.01 TPY of SO₂, 0.63 TPY of PM₁₀, and 0.16 TPY of PM_{2.5}. These temporary construction emissions would not cause the air quality region to exceed the applicable standards. Moreover, required control measures to minimize windblown and vehicular-borne fugitive dust emissions during construction would be implemented.

To evaluate air quality impacts associated with the proposed Navy aircraft operations at WFF, proposed annual mobile source emissions from the operation of Navy aircraft for FCLP were estimated. Only new aircraft operations were considered, as existing operations are not expected to change as a result of the proposed action. The modeled results were: 13.16 tons per year (TPY) of carbon monoxide (CO), 64.01 TPY of mono-nitrogen oxides (NO_x), 3.81 TPY of volatile organic compounds (VOCs), 2.88 TPY of sulfur dioxide (SO₂), and 28.59 TPY of particulate matter (PM₁₀). Accomack County is in attainment for all National Ambient Air Quality Standards (NAAQS), and these emissions would also not cause the air quality region to exceed the applicable standards.

Because WFF is located in a county which is in attainment of the NAAQS or unclassified for all criteria pollutants, the General Conformity Rule regulations do not apply to the Navy's proposed action, and General Conformity Rule exemption thresholds do not apply. Therefore, the proposed action would be fully consistent with Virginia's approved and enforceable air pollution control policies.

Advisory Policies

In addition to analyzing the relevant enforceable policies of the VCP, the Navy also considered the advisory policies of the VCP, including those for Geographic Areas of Particular Concern (i.e. Coastal Natural Resource Areas, Coastal Natural Hazard Areas, and Waterfront Development Areas), and those for Shorefront Access Planning and Protection (i.e. Virginia Public Beaches; Virginia Outdoors Plan; Parks, Natural Areas and Wildlife Management Areas; Waterfront Recreational Land Acquisition; Waterfront Recreational Facilities; and Waterfront Historic Properties). The Navy found that the proposed action is not in conflict with any of these advisory policies.

Conclusion

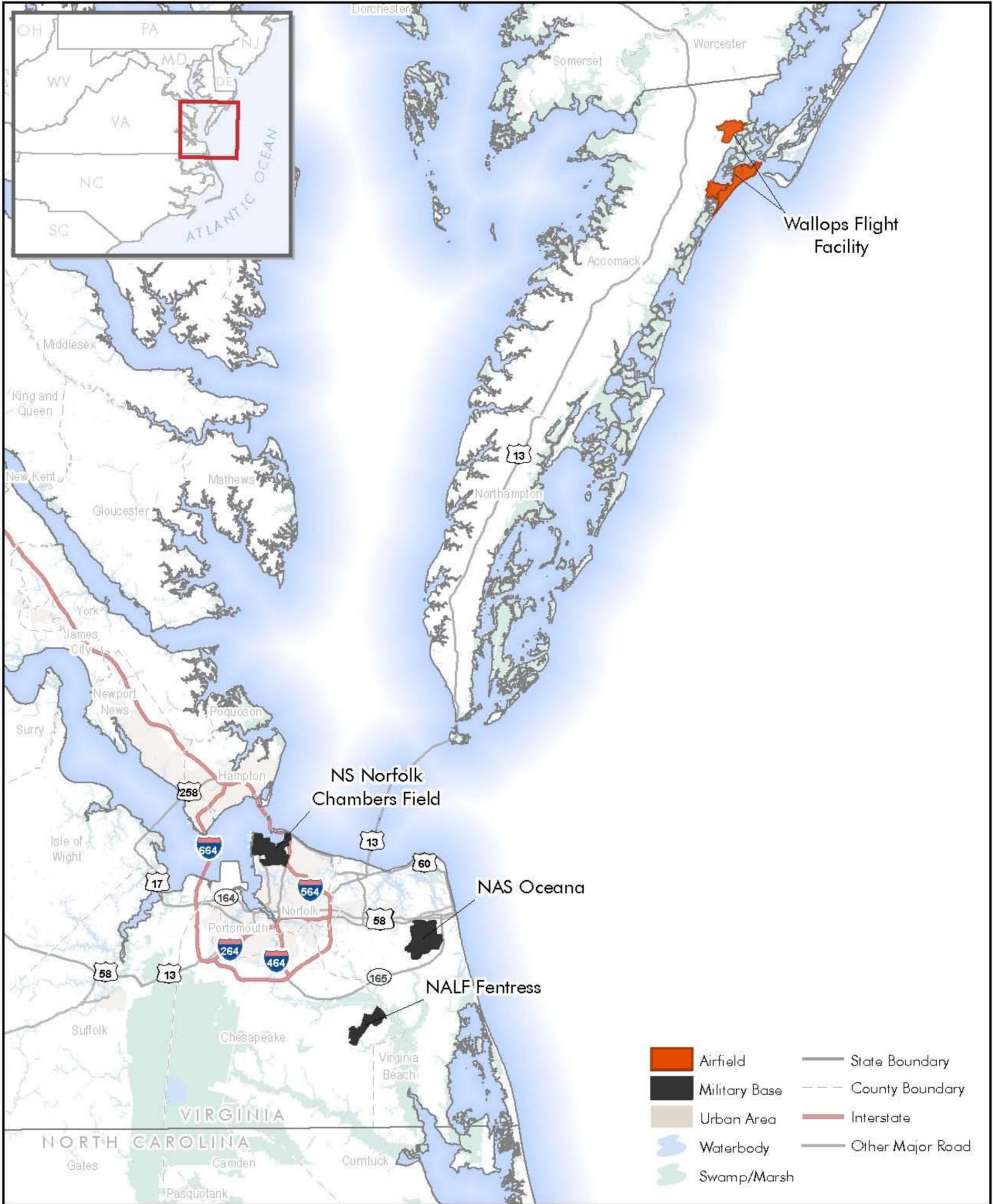
After careful consideration, the Navy has determined that the proposed federal action is fully consistent with the approved and enforceable policies of Virginia and not in conflict with any of the advisory policies.



W.D. LEWIS
Environmental Business Line Manager
By direction of the Commander

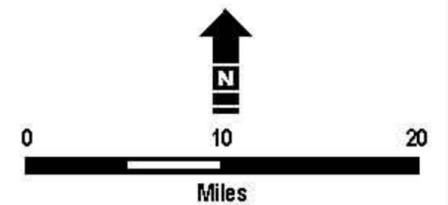
5 Jul 12

Date



Source: ESRI, 2010

Enclosure 2 Regional Location Map

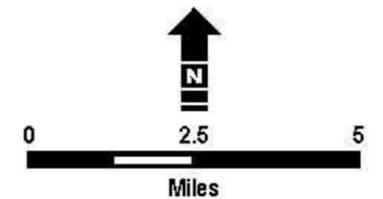


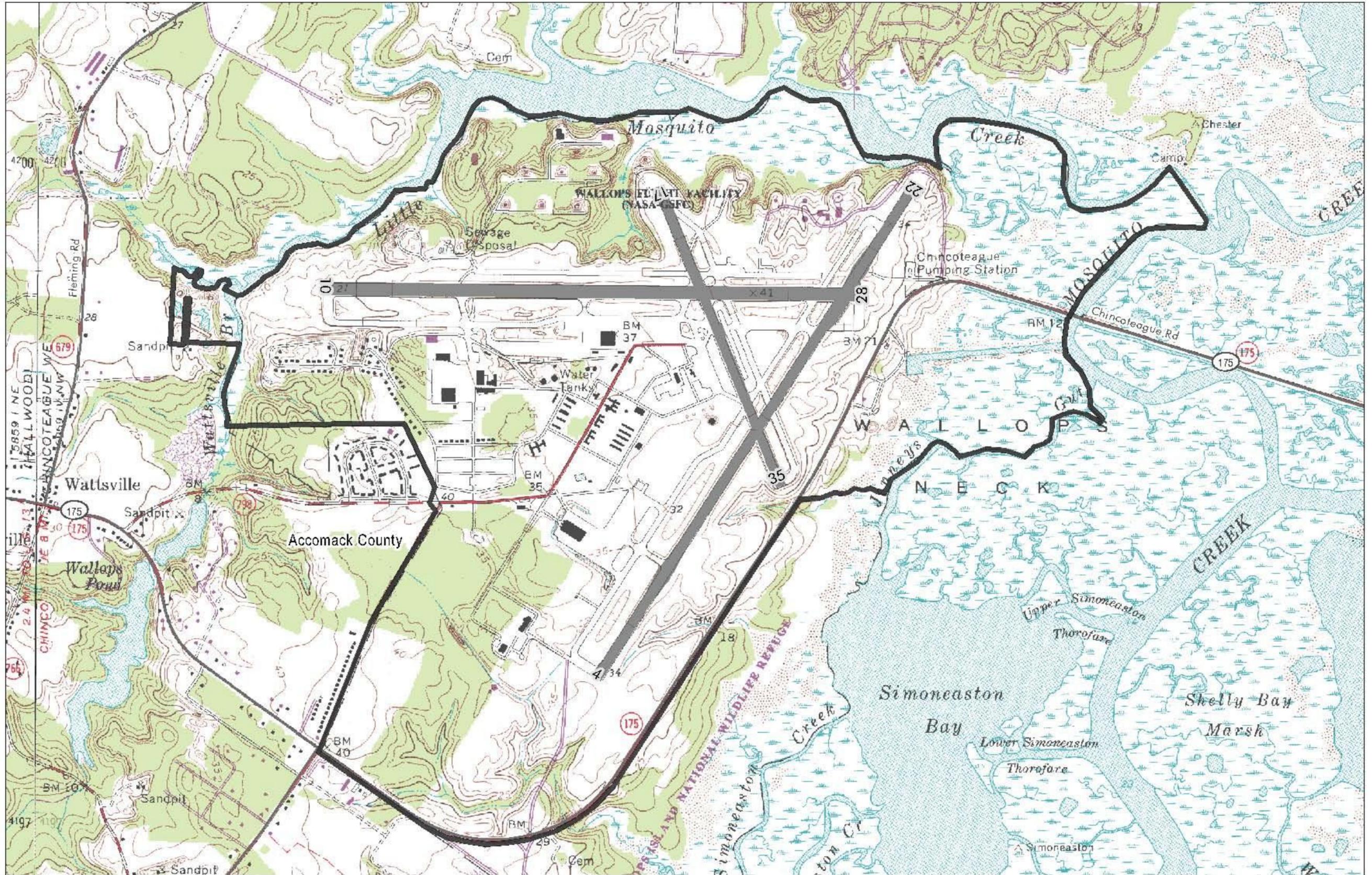


Source: ESRI, 2010



Enclosure 3
Wallops Flight Facility Regional Overview



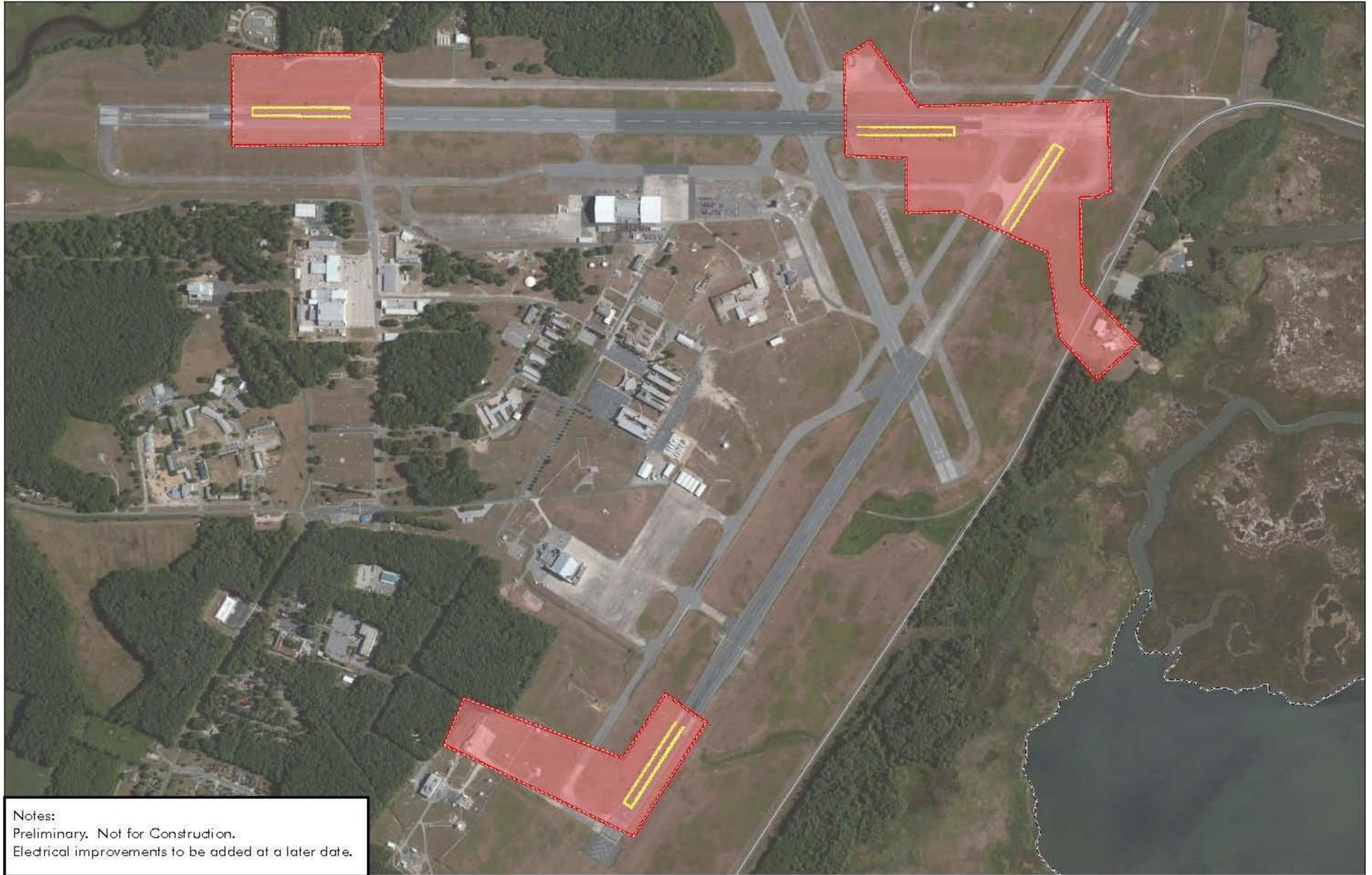


Source: ESRI 2010; U.S. Department of Agriculture, Natural Resources Conservation Service 2008; USGS, 19961219, Chincoteague West - 24k DRG: USGS, Reston, VA; USGS, 19961219, Hallwood - 24k DRG: USGS, Reston, VA.

Enclosure 4
Topography
Wallops Flight Facility

| | |
|-------------------------|---------------|
| Active Runway | Major Highway |
| Wallops Flight Facility | Local Street |

0 0.25 0.5
Miles

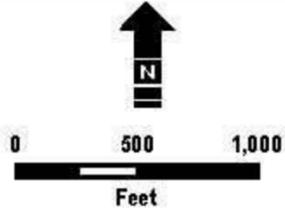


Notes:
Preliminary. Not for Construction.
Electrical improvements to be added at a later date.

Source: ESRI 2010; Microsoft Virtual Earth Online Mapping System 2009.

- Concrete Pad
- Limits of Construction
- Simulated Carrier Deck and Lighting

Enclosure 5
Proposed Limits of Construction
Wallops Flight Facility



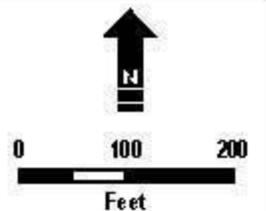


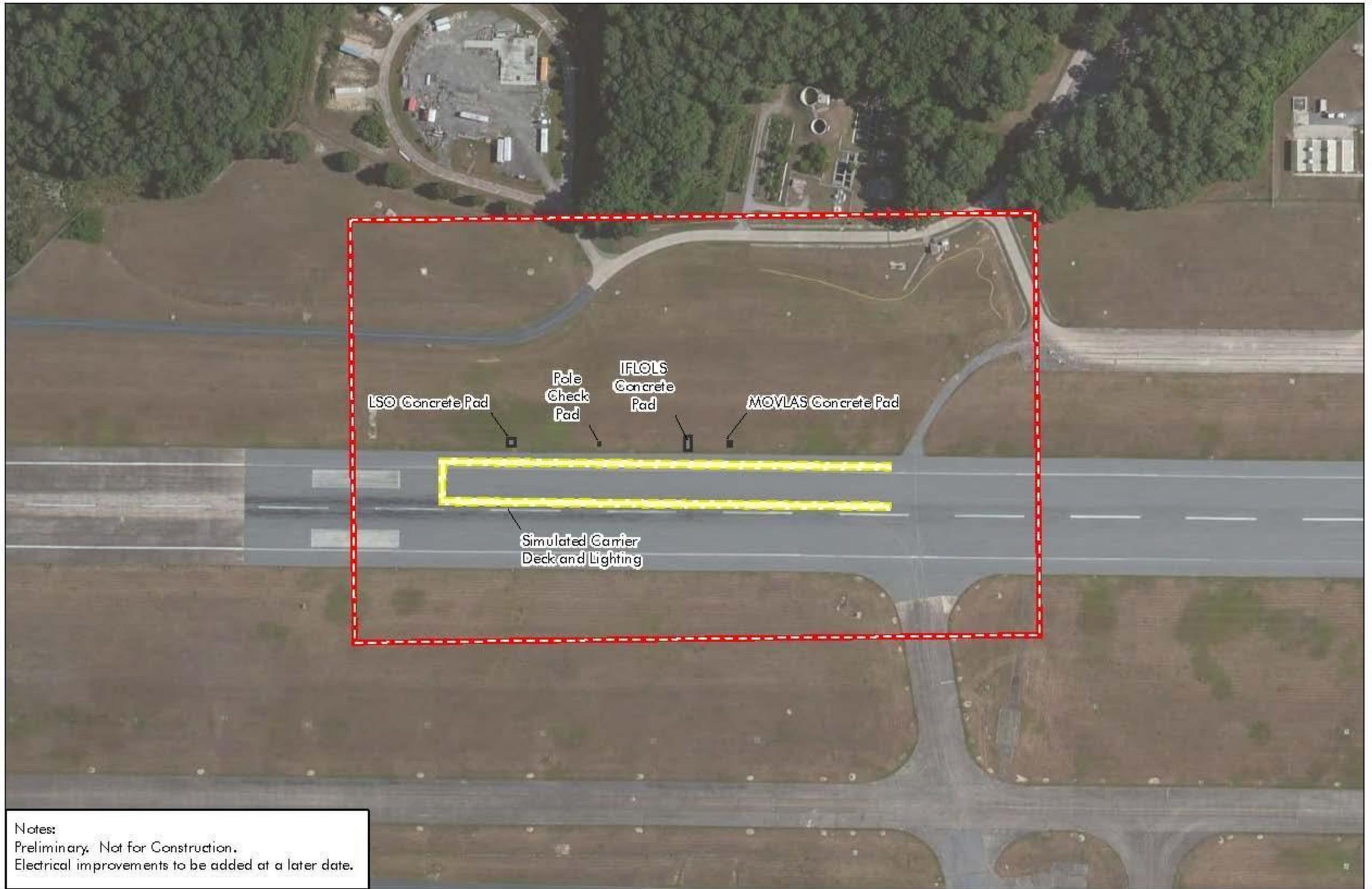
Notes:
Preliminary. Not for Construction.
Electrical improvements to be added at a later date.

Source: ESRI 2010; Microsoft Virtual Earth Online Mapping System 2009.

- Concrete Pad
- Limits of Construction
- Simulated Carrier Deck and Lighting

Enclosure 6
Runway 4: Proposed Limits of Construction
Wallops Flight Facility



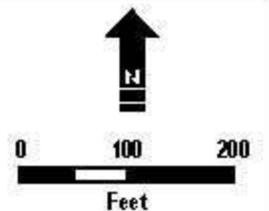


Notes:
Preliminary. Not for Construction.
Electrical improvements to be added at a later date.

Source: ESRI 2010; Microsoft Virtual Earth Online Mapping System 2009.

-  Concrete Pad
-  Limits of Construction
-  Simulated Carrier Deck and Lighting

Enclosure 7
Runway 10: Proposed Limits of Construction
Wallops Flight Facility



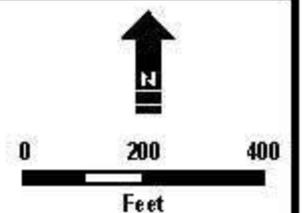


Notes:
Preliminary. Not for Construction.
Electrical improvements to be added at a later date.

Source: ESRI 2010; Microsoft Virtual Earth Online Mapping System 2009.

- Concrete Pad
- Limits of Construction
- Simulated Carrier Deck and Lighting

Enclosure 8
Runways 22 & 28: Proposed Limits of Construction
Wallops Flight Facility



From: [Block, Paul A CIV NAVFAC LANT, EV](#)
To: [Carpenter-Ho, Valerie L CIV NAVFAC LANT, EV](#)
Cc: [Upchurch, Sara H CIV NAVFAC LANT, EV](#)
Subject: FW: Emporia Limit of Construction map (UNCLASSIFIED)
Date: Thursday, August 30, 2012 10:41:13 AM
Attachments: [Emporia-Greenville LOC 7-2-2012.pdf](#)

Val/Sarah,

See below.

Paul

-----Original Message-----

From: Evans, John D NAO [<mailto:John.D.Evans@usace.army.mil>]
Sent: Thursday, August 30, 2012 9:53
To: Block, Paul A CIV NAVFAC LANT, EV
Subject: RE: Emporia Limit of Construction map (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Paul:

This is to confirm, that after the field inspection with you on 29 AUG 2012, that the Corps military memo dated 24 MAY 2012 for the Emporia Airport Field Carrier Landing Practice applies to all areas identified as "Limits of Construction" on the attached PDF received by the Corps on 02 JULY 2012 and digitally signed 2012.08.30 after yesterday's site visit.

Please let me know if we can be of any further assistance for this activity.

Sincerely,

John

=====
The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at <http://per2.nwp.usace.army.mil/survey.html>. We value your comments and appreciate your taking the time to complete the survey.

-----Original Message-----

From: Block, Paul A CIV NAVFAC LANT, EV [<mailto:paul.block@navy.mil>]
Sent: Monday, July 02, 2012 2:15 PM
To: Evans, John D NAO
Subject: Emporia Limit of Construction map

Hi John,

Attached is a Limits of Construction map sent by our engineering group. Can you take a look and let me know if you will need an additional site visit.

There is very subtle changes to the original plans we discussed. I do not see any areas of concern besides the two we have previously discussed. If no site visit is required and you feel comfortable with no additional consultation requirements can you send an updated letter to be used in the EA as a reference and addendum? Or does the original letter still apply?

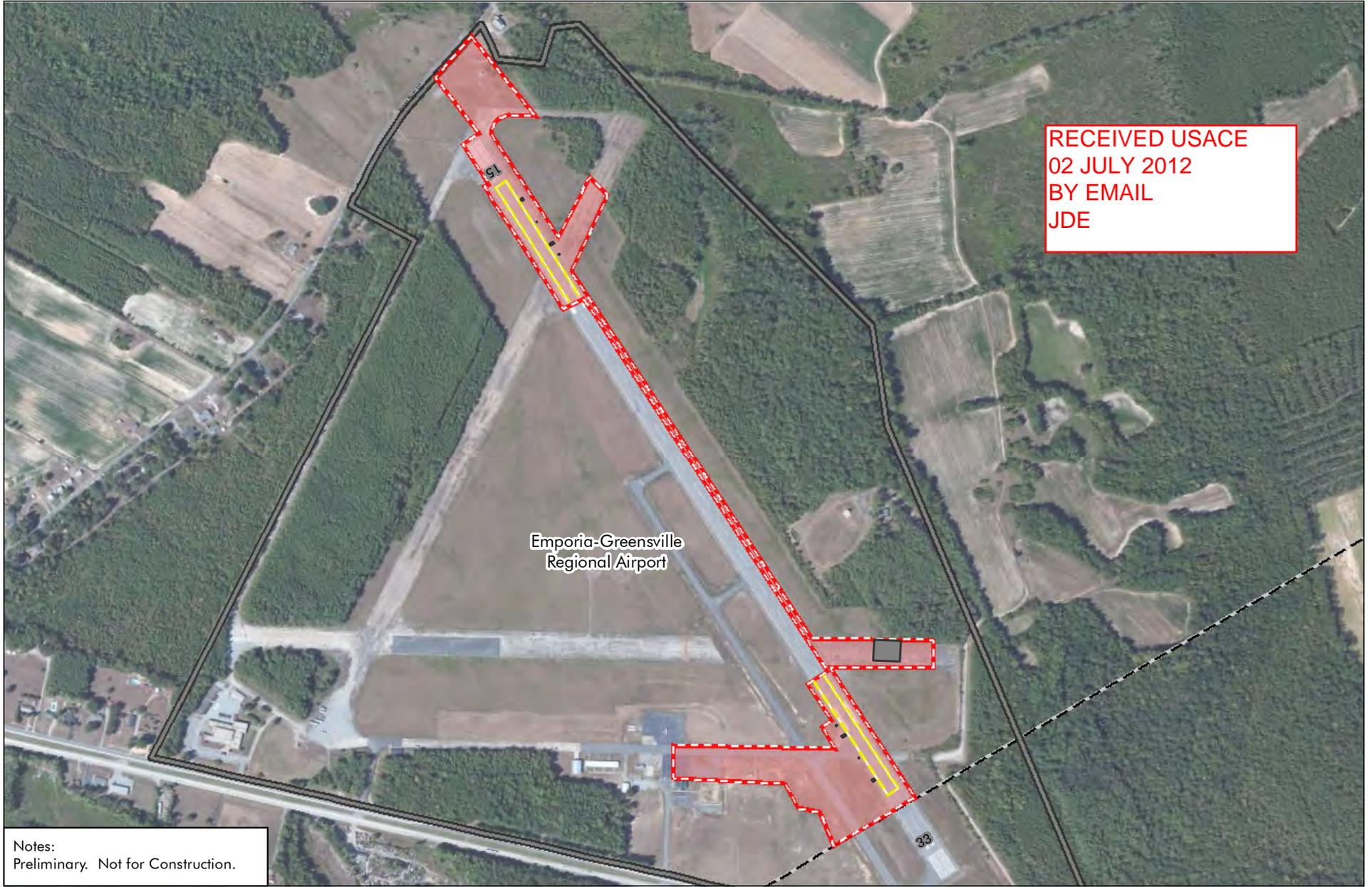
Please call if you have any questions.

Thanks,
Paul

Paul Block
Ecologist
NAVFAC Atlantic
6506 Hampton Blvd.
Norfolk, VA 23508
757-322-8499

"When one tugs at a single thing in nature, he finds it attached to the rest of the world."
John Muir

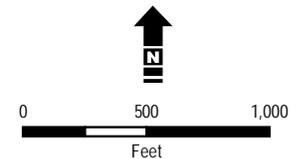
Classification: UNCLASSIFIED
Caveats: NONE



Source: ESRI 2010; Microsoft Virtual Earth Online Mapping System 2009.

-  Simulated Carrier Deck and Lighting
-  Limits of Construction
-  Concrete Pad
-  Emporia Greenville Regional Airport Boundary

Limits of Construction Emporia-Greenville Regional Airport





COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

September 6, 2012

Mr. W. D. Lewis
Department of the Navy
Naval Facilities Engineering Command,
Atlantic
6506 Hampton Boulevard
Norfolk, Virginia 23508-1278

RE: Federal Consistency Determination for the E-2/C-2 Field Carrier Landing Practice Operations, NASA Wallops Flight Facility, Accomack County, DEQ 12-136F.

Dear Mr. Lewis:

The Commonwealth of Virginia has completed its review of the Federal Consistency Determination (FCD) for the above-referenced project. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of Federal Consistency Determinations and responding to appropriate officials on behalf of the Commonwealth. This letter is in response to your submission dated July 3, 2012 (received on July 11, 2012) requesting concurrence with the Federal Consistency Determination prepared by the Department of the Navy (Navy). The following agencies participated in this review:

Department of Environmental Quality
Department of Conservation and Recreation
Department of Game and Inland Fisheries
Department of Historic Resources

In addition, the Virginia Marine Resources Commission, Department of Agriculture and Consumer Services, Department of Aviation, Accomack County and the Accomack-Northampton Planning District Commission were invited to comment on the proposed project.

PROJECT DESCRIPTION

The Department of the Navy (Navy) proposes to make improvements to the airfield at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center Wallops Flight Facility (WFF) in Accomack County for use as a "touch-and-go" landing facility to simulate aircraft carrier landings. The proposed action would support Field Carrier Landing Practice (FCLP) operations for E-2/C-2 squadrons operating from Naval Station (NS) Norfolk Chambers Field in Norfolk, Virginia. The improvements include:

- painting simulated carrier boxes on the existing runway;
- installing flush-deck lighting;
- installing five concrete pads (12 feet x 24 feet, 14 feet x 14 feet, 6 feet x 6 feet, 3 feet x 3 feet, and a 3-foot diameter circle);
- installing electric lines, telephone lines and an Improved Fresnel Lens Optical Landing System (IFLOLS); and
- constructing a Landing Signal Officer (LSO) workstation.

The Navy is considering the use of either the Emporia-Greenville Regional Airport in Greenville and Southampton Counties, Virginia, or NASA WFF. The Navy is preparing an Environmental Assessment (EA) to evaluate the potential environmental consequences of the proposed action. Of the two airfields under consideration, only WFF is located within the Commonwealth's designated coastal zone. Therefore, only WFF is addressed in the Navy's FCD.

PUBLIC PARTICIPATION

In accordance with 15 CFR §930.2, the public was invited to participate in the review of the FCD. Public notice of this proposed action was published on the DEQ website from July 16, 2012 through August 13, 2012. No public comments were received in response to the notice.

FEDERAL CONSISTENCY ANALYSIS

Pursuant to the Coastal Zone Management Act of 1972 (§ 1456(c)), as amended, and the federal consistency regulations implementing the CZMA (15 CFR Part 930, Subpart C, § 930.30 *et seq.*) federal actions that can have reasonably foreseeable effects on Virginia's coastal uses or resources must be conducted in a manner which is consistent, to the maximum extent practicable, with the Virginia Coastal Zone Management Program (VCP). The VCP is comprised of a network of programs administered by several agencies. In order to be consistent with the VCP, the federal agency activities must be consistent with all the applicable enforceable policies of the VCP prior to commencing the project.

According to information in the FCD, the proposed activity would have no effect on the following enforceable policies: fisheries management; subaqueous lands management; dunes management; point source pollution control; shoreline sanitation; and coastal lands management. The resource agencies that are responsible for the administration of the enforceable policies of the VCP generally agree with the Navy's determination. The Navy must ensure that the proposed action is consistent with the aforementioned policies. The analysis which follows responds to the Navy's discussion of the enforceable policies of the VCP that apply to this project and review comments submitted by agencies that administer the enforceable policies.

FEDERAL CONSISTENCY CONCURRENCE

Based on our review of the Navy's consistency determination and the comments submitted by agencies administering the enforceable policies of the VCP, DEQ concurs that the proposal is consistent with the VCP provided all applicable permits and approvals are obtained as described below.

Other state approvals which may apply to this project are not included in this consistency concurrence. Therefore, the Navy must ensure that this project is constructed and operated in accordance with all applicable federal, state, and local laws and regulations.

APPLICABLE ENFORCEABLE POLICIES OF THE VCP

1. Wetlands Management. According to the FCD (page 3), under the proposed action, no new construction is proposed within tidal or non-tidal wetland areas either within or outside of the WFF Main Base federal property boundary.

1(a) Agency Jurisdiction. The State Water Control Board (SWCB) promulgates Virginia's water regulations, covering a variety of permits to include Virginia Pollutant Discharge Elimination System Permit, Virginia Pollution Abatement Permit, Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection Permit (VWPP). The VWPP is a state permit which governs wetlands, surface water, and surface water withdrawals/impoundments. It also serves as § 401 certification of the federal *Clean Water Act* § 404 permits for dredge and fill activities in waters of the U.S. The VWPP Program is under the Office of Wetlands and Water Protection/Compliance, within the DEQ Division of Water Quality Programs. In addition to central office staff that review and issue VWP permits for transportation and water withdrawal projects, the six DEQ regional offices perform permit application reviews and issue permits for the covered activities.

1(b) Agency Findings. The VWPP program at DEQ Tidewater Regional Office (TRO) finds that wetland impacts are not proposed based on the information provided in the FCD. The VWPP program at DEQ-TRO has no further comments.

Contact the VWPP program at DEQ-TRO, Bert Parolari at (757) 518-2166, for additional information,

2. Nonpoint Source Pollution Control. According to the FCD (page 3), up to approximately 2,123 square feet (0.05 acres) of new impervious surface could be created at WFF due to the installation of multiple concrete pads at the approach ends of existing runways 04/22 and/or 10/28. The document notes that as construction related land disturbance would be less than 10,000 square feet, the Navy would not be required to submit a formal erosion and sediment control plan to NASA. However, the Navy intends to coordinate with NASA during design and construction to ensure that appropriate best management practices (BMPs) are implemented as specified in the *Virginia Erosion and Sediment Control Handbook*.

2(a) Agency Jurisdiction. The Department of Conservation and Recreation (DCR) Division of Stormwater Management (DSM) administers the *Virginia Erosion and Sediment Control Law and Regulations (VESCL&R)* and *Virginia Stormwater Management Law and Regulations (VSWML&R)*.

2(b) Requirements.

(i) Erosion and Sediment Control and Stormwater Management Plans

According to DCR, the Navy and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with *VESCL&R*, *VSWML&R* including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, federal consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in land disturbance equal to or greater than 10,000 square feet would be regulated by *VESCL&R*. Accordingly, the Navy must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan may be submitted to the DCR Regional Office that serves the area where the project is located for review for compliance. The Navy is ultimately responsible for achieving project compliance through oversight of on site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: *VESCL* §10.1-567]

(ii) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities

DCR is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges

from MS4s and land disturbing activities under the Virginia Stormwater Management Program.

Therefore, the operator or owner of construction activities involving land-disturbing activities equal to or greater than one acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific stormwater pollution prevention plan (SWPPP). The SWPPP must be prepared prior to submission of the registration statement for coverage under the General Permit and the SWPPP must address water quality and quantity in accordance with the *VSMP Permit Regulations*. General information and registration forms for the General Permit are available on DCR's website at http://www.dcr.virginia.gov/stormwater_management/stormwat.shtml. [Reference: *Virginia Stormwater Management Act* §10.1-603.1 *et seq.*; *VSMP Permit Regulations* 4 VAC-50 *et seq.*]

3. Air Pollution Control. According to the FCD (page 4), minimal impacts to air quality would occur during proposed activities. The estimated construction emissions would be temporary and assumed to occur for approximately 6 months immediately prior to Navy aircraft operations. Accomack County is in attainment for all National Ambient Air Quality Standards (NAAQS), and emissions from aircraft operations would not cause the air quality region to exceed the applicable standards.

3(a) Agency Jurisdiction. DEQ's Air Quality Division, on behalf of the State Air Pollution Control Board, is responsible to develop regulations that become Virginia's *Air Pollution Control Law*. DEQ is charged to carry out mandates of the state law and related regulations as well as Virginia's federal obligations under the *Clean Air Act* as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate regional office is directly responsible for the issue of necessary permits to construct and operate all stationary sources in the region as well as to monitor emissions from these sources for compliance. As a part of this mandate, the environmental documents of new projects to be undertaken in the state are also reviewed. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

3(b) Agency Findings. According to the DEQ Air Division, the project site is located in an ozone (O₃) attainment area and an emission control area for the contributors to ozone pollution, which are volatile organic compounds (VOCs) and nitrogen oxides (NO_x).

3(c) Recommendation. The Navy should take all reasonable precautions to limit emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO_x), principally by controlling or limiting the burning of fossil fuels.

3(d) Requirements.

(i) Fugitive Dust

During construction, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution*. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(ii) Open Burning

If project activities include the open burning or use of special incineration devices for the disposal of land clearing debris, this activity must meet the requirements of 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100 of the *Regulations* for open burning, and it may require a permit. The *Regulations* provide for, but do not require, the local adoption of a model ordinance concerning open burning. The Navy should contact Accomack County officials to determine what local requirements, if any, exist.

ADDITIONAL ENVIRONMENTAL CONSIDERATIONS

In addition to the enforceable policies of the VCP, comments were also provided with respect to applicable requirements and recommendations of the following programs:

1(a) Agency Jurisdiction. Solid and hazardous wastes in Virginia are regulated by the Virginia Department of Environmental Quality, the Virginia Waste Management Board (VWMB) and the U.S. Environmental Protection Agency. They administer programs created by the federal Resource Conservation and Recovery Act, Comprehensive Environmental Response Compensation and Liability Act, commonly called Superfund, and the Virginia Waste Management Act. DEQ administers regulations established by the VWMB and reviews permit applications for completeness and conformance with facility standards and financial assurance requirements. All Virginia localities are required, under the Solid Waste Management Planning Regulations, to identify the strategies they will follow on the management of their solid wastes to include items such as facility siting, long-term (20-year) use, and alternative programs such as materials recycling and composting.

1(b) Agency Findings. DEQ's Division of Land Protection and Restoration (DLPR) conducted a cursory review of DEQ database files including a GIS database search (half mile radius) of the project site and determined that a Comprehensive

Environmental Response, Compensation and Liability Act (CERCLA) site, Resource Conservation and Recovery Act (RCRA) hazardous waste sites and Formerly Used Defense Sites (FUDS) located within the same zip code of the project site. However, their proximity to the subject project site and potential impact by the project is unknown. A list of these sites is attached to this response.

In addition, based on a cursory review, DEQ-DLPR finds that there are Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites in the immediate vicinity of the proposed project. In this area certain CERCLA sites are managed by the U.S. Army Corps of Engineers FUDS program.

1(c) Recommendations.

(i) Comprehensive Environmental Response, Compensation and Liability Act Sites

DEQ's Federal Facilities Restoration Program recommends that the project contractor contact the NASA Wallops Flight Facility Environmental Program Manager and the U.S. Army Corps of Engineers FUDS Program Project Manager for information concerning CERCLA obligations at this installation. The consultation should be conducted prior to initiating any land, sediment, or groundwater disturbing activities associated with the construction of the project.

(ii) Pollution Prevention

DEQ-DLPR recommends the implementation of pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

(iii) Databases

The following websites may be accessed to locate additional information on identified waste sites:

<http://www.epa.gov/superfund/sites/cursites/index.htm> or
http://www.epa.gov/enviro/html/rcris/rcris_query_java.html.

1(d) Requirements.

(i) Waste Management

Any wastes that are generated during construction-related activities must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. All construction and demolition waste must be characterized in accordance with the *Virginia Hazardous Waste Management Regulations* and disposed of at an appropriate facility as applicable.

(ii) Asbestos-containing Material and Lead-based Paint

All structures being demolished, renovated, or removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, state regulations 9 VAC 20-81-620 for ACM and 9 VAC 20-60-261 for LBP must be followed.

If you have any other questions or need further information, contact DEQ-DLPR, Steve Coe at (804) 698-4029.

3. Natural Heritage Resources.

3(a) Agency Jurisdiction.

(i) Department of Conservation and Recreation

The mission of the Virginia Department of Conservation and Recreation (DCR) is to conserve Virginia's natural and recreational resources. The DCR-Natural Heritage Program's (DCR-DNH) mission is conserving Virginia's biodiversity through inventory, protection, and stewardship. The *Virginia Natural Area Preserves Act*, 10.1-209 through 217 of the *Code of Virginia*, was passed in 1989 and codified DCR's powers and duties related to statewide biological inventory: maintaining a statewide database for conservation planning and project review, land protection for the conservation of biodiversity, and the protection and ecological management of natural heritage resources (the habitats of rare, threatened, and endangered species, significant natural communities, geologic sites, and other natural features).

(ii) Department of Agriculture and Consumer Services

The Endangered Plant and Insect Species Act of 1979, Chapter 39, §3.1-102- through 1030 of the *Code of Virginia*, as amended, authorizes the Virginia Department of Agriculture and Consumer Services (VDACS) to conserve, protect and manage endangered species of plants and insects. The VDACS Virginia Endangered Plant and Insect Species Program personnel cooperates with the U.S. Fish and Wildlife Service, DCR-DNH and other agencies and organizations on the recovery, protection or conservation of listed threatened or endangered species and designated plant and insect species that are rare throughout their worldwide ranges. In those instances where recovery plans, developed by the U.S. Fish and Wildlife Service, are available, adherence to the order and tasks outlines in the plans are followed to the extent possible.

3(b) Agency Findings.

(i) *Little Mosquito Creek Conservation Site*

According to the information currently in DCR files, the Little Mosquito Creek Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Little Mosquito Creek Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

| | | |
|---------------------------------|-------------------------|----------------------|
| | Tidal Oligohaline Marsh | (G3/SNR/NL/NL) |
| <i>Haliaeetus leucocephalus</i> | Bald eagle | (G5/S2S3B,S3N/NL/LT) |

The Tidal Oligohaline Marsh (Beaked Spikerush-Saltmeadow Cordgrass Estuarine Fringe Type) association is an irregularly flooded oligohaline marsh ranging discontinuously along the coast from Massachusetts to the Eastern Shore of Virginia. It is quite rare in Virginia, where it is apparently restricted to narrow bands at the upper extent of tidal influence and adjacent to upland edges, where groundwater seepage dilutes tidal waters, producing oligohaline conditions. The vegetation is heavily dominated by beaked spikerush (*Eleocharis rostellata*), growing in association with saltmeadow cordgrass (*Spartina patens*), which is usually second in abundance. Narrow-leaved loosestrife (*Lythrum lineare*) and small shrubs of marsh-elder (*Iva frutescens*) are constant minor associates.

The bald eagle breeds from Alaska eastward through Canada and the Great Lakes region, along coastal areas off the Pacific and Atlantic Oceans, and the Gulf of Mexico, and in pockets throughout the western United States (NatureServe, 2009). In Virginia, it primarily breeds along the large Atlantic slope rivers (James, Rappahannock, Potomac, etc) with a few records at inland sites near large reservoirs (Byrd, 1991). Bald eagle nest sites are often found in the midst of large wooded areas near marshes or other bodies of water (Byrd, 1991). Bald eagles feed on fish, waterfowl, seabirds (Campbell *et al.*, 1990), various mammals and carrion (Terres, 1980). This species is currently classified as threatened by the Virginia Department of Game and Inland Fisheries. Threats to this species include human disturbance of nest sites (Byrd, 1991), habitat loss, biocide contamination, decreasing food supply and illegal shooting (Herkert, 1992).

(ii) Wallops Island Seeps Conservation Site

The Wallops Island Seeps Conservation Site is located within the project area. Wallops Island Seeps Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resources of concern at this site are:

| | | |
|---|---------------|--------------|
| <i>Crocantemum propinquum</i> (formerly <i>Helianthemum propinquum</i>) | Low frostweed | G4/S1/NL/NL |
| Coastal Plain/Outer Piedmont Seepage Bog | | G2/S1/SOC/NL |

Low frostweed is a perennial rhizomatous herb in the rock-rose family (Cistaceae). A plant of sandy, dry soil found from New England south through western North Carolina into Tennessee, in Virginia low frostweed has been documented, mostly historically, from a few locations in open, disturbed habitat scattered from the Outer Coastal Plain, Northern Piedmont, and Ridge and Valley regions. Clusters of 2-6 yellow, 5-petaled flowers arise from June-July on the scattered, alternate-leaved stems (Gleason and Cronquist 1991); self-pollinating flowers lacking petals arise later from July-September (Weakley, A. In prep.). Surveys should be conducted during the June-July blooming period of the earlier flowers as later season plants can be difficult to identify (Virginia Botanical Associates 2011). Threats include habitat destruction, herbicides, and succession to shadier habitat.

The Coastal Plain/Outer Piedmont Seepage Bog is currently known from the inner Coastal Plain from central and southern Maryland to southeastern Virginia (NatureServe, 2011). The saturated shrub and herbaceous vegetation of this group occupies oligotrophic spring-heads, seepage slopes, and less frequently small, headwater stream bottoms. Sites are scattered throughout the Coastal Plain (except the maritime zone) and outer Piedmont, typically on lower or toe slopes, where groundwater is forced to the surface by impermeable clay layers. Surficial soils are usually peaty or sandy, very acidic, infertile, and covered by dense mats of *sphagnum* mosses. Natural examples of these communities have nearly been extirpated by decades of fire exclusion, hydrologic alterations (ditching, draining, and impoundments), or outright destruction. The elimination of fire as an ecological process has allowed many former bogs to become overgrown with shrubs and trees (Fleming, *et al.*, 2012). The most "natural" occurrences of this vegetation are now restricted to military base impact areas and dedicated natural areas that are burned frequently. Compositionally identical vegetation is more common where artificially maintained powerline rights-of-way intersect small streams and swales (NatureServe, 2011). The vegetation of seepage bogs is usually a mosaic of scattered trees, shrub patches, and graminoid-dominated herbaceous patches. Typical woody species include sweetbay (*Magnolia virginiana*), poison sumac (*Toxicodendron vernix*), highbush blueberries (*Vaccinium corymbosum*, *Vaccinium fuscatum*, and *Vaccinium formosum*), possum-haw (*Viburnum nudum*), and smooth alder (*Alnus serrulata*). Among the most abundant herbaceous species, are twisted spikerush (*Eleocharis tortilis*), beakrushes (*Rhynchosporaspp.*), narrow-leaved bluestem (*Andropogon perangustatus*), panic grasses (*Dichanthelium*

dichotomum var. *dichotomum* and var. *ensifolium*), hairy umbrella-sedge (*Fuirena squarrosa*), meadow-beauties (*Rhexia mariana* var. *mariana*, *Rhexia nashii*, and *Rhexia petiolata*), clubmosses (*Lycopodiella alopecuroides* and *Lycopodiella appressa*), sundews (*Drosera brevifolia*, (*Drosera capillaris*), and *Drosera rotundifolia* var. *rotundifolia*), tawny cotton-grass (*Eriophorum virginicum*), bushy bluestem (*Andropogon glomeratus* var. *glomeratus*), Nuttall's reed-grass (*Calamagrostis coarctata*), yellow-eyed-grasses (*Xyris* spp.), yellow milkwort (*Polygala lutea*), and vervain thoroughwort (*Eupatorium pilosum*). Widely scattered, but nevertheless diagnostic, species of these bogs include red milkweed (*Asclepias rubra*), Rafinesque's seedbox (*Ludwigia hirtella*), large white fringed orchid (*Platanthera blephariglottis* var. *conspicua*), crossleaf milkwort (*Polygala cruciata*), purple pitcher-plant (*Sarracenia purpurea* ssp. *venosa* and ssp. *purpurea*), and large-flowered camas (*Zigadenus glaberrimus*). A large number of state-rare plants and several state-rare odonates (dragonflies and damselflies) are associated with seepage bogs (Fleming, *et al.*, 2012).

(iii) Threatened and Endangered Plant and Insect Species

VDACS has regulatory authority to conserve rare and endangered plant and insect species through the Virginia Endangered Plant and Insect Species Act. Under a Memorandum of Agreement established between VDACS and DCR, DCR has the authority to report for VDACS on state-listed plant and insect species. DCR finds that the current activity will not affect any documented state-listed plants or insects.

(iv) State Natural Area Preserves

DCR files do not indicate the presence of any State Natural Area Preserves under the agency's jurisdiction in the project vicinity.

3(c) Recommendations.

- Avoid any hard surface impacts or runoff to the area indicated on the enclosed map to minimize impacts to the documented occurrences of natural heritage resources within or adjacent to the project area.
- Implement and strictly adhere to applicable state and local erosion and sediment control and stormwater management laws and regulations to minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities.
- Coordinate with the Department of Game and Inland Fisheries, Virginia's regulatory authority for the management and protection of the bald eagle, due to the bald eagle's legal status and to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563-570).
- Contact DCR-DNH at (804) 786-7951 to secure updated information on natural heritage resources if a significant amount of time passes before the project is implemented. New and updated information is continually added to the Biotics Data System.

4. Wildlife Resources and Protected Species.

4(a) Agency Jurisdiction. The Department of Game and Inland Fisheries, as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species, but excluding listed insects (*Virginia Code* Title 29.1). The DGIF is a consulting agency under the *U.S. Fish and Wildlife Coordination Act* (16 U.S.C. sections 661 *et seq.*), and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts.

4(b) Agency Findings.

(i) Wallops Main Base Option

According to DGIF records, the state-listed Threatened bald eagle and colonial waterbird colonies have been documented from within two miles of the airport located on the Wallops Flight Facility main base. Assuming no new construction is proposed beyond the boundaries of the airport, it appears the project site is located outside the management zones for the nearby bald eagle nests and any protective boundaries around the colonial waterbird colonies. However, indirect impacts upon bald eagles or the waterbirds known from the area may result from the increase in air traffic, changes in flight patterns and/or changes in flight altitudes.

(ii) Emporia-Greenville Option

According to DGIF records, the Meherrin River is located within two miles of the Emporia-Greenville Regional Airport and has been designated a Threatened and Endangered Species Water due to the presence of the state-listed Threatened green floater. Assuming no land disturbance is necessary to accommodate additional flights at the existing airport, DGIF does not anticipate the additional of flights from the airport to result in adverse impacts upon the green floater.

4(c) Recommendations.

- Address the potential for any indirect impacts upon bald eagles or waterbirds in the NEPA document due to increases in air traffic, changes in flight patterns and/or changes in flight altitudes at WFF.
- Coordinate with the US Fish and Wildlife Service (USFWS) regarding possible operational impacts at WFF upon colonial waterbirds.
- Coordinate with DGIF and the USFWS to ensure the protection of listed wildlife and resources known from the project area if construction is necessary to accommodate new flights at WFF.

- Coordinate with DGIF to ensure protection of green floaters and other wildlife resources if construction at the Emporia-Greenville Airport or surrounding area is necessary.

For additional information, contact DGIF, Amy Ewing at (804) 367-2211.

5. Historic and Archaeological Resources.

5(a) Agency Jurisdiction. The Department of Historic Resources (DHR) conducts reviews of projects to determine their effect on historic structures or cultural resources under its jurisdiction. DHR, as the designated State's Historic Preservation Office, ensures that federal actions comply with *Section 106 of the National Historic Preservation Act of 1966* (NHPA), as amended, and its implementing regulation at 36 CFR Part 800. The NHPA requires federal agencies to consider the effects of federal projects on properties that are listed or eligible for listing on the National Register of Historic Places. Section 106 also applies if there are any federal involvements, such as licenses, permits, approvals or funding.

5(b) Requirement. According to DHR, the Navy or its agents must consult directly with DHR, as necessary, pursuant to *Section 106 of the National Historic Preservation Act* (as amended) and its implementing regulations codified at 36 CFR Part 800 which require Federal agencies to consider the effects of their undertakings on historic properties.

REGULATORY AND COORDINATION NEEDS

1. Nonpoint Source Pollution Control.

1(a) Erosion and Sediment Control and Stormwater Management Plans. The Navy must ensure that it is in compliance with *Virginia's Erosion and Sediment Control Law* (Virginia Code 10.1-567) and *Regulations* (4 VAC 50-30-30 *et seq.*) and *Stormwater Management Law* (Virginia Code 10.1-603.5) and *Regulations* (4 VAC 3-20-210 *et seq.*). Activities that disturb greater than 10,000 square feet would be regulated by *VESCL&R* and *VSWML&R*. The Navy is encouraged to contact DCR's Suffolk Regional Office at (757) 925-2468, for assistance with developing or implementing an ESC plan to ensure project conformance.

1(b) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities. For projects involving land-disturbing activities of equal to or greater than one acre, the Navy is required to develop a project-specific stormwater pollution prevention plan and apply for registration coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (*VSMP Permit Regulations* 4 VAC-50 *et seq.*). Specific questions regarding the Stormwater Management Program requirements should be directed to Holly Sepety, DCR, at (804) 225-2613.

2. Air Pollution Control. This project is subject to air pollution control regulations administered by the Department of Environmental Quality. The following sections of the Code of Virginia and Virginia Administrative Code are applicable:

- 9 VAC 5-50-60 *et seq.* governing fugitive dust emissions; and
- 9 VAC 5-130 *et seq.*, for open burning.

Guidance on minimizing the emission of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) during construction may be obtained from DEQ-TRO. For additional information, contact DEQ-TRO, Troy Breathwaite at (757) 518-2006.

3. Solid and Hazardous Wastes. All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. Some of the applicable state laws and regulations are:

- *Virginia Waste Management Act* (Code of Virginia Section 10.1-1400 *et seq.*);
- *Virginia Hazardous Waste Management Regulations (VHWMR)* (9 VAC 20-60);
- *Virginia Solid Waste Management Regulations (VSWMR)* (9 VAC 20-81); and
- *Virginia Regulations for the Transportation of Hazardous Materials* (9 VAC 20-110).

Some of the applicable Federal laws and regulations are:

- *Resource Conservation and Recovery Act (RCRA)* (42 U.S.C. Section 6901 *et seq.*);
- Title 40 of the Code of Federal Regulations; and
- U.S. Department of Transportation Rules for Transportation of Hazardous materials (49 CFR Part 107).

For additional information, contact DEQ-TRO, Milt Johnston at (757) 518-2151.

3(a) Comprehensive Environmental Response Compensation and Liability Act.

The Navy should contact the NASA Wallops Flight Facility Environmental Program Manager, Theodore J. Meyer at (757) 824-1987 and the U.S. Army Corps of Engineers FUDS Program Project Manager, Sher Zaman at (410) 962-3134 for information concerning CERCLA obligations at this installation. In addition, contact DEQ-DLPR, Paul Herman at (804) 698-4464 or paul.herman@deg.virginia.gov with any additional questions.

3(b) Asbestos Containing Material. It is the responsibility of the owner or operator to thoroughly inspect affected structures for the presence of asbestos, including Category I and Category II nonfriable asbestos containing material (ACM). Upon classification as friable or non-friable, all waste ACM shall be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640), and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 *et seq.*). Contact the DEQ Division of Land Protection and

Mr. W. D. Lewis
E-2/C-2 Field Carrier Landing Practice Operations

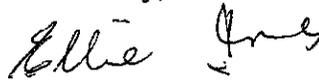
Revitalization (formerly the Waste Division), Linda Richardson at (804) 698-4318 and the Department of Labor and Industry, Ronald L. Graham (804) 786-0574 for additional information.

3(c) Lead-Based Paint. If applicable, this project must comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations. For additional information regarding these requirements contact the Department of Professional and Occupational Regulation, David Dick at (804) 367-8588.

4. Historic Resources. Coordination of this project with the Department of Historic Resources pursuant to *Section 106 of the National Historic Preservation Act* (as amended) and its implementing regulations at 36 CRF Part 800 may be accomplished by contacting DHR, Roger Kirchen at (804) 482-6091.

Thank you for the opportunity to comment on this FCD. The detailed comments of reviewing agencies are attached for your review. If you have questions, please call me at (804) 698-4325 or John Fisher at (804) 698-4339.

Sincerely,



Ellie Irons, Program Manager
Environmental Impact Review

Enclosures

Ec: Cindy Keltner, DEQ-TRO
Steve Coe, DEQ-DLPR
Kotur Narasimhan, DEQ-Air
Tony Watkinson, VMRC
Robbie Rhur, DCR
Amy Ewing, DGIF
Keith Tignor, VDACS
Roger Kirchen, DHR
Scott Denny, DoAv

Cc: Steven Miner, Accomack County
Elaine Meil, Accomack-Northampton PDC

Fisher, John (DEQ)

From: Ewing, Amy (DGIF)
Sent: Monday, August 13, 2012 11:09 AM
To: Fisher, John (DEQ)
Cc: Cason, Gladys (DGIF); Boettcher, Ruth (DGIF); Watson, Brian (DGIF)
Subject: ESSLog#33061_12-136F_Field Carrier Landing Practice Operations

We have reviewed the subject project in which the Navy proposes to perform Field Carrier Landing Practices at either Emporia-Greenville Regional Airport in Greenville and Southampton counties or at NASA Wallops Flight Facility, Main Base, in Accomack County, VA. Only Wallops is located within the Coastal Zone, so only that option requires coastal consistency review.

Emporia-Greenville option:

According to our records, the Meherrin River is located within two miles of Emporia-Greenville Regional Airport and has been designated a Threatened and Endangered Species Water due to the presence of state Threatened green floaters. Assuming no land disturbance is necessary to accommodate additional flights at the existing airport, we do not anticipate the additional of flights from the airport to result in adverse impacts upon green floaters.

If construction at the airport or surrounding area is necessary, we recommend additional coordination with us to ensure protection of green floaters and other wildlife resources.

Wallops Main Base option:

According to our records, state Threatened bald eagles and colonial waterbird colonies have been documented from within two miles of the airport located on Wallops Flight Facility main base. Assuming no new construction is proposed beyond the boundaries of the airport, it appears the project site is located outside the management zones for the nearby bald eagle nests and any protective boundaries around the colonial waterbird colonies. However, indirect impacts upon bald eagles or the waterbirds known from the area may result from the increase in air traffic, changes in flight patterns and/or changes in flight altitudes. We recommend the Navy address this issue in any NEPA documents prepared for the new program. Further, we recommend coordination with the USFWS regarding possible impacts upon colonial waterbirds.

If construction is necessary to accommodate new flights at Wallops, we recommend further coordination with us and the USFWS to ensure protection of the listed wildlife and resources known from the project area.

As the waters from the Wallops site drain to the Atlantic Ocean, we defer the coastal consistency determination to VMRC.

Thanks, Amy

Amy Ewing
Environmental Services Biologist
VA Dept. of Game and Inland Fisheries
4010 W. Broad Street
Richmond, VA 23230
804-367-2211
amy.ewing@dgif.virginia.gov



DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
ENVIRONMENTAL IMPACT REVIEW COMMENTS

August 20, 2012

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Impact Review

PROJECT NUMBER: 12-136F

PROJECT TITLE: E-2_C-2 Field Carrier Landing Practice Operations

As Requested, TRO staff has reviewed the supplied information and has the following comments:

| |
|---|
| Petroleum Storage Tank Cleanups: |
| No comments. |
| Petroleum Storage Tank Compliance/Inspections: |
| No comments. |
| Virginia Water Protection Permit Program (VWPP): |
| In reviewing the material provided, it appears that wetland impacts are not required for the proposed operation. As such, the VWPP Program has no comments. |
| Air Permit Program : |
| No comments. |
| Water Permit Program : |
| Water permits – no comments |
| Ground Water – No comments |
| Waste Permit Program : |
| All construction and demolition debris, including excess soil, must be characterized in accordance with the Virginia Hazardous Waste Management regulations and managed at an appropriate facility. |

The staff from the Tidewater Regional Office thanks you for the opportunity to provide comments.

Sincerely,

Cindy Keltner
Environmental Specialist II
5636 Southern Blvd.
VA Beach, VA 23462
(757) 518-2167
Cindy.Keltner@deq.virginia.gov



COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street
Richmond, Virginia 23219-2010
(804) 786-1712

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MEMORANDUM

DATE: August 8, 2012
TO: John Fisher, DEQ
FROM: Roberta Rhur, Environmental Impact Review Coordinator
SUBJECT: DEQ 12-136F, Wallops Flight Facility Preliminary EA

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Little Mosquito Creek Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Little Mosquito Creek Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

| | | |
|---------------------------------|-------------------------|----------------------|
| | Tidal Oligohaline Marsh | (G3/SNR/NL/NL) |
| <i>Haliaeetus leucocephalus</i> | Bald eagle | (G5/S2S3B,S3N/NL/LT) |

The Tidal Oligohaline Marsh (Beaked Spikerush – Saltmeadow Cordgrass Estuarine Fringe Type) association is an irregularly flooded oligohaline marsh ranging discontinuously along the coast from Massachusetts to the Eastern Shore of Virginia. It is quite rare in Virginia, where it is apparently restricted to narrow bands at the upper extent of tidal influence and adjacent to upland edges, where groundwater seepage dilutes tidal waters, producing oligohaline conditions. The vegetation is heavily dominated by beaked spikerush (*Eleocharis rostellata*), growing in association with saltmeadow cordgrass (*Spartina patens*), which is usually second in abundance. Narrow-leaved loosestrife (*Lythrum lineare*) and small shrubs of marsh-elder (*Iva frutescens*) are constant minor associates.

The Bald eagle (*Haliaeetus leucocephalus*, G5/S2S3B,S3N/NL/LT) breeds from Alaska eastward through Canada and the Great Lakes region, along coastal areas off the Pacific and Atlantic Oceans, and the Gulf of Mexico, and in pockets throughout the western United States (NatureServe, 2009). In Virginia, it primarily breeds along the large Atlantic slope rivers (James, Rappahannock, Potomac, etc) with a few records at inland sites near large reservoirs (Byrd, 1991). Bald eagle nest sites are often found in the midst of large wooded areas near marshes or other bodies of water (Byrd, 1991). Bald eagles feed on fish, waterfowl, seabirds (Campbell et. al., 1990), various mammals and carrion (Terres, 1980). Please note that this species is currently classified as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF).

Threats to this species include human disturbance of nest sites (Byrd, 1991), habitat loss, biocide contamination, decreasing food supply and illegal shooting (Herkert, 1992).

Due to the legal status of the Bald eagle, DCR recommends coordination with Virginia's regulatory authority for the management and protection of this species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

In addition, the Wallops Island Seeps Conservation Site is also located within the project area. Wallops Island Seeps Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resources of concern at this site are:

| | | |
|--|---------------|---------------------------------|
| <i>Crocianthemum propinquum</i> = formerly <i>Helianthemum propinquum</i> Coastal Plain / Outer Piedmont Seepage Bog | Low frostweed | G4/S1/NL/NL G2/S1/SOC/NL |
|--|---------------|---------------------------------|

Low frostweed is a perennial rhizomatous herb in the rock-rose family (Cistaceae). A plant of sandy, dry soil found from New England south through western North Carolina into Tennessee, in Virginia low frostweed has been documented, mostly historically, from a few locations in open, disturbed habitat scattered from the Outer Coastal Plain, Northern Piedmont, and Ridge and Valley regions. Clusters of 2-6 yellow, 5-petaled flowers arise from June-July on the scattered, alternate-leaved stems (Gleason and Cronquist 1991); self-pollinating flowers lacking petals arise later from July-September (Weakley, A. In prep.). Surveys should be conducted during the June-July blooming period of the earlier flowers as later season plants can be difficult to identify (Virginia Botanical Associates 2011). Threats include habitat destruction, herbicides, and succession to shadier habitat.

The Coastal Plain / Outer Piedmont Seepage Bog is currently known from the inner Coastal Plain from central and southern Maryland to southeastern Virginia. (NatureServe, 2011)The saturated shrub and herbaceous vegetation of this group occupies oligotrophic spring-heads, seepage slopes, and less frequently small, headwater stream bottoms. Sites are scattered throughout the Coastal Plain (except the maritime zone) and outer Piedmont, typically on lower or toe slopes, where groundwater is forced to the surface by impermeable clay layers. Surficial soils are usually peaty or sandy, very acidic, infertile, and covered by dense mats of *Sphagnum* mosses. Natural examples of these communities have nearly been extirpated by decades of fire exclusion, hydrologic alterations (ditching, draining, and impoundments), or outright destruction. The elimination of fire as an ecological process has allowed many former bogs to become overgrown with shrubs and trees. (Fleming, et al., 2012)The most "natural" occurrences of this vegetation are now restricted to military base impact areas and dedicated natural areas that are burned frequently. Compositionally identical vegetation is more common where artificially maintained powerline rights-of-way intersect small streams and swales. (NatureServe, 2011) The vegetation of seepage bogs is usually a mosaic of scattered trees, shrub patches, and graminoid-dominated herbaceous patches. Typical woody species include sweetbay (*Magnolia virginiana*), poison sumac (*Toxicodendron vernix*), highbush blueberries (*Vaccinium corymbosum*, *Vaccinium fuscatum*, and *Vaccinium formosum*), possum-haw

(*Viburnum nudum*), and smooth alder (*Alnus serrulata*). Among the most abundant herbaceous species, are twisted spikerush (*Eleocharis tortilis*), beakrushes (*Rhynchosporaspp.*), narrow-leaved bluestem (*Andropogon perangustatus*), panic grasses (*Dichanthelium dichotomum* var. *dichotomum* and var. *ensifolium*), hairy umbrella-sedge (*Fuirena squarrosa*), meadow-beauties (*Rhexia mariana* var. *mariana*, *Rhexia nashii*, and *Rhexia petiolata*), clubmosses (*Lycopodiella alopecuroides* and *Lycopodiella appressa*), sundews (*Drosera brevifolia*, (*Drosera capillaris*), and *Drosera rotundifolia* var. *rotundifolia*), tawny cotton-grass (*Eriophorum virginicum*), bushy bluestem (*Andropogon glomeratus* var. *glomeratus*), Nuttall's reed-grass (*Calamagrostis coarctata*), yellow-eyed-grasses (*Xyris* spp.), yellow milkwort (*Polygala lutea*), and vervain thoroughwort (*Eupatorium pilosum*). Widely scattered, but nevertheless diagnostic, species of these bogs include red milkweed (*Asclepias rubra*), Rafinesque's seedbox (*Ludwigia hirtella*), large white fringed orchid (*Platanthera blephariglottis* var. *conspicua*), crossleaf milkwort (*Polygala cruciata*), purple pitcher-plant (*Sarracenia purpurea* ssp. *venosa* and ssp. *purpurea*), and large-flowered camas (*Zigadenus glaberrimus*). A large number of state-rare plants and several state-rare odonates (dragonflies and damselflies) are associated with seepage bogs (Fleming, et al., 2012).

To minimize impacts to the documented occurrences of natural heritage resources within or adjacent to the project area, DCR recommends avoidance of any hard surface impacts or runoff to the area indicated on the enclosed map. To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR also recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Gladys Cason (804-367-0909 or Gladys.Cason@dgif.virginia.gov).

Division of Stormwater Management

Stormwater Management:

The applicant and their authorized agents conducting regulated land disturbing activities on private and public lands in the state must comply with the Virginia Erosion and Sediment Control Law and Regulations (VESCL&R), Virginia Stormwater Management Law and Regulations including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, Federal Consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbance activities that result in the land-disturbance of equal to or greater than 10,000 square feet would be regulated by VESCL&R. Accordingly, the applicant must prepare and implement erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan is submitted to the

DCR Regional Office that serves the area where the project is located for review for compliance. The applicant is ultimately responsible for achieving project compliance through oversight of onsite contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: VESCL §10.1-567;].

The operator or owner of construction activities involving land disturbing activities equal to or greater than one acre are required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project specific stormwater pollution prevention plan (SWPPP). Construction activities requiring registration also includes the land-disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan of development will ultimately disturb equal to or greater than one acre. The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the Virginia Stormwater Management Program (VSMP) Permit Regulations. General information and registration forms for the General Permit are available on DCR's website at

http://www.dcr.virginia.gov/soil_and_water/index.shtml

[Reference: Virginia Stormwater Management Law Act §10.1-603.1 et seq.; VSMP Permit Regulations §4VAC-50 et seq.]

The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

Cc: Amy Ewing, VDGIF
Kim Smith, USFWS

Literature Cited:

- Byrd, M.A. 1991. Bald eagle. In *Virginia's Endangered Species: Proceedings of a Symposium*. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, Virginia. Pp. 499-501.
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- Fleming, G.P., K.D. Patterson, K. Taverna, and P.P. Coulling. 2012. *The natural communities of Virginia: classification of ecological community groups. Second approximation. Version 2.5*. Virginia Department of Conservation and Recreation, Division of Natural Heritage, Richmond, VA.
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- Herkert, J. R., editor. 1992. *Endangered and threatened species of Illinois: status and distribution. Vol. 2: Animals*. Illinois Endangered Species Protection Board. iv + 142 pp.
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- Virginia Botanical Associates. 2011. *Digital Atlas of the Virginia Flora* (http://www.biol.vt.edu/digital_atlas/). c/o Massey Herbarium, Department of Biological Sciences, Virginia Tech, Blacksburg.
- Weakley, A. In prep. *Flora of the southern and mid-Atlantic states. Working draft of 15 May 2011*. University of North Carolina Herbarium, North Carolina Botanical Garden, University of North Carolina at Chapel Hill, NC.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR PROGRAM COORDINATION

ENVIRONMENTAL REVIEW COMMENTS APPLICABLE TO AIR QUALITY

TO: John E. Fisher

DEQ - OEIA PROJECT NUMBER: 12 - 136F

PROJECT TYPE: STATE EA / EIR FEDERAL EA / EIS SCC

CONSISTENCY DETERMINATION

PROJECT TITLE: E-2/C-2 FIELD CARRIER LANDING PRACTICE OPERATIONS,
NAS WALLOPS FLIGHT FACILITY

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PROJECT SPONSOR: DOD / DEPARTMENT OF THE NAVY

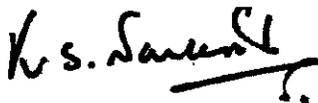
PROJECT LOCATION: OZONE ATTAINMENT AREA

REGULATORY REQUIREMENTS MAY BE APPLICABLE TO: CONSTRUCTION
 OPERATION

STATE AIR POLLUTION CONTROL BOARD REGULATIONS THAT MAY APPLY:

1. 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 E - STAGE I
2. 9 VAC 5-40-5200 C & 9 VAC 5-40-5220 F - STAGE II Vapor Recovery
3. 9 VAC 5-40-5490 et seq. - Asphalt Paving operations
4. 9 VAC 5-130 et seq. - Open Burning
5. 9 VAC 5-50-60 et seq. Fugitive Dust Emissions
6. 9 VAC 5-50-130 et seq. - Odorous Emissions; Applicable to _____
7. 9 VAC 5-50-160 et seq. - Standards of Performance for Toxic Pollutants
8. 9 VAC 5-50-400 Subpart _____, Standards of Performance for New Stationary Sources, designates standards of performance for the _____
9. 9 VAC 5-80-1100 et seq. of the regulations - Permits for Stationary Sources
10. 9 VAC 5-80-1700 et seq. Of the regulations - Major or Modified Sources located in PSD areas. This rule may be applicable to the _____
11. 9 VAC 5-80-2000 et seq. of the regulations - New and modified sources located in non-attainment areas
12. 9 VAC 5-80-800 et seq. Of the regulations - Operating Permits and exemptions. This rule may be applicable to _____

COMMENTS SPECIFIC TO THE PROJECT:



(Kotur S. Narasimhan)
Office of Air Data Analysis

DATE: August 10, 2012



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MEMORANDUM

TO: John Fisher, Environmental Program Planner

FROM: Steve Coe, Division of Land Protection & Revitalization Review Coordinator

DATE: August 8, 2012

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: Environmental Impact Report: Project No. 12-136F

The Division of Land Protection & Revitalization has completed its review of the Environmental Impact report for the E-2/C-2 Field Carrier Landing Practice Operations project at Wallops Island, Wallops Flight Facility (WFF), Virginia 23337. Project description: minor airfield infrastructure improvements. All construction would occur only on federal property at WFF and the Navy would follow all of NASA's permit requirements, standard operating procedures, and other agreements during construction and maintenance.

We have the following comments concerning the waste issues associated with this project:

Waste issues were not addressed in the report. The report did not include a search of waste-related data bases. A GIS database search revealed waste sites within a half mile radius that may impact or be impacted by the subject site. The Division of Land Protection & Revitalization staff performed a cursory review of its data files and determined that there are waste sites located within the same zip code, however their proximity to the subject site is unknown. DEQ's Federal Facilities Program was contacted for a review of this determination and staff comments are included.

Cerclis – NASA Wallops Island. EPA ID VA8800010763. Not NPL.

RCRA/HW – 11 sites

- 1) Assateague Island National Seashore Tom's Cove, Chincoteague Road, Wallops Island. VAR000508770. Contact: Richard Barrett at 410-641-1443.
- 2) BAYSYS Technologies, Fulton Street, Wallops Island. VAR000518811. Contact: Dominick Scott at 757-877-6-7668, ext 2017.
- 3) Chesapeake & Potomac Telephone Co, Wallops Island. VAD980555387. Contact: Bartley Terry at 202-392-8284.
- 4) Cropper USAR Ctr, Kearsarg Circle, Wallops Island. VAR000007211. Contact: John Pontier at 301-677-7593.

- 5) Mid-Atlantic Regional Spaceport, 24200 Fulton Street, Wallops Island. VAR000518845. Contact: Richard Baldwin at 757-824-2335.
- 6) NASA GSFC Wallops Flight Facility, Fulton Street, Wallops Island. VA7800020888. Contact: Joel Mitchell at 757-824-1127.
- 7) NASA GSFC Wallops Flight Facility, Fulton Street, Wallops Island. VA8800010763. Contact: Joel Mitchell at 757-824-1127.
- 8) Navy Surface Combat Systems Center, Buildings R-2, R-30, R-20, 30 Battlegroup Way, Wallops Island. VAR000518829. Contact: Marilyn Ailes at 757-824-2082.
- 9) Navy Surface Combat Systems Center, Buildings V-10/20/21, Artist, Seaside Road, Wallops Island. VAR000518837. Contact: Marilyn Ailes at 757-824-2082.
- 10) NOAA, Wallops Command 7 Data Acquisition Station, 35663 Chincoteague Road, Wallops Island. VAR000518803. Contact: Stephen Howard at 757-824-7311.
- 11) Wallops FUDS Program, NASA Wallops Flight Facility, Wallops Island. VAR000509240. Contact: George Mears at 757-201-7181.

SW - none

VRP - none

FUDS – C03VA0301, VA9799F1697, Wallops Island.

Based on our cursory review of this project there are Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites in the immediate vicinity of the proposed demolition project. In this particular area certain CERCLA sites are managed by the U.S. Army Corps of Engineers Formerly Used Defense Site (FUDS) program. DEQ's Federal Facilities Restoration Program recommends the contractor selected to construct the airstrip contact Mr. Theodore J. Meyer, NASA Wallops Flight Facility Environmental Program Manager at (757) 824-1987 and Mr. Sher Zaman, U.S. Army Corps of Engineers FUDS Program Project Manager (410) 962-3134 for information concerning CERCLA obligations at this installation. The contractor should consult Mr. Meyer and Mr. Zaman prior to initiating any land, sediment, or groundwater disturbing activities associated with the construction of the North Wallops Island Unmanned Aerial Systems Airstrip.

If you have any questions or require further information, please contact Mr. Paul Herman, DEQ, at 804-698-4464.

Petroleum Releases - none

The following websites may prove helpful in locating additional information for these identification numbers: <http://www.epa.gov/superfund/sites/cursites/index.htm> or http://www.epa.gov/enviro/html/rcris/rcris_query_java.html.

GENERAL COMMENTS:

Any soil that is suspected of contamination or wastes that are generated during construction-related activities must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-80); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal

Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous materials, 49 CFR Part 107.

Also, all structures being demolished/renovated/ removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-80-640 for ACM and 9VAC 20-60-261 for LBP must be followed. The local DEQ office contact for questions is Ms. Lisa Silvia at (757) 518-2175.

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Steve Coe at (804) 698-4029.

Fisher, John (DEQ)

From: Kirchen, Roger (DHR)
Sent: Thursday, July 19, 2012 2:47 PM
To: Fisher, John (DEQ)
Subject: E-2/C-2 Field Carrier Landing Practice Operations, NASA-Wallops (DEQ #12-136F; DHR File No. 2012-1093)

We request that the Navy or its agents consult directly with DHR, as necessary, pursuant to Section 106 of the National Historic Preservation Act (as amended) and its implementing regulations codified at 36 CFR Part 800 which require Federal agencies to consider the effects of their undertakings on historic properties.

Roger

*Roger W. Kirchen, Archaeologist
Office of Review and Compliance
Division of Resource Services and Review
Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221
phone: 804-482-6091 (NEW!)
fax: 804-367-2391
roger.kirchen@dhr.virginia.gov*



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/987
September 6, 2012

Mr. Terry Page
Manager, Washington-Dulles
Airports District Office
23723 Air Freight Lane, Suite 210
Dulles, Va 20166

Dear Mr. Page:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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- Chincoteague Island Library at 4077 Main Street, Chincoteague Island, Virginia 23336
- Eastern Shore Public Library at 23610 Front Street, P.O. Box 360, Accomack, Virginia 23301

Public comments may be e-mailed to NAVFAC ML_PAO@navy.mil or mailed to:

E-2/C-2 FCLP Operations EA Project Manager
Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
Norfolk, VA 23508

All mailed comments must be postmarked by October 5, 2012 to ensure they become part of the official record. All timely comments will be considered in the Final EA.

The Navy will host two Open House meetings for the public. The first Open House will be September 25th, from 5pm until 8pm at the Golden Leaf Commons at the Greenville County government complex at 1300 Greenville County Circle, Emporia, VA. The second Open House will be September 27th from 5pm until 8pm at the NASA Wallops Visitors Center.

5090
Ser N46/987
September 6, 2012

Thank you for your interest in this project. If you have any questions or would like additional information on the Draft EA, please contact Patsy Kerr at 757-836-6336.

Sincerely,



G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/988
September 6, 2012

Mr. Jeffrey Breedon
Federal Aviation Administration
Washington Airports District Office - AEA-WAS-ADO
23723 Air Freight Lane, Suite 210
Dulles, VA 20166

Dear Mr. Breedon:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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Norfolk, VA 23508

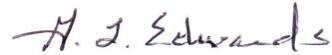
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5090
Ser N46/988
September 6, 2012

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Sincerely,



G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/990
September 6, 2012

Ms. Shari Silbert
Environmental Scientist
NASA Wallops Flight Facility
Wallops Island, VA 23337

Dear Ms. Silbert:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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E-2/C-2 FCLP Operations EA Project Manager
Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
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5090
Ser N46/990
September 6, 2012

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Sincerely,



G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/989
September 6, 2012

Ms. Caroline Massey
Assistant Director
Management Operations Directorate
NASA Wallops Flight Facility
Wallops Island, VA 23337

Dear Ms. Massey:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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5090
Ser N46/989
September 6, 2012

Thank you for your interest in this project. If you have any questions or would like additional information on the Draft EA, please contact Patsy Kerr at 757-836-6336.

Sincerely,

A handwritten signature in cursive script that reads "G. L. Edwards".

G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/991
September 6, 2012

Mr. Richard C. Franklin, Jr.
Executive Director
139 Airport Drive
Emporia, VA 23847

Dear Mr. Franklin:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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E-2/C-2 FCLP Operations EA Project Manager
Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
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5090
Ser N46/991
September 6, 2012

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Sincerely,

A handwritten signature in cursive script that reads "G. L. Edwards".

G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/983
September 6, 2012

Ms. Karen DelGrosso, NEPA Team Member
Office of Environmental Programs (3EA30)
U.S. Environmental Protection Agency
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Ms. DelGrosso:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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Naval Facilities Engineering Command, Atlantic
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6506 Hampton Boulevard, Building A
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5090
Ser N46/983
September 6, 2012

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Sincerely,



G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/980
September 6, 2012

Mr. Tylan Dean
U.S. Fish and Wildlife Services
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061

Dear Mr. Dean:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greensville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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Naval Facilities Engineering Command, Atlantic
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5090
Ser N46/980
September 6, 2012

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Sincerely,



G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/996
September 6, 2012

From: Commander, U.S. Fleet Forces Command
To: District Engineer, U.S. Army Corps of Engineers, Norfolk District (John Evans)

Subj: NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL ASSESSMENT (EA) FOR
E-2/C2 FIELD CARRIER LANDING PRACTICE (FCLP) AT EMPORIA-GREENSVILLE
REGIONAL AIRPORT AND WALLOPS FLIGHT FACILITY

Encl: Draft EA (hard copy and CD)

1. The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greensville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
Norfolk, VA 23508

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5090
Ser N46/996
September 6, 2012

6. Thank you for your interest in this project. If you have any questions or would like additional information on the Draft EA, please contact Patsy Kerr at 757-836-6336.

Sincerely,

A handwritten signature in cursive script that reads "G. L. Edwards".

G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/981
September 6, 2012

Mr. Andy Zadnick
Virginia Department of Game and Inland Fisheries
Environmental Services Section
P.O. Box 11104
Richmond, VA 23230

Dear Mr. Zadnick:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
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5090
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September 6, 2012

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Sincerely,



G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/982
September 6, 2012

Ms. René Hypes
Environmental Review Coordinator
Virginia Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street, 2nd Floor
Richmond, VA 23219

Dear Ms. Hypes:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

Public input is very important in order for the Navy to fully understand community concerns and relevant issues. Individuals interested in the project are encouraged to provide their comments on the document within the public comment period. The Draft EA is enclosed (CD-ROM) and is also available on the Navy Region Mid-Atlantic web site at (https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837). Printed and electronic copies of the Draft EA may also be reviewed at the following locations:

- Richardson Memorial Library at 100 Spring Street, Emporia, Virginia 23847
- Emporia-Greenville Regional Library at 139 Airport Drive, Emporia, Virginia 23847
- Chincoteague Island Library at 4077 Main Street, Chincoteague Island, Virginia 23336
- Eastern Shore Public Library at 23610 Front Street, P.O. Box 360, Accomack, Virginia 23301

Public comments may be e-mailed to NAVFAC ML_PAO@navy.mil or mailed to:

E-2/C-2 FCLP Operations EA Project Manager
Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
Norfolk, VA 23508

All mailed comments must be postmarked by October 5, 2012 to ensure they become part of the official record. All timely comments will be considered in the Final EA.

The Navy will host two Open House meetings for the public. The first Open House will be September 25th, from 5pm until 8pm at the Golden Leaf Commons at the Greenville County government complex at 1300 Greenville County Circle, Emporia, VA. The second Open House will be September 27th from 5pm until 8pm at the NASA Wallops Visitors Center.

5090
Ser N46/982
September 6, 2012

Thank you for your interest in this project. If you have any questions or would like additional information on the Draft EA, please contact Patsy Kerr at 757-836-6336.

Sincerely,



G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/985
September 6, 2012

Ms. Ellie Irons, OEIR Manager
Department of Environmental Quality
Office of Environmental Impact Review
P.O. Box 1105
Richmond, VA 23218

Dear Ms. Irons:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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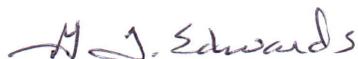
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5090
Ser N46/985
September 6, 2012

Thank you for your interest in this project. If you have any questions or would like additional information on the Draft EA, please contact Patsy Kerr at 757-836-6336.

Sincerely,

A handwritten signature in cursive script that reads "G. L. Edwards".

G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/984
September 6, 2012

Mr. P. Clifford Burnette, Jr.
Virginia Department of Aviation
Director, Airport Services Division
5702 Gulsstream Road
Richmond, VA 23250-2422

Dear Mr. Burnette:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

Public input is very important in order for the Navy to fully understand community concerns and relevant issues. Individuals interested in the project are encouraged to provide their comments on the document within the public comment period. The Draft EA is enclosed (CD-ROM) and is also available on the Navy Region Mid-Atlantic web site at (https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837). Printed and electronic copies of the Draft EA may also be reviewed at the following locations:

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E-2/C-2 FCLP Operations EA Project Manager
Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
Norfolk, VA 23508

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5090
Ser N46/984
September 6, 2012

Thank you for your interest in this project. If you have any questions or would like additional information on the Draft EA, please contact Patsy Kerr at 757-836-6336.

Sincerely,



G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



DEPARTMENT OF THE NAVY

COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

5090
Ser N46/986
September 6, 2012

Mr. Marc Holma
Virginia Department of Historic Resources
Office of Review and Compliance
2801 Kensington Avenue
Richmond, VA 23321

Dear Mr. Holma:

The U.S. Navy has prepared and released to the public a Draft Environmental Assessment (EA) to evaluate the potential environmental effects that may result from the Navy's proposal to conduct regular, scheduled E-2C/D Hawkeye and C-2A Greyhound Field Carrier Landing Practice (FCLP) operations at either Emporia-Greenville Regional Airport or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF). Under the proposal, these twin engine, turboprop aircraft would conduct up to 20,000 passes annually at the selected field. The Navy has not identified a preferred site in this EA.

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E-2/C-2 FCLP Operations EA Project Manager
Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
Norfolk, VA 23508

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5090
Ser N46/986
September 6, 2012

Thank you for your interest in this project. If you have any questions or would like additional information on the Draft EA, please contact Patsy Kerr at 757-836-6336.

Sincerely,

A handwritten signature in cursive script that reads "G. L. Edwards".

G. L. EDWARDS
Director, Environmental Readiness Division
By direction

Enclosure: Draft EA (CD-ROM)



COMMONWEALTH of VIRGINIA

Department of Historic Resources

Douglas W. Domenech
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

4 October 2012

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.virginia.gov

E-2/C-2 FCLP Operations EA Project Manager
Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
Norfolk, Virginia 23508

Re: Draft EA, E-2/C-2 Field Carrier Landing Practice Operations
Accomack and Greensville counties, Virginia
DHR File # 2011-2033

Dear Mr. Edwards:

The Department of Historic Resources (DHR) has received the draft Environmental Assessment (EA) for above referenced project. We have previously reviewed and commented on the undertaking in a response dated 5 January 2012. In that response we stated that No Historic Properties will be Affected by the proposed undertaking. The DHR reiterates this belief and has no further comments.

If you have any questions, please call me at (804) 482-6090.

Sincerely,

Marc Holma, Architectural Historian
Office of Review and Compliance

C: Mr. John Fisher, DEQ

Administrative Services
10 Courthouse Ave.
Petersburg, VA 23803
Tel: (804) 862-6416
Fax: (804) 862-6196

Capital Region Office
2801 Kensington Office
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Tidewater Region Office
14415 Old Courthouse Way 2nd
Floor
Newport News, VA 23608
Tel: (757) 886-2807
Fax: (757) 886-2808

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5428
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7031
Fax: (540) 868-7033



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

October 5, 2012

Sara Upchurch
Department of the Navy
Naval Facilities Engineering Command, Atlantic
6506 Hampton Blvd
Norfolk, Virginia 23508-1278

RE: Draft Environmental Assessment E-2/C-2 Field Carrier Landing Practice at Emporia-Greensville Regional Airport, Greensville County, Virginia and NASA Wallops Flight Facility, Accomack County, Virginia

Dear Ms. Upchurch:

In accordance with the National Environmental Policy Act of 1969 (NEPA) and Section 309 of the Clean Air Act the U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Assessment (EA) for the E-2/C-2 Field Carrier Landing Practice (FCLP) at Emporia-Greensville Regional Airport, Greensville County, Virginia and National Aeronautics and Space Administration (NASA) Wallops Flight Facility (WFF), Accomack County, Virginia. The proposed action involves conduct up to 45,000 operations annually for up to ten years, scheduled E-2 Hawkeye and C-2 Greyhound (E-2/C-2) FCLP operations at a local airfield which meets the U.S. Department of the Navy's minimum airfield requirements as an interim bridge until the Navy increases local FCLP capacity at a permanent facility. Facilities at either Emporia-Greensville Regional Airport or at the WFF Main Base are being considered for use in the EA. The purpose of the proposed action is to provide additional FCLP training capacity for E-2/C-2 squadrons operating from NS Norfolk Chambers Field in Virginia, which currently utilize alternative airfields, however these airfields lacks the capacity to support FCLP requirements under all conditions.

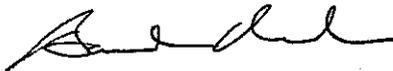
The Draft EA presented two action alternatives and the no action alternative, where the Navy would continue to conducting late-night and early morning operations at NALF Fentress in addition to conducting training at alternative airfields such as Naval Air Station Oceana and detachments outside the local area. Alternative one involves conducting up to 45,000 E-2/C-2 FCLP operations annually at the Emporia/Greensville Regional Airport on runway 15/33 during day and night hours. Two operational scenarios were evaluated; scenario 1 would include an FCLP pattern with three planes conducting the total 45,000 operations, and scenario 2 would include a five plane pattern conducting 30,000 operations and a three plane pattern conducting

15,000 operations. Alternative 2 involves conducting up to 45,000 E-2/C-2 FCLP operations annually at the WFF Main Base, which has three runways, only two of which meet the Navy's length requirements. Two operations scenarios were evaluated; scenario 1 would use runway 04/22 for day/night operations, scenario 2 would use runway 10/28 for day/night operations. Both Alternative 2 scenarios evaluate the three and five plane operating pattern. There is an additional option if both runways were utilized at the same time, which would allow operations to only be conducted in daytime hours.

EPA understands the purpose and need for the proposed action. As a result of our review of the Draft EA, EPA has some concerns and questions regarding the alternatives analysis, impacts to bird and bald eagle nests, and environmental justice. Detailed comments are provided an enclosure to this letter.

Thank you for providing EPA with the opportunity to review this project. If you have questions, regarding these comments, the staff contact for this project is Ms. Alaina DeGeorgio; he can be reached at 215-814-2741.

Sincerely,



Barbara Rudnick
NEPA Team Leader
Office of Environmental Programs

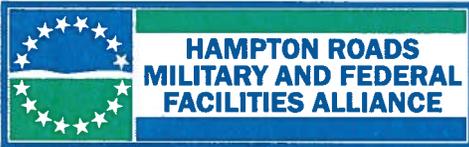
Enclosure

Enclosure
DEA FCLP at Emporia-Greenville and WFF

- The proposed action alternatives require the use of holding pattern locations. The holding pattern location at WFF is located outside of their restricted airspace. It is not clear that bird strikes, impacts or mortality was analyzed for the proposed actions, especially with respect to the holding pattern locations. This information is particularly important as WFF is located near an Important Bird Area and key bird migration route. Please include additional information about bird impacts in the Final EA. EPA understands that a BASH has been prepared and is utilized at WFF. Please clarify if BASH measures encompass the plane holding areas. Please discuss any analysis of alternative holding pattern locations, including any that are entirely outside of the Important Bird Area. Please continue to work with state and federal resource agencies in order to avoid and minimize impacts to bird populations. Include any steps or measures taken minimize impacts on bird populations and nearby bald eagle nesting sites. Discuss if any of the proposed holding areas at WFF are located above bald eagle nesting sites.
- What is the status of consultation with U.S. Fish and Wildlife Service on rare, threatened and endangered species? Please include this information in the Final EA.
- Page 3-20 of the EA states that WFF had 71 reported bird strikes. Also described are the BASH measures used at WFF, including lethal removal and habitat modifications. How frequently are these measures used? What are the results of the most recent bird and mammal surveys? Will changes to WFF's migratory bird depredation permits be required with the proposed increase in operations?
- While the BASH measures included in the EA may improve safety at WFF, it is not clear that the adverse impacts from increased operational capacity to bird populations, including nearby bald eagle nests, have been fully evaluated in the EA.
- The bird study area used in the EA analysis was the 65dB noise contour; please clarify why this was selected as the most appropriate study area for birds? Where areas shown on Figures 2-8 and 2-9 for holding areas considered for bird impacts, which appear to enter the Important Bird Area? It would add clarity to the document and bird impact analysis if impacts were analyzed where the accident potential areas and clear zones overlap with the Important Bird Area.
- The noise analysis in the EA concludes that noise impacts would not be significant because noise would be temporary and intermittent. While it is true that operations would not be continuous over all hours of the day and all days of the week, it is not clear why it is assumed that birds would be acclimated and accustom to the increased frequency of higher noise periods.
- The EA notes that under Alternative 2 planes would fly about 600 feet above ground level in the Wallops Island National Refuge. Clarify if this altitude is of concern for bird strikes over the Refuge.
- The alternatives analysis includes several other alternatives that were dismissed from consideration and the process used to contact interested airports that met the Navy's criteria. It is not clear however, why the other 6 airports that responded with interest were dismissed from further consideration. In addition, the process described for

identifying possible location did not include NASA's WFF. Please include in the EA how the WFF facility was located, or if other federal facilities were considered in the alternatives analysis. Clarifying this information would strengthen the EA's alternatives analysis.

- Environmental Justice- Page 3-73 of the noise analysis section for the WFF area notes the Chincoteague Bay Trails End private campground, which is a permanent trailer community. Please clarify how this community was considered in the Environmental Justice analysis. Is this area a community of concern? Is this community located in tract 902, block group 3, which is an environmental justice community of concern? Provide additional information on community outreach and engagement to potential environmental justice communities.
- Lighting- Page 3-82 of the EA states that communities would already be accustomed to seeing operations and the proposed operations would be temporary and intermittent. Although, nearby communities may be accustomed to the existing lights and operations, the proposed actions represent a large increase over baseline operations at both Emporia-Greenville Regional Airport and WFF Main Base. The frequency that operational conditions would occur would greatly increase above existing conditions. Although the proposed action is only a temporary solution to the overall long-term operational problem, the temporary solution by using either the Regional Airport or WFF could last for up to ten years. While the operations will not operate continuously throughout the day there could be up to four patterns lasting three hours per day, mostly operating on weekdays, operations would still increase greatly over existing operations.



October 12, 2012

The Honorable J. Randy Forbes
U. S. Congressman
9401 Courthouse Road, Suite 201
Chesterfield, Virginia 23832

The Honorable Scott Rigell
U. S. Congressman
23386 Front Street, P.O. Box 447
Accomac, Virginia 23301

Dear Congressmen:

This letter is written in support of the Navy's efforts to secure the use of a regional airport for Fleet Carrier Landing Practice (FCLP) for its E-2/C-2 turboprop aircraft that fly from Norfolk Naval Station's Chambers Field.

Training naval aviators is of critical importance to our nation's security. Flight operations from an aircraft carrier at sea are inherently dangerous, and require constant practice to maintain pilot proficiency. The Hampton Roads Military and Federal Facilities Alliance (HRMFFA) recognizes the limitations of local military airfields to support the volume of day and night practice required to maintain that proficiency.

In order to keep local aircrews from flying to remote airfields in Florida and elsewhere, we support the Navy's efforts to secure use of either the Emporia/Greenville Regional Airport or the airfield at NASA's Wallops Island Flight Facility for this training mission. Either of these locations would provide an effective, lower cost solution that would allow Navy aircrews to remain away from their families for less time, while still providing the needed training in a realistic environment.



The Honorable J. Randy Forbes
The Honorable Scott Rigell
October 12, 2012
Page 2

We realize that additional analysis and public dialogue needs to be conducted before a final decision is made in early 2013, but HRMFFA wants to go on record in support of one of these sites being chosen to provide the critical training that our Navy aircrews need to maintain their proficiency.

Sincerely,



Kenneth I. Wright
Chair

cc: Bill Wrobel, NASA Wallops Flight Facility
Charles Grigg, Emporia/Greenville Airport Commission



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

TDD (804) 698-4021

www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

October 18, 2012

E-2/C-2 FCLP Operations EA Project Manager
Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
Norfolk, Virginia 23508

RE: Draft Environmental Assessment for the E-2/C-2 Field Carrier Landing Practice Operations, Accomack County and Greensville County, DEQ 12-162F.

Dear Project Manager:

The Commonwealth of Virginia has completed its review of the September 2012 Draft Environmental Assessment (EA) for the E-2/C-2 Field Carrier Landing Practice Operations at the Emporia-Greensville Regional Airport, Greensville County, and the National Aeronautics and Space Administration Wallops Flight Facility, Accomack County. The Department of Environmental Quality (DEQ) is responsible for coordinating Virginia's review of federal environmental documents and responding to appropriate federal officials on behalf of the Commonwealth. DEQ is also responsible for coordinating Virginia's review of Federal Consistency Determinations (FCDs) submitted pursuant to the Coastal Zone Management Act (CZMA) and providing the state's response. The Commonwealth responded to the FCD submitted by the Navy for the proposed site in Accomack County on September 6, 2012 (reviewed under DEQ-12-136F), concurring with the finding that the proposed project is consistent to the maximum extent practicable with the enforceable policies of the Virginia Coastal Zone Management Program. The following agencies and planning district commission participated in the review of the EA for this proposal:

Department of Environmental Quality
Department of Historic Resources
Department of Aviation
Hampton Roads Planning District Commission

In addition, the Department of Conservation and Recreation, Department of Game and Inland Fisheries, Virginia Marine Resources Commission, Department of Agriculture and Consumer Services, Crater Planning District Commission, Accomack County and Greensville County were invited to comment on the proposal.

PROJECT DESCRIPTION

The Department of the Navy (Navy) has submitted an Environmental Assessment (EA) to evaluate the potential environmental consequences of a proposed action to conduct regular, scheduled E-2C Hawkeye, E-2D Advanced Hawkeye, and C-2A Greyhound (E-2/C-2) Field Carrier Landing Practice (FCLP) operations at an airfield located within 90 nautical miles of Naval Station (NS) Norfolk Chambers Field in the City of Norfolk. The Navy proposes to use the facilities at either Emporia-Greensville Regional Airport (Emporia-Greensville) or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's Wallops Flight Facility (WFF) until the Navy addresses local FCLP capacity shortfalls on a more permanent basis. The EA evaluates two action alternatives for conducting E-2/C-2 FCLP operations, as well as a No Action Alternative. The two action alternatives include up to 45,000 annual operations at Emporia-Greensville (Alternative 1) and up to 45,000 annual operations at WFF (Alternative 2). E-2/C-2 squadrons typically conduct FCLP operations during a three-hour period and can conduct these periods up to twice per day (one day and one night period). Depending on scheduling and training requirements, operations can be conducted between 15 and 20 days in a given month, throughout the year. New infrastructure would be installed at the airfield under the proposed action, including:

- painted simulated carrier decks with flush-deck lighting at the ends of each runway approach;
- small concrete pads for placement of Navy equipment; and
- new electrical and phone connections for Navy equipment.

A new fenced storage area would also be installed at Emporia-Greensville.

CONCLUSION

Based on the information provided in the Draft Environmental Assessment and comments from reviewers, the Commonwealth has no objections to the alternatives as proposed. Provided activities are performed in accordance with the recommendations which follow in the Impacts and Mitigation section of this report, this proposal is unlikely to have significant effects on ambient air quality, important farmland, forest resources, and wetlands. It is unlikely to adversely affect species of plants or insects listed by state agencies as rare, threatened, or endangered.

However, the staff at the Hampton Roads Planning District Commission recognizes that the Southampton County Board of Supervisors has expressed concerns with the environmental, safety, and environmental justice consequences of the proposed project. HRPDC recommends that the Department of the Navy work with the localities affected by the proposed project to mitigate any adverse impacts as feasible.

ENVIRONMENTAL IMPACTS AND MITIGATION

1. Surface Waters and Wetlands. According to the EA (page 3-83), no surface waters exist within the boundary of Emporia-Greensville Regional Airport. The document (page 3-87) states that Wattsville Branch traverses WFF west of Runway 10/28. Surface waters on the northern and western portions of the facility flow into Little Mosquito Creek and Wattsville Branch, respectively, while surface waters on the eastern and southern portions of the facility flow to Mosquito Creek, Jenneys Gut, and Simoneaston Bay east of the facility. The EA concludes that there would be no direct impacts on surface waters from construction of concrete pads or installation of underground utility lines at Emporia-Greensville or WFF.

The EA (page 3-84) states that five wetlands, encompassing approximately 5.2 acres, have been identified by the National Wetlands Inventory at the Emporia-Greensville Airport. Approximately 376 acres of wetlands, classified into five different wetland types, have been identified by the National Wetlands Inventory at the WFF Main Base. The EA concludes that no new construction is proposed within wetlands at either alternative site. Therefore, there would be no direct impacts on wetlands

1(a) Agency Jurisdiction. The State Water Control Board (SWCB) promulgates Virginia's water regulations, covering a variety of permits to include Virginia Pollutant Discharge Elimination System (VPDES) Permit, Virginia Pollution Abatement Permit, Surface and Groundwater Withdrawal Permit, and the Virginia Water Protection Permit (VWPP). The VWPP is a state permit which governs wetlands, surface water, and surface water withdrawals/impoundments. It also serves as § 401 certification of the federal *Clean Water Act* § 404 permits for dredge and fill activities in waters of the U.S. The VWPP Program is under the Office of Wetlands and Water Protection/Compliance, within the DEQ Division of Water Quality Programs. In addition to central office staff that review and issue VWP permits for transportation and water withdrawal projects, the seven DEQ regional offices perform permit application reviews and issue permits for the covered activities.

1(b) Agency Findings.

(i) Emporia-Greensville

The VWPP program at the DEQ Piedmont Regional Office (PRO) did not indicate that the proposed action would impact surface water or wetlands at Emporia-Greensville.

(ii) Wallop Flight Facility

According to the VWPP program at the DEQ Tidewater Regional Office, as depicted and described in the EA, the project will not impact surface waters (including wetlands). If the proposed project does not impact surface waters then VWPP authorization is not required.

1(c) Recommendations. DEQ-PRO offers the following recommendations for the protection of water quality:

- Implement and maintain erosion and sediment controls throughout all phases of construction. Erosion and sediment controls and Best Management Practices (BMPs) should be inspected and repaired, if necessary, before and after rain events. Follow all standards and specifications under the Department of Conservation and Recreation's *Erosion and Sediment Controls Handbook* (1992, 3rd Edition).
- Maximize pervious surface areas and green spaces in the construction design to reduce runoff and the environmental impact associated with urban runoff.

1(d) Conclusion. DEQ-TRO concludes that, should the project scope change and surface water or wetland impacts are proposed, provided all necessary VWPPs are obtained and complied with, this project will be consistent with the requirements of the VWPP program.

For additional information regarding the VWPP program, contact DEQ-PRO, Allison Dunaway at (804) 527-5086 or DEQ-TRO, Bert Parolari at (757) 518-2166.

2. Erosion and Sediment Control, and Stormwater Management. According to the EA (page 3-86), the proposed construction would disturb less than 1 acre; therefore, a stormwater construction permit and Stormwater Pollution Prevention Plan would not be required at either site. However, an Erosion and Sediment Control Plan would be necessary because the land disturbance would exceed 10,000 square feet (0.23 acre).

2(a) Agency Jurisdiction. The Department of Conservation and Recreation (DCR) Division of Stormwater Management (DSM) administers the *Virginia Erosion and Sediment Control Law and Regulations (VESCL&R)* and *Virginia Stormwater Management Law and Regulations (VSWML&R)*.

2(b) Requirements.

(i) Erosion and Sediment Control and Stormwater Management Plans

The Navy and its authorized agents conducting regulated land-disturbing activities on private and public lands in the state must comply with *VESCL&R* and *VSWML&R*, including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean

Water Act-Section 313, federal consistency under the Coastal Zone Management Act).

Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbing activities that result in land disturbance equal to or greater than 10,000 square feet would be regulated by *VESCL&R*. Accordingly, the Navy must prepare and implement an erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan is submitted to the DCR Regional Office that serves the area where the project is located for review for compliance. The Navy is ultimately responsible for achieving project compliance through oversight of on site contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: *VESCL* §10.1-567]

(ii) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities

DCR is responsible for the issuance, denial, revocation, termination and enforcement of the Virginia Stormwater Management Program (VSMP) General Permit for Stormwater Discharges from Construction Activities related to municipal separate storm sewer systems (MS4s) and construction activities for the control of stormwater discharges from MS4s and land disturbing activities under the Virginia Stormwater Management Program.

Therefore, the operator or owner conducting land-disturbing activities equal to or greater than one acre is required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project-specific Stormwater Pollution Prevention Plan. Construction activities requiring registration also includes land disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan of development will ultimately disturb equal to or greater than one acre. The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the VSMP *Permit Regulations*. General information and registration forms for the General Permit are available on DCR's website at:

http://www.dcr.virginia.gov/stormwater_management/vsmp.shtml. [Reference: Virginia Stormwater Management Act §10.1-603.1 *et seq.*; VSMP Permit Regulations 4 VAC-50 *et seq.*]

3. Chesapeake Bay Preservation Areas. The EA does not discuss potential project impacts to Chesapeake Bay Preservation Areas.

3(a) Agency Jurisdiction. DCR's Division of Stormwater Management, Local Implementation (LI) (formerly the Division of Chesapeake Bay Local Assistance) administers the coastal lands management enforceable policy of the VCP which is governed by the *Chesapeake Bay Preservation Act (Bay Act)* (*Virginia Code* §10.1-2100-10.1-2114) and *Chesapeake Bay Preservation Area Designation and Management Regulations (Regulations)* (9 VAC 10-20 *et seq.*).

3(b) Agency Response. DCR-DSM-LI did not respond to our request for comments on the proposal. However, the Emporia-Greensville Airport is not located in a designated Chesapeake Bay Preservation Area locality. In addition, DCR did not indicate in its previous response to the Federal Consistency Determination that the project would impact CBPAs at WFF in Accomack County.

For additional information, contact DCR-DSM-LI, Shawn Smith at (804) 371-0609.

4. Air Emissions. According to the EA (page 3-24 and 3-26), both temporary construction emissions and annual operating emissions are projected to be between 0.01 and 63.34 tons per year at Emporia-Greensville and 0.01 and 64.01 tons per year at WFF. Therefore, the EA concludes that the project would have no significant impact on air quality in the regions.

4(a) Agency Jurisdiction. DEQ's Air Quality Division, on behalf of the State Air Pollution Control Board, is responsible to develop regulations that become Virginia's *Air Pollution Control Law*. DEQ is charged to carry out mandates of the state law and related regulations as well as Virginia's federal obligations under the *Clean Air Act* as amended in 1990. The objective is to protect and enhance public health and quality of life through control and mitigation of air pollution. The division ensures the safety and quality of air in Virginia by monitoring and analyzing air quality data, regulating sources of air pollution, and working with local, state and federal agencies to plan and implement strategies to protect Virginia's air quality. The appropriate regional office is directly responsible for the issue of necessary permits to construct and operate all stationary sources in the region as well as to monitor emissions from these sources for compliance. As a part of this mandate, the environmental documents of new projects to be undertaken in the state are also reviewed. In the case of certain projects, additional evaluation and demonstration must be made under the general conformity provisions of state and federal law.

4(b) Agency Findings. According to the DEQ Air Division, both alternative sites are located in ozone (O₃) attainment areas.

4(c) Recommendation. The Navy should take all reasonable precautions to limit emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), principally by controlling or limiting the burning of fossil fuels.

4(d) Requirements.

(i) Fugitive Dust

During construction, fugitive dust must be kept to a minimum by using control methods outlined in 9 VAC 5-50-60 *et seq.* of the *Regulations for the Control and Abatement of Air Pollution*. These precautions include, but are not limited to, the following:

- Use, where possible, of water or chemicals for dust control;
- Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials;
- Covering of open equipment for conveying materials; and
- Prompt removal of spilled or tracked dirt or other materials from paved streets and removal of dried sediments resulting from soil erosion.

(ii) Open Burning

If project activities include the open burning or use of special incineration devices for the disposal of land clearing debris, this activity must meet the requirements of 9 VAC 5-130-10 through 9 VAC 5-130-60 and 9 VAC 5-130-100 of the *Regulations* for open burning, and it may require a permit. The *Regulations* provide for, but do not require, the local adoption of a model ordinance concerning open burning. The Navy should contact Greensville County or Accomack County officials to determine what local requirements, if any, exist.

For additional information regarding air comments, contact the DEQ Office of Air Data Analysis, Kotur Narasimhan at (804) 698-4415.

5. Solid Wastes and Hazardous Materials. According to the EA (page xviii), no aircraft or personnel would be permanently stationed or home-based at Emporia-Greensville. Therefore, the Navy would not have a need to store any oil or hazardous materials at the airfield. The Navy would follow established procedures for the management of hazardous materials and hazardous waste at the WFF site and conform to the WFF Pollution Prevention Plan. The increase in solid waste at WFF would be negligible.

5(a) Agency Jurisdiction. Solid and hazardous wastes in Virginia are regulated by the Virginia Department of Environmental Quality, the Virginia Waste Management Board (VWMB) and the U.S. Environmental Protection Agency. They administer programs created by the federal Resource Conservation and Recovery Act, Comprehensive Environmental Response Compensation and Liability Act, commonly called Superfund, and the Virginia Waste Management Act. DEQ administers regulations established by the VWMB and reviews permit applications for completeness and conformance with facility standards and financial assurance requirements. All Virginia localities are required, under the Solid Waste Management Planning Regulations, to identify the strategies they will follow on the management of their solid wastes to include items such as facility siting, long-term (20-year) use, and alternative programs such as materials recycling and composting.

5(b) Agency Findings. DEQ's Division of Land Protection and Restoration (DLPR) conducted a cursory review of DEQ database files including a GIS database search (half mile radius) of the alternative sites. No waste sites of concern were identified near the Emporia-Greensville sites. Waste sites located within the same zip code as the

WFF included a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) site, Resource Conservation and Recovery Act (RCRA) hazardous waste sites and Formerly Used Defense Sites (FUDS). A list of these sites is attached to this response.

5(c) Recommendations.

(i) Comprehensive Environmental Response, Compensation and Liability Act Sites

DEQ's Federal Facilities Restoration Program recommends that the project contractor contact the NASA Wallops Flight Facility Environmental Program Manager for information concerning CERCLA obligations at this installation. The consultation should be conducted prior to initiating any land, sediment, or groundwater disturbing activities associated with the construction of the project.

(ii) Pollution Prevention

DEQ-DLRP recommends the implementation of pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

(iii) Databases

The following websites may be accessed to locate additional information on identified waste sites:

<http://www.epa.gov/superfund/sites/cursites/index.htm>,
http://www.epa.gov/enviro/html/rcris/rcris_query_java.html and
<http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx>.

5(d) Requirements.

(i) Waste Management

Any wastes that are generated during construction-related activities must be tested and disposed of in accordance with applicable federal, state, and local laws and regulations. All construction and demolition waste must be characterized in accordance with the *Virginia Hazardous Waste Management Regulations* and disposed of at an appropriate facility as applicable.

(ii) Asbestos-containing Material and Lead-based Paint

All structures being demolished, renovated, or removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned

above, state regulations 9 VAC 20-81-620 for ACM and 9 VAC 20-60-261 for LBP must be followed.

If you have any other questions or need further information, contact DEQ-DLPR, Steve Coe at (804) 698-4029.

6. Herbicides and Pesticides. DEQ recommends that the use of herbicides or pesticides for construction or landscape maintenance be in accordance with the principles of integrated pest management. The least toxic pesticides that are effective in controlling the target species should be used. Contact the Department of Agriculture and Consumer Services at (804) 786-3501 for more information.

7. Natural Heritage Resources. According to the EA (page 3-91), correspondence from the Virginia Department of Conservation, Division of Natural Heritage (DNH) (Appendix A, Agency Consultation), indicates that no natural heritage resources occur in proximity to the Emporia-Greensville alternative site. The EA (page 3-98) states that DCR-DNH has indicated the occurrence of two conservation sites on the WFF Main Base; Little Mosquito Creek Conservation Site and Wallops Island Seeps Conservation Site. The document concludes that the project would have no significant impact on the conservation sites because no construction would occur in those sites.

7(a) Agency Jurisdiction.

(i) Department of Conservation and Recreation

The mission of the Virginia Department of Conservation and Recreation is to conserve Virginia's natural and recreational resources. DCR supports a variety of environmental programs organized within seven divisions including the Division of Natural Heritage. The Natural Heritage Program's (DCR-DNH) mission is conserving Virginia's biodiversity through inventory, protection, and stewardship. The *Virginia Natural Area Preserves Act*, 10.1-209 through 217 of the *Code of Virginia*, was passed in 1989 and codified DCR's powers and duties related to statewide biological inventory: maintaining a statewide database for conservation planning and project review, land protection for the conservation of biodiversity, and the protection and ecological management of natural heritage resources (the habitats of rare, threatened, and endangered species, significant natural communities, geologic sites, and other natural features).

(ii) Department of Agriculture and Consumer Services

The Endangered Plant and Insect Species Act of 1979, Chapter 39, §3.1-102- through 1030 of the *Code of Virginia*, as amended, authorizes the Virginia Department of Agriculture and Consumer Services (VDACS) to conserve, protect and manage endangered species of plants and insects. The VDACS Virginia Endangered Plant and Insect Species Program personnel cooperates with the U.S. Fish and Wildlife Service, DCR-DNH and other agencies and organizations on the recovery, protection or conservation of listed threatened or endangered species and designated plant and

insect species that are rare throughout their worldwide ranges. In those instances where recovery plans, developed by the U.S. Fish and Wildlife Service, are available, adherence to the order and tasks outlines in the plans are followed to the extent possible.

7(b) Agency Response. DCR-DNH did not respond to our request for comments on the proposal. However, the following information was included in DCR-DNH's previous response to the Federal Consistency Determination submitted for the WFF alternative in Accomack County.

(i) Little Mosquito Creek Conservation Site

According to the information currently in DCR files, the Little Mosquito Creek Conservation Site is located within the project area. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support.

Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Little Mosquito Creek Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

| | | |
|---------------------------------|-------------------------|----------------------|
| | Tidal Oligohaline Marsh | (G3/SNR/NL/NL) |
| <i>Haliaeetus leucocephalus</i> | Bald eagle | (G5/S2S3B,S3N/NL/LT) |

The Tidal Oligohaline Marsh (Beaked Spikerush-Saltmeadow Cordgrass Estuarine Fringe Type) association is an irregularly flooded oligohaline marsh ranging discontinuously along the coast from Massachusetts to the Eastern Shore of Virginia. It is quite rare in Virginia, where it is apparently restricted to narrow bands at the upper extent of tidal influence and adjacent to upland edges, where groundwater seepage dilutes tidal waters, producing oligohaline conditions. The vegetation is heavily dominated by beaked spikerush (*Eleocharis rostellata*), growing in association with saltmeadow cordgrass (*Spartina patens*), which is usually second in abundance. Narrow-leaved loosestrife (*Lythrum lineare*) and small shrubs of marsh-elder (*Iva frutescens*) are constant minor associates.

The bald eagle breeds from Alaska eastward through Canada and the Great Lakes region, along coastal areas off the Pacific and Atlantic Oceans, and the Gulf of Mexico, and in pockets throughout the western United States (NatureServe, 2009). In Virginia, it primarily breeds along the large Atlantic slope rivers (James, Rappahannock, Potomac, etc) with a few records at inland sites near large reservoirs (Byrd, 1991). Bald eagle nest sites are often found in the midst of large wooded areas near marshes or other bodies of water (Byrd, 1991). Bald eagles feed on fish, waterfowl, seabirds

(Campbell *et al.*, 1990), various mammals and carrion (Terres, 1980). This species is currently classified as threatened by the Virginia Department of Game and Inland Fisheries. Threats to this species include human disturbance of nest sites (Byrd, 1991), habitat loss, biocide contamination, decreasing food supply and illegal shooting (Herkert, 1992).

(ii) Wallops Island Seeps Conservation Site

The Wallops Island Seeps Conservation Site is located within the project area. Wallops Island Seeps Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resources of concern at this site are:

| | | |
|---|---------------|--------------|
| <i>Crocantemum propinquum</i> (formerly <i>Helianthemum propinquum</i>) | Low frostweed | G4/S1/NL/NL |
| Coastal Plain/Outer Piedmont Seepage Bog | | G2/S1/SOC/NL |

Low frostweed is a perennial rhizomatous herb in the rock-rose family (Cistaceae). A plant of sandy, dry soil found from New England south through western North Carolina into Tennessee, in Virginia low frostweed has been documented, mostly historically, from a few locations in open, disturbed habitat scattered from the Outer Coastal Plain, Northern Piedmont, and Ridge and Valley regions. Clusters of 2-6 yellow, 5-petaled flowers arise from June-July on the scattered, alternate-leaved stems (Gleason and Cronquist 1991); self-pollinating flowers lacking petals arise later from July-September (Weakley, A. In prep.). Surveys should be conducted during the June-July blooming period of the earlier flowers as later season plants can be difficult to identify (Virginia Botanical Associates 2011). Threats include habitat destruction, herbicides, and succession to shadier habitat.

The Coastal Plain/Outer Piedmont Seepage Bog is currently known from the inner Coastal Plain from central and southern Maryland to southeastern Virginia (NatureServe, 2011). The saturated shrub and herbaceous vegetation of this group occupies oligotrophic spring-heads, seepage slopes, and less frequently small, headwater stream bottoms. Sites are scattered throughout the Coastal Plain (except the maritime zone) and outer Piedmont, typically on lower or toe slopes, where groundwater is forced to the surface by impermeable clay layers. Surficial soils are usually peaty or sandy, very acidic, infertile, and covered by dense mats of *sphagnum* mosses. Natural examples of these communities have nearly been extirpated by decades of fire exclusion, hydrologic alterations (ditching, draining, and impoundments), or outright destruction. The elimination of fire as an ecological process has allowed many former bogs to become overgrown with shrubs and trees (Fleming, *et al.*, 2012). The most "natural" occurrences of this vegetation are now restricted to military base impact areas and dedicated natural areas that are burned frequently. Compositionally identical vegetation is more common where artificially maintained powerline rights-of-way intersect small streams and swales (NatureServe, 2011). The vegetation of seepage bogs is usually a mosaic of scattered trees, shrub patches, and graminoid-

dominated herbaceous patches. Typical woody species include sweetbay (*Magnolia virginiana*), poison sumac (*Toxicodendron vernix*), highbush blueberries (*Vaccinium corymbosum*, *Vaccinium fuscatum*, and *Vaccinium formosum*), possum-haw (*Viburnum nudum*), and smooth alder (*Alnus serrulata*). Among the most abundant herbaceous species, are twisted spikerush (*Eleocharis tortilis*), beakrushes (*Rhynchosporasp.*), narrow-leaved bluestem (*Andropogon perangustatus*), panic grasses (*Dichanthelium dichotomum* var. *dichotomum* and var. *ensifolium*), hairy umbrella-sedge (*Fuirena squarrosa*), meadow-beauties (*Rhexia mariana* var. *mariana*, *Rhexia nashii*, and *Rhexia petiolata*), clubmosses (*Lycopodiella alopecuroides* and *Lycopodiella appressa*), sundews (*Drosera brevifolia*, (*Drosera capillaris*), and *Drosera rotundifolia* var. *rotundifolia*), tawny cotton-grass (*Eriophorum virginicum*), bushy bluestem (*Andropogon glomeratus* var. *glomeratus*), Nuttall's reed-grass (*Calamagrostis coarctata*), yellow-eyed-grasses (*Xyris* spp.), yellow milkwort (*Polygala lutea*), and vervain thoroughwort (*Eupatorium pilosum*). Widely scattered, but nevertheless diagnostic, species of these bogs include red milkweed (*Asclepias rubra*), Rafinesque's seedbox (*Ludwigia hirtella*), large white fringed orchid (*Platanthera blephariglottis* var. *conspicua*), crossleaf milkwort (*Polygala cruciata*), purple pitcher-plant (*Sarracenia purpurea* ssp. *venosa* and ssp. *purpurea*), and large-flowered camas (*Zigadenus glaberrimus*). A large number of state-rare plants and several state-rare odonates (dragonflies and damselflies) are associated with seepage bogs (Fleming, *et al.*, 2012).

(iii) Threatened and Endangered Plant and Insect Species

VDACS has regulatory authority to conserve rare and endangered plant and insect species through the Virginia Endangered Plant and Insect Species Act. Under a Memorandum of Agreement established between VDACS and DCR, DCR has the authority to report for VDACS on state-listed plant and insect species. DCR finds that the current activity will not affect any documented state-listed plants or insects.

(iv) State Natural Area Preserves

DCR files do not indicate the presence of any State Natural Area Preserves under the agency's jurisdiction in the project vicinity.

7(c) Recommendations.

- Avoid any hard surface impacts or runoff to the area indicated on the enclosed map to minimize impacts to the documented occurrences of natural heritage resources within or adjacent to the project area.
- Implement and strictly adhere to applicable state and local erosion and sediment control and stormwater management laws and regulations to minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities.
- Contact DCR-DNH at (804) 786-7951 to secure updated information on natural heritage resources if a significant amount of time passes before the project is implemented. New and updated information is continually added to the Biotics Data System.

8. Wildlife Resources and Protected Species. According to the EA (page 3-96), implementation of Emporia-Greensville alternative would have no significant impact on wildlife/birds from temporary construction. In addition, noise associated with aircraft operations would have no significant impact on wildlife/birds for the duration of the Navy's proposed action. The EA concludes that implementation of the Emporia-Greensville alternative would have no effect and no significant impact on listed threatened or endangered species.

The EA (page 3-105) states that there would be no significant impacts to marine mammals from construction activities at the WFF alternative site. Implementation of the WFF alternative would have no significant impact on wildlife/birds from temporary construction. In addition, noise associated with aircraft operations would have no significant impact on wildlife/birds for the duration of the Navy's proposed action. The EA concludes that implementation of the WFF alternative would have no effect and no significant impact on listed threatened or endangered species.

8(a) Agency Jurisdiction. The Department of Game and Inland Fisheries (DGIF), as the Commonwealth's wildlife and freshwater fish management agency, exercises enforcement and regulatory jurisdiction over wildlife and freshwater fish, including state or federally listed endangered or threatened species, but excluding listed insects (*Virginia Code* Title 29.1). The DGIF is a consulting agency under the *U.S. Fish and Wildlife Coordination Act* (16 U.S.C. sections 661 *et seq.*), and provides environmental analysis of projects or permit applications coordinated through DEQ and several other state and federal agencies. DGIF determines likely impacts upon fish and wildlife resources and habitat, and recommends appropriate measures to avoid, reduce, or compensate for those impacts.

8(b) Agency Findings. DGIF did not respond to our request for comments on the proposal. However, DGIF previously responded to the Federal Consistency Determination submitted for the WFF alternative in Accomack County which also included an analysis of the Emporia-Greensville alternative.

(i) Wallops Main Base Alternative

According to DGIF records, the state-listed Threatened bald eagle and colonial waterbird colonies have been documented from within two miles of the airport located on the Wallops Flight Facility main base. Assuming no new construction is proposed beyond the boundaries of the airport, it appears the project site is located outside the management zones for the nearby bald eagle nests and any protective boundaries around the colonial waterbird colonies. However, indirect impacts upon bald eagles or the waterbirds known from the area may result from the increase in air traffic, changes in flight patterns and/or changes in flight altitudes.

(ii) Emporia-Greensville Alternative

According to DGIF records, the Meherrin River is located within two miles of the Emporia-Greensville Regional Airport and has been designated a Threatened and Endangered Species Water due to the presence of the state-listed Threatened green floater. Assuming no land disturbance is necessary to accommodate additional flights at the existing airport, DGIF does not anticipate the additional of flights from the airport to result in adverse impacts upon the green floater.

8(c) Recommendations.

- Address the potential for any indirect impacts upon bald eagles or waterbirds due to increases in air traffic, changes in flight patterns and/or changes in flight altitudes at WFF.
- Coordinate with the US Fish and Wildlife Service (USFWS) regarding possible operational impacts at WFF upon colonial waterbirds.
- Coordinate with DGIF and the USFWS to ensure the protection of listed wildlife and resources known from the project area if construction is necessary to accommodate new flights at WFF.
- Coordinate with DGIF to ensure protection of green floaters and other wildlife resources if construction at the Emporia-Greensville Airport or surrounding area is necessary.

For additional information, contact DGIF, Amy Ewing at (804) 367-2211.

9. Historic Structures and Archaeological Resources. According to the EA (page 3-110), the Virginia State Historic Preservation Officer (SHPO) concurred in a January 5, 2012 letter with the Navy's determination that the proposed action at the Emporia-Greensville alternative would have no effect on National Register of Historic Places-eligible properties pursuant to 36 CFR Part 800.

In addition, the document (page 3-113) states that on January 17, 2012 the Virginia SHPO concurred with the Navy's determination that the proposed action at the WFF alternative would have no effect on National Register of Historic Places-eligible properties; therefore, the proposed action would have no significant impact on cultural resources.

9(a) Agency Jurisdiction. The Department of Historic Resources conducts reviews of projects to determine their effect on historic structures or cultural resources under its jurisdiction. DHR, as the designated State's Historic Preservation Office (SHPO), ensures that federal actions comply with Section 106 of the *National Historic Preservation Act of 1966 (NHPA)*, as amended, and its implementing regulation at 36 CFR Part 800. The *NHPA* requires federal agencies to consider the effects of federal projects on properties that are listed or eligible for listing on the National Register of Historic Places. Section 106 also applies if there are any federal involvements, such as licenses, permits, approvals or funding.

9(b) Agency Comments. DHR confirms that no historic properties will be affected by the project at either alternative site.

For additional information or coordination, contact DHR, Marc Holma at (804) 482-6090.

10. Aviation Impacts.

10(a) Agency Jurisdiction. The Virginia Department of Aviation's (DoAv) Airport Services Division provides airport sponsors and managers with technical assistance on a wide range of projects and issues, including the planning, design, construction and maintenance of airport facilities. The division manages funding programs for capital improvements, facilities and equipment, airport maintenance projects, and airport security; the General Aviation Voluntary Security Certification Program; the licensing program for public-use airports; and the registration program for private-use airports. This division conducts statewide aviation system planning and maintains the Virginia Air Transportation System Plan.

10(b) Agency Findings. DoAv understands the purpose and need for the proposed action and believes that by pursuing this plan many issues that the Navy faces will be resolved as it seeks an interim solution to the capacity limitations that exist at Naval Auxiliary Landing Field (NALF) Fentress. The proposed action may reduce or eliminate the need for out-of-area FCLP detachments and offer a reasonable means to mitigate capacity and scheduling issues at NALF Fentress.

10(c) Conclusion. DoAv concludes that the alternatives examined should not produce any significant impacts based on the evaluation in the EA. DoAv staff is available to assist the Navy with this proposal as appropriate.

For additional information, contact DoAv, Rusty Harrington at (804) 236-3632, ext. 106.

11. Regional Concerns.

11(a) Jurisdiction. In accordance with the Code of Virginia, Section 15.2-4207, planning district commissions encourage and facilitate local government cooperation and state-local cooperation in addressing, on a regional basis, problems of greater than local significance. The cooperation resulting from this is intended to facilitate the recognition and analysis of regional opportunities and take account of regional influences in planning and implementing public policies and services. Planning district commissions promote the orderly and efficient development of the physical, social and economic elements of the districts by planning, and encouraging and assisting localities to plan, for the future.

11(b) Regional Comments. The Hampton Roads Planning District Commission reviewed the EA and consulted with Southampton County (adjacent to Greensville

County) regarding the project. According to the PDC, the project appears to be consistent with local and regional plans and policies. However, HRPDC staff recognizes that the Southampton County Board of Supervisors has expressed concerns with the environmental, safety, and environmental justice consequences of the proposed project.

11(c) Recommendation. HRPDC recommends that the Department of the Navy work with the localities affected by the proposed project to mitigate any adverse impacts as feasible.

For additional information, contact HRPDC, John Carlock at (757) 420-8300.

12. Pollution Prevention. DEQ advocates that principles of pollution prevention be used in all construction projects as well as in facility operations. Effective siting, planning, and on-site Best Management Practices (BMPs) will help to ensure that environmental impacts are minimized. However, pollution prevention techniques also include decisions related to construction materials, design, and operational procedures that will facilitate the reduction of wastes at the source.

12(a) Recommendations. We have several pollution prevention recommendations that may be helpful in the construction of this project and in the operation of the facility:

- Consider development of an effective Environmental Management System (EMS). An effective EMS will ensure that the facility is committed to minimizing its environmental impacts, setting environmental goals, and achieving improvements in its environmental performance. DEQ offers EMS development assistance and it recognizes facilities with effective Environmental Management Systems through its Virginia Environmental Excellence Program.
- Consider environmental attributes when purchasing materials. For example, the extent of recycled material content, toxicity level, and amount of packaging should be considered and can be specified in purchasing contracts.
- Consider contractors' commitment to the environment (such as an EMS) when choosing contractors. Specifications regarding raw materials and construction practices can be included in contract documents and requests for proposals.
- Choose sustainable materials and practices for infrastructure construction and design. These could include asphalt and concrete containing recycled materials, and integrated pest management in landscaping, among other things.

DEQ's Office of Pollution Prevention provides information and technical assistance relating to pollution prevention techniques and EMS. For more information, contact DEQ's Office of Pollution Prevention, Sharon Baxter at (804) 698-4344.

REGULATORY AND COORDINATION NEEDS

1. Nonpoint Source Pollution Control.

1(a) Erosion and Sediment Control and Stormwater Management Plans. The Navy must ensure that it is in compliance with *Virginia's Erosion and Sediment Control Law* (Virginia Code 10.1-567) and *Regulations* (4 VAC 50-30-30 *et seq.*) and *Stormwater Management Law* (Virginia Code 10.1-603.5) and *Regulations* (4 VAC 3-20-210 *et seq.*). Activities that disturb greater than 10,000 square feet would be regulated by *VESCL&R* and *VSWML&R*. The Navy is encouraged to contact DCR's Suffolk Regional Office at (757) 925-2468, for assistance with developing or implementing an ESC plan to ensure project conformance.

1(b) Virginia Stormwater Management Program General Permit for Stormwater Discharges from Construction Activities. For projects involving land-disturbing activities of equal to or greater than one acre, the Navy is required to develop a project-specific stormwater pollution prevention plan and apply for registration coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities (*VSMP Permit Regulations* 4 VAC-50 *et seq.*). Specific questions regarding the Stormwater Management Program requirements should be directed to Holly Sepety, DCR, at (804) 225-2613.

2. Air Pollution Control. This project is subject to air pollution control regulations administered by the Department of Environmental Quality. The following sections of the Code of Virginia and Virginia Administrative Code are applicable:

- 9 VAC 5-50-60 *et seq.* governing fugitive dust emissions; and
- 9 VAC 5-130 *et seq.*, for open burning.

Guidance on minimizing the emission of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) during construction may be obtained from DEQ-TRO. For additional information, contact DEQ-PRO (for Greensville County), James Kyle at (804) 527-5047 or DEQ-TRO (for Accomack County), Troy Breathwaite at (757) 518-2006.

3. Solid and Hazardous Wastes. All solid waste, hazardous waste, and hazardous materials must be managed in accordance with all applicable federal, state, and local environmental regulations. Some of the applicable state laws and regulations are:

- *Virginia Waste Management Act* (Code of Virginia Section 10.1-1400 *et seq.*);
- *Virginia Hazardous Waste Management Regulations (VHWMP)* (9 VAC 20-60);
- *Virginia Solid Waste Management Regulations (VSWMP)* (9 VAC 20-81); and
- *Virginia Regulations for the Transportation of Hazardous Materials* (9 VAC 20-110).

Some of the applicable Federal laws and regulations are:

- *Resource Conservation and Recovery Act (RCRA)* (42 U.S.C. Section 6901 *et seq.*);
- Title 40 of the Code of Federal Regulations; and
- U.S. Department of Transportation Rules for Transportation of Hazardous materials (49 CFR Part 107).

For additional information, contact DEQ-PRO (for Greensville County), Jason Miller at (804) 527-5028 or DEQ-TRO (for Accomack County), Milt Johnston at (757) 518-2151.

3(a) Comprehensive Environmental Response Compensation and Liability Act.

The Navy should contact the NASA Wallops Flight Facility Environmental Program Manager, Theodore J. Meyer at (757) 824-1987 for information concerning CERCLA obligations at this installation.

3(b) Asbestos Containing Material. It is the responsibility of the owner or operator to thoroughly inspect affected structures for the presence of asbestos, including Category I and Category II nonfriable asbestos containing material (ACM). Upon classification as friable or non-friable, all waste ACM shall be disposed of in accordance with the Virginia Solid Waste Management Regulations (9 VAC 20-80-640), and transported in accordance with the Virginia regulations governing Transportation of Hazardous Materials (9 VAC 20-110-10 *et seq.*). Contact the DEQ Division of Land Protection and Revitalization (formerly the Waste Division), Linda Richardson at (804) 698-4318 and the Department of Labor and Industry, Ronald L. Graham (804) 786-0574 for additional information.

3(c) Lead-Based Paint. If applicable, this project must comply with the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) regulations, and with the Virginia Lead-Based Paint Activities Rules and Regulations. For additional information regarding these requirements contact the Department of Professional and Occupational Regulation, David Dick at (804) 367-8588.

4. Natural Heritage Resources. Contact DCR-DNH at (804) 786-7951 to secure updated information on natural heritage resources if a significant amount of time passes before the construction is initiated.

5. Wildlife Resources and Protected Species. Contact DGIF, Amy Ewing at (804) 367-2211 and the U.S. Fish and Wildlife Service, Virginia Field Office at (804) 693-6694 to ensure protection of listed wildlife resources in the project areas.

Thank you for the opportunity to review the Draft Environmental Assessment for the E-2/C-2 Field Carrier Landing Practice Operations in Accomack County and Greensville County. Detailed comments of reviewing agencies are attached for your review. Please contact Ellie Irons at (804) 698-4325 or John Fisher at (804) 698-4339 for clarification of these comments.

Sincerely,



Richard F. Weeks, Chief Deputy Director

Enclosures

- Ec:** Cindy Keltner, DEQ-TRO
Kelley West, DEQ-PRO
Steve Coe, DEQ-DLPR
Kotur Narasimhan, DEQ-Air
Tony Watkinson, VMRC
Robbie Rhur, DCR
Amy Ewing, DGIF
Keith Tignor, VDACS
Roger Kirchen, DHR
Rusty Harrington, DoAv
- Cc:** Steven Miner, Accomack County
David, Whittington, Greensville County
John Carlock, HRPDC
Dennis Morris, CPDC

**MEMORANDUM
DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office**

4949-A Cox Road

Glen Allen, VA 23060

804/527-5020

To: John Fisher
Environmental Program Planner

From: Kelley West
Environmental Planner

Date: October 10, 2012

Subject: E-2/C-2 Field Carrier Landing Practice Operations (12-162F).

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OCT 10 2012

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I have reviewed the Environmental Assessment for the above referenced project at the Emporia-Greenville Regional Airport. The proposed Alternative in Emporia-Greenville includes 45,000 annual operations by the Navy, My comments are as follows:

Water: As addressed in the environmental assessment erosion and sediment controls should be properly implemented and maintained throughout all phases of construction. E & S controls and Best Management Practices (BMPs) should be inspected/repared before and after rain events. Please follow all standards and specifications under the DCR Erosion & Sediment Controls Handbook (1992, 3rd Edition). DEQ recommends maximizing pervious surface areas and green spaces in the construction design to reduce runoff and the environmental impact associated with urban runoff.

Wetlands: If you have any questions concerning wetlands permitting, please contact Allison Dunaway at (804)527-5086.

Waste: The generation of hazardous or solid waste materials should be tested and removed in accordance with the Virginia Hazardous Waste Management Regulations (9 VAC 20-60) and/or the Virginia Solid Waste Management Regulations (9 VAC 20-80). Please understand that it is the generator's responsibility to determine if a solid waste meets the criteria of a hazardous waste and as a result be managed as such. In addition, asbestos waste, lead waste, or contaminated residues generated must be handled and disposed of in accordance with the VSWMR or VHWMR as applicable. DEQ recommends that pollution prevention principles be implemented to reduce the amount of wastes at the source, such as the re-use and recycling of waste material. If you have any questions concerning hazardous/solid waste management, please contact Jason Miller at (804)527-5028.

Air: DEQ recommends following all air quality standard and specifications to reduce or avoid the emissions of VOCs, especially during periods of high ozone. Fugitive dust should be kept to a minimum, (9 VAC 5-40-5630 *ET seq*). For further questions, please contact James Kyle at (804) 527-5047.



DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
ENVIRONMENTAL IMPACT REVIEW COMMENTS

October 10, 2012

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Impact Review

PROJECT NUMBER: 12-162F

PROJECT TITLE: E-2 C-2 Field Carrier Landing Practice

As Requested, TRO staff has reviewed the supplied information and has the following comments:

Petroleum Storage Tank Cleanups:

DEQ records indicate that there have been multiple petroleum releases reported at or adjacent to proposed Alternative 2 at the runways at the Wallops Flight Facility. If evidence of a petroleum release is discovered during implementation of this project, it must be reported to DEQ, as authorized by CODE # 62.1-44.34.8 through 9 and 9 VAC 25-580-10 et seq. Contact Ms. Lynne Smith at (757) 518-2055 or Mr. Gene Siudyla at (757) 518-2117. Petroleum-contaminated soils and ground water generated during implementation of this project must be properly characterized and disposed of properly.

Petroleum Storage Tank Compliance/Inspections:

No comments.

Virginia Water Protection Permit Program (VWPP):

As depicted and described in the submittal, the project will not impact surface waters (including wetlands). If the proposed project does not impact surface waters then VWPP authorization is not required. If the project scope changes and surface water impacts are proposed, then provided that all necessary VWP permits are obtained and complied with, this project will be consistent with the requirements of our program.

Air Permit Program :

No comments.

Water Permit Program :

Water Permits – no comments

Ground Water – No comments

Waste Permit Program :

All construction and demolition debris, including excess soil, and waste generated during operations must be characterized in accordance with the Virginia Hazardous Waste Management regulations and managed at an appropriate facility.



DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE
ENVIRONMENTAL IMPACT REVIEW COMMENTS

October 10, 2012

PROJECT NUMBER: 12-162F

PROJECT TITLE: E-2 C-2 Field Carrier Landing Practice

The staff from the Tidewater Regional Office thanks you for the opportunity to provide comments.

Sincerely,

Cindy Keltner
Environmental Specialist II
5636 Southern Blvd.
VA Beach, VA 23462
(757) 518-2167
Cindy.Keltner@deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources



David A. Johnson
Director

COMMONWEALTH of VIRGINIA
DEPARTMENT OF CONSERVATION AND RECREATION

203 Governor Street
Richmond, Virginia 23219-2010
(804) 786-1712

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MEMORANDUM

DATE: August 8, 2012
TO: John Fisher, DEQ
FROM: Roberta Rhur, Environmental Impact Review Coordinator
SUBJECT: DEQ 12-136F, Wallops Flight Facility Preliminary EA

Division of Natural Heritage

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, the Little Mosquito Creek Conservation Site is located within the project site. Conservation sites are tools for representing key areas of the landscape that warrant further review for possible conservation action because of the natural heritage resources and habitat they support. Conservation sites are polygons built around one or more rare plant, animal, or natural community designed to include the element and, where possible, its associated habitat, and buffer or other adjacent land thought necessary for the element's conservation. Conservation sites are given a biodiversity significance ranking based on the rarity, quality, and number of element occurrences they contain; on a scale of 1-5, 1 being most significant. Little Mosquito Creek Conservation Site has been given a biodiversity significance ranking of B3, which represents a site of high significance. The natural heritage resource of concern at this site is:

| | | |
|---------------------------------|---------------------------------------|--|
| <i>Haliaeetus leucocephalus</i> | Tidal Oligohaline Marsh Bald eagle | (G3/SNR/NL/NL) (G5/S2S3B,S3N/NL/LT) |
|---------------------------------|---------------------------------------|--|

The Tidal Oligohaline Marsh (Beaked Spikerush – Saltmeadow Cordgrass Estuarine Fringe Type) association is an irregularly flooded oligohaline marsh ranging discontinuously along the coast from Massachusetts to the Eastern Shore of Virginia. It is quite rare in Virginia, where it is apparently restricted to narrow bands at the upper extent of tidal influence and adjacent to upland edges, where groundwater seepage dilutes tidal waters, producing oligohaline conditions. The vegetation is heavily dominated by beaked spikerush (*Eleocharis rostellata*), growing in association with saltmeadow cordgrass (*Spartina patens*), which is usually second in abundance. Narrow-leaved loosestrife (*Lythrum lineare*) and small shrubs of marsh-elder (*Iva frutescens*) are constant minor associates.

The Bald eagle (*Haliaeetus leucocephalus*, G5/S2S3B,S3N/NL/LT) breeds from Alaska eastward through Canada and the Great Lakes region, along coastal areas off the Pacific and Atlantic Oceans, and the Gulf of Mexico, and in pockets throughout the western United States (NatureServe, 2009). In Virginia, it primarily breeds along the large Atlantic slope rivers (James, Rappahannock, Potomac, etc) with a few records at inland sites near large reservoirs (Byrd, 1991). Bald eagle nest sites are often found in the midst of large wooded areas near marshes or other bodies of water (Byrd, 1991). Bald eagles feed on fish, waterfowl, seabirds (Campbell et. al., 1990), various mammals and carrion (Terres, 1980). Please note that this species is currently classified as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF).

Threats to this species include human disturbance of nest sites (Byrd, 1991), habitat loss, biocide contamination, decreasing food supply and illegal shooting (Herkert, 1992).

Due to the legal status of the Bald eagle, DCR recommends coordination with Virginia's regulatory authority for the management and protection of this species, the VDGIF, to ensure compliance with the Virginia Endangered Species Act (VA ST §§ 29.1-563 – 570).

In addition, the Wallops Island Seeps Conservation Site is also located within the project area. Wallops Island Seeps Conservation Site has been given a biodiversity significance ranking of B2, which represents a site of very high significance. The natural heritage resources of concern at this site are:

| | | |
|--|---------------|--------------|
| <i>Crocianthemum propinquum</i> | Low frostweed | G4/S1/NL/NL |
| = formerly <i>Helianthemum propinquum</i> | | |
| Coastal Plain / Outer Piedmont Seepage Bog | | G2/S1/SOC/NL |

Low frostweed is a perennial rhizomatous herb in the rock-rose family (Cistaceae). A plant of sandy, dry soil found from New England south through western North Carolina into Tennessee, in Virginia low frostweed has been documented, mostly historically, from a few locations in open, disturbed habitat scattered from the Outer Coastal Plain, Northern Piedmont, and Ridge and Valley regions. Clusters of 2-6 yellow, 5-petaled flowers arise from June-July on the scattered, alternate-leaved stems (Gleason and Cronquist 1991); self-pollinating flowers lacking petals arise later from July-September (Weakley, A. In prep.). Surveys should be conducted during the June-July blooming period of the earlier flowers as later season plants can be difficult to identify (Virginia Botanical Associates 2011). Threats include habitat destruction, herbicides, and succession to shadier habitat.

The Coastal Plain / Outer Piedmont Seepage Bog is currently known from the inner Coastal Plain from central and southern Maryland to southeastern Virginia. (NatureServe, 2011)The saturated shrub and herbaceous vegetation of this group occupies oligotrophic spring-heads, seepage slopes, and less frequently small, headwater stream bottoms. Sites are scattered throughout the Coastal Plain (except the maritime zone) and outer Piedmont, typically on lower or toe slopes, where groundwater is forced to the surface by impermeable clay layers. Surficial soils are usually peaty or sandy, very acidic, infertile, and covered by dense mats of *Sphagnum* mosses. Natural examples of these communities have nearly been extirpated by decades of fire exclusion, hydrologic alterations (ditching, draining, and impoundments), or outright destruction. The elimination of fire as an ecological process has allowed many former bogs to become overgrown with shrubs and trees. (Fleming, et al., 2012)The most "natural" occurrences of this vegetation are now restricted to military base impact areas and dedicated natural areas that are burned frequently. Compositionally identical vegetation is more common where artificially maintained powerline rights-of-way intersect small streams and swales. (NatureServe, 2011) The vegetation of seepage bogs is usually a mosaic of scattered trees, shrub patches, and graminoid-dominated herbaceous patches. Typical woody species include sweetbay (*Magnolia virginiana*), poison sumac (*Toxicodendron vernix*), highbush blueberries (*Vaccinium corymbosum*, *Vaccinium fuscatum*, and *Vaccinium formosum*), possum-haw

(*Viburnum nudum*), and smooth alder (*Alnus serrulata*). Among the most abundant herbaceous species, are twisted spikerush (*Eleocharis tortilis*), beakrushes (*Rhynchosporaspp.*), narrow-leaved bluestem (*Andropogon perangustatus*), panic grasses (*Dichanthelium dichotomum* var. *dichotomum* and var. *ensifolium*), hairy umbrella-sedge (*Fuirena squarrosa*), meadow-beauties (*Rhexia mariana* var. *mariana*, *Rhexia nashii*, and *Rhexia petiolata*), clubmosses (*Lycopodiella alopecuroides* and *Lycopodiella appressa*), sundews (*Drosera brevifolia*, (*Drosera capillaris*), and *Drosera rotundifolia* var. *rotundifolia*), tawny cotton-grass (*Eriophorum virginicum*), bushy bluestem (*Andropogon glomeratus* var. *glomeratus*), Nuttall's reed-grass (*Calamagrostis coarctata*), yellow-eyed-grasses (*Xyris* spp.), yellow milkwort (*Polygala lutea*), and vervain thoroughwort (*Eupatorium pilosum*). Widely scattered, but nevertheless diagnostic, species of these bogs include red milkweed (*Asclepias rubra*), Rafinesque's seedbox (*Ludwigia hirtella*), large white fringed orchid (*Platanthera blephariglottis* var. *conspicua*), crossleaf milkwort (*Polygala cruciata*), purple pitcher-plant (*Sarracenia purpurea* ssp. *venosa* and ssp. *purpurea*), and large-flowered camas (*Zigadenus glaberrimus*). A large number of state-rare plants and several state-rare odonates (dragonflies and damselflies) are associated with seepage bogs (Fleming, et al., 2012).

To minimize impacts to the documented occurrences of natural heritage resources within or adjacent to the project area, DCR recommends avoidance of any hard surface impacts or runoff to the area indicated on the enclosed map. To minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, DCR also recommends the implementation of and strict adherence to applicable state and local erosion and sediment control/storm water management laws and regulations.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

The Virginia Department of Game and Inland Fisheries (VDGIF) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Gladys Cason (804-367-0909 or Gladys.Cason@dgif.virginia.gov).

Division of Stormwater Management

Stormwater Management:

The applicant and their authorized agents conducting regulated land disturbing activities on private and public lands in the state must comply with the Virginia Erosion and Sediment Control Law and Regulations (VESCL&R), Virginia Stormwater Management Law and Regulations including coverage under the general permit for stormwater discharge from construction activities, and other applicable federal nonpoint source pollution mandates (e.g. Clean Water Act-Section 313, Federal Consistency under the Coastal Zone Management Act). Clearing and grading activities, installation of staging areas, parking lots, roads, buildings, utilities, borrow areas, soil stockpiles, and related land-disturbance activities that result in the land-disturbance of equal to or greater than 10,000 square feet would be regulated by VESCL&R. Accordingly, the applicant must prepare and implement erosion and sediment control (ESC) plan to ensure compliance with state law and regulations. The ESC plan is submitted to the

DCR Regional Office that serves the area where the project is located for review for compliance. The applicant is ultimately responsible for achieving project compliance through oversight of onsite contractors, regular field inspection, prompt action against non-compliant sites, and other mechanisms consistent with agency policy. [Reference: VESCL §10.1-567;].

The operator or owner of construction activities involving land disturbing activities equal to or greater than one acre are required to register for coverage under the General Permit for Discharges of Stormwater from Construction Activities and develop a project specific stormwater pollution prevention plan (SWPPP). Construction activities requiring registration also includes the land-disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan of development will ultimately disturb equal to or greater than one acre. The SWPPP must be prepared prior to submission of the registration statement for coverage under the general permit and the SWPPP must address water quality and quantity in accordance with the Virginia Stormwater Management Program (VSMP) Permit Regulations. General information and registration forms for the General Permit are available on DCR's website at

http://www.dcr.virginia.gov/soil_and_water/index.shtml

[Reference: Virginia Stormwater Management Law Act §10.1-603.1 et seq.; VSMP Permit Regulations §4VAC-50 et seq.]

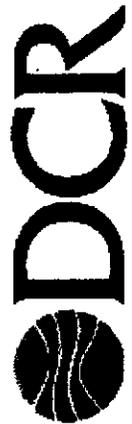
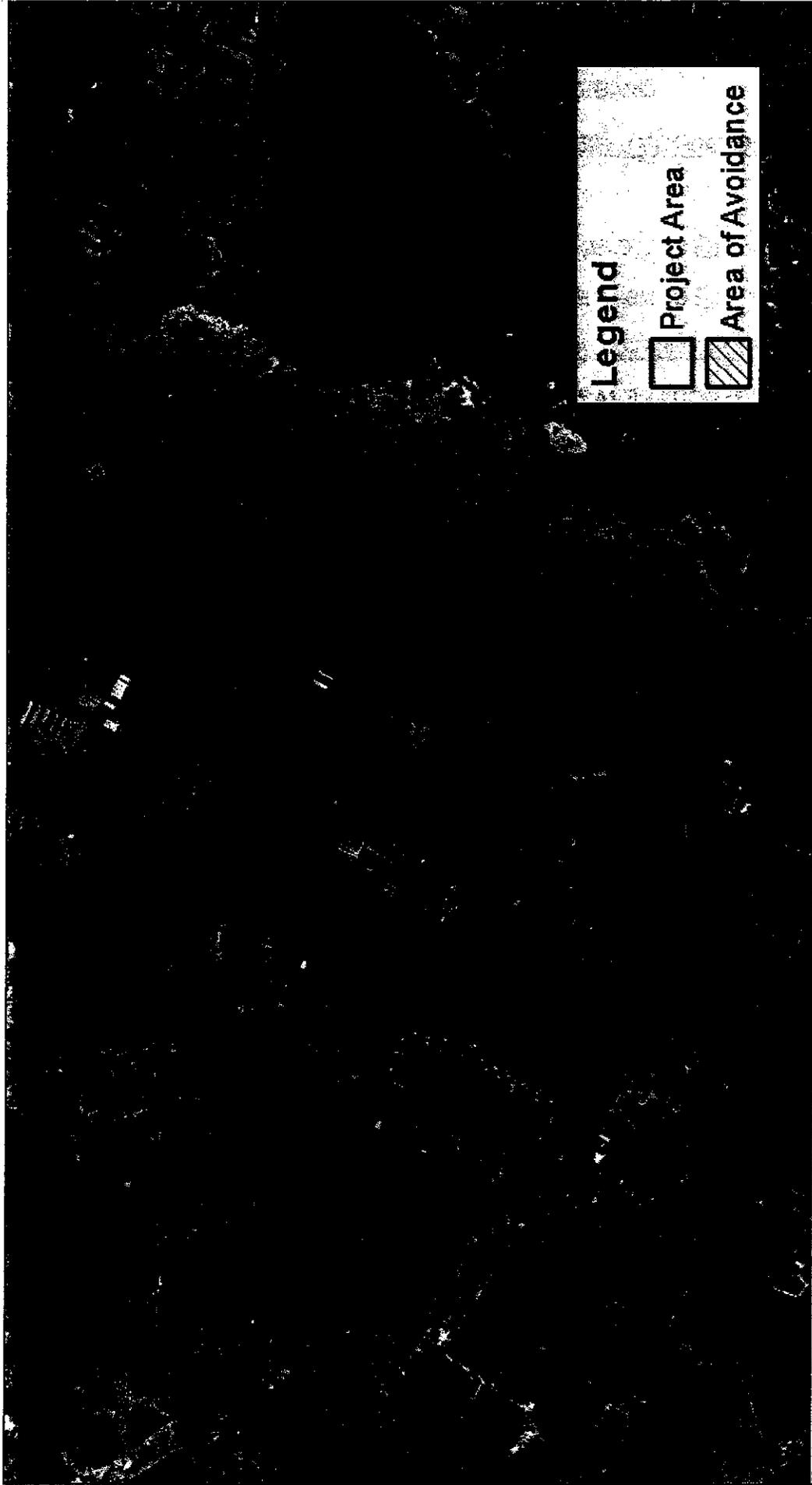
The remaining DCR divisions have no comments regarding the scope of this project. Thank you for the opportunity to comment.

Cc: Amy Ewing, VDGIF
Kim Smith, USFWS

Literature Cited:

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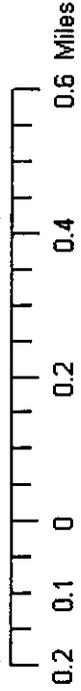
DEQ 12-136F, Wallops Flight Facility Preliminary EA
Recommended Area of Avoidance



Department of Conservation & Recreation

CONSERVING VIRGINIA'S NATURAL & RECREATIONAL RESOURCES

Virginia Natural Heritage Program



Map created July 20, 2012, Imagery Source: VBMP 2006, 2007



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OCT 09 2012
DEQ-Office of Environmental
Impact Review

MEMORANDUM

TO: John Fisher, Environmental Program Planner

FROM: Steve Coe, Division of Land Protection & Revitalization Review Coordinator

DATE: October 9, 2012

COPIES: Sanjay Thirunagari, Division of Land Protection & Revitalization Review Manager; file

SUBJECT: EIR Project 12-162F – E-2/C-2 Field Carrier Landing Practice Operations at Emporia-Greenville Regional Airport and Wallops Flight Facility – Review Comments

The Division of Land Protection & Revitalization has completed its review of the Environmental Impact report for the E-2/C-2 Field Carrier Landing Practice Operations at Emporia-Greenville Regional Airport and Wallops Flight Facility (WFF). Project description: proposed Field Carrier Landing Practice (FCLP) using the indicated airports, estimated up to 45,000 annual operations at each. The proposed project consists of the potential use of the two local airports to conduct FCLP as an interim bridge until such time as the Navy can increase local FCLP capacity at a permanent facility.

We have provided the below our recommendations/comments concerning the waste related issues associated with the project:

The proximity of identified waste sites to the operational sites and/or potential impact to the project should be evaluated as well as the environmental impacts created by the FCLP activities. Waste reviews should include a search of EPA and Virginia databases for RCRA/Hazardous Waste Facilities, Solid Waste (SW) Facilities, CERCLA Sites, VRP Sites, and Petroleum Release Sites.

The submittal indicated that the Department of the Navy evaluated the program activities under the Resource Conservation and Recovery Act (RCRA) requirements. The environmental consequences identified in the submittal for each site as related to the management of hazardous materials, incorporation of pollution prevention methods, and management of solid waste: Emporia-Greenville Airport: not applicable; Wallops Island Flight Facility: no significant impacts.

Solid and hazardous waste issues were minimally addressed in the submittal, and it did not indicate that a search of waste-related data bases was conducted. A GIS database search revealed no waste sites near the Emporia-Greenville Regional Airport (E-GRA) of concern, but several waste sites within a 2 mile radius of the Wallops Island site that could impact or be impacted by the proposed operations. The search results:

CERCLIS – none in zip code 23847 (E-GRA); one in zip code 23337 (WFF)

ID# VA8800010763 – NASA Wallops Island, Rt 175, Wallops Island, VA 23337. Status: Not NPL

RCRA/HW – 34 in the 23847 zip code (E-GRA), but none in close proximity. 11 in zip code 23337 (WFF)

- 1) ID# VAR000508770 - Assateague Island Seashore Toms Cove, Chincoteague Road, Wallops Island, VA 23337. Contact: Richard Barrett at 410-641-1443.
- 2) ID# VAR000518811 – BAYSYS Technologies, LLC, Fulton Street, Wallops Island, VA 23337. Contact: Dominick Scott at 757-787-7668.
- 3) ID# VAD980555387 – Chesapeake & Potomack Telephone Co, Wallops Island, VA 23337. Contact: Bartley Terry at 202-392-8284.
- 4) ID# VAR000007211 – Cropper USAR CTR, Kearsarg Circle, Wallops Island, VA 23337. Contact: John Pontier at 301-677-7593.
- 5) ID# VAR000518845 – Mid-Atlantic Regional Spaceport, 34200 Fulton Street, Wallops Island, VA 23337. Contact: Richard Baldwin at 757-824-2335.
- 6) ID# VA7800020888 – NASA GSFC Wallops Flight Facility, Fulton Street, Wallops Island, VA 23337. Contact: William Bott at 757-824-1103.
- 7) ID# VA8800010763 - NASA GSFC Wallops Flight Facility, Fulton Street, Wallops Island, VA 23337. Contact: William Bott at 757-824-1103.
- 8) ID# VAR000518829 – Navy-Surface Combat Systems Center, Bldgs R-2, R-30, R-20, 30 Battlegroup Way, Wallops Island, VA 23337. Contact: Marilyn Ailes at 757-824-2082.
- 9) ID# VAR000518837 - Navy-Surface Combat Systems Center, Bldgs V-10/20/21, V-3, V-24, Artist, Seaside Road, Wallops Island, VA 23337. Contact: Marilyn Ailes at 757-824-2082.
- 10) ID# VAR000518803 – NOAA, Wallops Command and Data Acquisition Station, 35663 Chincoteague Road, Wallops Island, VA 23337. Contact: Stephen Howard at 757-824-7311.
- 11) ID# VAR000509240 – Wallops FUDS Program, NASA WFF, Wallops Island, VA 23337. Contact: George H. Mears at 757-201-7181.

SW - none for either site

VRP - none for either site

FUDS – one for each site identified

- 1) FUDS ID# C03VA0270, FFID# VA9799F1687 – Emporia, VA 23847.
- 2) FUDS ID# C03VA0301, FFID# VA9799F1697 – Wallops Island, VA 23337.

The Environmental Restoration Program at the facilities identified should be contacted prior to initiating any land, sediment, or groundwater disturbing activities to ensure remediation sites and land use controls are not adversely impacted, and ensure coordination under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Petroleum Releases – none in zip code 23847 (E-GRA); 10 in zip code 23337 (WFF)

- 1) ID# 19910363 – WFF – Event Date: 7/14/2006. Status: Closed.
- 2) ID# 19922008 – WFF – Event Date: 8/28/2006. Status: Closed.
- 3) ID# 19910580 – WFF – Event Date: 3/02/2007. Status: Closed.
- 4) ID# 19910039 – WFF – Event Date: 7/12/2006. Status: Closed.
- 5) ID# 19922020 - WFF – Event Date: 8/28/2006. Status: Closed.
- 6) ID# 20005119 – WFF – Event Date: 6/13/2008. Status: Closed.
- 7) ID# 19952405 – WFF – Event Date: 8/10/2007. Status: Closed.
- 8) ID# 20015022 – WFF AST 448 – Event Date: 6/25/2007. Status: Closed.
- 9) ID# 20015044 – WFF Bldg X-5 – Event Date: 5/28/2008 – Status: Closed.
- 10) ID# 19930913 – WFF Bldgs X-5 and X-15 – Event Date: 9/20/2006. Status: Closed.

The following websites may prove helpful in locating this information for these sites:

<http://www.epa.gov/superfund/sites/cursites/index.htm>,

http://www.epa.gov/enviro/html/rcris/rcris_query_java.html, and

<http://www.deq.virginia.gov/ConnectWithDEQ/VEGIS.aspx>.

GENERAL COMMENTS

Soil, Sediment, and Waste Management

Any soil that is suspected of contamination or wastes that are generated must be tested and disposed of in accordance with applicable Federal, State, and local laws and regulations. Some of the applicable state laws and regulations are: Virginia Waste Management Act, Code of Virginia Section 10.1-1400 *et seq.*; Virginia Hazardous Waste Management Regulations (VHWMR) (9VAC 20-60); Virginia Solid Waste Management Regulations (VSWMR) (9VAC 20-81); Virginia Regulations for the Transportation of Hazardous Materials (9VAC 20-110). Some of the applicable Federal laws and regulations are: the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Section 6901 *et seq.*, and the applicable regulations contained in Title 40 of the Code of Federal Regulations; and the U.S. Department of Transportation Rules for Transportation of Hazardous Materials, 49 CFR Part 107.

Also, all structures being demolished/renovated/ removed should be checked for asbestos-containing materials (ACM) and lead-based paint (LBP) prior to demolition. If ACM or LBP are found, in addition to the federal waste-related regulations mentioned above, State regulations 9VAC 20-80-640 for ACM and 9VAC 20-60-261 for LBP must be followed. DEQ regional offices in Virginia Beach (Lisa Silvia at 757-518-2175) and Richmond (Jason Miller at 804-527-5028) should be contacted with any questions.

Pollution Prevention – Reuse - Recycling

Please note that DEQ encourages all construction projects and facilities to implement pollution prevention principles, including the reduction, reuse, and recycling of all solid wastes generated. All generation of hazardous wastes should be minimized and handled appropriately.

If you have any questions or need further information, please contact Steve Coe at (804) 698-4029.

Fisher, John (DEQ)

From: Ewing, Amy (DGIF)
Sent: Monday, August 13, 2012 11:09 AM
To: Fisher, John (DEQ)
Cc: Cason, Gladys (DGIF); Boettcher, Ruth (DGIF); Watson, Brian (DGIF)
Subject: ESSLog#33061_12-136F_Field Carrier Landing Practice Operations

We have reviewed the subject project in which the Navy proposes to perform Field Carrier Landing Practices at either Emporia-Greenville Regional Airport in Greenville and Southampton counties or at NASA Wallops Flight Facility, Main Base, in Accomack County, VA. Only Wallops is located within the Coastal Zone, so only that option requires coastal consistency review.

Emporia-Greenville option:

According to our records, the Meherrin River is located within two miles of Emporia-Greenville Regional Airport and has been designated a Threatened and Endangered Species Water due to the presence of state Threatened green floaters. Assuming no land disturbance is necessary to accommodate additional flights at the existing airport, we do not anticipate the additional of flights from the airport to result in adverse impacts upon green floaters.

If construction at the airport or surrounding area is necessary, we recommend additional coordination with us to ensure protection of green floaters and other wildlife resources.

Wallops Main Base option:

According to our records, state Threatened bald eagles and colonial waterbird colonies have been documented from within two miles of the airport located on Wallops Flight Facility main base. Assuming no new construction is proposed beyond the boundaries of the airport, it appears the project site is located outside the management zones for the nearby bald eagle nests and any protective boundaries around the colonial waterbird colonies. However, indirect impacts upon bald eagles or the waterbirds known from the area may result from the increase in air traffic, changes in flight patterns and/or changes in flight altitudes. We recommend the Navy address this issue in any NEPA documents prepared for the new program. Further, we recommend coordination with the USFWS regarding possible impacts upon colonial waterbirds.

If construction is necessary to accommodate new flights at Wallops, we recommend further coordination with us and the USFWS to ensure protection of the listed wildlife and resources known from the project area.

As the waters from the Wallops site drain to the Atlantic Ocean, we defer the coastal consistency determination to VMRC.

Thanks, Amy

Amy Ewing
Environmental Services Biologist
VA Dept. of Game and Inland Fisheries
4010 W. Broad Street
Richmond, VA 23230
804-367-2211
amy.ewing@dgif.virginia.gov



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Impact Review

COMMONWEALTH of VIRGINIA

Department of Historic Resources

Douglas W. Domenech
Secretary of Natural Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Kathleen S. Kilpatrick
Director

Tel: (804) 367-2323
Fax: (804) 367-2391
TDD: (804) 367-2386
www.dhr.virginia.gov

4 October 2012.

E-2/C-2 FCLP Operations EA Project Manager
Naval Facilities Engineering Command, Atlantic
Attn: Code EV21VC
6506 Hampton Boulevard, Building A
Norfolk, Virginia 23508

Re: Draft EA, E-2/C-2 Field Carrier Landing Practice Operations
Accomack and Greensville counties, Virginia
DHR File # 2011-2033

Dear Mr. Edwards:

The Department of Historic Resources (DHR) has received the draft Environmental Assessment (EA) for above referenced project. We have previously reviewed and commented on the undertaking in a response dated 5 January 2012. In that response we stated that No Historic Properties will be Affected by the proposed undertaking. The DHR reiterates this belief and has no further comments.

If you have any questions, please call me at (804) 482-6090.

Sincerely,

Marc Holma, Architectural Historian
Office of Review and Compliance

C: Mr. John Fisher, DEQ

Administrative Services
10 Courthouse Ave.
Petersburg, VA 23803
Tel: (804) 862-6416
Fax: (804) 862-6196

Capital Region Office
2801 Kensington Office
Richmond, VA 23221
Tel: (804) 367-2323
Fax: (804) 367-2391

Tidewater Region Office
14415 Old Courthouse Way 2nd
Floor
Newport News, VA 23608
Tel: (757) 886-2807
Fax: (757) 886-2808

Western Region Office
962 Kime Lane
Salem, VA 24153
Tel: (540) 387-5428
Fax: (540) 387-5446

Northern Region Office
5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7031
Fax: (540) 868-7033



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-DEQ-Office of Environmental
-Impact Review

COMMONWEALTH of VIRGINIA

Randall P Burdette
Director

Department of Aviation
5702 Gulfstream Road
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624
FAX • (804) 236-3635

October 10, 2012

Mr. John E. Fisher
Department of Environmental Quality
629 E. Main St., 6th Floor
Richmond, VA 23219

**Re: Navy E-2/C-2 Field Carrier Landing Practice (FCLP) Operations
Greensville County/Accomack County
DEQ 12-162F**

Dear Mr. Fisher:

Thank you for circulating the notice concerning the National Environmental Policy Act EA for E-2/C-2 Field Carrier Landing Practice at Emporia-Greensville Regional Airport (EMV) and Wallops Flight Facility (WFF).

At this time the Virginia Department of Aviation would like to offer our perspective. The Department understands the purpose and need for the proposed action and believes that by pursuing this plan many issues that the Navy faces will be resolved as they seek an interim solution to the capacity limitations that exist at Naval Auxiliary Landing Field (NALF) Fentress. This proposed action may reduce or eliminate the need for out-of-area FCLP detachments and offer a reasonable means to mitigate capacity and scheduling issues at NALF Fentress.

As presented, the document does not identify a preferred alternative, but illustrated that the alternatives examined should not produce any significant impacts.

In closing, we offer our assistance to you where appropriate in this matter. Should you have any further need to contact me regarding this project, I may be reached at (804) 236-3632, ext. 106

Sincerely,

R. N. (Rusty) Harrington
Manager, Planning and Environmental Section
Airport Services Division





THOMAS G. SHEPPERD, JR., CHAIRMAN • KENNETH L. WRIGHT, VICE-CHAIR • JAMES G. McREYNOLDS - TREASURER
DWIGHT L. FARMER, EXECUTIVE DIRECTOR/SECRETARY

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OCT 10 2012

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MEMBER JURISDICTIONS

October 10, 2012

CHESAPEAKE

Mr. John E. Fisher
Virginia Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street, Sixth Floor
Richmond, VA 23219

FRANKLIN

GLOUCESTER

HAMPTON

Re: DEQ #12-162F, E-2/C-2 Field Carrier Landing Practice Operations (ENV: GEN)

ISLE OF WIGHT

Dear Mr. Fisher:

JAMES CITY

Pursuant to your request, the staff of the Hampton Roads Planning District Commission has reviewed the Federal Environmental Assessment for the following project, E-2/C-2 Field Carrier Landing Practice Operations, at Emporia-Greenville Regional Airport in Greenville County, Virginia. The proposed project would have potentially significant impacts on Southampton County. We have consulted with County staff regarding this project.

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Based on this review, the proposal appears to be consistent with local and regional plans and policies. However, HRPDC staff recognizes that the Southampton County Board of Supervisors has expressed concerns with the environmental, safety, and environmental justice consequences of the proposed project, and recommends that the Department of the Navy work with the localities affected by the proposed project to mitigate any adverse impacts as feasible.

PORTSMOUTH

SOUTHAMPTON

SUFFOLK

We appreciate the opportunity to review this project. If you have any questions, please do not hesitate to call.

SURRY

Sincerely,

VIRGINIA BEACH

John M. Carlock, AICP
Deputy Executive Director

WILLIAMSBURG

YORK

BJM/kg

Copy: Beth Lewis, SO

Subject: FW: Meeting Summary (UNCLASSIFIED)

-----Original Message-----

From: Evans, John D NAO [mailto:John.D.Evans@usace.army.mil]
Sent: Friday, November 02, 2012 15:17
To: Block, Paul A CIV NAVFAC LANT, EV
Subject: RE: Meeting Summary (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Paul:

Thanks for putting together the phone call summary. I agree that it captures the spirit and substance of our discussion.

Best,

John

=====
The Norfolk District is committed to providing the highest level of support to the public. In order for us to better serve you, we would appreciate you completing our Customer Satisfaction Survey located at <http://per2.nwp.usace.army.mil/survey.html>. We value your comments and appreciate your taking the time to complete the survey.

-----Original Message-----

From: Block, Paul A CIV NAVFAC LANT, EV [mailto:paul.block@navy.mil]
Sent: Friday, November 02, 2012 2:52 PM
To: Evans, John D NAO
Subject: Meeting Summary

John,

Below is the summary to the October 25, 2012 Paul Block (NAVFAC Atlantic) and John Evans (ACOE Norfolk District) Phone Conversation concerning the Airfield Use Agreement (AUA) draft Environmental Assessment (EA) sent by J. Evans on October 12, 2012 by email.

If you agree with the language, please respond to this email with your concurrence. Thanks for the support!

Summary Letter:

"This is a summary of a phone conversation between Paul Block of Naval Facilities Engineering Command Atlantic and John Evans of United States Army

Corps of Engineers Norfolk District Office (ACOE) that occurred on October 25, 2012. The purpose of the conversation was to clarify the Airfield Use Agreement (AUA) draft Environmental Assessment (EA) comments sent by J. Evans on October 12, 2012 by email.

J. Evans email dated October 12, 2012 is copied here for reference:

Ladies and Gentlemen:

These are comments for the DEIS E-2/C-2 Field Carrier Landing Practice (FCLP) Operations at Emporia and Wallops, dated September 2012.

The Corps was not a NEPA participating agency for this DEIS, and as such, the document may not be sufficient to be used for NEPA compliance regarding permit decision data. Specifically, Section 404 of the Clean Water Act can include a determination regarding compliance with the 404(b)(1) Guidelines, and permit

decisions in general require a review of numerous public interest factors and a determination that the permit decision is not contrary to the public interest.

The DEIS does verify Corps regulation of wetland, and does mention other waters, that would include tributaries with a bed and bank that connect to navigable waters.

The Navy has been proactive in coordinating with the Corps Regulatory Branch to verify the presence of Corps regulated areas and to determine if Corps permits may be required for some specific activities.

There may need to be clarification that certain navigable waters are subject to permit requirements from Section 10 of the Rivers and Harbors Act, in addition to the Clean Water Act. In particular, dredging is typically a Section 10 activity, while the discharge of dredged material can be a Section 10 and Section 404 activity.

There is a discussion of "non-jurisdictional wetlands". It is highly recommended that the Navy seek Corps concurrence with any internal decision that a wetland is non-jurisdictional. And, even if the Corps does concur that a wetland is non-jurisdictional, the Commonwealth of Virginia, Department of

Environmental Quality (DEQ), may still require a Virginia Water Protection Permit (VWPP) to disturb or fill non-jurisdictional wetlands.

The DEIS mentions the delineation standards follow the "Corps of Engineers Wetland Delineation Manual", Technical Report Y-87-1. However, there are now

regional supplements that must be used for wetland delineation, such as ERDC/EL TR-10-20. Further, the Natural Resources Conservation Service has provided updated indicators of hydric soils and are also required for wetland delineation.

The included FAA "Environmental Desk Reference for Airport Actions" is dated October 2007 and does not appear to reflect current requirements for Corps delineation and permitting actions.

Please let me know if you have any questions regarding these comments.

Sincerely,

John Evans
Regulatory Project Manager

The following summary is not verbatim and only tries to recreate the basic topics and conclusions of the conversation.

Phone call summary:

P. Block discussed with J. Evans that the Navy would like clarification of the 12 October email he had sent. P. Block went through the email by assigning numbers to each paragraph to help facilitate the discussion. The numbers listed below are associated with each paragraph.

1. No questions from Navy
2. P. Block stated that his understanding of the comment was that if a permit was required then the ACOE would be required to either adopt the Navy EA or do their own version since the Navy did not include the ACOE as a cooperator in the preparation of the EA and part of the overall process would include an evaluation of the 404(b)(1) Guidelines and consideration of ACOE Public Interest Factors. J. Evans noted that as a NEPA cooperating agency, the Corps can help insure that there is sufficient detail to meet the Corps' permit documentation for a review of public interest factors and determination regarding 404(b)(1) Guidelines compliance. P. Block reviewed that no Corp permit was required at Emporia based on site visits made with J. Evans and his analysis of the action. This was stated in a ACOE letter dated 24 May. Additionally, P. Block stated that since ACOE did not make a site visit to the Wallops facility that they were unable to make a "No permit required call" therefore, P. Block thought it was necessary for ACOE to include language that would cover the unknown permit status at Wallops from the ACOE regulatory perspective. J. Evans concurred that the value of a cooperating NEPA agency was that an agency can offer direction such that the document will more likely meet the needs of each cooperating agency. P.

Block stated that the Navy assessment of the Wallops site concluded that the action would not impact wetlands at Wallops and therefore, the Navy would not require a permit for either site. And, that if this no permit decision remained, the ACOE would not need to do any NEPA or consider ACOE public interest factors or evaluate the 404(b)(1) Guidelines. J. Evans concurred that if no permit was required at Wallops and in addition to no permit requirements at Emporia, then the ACOE would not need to do any NEPA, assess the 404(b)(1) Guideline or consider ACOE Public Interest Factors for the EA as the ACOE would not have any permit action for the proposed activity.

3. No questions from Navy

4. No questions from Navy

5: P. Block stated that he thought this comment referred to the EA's discussion of the R/H Act as a regulatory device but failure to mention it again. P. Block stated that the Navy needed to describe the regulated resources of the R/H Act in the EA and that no impacts were occurring under this regulation. J. Evans concurred with this assessment.

6: P. Block stated that his understanding of the comment was that since the ACOE did not do a jurisdictional determination on the Emporia site that the use of the term "non-jurisdictional" was inappropriate since it is a specific regulatory language used to describe certain regulatory decision that had not been made at Emporia. P. Block stated that this would be removed from the document and language from the 24 May letter would be used to describe the site decision. J. Evans agreed that this was a good approach since a "non-jurisdictional" call was not made, but rather just a no permit required decision for the Emporia site. J. Evans explained that the term "non-jurisdictional wetlands" could apply to isolated wetlands that are regulated by the Virginia Department of Environmental Quality.

7: P. Block stated that since no delineation was done at the site that the language describing the process would be removed since it was not used and therefore was not applicable. Therefore the process discussion would no longer be necessary. J. Evans thought this was a good edit, as the DEIS did not fully describe the present methodology.

8: P. Block stated that this section would be updated as needed. J. Evans added that as this did reference the FAA document "Environmental Desk Reference for Airport Actions", that it would be useful for the Corps to participate in those FAA revisions that describe the delineation and permitting process.

The phone conversation concluded."

Regards,
Paul Block

Paul Block
Ecologist
Environmental Conservation Branch

6506 Hampton Blvd
Norfolk, VA 23508
757-322-8499

Classification: UNCLASSIFIED
Caveats: NONE



DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, ATLANTIC
6506 HAMPTON BLVD
NORFOLK VA 23508-1278

IN REPLY REFER TO:

5090

Ser EV21SU/487

December 14, 2012

Office of Environmental Programs (3EA30)
U.S. Environmental Protection Agency
Attn: Barbara Rudnick, NEPA Team Member
1650 Arch Street
Philadelphia, PA 19103-2029

Dear Ms. Rudnick:

SUBJECT: Draft Environmental Assessment (EA) For E-2/C-2 Field
Carrier Landing Practice (FCLP) At Emporia-Greenville
Regional Airport and Wallops Flight Facility.

The Navy would like to thank you and Ms. McCurdy for your review of the Navy's Draft Environmental Assessment (EA), as well as for meeting with us on Monday, December 10, 2012, to discuss your comments. We are sending this letter in response to your feedback, and as a summary of the changes we have made to the document.

In your comments you requested additional information in the EA about: (1) potential impacts to birds at Wallops Flight Facility (WFF), including bald eagles and birds in the Audubon Society's Barrier Island/Lagoon System Important Bird Area (IBA) and Wallops Island National Wildlife Refuge (NWR); (2) proposed Bird/Animal Strike Hazard (BASH) measures; (3) ability of birds to acclimate to noise; and (4) locations and impacts of proposed holding areas.

To that end, Navy representatives met on November 20, 2012, with NASA Wallops staff, the USFWS Wallops Island NWR representative, and USDA Wildlife Services personnel who manage WFF's BASH program, to gather additional information related to existing bird conditions at WFF and to ensure we have addressed all of their concerns related to potential impacts to birds, other wildlife, and the NWR in the document. Following the meeting we updated the BASH and Biological Resources discussions in the EA. NASA Wallops, USDA, and USFWS will review these updates before inclusion in the final document.

Updates to the EA include elimination of the holding pattern that overlapped the IBA at WFF, keeping only the pattern to the west of the airfield, and raising the elevation of that pattern from 2,000 feet to 3,500 feet. These changes will minimize noise impacts on the ground and mitigate potential impacts with birds in the air, as a majority of bird strikes were found to occur below 3,500 feet. Additionally, the new holding

pattern height of 3,500 feet is likely to lessen the potential to impact bald eagles using active bald eagle nests. Remaining potential impacts to these nests associated with either nighttime operations or the Field Carrier Landing Practice (FCLP) pattern at 600 feet above-ground-level (AGL), would be managed by on-site USDA BASH staff as well as close coordination with the USFWS.

Sections 3.11.2.2 and 3.11.4.2 of the EA describe the potential impacts of construction and noise on wildlife, including birds, at the alternative locations being analyzed. Several scientific studies (Grubb and King 1991; Ellis et al. 40 1991; Black et al. 1984; Conomy et al. 1998) indicate that wildlife acclimate to noise. Five active bald eagle nests occur within approximately five miles of WFF Main Base. The closest nest is adjacent to the eastern side of WFF Main Base, across Chincoteague Road (Route 175) inside of the Wallops Island National Wildlife Refuge, while the second-closest nest is approximately 0.2 mile north of WFF Main Base. We recently met with Dr. Bryan D. Watts, Director for the Center for Conservation Biology at the College of William and Mary, who noted that prior to establishing the nest to the north of WFF Main Base, the eagle pair had another nest nearby in the WFF Antenna Field from 1993 to 1994, then they moved up Mosquito Creek in 1995. They relocated to their current position in 1997 and have a history of productivity including two chicks in 2011 (Watts 2012). Given their close proximity to the airfield, continual exposure to existing low-level flight operations, and the longevity and productivity of the nests, the bald eagles nesting close to the facility are likely habituated to aircraft activity and noise. The EA has been updated with this information.

Your letter also proposed that the status of the consultation with USFWS be included in the Final EA. On September 6, 2012, we sent a copy of the Draft EA to USFWS and have received no comments in return. Per instructions outlined in the USFWS / Virginia online project review process, the Virginia Department of Game and Inland Fisheries' (VDGIF) Wildlife Environmental Review Map Service and the USFWS's Information, Planning, and Conservation (IPaC) System databases were searched to identify federally threatened and endangered species under USFWS jurisdiction potentially occurring within, or in the vicinity of, WFF Main Base. Our original action area was the 65 dB DNL noise contour, which returned no species; therefore, additional USFWS consultation was not required. In order to ensure that we are fully addressing potential impacts to federally threatened and endangered species, we expanded our action area to encompass the 65 dB DNL noise contour, the FCLP flight tracks, and the remaining holding pattern. Using this new action area, IPaC did return a list of species; however, we have

determined that the Navy's proposed action would have no effect on these species, which means that no additional USFWS consultation is required. We will print the results of the eight-step online process and certification letter to include as an appendix in the Final EA. NASA has a good relationship with the local USFWS representative. If WFF is chosen for FCLP operations, the Navy and NASA would continue to keep an open dialog with USFWS.

You further suggested that the EA include clarification on why the six airports that responded with interest to the Navy's Request for Proposals (RFP) were dismissed from further consideration. You also suggested that we add how the WFF facility was identified as an alternative and if other federal facilities were considered. First, since this project is still in active procurement, information about the competitive RFP process is considered source selection-sensitive and cannot be released. The sensitive information includes which airfield(s) submitted offer(s) in response to the RFP and the Navy's evaluation of those offer(s). The airfields listed in Section 2.3 were identified as having expressed interest during the market survey process, not the RFP process. This explanation has been added to the EA. Second, as a federal facility, WFF was not required to compete in the RFP process. It was added as an alternative as it met the stated purpose and need of the action, met the minimum airfield requirements as delineated in the RFP, and expressed interest in hosting the Navy's FCLP. No other federal facilities met these requirements. Section 2.3 of the document notes that any airports expressing interest, but not meeting the technical airfield requirements, were eliminated from consideration.

Additionally, you requested clarification on how Trails End was considered in the Environmental Justice (EJ) analysis, including information on community outreach and engagement to potential EJ communities. Trails End is in Tract 902, block Group 2 (see Figure 3-28), which is included in the EJ discussion. Trails End was analyzed as residential, though it is zoned agricultural and is actually a transient and seasonal private campground. The document notes that the public was invited to participate in informational open houses held in their communities and that they have had the opportunity to submit written comments for consideration in the Final EA. The public participation section (Section 1.4) is being expanded to discuss the public commenting period and the public meetings that were held.

Your final comment was that the proposed lighting and operations would represent a large increase over baseline, even

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though it is a temporary action. The Navy proposes to install semi-flush, unidirectional deck lights emitting white light to simulate aircraft carrier decks at the chosen airport. This lighting should generally not be visible at ground level off airport property. This point has been clarified in the document. The increase in operations has been analyzed under the various resource area discussions throughout the document and no significant impact has been concluded.

Thank you again for your review of the EA. If you have any questions or additional concerns, you may contact Sara Upchurch at 757-322-4332 or sara.upchurch@navy.mil.

Sincerely,

A handwritten signature in cursive script, appearing to read "W.D. Lewis for".

W.D. LEWIS
Environmental Business Line Manager
By direction of the Commander

Copy To: United States Fleet Forces Command



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Ecological Services
6669 Short Lane
Gloucester, Virginia 23061

Date:

Online Project Review Certification Letter

Project Name:

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Field Office online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in “no effect” and/or “not likely to adversely affect” determinations for listed species and critical habitat and/or “no Eagle Act permit required” determinations for eagles regarding potential effects of your proposed project. We certify that the use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the “no effect” and “not likely to adversely affect” determinations for listed species and critical habitat and “no Eagle Act permit required” determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of listed species, critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for one year.

Applicant

Page 2

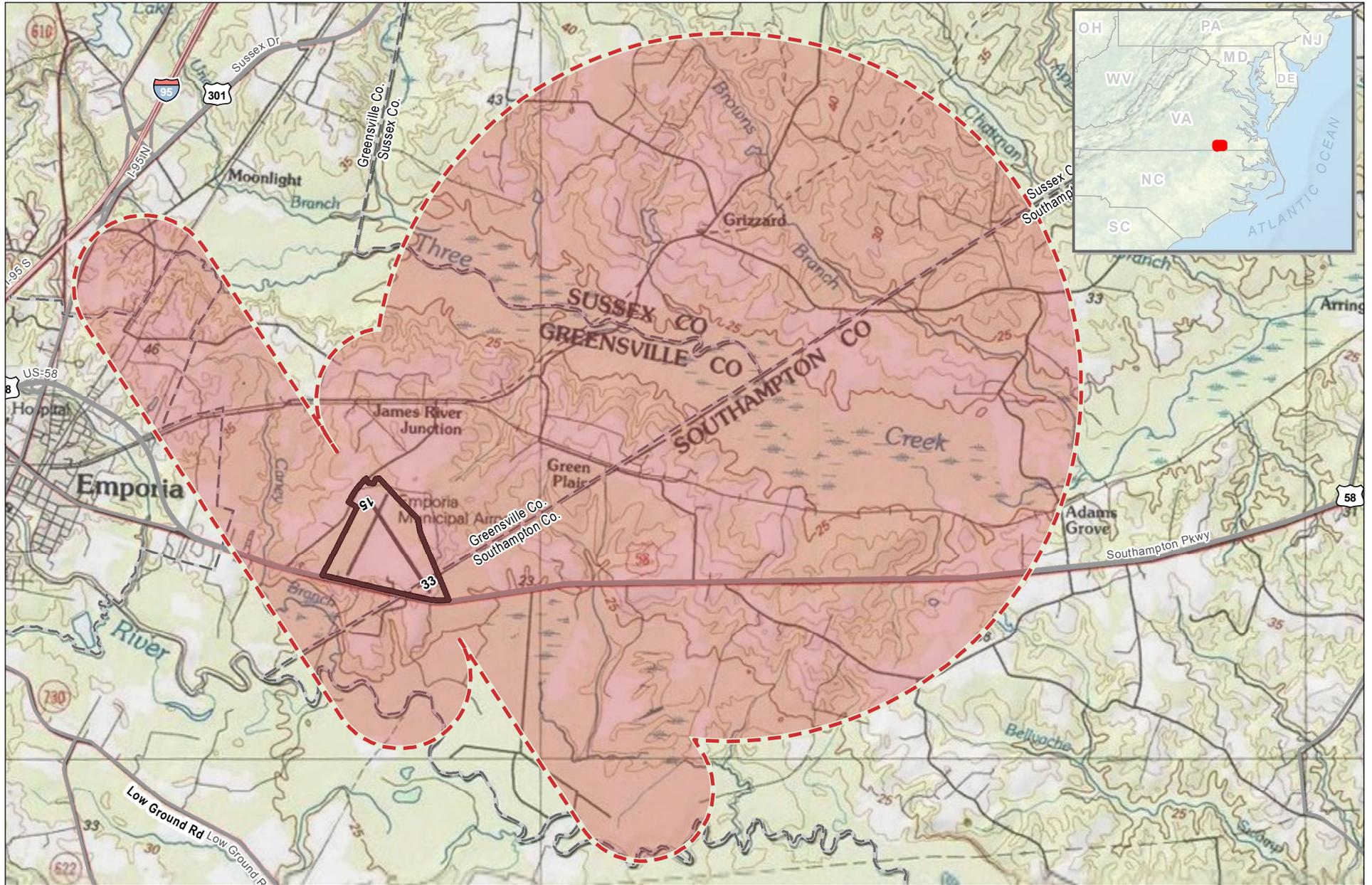
Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Kimberly Smith of this office at (804) 693-6694, extension 124.

Sincerely,

/s/ Cynthia A. Schulz

Cindy Schulz
Supervisor
Virginia Field Office

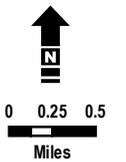
Enclosures - project review package



Source: ESRI 2010; USGS 1:24,000 Emporia (1977) and Adams Grove (1968) Quadrangles.

- Active Runway
- Major Highway
- Emporia-Greenville Regional Airport
- Local Street
- Action Area
- County Boundary

Map 1
Emporia-Greenville Regional Airport Proposed Action Area



Species Conclusions Table – Emporia-Greenville Regional Airport (Tracking Number: 05E2VA00-2013-SLI-0467)

Project Name: E-2/C-2 Field Carrier Landing Practice Operations at Emporia-Greenville Regional Airport and National Aeronautics and Space Administration Wallops Flight Facility

Date: December 13, 2012

| Species / Resource Name | Conclusion | ESA Section 7 / Eagle Act Determination | Notes / Documentation |
|---|---|---|--|
| American Chaffseed (<i>Schwalbea americana</i>) Critical Habitat | Species not present No Suitable Habitat Present No Critical Habitat Present | No Effect | <ul style="list-style-type: none"> - Occurs in fire-maintained ecosystems, such as the longleaf pine wiregrass ecosystem of the southeastern coastal plain; open, moist pine flatwoods; and fire-maintained savannas. American chaffseed typically requires fire for persistence (USFWS 1995). - Areas proposed for construction and ground disturbance are currently mowed grass. |
| Michaux's Sumac (<i>Rhus michauxii</i>) Critical Habitat | Species not present No Suitable Habitat Present No Critical Habitat Present | No Effect | <ul style="list-style-type: none"> - A shrub that typically grows on sandy soils in forest openings or thin woods, and it is dependent on disturbance to maintain the openness of its habitat (USFWS 1993). - Areas proposed for construction and ground disturbance are currently mowed grass. |
| Red-cockaded Woodpecker (<i>Picoides borealis</i>) Critical Habitat | Species not present No Suitable Habitat Present No Critical Habitat Present | No Effect | <ul style="list-style-type: none"> - A site walkthrough was conducted on the airport property. No mature pine trees are present. - Based on a review of aerial photography no mature pine trees appear to be present within the Action Area. - Within the Commonwealth of Virginia, the RCW is known to occur at only one location, The Nature Conservancy's Piney Grove Preserve in Sussex County (VDGIF 2005). The Piney Grove Preserve is located approximately 28 miles northeast of the Emporia-Greenville Regional Airport. |

| | | | |
|--|---|-------------------------------------|---|
| <p>Roanoke logperch (<i>Percina rex</i>)</p> <p>Critical Habitat</p> | <p>Species not present</p> <p>No Suitable Habitat Present</p> <p>No Critical Habitat Present</p> | <p>No Effect</p> | <ul style="list-style-type: none"> - In Virginia, the species is found only in the Roanoke and Nottoway river systems (VDGIF 2005). - There are no river reaches in the vicinity of the Emporia-Greensville Regional Airport where the Roanoke logperch has been confirmed to occur; however, Three Creek, located approximately 1.5 miles north of the airport, has been identified as a river reach where the species could potentially occur (VDGIF 2005). - Three Creek is outside of the Action Area. |
| <p>Bald Eagle (<i>Haliaeetus leucocephalus</i>)</p> | <p>Unlikely to Disturb Nesting Bald Eagles</p> <p>Does Not Intersect with an Eagle Concentration Area</p> | <p>No Eagle Act Permit Required</p> | <ul style="list-style-type: none"> - The closest documented bald eagle nest is approximately 8 miles southeast of the Action Area in Southampton County. |

References

U.S. Fish and Wildlife Service. 1995. American Chaffseed (*Schwalbea americana*) Recovery Plan. Hadley, Massachusetts. 62 pp.

U.S. Fish and Wildlife Service. 1993. Michaux's Sumac Recovery Plan. Atlanta, Georgia. 30 pp.

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United States Department of the Interior



FISH AND WILDLIFE SERVICE

Ecological Services
6669 Short Lane
Gloucester, Virginia 23061

Date:

Online Project Review Certification Letter

Project Name:

Dear Applicant:

Thank you for using the U.S. Fish and Wildlife Service (Service) Virginia Field Office online project review process. By printing this letter in conjunction with your project review package, you are certifying that you have completed the online project review process for the referenced project in accordance with all instructions provided, using the best available information to reach your conclusions. This letter, and the enclosed project review package, completes the review of your project in accordance with the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended (ESA), and the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c, 54 Stat. 250), as amended (Eagle Act). This letter also provides information for your project review under the National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347, 83 Stat. 852), as amended. A copy of this letter and the project review package must be submitted to this office for this certification to be valid. This letter and the project review package will be maintained in our records.

The species conclusions table in the enclosed project review package summarizes your ESA and Eagle Act conclusions. These conclusions resulted in “no effect” and/or “not likely to adversely affect” determinations for listed species and critical habitat and/or “no Eagle Act permit required” determinations for eagles regarding potential effects of your proposed project. We certify that the use of the online project review process in strict accordance with the instructions provided as documented in the enclosed project review package results in reaching the appropriate determinations. Therefore, we concur with the “no effect” and “not likely to adversely affect” determinations for listed species and critical habitat and “no Eagle Act permit required” determinations for eagles. Additional coordination with this office is not needed.

Candidate species are not legally protected pursuant to the ESA. However, the Service encourages consideration of these species by avoiding adverse impacts to them. Please contact this office for additional coordination if your project action area contains candidate species.

Should project plans change or if additional information on the distribution of listed species, critical habitat, or bald eagles becomes available, this determination may be reconsidered. This certification letter is valid for one year.

Applicant

Page 2

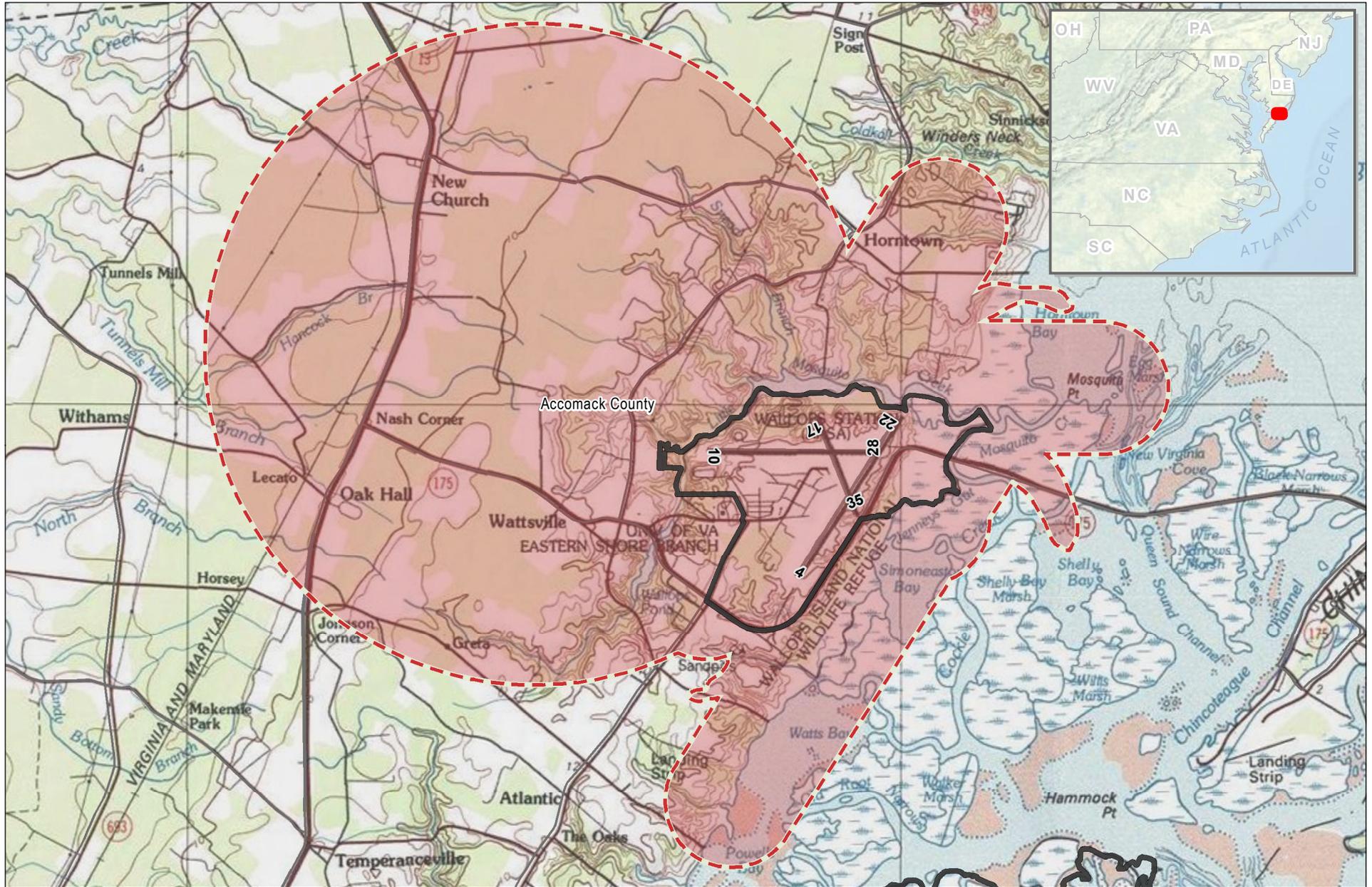
Information about the online project review process including instructions and use, species information, and other information regarding project reviews within Virginia is available at our website http://www.fws.gov/northeast/virginiafield/endspecies/project_reviews.html. If you have any questions, please contact Kimberly Smith of this office at (804) 693-6694, extension 124.

Sincerely,

/s/ Cynthia A. Schulz

Cindy Schulz
Supervisor
Virginia Field Office

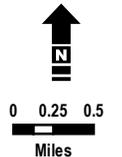
Enclosures - project review package



Source: ESRI 2010; USGS 1:24,000 Hallwood (1971) and Chincoteague West (1982) Quadrangle.

-  Active Runway
-  Wallops Flight Facility
-  Action Area
-  Major Highway
-  Local Street
-  County Boundary

Map 5
Wallops Flight Facility Proposed Action Area



Species Conclusions Table – Wallops Flight Facility (Tracking Number: 05E2VA00-2013-SLI-0472)

Project Name: E-2/C-2 Field Carrier Landing Practice Operations at Emporia-Greenville Regional Airport and National Aeronautics and Space Administration Wallops Flight Facility

Date: December 14, 2012

| Species / Resource Name | Conclusion | ESA Section 7 / Eagle Act Determination | Notes / Documentation |
|---|---|---|---|
| <p>Green Sea Turtle (<i>Chelonia mydas</i>)</p> <p>Critical Habitat</p> | <p>Potential Habitat Present and No Current Survey Conducted</p> <p>No Critical Habitat Present</p> | <p>No Effect</p> | <ul style="list-style-type: none"> - Potential aquatic habitat present in the coastal waters near WFF within the Action Area. - No suitable nesting habitat in Action Area; species not known to have nested in region (NASA October 2010). - No impacts from construction activities - Differences in the acoustical properties of water and air result in most airborne sounds being reflected off the water's surface (Richardson et al. 1995). - Green sea turtles that occur in the waters near WFF are already exposed and habituated to noise from current and ongoing aircraft over flights, and the projected noise contours are only slightly larger than the existing noise contours at WFF Main Base. - Therefore, no impacts are expected from increased noise exposure. |
| <p>Hawksbill Sea Turtle (<i>Eretmochelys imbricate</i>)</p> <p>Critical Habitat</p> | <p>Potential Habitat Present and No Current Survey Conducted</p> <p>No Critical Habitat Present</p> | <p>No Effect</p> | <ul style="list-style-type: none"> - Potential aquatic habitat present in the coastal waters near WFF within the Action Area. - No suitable nesting habitat in Action Area; species not known to have nested in region (NASA October 2010). - No impacts from construction activities - Differences in the acoustical properties of water and air result in most airborne sounds being reflected off the water's surface (Richardson et al. 1995). |

| | | | |
|---|---|-----------|---|
| | | | <ul style="list-style-type: none"> - Hawksbill sea turtles that occur in the waters near WFF are already exposed and habituated to noise from current and ongoing aircraft over flights, and the projected noise contours are only slightly larger than the existing noise contours at WFF Main Base. - Therefore, no impacts are expected from increased noise exposure. |
| <p>Kemp's Ridley Sea Turtle (<i>Dermochelys coriacea</i>)</p> <p>Critical Habitat</p> | <p>Potential Habitat Present and No Current Survey Conducted</p> <p>No Critical Habitat Present</p> | No Effect | <ul style="list-style-type: none"> - Potential aquatic habitat present in the coastal waters near WFF within the Action Area. - No suitable nesting habitat in Action Area; species not known to have nested in region (NASA October 2010). - No impacts from construction activities - Differences in the acoustical properties of water and air result in most airborne sounds being reflected off the water's surface (Richardson et al. 1995). - Kemp's Ridley sea turtles that occur in the waters near WFF are already exposed and habituated to noise from current and ongoing aircraft over flights, and the projected noise contours are only slightly larger than the existing noise contours at WFF Main Base. - Therefore, no impacts are expected from increased noise exposure. |
| <p>Leatherback Sea Turtle (<i>Dermochelys coriacea</i>)</p> <p>Critical Habitat</p> | <p>Potential Habitat Present and No Current Survey Conducted</p> <p>No Critical Habitat Present</p> | No Effect | <ul style="list-style-type: none"> - Potential aquatic habitat present in the coastal waters near WFF within the Action Area. - No suitable nesting habitat in Action Area; species not known to have nested in region (NASA October 2010). - No impacts from construction activities - Differences in the acoustical properties of water and air result in most airborne sounds being reflected off the water's surface |

| | | | |
|---|---|-----------|--|
| | | | <p>(Richardson et al. 1995).</p> <ul style="list-style-type: none"> - Leatherback sea turtles that occur in the waters near WFF are already exposed and habituated to noise from current and ongoing aircraft over flights, and the projected noise contours are only slightly larger than the existing noise contours at WFF Main Base. - Therefore, no impacts are expected from increased noise exposure. |
| <p>Loggerhead Sea Turtle (<i>Caretta caretta</i>)</p> <p>Critical Habitat</p> | <p>Potential Habitat Present and No Current Survey Conducted</p> <p>No Critical Habitat Present</p> | No Effect | <ul style="list-style-type: none"> - Potential aquatic habitat present in the coastal waters near WFF within the Action Area. - No suitable nesting habitat in Action Area; species not known to have nested in region (NASA October 2010). - No impacts from construction activities - Differences in the acoustical properties of water and air result in most airborne sounds being reflected off the water's surface (Richardson et al. 1995). - Loggerhead sea turtles that occur in the waters near WFF are already exposed and habituated to noise from current and ongoing aircraft over flights, and the projected noise contours are only slightly larger than the existing noise contours at WFF Main Base. - Therefore, no impacts are expected from increased noise exposure. |
| <p>Piping Plover (<i>Charadrius melodus</i>)</p> <p>Critical Habitat</p> | <p>No Suitable Habitat Present</p> <p>No Critical Habitat Present</p> | No Effect | <ul style="list-style-type: none"> - Piping plovers do not occur on WFF Main Base and therefore would not be impacted by construction under Alternative 2. Additionally, no significant increase in aircraft noise would be expected on the barrier islands where piping plovers are likely to occur. Consequently, Alternative 2 would have no effect on the federally threatened piping plover |

| | | | |
|---|--|------------------------------|---|
| Red Knot (<i>Calidris canutus ssp. rufa</i>) Critical Habitat | Potential Habitat Present and No Current Survey Conducted No Critical Habitat Present | Not Likely to Jeopardize | - The red knot does not occur on WFF Main Base and therefore would not be impacted by construction under Alternative 2. Additionally, no significant increase in aircraft noise would be expected on the barrier islands where red knots are likely to occur during spring migrations. Consequently, Alternative 2 would have no effect on the federal candidate species red knot. - |
| Seabeach Amaranth (<i>Amaranthus pumilus</i>) Critical Habitat | No Suitable Habitat Present No Critical Habitat Present | No Effect | - No suitable habitat for the seabeach amaranth occurs on WFF Main Base, where construction could potentially impact the species. No impacts would be expected from aircraft over flights or the noise generated by them. Therefore, Alternative 2 would have no effect on this federally threatened species. |
| Bald Eagle (<i>Haliaeetus leucocephalus</i>) | Unlikely to Disturb Nesting Bald Eagles Does Not Intersect with an Eagle Concentration Area | No Eagle Act Permit Required | - Nests AC1108 and AC9703 occur in the Action Area. Both nests were classified as "Active/Occupied" during the 2011 breeding season. - No construction would occur within 660 feet of either nest. - Given the current air operations at Wallops Flight Facility, bald eagles nesting at the current locations (AC9703 since 1997) and are habituated to aircraft noise. - Therefore, no impacts are expected from increased noise exposure. |

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Noise Analysis

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Blue Ridge Research and Consulting, LLC

Technical Report

**Noise Analysis for the
Environmental Assessment for
E-2/C-2 Field Carrier Landing
Practice Operations at Emporia-
Greensville Regional Airport and
NASA Wallops Flight Facility**

December 2012

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Supplemental Agreement Number:

002860.VH03.03-A

BRRC Report Number:

BRRC 12-11





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1 Introduction

1.1 Purpose

This noise analysis supports the Environmental Assessment (EA) of the U.S. Department of the Navy's (the Navy's) proposed action to conduct regular, scheduled E-2C Hawkeye, E-2D Advanced Hawkeye, and C-2A Greyhound (hereinafter referred to as the E-2/C-2) Field Carrier Landing Practice (FCLP) operations at a local airfield.¹ The Navy proposes to use the facilities at either Emporia-Greenville Regional Airport (Emporia) or at the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center's (GSFC) Wallops Flight Facility (WFF), as an interim bridge until the Navy addresses local FCLP capacity shortfalls on a more permanent basis.

To meet their FCLP requirements, five E-2 fleet squadrons, one C-2 fleet squadron, and the E-2/C-2 Fleet Replacement Squadron (FRS) need to conduct up to approximately 45,000 annual operations. This number equates to roughly 20,000 annual FCLP passes, with arrivals to the airfield, departures, and holding patterns accounting for the remaining 5,000 operations. FCLP passes are typically made up of two operations: a landing or low approach, followed by an immediate takeoff or climb out. Arrivals, departures, and holding patterns all count as one operation each. Holding pattern operations, supporting the switching of pilots at the controls between FCLP passes, are conducted at 2,000 feet above the airfield.

For the projected operations, two basic scenarios are considered: a 3-plane FCLP pattern and a combination of 3-plane and 5-plane FCLP patterns. For WFF, these basic scenarios are further divided into two groups based on which runway pair would be utilized for the FCLP operations. Thus, the number of modeled scenarios, including the current conditions, are three for Emporia and five for WFF.

This noise study describes the environmental noise associated with the proposed FCLP. The primary purpose of this report is to present the aircraft noise exposure for baseline aircraft operations at the above-mentioned airfields and compare them with the aircraft noise exposures for the proposed operational scenarios for E-2/C-2 FCLP training operations.

This study was conducted in accordance with the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations on implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); and Navy procedures for implementing NEPA (32 CFR 775). The Federal Interagency Committee on Urban Noise (FICUN), formed in 1979, established Day-Night Average Sound Level (DNL) as the most appropriate descriptor for all noise sources.² In 1982, EPA published "Guidelines for Noise Impact Analysis" to provide all types of decision-makers with analytic procedures to uniformly express and quantify noise impacts.³ The American National Standards Institute (ANSI) endorsed DNL in 1990 as the "acoustical measure to be used in assessing compatibility between various land uses and outdoor noise environment."⁴ In 1992, the Federal Interagency Committee on Noise (FICON) reaffirmed the use of DNL as the principal aircraft noise descriptor in the document entitled "Federal Agency Review of Selected Airport Noise Analysis Issues."⁵

Section 1.2 summarizes the noise metrics discussed throughout this report, and Section 1.3 briefly describes the computer noise analysis models used to calculate the noise exposure. Section 2 provides a description of the airfields of interest as well as descriptions of the E-2C, E-2D, and C-2 aircraft. Section 3 deals with baseline aircraft operations and noise exposure. Section 4 describes the aircraft operations and noise exposure associated with the proposed scenarios.

1.2 Noise Metrics

Noise represents one of the most contentious environmental issues associated with aircraft operations. Although many other sources of noise are present in today's communities, aircraft noise is readily identifiable based on its uniqueness. An assessment of aircraft noise requires a general understanding of how sound affects people and the natural environment, and how it is measured.

Around a military or civilian airfield, the noise environment is normally described in terms of the time-average sound level generated by aircraft operating at that facility. In this study, these operations consist of the flight activities conducted during an average annual day including fixed-wing and rotary-wing flight operations. An average annual day is defined by the total annual airfield operations divided by the number of days in a year. This includes arrivals and departures at the airfield and flight patterns in the general vicinity of the airfield.

1.2.1 Day/Night Average Sound Level

The federally accepted noise metric used for assessing long-term aircraft noise exposures in communities in the vicinity of airfields is the DNL (which is sometimes denoted by L_{dn}), expressed as decibels (dB). DNL is an average sound level generated by all aviation-related operations during an average 24-hour period with sound levels of nighttime noise events adjusted by adding a 10 dB penalty. Daytime is defined as the period from 0700 to 2200 hours, and nighttime is the period from 2200 to 0700 hours the following morning. The 10 dB penalty accounts for the generally lower background sound levels and greater community sensitivity to noise during nighttime hours. DNL has been found to provide the best measure of long-term community reaction to transportation noises, especially aircraft noise.⁵

DNL employs A-weighted sound levels. "A-weighted" denotes the adjustment of the frequency content of a noise event to represent the way in which a human with average hearing senses the noise.

1.2.2 Sound Exposure Level

To supplement the DNL analysis, Sound Exposure Levels (SEL) are provided at representative points around the airfields. SEL is a noise metric that represents both the intensity of a sound and its duration. Individual time-varying noise events (e.g. aircraft overflights) have two main characteristics: a sound level that changes throughout the event and a period of time during which the event is heard. SEL provides a measure of the net exposure of the entire acoustic event, but it does not directly represent the sound level heard at any given time. During an aircraft flyover, SEL would include both the maximum sound level and the lower sound levels produced during onset and recess periods of the overflight.

SEL is a logarithmic measure of the total acoustic energy transmitted to the listener during the event. Mathematically, it represents the sound level of a constant sound that, in one second, would generate the same acoustic energy as the actual time-varying noise event. SEL provides the best measure to compare noise levels from different aircraft and/or operations.

1.3 Computerized Noise Exposure Models

Analyses of aircraft noise exposure around military airfield facilities are normally accomplished by using NOISEMAP⁶ and Rotorcraft Noise Model (RNM).⁷ The FAA concurs with the use of NOISEMAP program in lieu of the FAA Integrated Noise Model (INM) since the primary noise generating aircraft are military at both airfields. NOISEMAP is a suite of computer programs that were developed by the U.S. Air Force, which serves as the lead Department of Defense (DoD) agency for fixed-wing aircraft noise modeling. RNM is a suite of computer programs developed by NASA for both single event and cumulative rotary-wing aircraft noise analysis. Per Defense Noise Working Group, RNM is the DoD recommended noise model for rotary-wing aircraft noise modeling. NOISEMAP and RNM together allow noise predictions without the actual implementation of the operations and noise monitoring of those actions.

The latest NOISEMAP package of computer programs consists of BASEOPS Version 7, OMEGA10, OMEGA11, NOISEMAP Version 7.2, NMPLOT Version 4.6, and the latest issue of NOISEFILE. NOISEFILE is the DoD noise database originating from noise measurements of controlled flyovers at prescribed power, speed, and drag configurations for many models of aircraft. RNM is also incorporated into this suite of programs through the integration of the data input module BASEOPS. With BASEOPS, the user enters the runway coordinates, airfield information, flight tracks, and flight profiles along each track by each aircraft, numbers of flight operations, run-up coordinates, run-up profiles, and run-up operations. After the operational parameters are defined, both NOISEMAP and RNM calculate DNL values on a grid of ground locations on and around the facility. The NMPLOT program draws contours of equal DNL for overlay onto land-use maps. For noise studies, as a minimum, DNL contours of 65, 70, 75, and 80 dBA are developed. Results of these computer programs and noise impact guidelines provide a relative measure of noise effects around air facilities.

2 Description of Airfields and Primary Aircraft

2.1 Region of Study

The E-2/C-2 aircraft operate from Naval Station (NS) Norfolk, which is located in the southeastern corner of the Commonwealth of Virginia, in the Sewells Point area of the City of Norfolk. Emporia is to the west of NS Norfolk, and WFF is to the northeast of NS Norfolk.

NS Norfolk has two primary components: 1) the pier facilities that berth ships, submarines, and aircraft carriers, and 2) the airfield known as Chambers Field. Currently, the six east coast based fleet E-2/C-2 squadrons and the Navy's single sited E-2/C-2 FRS operate from NS Norfolk Chambers Field.

2.2 Emporia-Greenville Regional Airport

Emporia is 65 nm from NS Norfolk Chambers Field. Runway 15/33 is 5,010 feet long, 100 feet wide, aligned with prevailing winds, has existing edge lights, and is in good condition. Emporia was originally built during World War II as an Outlying Landing Field for Marine Corps Air Station (MCAS) Edenton, North Carolina and became a civilian airport in the 1960s. It is primarily located within Greenville County, with the approach end of Runway 33 located in Southampton County. The entrance to Emporia-Greenville is 1.4 miles east of the city limits of the City of Emporia, Virginia (see Figure 2-1). Approximately 2,000 general aviation aircraft operations occur annually and four privately owned aircraft are based at the airport.

2.3 Wallops Flight Facility

WFF is NASA's principal facility for suborbital research programs management and implementation. WFF is located in the northeastern portion of Accomack County, Virginia, on the Delmarva Peninsula, approximately 70 nm from NS Norfolk. It is comprised of three parcels: Main Base, Mainland, and Wallops Island. The airfield is on the Main Base, which is located off Virginia Route 175, approximately 2 miles (3.2 kilometers) east of U.S. Route 13. It is bordered on the east by extensive marshland and creeks that lead into Chincoteague Bay and Chincoteague Inlet; on the north and west by Little Mosquito Creek, an estuarine area; and on the south and southeast by State Routes 175 and 798, respectively. WFF has three runways, two of which could support Navy E-2/C-2 FCLP operations (see Figure 2-2). Runway 04/22 is 8,750 feet by 150 feet, and Runway 10/28 is 8,000 feet by 200 feet. The third runway, Runway 17/35, does not meet the Navy's length requirement. Thus, it is not being examined for potential Navy use in this study.

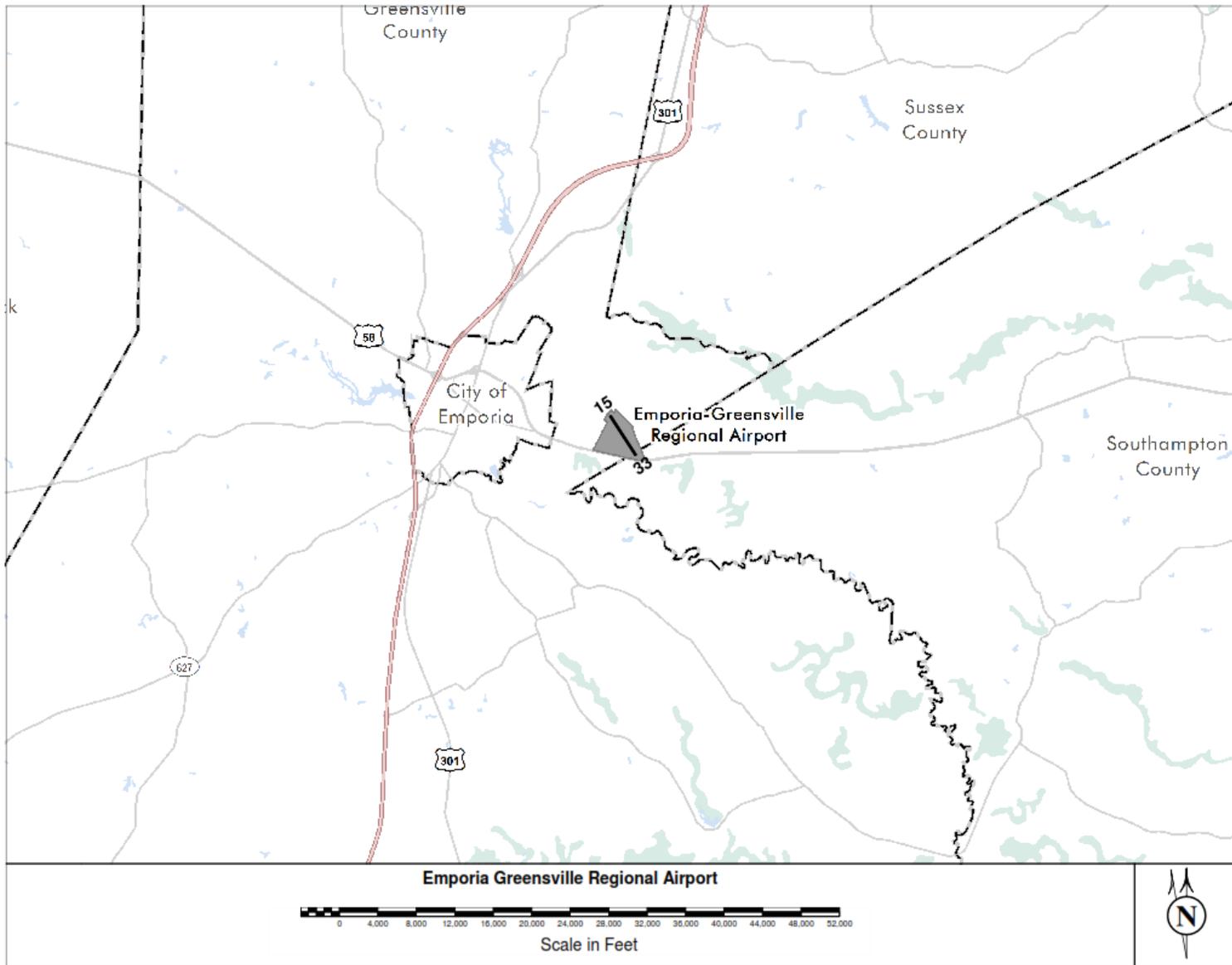


Figure 2-1. Emporia Greenville Regional Airport

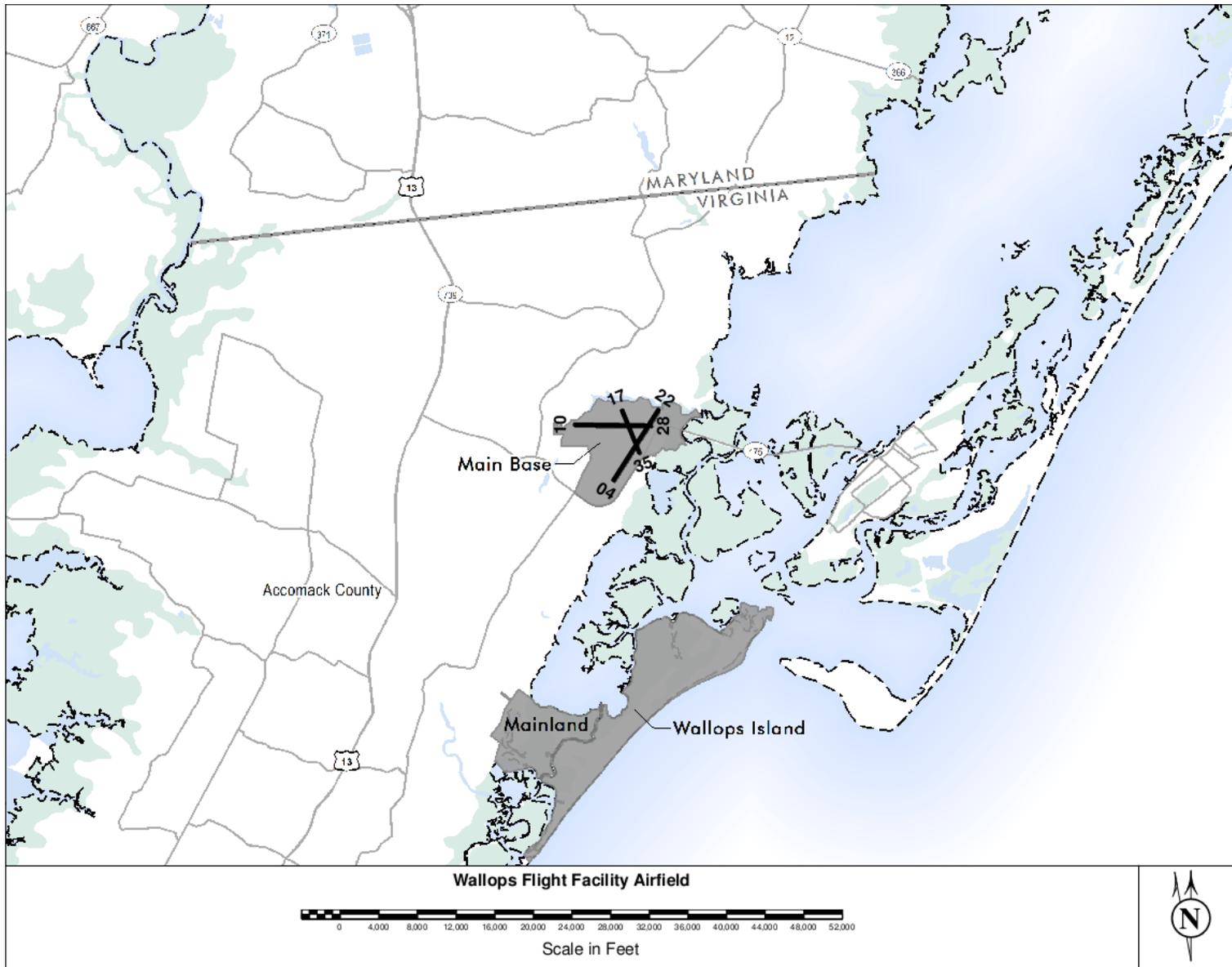


Figure 2-2. Wallops Flight Facility

2.4 Description of Aircraft

Six carrier air wing E-2/C-2 squadrons, or “fleet” squadrons, are assigned to the Atlantic Fleet and deploy aboard aircraft carriers as part of the larger attached carrier air wing. The FRS trains naval aviators and naval flight officers on the specific aircraft (E-2 or C-2) they have been assigned to fly. The FRS does not deploy. Students in the FRS are new aviators, aviators transitioning from one aircraft type to another, or aviators returning to the cockpit after assigned duty away from flying. After completing the required training regimen, FRS graduates are then assigned to a fleet squadron. The amount of FCLP training required for FRS pilots prior to carrier qualifications varies, but is considerably higher than that of a fleet pilot.

2.4.1 E-2C/D Hawkeye/Advanced Hawkeye

The Navy E-2C/D is a twin-engine turboprop, all-weather, carrier-based airborne early warning command and control aircraft (see Figure 2-3). It provides early warning and command and control functions for the carrier strike group to which it is attached. Additional missions include surface surveillance coordination, strike and interceptor control, search and rescue guidance, and communications relay.

The E-2C Hawkeye is gradually being replaced by the E-2D Advanced Hawkeye. The E-2D Advanced Hawkeye entered operational service in 2010 and began replacing the E-2C in 2011. The E-2Cs will be fully replaced by E-2Ds by 2022. The differences between the E-2C and E-2D do not extend to the engine and propellers that drive the aircraft; therefore, the E-2C and E-2D are the same with respect to environmental considerations (specifically noise). Currently, 28 E-2C and one E-2D aircraft are stationed at NS Norfolk Chambers Field, which includes 20 E-2C aircraft assigned to the fleet squadrons and eight E-2C and one E-2D aircraft assigned to the E-2/C-2 FRS. The Navy’s only E-2/C-2 FRS is stationed at NS Norfolk Chambers Field.

2.4.2 C-2A Greyhound

The C-2A Greyhound is a twin-engine, turboprop, cargo plane designed to land on aircraft carriers (see Figure 2-4). The aircraft is capable of carrying 10,000 pounds of cargo and up to 26 passengers. Currently, 17 C-2A Greyhound aircraft are stationed at NS Norfolk Chambers Field, which includes 12 C-2A aircraft assigned to the lone East Coast Fleet Logistics Support Squadron and five C-2A aircraft assigned to the E-2/C-2 FRS.



Figure 2-3. E-2D Advanced Hawkeye



Figure 2-4. C-2 Greyhound

3 Baseline Aircraft Operations and Noise Exposures

Assessment of noise at an airfield requires a range of data from many sources. These sources provided descriptions of the types, frequency, and location of noise generating operations occurring at and around the airfield. For this study, the data sources include airfield managers, air traffic controllers, base planners, aircrews, and previous noise studies. The data from these sources are compiled and integrated into a description of the noise generating activities occurring at each airfield. The operational description includes the frequency of flight operations, airfield layout, runway utilization, flight tracks, and flight profiles. The operational descriptions were contained in the E-2/C-2 Modeling Parameters Report for Proposed FCLP Training Operations at Emporia-Greenville Regional Airport and Wallops Flight Facility⁸ and verified by US Fleet Forces (USFF). The noise analysis for this study compares the projected noise from the proposed E-2/C-2 FCLP training operations at both Emporia and WFF against current baseline noise conditions for Calendar Year (CY) 2011 aircraft operations at each facility. This section describes the modeled aircraft operations.

3.1 Emporia Baseline Conditions

Both fixed-wing and rotary-wing aircraft currently utilize Emporia's airfield, and both aircraft perform a sufficient percentage of the total baseline operations to warrant modeling for this study. The majority of

the data on current operations was collected during a site visit to the airport⁹ and follow-on discussions specifically regarding military helicopter operations at Emporia.¹⁰

3.1.1 Annual Flight Operations

The current fixed-wing aircraft operations are primarily composed of single-engine propeller aircraft such as the Cessna 172 and 182. Other aircraft types include twin-engine propeller aircraft (such as the Super King Air) and small business jet (such as the Lear 3 and Gulfstream G-5). Based on the airport's logbook, the percentage of operations by these three types of aircraft are 85%, 8%, and 7%, respectively. The estimated number of annual operations for these aircraft is 1,144 (or 22 operations per week).¹¹ Of these operations, the single-engine aircraft perform approximately 40% visual touch-and-go patterns, 10% instrument patterns, and the remaining 50% as arrival-departures pairs. The twin-engine and business jets do not perform any pattern work at the airfield.

The runway utilization for these aircraft operations are about 75% for Runway 33 and 25% for Runway 15. This runway distribution is influenced by the fact that instrument approaches are primarily practiced for Runway 33, which skews the runway utilization from prevailing winds. Based upon information provided by airport personnel, the percentage split for acoustic day (0700-2200)/acoustic night (2200-0700) is 85%/15% for single- and twin-engine propeller planes, and it is 100%/0% for business jets that utilize the airfield.

Military helicopters utilize Emporia for two primary reasons: (1) Paratroopers (average once per month), and (2) periodic arrival/departure work (average of 20 times per month). Rotary-wing aircraft operating at Emporia primarily include Army CH-47s and Navy MH-53Es. The paratrooper exercises involve about eight (8) jump patterns per training period always conducted during daylight hours. The US Army also uses the CASA 212 fixed-wing aircraft to support the paratrooper exercises at a low rate of two times per year in place of the CH-47D.

The other operations involve instrument arrival training for the CH-47D and MH-53E. These operations are conducted on Runway 33, and they normally involve one arrival followed by a simulated radar pattern, and then a departure. For the split of these helicopter operations, it is assumed that CH-47Ds conduct 87.5%, and MH-53Es conduct 12.5% of the operations. Moreover, the acoustic day/night split for these helicopter operations is 95%/5%. Using these operational parameters, the annual operations for current conditions at Emporia were computed and are provided in Table 3-1.

Table 3-1. Annual Airfield Operations at Emporia for CY 2011

| | Departures | Arrivals | Pattern | Total |
|--------------------|------------|----------|---------|-------|
| Civilian | | | | |
| Single Engine | 243 | 243 | 486 | 972 |
| Twin Engine | 46 | 46 | 0 | 92 |
| Business Jet | 40 | 40 | 0 | 80 |
| Total | | | | 1,144 |
| Military | | | | |
| CH-47D | 10 | 10 | 160 | 180 |
| CASA 212 | 2 | 2 | 32 | 36 |
| CH-47D | 210 | 210 | 420 | 840 |
| MH-53 | 30 | 30 | 60 | 120 |
| Total | | | | 1,176 |
| Grand Total | | | | 2,320 |

3.1.2 Flight Tracks

The flight tracks for Emporia are standard with the primary traffic flow being either northern or southern. The modeled flight tracks for current conditions at Emporia are provided in Figure 3-1 through Figure 3-4.

3.1.3 Average Daily Operational Distributions

The next step is to distribute the operations among the flight tracks based on the operational type frequencies and runway utilizations. Combining these factors together, the average annual tempo of daily flight operations was developed and is provided in Table 3-2.

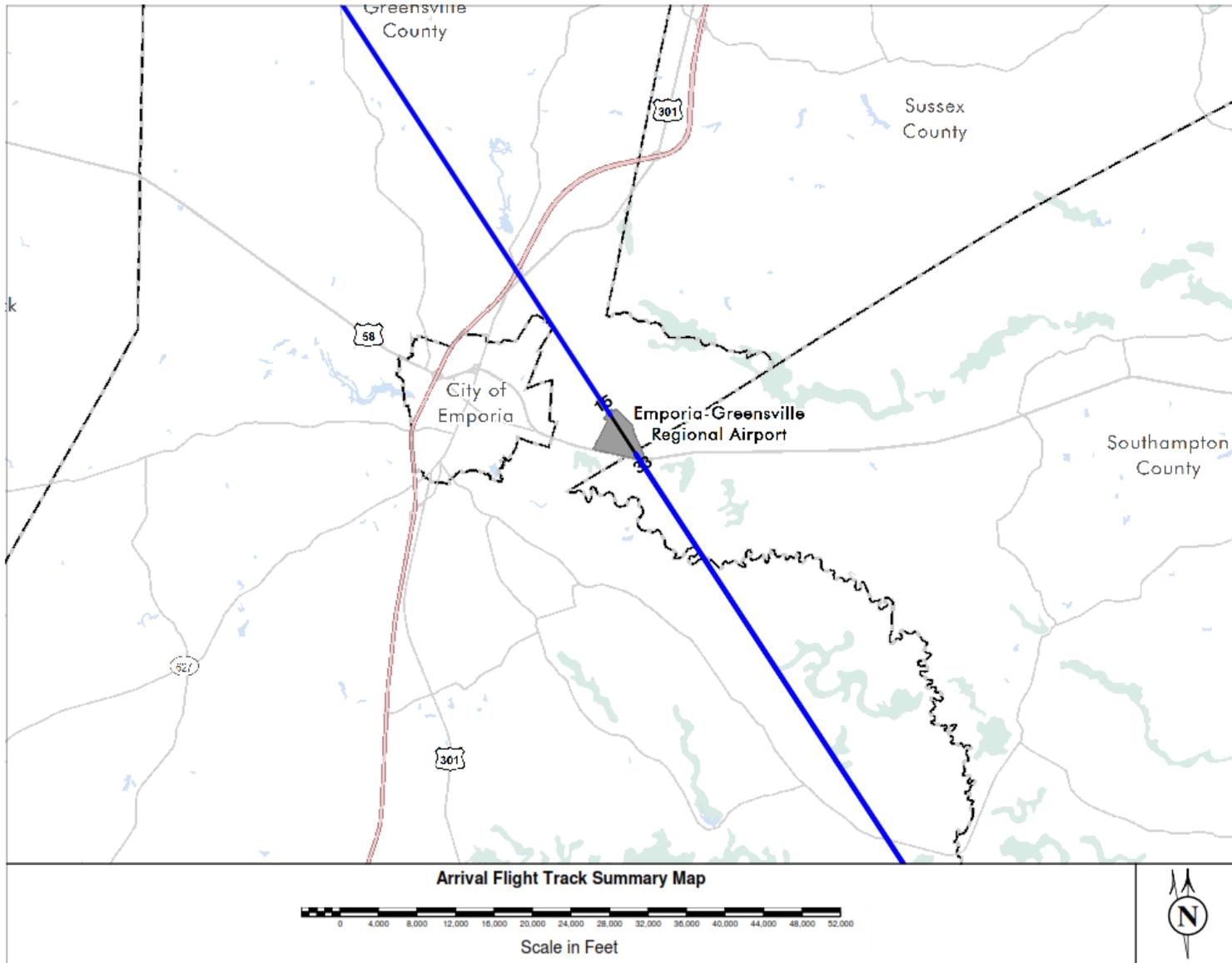


Figure 3-1. Modeled Arrival Flight Tracks for Current Operations at Emporia

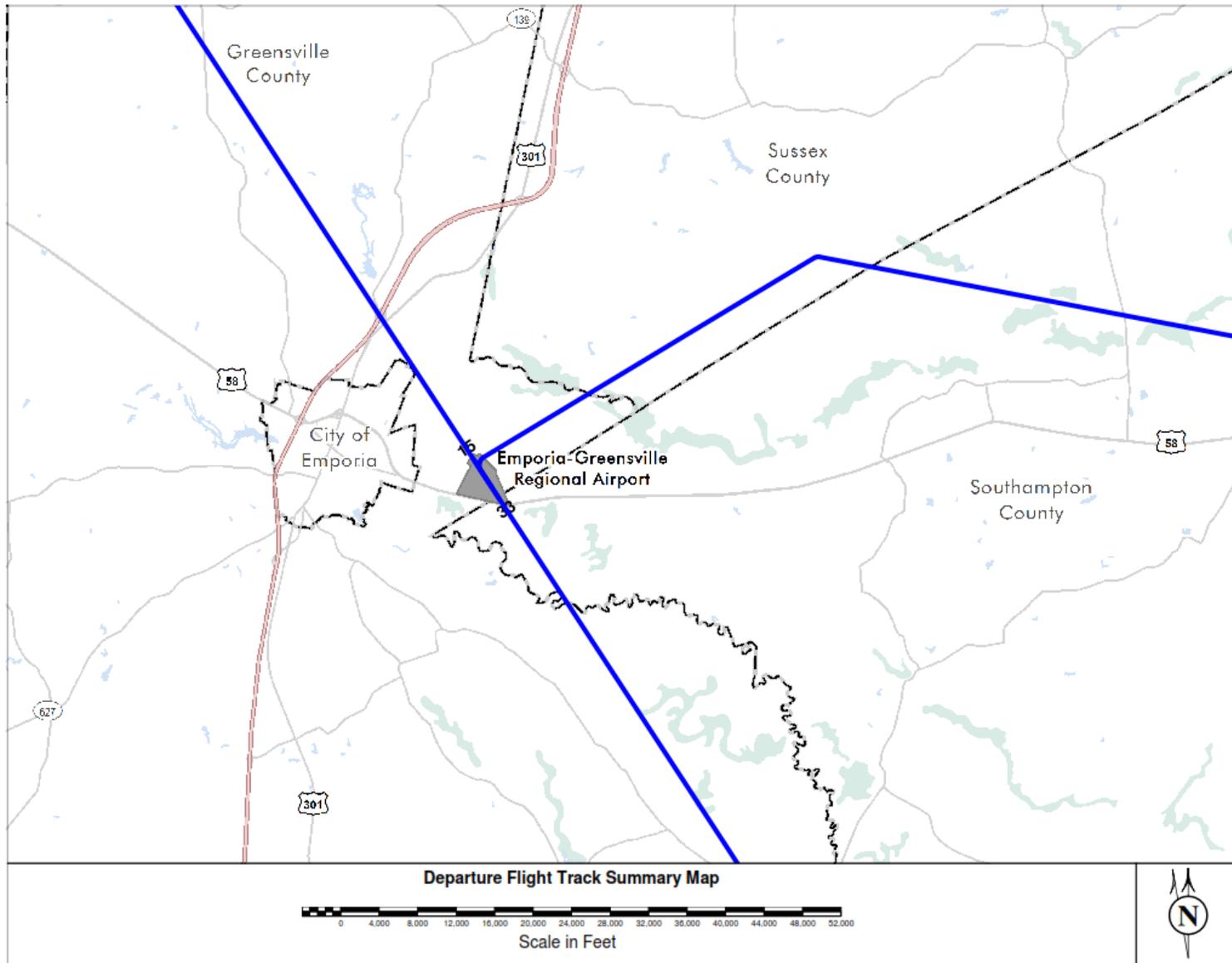


Figure 3-2. Modeled Departure Flight Tracks for Current Operations at Emporia

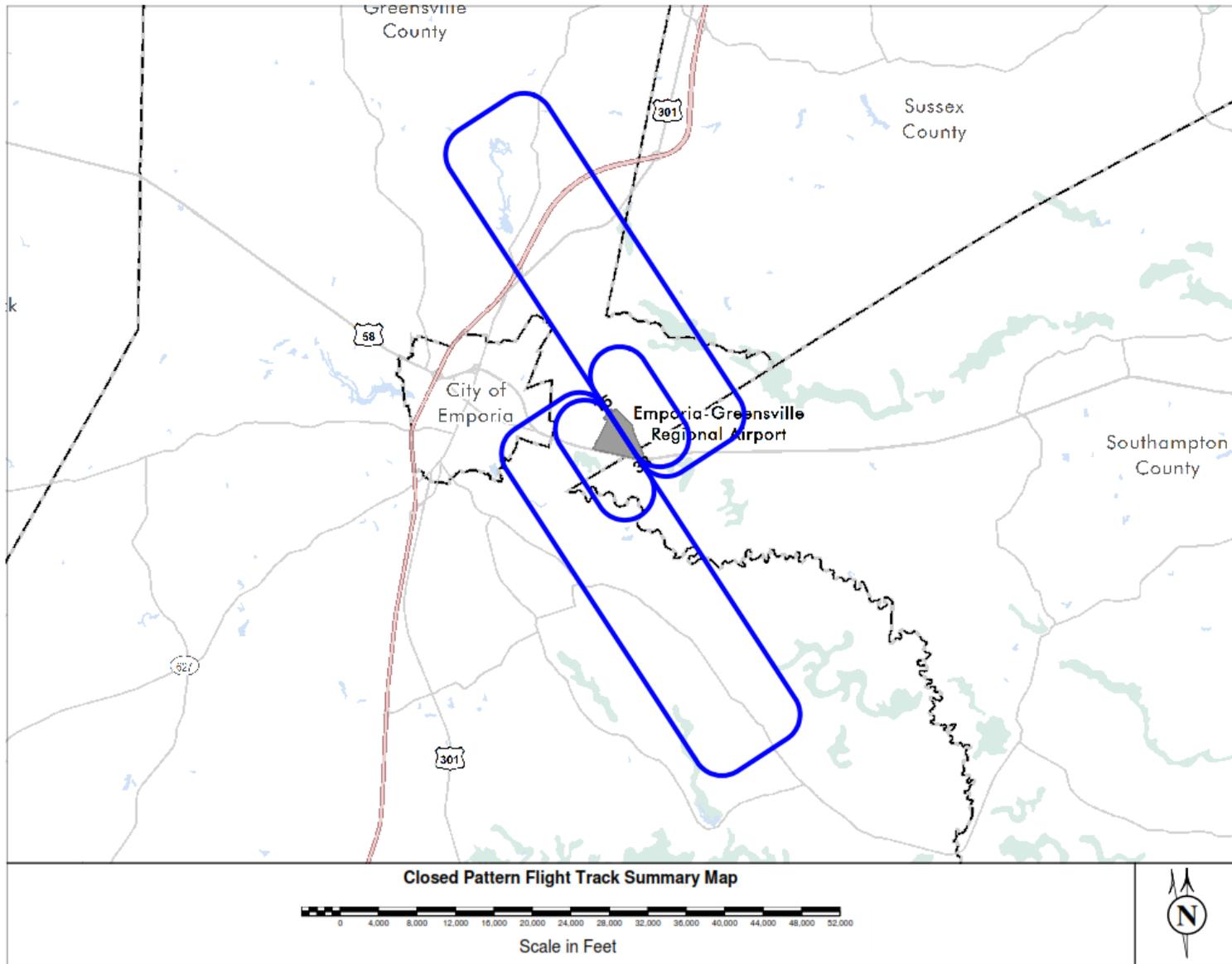


Figure 3-3. Modeled Closed Pattern Tracks for Current Operations at Emporia

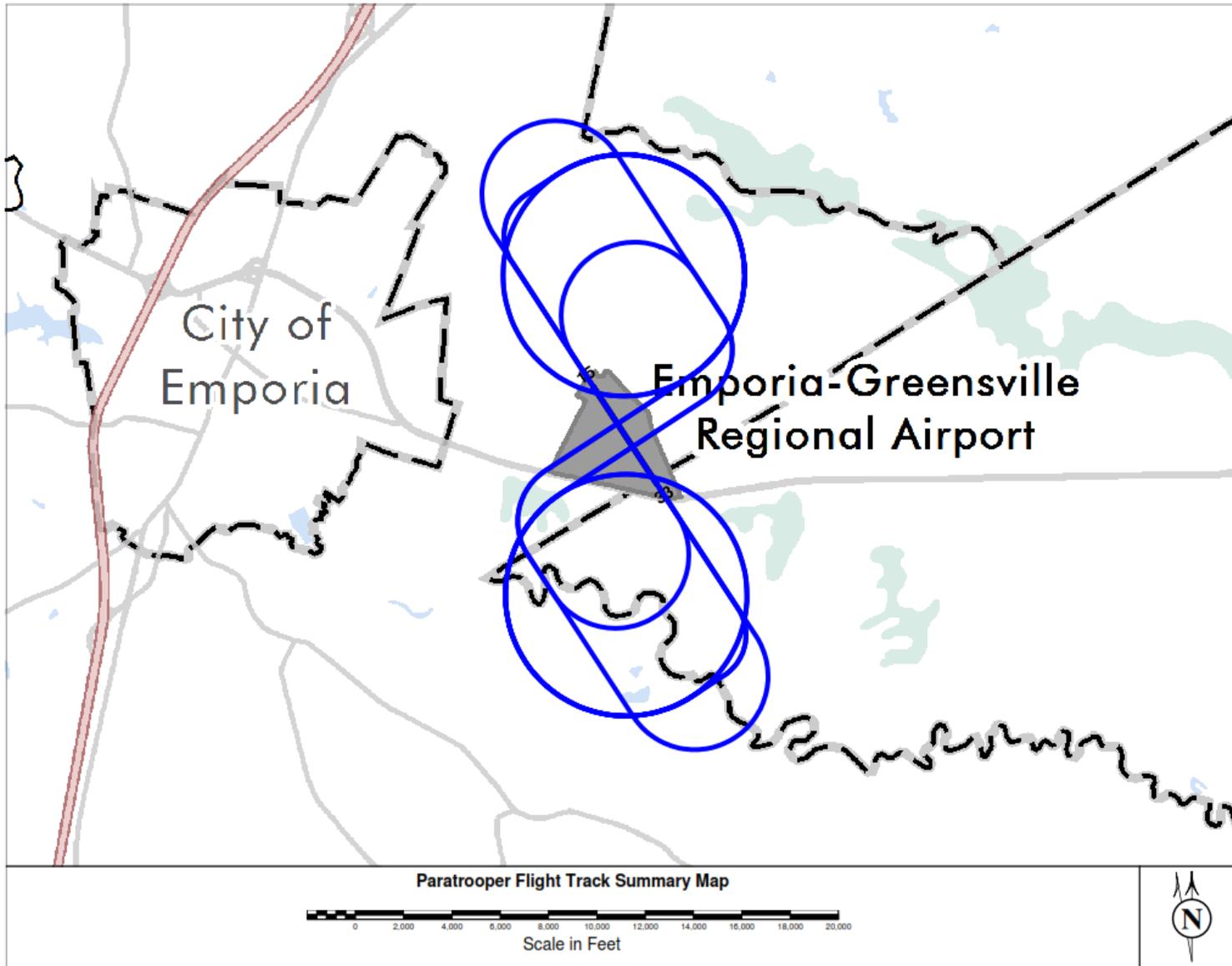


Figure 3-4. Modeled Paratrooper Drop Tracks for Current Operations at Emporia

Table 3-2. Average Annual Daily Events for Emporia

| Aircraft | Track Type | Runway | | Track | Profile | | | Average Annual Day Events | | | |
|----------------------------------|----------------|--------|-------------|----------|------------|-------|---------|--------------------------------|----------------------------------|--------------------------|--------------|
| | | ID | Utilization | | ID | % Day | % Night | Acoustic Day (0700 to 2200) | Acoustic Night (2200 to 0700) | Total | |
| Civilian Operations | | | | | | | | | | | |
| Single Engine Propeller Aircraft | Arrival | 15 | 25% | rwy15A | S_15A | 85% | 15% | 0.142 | 0.025 | 0.167 | |
| | | 33 | 75% | rwy33A | S_33A | | | 0.425 | 0.075 | 0.500 | |
| | Closed Pattern | 15 | 5% | 15GCA | S_15GCA | | | 0.057 | 0.010 | 0.067 | |
| | | 15 | 20% | 15F3 | S_15T | | | 0.226 | 0.040 | 0.266 | |
| | | 33 | 15% | 33GCA | S_33GCA | | | 0.170 | 0.030 | 0.200 | |
| | Departure | 33 | 60% | 33F3 | S_33T | | | 0.679 | 0.120 | 0.799 | |
| | | 15 | 25% | rwy15D | S_15D | | | 0.142 | 0.025 | 0.167 | |
| | 33 | 75% | rwy33D | S_33D | 0.425 | | | 0.075 | 0.500 | | |
| | | | | | | | | | Subtotal | 2.664 | |
| Twin Engine Propeller Aircraft | Arrival | 15 | 25% | rwy15A | Twin_15A | 85% | 15% | 0.027 | 0.005 | 0.031 | |
| | | 33 | 75% | rwy33A | Twin_33A | | | 0.080 | 0.014 | 0.094 | |
| | Departure | 15 | 25% | rwy15D | Twin_15D | | | 0.027 | 0.005 | 0.031 | |
| | | 33 | 75% | rwy33D | Twin_33D | | | 0.080 | 0.014 | 0.094 | |
| | | | | | | | | | Subtotal | 0.251 | |
| Business Jet | Arrival | 15 | 25% | rwy15A | BIZ15A | 100% | 0% | 0.027 | 0.000 | 0.027 | |
| | | 33 | 75% | rwy33A | BIZ33A | | | 0.082 | 0.000 | 0.082 | |
| | Departure | 15 | 25% | rwy15D | BIZ15D | | | 0.027 | 0.000 | 0.027 | |
| | | 33 | 75% | rwy33D | BIZ33D | | | 0.082 | 0.000 | 0.082 | |
| | | | | | | | | | Subtotal | 0.219 | |
| | | | | | | | | | | Civilian Subtotal | 3.134 |
| Military Operations | | | | | | | | | | | |
| CH-47D | Arrival | 33 | 100% | 33VOR | 47_33A2 | 95% | 5% | 0.547 | 0.029 | 0.575 | |
| | Closed Pattern | | 100% | 33GCA | 47_33GCA | | | 0.547 | 0.029 | 0.575 | |
| | Departure | | 100% | rwy33D | 47_33D2 | | | 0.547 | 0.029 | 0.575 | |
| CH-53E | Arrival | 33 | 100% | 33VORH | 53_33A | | | 0.078 | 0.004 | 0.082 | |
| | Closed Pattern | | 100% | 33GCA | 53_33GCA | | | 0.078 | 0.004 | 0.082 | |
| | Departure | | 100% | 33D3 | 53_33D | | | 0.078 | 0.004 | 0.082 | |
| | | | | | | | | | Subtotal | 1.973 | |
| CH-47D Paratrooper Training | Arrival | 15 | 47% | rwy15A | 47_15A | 100% | 0% | 0.013 | 0.000 | 0.013 | |
| | | 33 | 53% | rwy33A | 47_33A1 | | | 0.015 | 0.000 | 0.015 | |
| | Closed Pattern | 15 | 47% | 15para | 47_15PD5k | | | 0.052 | 0.000 | 0.052 | |
| | | 15 | 47% | 15para | 47_15PD150 | | | 0.052 | 0.000 | 0.052 | |
| | | 33 | 53% | 33para | 47_33PD5k | | | 0.058 | 0.000 | 0.058 | |
| | Departure | 33 | 53% | 33para | 47_33PD150 | | | 0.058 | 0.000 | 0.058 | |
| | | 15 | 47% | rwy15D | 47_15D | | | 0.013 | 0.000 | 0.013 | |
| 33 | 53% | rwy33D | 47_33D1 | 0.015 | 0.000 | 0.015 | | | | | |
| | | | | | | | | | Subtotal | 0.274 | |
| CASA 212 Paratrooper Training | Arrival | 15 | 47% | rwy15A | C_15A | 100% | 0% | 0.003 | 0.000 | 0.003 | |
| | | 33 | 53% | rwy33A | C_33A | | | 0.003 | 0.000 | 0.003 | |
| | Closed Pattern | 15F | 47% | 15para_2 | C_15PD5k | | | 0.010 | 0.000 | 0.010 | |
| | | 15F | 47% | 15para_2 | C_15PD1500 | | | 0.010 | 0.000 | 0.010 | |
| | | 33F | 53% | 33para_2 | C_33PD5k | | | 0.012 | 0.000 | 0.012 | |
| | Departure | 33F | 53% | 33para_2 | C_33PD1500 | | | 0.012 | 0.000 | 0.012 | |
| | | 15 | 47% | rwy15D | C_15D | | | 0.003 | 0.000 | 0.003 | |
| | 33 | 53% | rwy33D | C_33D | 0.003 | | | 0.000 | 0.003 | | |
| | | | | | | | | | Subtotal | 0.052 | |
| | | | | | | | | | | Military Subtotal | 2.298 |
| | | | | | | | | | | Grand Total | 5.433 |

3.1.4 Flight Profiles

Flight profile descriptions vary between fixed-wing and rotary-wing aircraft. For fixed-wing aircraft, a flight profile consists of changes in aircraft power settings, altitudes above mean sea level, and airspeeds at defined points along a given flight track. For rotary-wing aircraft, a flight profile consists of changes in altitudes, airspeeds, and roll, pitch, and yaw angles along a given flight track. For this analysis, CH-47D

operations were modeled using NOISEMAP, and MH-53E operations were modeled using RNM. This is because of the limited source noise data for the CH-47D available within RNM.

For this study, the following NOISEMAP sources were used for the various aircraft groups listed in Table 3-2:

| <u>Aircraft Group</u> | <u>NOISEMAP Source</u> |
|-----------------------|------------------------|
| Single Engine | GASEPV VAR PTCH |
| Twin Engine | T-44 |
| Business Jet | C-21A |
| CH-47D | CH47D |
| CASA 212 | C-23 |

These aircraft are acoustically representative of the various types of aircraft that operate at Emporia. The modeled flight profiles for these representative aircraft are based on similar profiles from previous NOISEMAP and RNM analyses.

3.1.5 Noise Exposure

Using the data described in Sections 3.1.1 through 3.1.4, NOISEMAP 7 and RNM were used to calculate the DNL contours for the average daily operations for baseline conditions. Figure 3-5 provides a plot of the 65 dBA DNL contours for the baseline conditions. The noise exposure of baseline condition at Emporia is small because of the low number of flight operations and the types of aircraft that operate at the facility. The calculated DNL values on the grid barely register above 65 dBA at only two points along the runway.

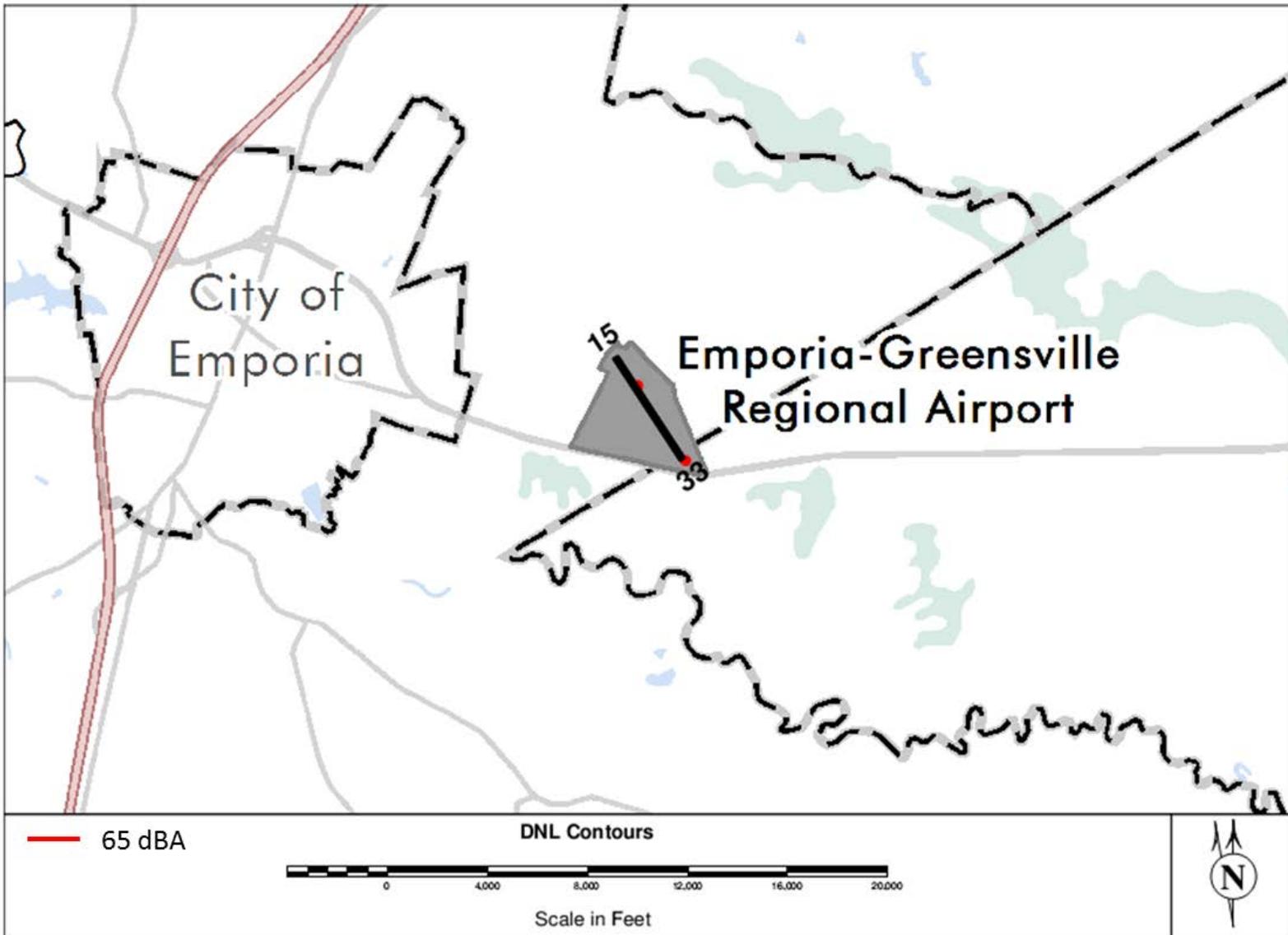


Figure 3-5. Baseline DNL Contours for CY2011 Operations at Emporia

3.2 Wallops Flight Facility Baseline Conditions

Fixed-wing aircraft are the primary type of aircraft utilizing WFF. Rotary-wing aircraft do operate at the facility but at significantly lower operational rates. Most of the information on current operations was collected during a site visit to the airfield and through follow up emails.¹²

3.2.1 Annual Flight Operations

The current fixed-wing aircraft operations are composed of a mix of based and transient aircraft. NASA has two primary based aircraft: Super King Air and P-3C, whereas other NASA aircraft operate at the field as transients. These transients are generally transports such as a B-737 aircraft. Various military groups utilized the airfield for pattern training. These aircraft include E-2s, C-2s, P-3Cs, A-10As, F-15s, C-40s, and F-18s. Of all of the different aircraft groups, the existing E-2/C-2 aircraft perform the largest number of operations at the airfield. Table 3-3 provides the annual airfield operations for CY 2011 at WFF based on their control tower air traffic count report for 2011.¹³

Table 3-3. Annual Airfield Operations at Wallops Flight Facility for CY 2011

| | Departures | Arrivals | Pattern | Total |
|-------------------------------------|------------|----------|---------|---------------|
| Civilian Aircraft | | | | |
| NASA | 157 | 157 | - | 313 |
| Misc. | 94 | 94 | - | 188 |
| | | | | |
| Subtotal Civilian Operations | | | | 501 |
| Military Aircraft | | | | |
| U.S. Navy | 789 | 789 | 9,471 | 11,050 |
| Maryland Air National Guard | 55 | 55 | 662 | 772 |
| U.S. Air Force | 48 | 48 | 574 | 670 |
| Army & Coast Guard | 41 | 41 | - | 81 |
| Subtotal Military Operations | | | | 12,573 |
| Total | | | | 13,074 |

3.2.2 Flight Tracks

The current flight tracks for WFF follow some basic rules because of the restricted airspace east of the airfield. All departures are turned to the west as shown in Figure 3-6. In addition, most of the arrival tracks flow out of the west upon initial arrival to the airfield as shown in Figure 3-7. The closed pattern tracks are touch-and-go patterns and are shown in Figure 3-9.

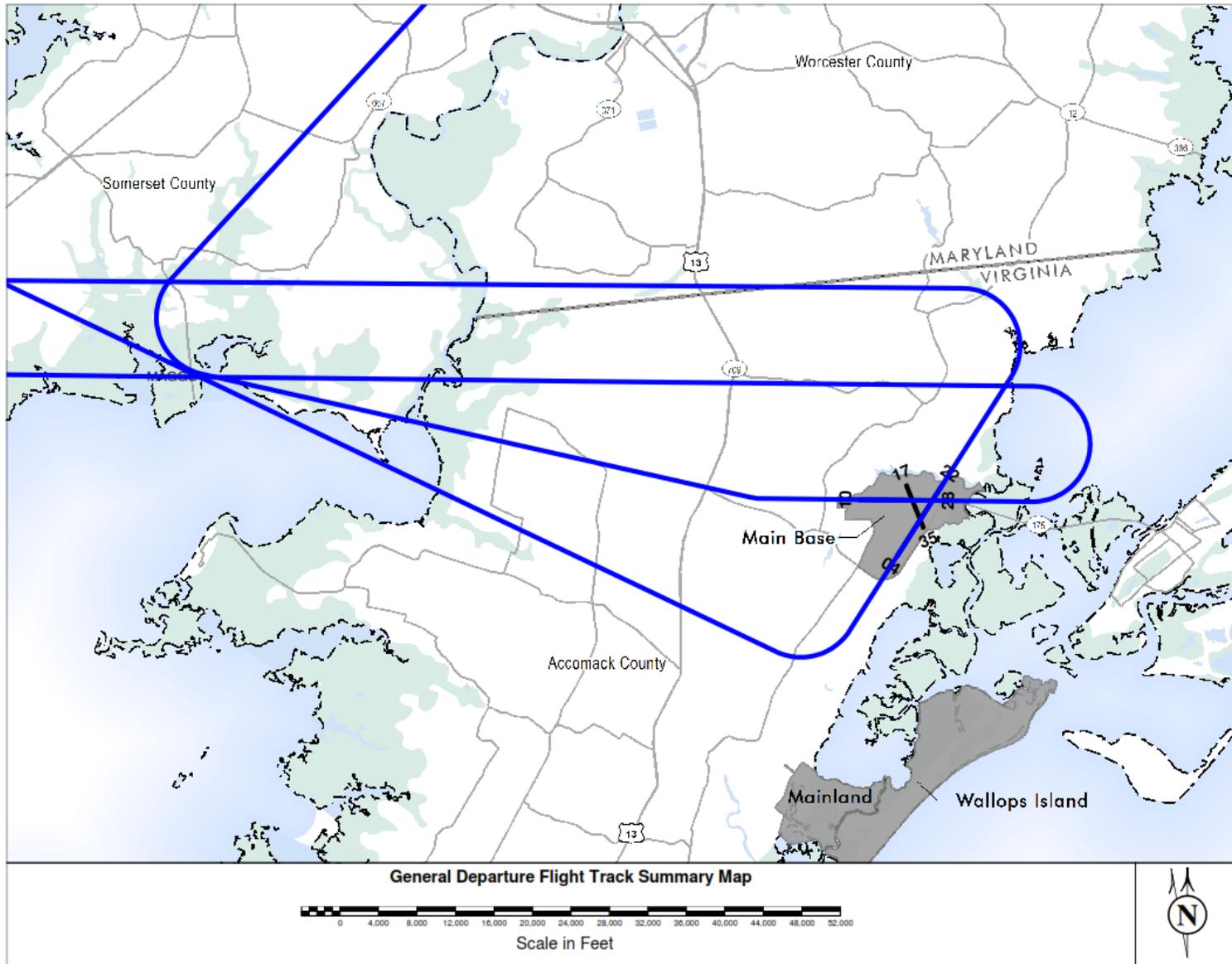


Figure 3-6. Modeled Departure Flight Tracks for Current Operations at Wallops Flight Facility

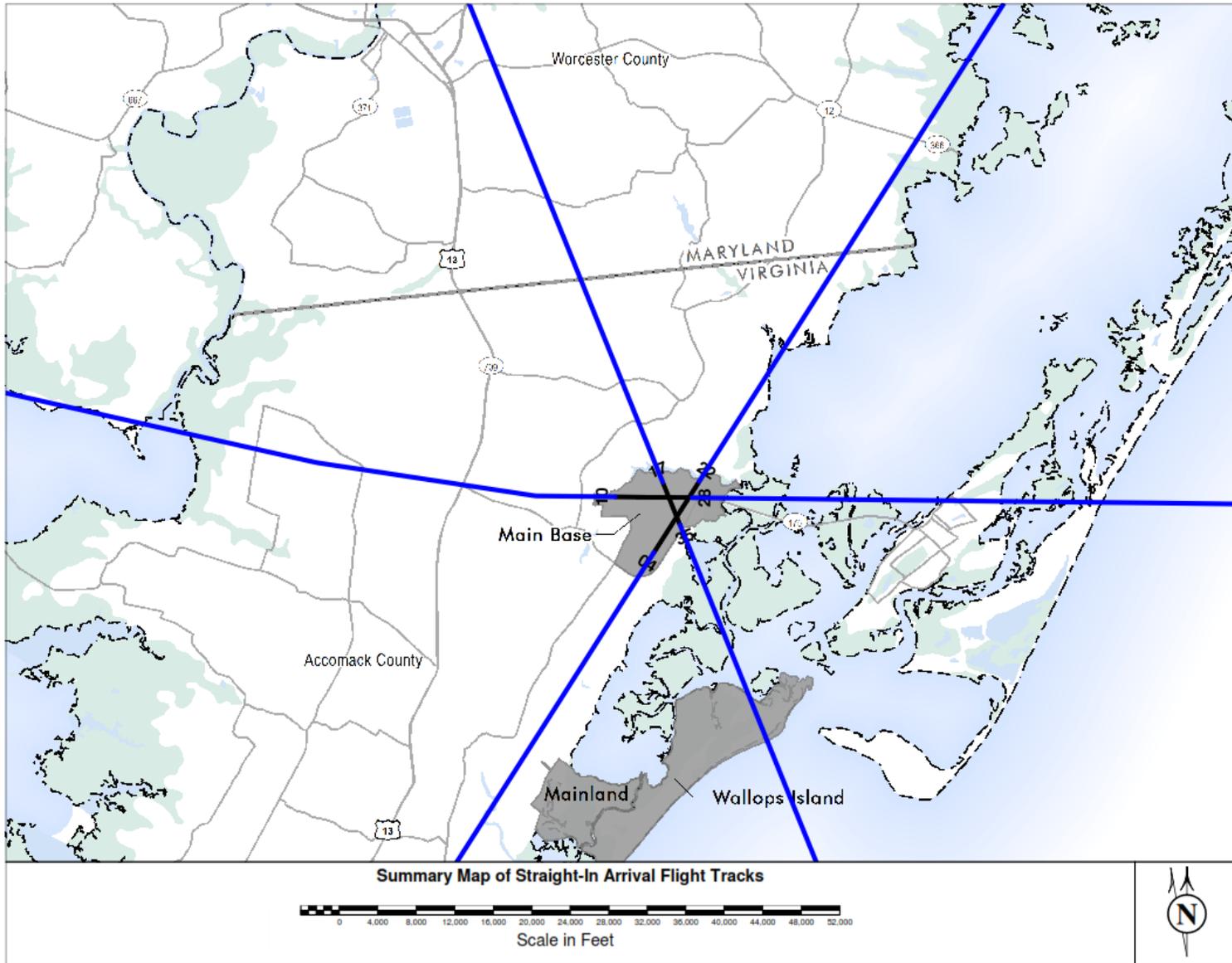


Figure 3-7. Modeled Straight-In Arrival Flight Tracks for Current Operations at Wallops Flight Facility

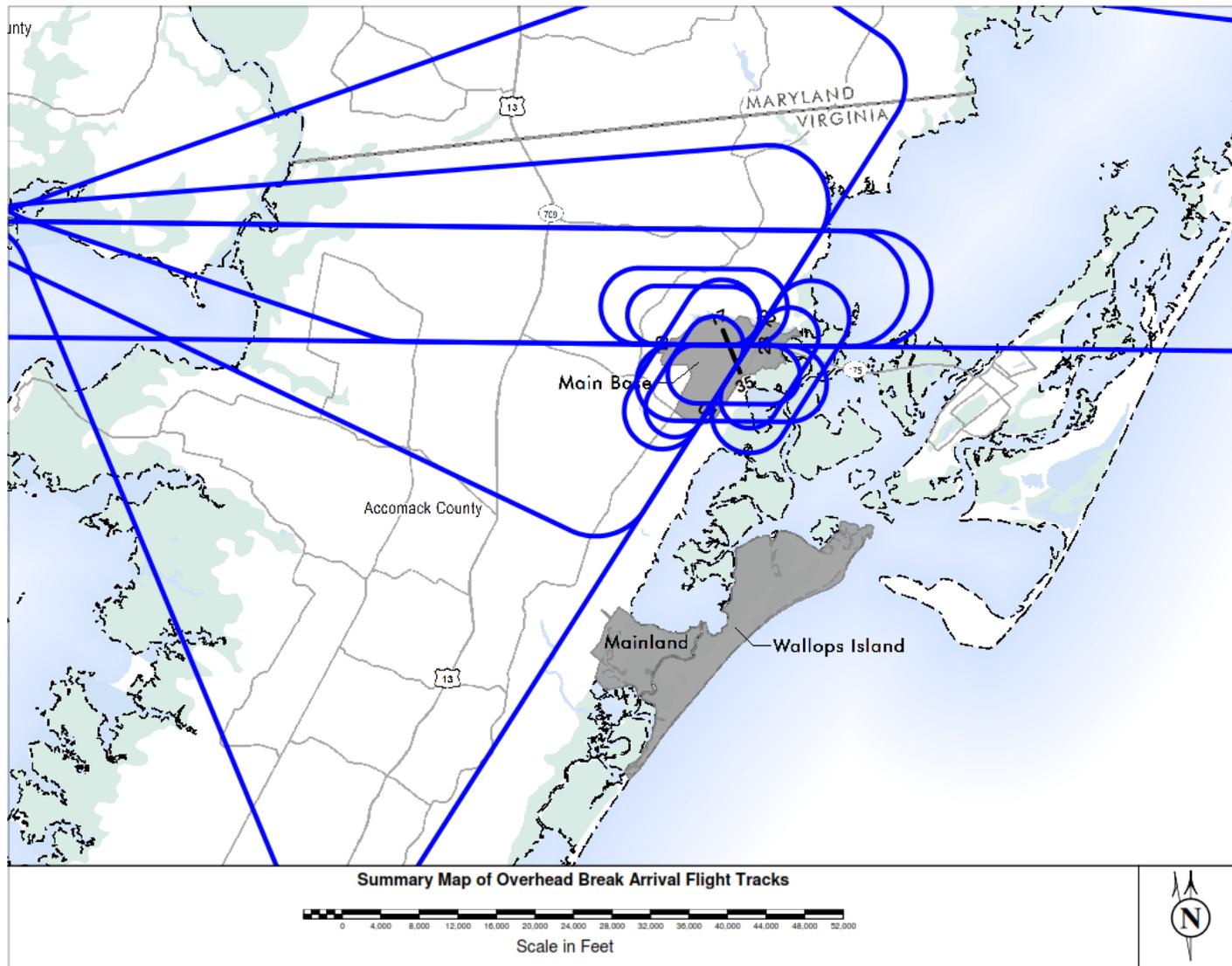


Figure 3-8. Modeled Overhead Arrival Flight Tracks for Current Operations at Wallops Flight Facility

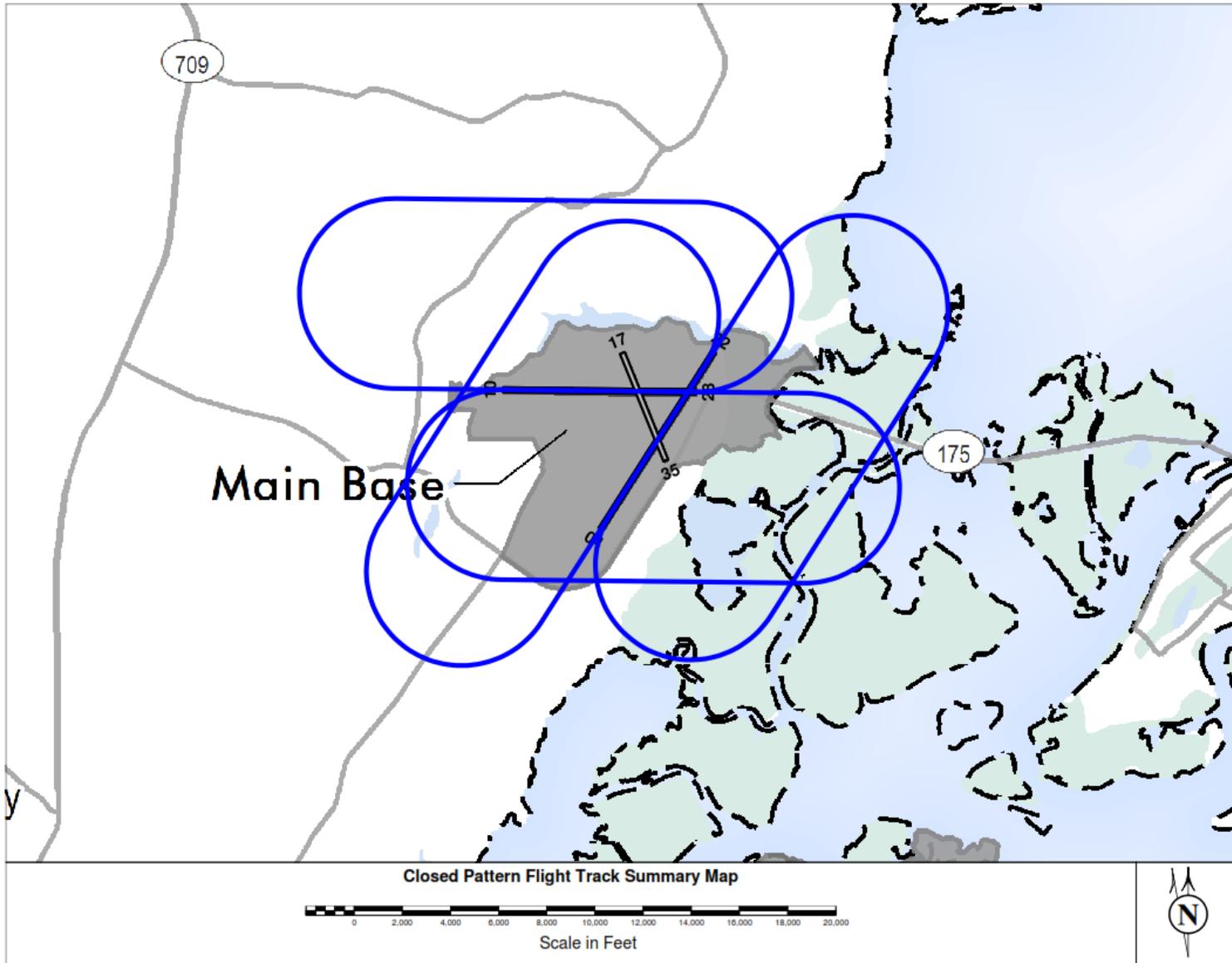


Figure 3-9. Modeled Closed Pattern Flight Tracks for Current Operations at Wallops Flight Facility

3.2.3 Average Daily Operational Distributions

The next step is to distribute the operations among the flight tracks based on the operational type frequencies and runway utilizations. For the military training operations, the aircraft are primarily E-2/C-2s, A-10As, F/A-18C/Ds, and F/A-18E/Fs, and they average six patterns for each sortie. Using these operational parameters, the annual operations for current conditions at WFF were computed and are provided in Table 3-3.

The runway utilization for these aircraft operations are 11% for Runway 04, 26% for Runway 10, 24% for Runway 22, and 39% for Runway 28.¹⁴ Current operations at WFF are only conducted during daylight hours. Thus, the split for acoustic day (0700-2200)/acoustic night (2200-0700) is 100%/0%. Combining these factors together, the average annual tempo of daily flight operations were computed and are provided in Table 3-4.

3.2.4 Flight Profiles

For WFF, the following NOISEMAP sources are used for the various aircraft groups listed in Table 3-4:

| Aircraft Group | NOISEMAP Source |
|----------------|-----------------|
| A-10A | A-10A |
| Super King Air | C-12 |
| Transport | C-40 (737-700C) |
| E-2/C-2 | E-2C |
| Jet Fighter | F/A-18E |
| P-3C | P-3C |

These aircraft are acoustically representative of the various types of aircraft that operate at WFF. The modeled flight profiles for these representative aircraft are based on similar profiles from previous NOISEMAP analyses.



Table 3-4. Average Annual Daily Events for Wallops Flight Facility

| Aircraft | Track Type | Runway | | Track ID | Profile | | | Average Annual Day Events | | |
|--------------------|----------------|--------|-------------|----------|------------|-------|---------|---------------------------|----------------|--------|
| | | ID | Utilization | | ID | % Day | % Night | Acoustic Day | Acoustic Night | Total |
| | | | | | | | | (0700 to 2200) | (2200 to 0700) | |
| A-10A | Arrival | 04 | 11% | 04A1 | A10_A04 | 100% | 0% | 0.008 | 0.000 | 0.008 |
| | | 10 | 26% | 10A1 | A10_A10 | 100% | 0% | 0.019 | 0.000 | 0.019 |
| | | 22 | 24% | 22A1 | A10_A22 | 100% | 0% | 0.018 | 0.000 | 0.018 |
| | | 28 | 39% | 28A1 | A10_A28 | 100% | 0% | 0.028 | 0.000 | 0.028 |
| | Closed Pattern | 04 | 10% | 04T1 | A10_T04 | 100% | 0% | 0.046 | 0.000 | 0.046 |
| | | 10 | 26% | 10T1 | A10_T10 | 100% | 0% | 0.114 | 0.000 | 0.114 |
| | | 22 | 24% | 22T1 | A10_T22 | 100% | 0% | 0.107 | 0.000 | 0.107 |
| | | 28 | 39% | 28T1 | A10_T28 | 100% | 0% | 0.170 | 0.000 | 0.170 |
| | Departure | 04 | 11% | 04D3 | A10_D04 | 100% | 0% | 0.008 | 0.000 | 0.008 |
| | | 10 | 26% | 10D3 | A10_D10 | 100% | 0% | 0.019 | 0.000 | 0.019 |
| | | 22 | 24% | 22D3 | A10_D22 | 100% | 0% | 0.018 | 0.000 | 0.018 |
| | | 28 | 39% | 28D3 | A10_D28 | 100% | 0% | 0.028 | 0.000 | 0.028 |
| Subtotal | | | | | | | | | | 0.582 |
| Super King Air | Arrival | 04 | 11% | 04A1 | C12_A04 | 100% | 0% | 0.061 | 0.000 | 0.061 |
| | | 10 | 26% | 10A1 | C12_A10 | 100% | 0% | 0.144 | 0.000 | 0.144 |
| | | 22 | 24% | 22A1 | C12_A22 | 100% | 0% | 0.132 | 0.000 | 0.132 |
| | | 28 | 39% | 28A1 | C12_A28 | 100% | 0% | 0.215 | 0.000 | 0.215 |
| | Departure | 04 | 11% | 04D3 | C12_D04 | 100% | 0% | 0.061 | 0.000 | 0.061 |
| | | 10 | 26% | 10D3 | C12_D10 | 100% | 0% | 0.144 | 0.000 | 0.144 |
| | | 22 | 24% | 22D3 | C12_D22 | 100% | 0% | 0.132 | 0.000 | 0.132 |
| | | 28 | 39% | 28D3 | C12_D28 | 100% | 0% | 0.215 | 0.000 | 0.215 |
| Subtotal | | | | | | | | | | 1.104 |
| Transport | Arrival | 04 | 11% | 04A1 | C40_A04 | 100% | 0% | 0.118 | 0.000 | 0.118 |
| | | 10 | 26% | 10A1 | C40_A10 | 100% | 0% | 0.279 | 0.000 | 0.279 |
| | | 22 | 24% | 22A1 | C40_A22 | 100% | 0% | 0.258 | 0.000 | 0.258 |
| | | 28 | 39% | 28A1 | C40_A28 | 100% | 0% | 0.419 | 0.000 | 0.419 |
| | Departure | 04 | 11% | 04D3 | C40_D04 | 100% | 0% | 0.118 | 0.000 | 0.118 |
| | | 10 | 26% | 10D3 | C40_D10 | 100% | 0% | 0.279 | 0.000 | 0.279 |
| | | 22 | 24% | 22D3 | C40_D22 | 100% | 0% | 0.258 | 0.000 | 0.258 |
| | | 28 | 39% | 28D3 | C40_D28 | 100% | 0% | 0.419 | 0.000 | 0.419 |
| Subtotal | | | | | | | | | | 2.148 |
| E-2/C-2 | Arrival | 04 | 11% | N04O1 | E2_A04_BL | 100% | 0% | 0.147 | 0.000 | 0.147 |
| | | 10 | 26% | N10O1 | E2_A10_BL | 100% | 0% | 0.348 | 0.000 | 0.348 |
| | | 22 | 24% | N22O1 | E2_A22_BL | 100% | 0% | 0.322 | 0.000 | 0.322 |
| | | 28 | 39% | N28O1 | E2_A28_BL | 100% | 0% | 0.523 | 0.000 | 0.523 |
| | Closed Pattern | 04 | 11% | 04T1 | E2_T04a_BL | 60% | 0% | 0.531 | 0.000 | 0.531 |
| | | | | 04T1 | E2_T04b_BL | 40% | 0% | 0.354 | 0.000 | 0.354 |
| | | | | 10T1 | E2_T10a_BL | 60% | 0% | 1.254 | 0.000 | 1.254 |
| | | | | 10T1 | E2_T10b_BL | 40% | 0% | 0.836 | 0.000 | 0.836 |
| | | 22 | 24% | 22T1 | E2_T22a_BL | 60% | 0% | 1.158 | 0.000 | 1.158 |
| | | | | 22T1 | E2_T22b_BL | 40% | 0% | 0.772 | 0.000 | 0.772 |
| | | | | 28T1 | E2_T28a_BL | 60% | 0% | 1.882 | 0.000 | 1.882 |
| | | | | 28T1 | E2_T28b_BL | 40% | 0% | 1.254 | 0.000 | 1.254 |
| | Departure | 04 | 11% | N04D2 | E2_D04_BL | 100% | 0% | 0.147 | 0.000 | 0.147 |
| | | | | N10D2 | E2_D10_BL | 100% | 0% | 0.348 | 0.000 | 0.348 |
| | | | | N22D2 | E2_D22_BL | 100% | 0% | 0.322 | 0.000 | 0.322 |
| | | | | N28D2 | E2_D28_BL | 100% | 0% | 0.523 | 0.000 | 0.523 |
| Subtotal | | | | | | | | | | 10.721 |
| Jet Fighter | Arrival | 04 | 11% | P04O1 | F18_O04 | 100% | 0% | 0.020 | 0.000 | 0.020 |
| | | 10 | 26% | P10O1 | F18_O10 | 100% | 0% | 0.046 | 0.000 | 0.046 |
| | | 22 | 24% | P22O1 | F18_O22 | 100% | 0% | 0.043 | 0.000 | 0.043 |
| | | 28 | 39% | P28O1 | F18_O28 | 100% | 0% | 0.069 | 0.000 | 0.069 |
| | Closed Pattern | 04 | 11% | 04T1 | F18_T04 | 100% | 0% | 0.117 | 0.000 | 0.117 |
| | | | | 10T1 | F18_T10 | 100% | 0% | 0.277 | 0.000 | 0.277 |
| | | | | 22T1 | F18_T22 | 100% | 0% | 0.255 | 0.000 | 0.255 |
| | | | | 28T1 | F18_T28 | 100% | 0% | 0.415 | 0.000 | 0.415 |
| | Departure | 04 | 11% | P04D2 | F18_D04 | 100% | 0% | 0.020 | 0.000 | 0.020 |
| | | | | P10D2 | F18_D10 | 100% | 0% | 0.046 | 0.000 | 0.046 |
| | | | | P22D2 | F18_D22 | 100% | 0% | 0.043 | 0.000 | 0.043 |
| | | | | P28D2 | F18_D28 | 100% | 0% | 0.069 | 0.000 | 0.069 |
| Subtotal | | | | | | | | | | 1.418 |
| P-3C | Arrival | 04 | 11% | 04A1 | P3_A04 | 100% | 0% | 0.439 | 0.000 | 0.439 |
| | | 10 | 26% | 10A1 | P3_A10 | 100% | 0% | 1.038 | 0.000 | 1.038 |
| | | 22 | 24% | 22A1 | P3_A22 | 100% | 0% | 0.958 | 0.000 | 0.958 |
| | | 28 | 39% | 28A1 | P3_A28 | 100% | 0% | 1.557 | 0.000 | 1.557 |
| | Departure | 04 | 11% | 04D3 | P3_D04 | 100% | 0% | 0.439 | 0.000 | 0.439 |
| | | | | 10D3 | P3_D10 | 100% | 0% | 1.038 | 0.000 | 1.038 |
| | | | | 22D3 | P3_D22 | 100% | 0% | 0.958 | 0.000 | 0.958 |
| | | | | 28D3 | P3_D28 | 100% | 0% | 1.557 | 0.000 | 1.557 |
| Subtotal | | | | | | | | | | 7.984 |
| Grand Total | | | | | | | | | | 23.957 |

3.2.5 Noise Exposure

Using the data described in Sections 3.2.1 through 3.2.4, NOISEMAP 7 was used to calculate the DNL contours for the average daily operations for baseline conditions. Figure 3-10 provides a plot of the 65, 70, and 75 dBA DNL contours for the baseline conditions. The 65 dBA contour follows the runways and the touch-and-go patterns. The modeled F/A-18E operations are the primary driver of the contour. It should be noted that contours are a way of showing discrete points of data over a large area. In the process of creating these smooth contours, some unexpected artifacts can appear such as small notches or spots. These artifacts are smoothed so that they better represent the actual expected noise levels.

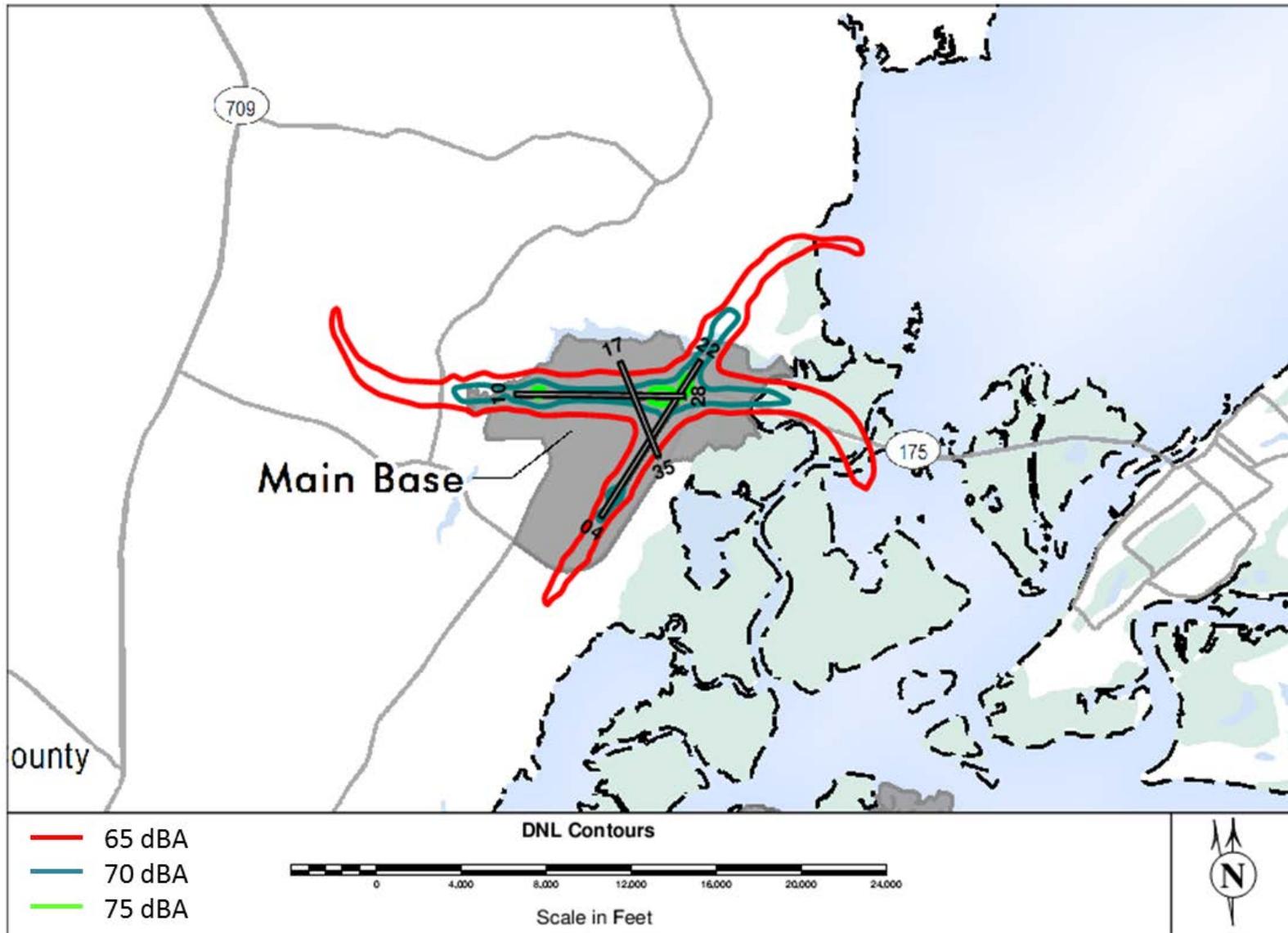


Figure 3-10. Baseline DNL Contours for CY2011 Operations at Wallops Flight Facility

4 Proposed Aircraft Operations and Noise Exposure

The purpose of this section is to describe the two proposed operational alternatives and the associated noise exposure at the two airfields. The first alternative involves all of the E-2/C-2 FCLP training operations occurring at Emporia, and the second is for all of the E-2/C-2 FCLP training operations at WFF. For each alternative, multiple scenarios are analyzed. The basic scenarios involve 3-plane only and 3-and 5-plane mixed FCLP patterns. For Emporia, this split leads to two scenarios. For WFF, the scenarios are also split by the runway pairs. The following is a list of modeled scenarios for this analysis:

| Alternative | Scenario | ID |
|-------------|--|--------|
| Emporia | All 3-plane FCLP patterns | Alt 1A |
| | Mix of 3- and 5-plane FCLP patterns | Alt 1B |
| WFF | All 3-plane FCLP Patterns on Runways 04/22 | Alt 2A |
| | Mix of 3- and 5-plane FCLP patterns on Runways 04/22 | Alt 2B |
| | All 3-plane FCLP Patterns on Runways 10/28 | Alt 2C |
| | Mix of 3- and 5-plane FCLP patterns on Runways 10/28 | Alt 2D |

The details of the proposed E-2/C-2 flight tracks and flight profiles at Emporia and WFF were developed as a result of discussions with USFF and documented in a modeling parameters report⁸ that is provided in Appendix A.

4.1 Alternative 1: Emporia

For this alternative, the operational numbers for the proposed E-2/C-2 operations are provided in Table 4-1 for the 3-plane scenario (Alt 1A) and in Table 4-2 for the mix of 3- and 5-plane scenario (Alt 1B). The day/night split provided in these tables is based on acoustic day (0700 to 2200) and acoustic night (2200 to 0700). For Alt 1B, the mix of 3- and 5-plane FCLP patterns is 33.3% 3-plane and 66.7% 5-plane. For both of these scenarios the overall number of annual operations is up to 45,000. The proposed operations include runway utilizations based on historical wind data for the airfield, which are different from the utilizations currently in use. For the proposed operations, the runway utilization is 47% on Runway 15 and 53% on Runway 33 based on historical wind data. No full stop landings or departures were modeled for the E-2/C-2 operations at Emporia. For both of these scenarios, all other aircraft operations are assumed constant between the baseline and proposed scenarios.

Figure 4-1 shows the proposed E-2/C-2 arrival flight tracks to Emporia. Figure 4-2 shows the departure tracks for E-2/C-2 operations from Emporia. The 3-plane and 5-plane FCLP flight tracks are provided in Figure 4-3 and Figure 4-4. For the Crew Swap Pattern (see Figure 4-5 for an example), the model includes both the hold pattern and the initial FCLP for the new pilot.

Table 4-1. Average Annual Daily Operations for Proposed E-2/C-2 at Emporia for Alt 1A

| Aircraft | Track Type | Runway | | Track ID | Profile | | | Average Annual Day Events | | |
|----------|-----------------|--------|-------------|----------|---------|--------|---------|---------------------------|----------------|--------|
| | | ID | Utilization | | ID | % Day | % Night | Acoustic Day | Acoustic Night | Total |
| | | | | | | | | (0700 to 2200) | (2200 to 0700) | |
| E-2/C-2 | Arrival | 15 | 47% | 15O1 | E2_15O | 89.55% | 10.45% | 0.649 | 0.076 | 0.724 |
| | | 33 | 53% | 33O1 | E2_33O | 89.55% | 10.45% | 0.731 | 0.085 | 0.817 |
| | FCLP | 15 | 47% | 15SW | E2_15CS | 89.55% | 10.45% | 2.594 | 0.303 | 2.897 |
| | | 15 | 47% | 15F3 | E2_15F3 | 89.55% | 10.45% | 22.702 | 2.649 | 25.351 |
| | | 33 | 53% | 33SW | E2_33CS | 89.55% | 10.45% | 2.926 | 0.341 | 3.267 |
| | | 33 | 53% | 33F3 | E2_33F3 | 89.55% | 10.45% | 25.600 | 2.987 | 28.587 |
| | Departure | 15 | 47% | 15D2 | E2_15D2 | 89.55% | 10.45% | 0.649 | 0.076 | 0.724 |
| | | 33 | 53% | 33D2 | E2_33D2 | 89.55% | 10.45% | 0.731 | 0.085 | 0.817 |
| | Subtotal | | | | | | | | | 63.185 |

Table 4-2. Average Annual Daily Operations for Proposed E-2/C-2 at Emporia for Alt 1B

| Aircraft | Track Type | Runway | | Track ID | Profile | | | Average Annual Day Events | | |
|-----------------|------------|--------|-------------|----------|---------|--------|---------|---------------------------|----------------|--------|
| | | ID | Utilization | | ID | % Day | % Night | Acoustic Day | Acoustic Night | Total |
| | | | | | | | | (0700 to 2200) | (2200 to 0700) | |
| E-2/C-2 | Arrival | 15 | 47% | 15O1 | E2_15O | 89.55% | 10.45% | 0.757 | 0.088 | 0.845 |
| | | 33 | 53% | 33O1 | E2_33O | 89.55% | 10.45% | 0.854 | 0.100 | 0.953 |
| | FCLP | 15 | 3% | 15SW | E2_15CS | 89.55% | 10.45% | 2.486 | 0.290 | 2.776 |
| | | 15 | 22% | 15F3 | E2_15F3 | 89.55% | 10.45% | 7.560 | 0.882 | 8.442 |
| | | 15 | 22% | 15F5 | E2_15F5 | 89.55% | 10.45% | 15.142 | 1.767 | 16.909 |
| | | 33 | 3% | 33SW | E2_33CS | 89.55% | 10.45% | 2.803 | 0.327 | 3.130 |
| | | 33 | 25% | 33F3 | E2_33F3 | 89.55% | 10.45% | 8.525 | 0.995 | 9.520 |
| | Departure | 33 | 25% | 33F5 | E2_33F5 | 89.55% | 10.45% | 17.075 | 1.993 | 19.068 |
| | | 15 | 47% | 15D2 | E2_15D2 | 89.55% | 10.45% | 0.757 | 0.088 | 0.845 |
| | | 33 | 53% | 33D2 | E2_33D2 | 89.55% | 10.45% | 0.854 | 0.100 | 0.953 |
| Subtotal | | | | | | | | | 63.441 | |

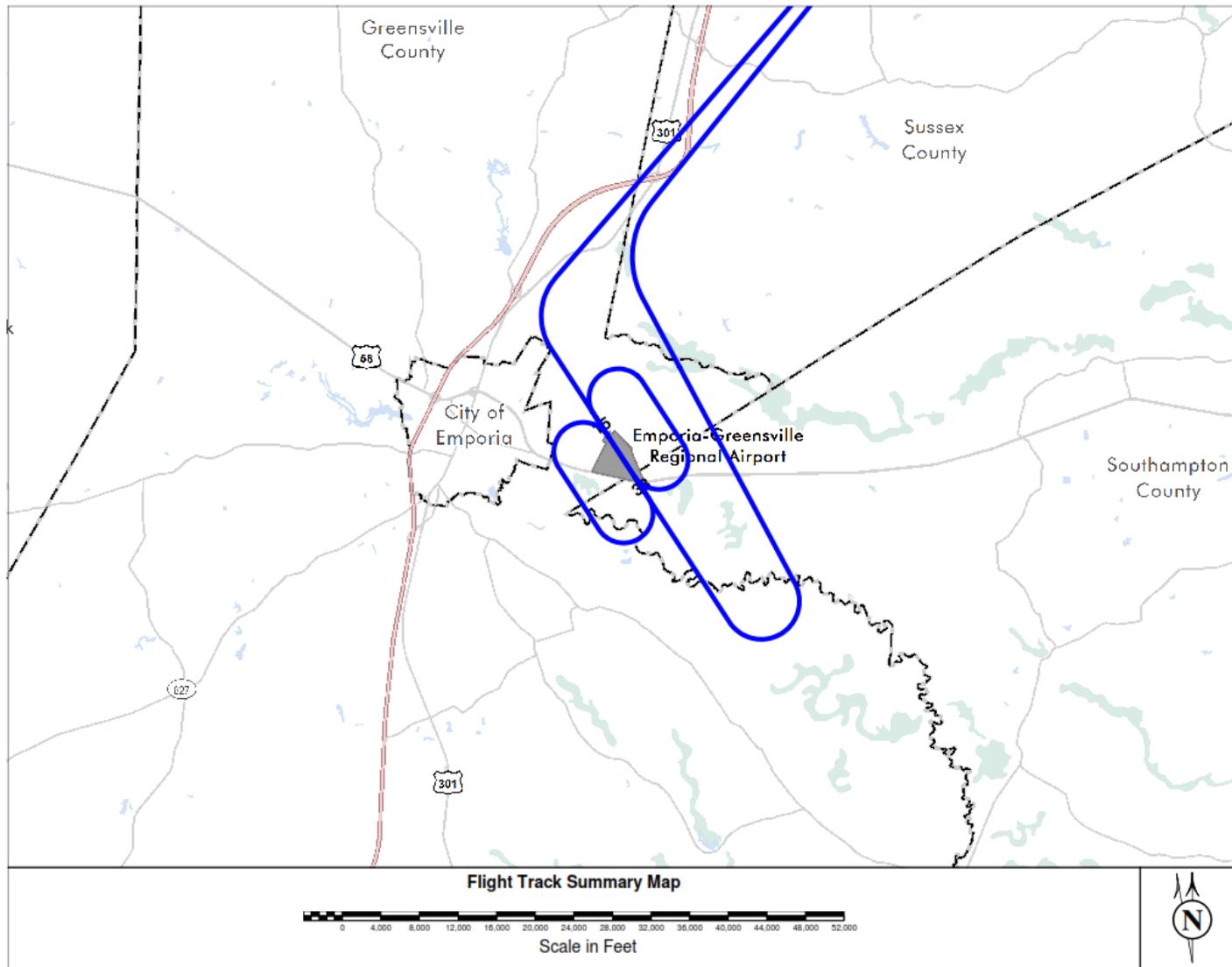


Figure 4-1. Modeled Proposed Arrival Flight Tracks for E-2/C-2 Operations at Emporia

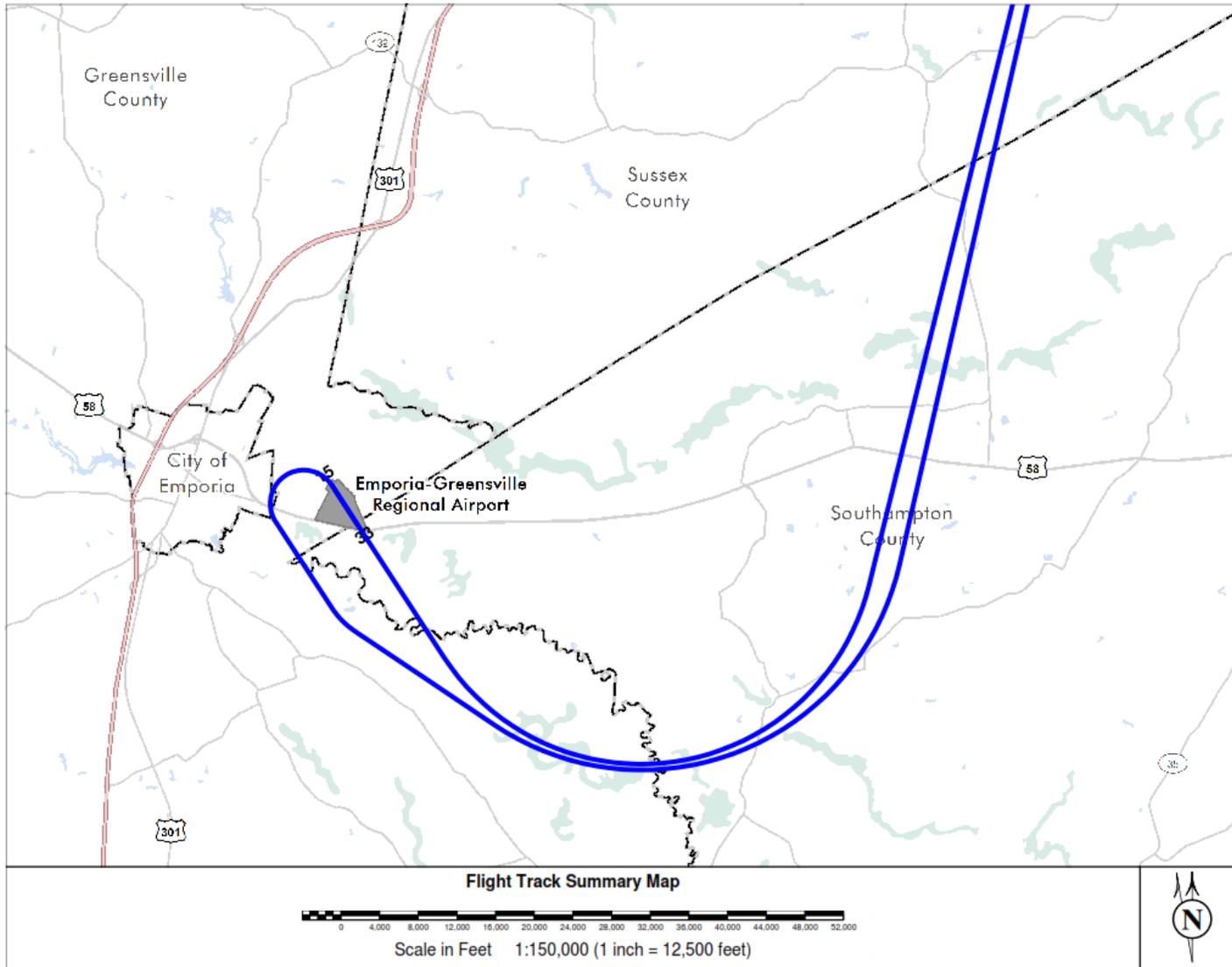


Figure 4-2. . Modeled Proposed Departure Flight Tracks for E-2/C-2 Operations at Emporia

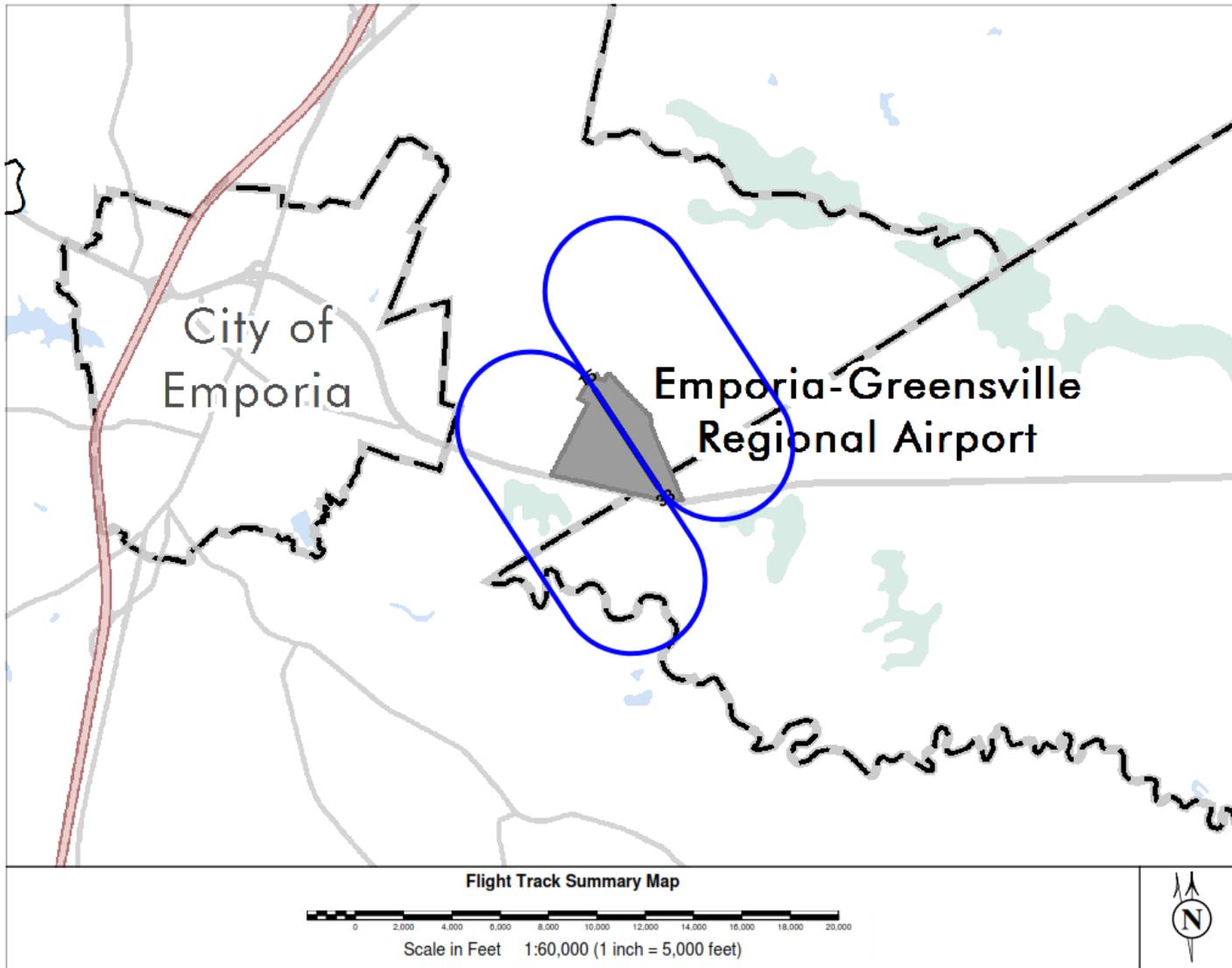


Figure 4-3. Modeled Proposed 3-Plane FCLP Flight Tracks for E-2/C-2 Operations at Emporia

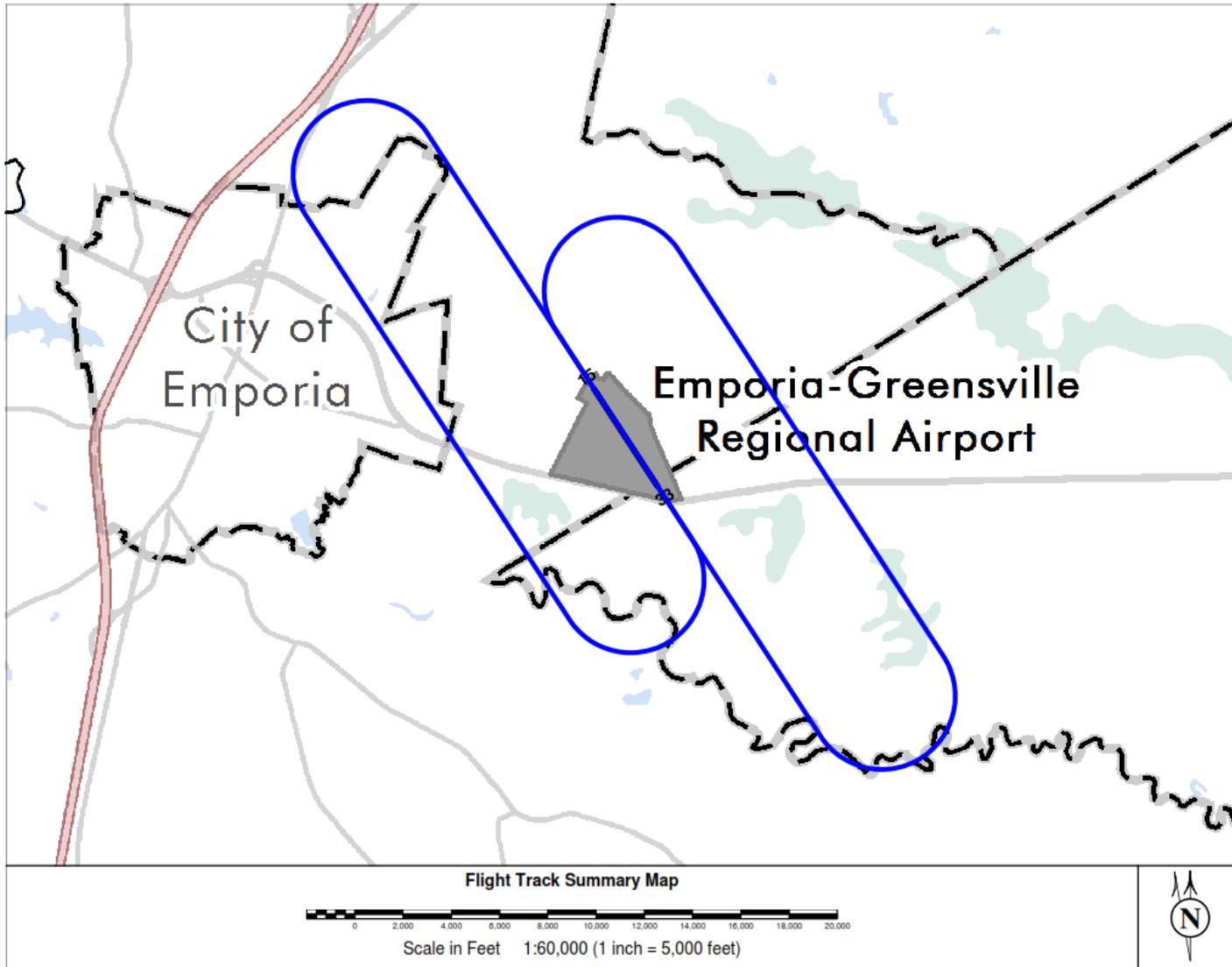


Figure 4-4. . Modeled Proposed 5-Plane FCLP Flight Tracks for E-2/C-2 Operations at Emporia

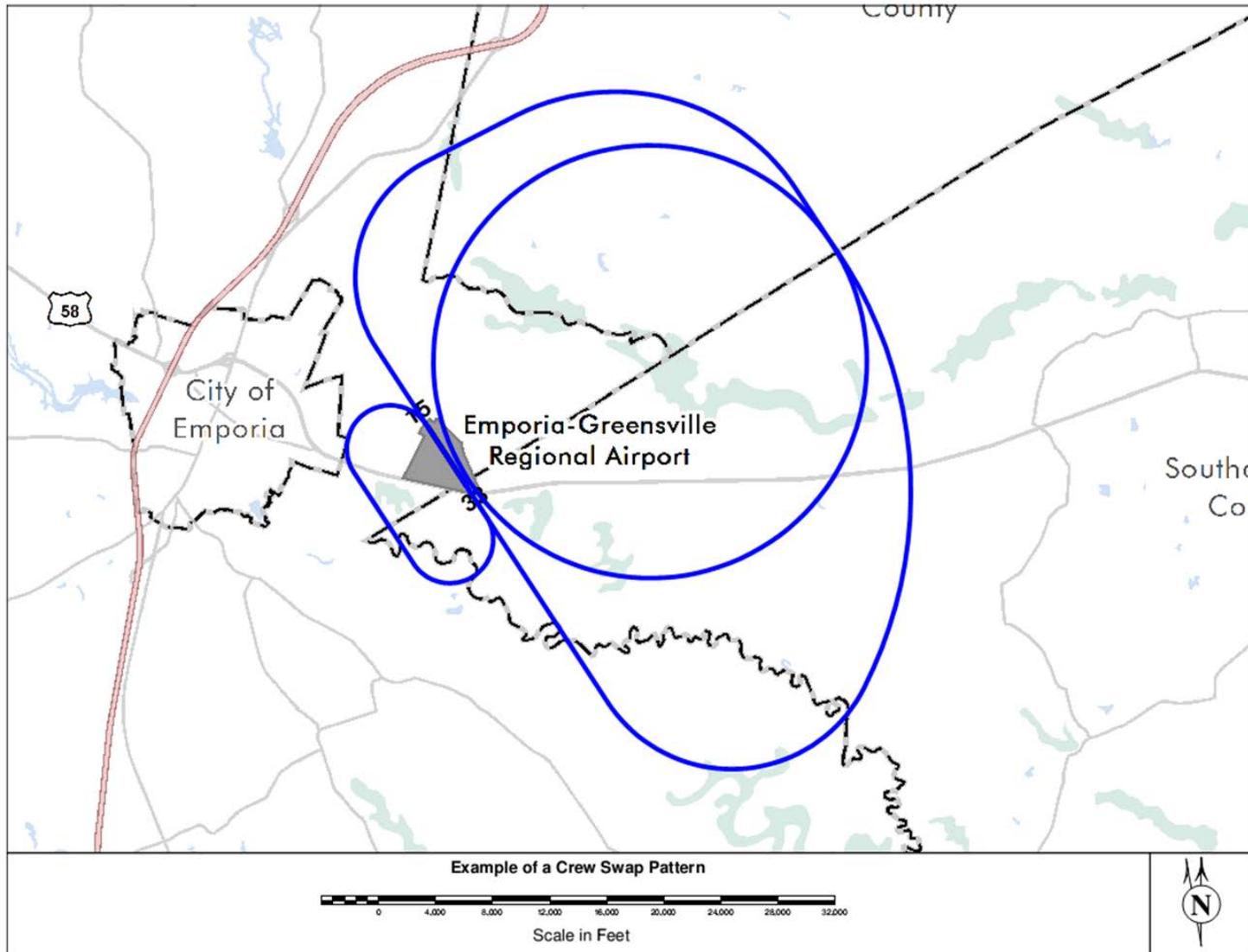


Figure 4-5. Example of Modeled Crew Swap Pattern for E-2/C-2 Operations at Emporia

4.1.1 DNL Noise Contours for Emporia

Adding these proposed E-2/C-2 operations to the baseline case, NOISEMAP 7 was used to calculate the projected DNL contours for the average daily operations for proposed Alt 1A and Alt 1B. Figure 4-6 provides plots of the 65 dB, 70 dB, and 75 dB DNL contours for Alt 1A, and Figure 4-7 provides the same contours for Alt 1B. For both alternatives the 70 dBA DNL and above remain on airport property, and the 65 dBA DNL contour has extended lobes along the runway heading. These lobes are controlled by the upwind and downwind segments of the FCLP pattern. For Alternative 1B, the lobes extend slightly further away from the runways because of the extended upwind segment of the FCLP for the 5-plane pattern. Figure 4-8 provides a comparison of the 65 dBA DNL for these two alternatives, and shows the lobe extension for Alternative 1B. This comparison also shows that the width of the two contours is the same.

4.1.2 Points of Interest for Emporia

In addition to the DNL noise contours, specific noise predictions were calculated at a series of points shown in Figure 4-9. The calculated DNL values at these points are provided in Table 4-3 along with a description and location of each point. The two alternatives do result in increased noise levels for the points close to the airfield. The largest difference between the alternatives is observed at GC-5 (Edward W. Wyatt Middle School) where the difference in DNL is 10 dBA. This results from the point being near the initial downwind leg of the 5-plane FCLP pattern off of Runway 33, but some distance from the 3-plane FCLP pattern.

The top contributors to the DNL at each of these points are provided in Appendix B. These tables identify an individual operation's SEL for that point as well as its contribution to the overall DNL values. The DNL Rank column indicates their relative contribution to the DNL compared to the other flight operations, as such the individual SEL values are not necessarily in descending order. Additional details about the operation such as type and distance of the closest point of approach are also listed in the tables. These tables provide a detailed description of the current and projected aircraft noise environment surrounding the airfield.

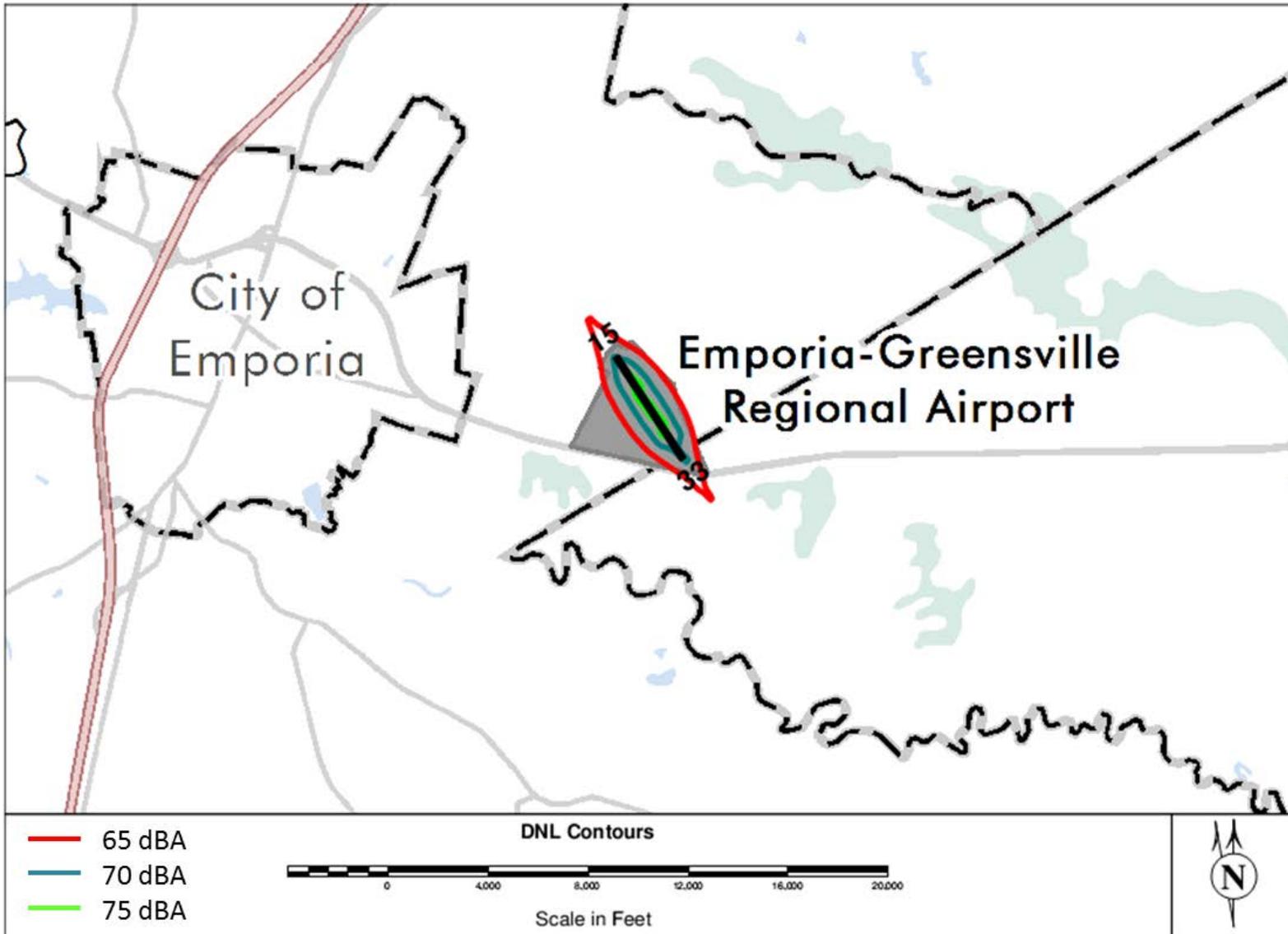


Figure 4-6. DNL Contours for Alternative 1A at Emporia

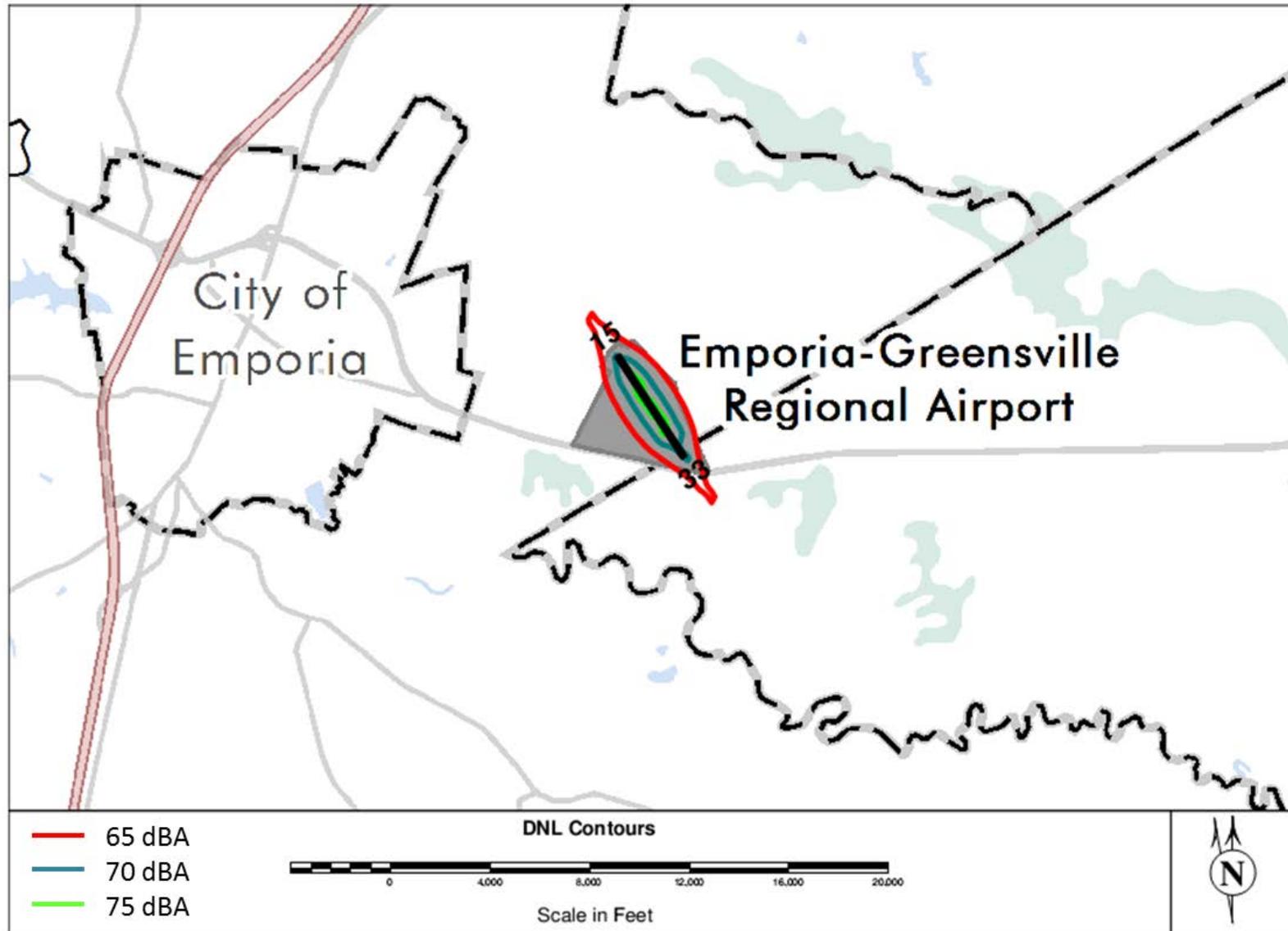


Figure 4-7. DNL Contours for Alternative 1B at Emporia

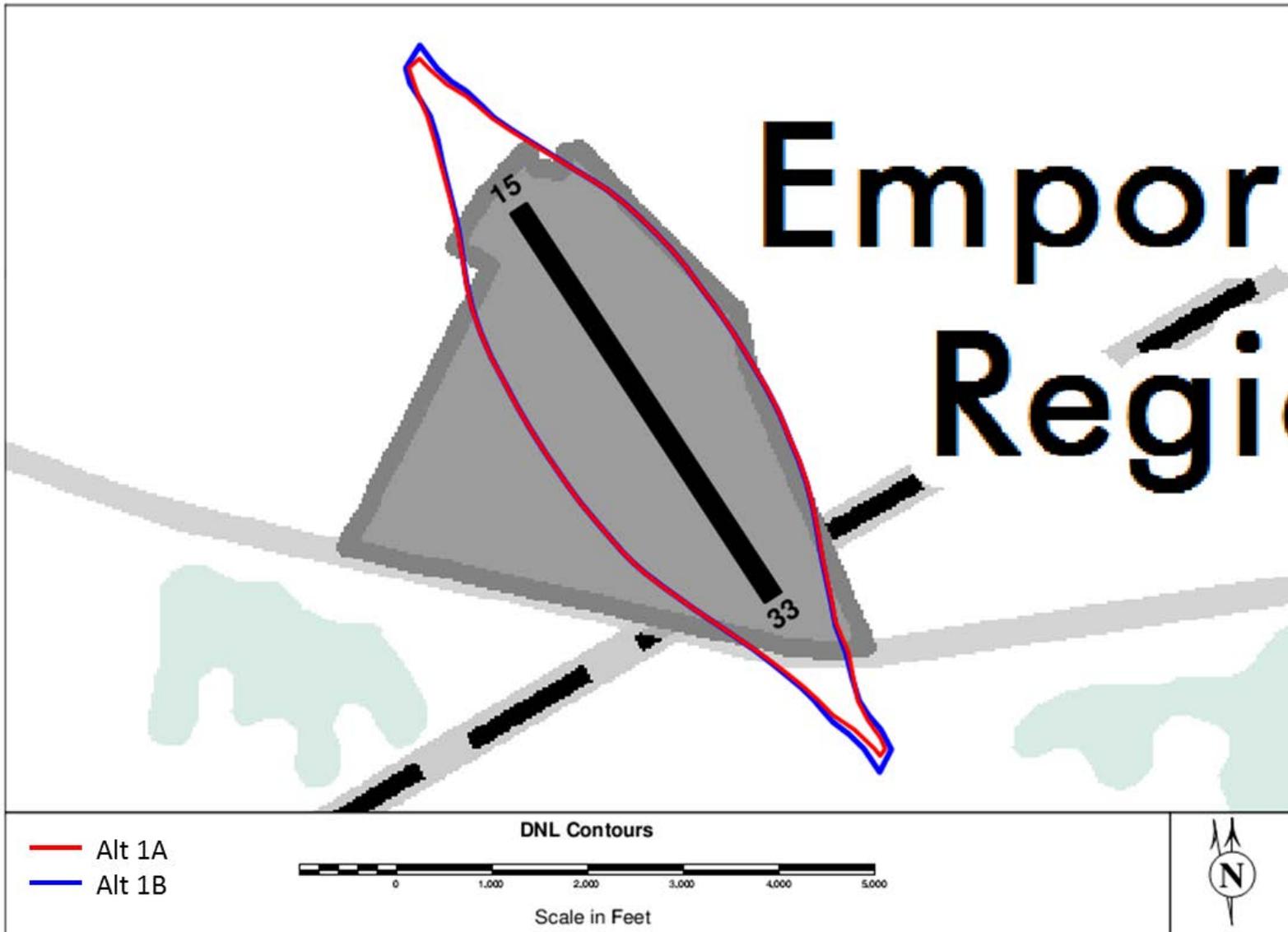


Figure 4-8. Comparison of 65 dBA DNL contours between Alternatives 1A and 1B

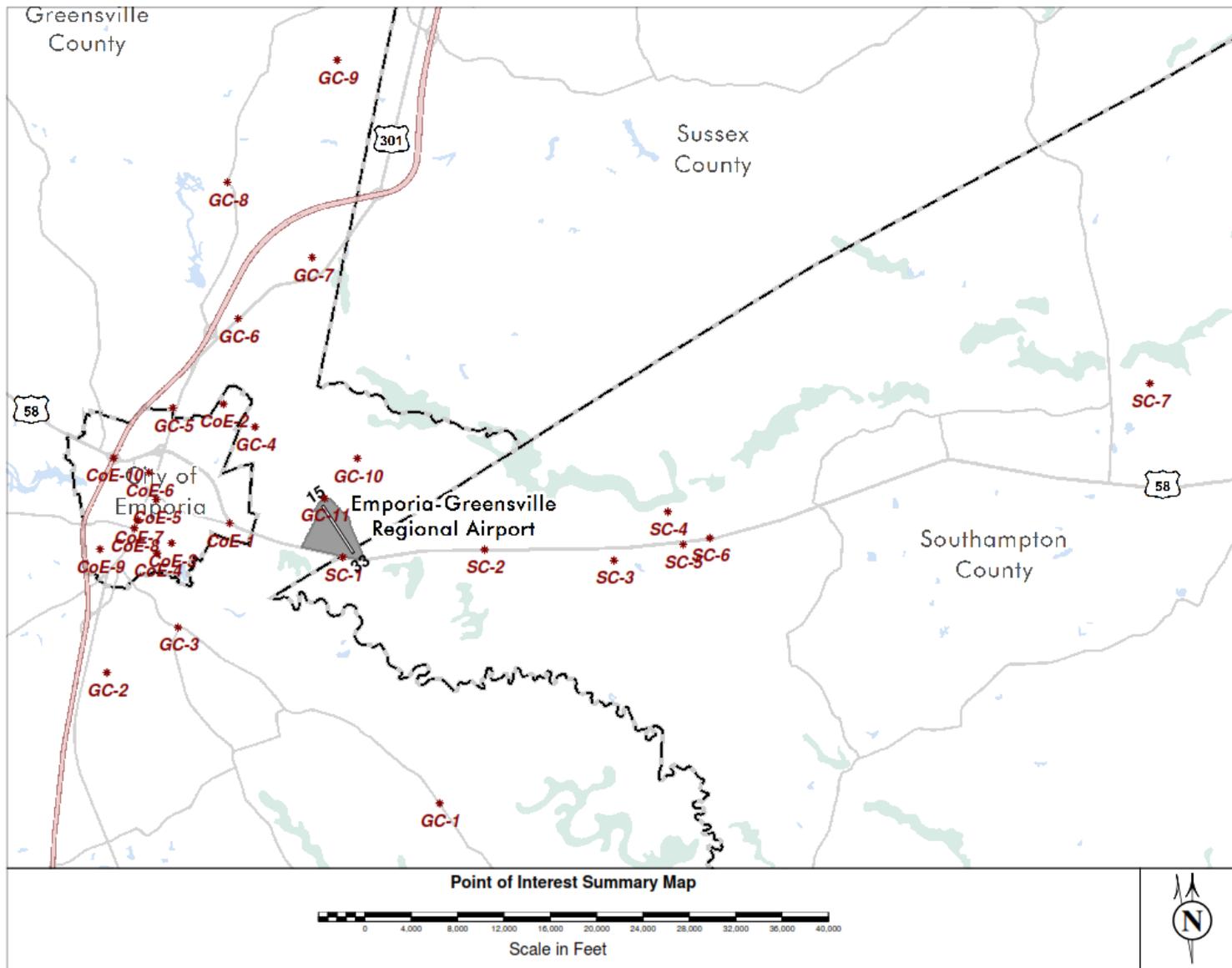


Figure 4-9. Points of Interest for supplemental noise analysis around Emporia

Table 4-3. DNL Values for Point for Interest around Emporia

| Location ID | Description | Latitude | Longitude | Total DNL (dB) | | |
|-------------------------------------|--|----------|-----------|----------------|--------|--------|
| | | | | Baseline | Alt 1A | Alt 1B |
| City of Emporia, Virginia | | | | | | |
| CoE-1 | Emmanuel Worship Center | 36.68782 | -77.51477 | <45 | 51.7 | 54.3 |
| CoE-2 | Industrial Park | 36.71605 | -77.51754 | <45 | 45.8 | 52.3 |
| CoE-3 | Meherrin River Park Complex | 36.68277 | -77.53170 | <45 | <45 | <45 |
| CoE-4 | Tall Oaks Residential Subdivision | 36.68029 | -77.53586 | <45 | <45 | <45 |
| CoE-5 | Belfield-Emporia Historic District | 36.69298 | -77.53656 | <45 | <45 | <45 |
| CoE-6 | Southern Virginia Regional Medical Center | 36.69936 | -77.53892 | <45 | <45 | <45 |
| CoE-7 | City of Emporia Municipal Building | 36.68800 | -77.54184 | <45 | <45 | <45 |
| CoE-8 | Hicksford-Emporia Historic District | 36.68604 | -77.54279 | <45 | <45 | <45 |
| CoE-9 | Greenville High School | 36.68084 | -77.55271 | <45 | <45 | <45 |
| CoE-10 | Interchange at Route 58/I-95 | 36.70255 | -77.54938 | <45 | <45 | <45 |
| Greenville County, Virginia | | | | | | |
| GC-1 | Intersection of Low Ground Road and Goose Pond Road | 36.62271 | -77.45093 | <45 | <45 | <45 |
| GC-2 | Elnora Jarrell Worship Center | 36.65163 | -77.54973 | <45 | <45 | <45 |
| GC-3 | Bryants Corner | 36.66283 | -77.52912 | <45 | <45 | <45 |
| GC-4 | Union Grove Church of Christ | 36.71079 | -77.50806 | <45 | 50.9 | 55.7 |
| GC-5 | Edward W. Wyatt Middle School | 36.71481 | -77.53241 | <45 | <45 | 57.4 |
| GC-6 | Greenville County Administration Offices | 36.73636 | -77.51385 | <45 | <45 | 46.9 |
| GC-7 | Emporia Country Club | 36.75134 | -77.49254 | <45 | 45.5 | 45.9 |
| GC-8 | Future Industrial Area #1 | 36.76865 | -77.51813 | <45 | <45 | <45 |
| GC-9 | Greenville Correctional Center | 36.79828 | -77.48670 | <45 | <45 | <45 |
| GC-10 | Intersection of State Route 611 and James River Junction | 36.70400 | -77.47773 | <45 | 54.8 | 54.9 |
| GC-11 | Oak Grove Baptist Church | 36.69437 | -77.48711 | 50 | 64.8 | 64.9 |
| Southampton County, Virginia | | | | | | |
| SC-1 | Mid Atlantic Gin | 36.68045 | -77.48122 | 47.3 | 63.3 | 63.3 |
| SC-2 | Intersection of Route 58 and State Route 711 | 36.68312 | -77.43962 | <45 | <45 | 47.8 |
| SC-3 | Valley Proteins Inc. | 36.68135 | -77.40144 | <45 | <45 | <45 |
| SC-4 | Intersection of Adams Grove Road at Railroad | 36.69318 | -77.38601 | <45 | <45 | <45 |
| SC-5 | Pleasant Grove Baptist Church | 36.68551 | -77.38125 | <45 | <45 | <45 |
| SC-6 | Capron Community Church of God | 36.68723 | -77.37347 | <45 | <45 | <45 |
| SC-7 | Deerfield Correctional Center | 36.72636 | -77.24507 | <45 | <45 | <45 |

4.2 Alternative 2: Wallops Flight Facility

For this alternative, the operational numbers for the proposed E-2/C-2 operations are provided in Table 4-4 for the 3-plane scenario on Runway 04/22 (Alt 2A), in Table 4-5 for the mix of 3- and 5-plane scenario on Runways 04/22 (Alt 2B), Table 4-6 for the 3-plane scenario on Runway 10/28 (Alt 2C), and in Table 4-7 for the mix of 3- and 5-plane scenario on Runways 10/28 (Alt 2D) . The day/night split provided in these tables is based on acoustic day (0700 to 2200) and acoustic night (2200 to 0700). For Alt 2B and Alt 2D, the mix of 3- and 5-plane FCLP patterns is 33.3% 3-plane and 66.7% 5-plane. For these scenarios, the overall number of annual operations is 45,000. Also, for the proposed operations, the runway utilization is based on historical wind data for the airfield and is different from the utilization currently used. For scenarios Alt 2A and 2B, the runway utilization is 44% for Runway 04 and 56% for Runway 22. For scenarios Alt 2C and 2D, the runway utilization is 38% for Runway 10 and 62% for Runway 28. No full stop landings or departures were modeled for the E-2/C-2 operations at WFF. For these scenarios, all other aircraft operations are assumed constant between the baseline and proposed scenarios.

Table 4-4. Average Annual Daily Operations for Proposed E-2/C-2 at Wallops Flight Facility for Alt 2A

| Aircraft | Track Type | Runway | | Track ID | Profile | | | Average Annual Day Events | | |
|----------|--------------|--------|-------------|----------|----------|--------|---------|---------------------------|----------------|---------------|
| | | ID | Utilization | | ID | % Day | % Night | Acoustic Day | Acoustic Night | Total |
| | | | | | | | | (0700 to 2200) | (2200 to 0700) | |
| E-2/C-2 | Arrival | 04 | 44% | N04O1 | E2_O04 | 89.55% | 10.45% | 0.714 | 0.083 | 0.798 |
| | | 22 | 56% | N22O1 | E2_O22 | 89.55% | 10.45% | 0.909 | 0.106 | 1.015 |
| | FCLP | 04 | 44% | 04SW | E2_CS04 | 89.55% | 10.45% | 2.858 | 0.333 | 3.191 |
| | | | | 04F1 | E2_F3_04 | 89.55% | 10.45% | 20.717 | 2.418 | 23.135 |
| | | 22 | 56% | 22SW | E2_CS22 | 89.55% | 10.45% | 3.637 | 0.424 | 4.061 |
| | Departure | 04 | 44% | N04D2 | E2_D04 | 89.55% | 10.45% | 0.714 | 0.083 | 0.798 |
| | | | | N22D2 | E2_D22 | 89.55% | 10.45% | 0.909 | 0.106 | 1.015 |
| | Total | | | | | | | | | 63.457 |

Table 4-5. Average Annual Daily Operations for Proposed E-2/C-2 at Wallops Flight Facility for Alt 2B

| Aircraft | Track Type | Runway | | Track ID | Profile | | | Average Annual Day Events | | |
|----------|--------------|--------|-------------|----------|----------|--------|---------|---------------------------|----------------|---------------|
| | | ID | Utilization | | ID | % Day | % Night | Acoustic Day | Acoustic Night | Total |
| | | | | | | | | (0700 to 2200) | (2200 to 0700) | |
| E-2/C-2 | Arrival | 04 | 44% | N04O1 | E2_O04 | 89.55% | 10.45% | 0.833 | 0.097 | 0.931 |
| | | 22 | 56% | N22O1 | E2_O22 | 89.55% | 10.45% | 1.061 | 0.124 | 1.185 |
| | FCLP | 04 | 44% | 04SW | E2_CS04 | 89.55% | 10.45% | 2.738 | 0.320 | 3.058 |
| | | | | 04F1 | E2_F3_04 | 89.55% | 10.45% | 6.906 | 0.806 | 7.712 |
| | | 22 | 56% | 22SW | E2_CS22 | 89.55% | 10.45% | 3.485 | 0.407 | 3.892 |
| | | | | 22F1 | E2_F3_22 | 89.55% | 10.45% | 8.789 | 1.026 | 9.815 |
| | Departure | 04 | 44% | N04D2 | E2_D04 | 89.55% | 10.45% | 0.833 | 0.097 | 0.931 |
| | | | | N22D2 | E2_D22 | 89.55% | 10.45% | 1.061 | 0.124 | 1.185 |
| | Total | | | | | | | | | 63.759 |

Table 4-6. Average Annual Daily Operations for Proposed E-2/C-2 at Wallops Flight Facility for Alt 2C

| Aircraft | Track Type | Runway | | Track ID | Profile | | | Average Annual Day Events | | |
|----------|--------------|--------|-------------|----------|----------|--------|---------|---------------------------|----------------|--------|
| | | ID | Utilization | | ID | % Day | % Night | Acoustic Day | Acoustic Night | Total |
| | | | | | | | | (0700 to 2200) | (2200 to 0700) | |
| E-2/C-2 | Arrival | 10 | 38% | N1001 | E2_O10 | 89.55% | 10.45% | 0.617 | 0.072 | 0.689 |
| | | 28 | 62% | N2801 | E2_O28 | 89.55% | 10.45% | 1.007 | 0.117 | 1.124 |
| | FCLP | 10 | 38% | 10SW | E2_CS10 | 89.55% | 10.45% | 2.468 | 0.288 | 2.756 |
| | | | | 10F1 | E2_F3_10 | 89.55% | 10.45% | 17.892 | 2.088 | 19.980 |
| | | 28 | 62% | 28SW | E2_CS28 | 89.55% | 10.45% | 4.027 | 0.470 | 4.496 |
| | | | | 28F1 | E2_F3_28 | 89.55% | 10.45% | 29.192 | 3.407 | 32.599 |
| | Departure | 10 | 38% | N10D2 | E2_D10 | 89.55% | 10.45% | 0.617 | 0.072 | 0.689 |
| | | 28 | 62% | N28D2 | E2_D28 | 89.55% | 10.45% | 1.007 | 0.117 | 1.124 |
| | Total | | | | | | | | | 63.457 |

Table 4-7. Average Annual Daily Operations for Proposed E-2/C-2 at Wallops Flight Facility for Alt 2D

| Aircraft | Track Type | Runway | | Track ID | Profile | | | Average Annual Day Events | | |
|--------------|------------|--------|-------------|----------|----------|--------|---------|---------------------------|----------------|--------|
| | | ID | Utilization | | ID | % Day | % Night | Acoustic Day | Acoustic Night | Total |
| | | | | | | | | (0700 to 2200) | (2200 to 0700) | |
| E-2/C-2 | Arrival | 10 | 38% | N1001 | E2_O10 | 89.55% | 10.45% | 0.720 | 0.084 | 0.804 |
| | | 28 | 62% | N2801 | E2_O28 | 89.55% | 10.45% | 1.174 | 0.137 | 1.311 |
| | FCLP | 10 | 38% | 10SW | E2_CS10 | 89.55% | 10.45% | 2.365 | 0.276 | 2.641 |
| | | | | 10F1 | E2_F3_10 | 89.55% | 10.45% | 5.964 | 0.696 | 6.660 |
| | | 28 | 62% | 10F2 | E2_F5_10 | 89.55% | 10.45% | 11.928 | 1.392 | 13.320 |
| | | | | 28SW | E2_CS28 | 89.55% | 10.45% | 3.859 | 0.450 | 4.309 |
| | 28 | 62% | 28F1 | E2_F3_28 | 89.55% | 10.45% | 9.731 | 1.136 | 10.866 | |
| | | | 28F2 | E2_F5_28 | 89.55% | 10.45% | 19.461 | 2.271 | 21.732 | |
| | Departure | 10 | 38% | N10D2 | E2_D10 | 89.55% | 10.45% | 0.720 | 0.084 | 0.804 |
| | | 28 | 62% | N28D2 | E2_D28 | 89.55% | 10.45% | 1.174 | 0.137 | 1.311 |
| Total | | | | | | | | | 63.759 | |

Figure 4-10 shows the proposed E-2/C-2 arrival flight tracks to WFF. Figure 4-11 shows the departure tracks for E-2/C-2 operations from WFF. The 3-plane and 5-plane FCLP flight tracks are provided in Figure 4-12 and Figure 4-13. The Crew Swap pattern is the same as modeled at Emporia (Figure 4-5). The only modification is the hold portion of the pattern is a right hand turn for operations on Runways 22 and 28 at WFF.

4.2.1 DNL Noise Contours for Wallops Flight Facility

Adding these proposed E-2/C-2 operations to the baseline case, NOISEMAP 7 was used to calculate the DNL contours for the average daily operations for proposed Alternatives 2A, 2B, 2C, and 2D. It should be noted that these contours have been smoothed to remove gridding artifacts.

4.2.1.1 Alternative 2A

Figure 4-14 provides plots of the 65 dB, 70 dB, and 75 dB DNL contours for Alternative 2A, and Figure 4-15 provides a comparison of the 65 dBA DNL contours between Alternative 2A and Baseline. The 65 dBA contour follows the pattern tracks modeled for the airfield. The comparison with baseline shows the largest increase results from the turn to downwind for the 3-plane FCLP pattern off Runway 22. The other portions of the DNL contours are similar to the baseline contours.

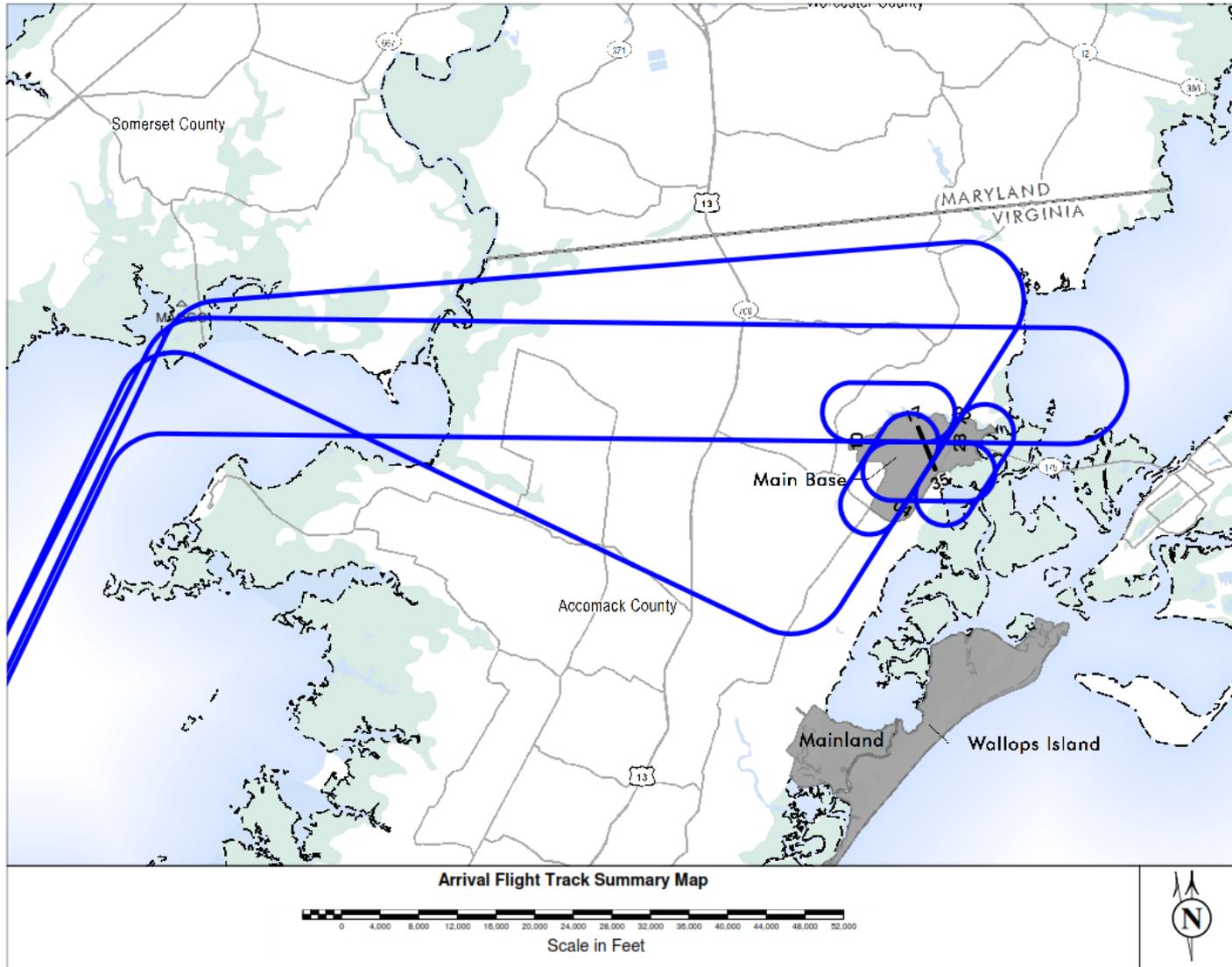


Figure 4-10. Modeled Proposed Arrival Flight Tracks for E-2/C-2 FCLP Training Operations at Wallops Flight Facility

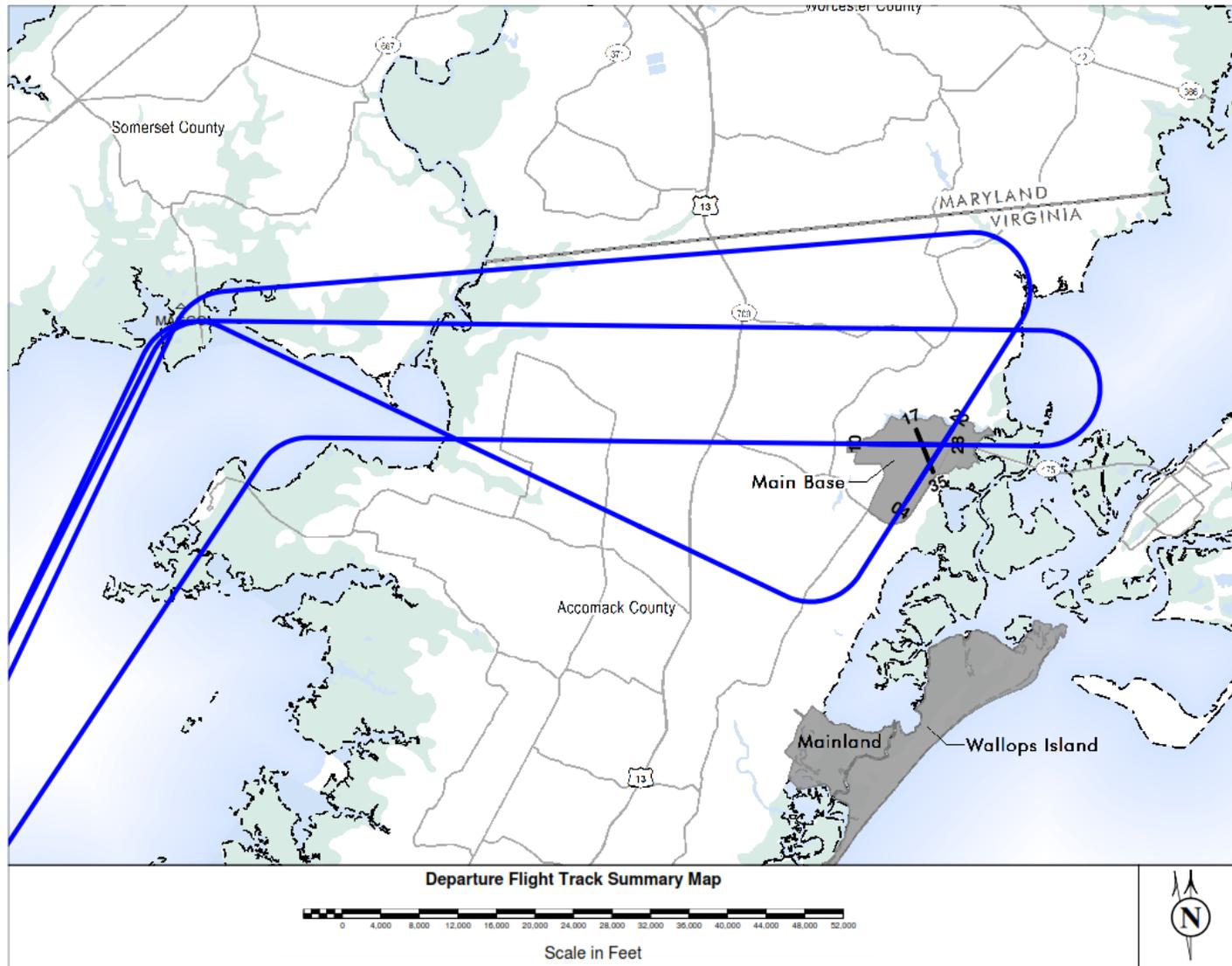


Figure 4-11. Modeled Proposed Departure Flight Tracks for E-2/C-2 FCLP Training Operations at Wallops Flight Facility

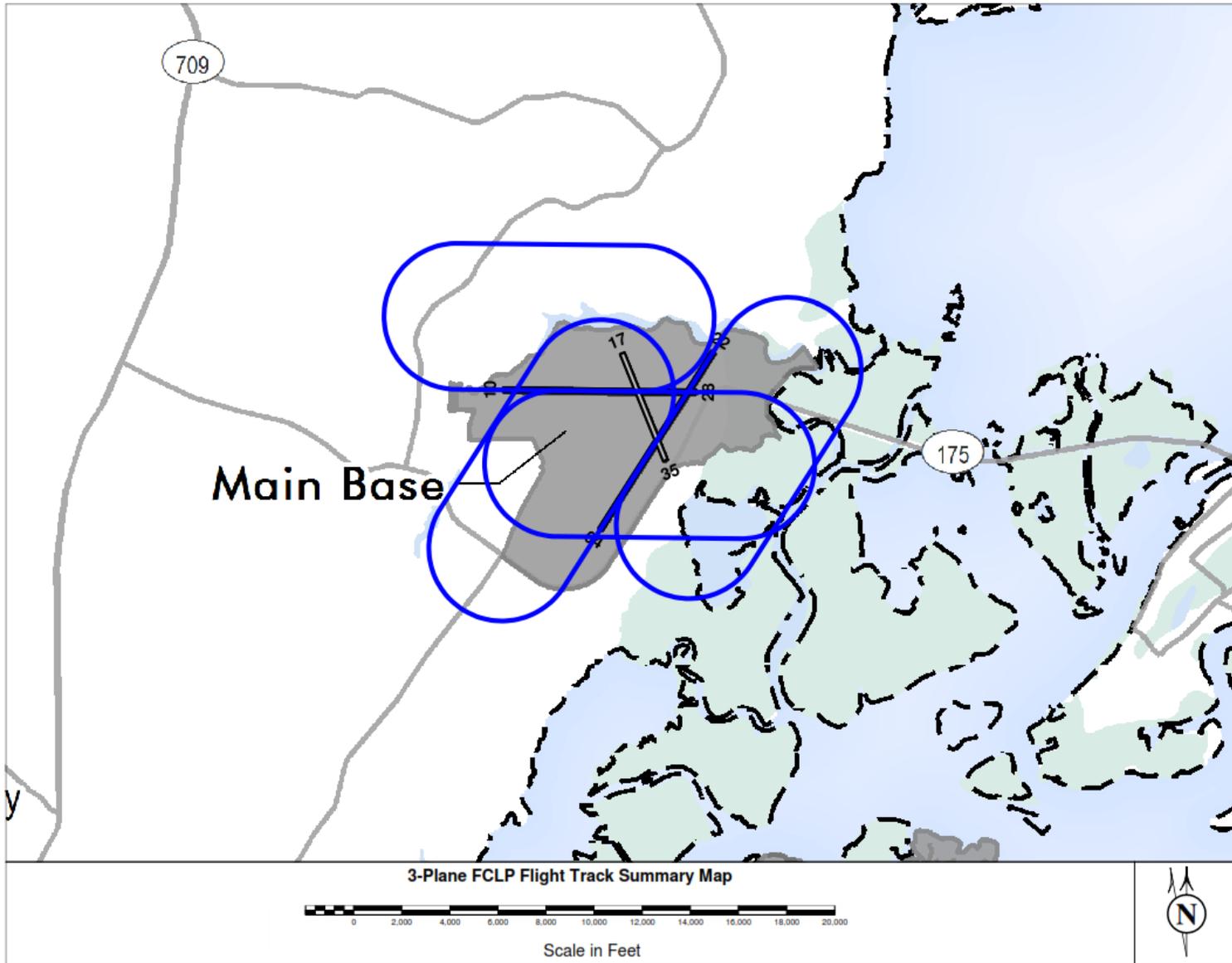


Figure 4-12. Modeled Proposed 3-Plane FCLP Flight Tracks for E-2/C-2 FCLP Training Operations at Wallops Flight Facility

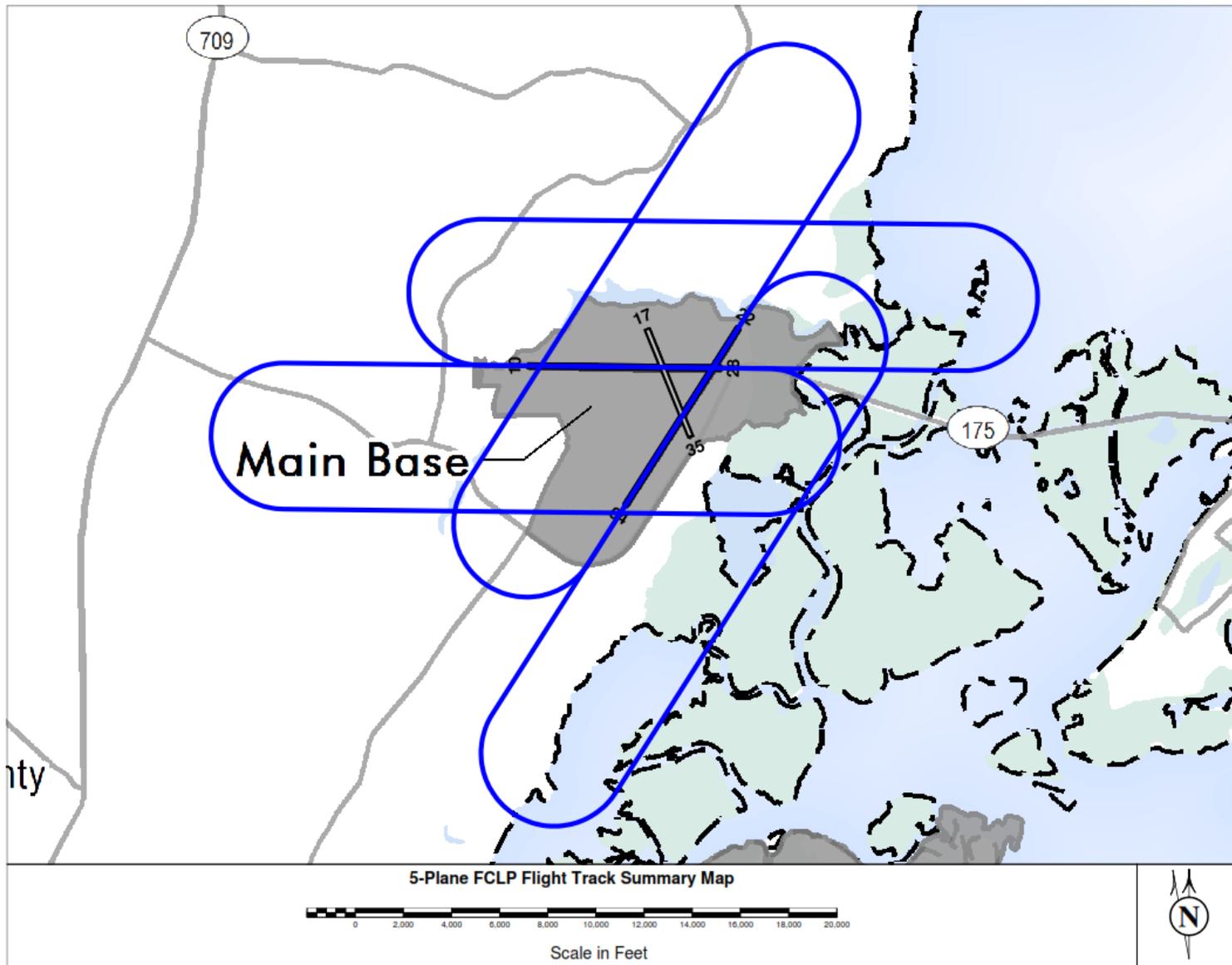


Figure 4-13. Modeled Proposed 5-Plane FCLP Flight Tracks for E-2/C-2 FCLP Training Operations at Wallops Flight Facility

4.2.1.2 Alternative 2B

Figure 4-16 provides plots of the 65 dB, 70 dB, and 75 dB DNL contours for Alternative 2B, and Figure 4-17 provides a comparison of the 65 dBA DNL contours between Alternative 2B and Baseline. The 65 dBA contour follows the pattern tracks modeled for the airfield. The comparison with baseline shows the largest increase is south of Runway 22 and results from the extended upwind leg from the 5-plane FCLP pattern off of Runway 22. The other portions of the DNL contours are similar to the baseline contours.

4.2.1.3 Alternative 2C

Figure 4-18 provides plots of the 65 dB, 70 dB, and 75 dB DNL contours for Alternative 2C, and Figure 4-19 provides a comparison of the 65 dBA DNL contours between Alternative 2C and Baseline. The 65 dBA contour follows the pattern tracks modeled for the airfield. The comparison with baseline shows an increase is along Runway 28. The 3-plane FCLP pattern off Runway 28 does not generate as large of an increase compared to Alternative 2A because the flight tracks are over land, which attenuates the propagation of noise more than the water covered surface to the east of the airfield. The other portions of the DNL contours are similar to the baseline contours.

4.2.1.4 Alternative 2D

Figure 4-20 provides plots of the 65 dB, 70 dB, and 75 dB DNL contours for Alternative 2D, and Figure 4-21 provides a comparison of the 65 dBA DNL contours between Alternative 2D and Baseline. The 65 dBA contour follows the pattern tracks modeled for the airfield. The comparison with baseline shows an increase is along Runways 10/28.

4.2.1.5 Alternative Comparison

Figure 4-22 provides a comparison of the 65 dBA DNL contours among the four alternatives and Baseline. The largest observed difference is for Alternative 2A for the 3-plane FCLP pattern off Runway 22. This difference results from the turn to downwind portion of the flight occurring over a mostly water-covered surface.

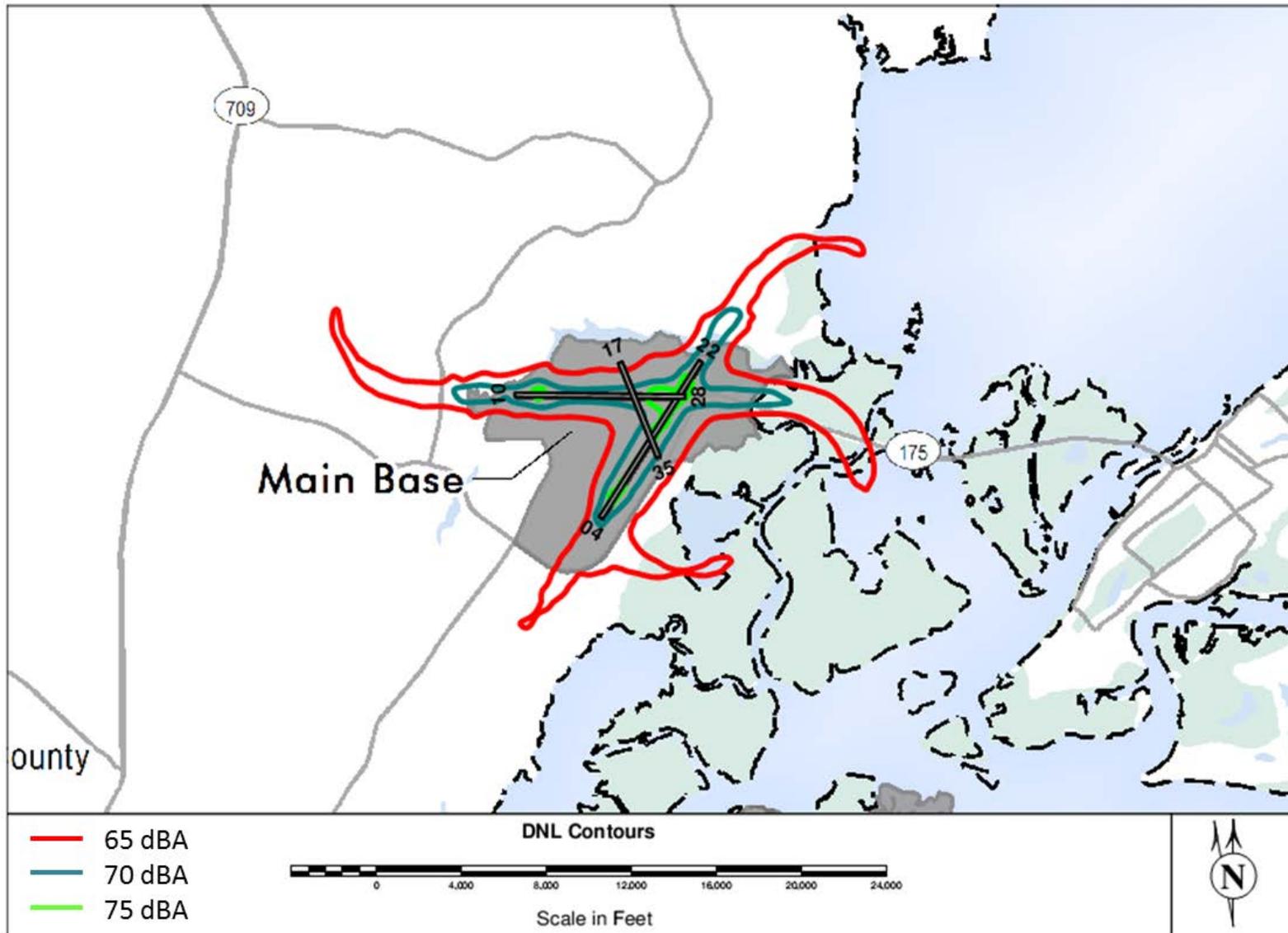


Figure 4-14. DNL Contours for Alternative 2A at Wallops Flight Facility

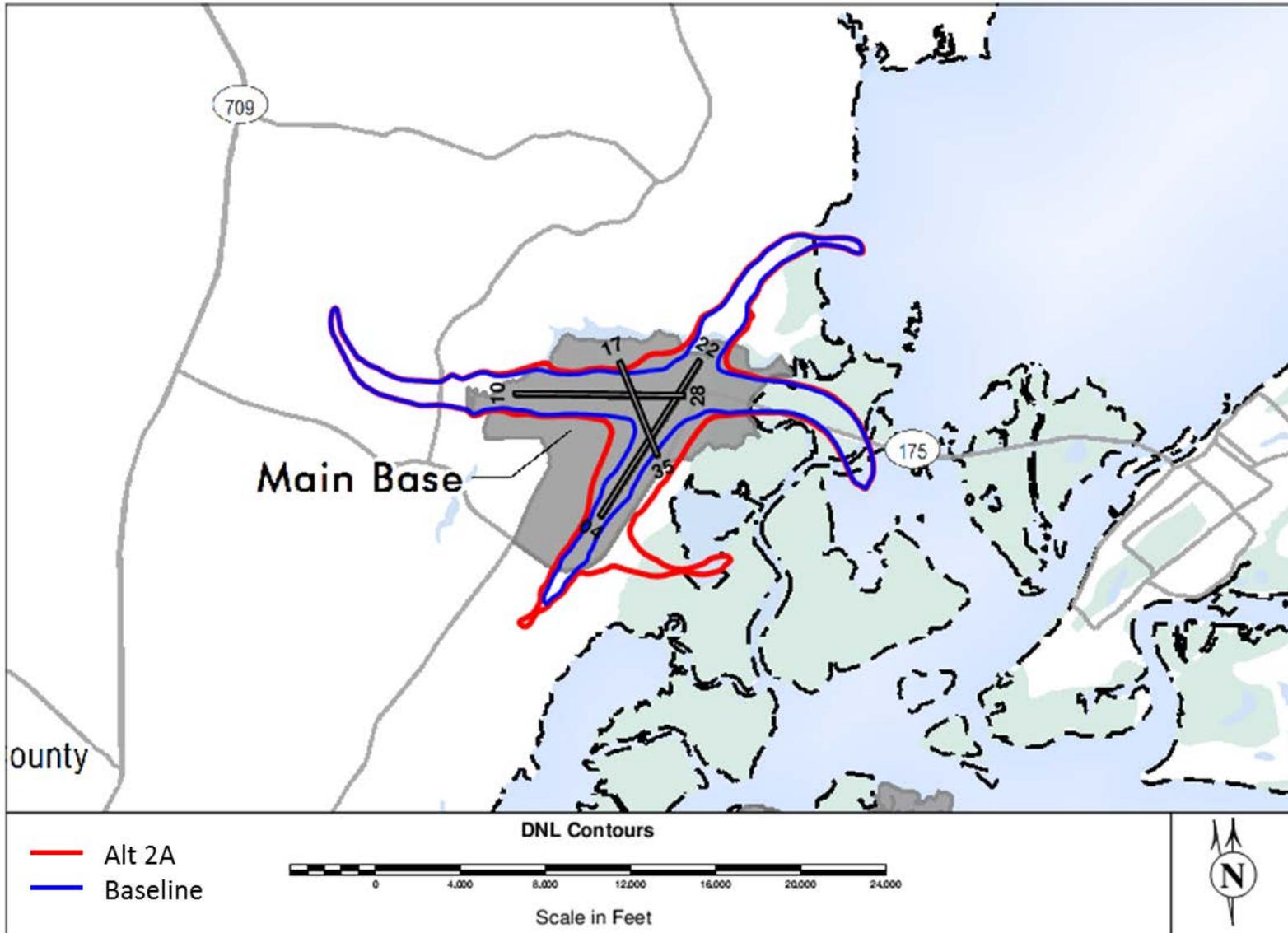


Figure 4-15. Comparison of 65 dBA DNL contours between Alternative 2A and Baseline at Wallops Flight Facility

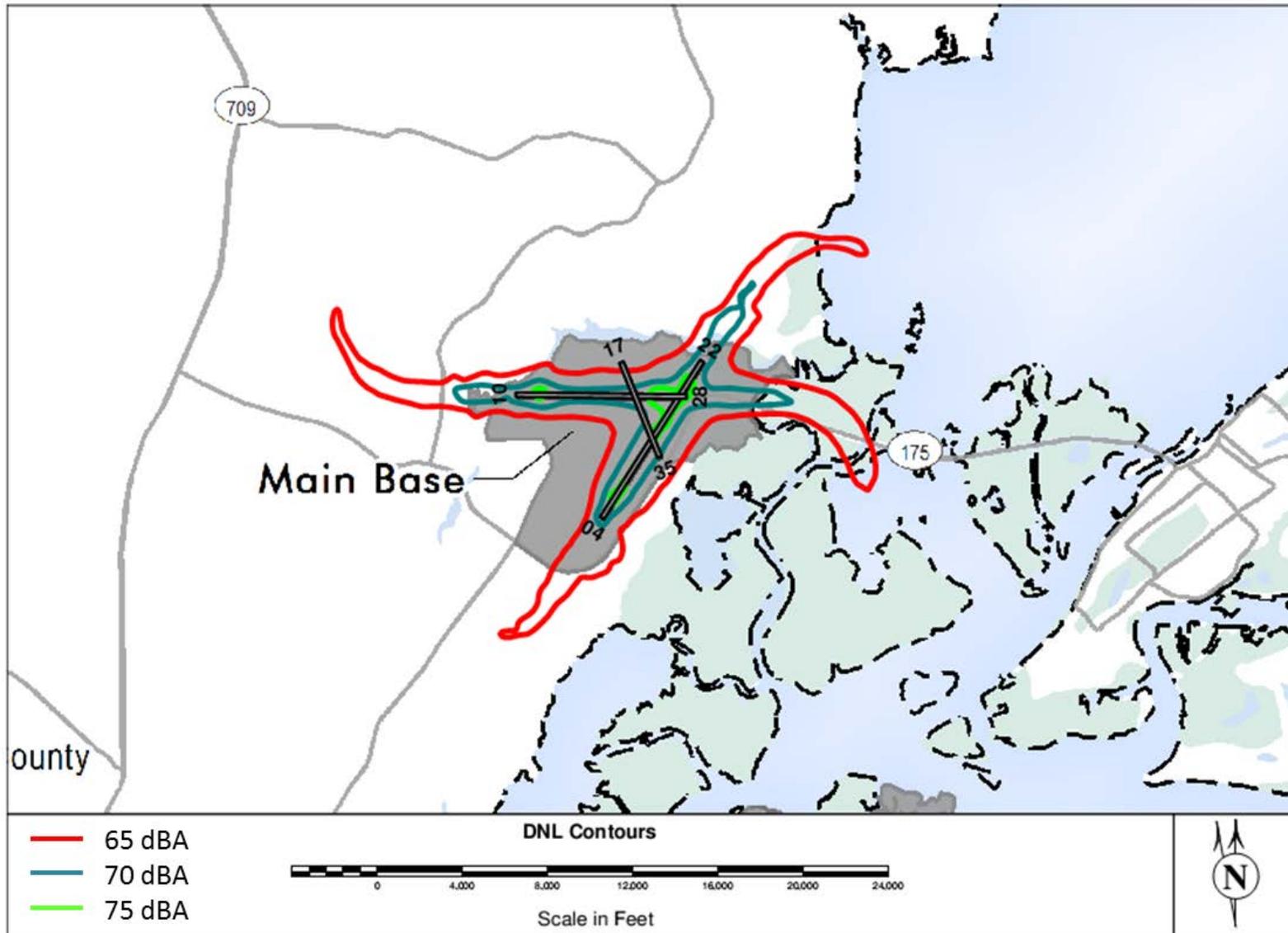


Figure 4-16. DNL Contours for Alternative 2B at Wallops Flight Facility

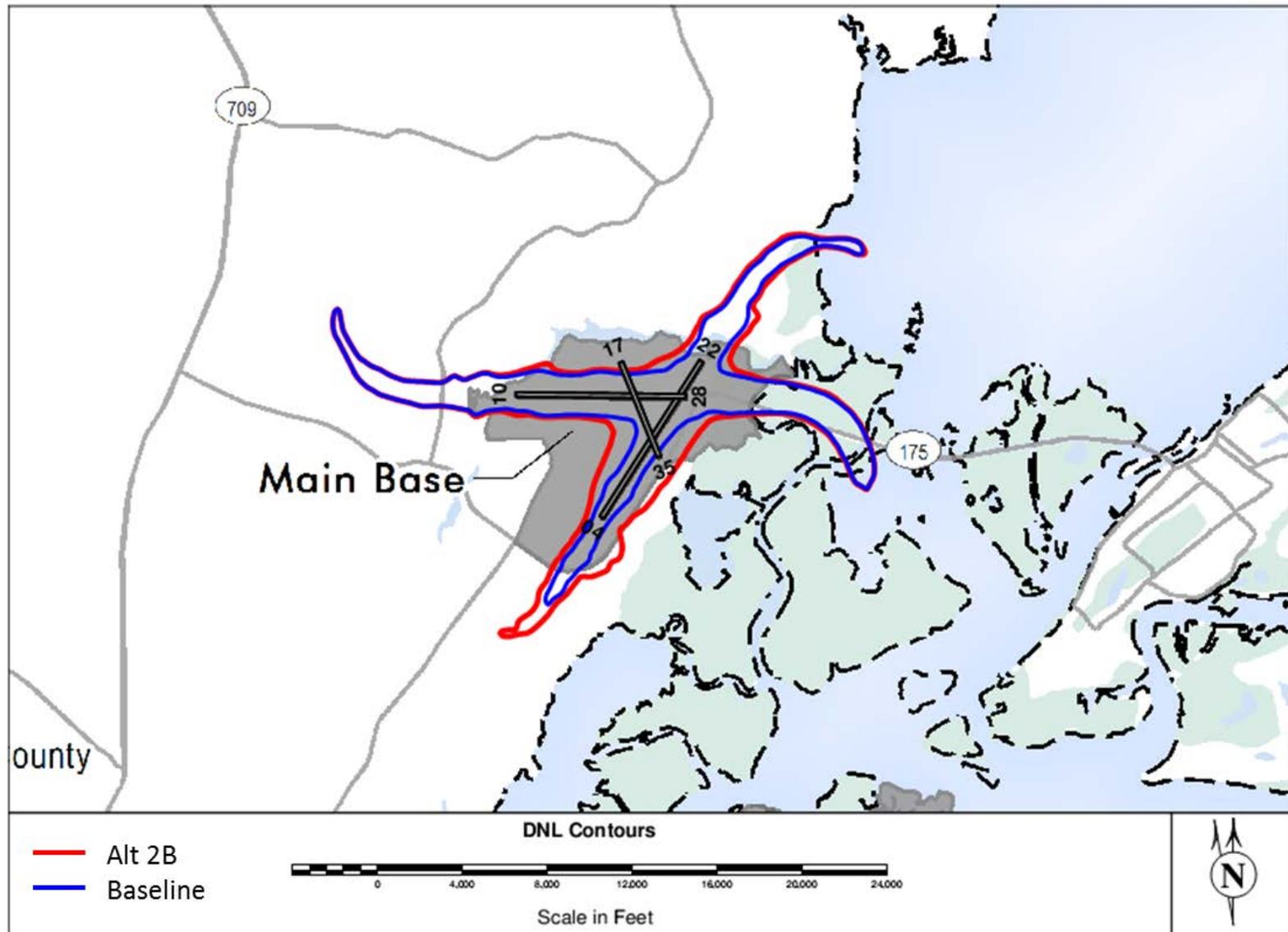


Figure 4-17. Comparison of 65 dBA DNL contours between Alternative 2B and Baseline at Wallops Flight Facility

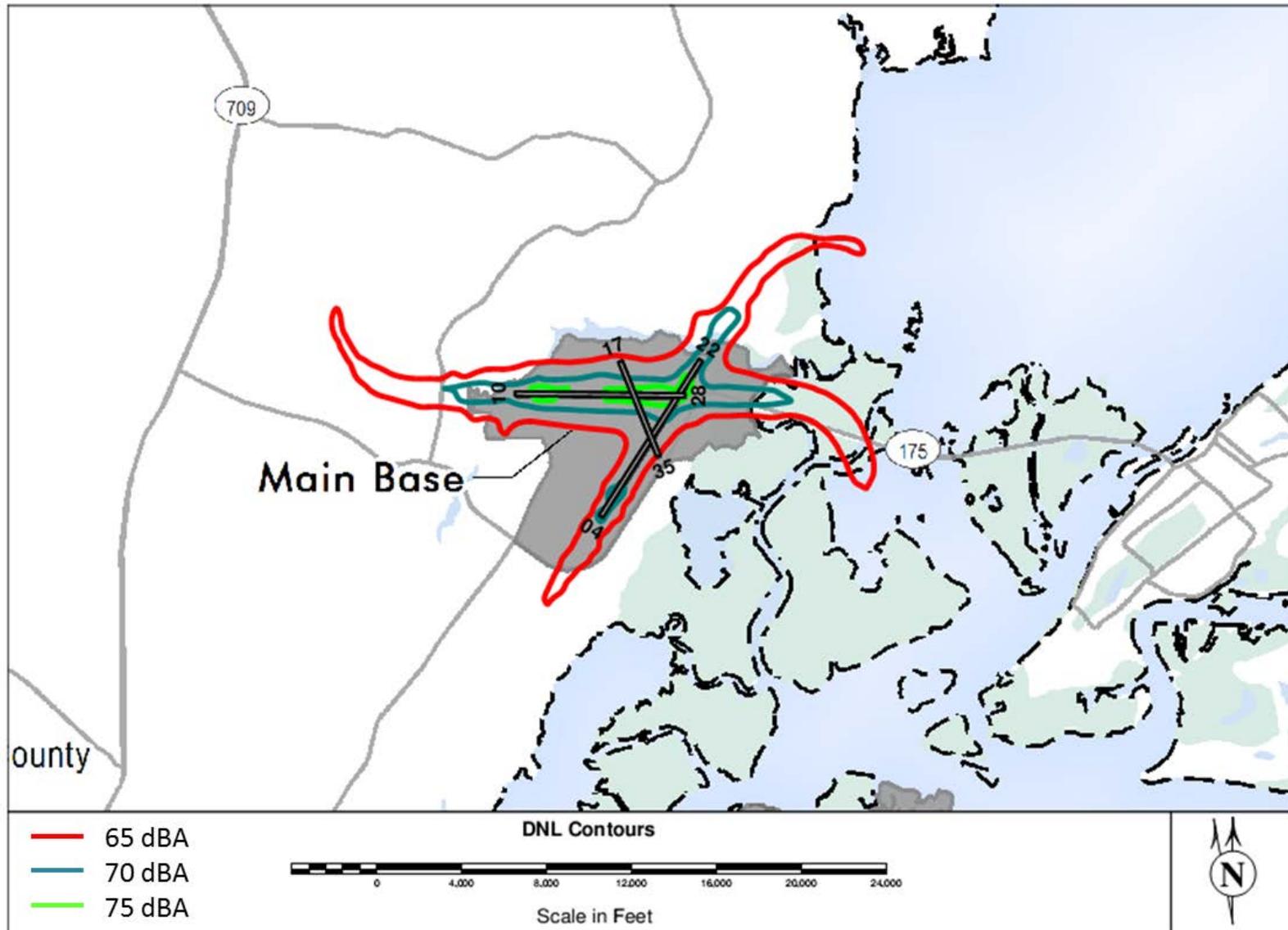


Figure 4-18. DNL Contours for Alternative 2C at Wallops Flight Facility

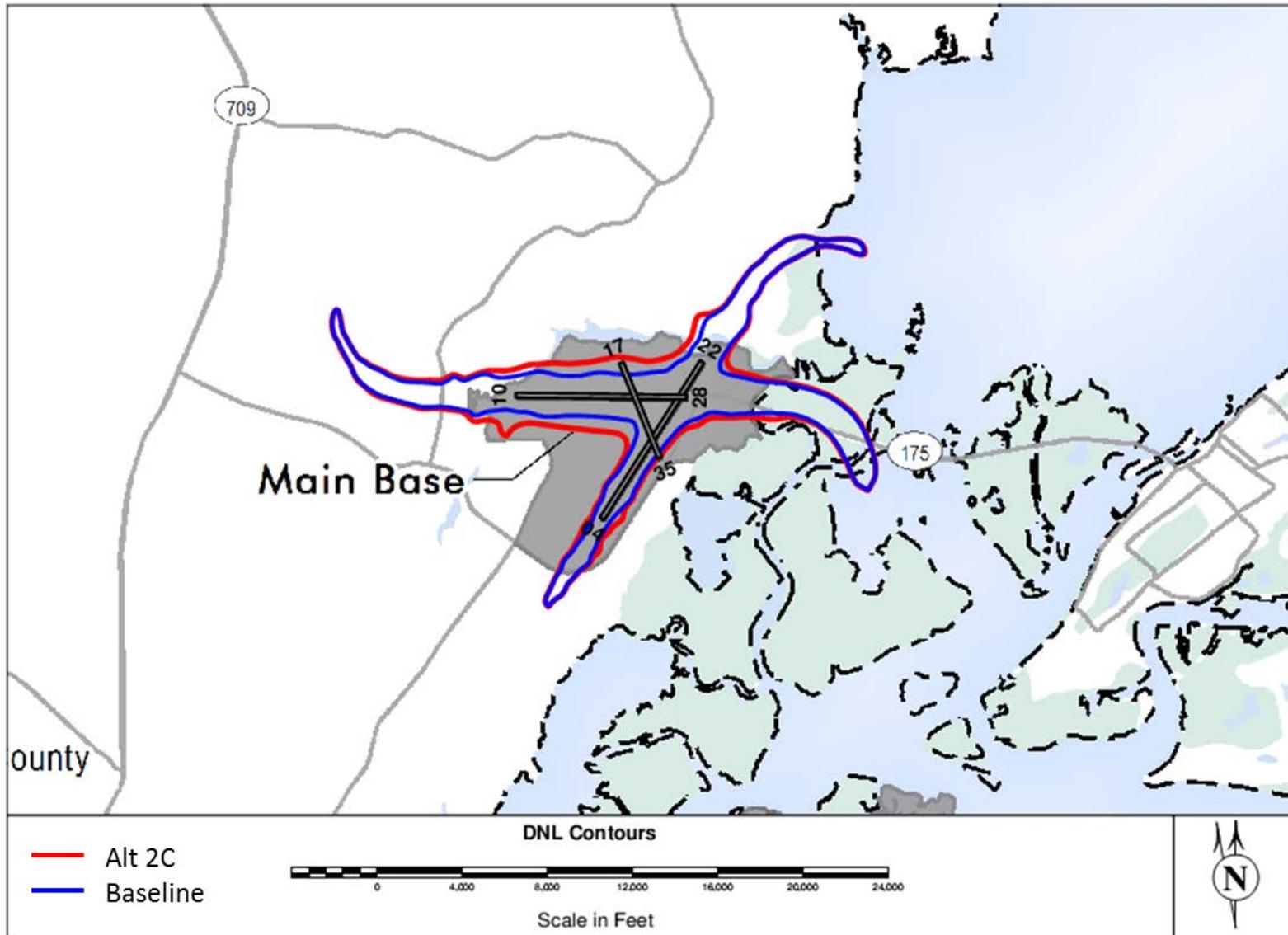


Figure 4-19. Comparison of 65 dBA DNL contours between Alternative 2C and Baseline at Wallops Flight Facility

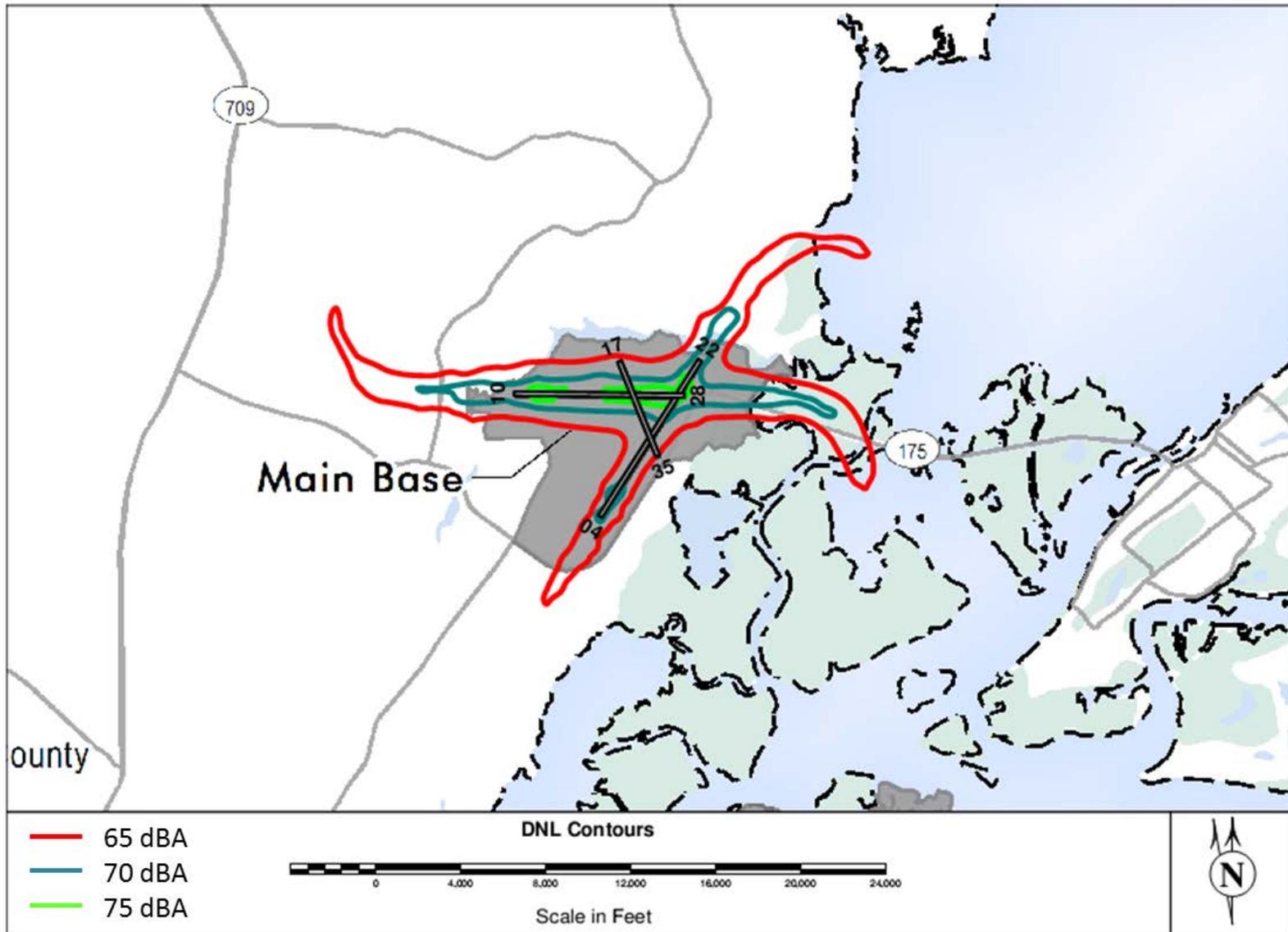


Figure 4-20. DNL Contours for Alternative 2D at Wallops Flight Facility

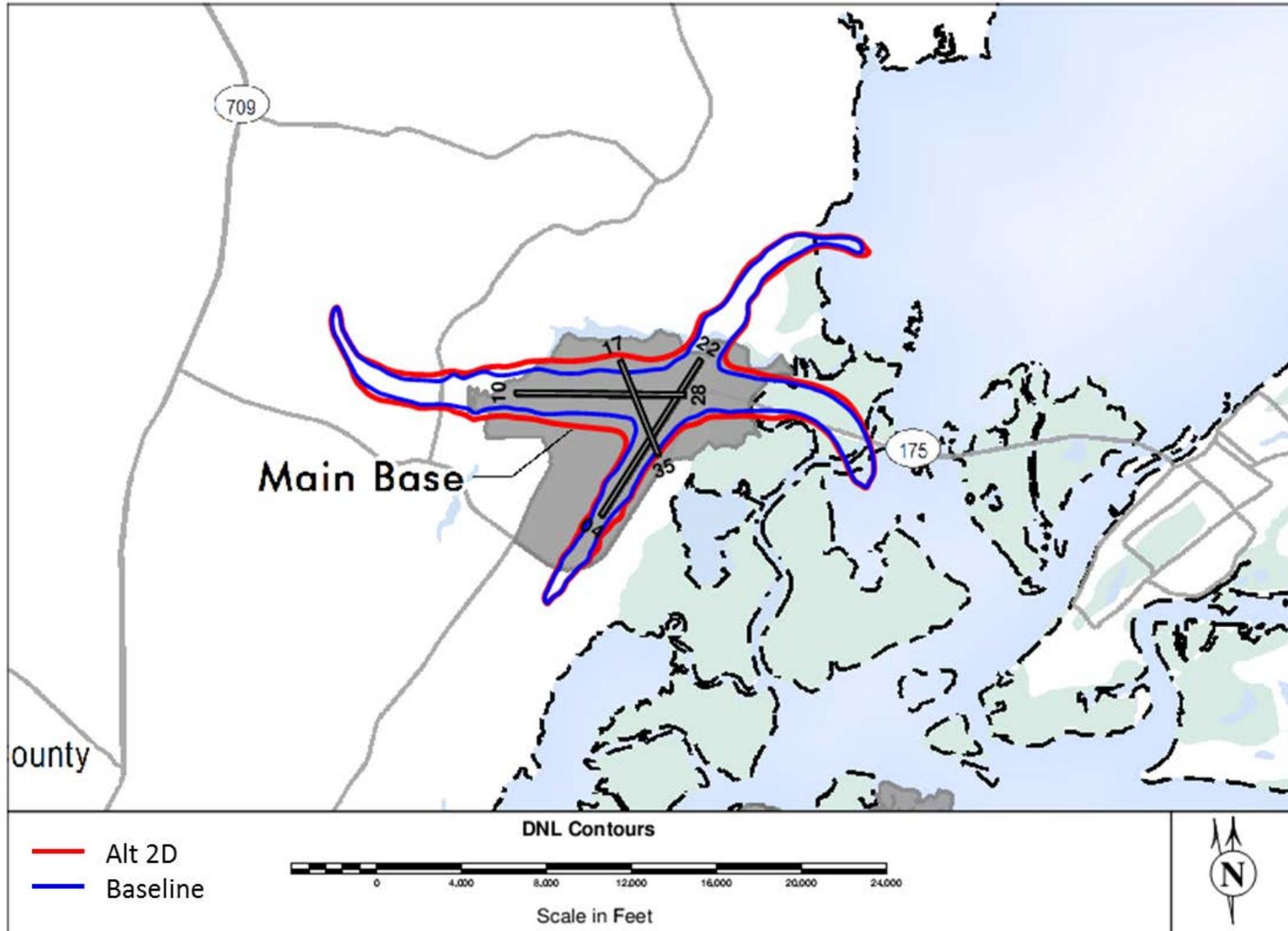


Figure 4-21. Comparison of 65 dBA DNL contours between Alternative 2D and Baseline at Wallops Flight Facility

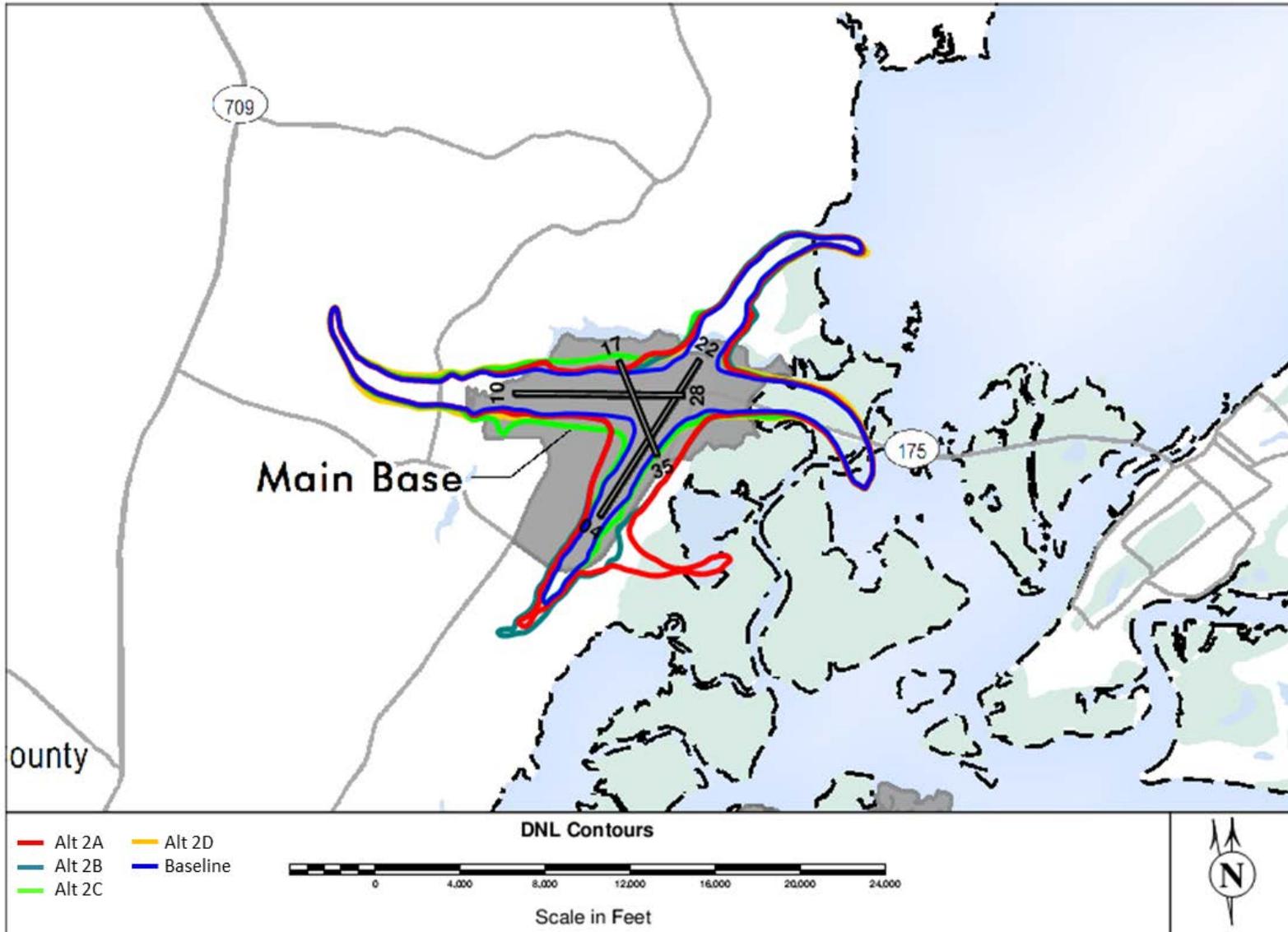


Figure 4-22. Comparison of 65 dBA DNL contours between all Alternatives and Baseline at Wallops Flight Facility

4.2.2 Points of Interest for Wallops Flight Facility

In addition to the DNL noise contours, specific noise projections were calculated at a series of points shown in Figure 4-23. The calculated DNL values at these points are provided in Table 4-8 along with a description and location of each point. For baseline points that have DNL > 45 dBA, the four alternatives have an average increase between 1.4 to 2.8 dB. For Alternative 2A, the maximum increase of 5.5 dB occurs at point AC-10, and for Alternative 2B, the maximum increase of 6.8 dB occurs at point AC-6. For Alternative 2C and 2D, the maximum difference occurs at point AC-12 with differences of 4.9 dB and 4.2 dB, respectively.

The top contributors to the DNL at each of these points are provided in Appendix C. These tables identify an individual operation's SEL for that point as well as its contribution to the overall DNL values. The DNL Rank column indicates their relative contribution to the DNL compared to the other flight operations, as such the individual SEL values are not necessarily in descending order. Additional details about the operation such as type and distance of the closest point of approach are also listed in the tables. These tables provide a detailed description of the current and projected aircraft noise environment surrounding the airfield.

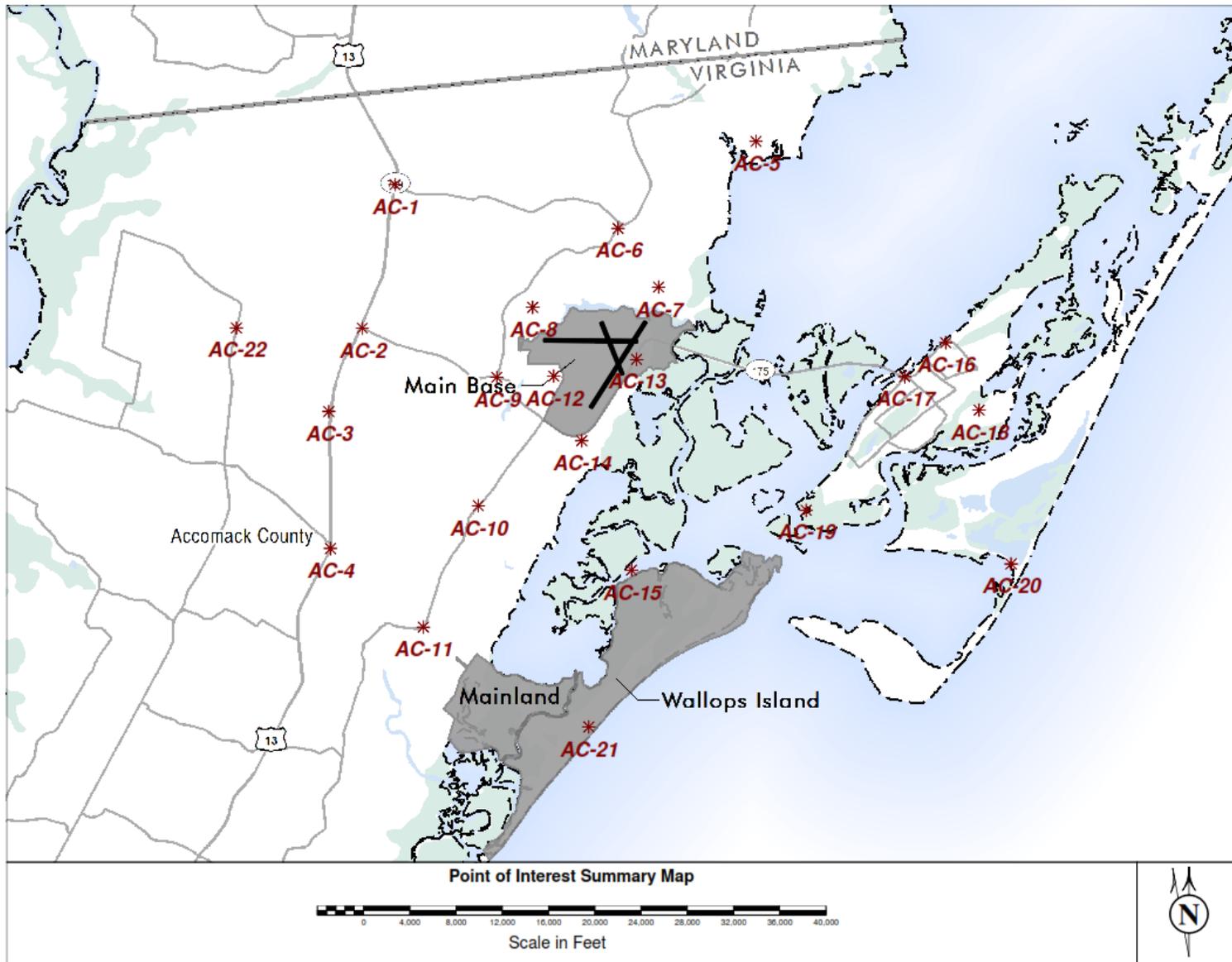


Figure 4-23. Points of Interest for supplemental noise analysis around Wallops Flight Facility

Table 4-8. DNL values for Point for Interest around Wallops Flight Facility

| Location ID | Description | Latitude | Longitude | Total DNL (dB) | | | | |
|-------------|--|-----------|-----------|----------------|--------|--------|--------|--------|
| | | | | Baseline | Alt 2A | Alt 2B | Alt 2C | Alt 2D |
| AC-1 | Intersection of US 13 and SR 709 | 37.979862 | 75.53012 | <45 | <45 | <45 | <45 | <45 |
| AC-2 | T's Corner (east of intersection of US 13 and Chincoteague Rd) | 37.94559 | 75.53969 | 49.1 | 49.7 | 49.7 | 52.7 | 53.5 |
| AC-3 | Arcadia High School | 37.925653 | 75.54959 | <45 | 46.4 | 46.3 | 45.8 | 47.0 |
| AC-4 | Temperanceville at Intersection of US 13 and SR 695 | 37.892998 | 75.54888 | <45 | <45 | <45 | <45 | <45 |
| AC-5 | Captain's Cove Community Pool | 37.990629 | 75.42181 | <45 | <45 | 45.3 | 45.6 | 45.7 |
| AC-6 | Horntown at Intersection of SR 679 and SR 709 | 37.969714 | 75.46310 | 52.8 | 53.8 | 59.5 | 54.1 | 54.2 |
| AC-7 | Trail's End Community Pool | 37.955769 | 75.45085 | 62.4 | 63.3 | 64 | 63.0 | 63.1 |
| AC-8 | Olde Mill Pointe Traffic Circle | 37.950772 | 75.48857 | 56.1 | 57.0 | 57.1 | 58.0 | 58.3 |
| AC-9 | Wattsville at Intersection of SR 679 and Chincoteague Road | 37.934026 | 75.49924 | 61.2 | 61.4 | 61.4 | 61.6 | 61.9 |
| AC-10 | Atlantic at Intersection of SR 679 and Nocks Landing Road | 37.903404 | 75.50457 | 45.1 | 50.8 | 51.6 | 46.6 | 47.1 |
| AC-11 | Assawoman at Intersection of SR 670 and Wallops Island Road | 37.874388 | 75.52087 | <45 | <45 | <45 | <45 | <45 |
| AC-12 | Marine Science Consortium | 37.93441 | 75.48218 | 55 | 57.6 | 57.7 | 59.9 | 59.2 |
| AC-13 | NASA Visitor Center | 37.938484 | 75.45734 | 63.5 | 66.8 | 66.9 | 64.5 | 64.6 |
| AC-14 | USFWS Maintenance Yard at Wallops Island NWR | 37.919021 | 75.47368 | 62.4 | 63.7 | 64.3 | 62.8 | 62.8 |
| AC-15 | Ballast Narrows at Wallops Island NWR | 37.888266 | 75.45856 | <45 | <45 | 47.4 | <45 | <45 |
| AC-16 | Chincoteague High School | 37.942804 | 75.36462 | <45 | <45 | <45 | <45 | <45 |
| AC-17 | Chincoteague Waterfront Park | 37.934675 | 75.37687 | <45 | <45 | <45 | <45 | <45 |
| AC-18 | Chincoteague Chamber of Commerce on Piney Island | 37.926754 | 75.35452 | <45 | <45 | <45 | <45 | <45 |
| AC-19 | Curtis Merritt Harbor, Chincoteague Island | 37.902697 | 75.40628 | <45 | <45 | <45 | <45 | <45 |
| AC-20 | Tom's Cove Visitor Center | 37.890114 | 75.34476 | <45 | <45 | <45 | <45 | <45 |
| AC-21 | Mid-Atlantic Regional Spaceport | 37.850806 | 75.47113 | <45 | <45 | <45 | <45 | <45 |
| AC-22 | Withams at Intersection of SR 693 and SR 703 | 37.945463 | 75.57746 | <45 | <45 | <45 | 45.0 | 45.0 |

References

- 1 U.S. Department of the Navy, "Description of the Proposed Action and Alternatives for the Environmental Assessment for E-2/C-2 Field Carrier Landing Practice Operations at Emporia-Greenville Regional Airport and National Aeronautics and Space Administration Wallops Flight Facility," Final Version, 27 February 2012.
- 2 Federal Interagency Committee on Urban Noise (FICUN), Guidelines for Considering Noise in Land-Use Planning and Control, August 1980.
- 3 US Environmental Protection Agency (EPA), Guidelines for Noise Impact Analysis, Report 550/9-82-105 and #PB82-219205, April 1982.
- 4 American National Standards Institute, Inc. (ANSI), American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 5: Sound Level Descriptors for Determination of Compatible Land Use, ANSI S12.9/Part 5-1998 (R 2003), 2003.
- 5 Federal Interagency Committee on Noise (FICON), Federal Agency Review of Selected Airport Noise Analysis Issues, August 1992.
- 6 Czech, J. and Plotkin, K.J., NMAP 7.0 User's Manual, Wyle Research Report, WR 98-13, November 1998.
- 7 Page, Juliet, Kenneth Plotkin, and Micah Downing, Rotorcraft Noise Model (RNM 3.0) Technical Reference and User Manual, Wyle Report, WR 02-05, March 2002.
- 8 Downing, Micah "Noise Modeling Parameters Report," 28 February 2012
- 9 Richard Franklin, Jr., and Melvin Vick (Airfield Manager), site visit, 19 July 2011
- 10 Chief Warrant Officer (CW4), e-mail communication on 26 January 2012 and 8 February 2012 regarding assumptions for CH-47 operating out of Fort Eustis.
- 11 AirNav.com, FAA Information for Emporia-Greenville Regional Airport (KEMV) effective 09 February 2012, available at <http://www.airnav.com/airport/KEMV> .
- 12 Silbert, Shari and Bundick, Joshua, Wallops Flight Facility site visit, 15 December 2011.
- 13 Silbert, Shari, email communication, 4 January 2012.
- 14 Littleton, Eric, email communication, 6 January 2012.

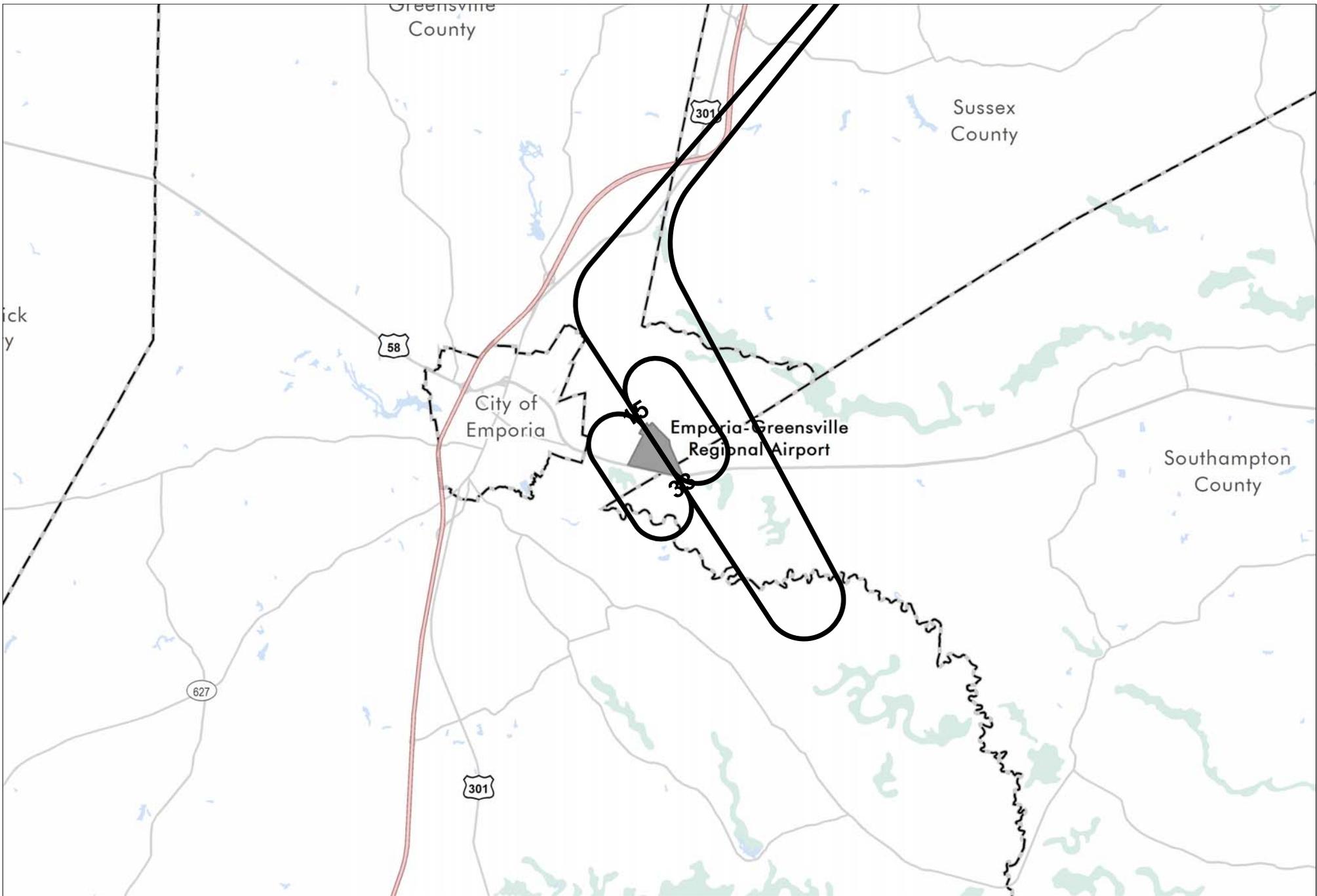
**Appendix A: E-2/C-2 Modeling Parameters Report for Proposed FCLP
Training Operations at Emporia-Greenville Regional
Airport and Wallops Flight Facility**

E2 Auxiliary Use EA -- Emporia/Greenville

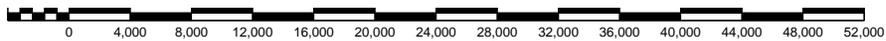
E-2 Ops

2:15 PM
Thursday, December 20, 2012
BaseOps 7.357

Summary Map of Arrival Flight Tracks



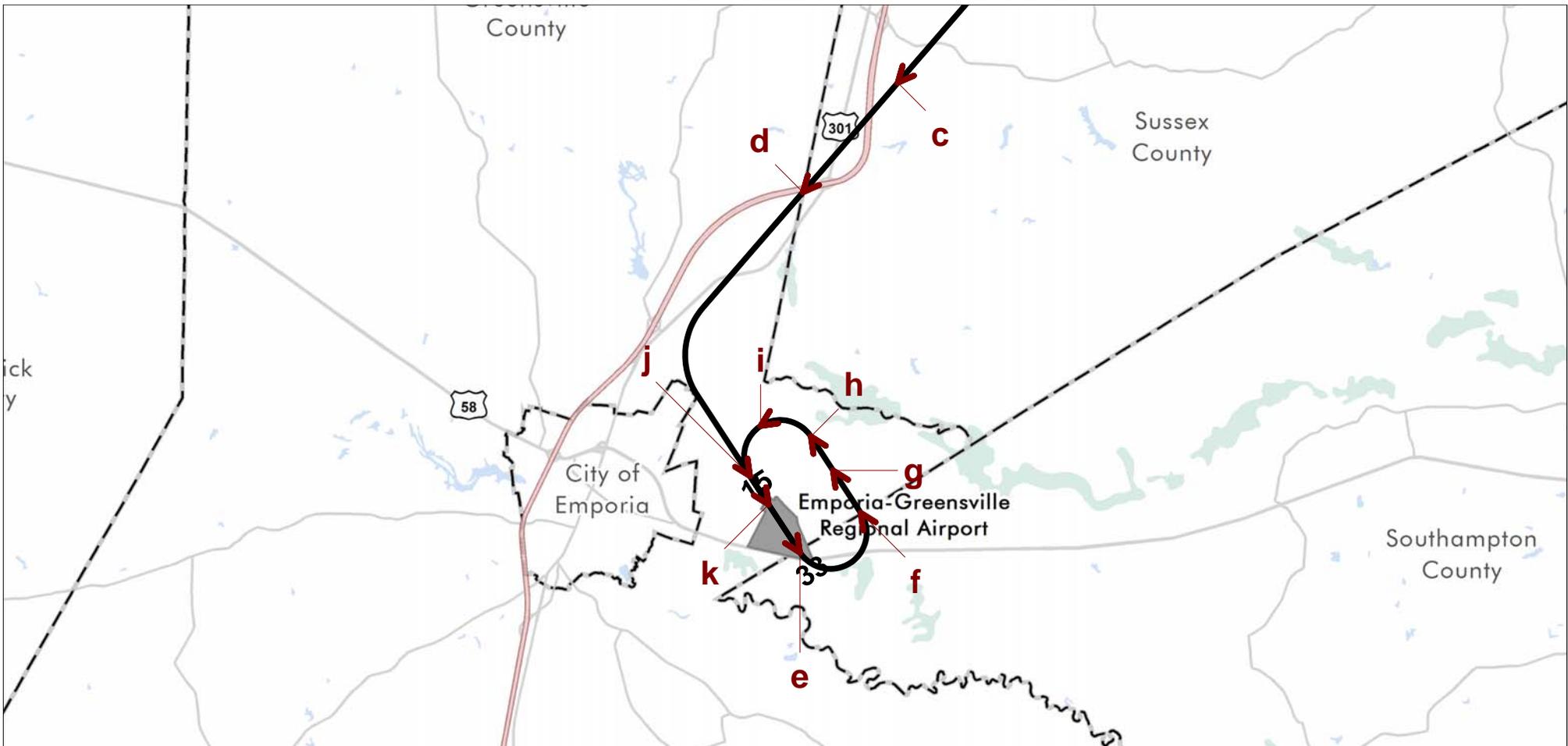
Flight Track Summary Map



Scale in Feet 1:150,000 (1 inch = 12,500 feet)



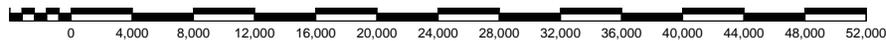
Maps of Arrival Flight Profiles



Flight Profile E2_150

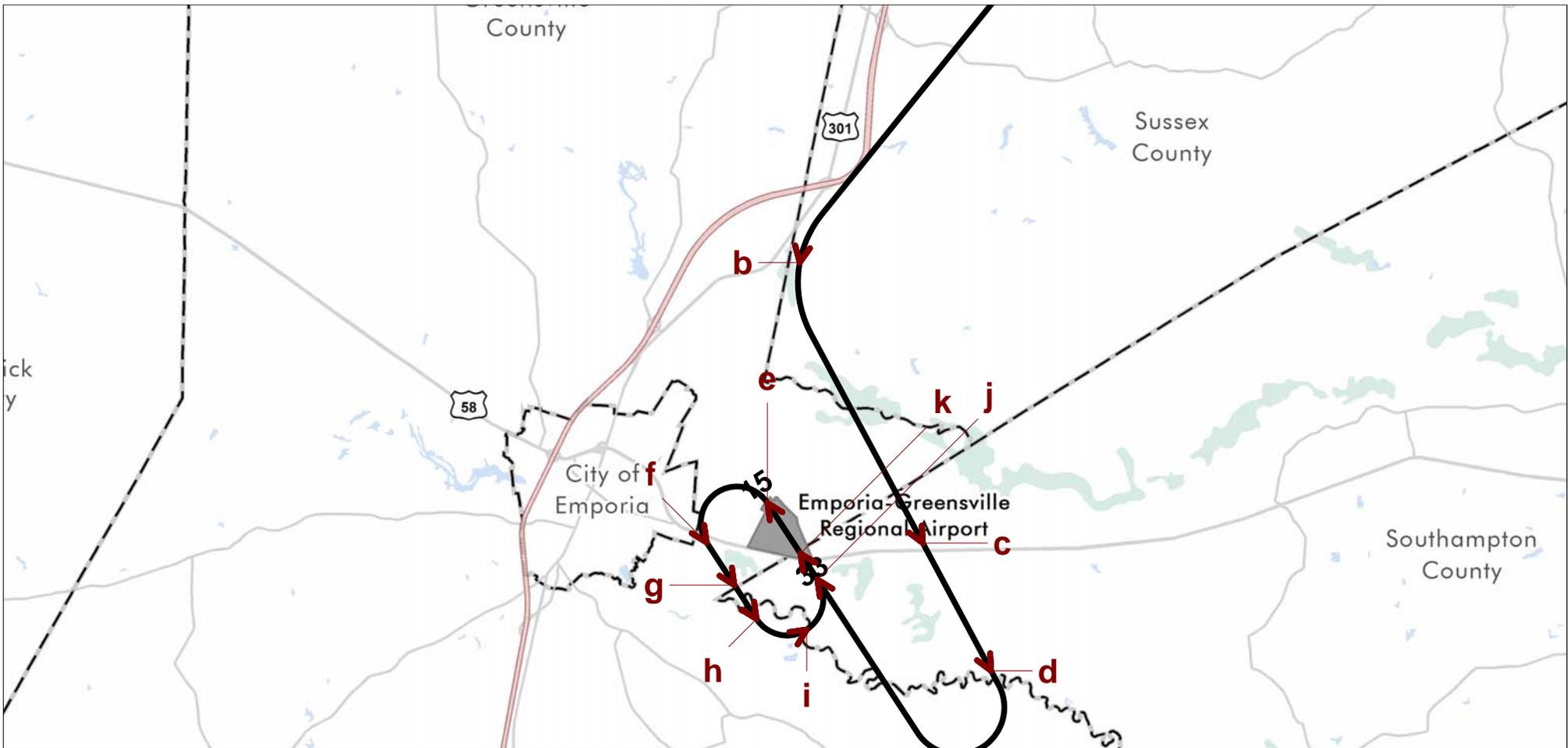
| Point | Distance ft | Height ft | Power ISHP | Speed kts | Notes |
|-------|----------------|--------------|---------------|--------------|------------------------------|
| a | 247,000 | 4,000 AGL | 1500 Variable | 250 | not shown; beyond map extent |
| b | 148,000 | 4,000 AGL | 1150 Variable | 250 | not shown; beyond map extent |
| c | 78,200 | 2,500 AGL | 1150 Variable | 250 | not shown; beyond map extent |
| d | 66,060 | 800 AGL | 3000 Variable | 250 | |
| e | 29,603 | 800 AGL | 1150 Variable | 250 | |
| f | 20,057 | 600 AGL | 1500 Variable | 150 | |
| g | 15,798 | 600 AGL | 1200 Variable | 112 | |
| h | 12,401 | 600 AGL | 1200 Variable | 112 | |
| i | 7,626 | 475 AGL | 1200 Variable | 112 | |
| j | 2,856 | 200 AGL | 1200 Variable | 112 | |
| k | 0 | 33 AGL | 1200 Variable | 112 | runway threshold |

Flight Profile E2_150
Overhead Arrival From NGU



Scale in Feet 1:150,000 (1 inch = 12,500 feet)

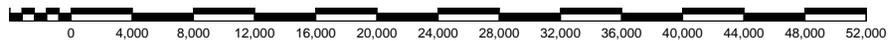




Flight Profile E2_330

| Point | Distance ft | Height ft | Power ISHP | Speed kts | Notes |
|-------|----------------|--------------|---------------|--------------|------------------------------|
| a | 200,000 | 4,000 AGL | 1500 Variable | 250 | not shown; beyond map extent |
| b | 104,000 | 4,000 AGL | 1150 Variable | 250 | |
| c | 77,957 | 2,500 AGL | 1150 Variable | 250 | |
| d | 65,804 | 800 AGL | 3000 Variable | 250 | |
| e | 29,348 | 600 AGL | 1150 Variable | 250 | |
| f | 19,802 | 600 AGL | 1500 Variable | 150 | |
| g | 15,549 | 600 AGL | 1200 Variable | 112 | |
| h | 12,146 | 600 AGL | 1200 Variable | 112 | |
| i | 7,370 | 475 AGL | 1200 Variable | 112 | |
| j | 2,601 | 200 AGL | 1200 Variable | 112 | |
| k | 0 | 49 AGL | 1200 Variable | 112 | runway threshold |

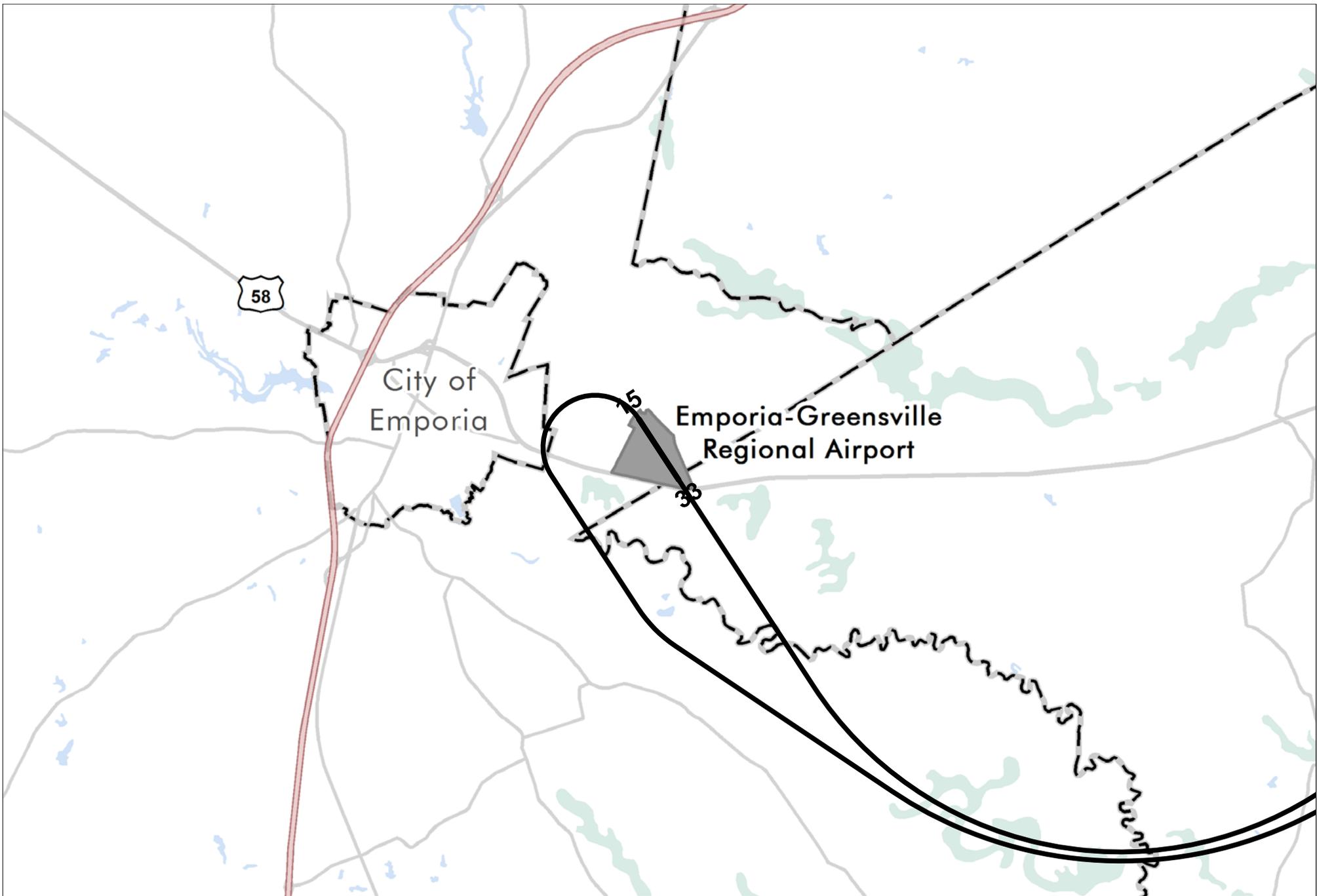
Flight Profile E2_330
Overhead Arrival From NGU



Scale in Feet 1:150,000 (1 inch = 12,500 feet)



Summary Map of Departure Flight Tracks



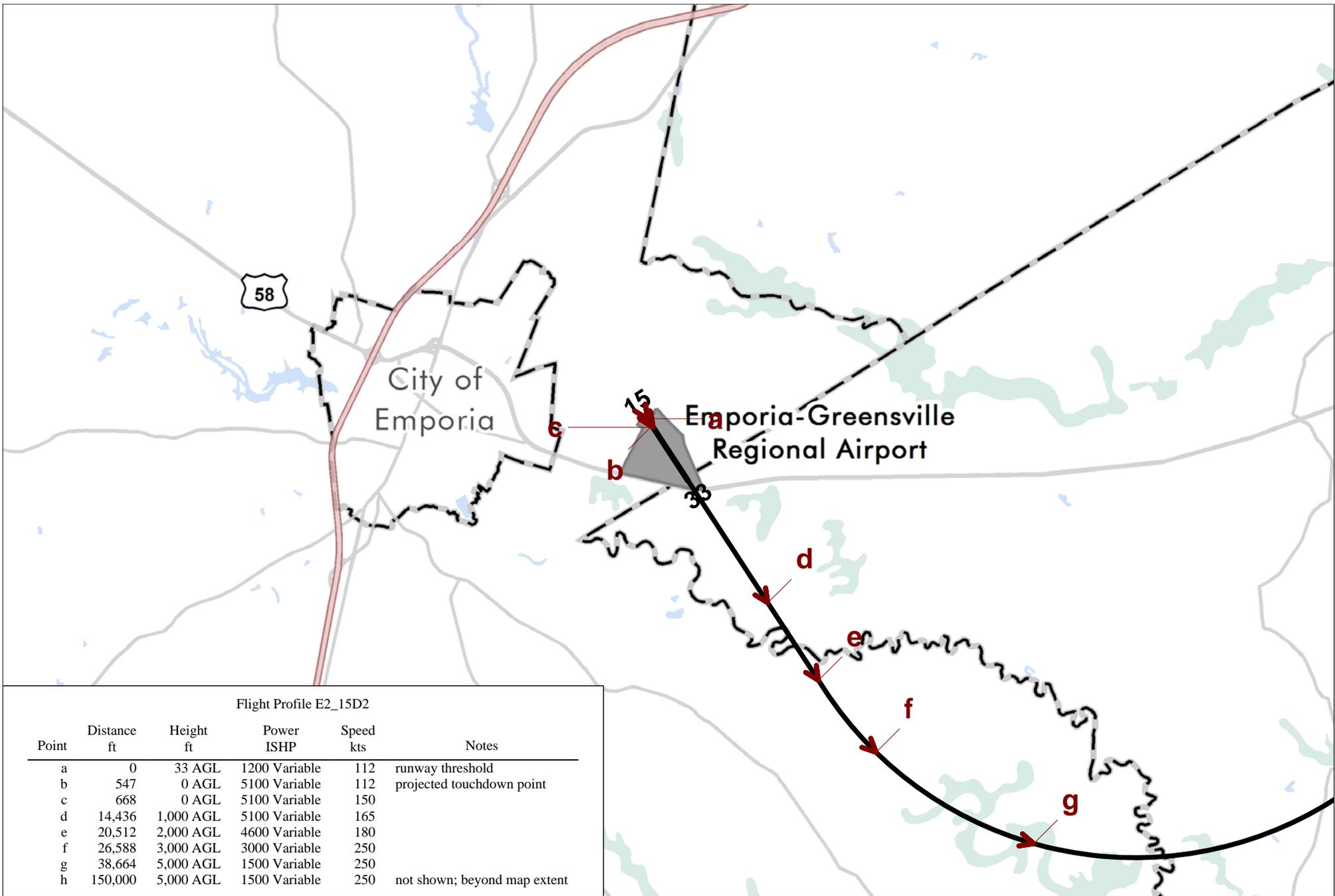
Flight Track Summary Map



Scale in Feet 1:100,000 (1 inch = 8,330 feet)



Maps of Departure Flight Profiles

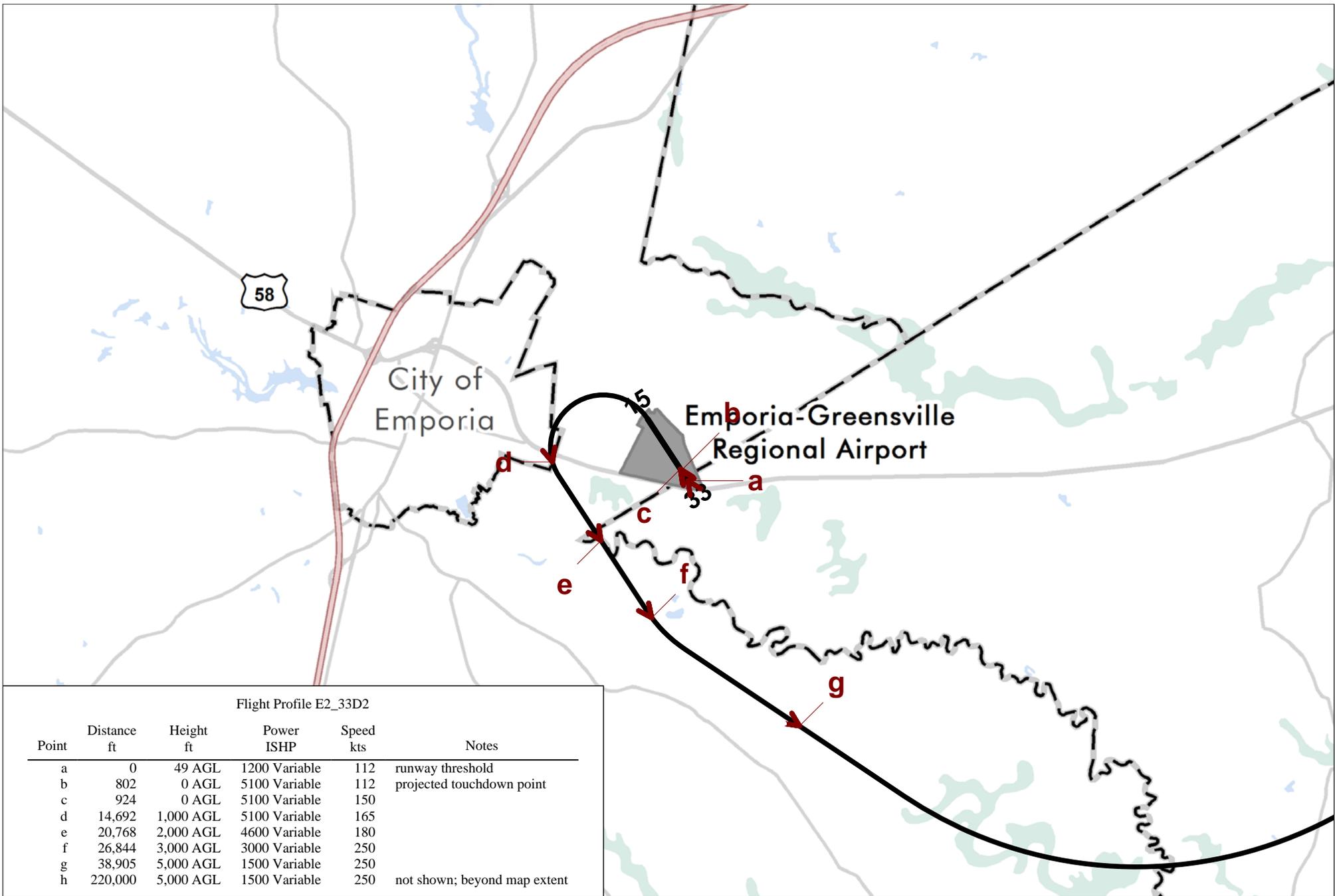


Flight Profile E2_15D2
Departure to NGU

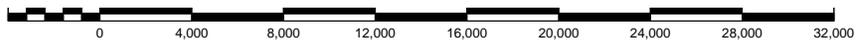


Scale in Feet 1:100,000 (1 inch = 8,330 feet)





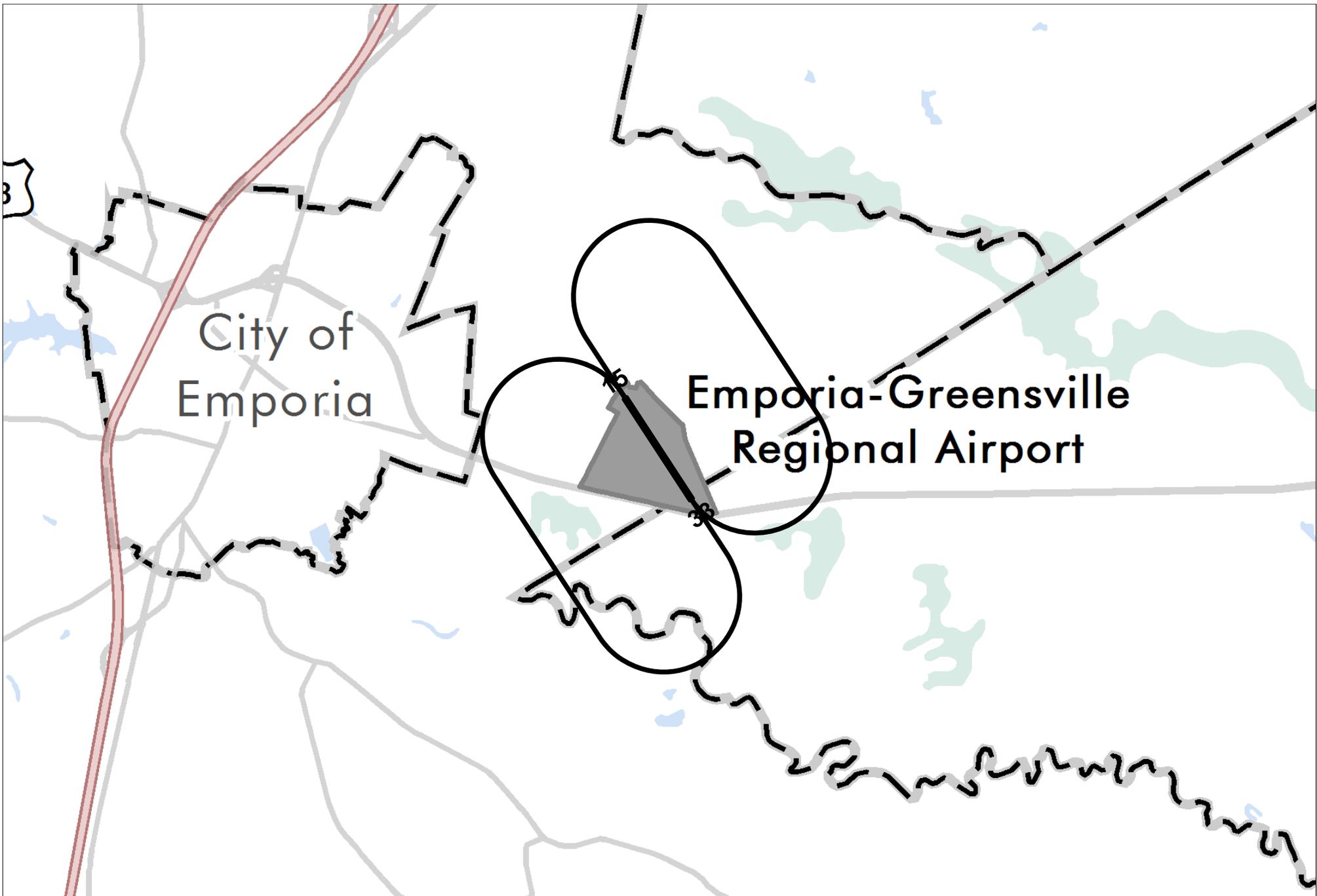
Flight Profile E2_33D2
Departure to NGU



Scale in Feet 1:100,000 (1 inch = 8,330 feet)



Summary Map of 3-Ship FCLP Flight Tracks



City of
Emporia

Emporia-Greenville
Regional Airport

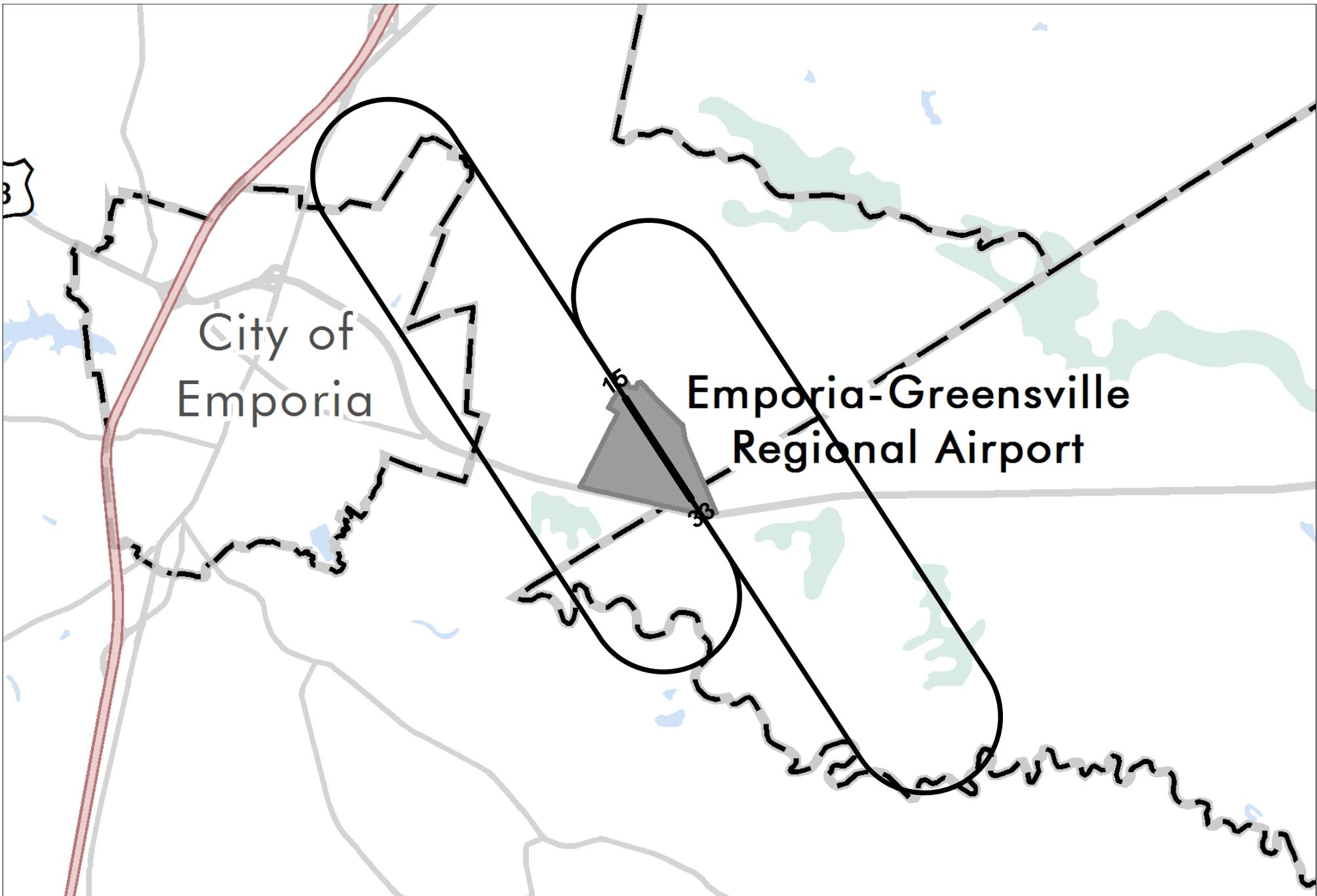
Flight Track Summary Map



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



Summary Map of 5-Ship FCLP Flight Tracks



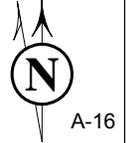
City of
Emporia

Emporia-Greenville
Regional Airport

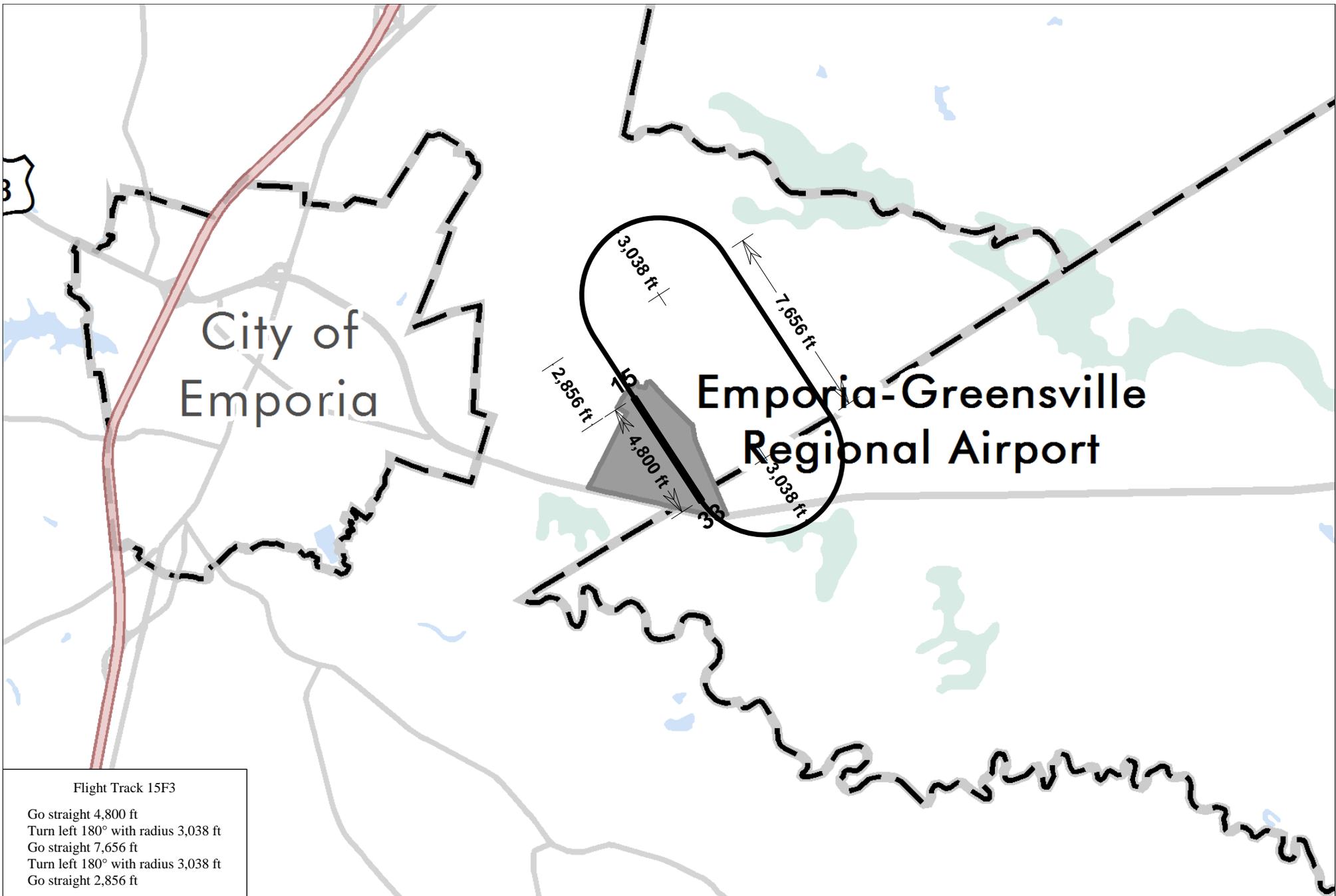
Flight Track Summary Map



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



Maps of Individual FCLP Flight Tracks



Flight Track 15F3
 Go straight 4,800 ft
 Turn left 180° with radius 3,038 ft
 Go straight 7,656 ft
 Turn left 180° with radius 3,038 ft
 Go straight 2,856 ft

Flight Track 15F3
 FCLP 3 ship

Scale in Feet 1:60,000 (1 inch = 5,000 feet)

A-18



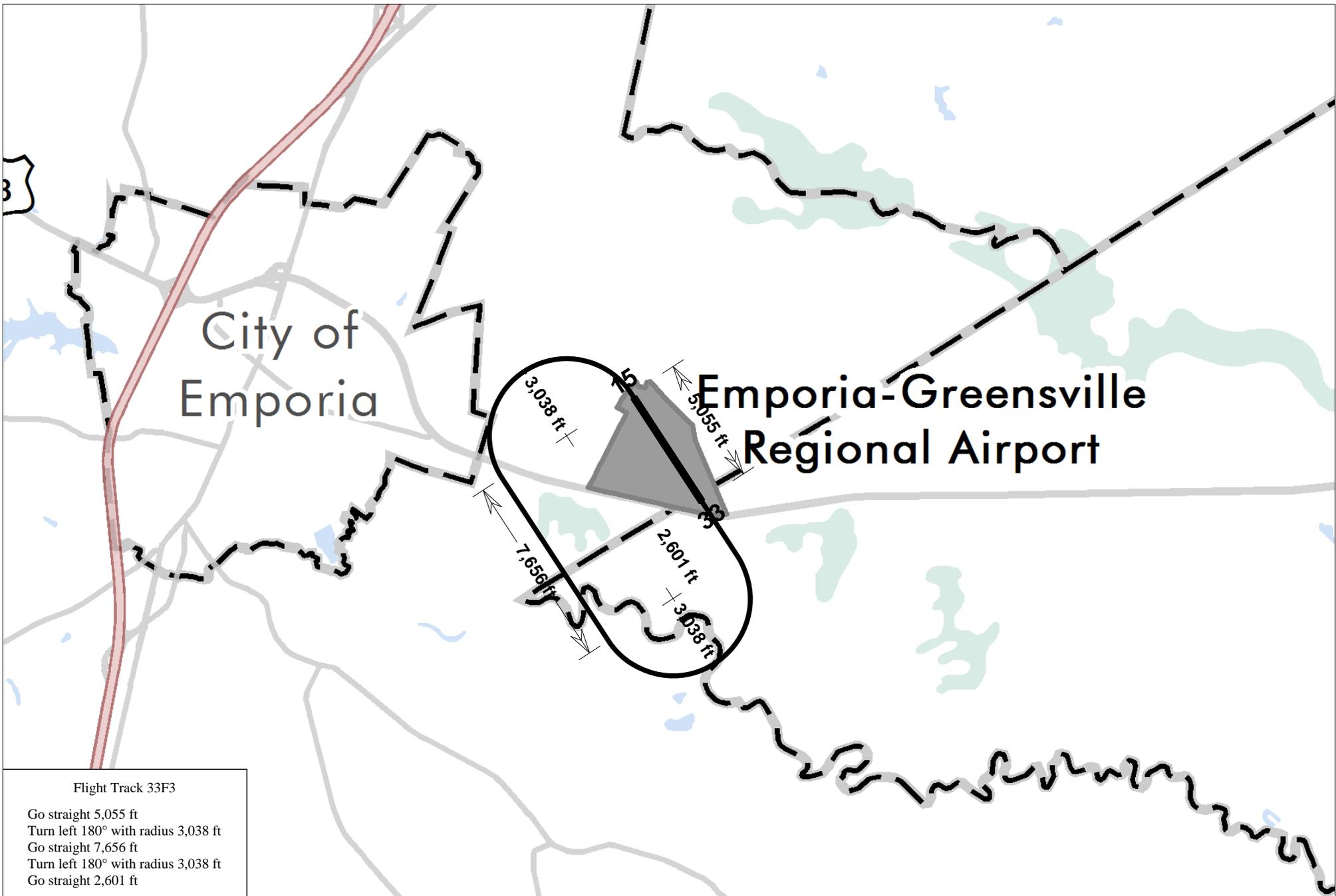
Flight Track 15F5
 Go straight 17,195 ft
 Turn left 180° with radius 3,038 ft
 Go straight 20,051 ft
 Turn left 180° with radius 3,038 ft
 Go straight 2,856 ft

Flight Track 15F5
 FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





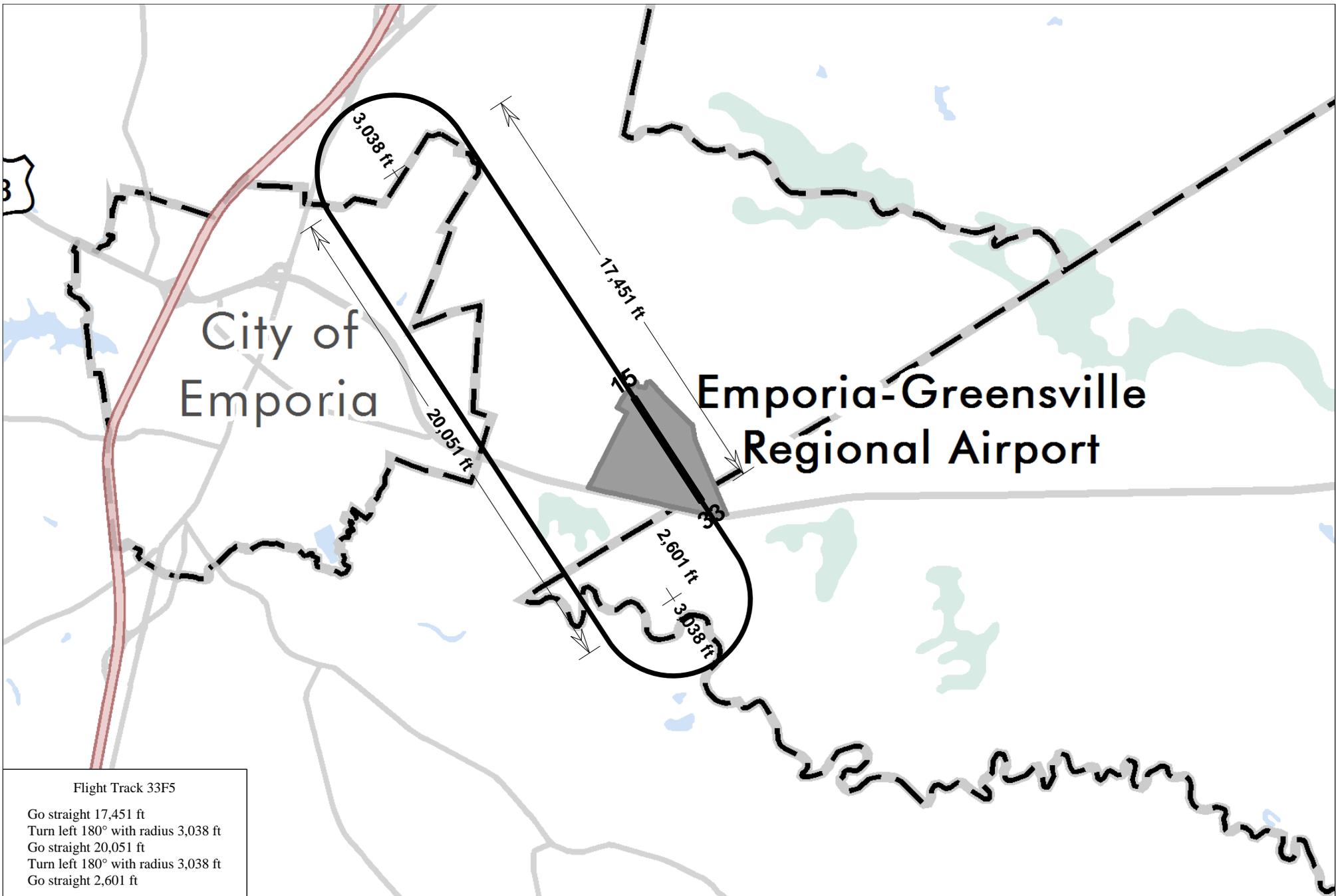
Flight Track 33F3
 Go straight 5,055 ft
 Turn left 180° with radius 3,038 ft
 Go straight 7,656 ft
 Turn left 180° with radius 3,038 ft
 Go straight 2,601 ft

Flight Track 33F3
 FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





Flight Track 33F5

- Go straight 17,451 ft
- Turn left 180° with radius 3,038 ft
- Go straight 20,051 ft
- Turn left 180° with radius 3,038 ft
- Go straight 2,601 ft

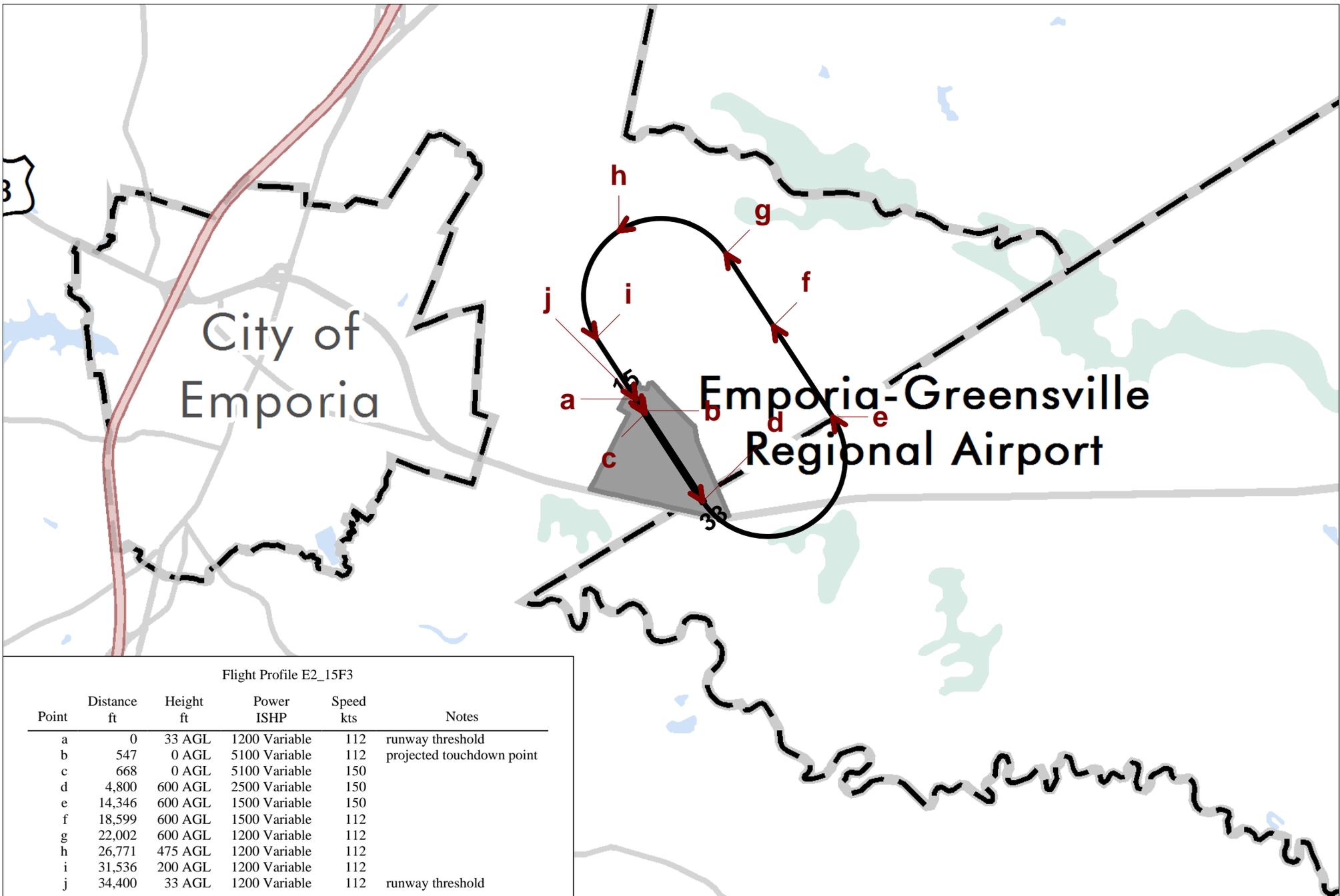
Flight Track 33F5
FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



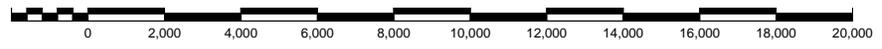
FCLP Flight Profiles



Flight Profile E2_15F3

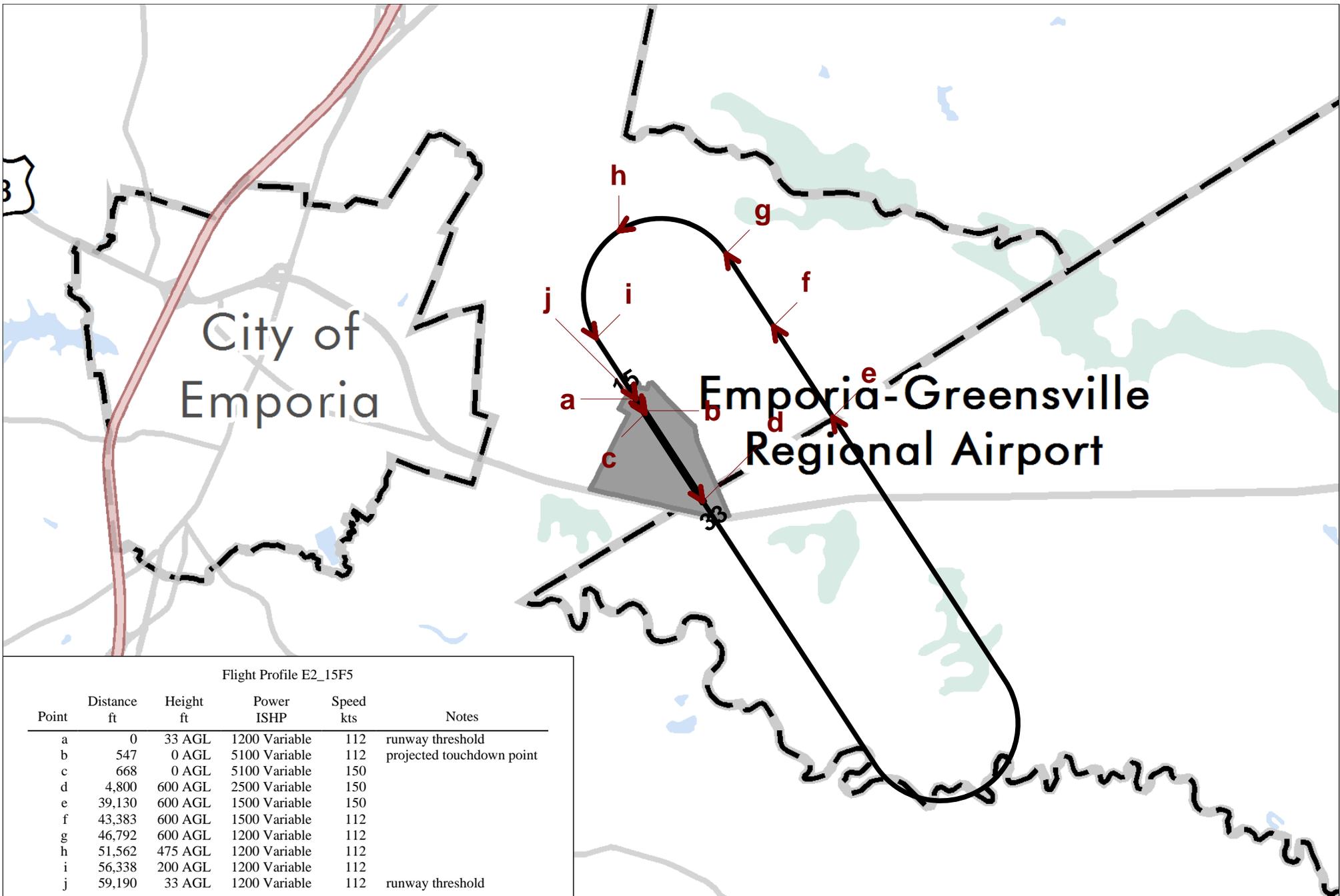
| Point | Distance ft | Height ft | Power ISHP | Speed kts | Notes |
|-------|-------------|-----------|---------------|-----------|---------------------------|
| a | 0 | 33 AGL | 1200 Variable | 112 | runway threshold |
| b | 547 | 0 AGL | 5100 Variable | 112 | projected touchdown point |
| c | 668 | 0 AGL | 5100 Variable | 150 | |
| d | 4,800 | 600 AGL | 2500 Variable | 150 | |
| e | 14,346 | 600 AGL | 1500 Variable | 150 | |
| f | 18,599 | 600 AGL | 1500 Variable | 112 | |
| g | 22,002 | 600 AGL | 1200 Variable | 112 | |
| h | 26,771 | 475 AGL | 1200 Variable | 112 | |
| i | 31,536 | 200 AGL | 1200 Variable | 112 | |
| j | 34,400 | 33 AGL | 1200 Variable | 112 | runway threshold |

Flight Profile E2_15F3
FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



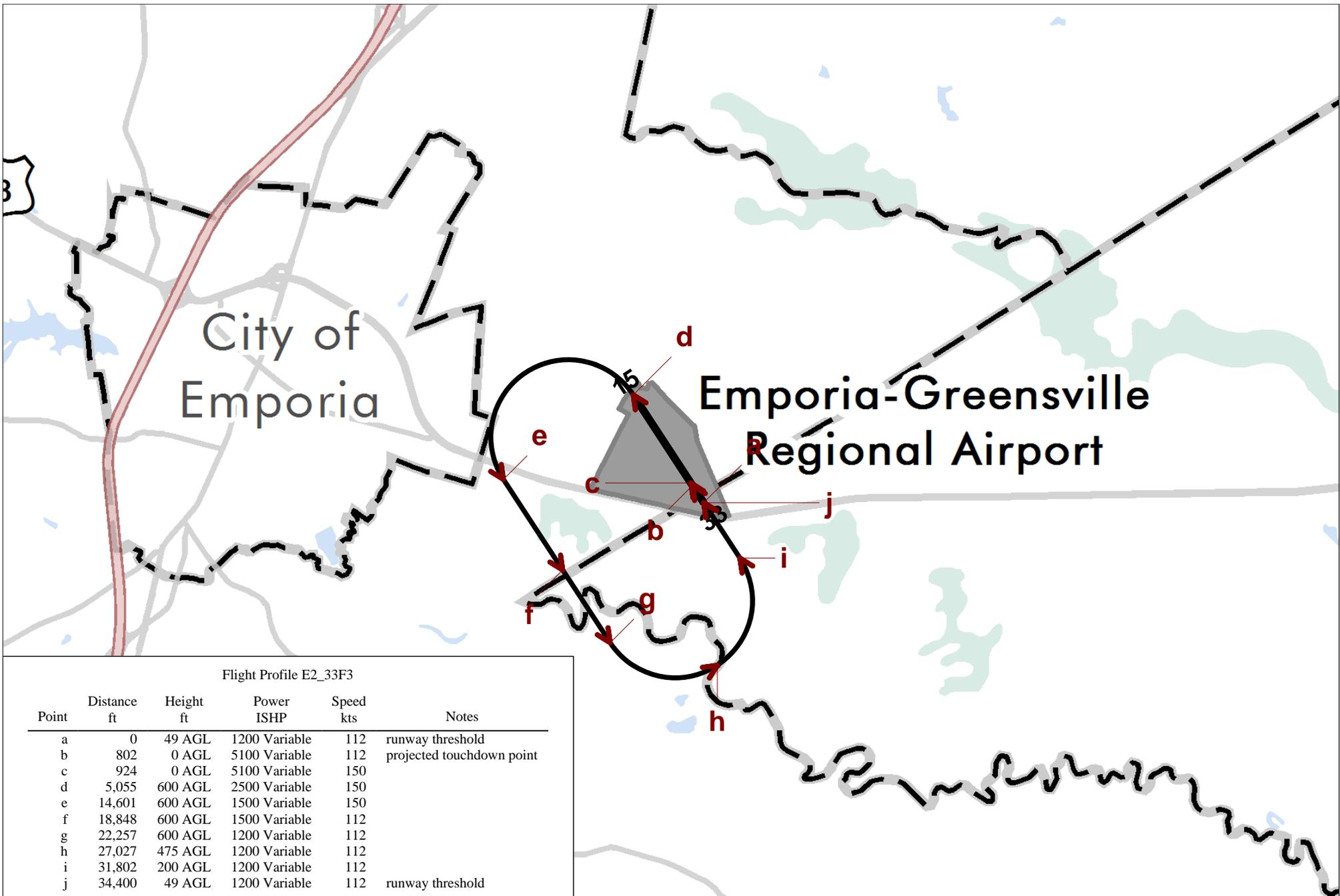


Flight Profile E2_15F5
FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



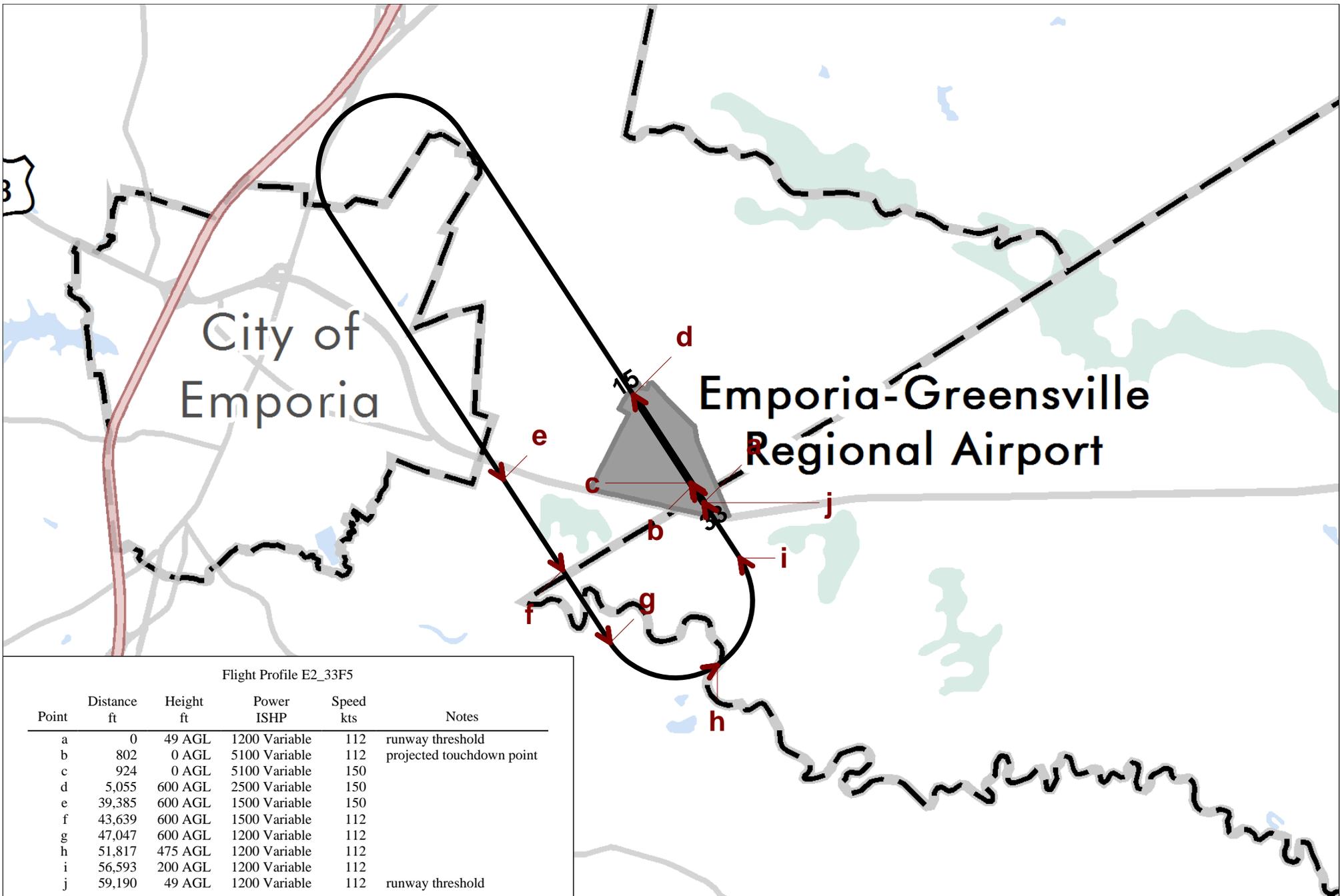


Flight Profile E2_33F3
FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





Flight Profile E2_33F5

| Point | Distance ft | Height ft | Power ISHP | Speed kts | Notes |
|-------|----------------|--------------|---------------|--------------|---------------------------|
| a | 0 | 49 AGL | 1200 Variable | 112 | runway threshold |
| b | 802 | 0 AGL | 5100 Variable | 112 | projected touchdown point |
| c | 924 | 0 AGL | 5100 Variable | 150 | |
| d | 5,055 | 600 AGL | 2500 Variable | 150 | |
| e | 39,385 | 600 AGL | 1500 Variable | 150 | |
| f | 43,639 | 600 AGL | 1500 Variable | 112 | |
| g | 47,047 | 600 AGL | 1200 Variable | 112 | |
| h | 51,817 | 475 AGL | 1200 Variable | 112 | |
| i | 56,593 | 200 AGL | 1200 Variable | 112 | |
| j | 59,190 | 49 AGL | 1200 Variable | 112 | runway threshold |

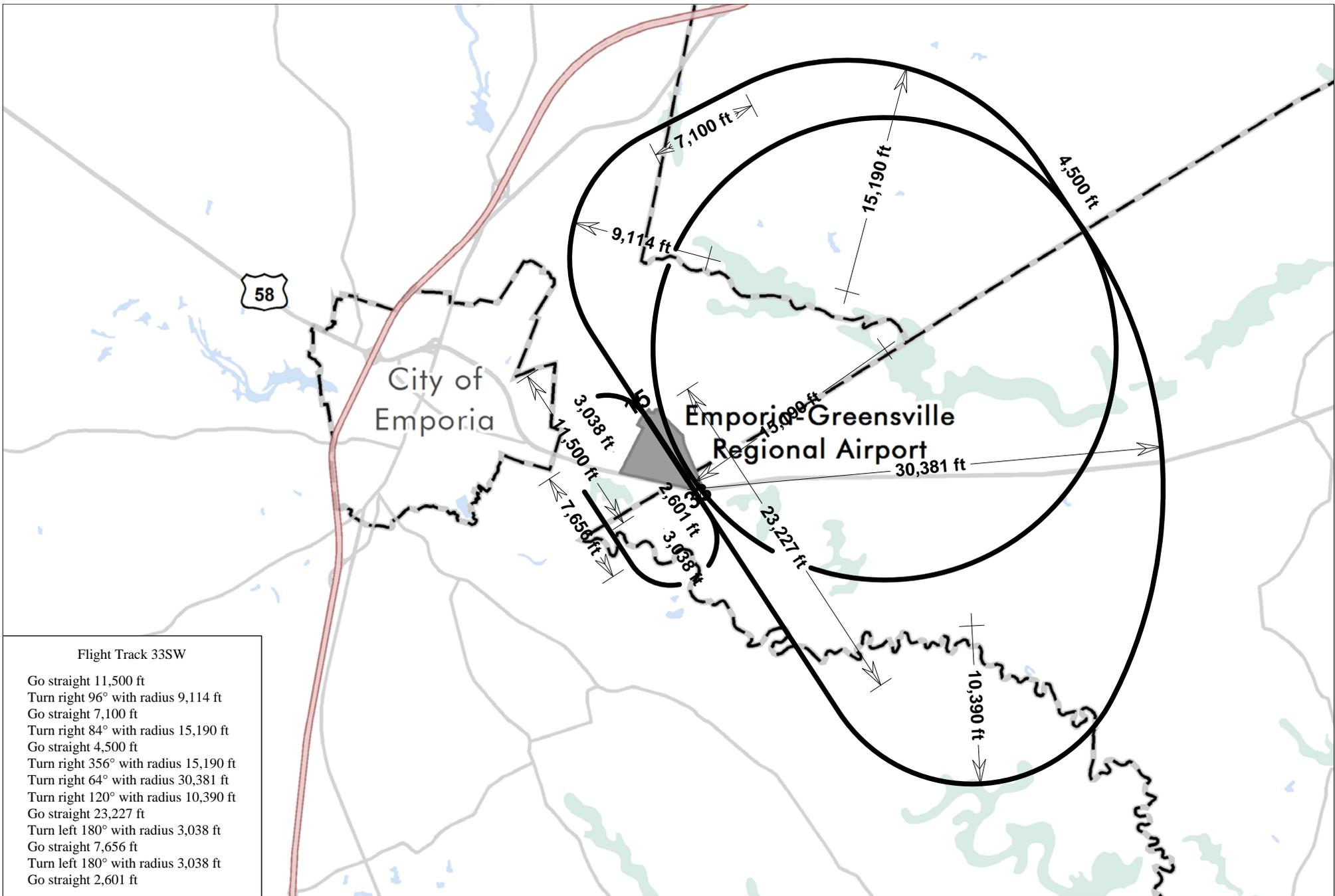
Flight Profile E2_33F5
FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



Example of Crew Swap Flight Track



Flight Track 33SW

- Go straight 11,500 ft
- Turn right 96° with radius 9,114 ft
- Go straight 7,100 ft
- Turn right 84° with radius 15,190 ft
- Go straight 4,500 ft
- Turn right 356° with radius 15,190 ft
- Turn right 64° with radius 30,381 ft
- Turn right 120° with radius 10,390 ft
- Go straight 23,227 ft
- Turn left 180° with radius 3,038 ft
- Go straight 7,656 ft
- Turn left 180° with radius 3,038 ft
- Go straight 2,601 ft

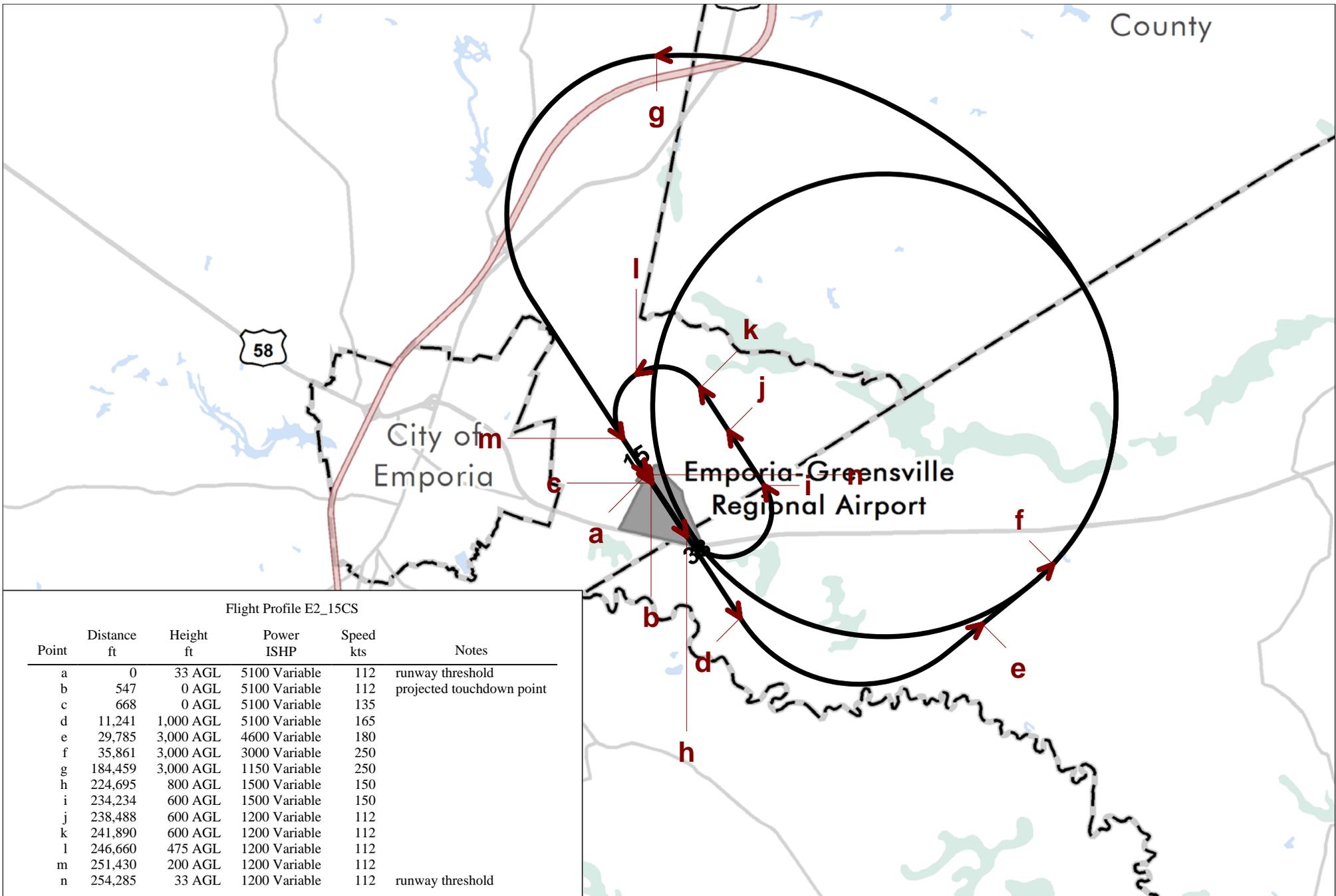
Flight Track 33SW
Crew Swap Pattern



Scale in Feet 1:100,000 (1 inch = 8,330 feet)



Maps of Crew Swap Flight Profiles



Flight Profile E2_15CS

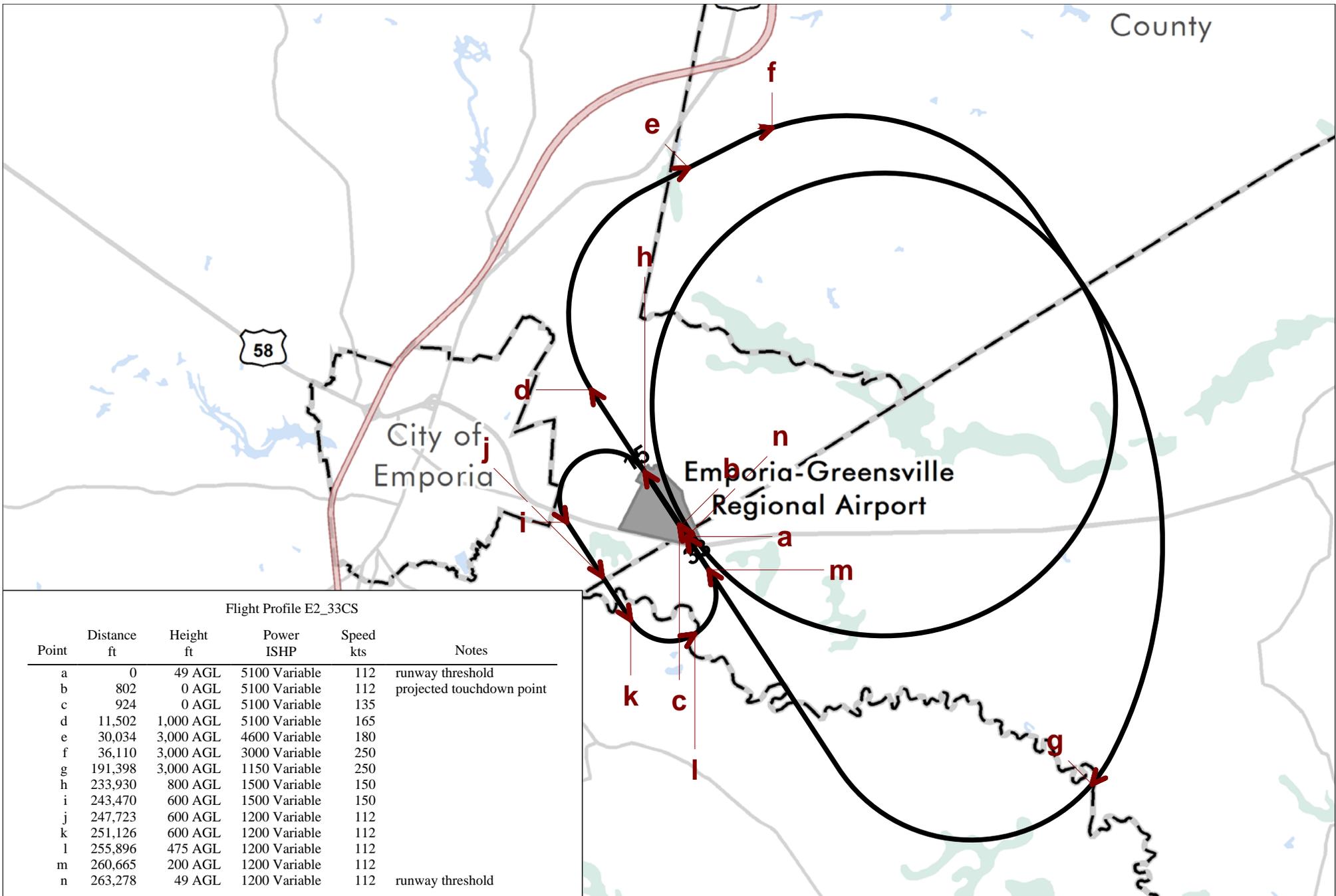
| Point | Distance ft | Height ft | Power ISHP | Speed kts | Notes |
|-------|-------------|-----------|---------------|-----------|---------------------------|
| a | 0 | 33 AGL | 5100 Variable | 112 | runway threshold |
| b | 547 | 0 AGL | 5100 Variable | 112 | projected touchdown point |
| c | 668 | 0 AGL | 5100 Variable | 135 | |
| d | 11,241 | 1,000 AGL | 5100 Variable | 165 | |
| e | 29,785 | 3,000 AGL | 4600 Variable | 180 | |
| f | 35,861 | 3,000 AGL | 3000 Variable | 250 | |
| g | 184,459 | 3,000 AGL | 1150 Variable | 250 | |
| h | 224,695 | 800 AGL | 1500 Variable | 150 | |
| i | 234,234 | 600 AGL | 1500 Variable | 150 | |
| j | 238,488 | 600 AGL | 1200 Variable | 112 | |
| k | 241,890 | 600 AGL | 1200 Variable | 112 | |
| l | 246,660 | 475 AGL | 1200 Variable | 112 | |
| m | 251,430 | 200 AGL | 1200 Variable | 112 | |
| n | 254,285 | 33 AGL | 1200 Variable | 112 | runway threshold |

Flight Profile E2_15CS
Crew Swap



Scale in Feet 1:100,000 (1 inch = 8,330 feet)





Flight Profile E2_33CS
Crew Swap



Scale in Feet 1:100,000 (1 inch = 8,330 feet)

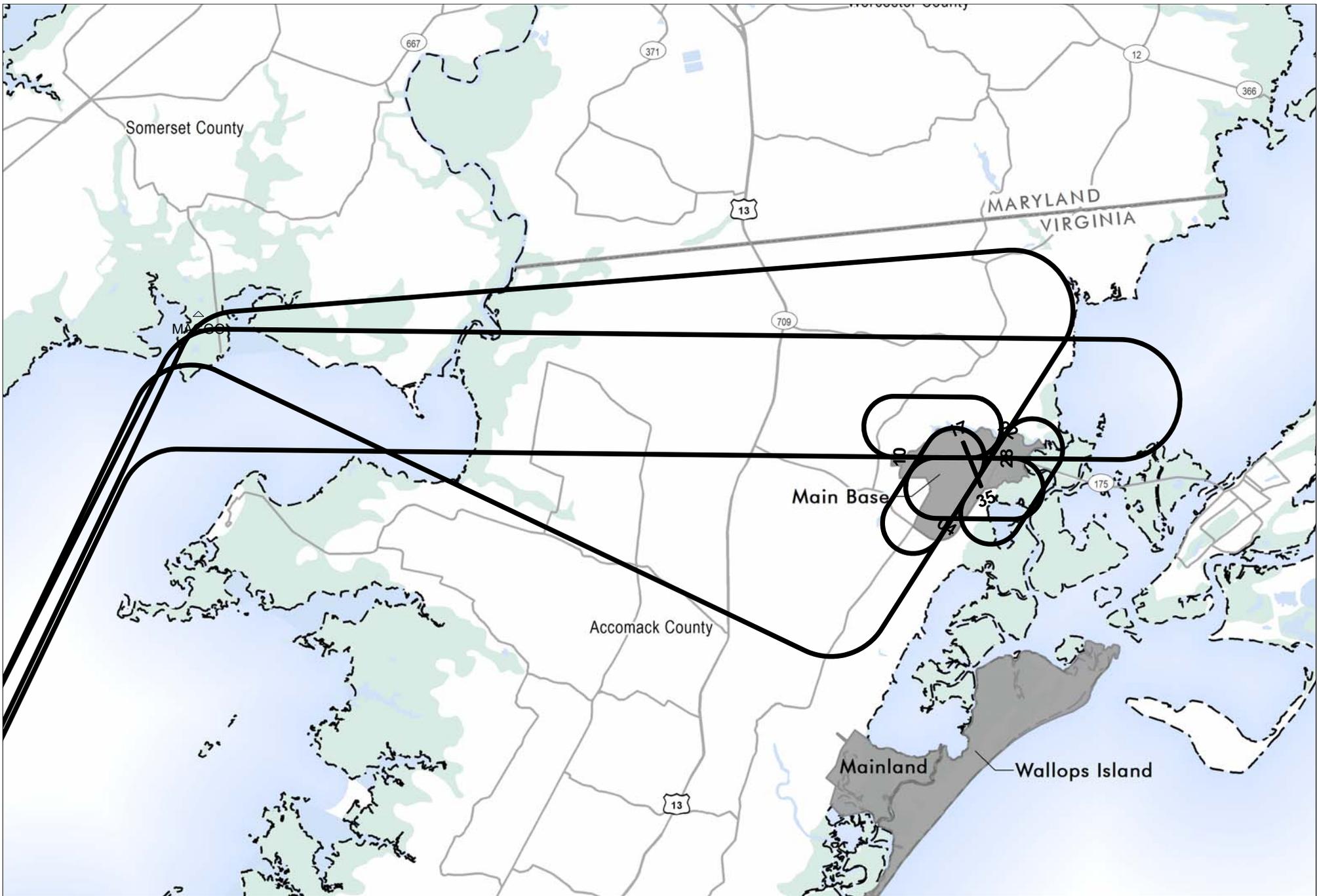


E2 Auxiliary Use EA -- Wallops Island

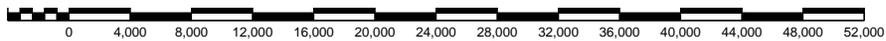
E-2 Ops

2:17 PM
Thursday, December 20, 2012
BaseOps 7.357

Summary Map of Arrival Flight Tracks



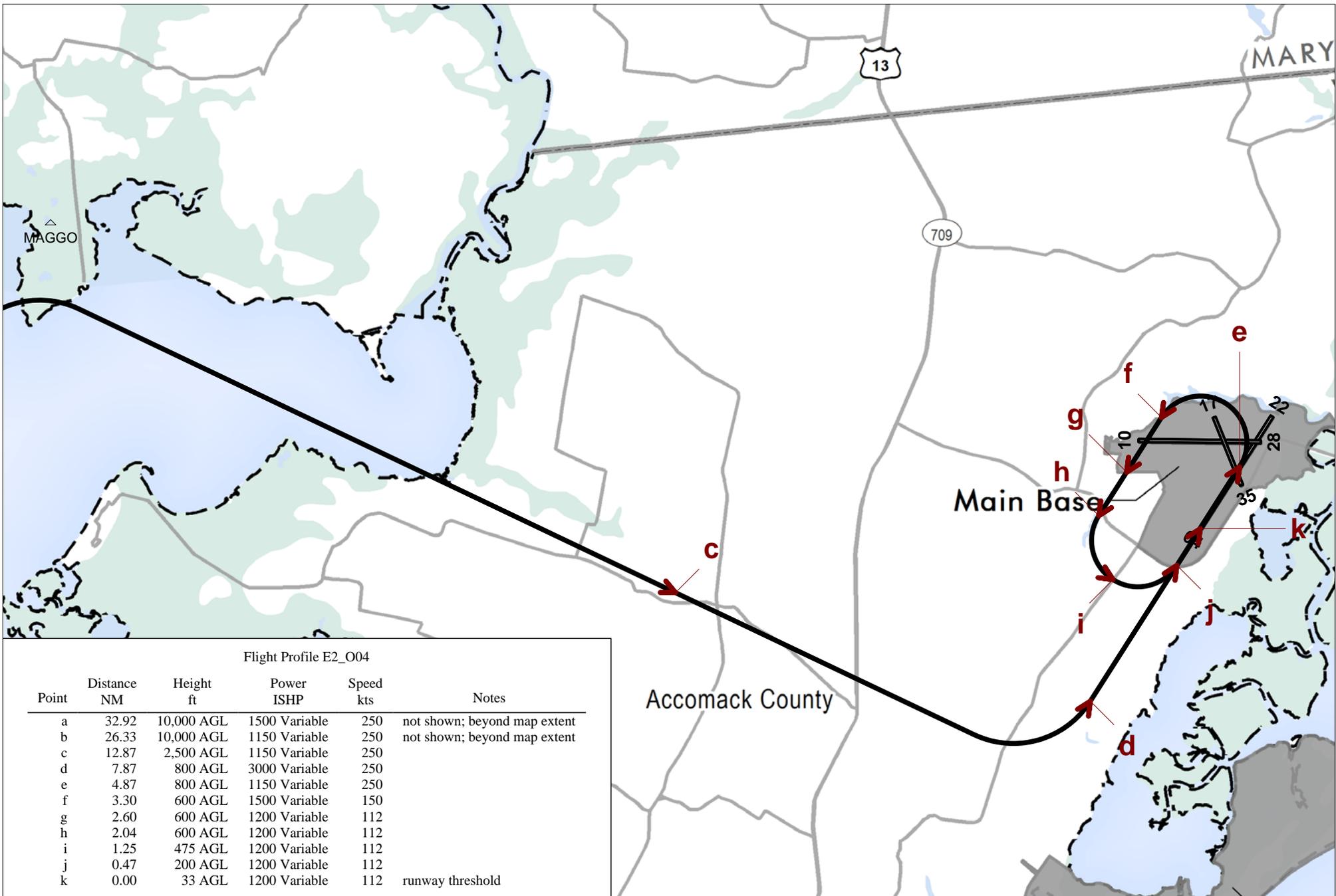
Flight Track Summary Map



Scale in Feet 1:150,000 (1 inch = 12,500 feet)



Maps of Arrival Flight Profiles



Flight Profile E2_004

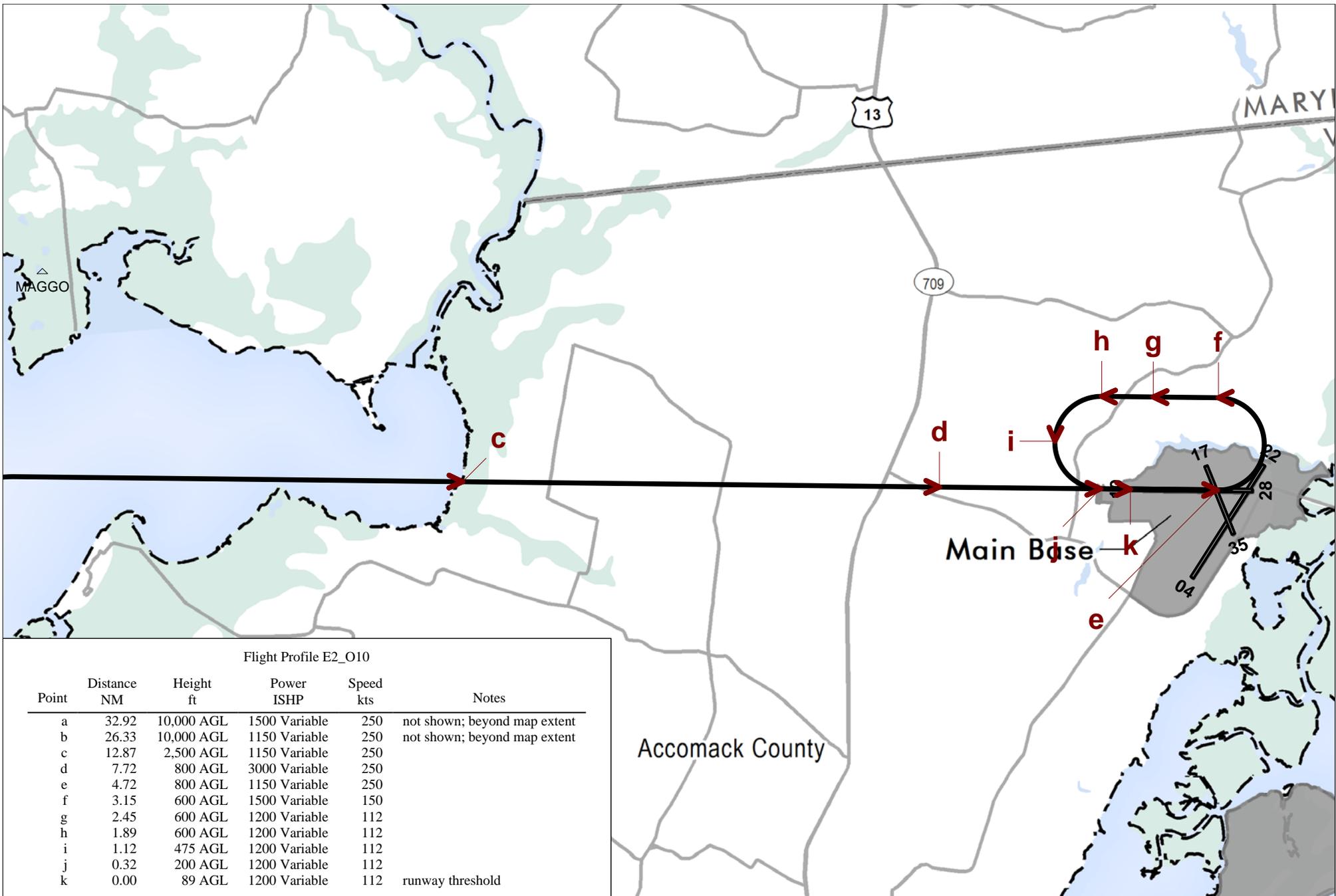
| Point | Distance NM | Height ft | Power ISHP | Speed kts | Notes |
|-------|----------------|--------------|---------------|--------------|------------------------------|
| a | 32.92 | 10,000 AGL | 1500 Variable | 250 | not shown; beyond map extent |
| b | 26.33 | 10,000 AGL | 1150 Variable | 250 | not shown; beyond map extent |
| c | 12.87 | 2,500 AGL | 1150 Variable | 250 | |
| d | 7.87 | 800 AGL | 3000 Variable | 250 | |
| e | 4.87 | 800 AGL | 1150 Variable | 250 | |
| f | 3.30 | 600 AGL | 1500 Variable | 150 | |
| g | 2.60 | 600 AGL | 1200 Variable | 112 | |
| h | 2.04 | 600 AGL | 1200 Variable | 112 | |
| i | 1.25 | 475 AGL | 1200 Variable | 112 | |
| j | 0.47 | 200 AGL | 1200 Variable | 112 | |
| k | 0.00 | 33 AGL | 1200 Variable | 112 | runway threshold |

Flight Profile E2_004
Overhead Break



Scale in Feet 1:100,000 (1 inch = 8,330 feet)





Flight Profile E2_O10

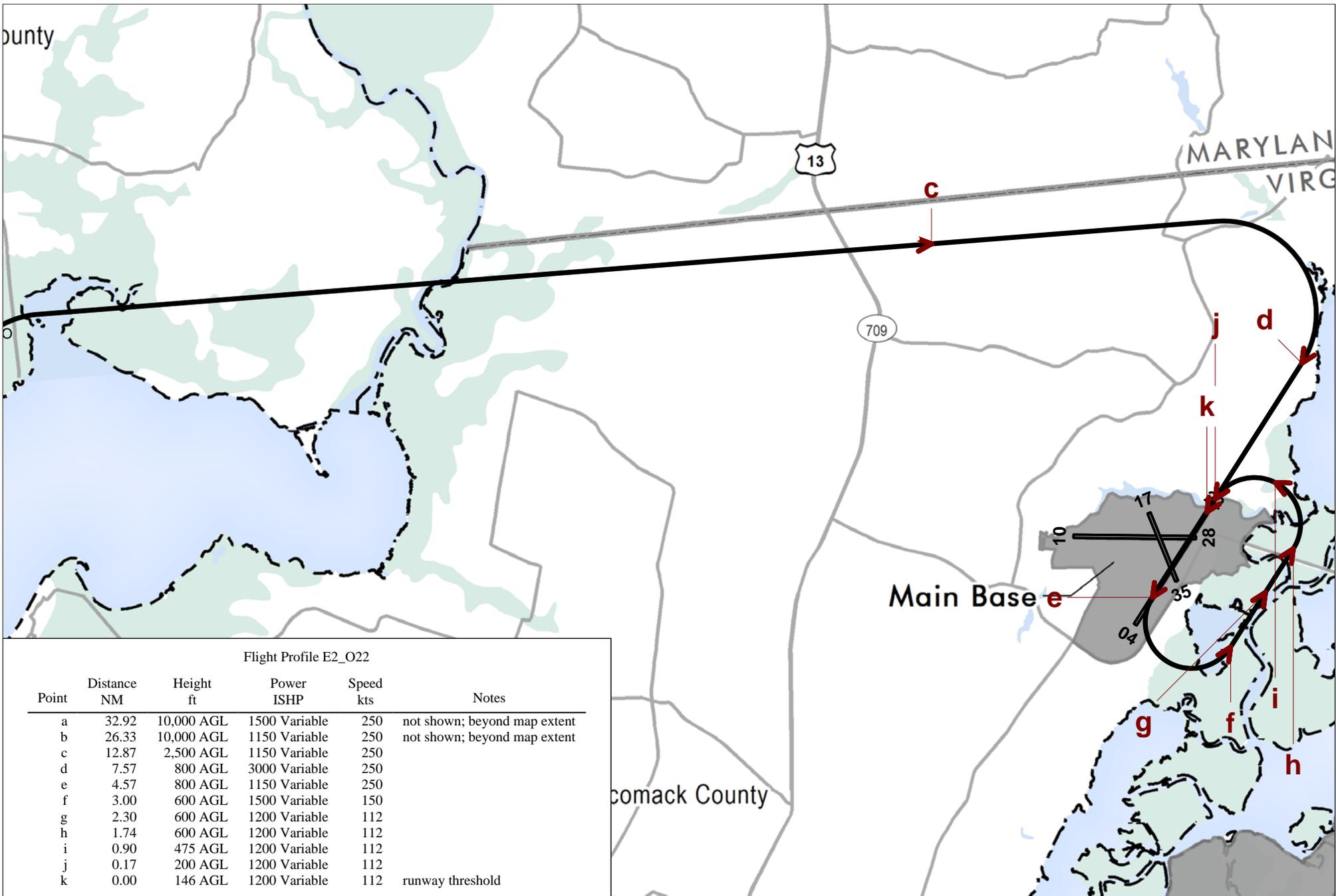
| Point | Distance NM | Height ft | Power ISHP | Speed kts | Notes |
|-------|----------------|--------------|---------------|--------------|------------------------------|
| a | 32.92 | 10,000 AGL | 1500 Variable | 250 | not shown; beyond map extent |
| b | 26.33 | 10,000 AGL | 1150 Variable | 250 | not shown; beyond map extent |
| c | 12.87 | 2,500 AGL | 1150 Variable | 250 | |
| d | 7.72 | 800 AGL | 3000 Variable | 250 | |
| e | 4.72 | 800 AGL | 1150 Variable | 250 | |
| f | 3.15 | 600 AGL | 1500 Variable | 150 | |
| g | 2.45 | 600 AGL | 1200 Variable | 112 | |
| h | 1.89 | 600 AGL | 1200 Variable | 112 | |
| i | 1.12 | 475 AGL | 1200 Variable | 112 | |
| j | 0.32 | 200 AGL | 1200 Variable | 112 | |
| k | 0.00 | 89 AGL | 1200 Variable | 112 | runway threshold |

Flight Profile E2_O10
Overhead Arrival from Norfolk



Scale in Feet 1:100,000 (1 inch = 8,330 feet)



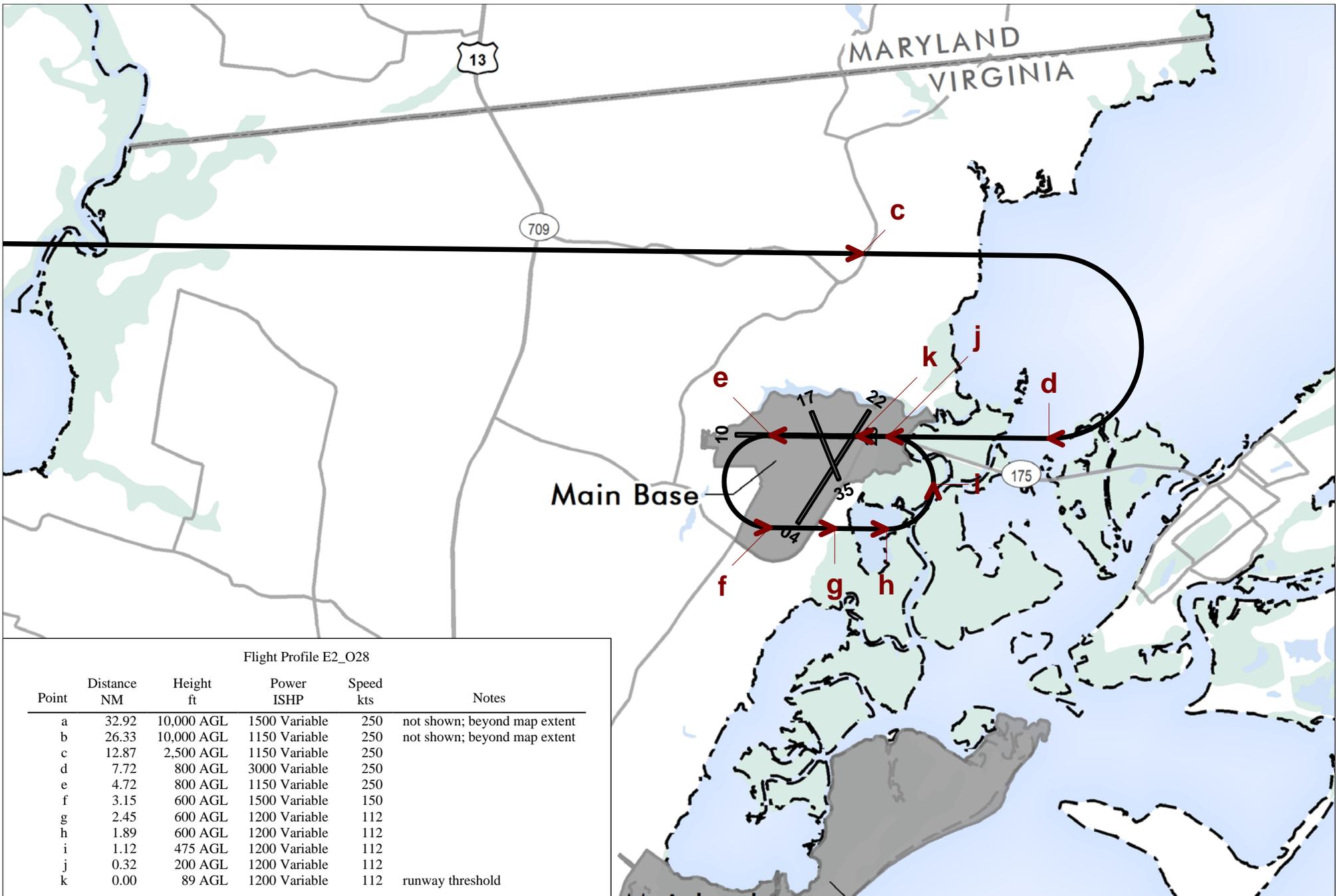


Flight Profile E2_O22
Overhead Arrival from Norfolk



Scale in Feet 1:100,000 (1 inch = 8,330 feet)





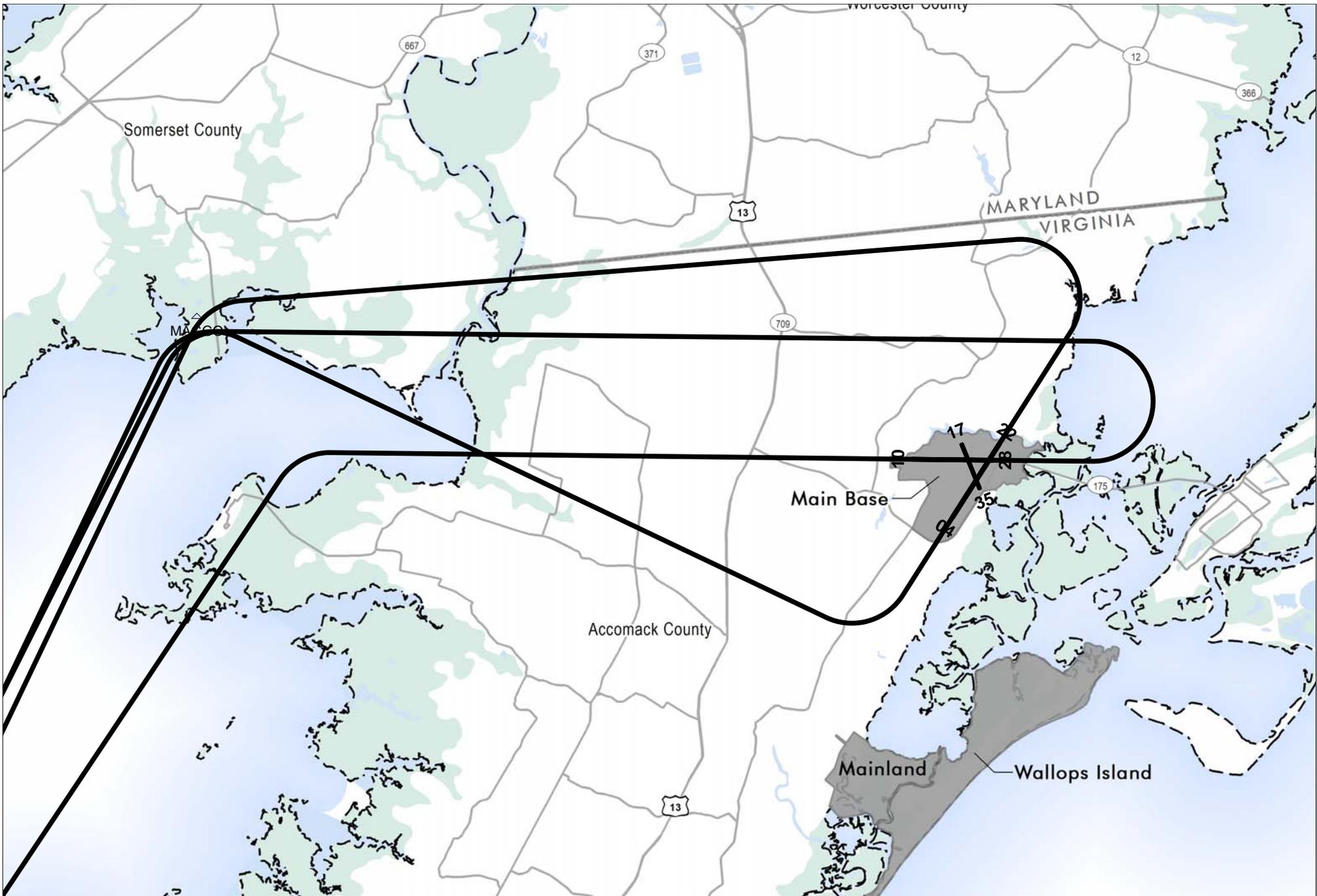
Flight Profile E2_O28
Overhead Arrival from Norfolk



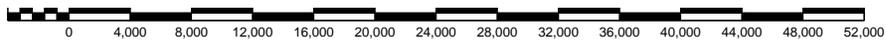
Scale in Feet 1:100,000 (1 inch = 8,330 feet)



Summary Map of Departure Flight Tracks



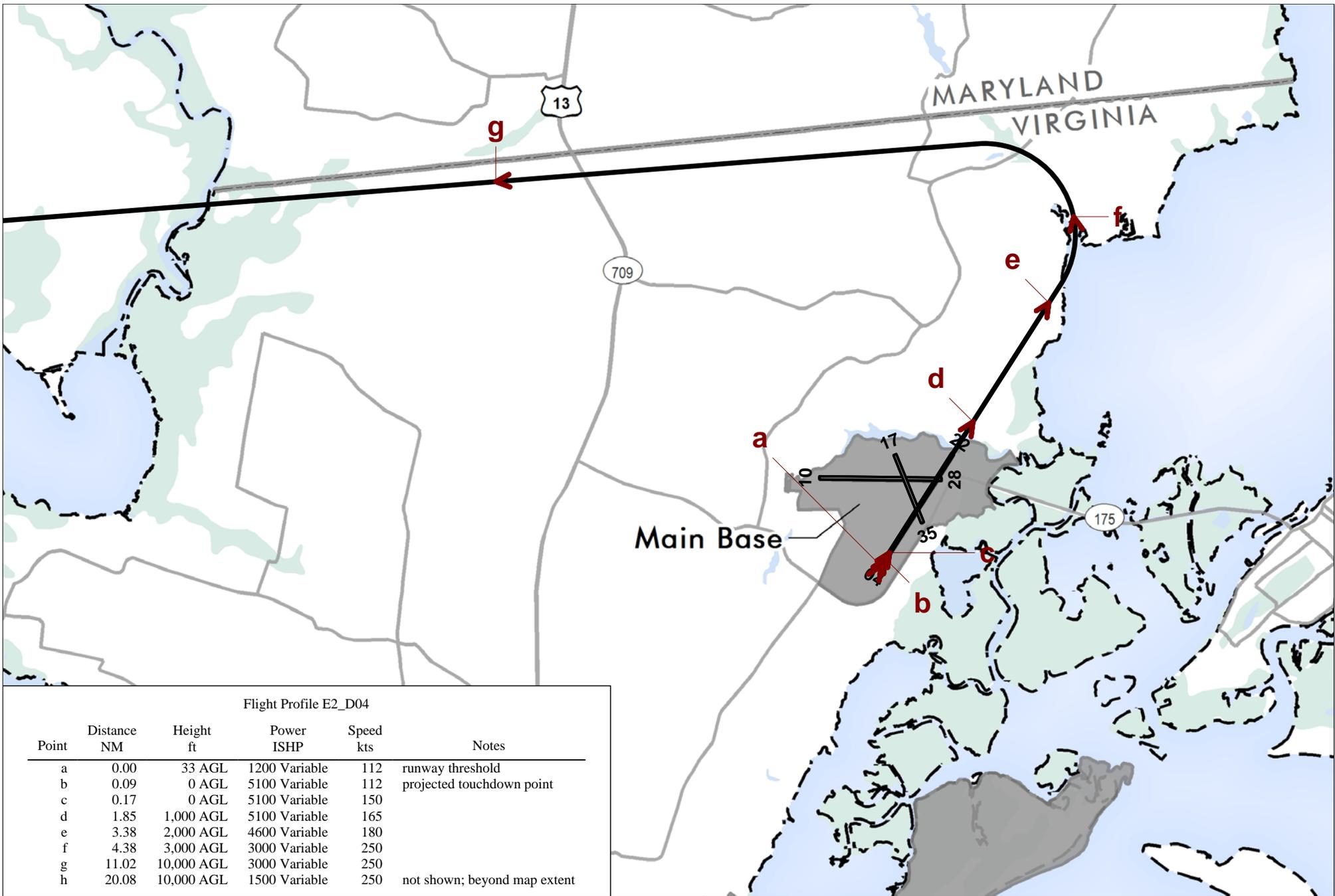
Flight Track Summary Map



Scale in Feet 1:150,000 (1 inch = 12,500 feet)



Maps of Departure Flight Profiles

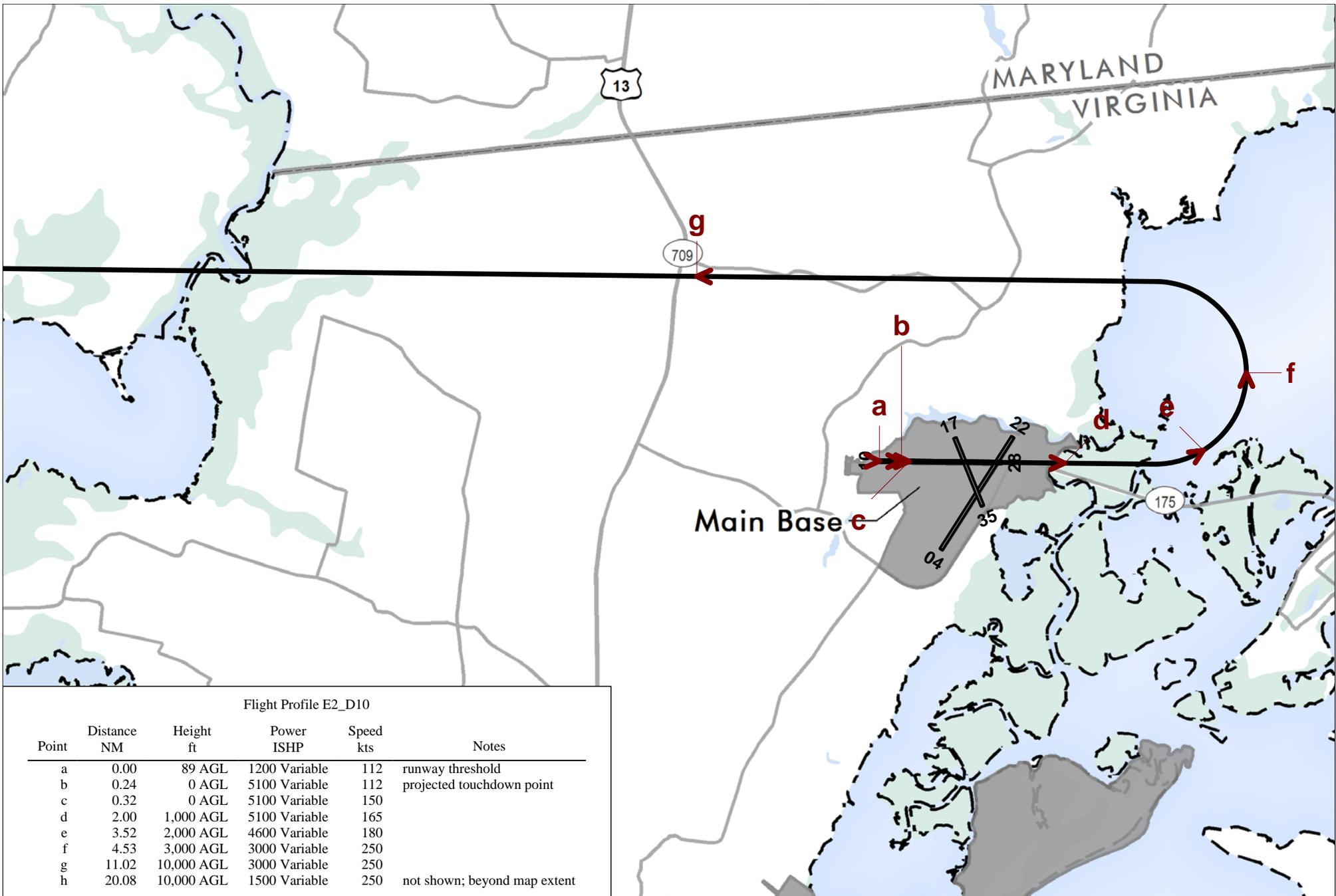


Flight Profile E2_D04
Interfacility Departure to Norfolk



Scale in Feet 1:100,000 (1 inch = 8,330 feet)





Flight Profile E2_D10

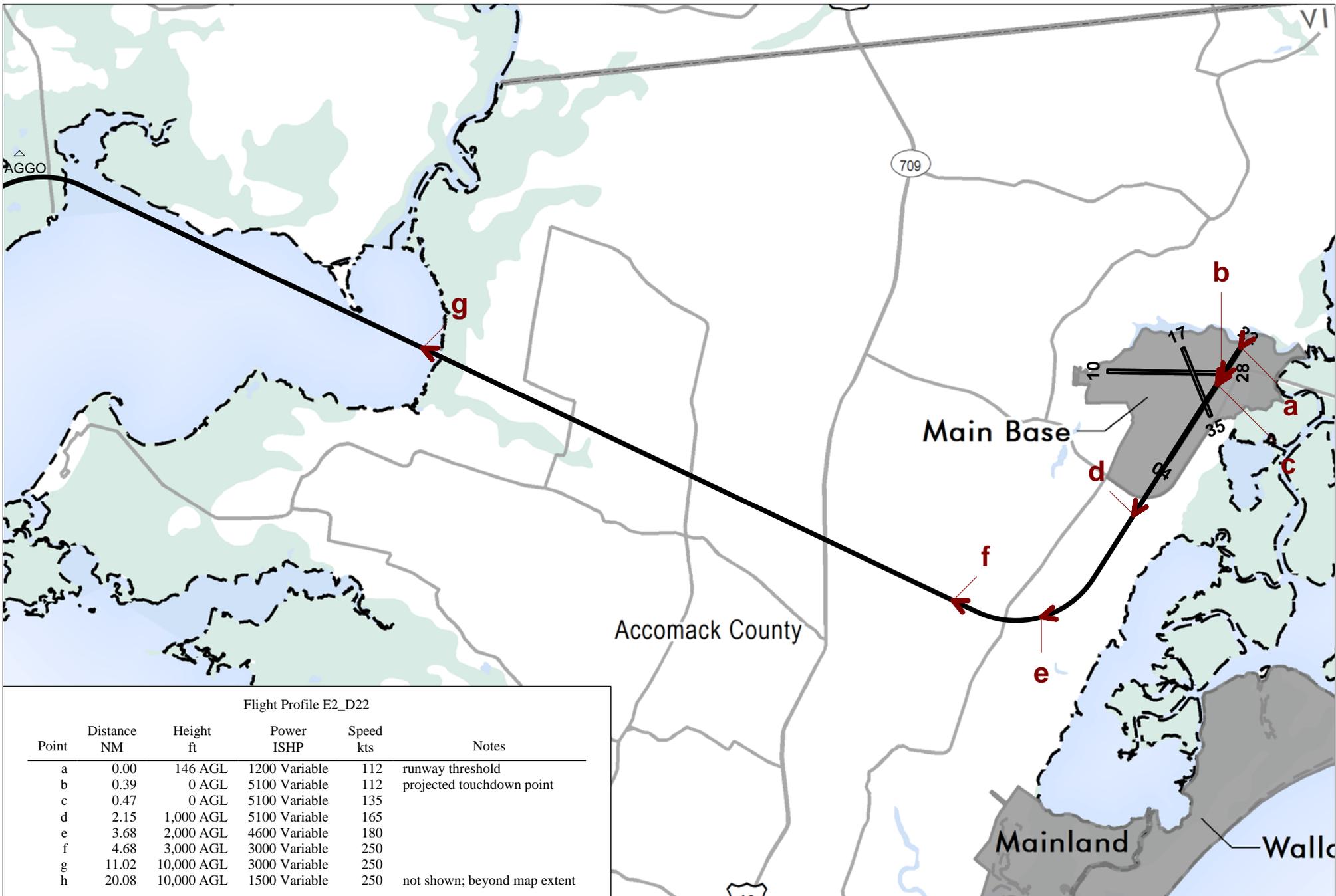
| Point | Distance NM | Height ft | Power ISHP | Speed kts | Notes |
|-------|-------------|------------|---------------|-----------|------------------------------|
| a | 0.00 | 89 AGL | 1200 Variable | 112 | runway threshold |
| b | 0.24 | 0 AGL | 5100 Variable | 112 | projected touchdown point |
| c | 0.32 | 0 AGL | 5100 Variable | 150 | |
| d | 2.00 | 1,000 AGL | 5100 Variable | 165 | |
| e | 3.52 | 2,000 AGL | 4600 Variable | 180 | |
| f | 4.53 | 3,000 AGL | 3000 Variable | 250 | |
| g | 11.02 | 10,000 AGL | 3000 Variable | 250 | |
| h | 20.08 | 10,000 AGL | 1500 Variable | 250 | not shown; beyond map extent |

Flight Profile E2_D10
Interfacility Departure to Norfolk



Scale in Feet 1:100,000 (1 inch = 8,330 feet)



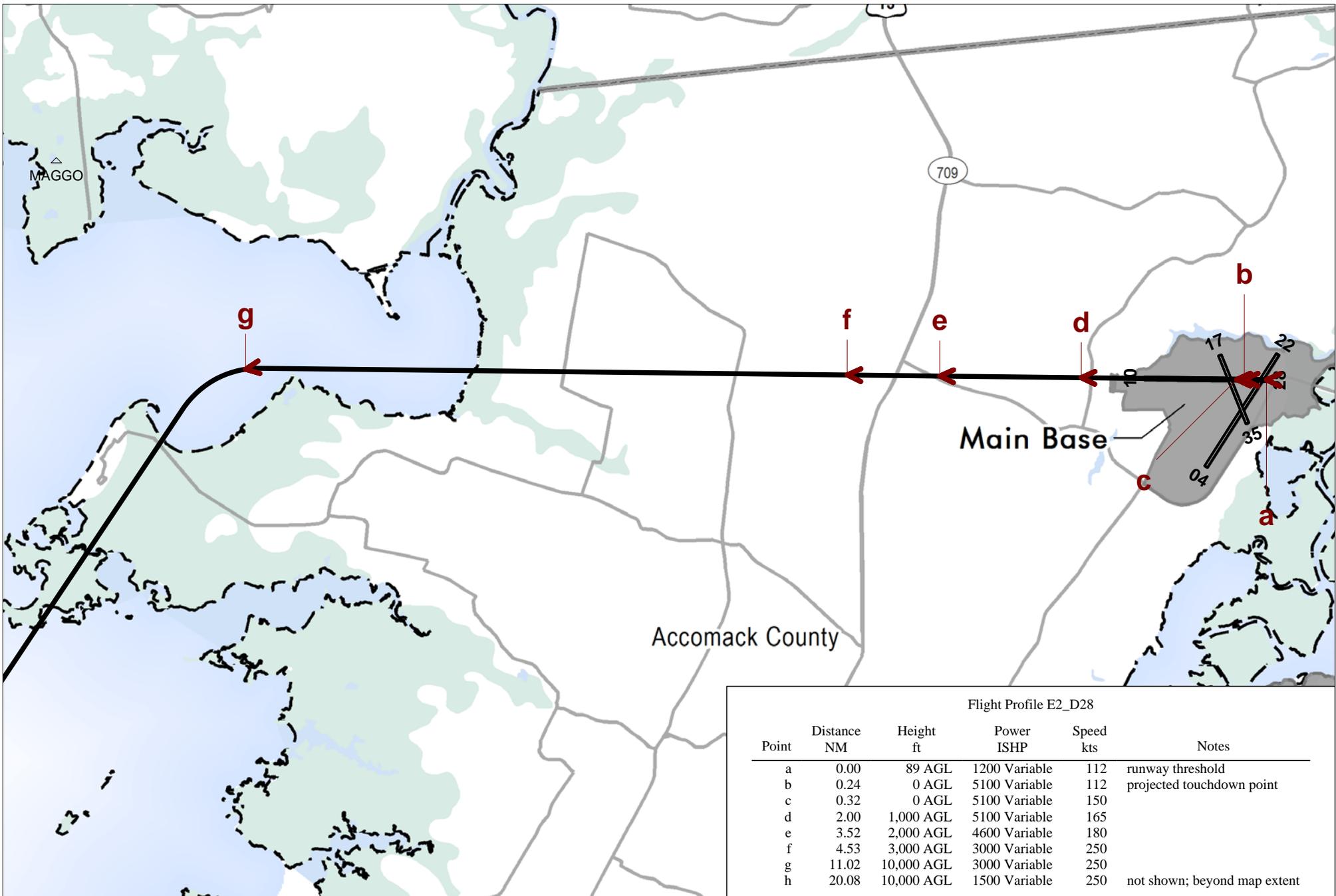


Flight Profile E2_D22
Interfacility Departure to Norfolk



Scale in Feet 1:100,000 (1 inch = 8,330 feet)





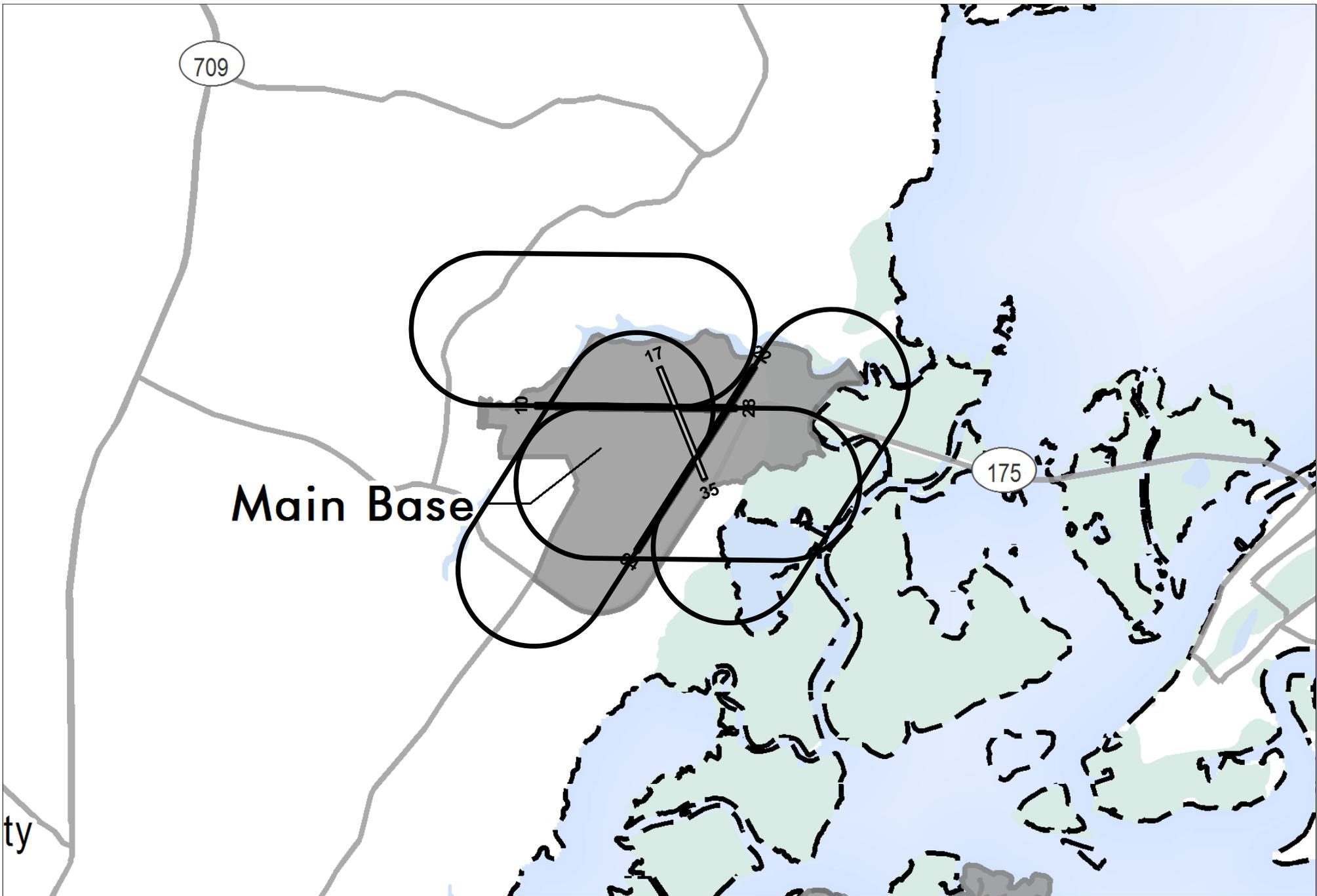
Flight Profile E2_D28
Interfacility Departure to Norfolk



Scale in Feet 1:100,000 (1 inch = 8,330 feet)



Summary Map of 3-Ship FCLP Flight Tracks



Main Base

Flight Track Summary Map

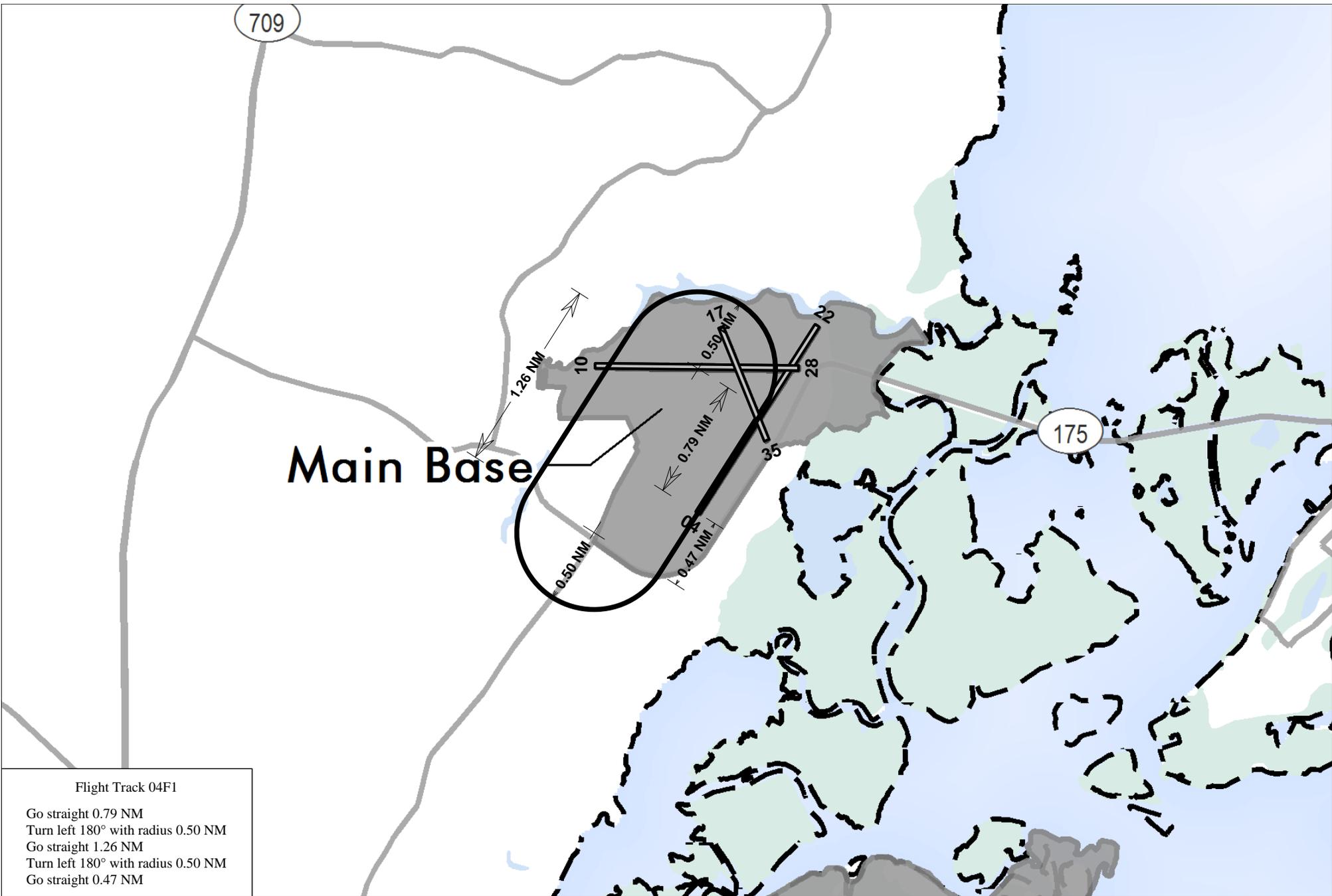


Scale in Feet 1:60,000 (1 inch = 5,000 feet)



Summary Map of 5-Ship FCLP Flight Tracks

Maps of Individual FCLP Flight Tracks



Flight Track 04F1

Go straight 0.79 NM

Turn left 180° with radius 0.50 NM

Go straight 1.26 NM

Turn left 180° with radius 0.50 NM

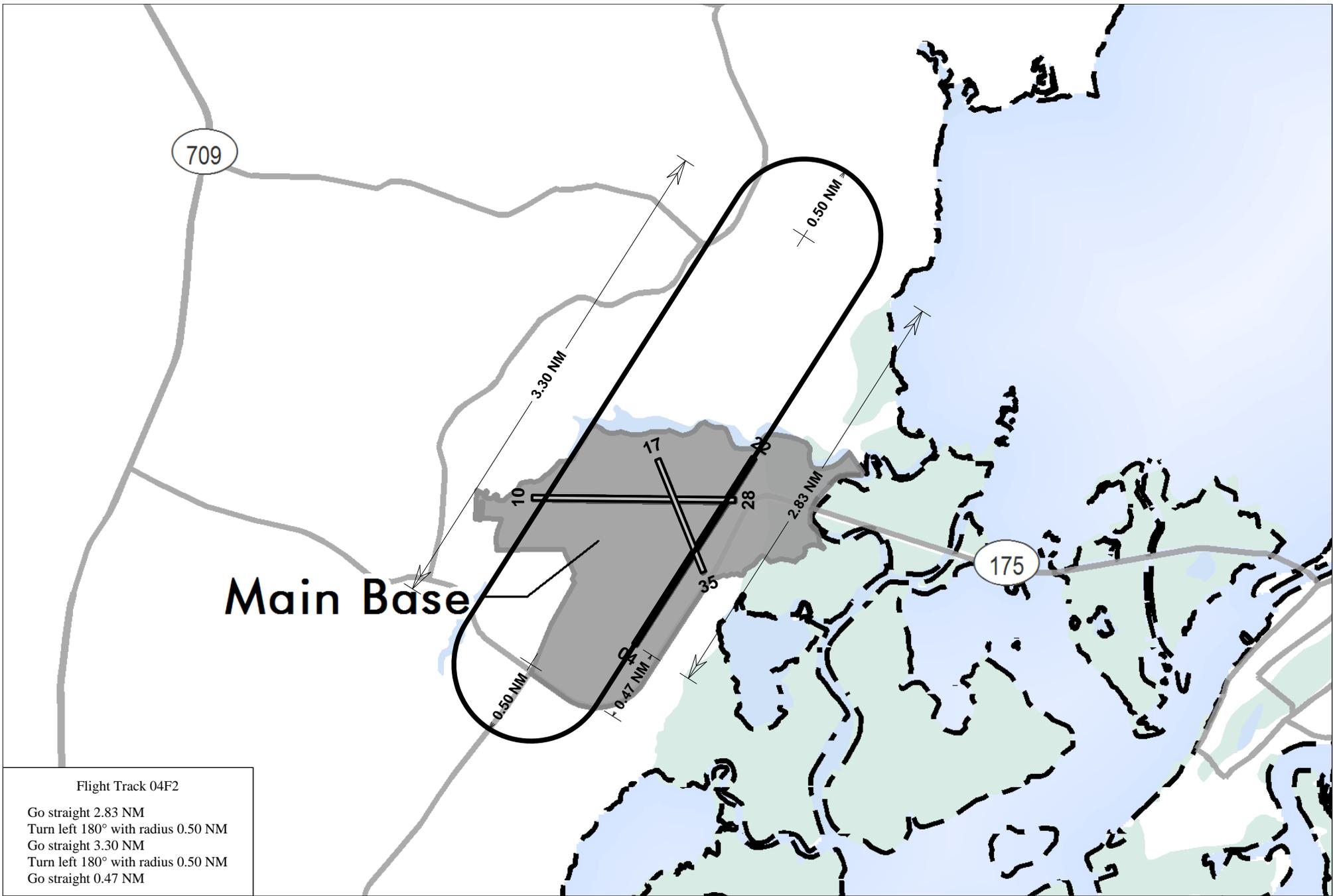
Go straight 0.47 NM

Flight Track 04F1
FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





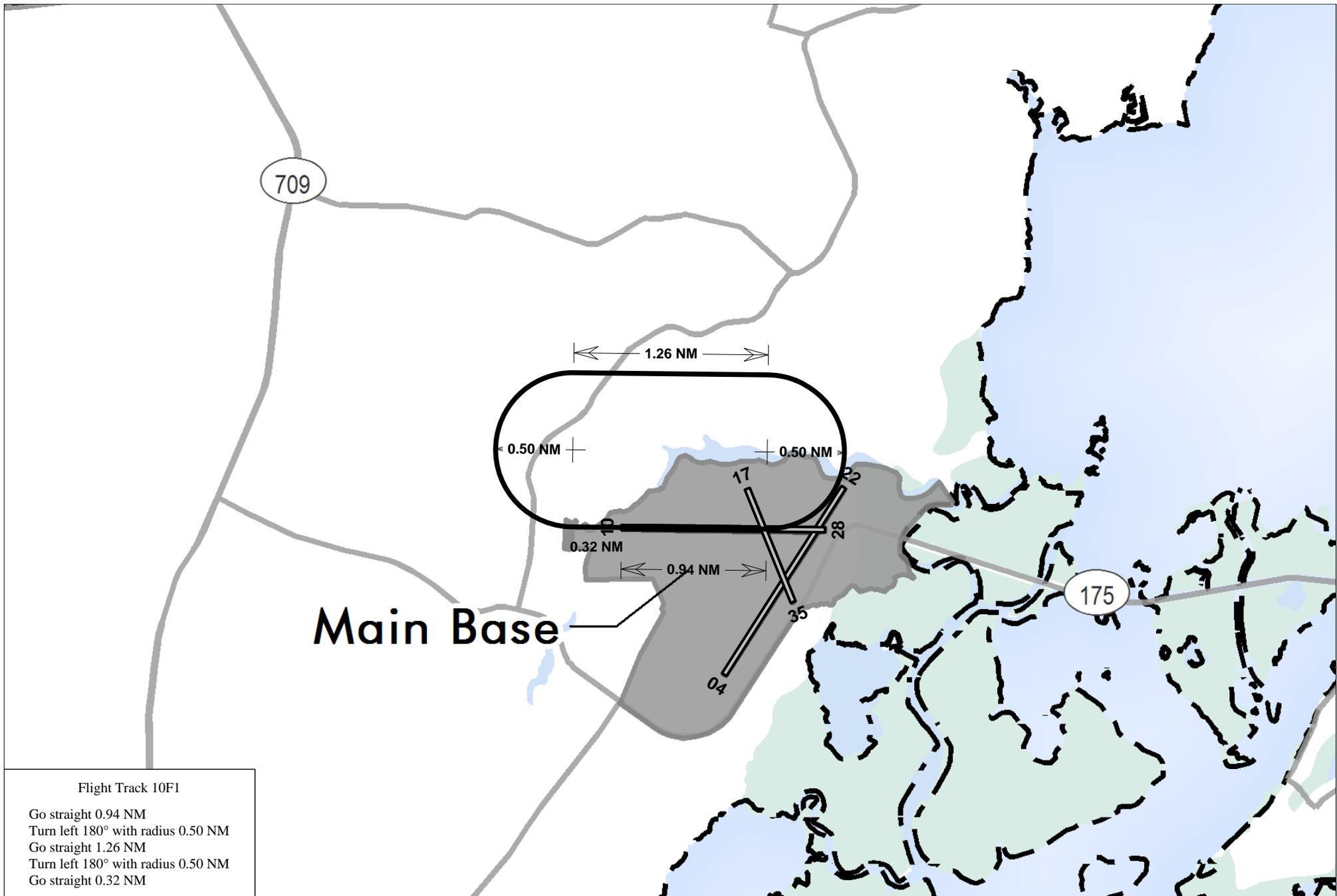
Flight Track 04F2
 Go straight 2.83 NM
 Turn left 180° with radius 0.50 NM
 Go straight 3.30 NM
 Turn left 180° with radius 0.50 NM
 Go straight 0.47 NM

Flight Track 04F2
 FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





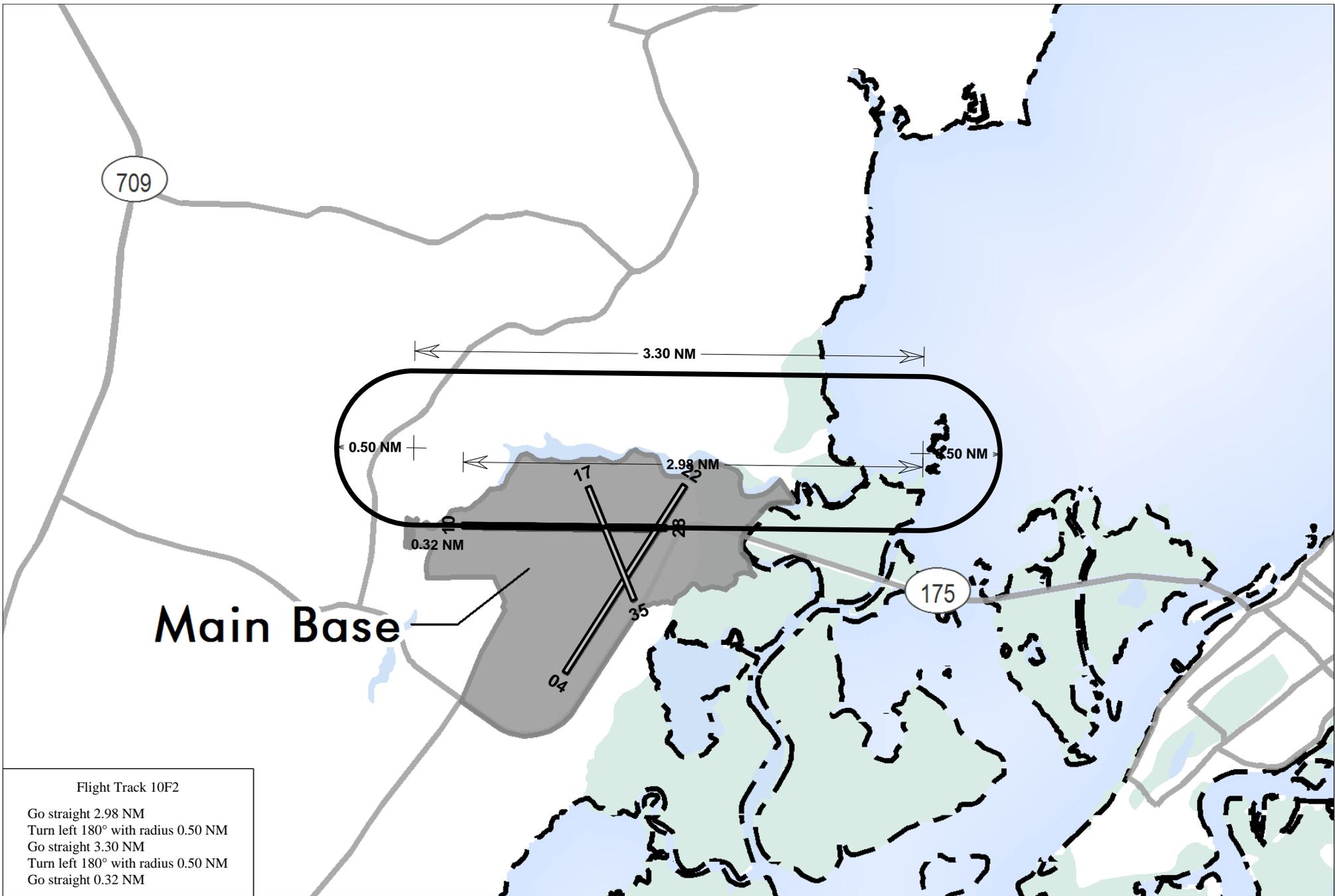
Flight Track 10F1
 Go straight 0.94 NM
 Turn left 180° with radius 0.50 NM
 Go straight 1.26 NM
 Turn left 180° with radius 0.50 NM
 Go straight 0.32 NM

Flight Track 10F1
 FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





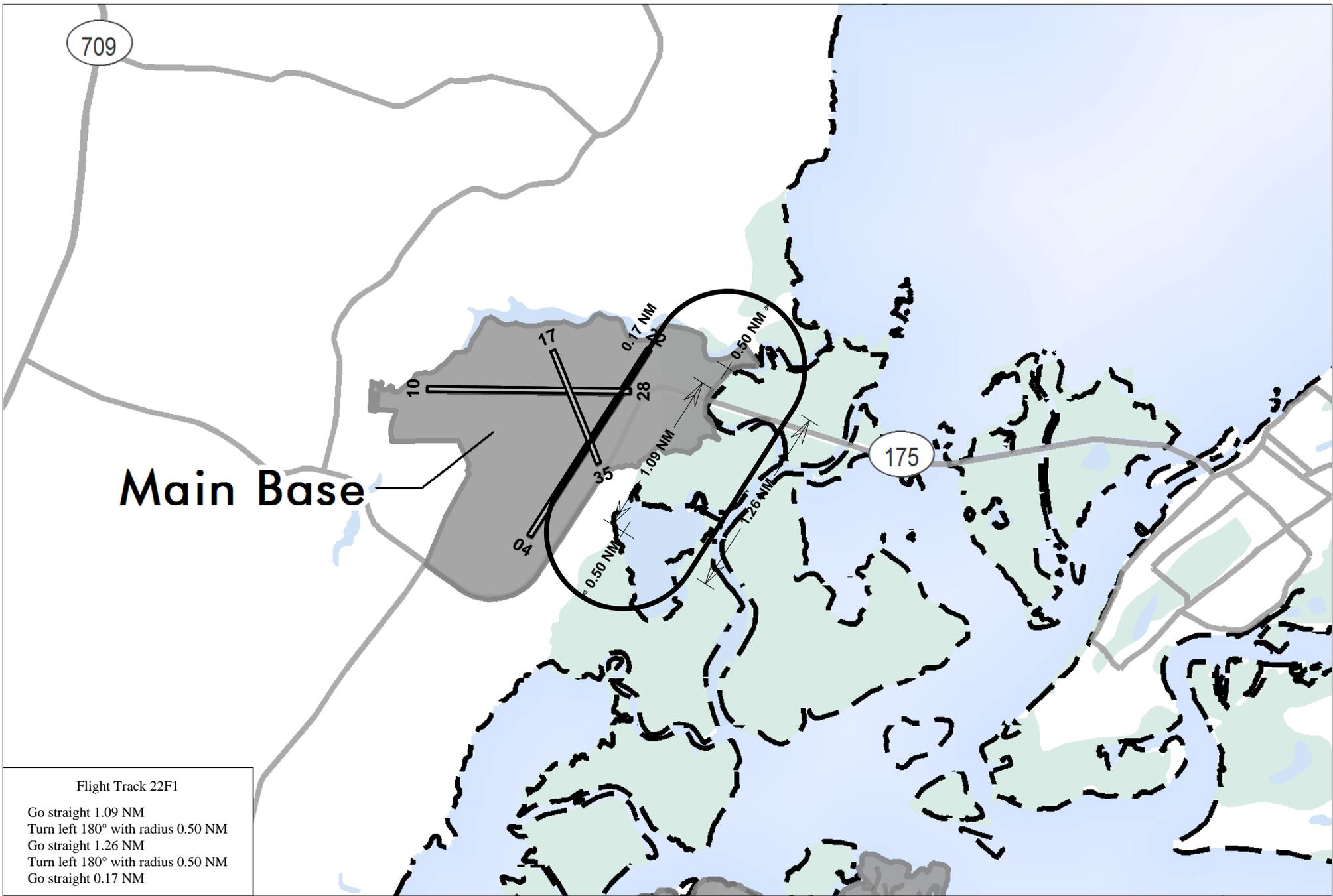
Flight Track 10F2
 Go straight 2.98 NM
 Turn left 180° with radius 0.50 NM
 Go straight 3.30 NM
 Turn left 180° with radius 0.50 NM
 Go straight 0.32 NM

Flight Track 10F2
 FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





Flight Track 22F1

- Go straight 1.09 NM
- Turn left 180° with radius 0.50 NM
- Go straight 1.26 NM
- Turn left 180° with radius 0.50 NM
- Go straight 0.17 NM

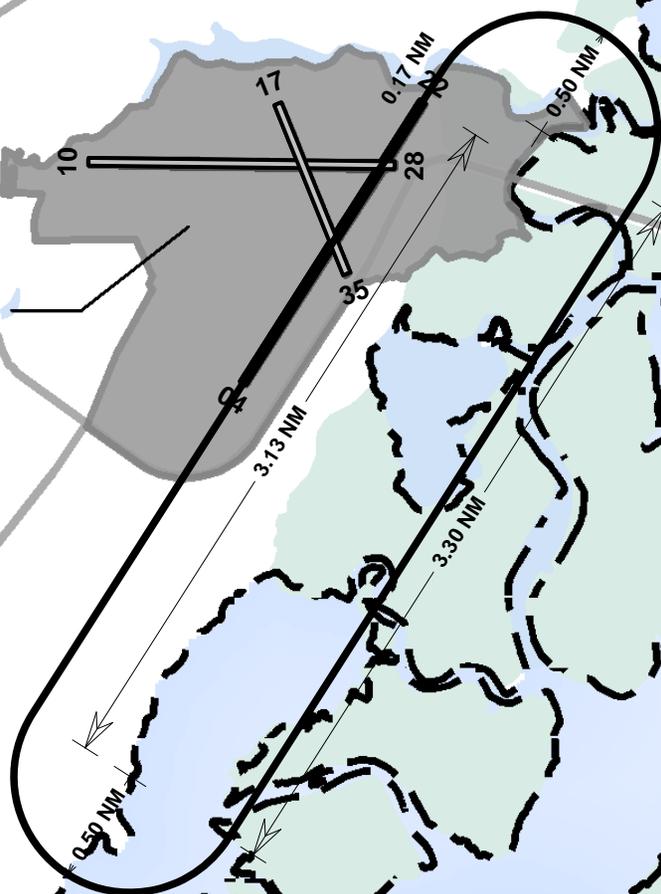
Flight Track 22F1
FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



Main Base



175

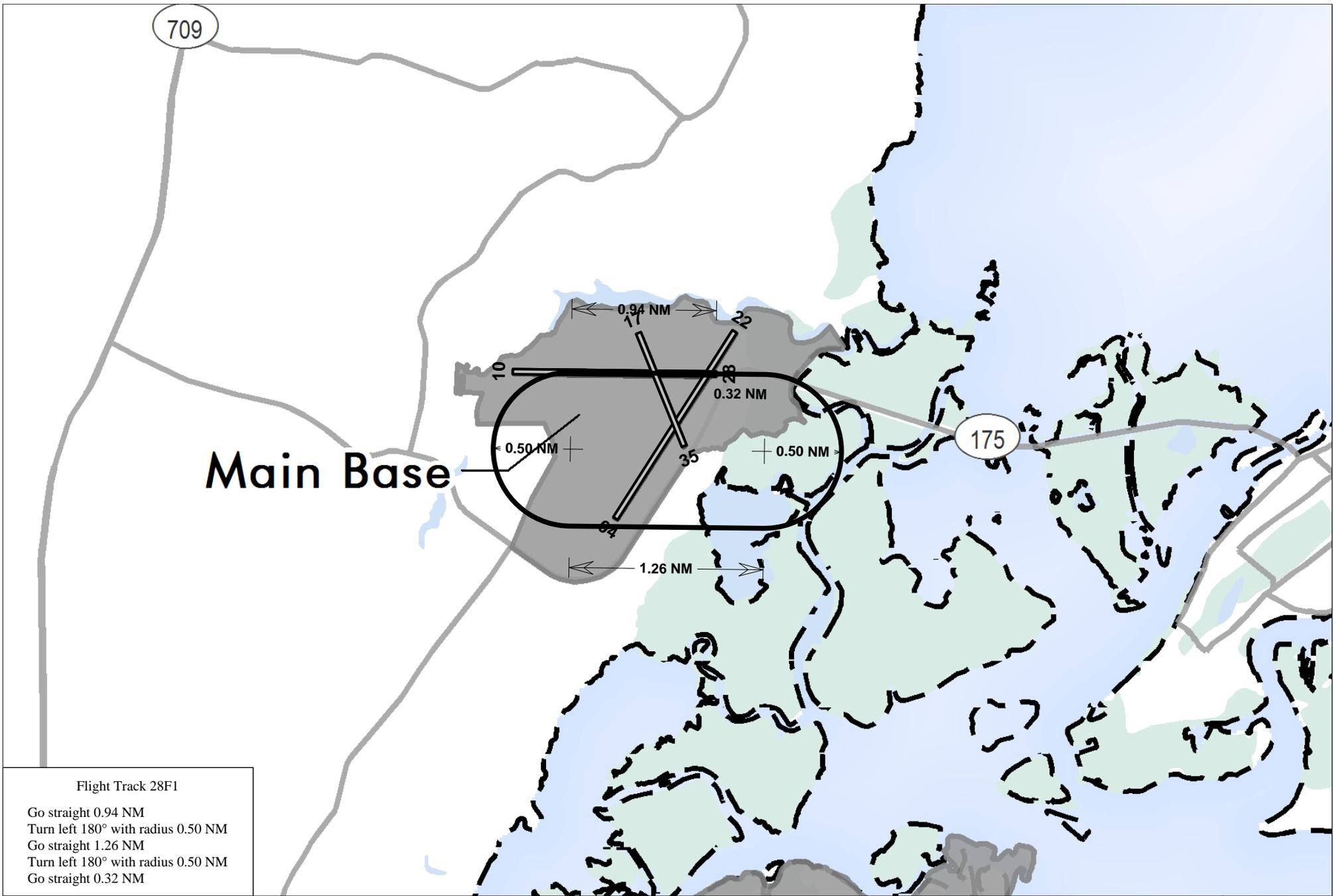
Flight Track 22F2
Go straight 3.13 NM
Turn left 180° with radius 0.50 NM
Go straight 3.30 NM
Turn left 180° with radius 0.50 NM
Go straight 0.17 NM

Flight Track 22F2
FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





Flight Track 28F1

Go straight 0.94 NM

Turn left 180° with radius 0.50 NM

Go straight 1.26 NM

Turn left 180° with radius 0.50 NM

Go straight 0.32 NM

Flight Track 28F1
FCLP 3 ship

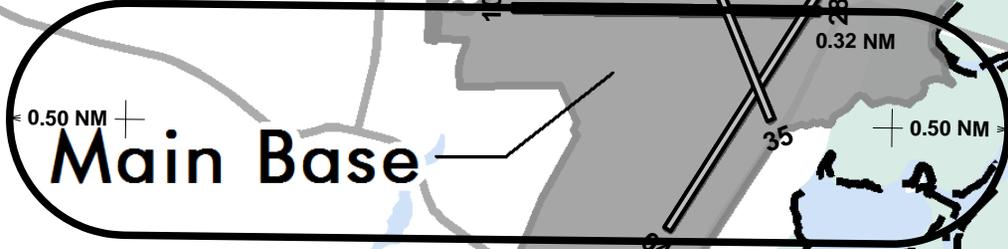


Scale in Feet 1:60,000 (1 inch = 5,000 feet)



709

175



Flight Track 28F2

- Go straight 2.98 NM
- Turn left 180° with radius 0.50 NM
- Go straight 3.30 NM
- Turn left 180° with radius 0.50 NM
- Go straight 0.32 NM

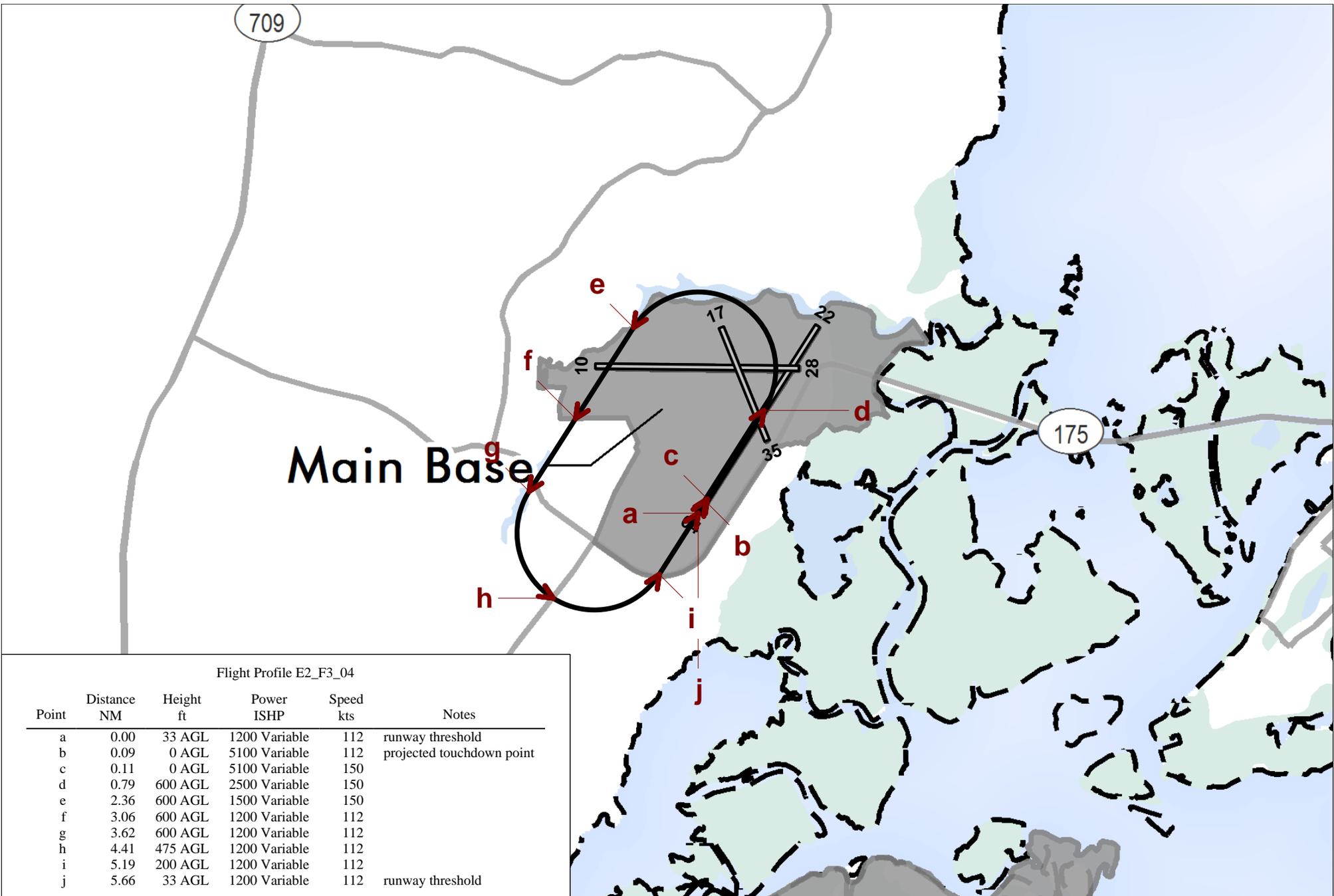
Flight Track 28F2
FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



FCLP Flight Profiles

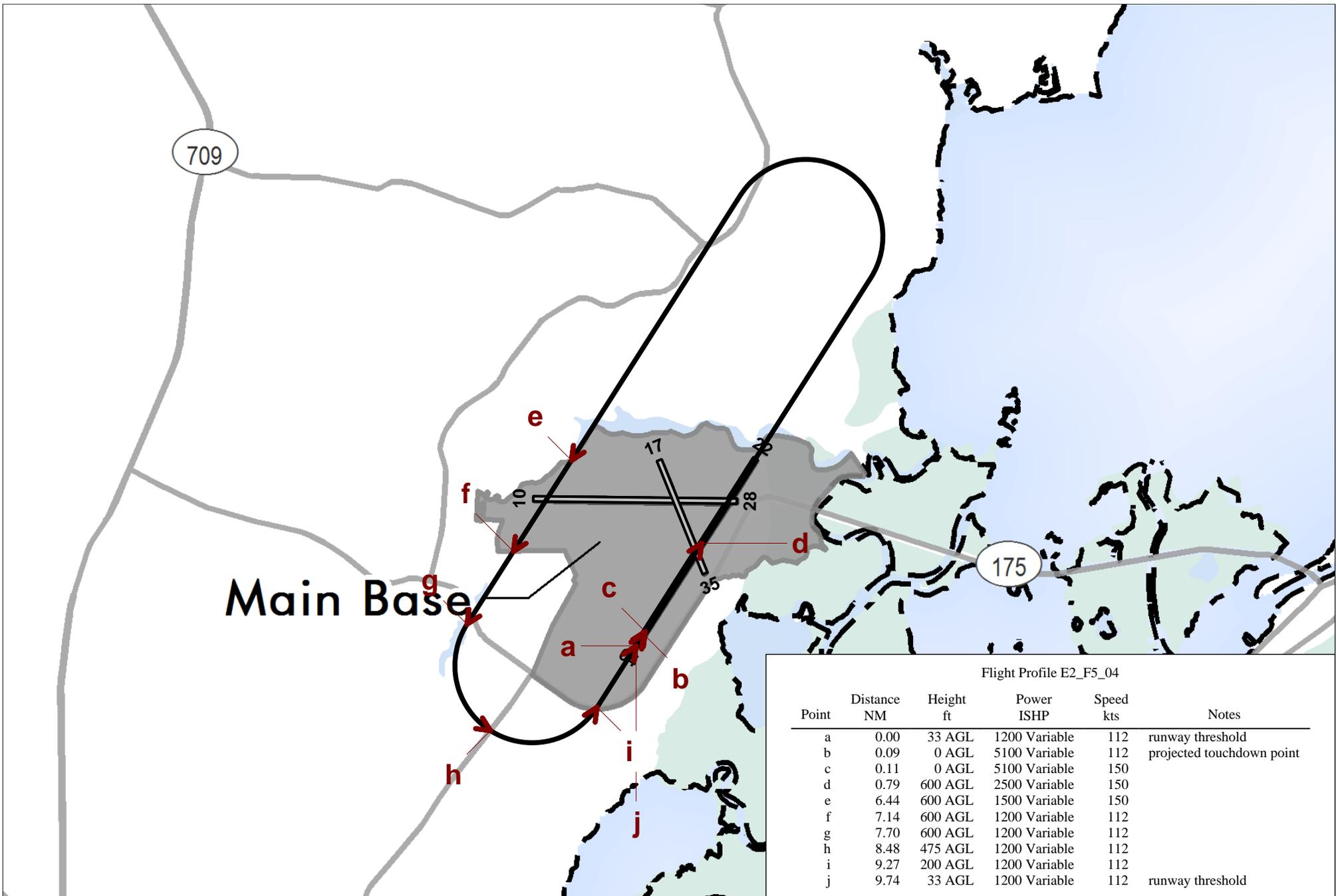


Flight Profile E2_F3_04
FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



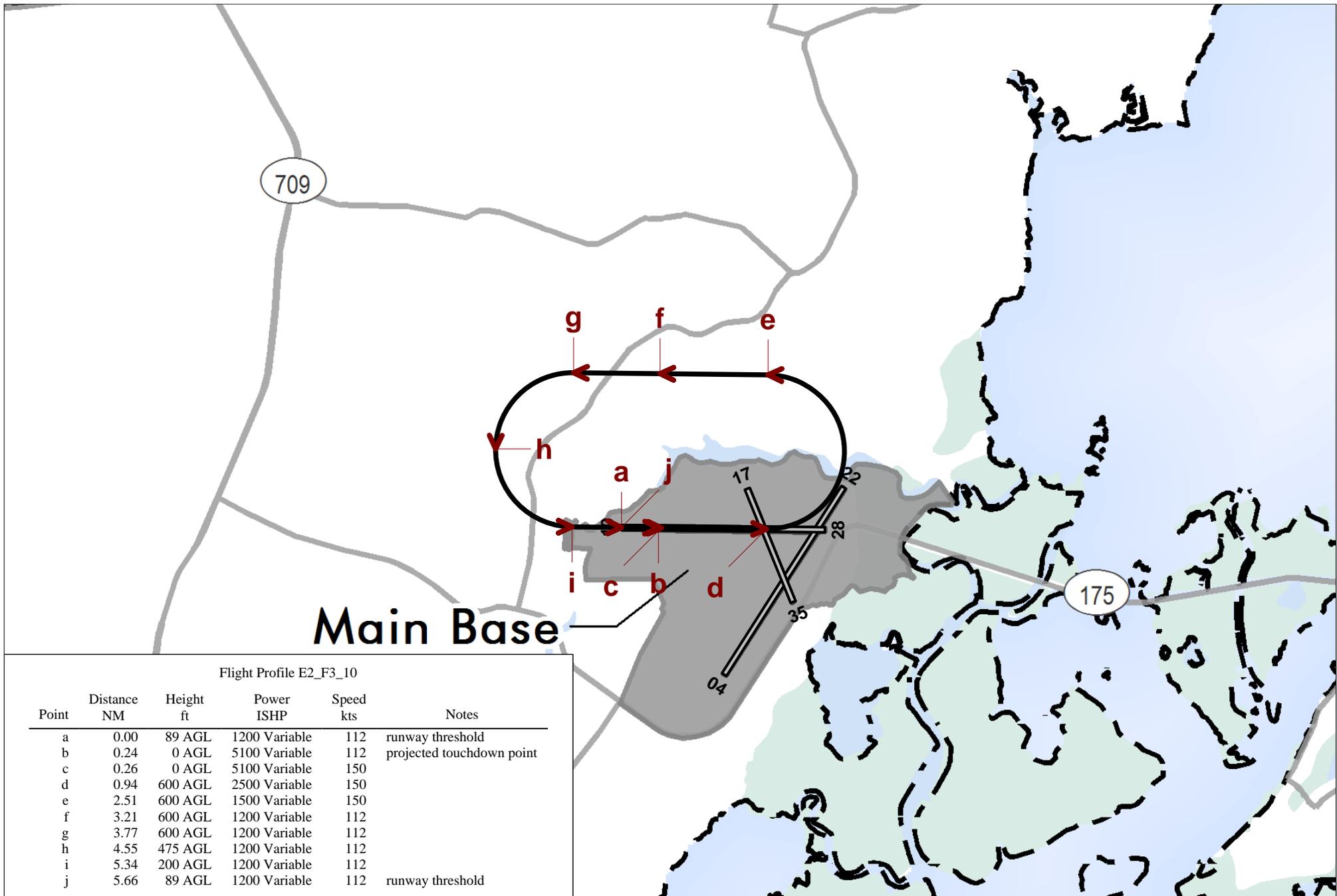


Flight Profile E2_F5_04
FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





Main Base

Flight Profile E2_F3_10

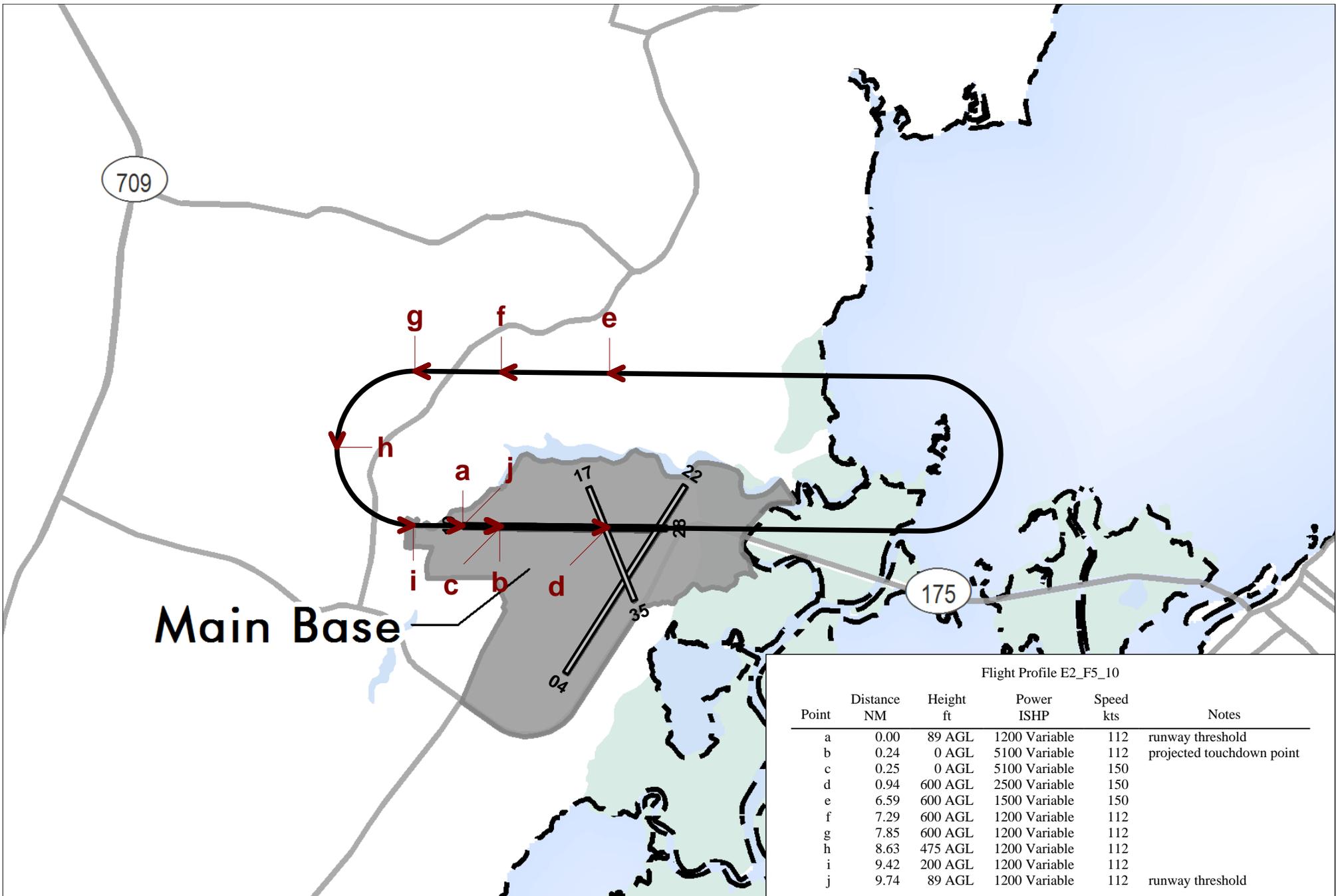
| Point | Distance NM | Height ft | Power ISHP | Speed kts | Notes |
|-------|-------------|-----------|---------------|-----------|---------------------------|
| a | 0.00 | 89 AGL | 1200 Variable | 112 | runway threshold |
| b | 0.24 | 0 AGL | 5100 Variable | 112 | projected touchdown point |
| c | 0.26 | 0 AGL | 5100 Variable | 150 | |
| d | 0.94 | 600 AGL | 2500 Variable | 150 | |
| e | 2.51 | 600 AGL | 1500 Variable | 150 | |
| f | 3.21 | 600 AGL | 1200 Variable | 112 | |
| g | 3.77 | 600 AGL | 1200 Variable | 112 | |
| h | 4.55 | 475 AGL | 1200 Variable | 112 | |
| i | 5.34 | 200 AGL | 1200 Variable | 112 | |
| j | 5.66 | 89 AGL | 1200 Variable | 112 | runway threshold |

Flight Profile E2_F3_10
FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



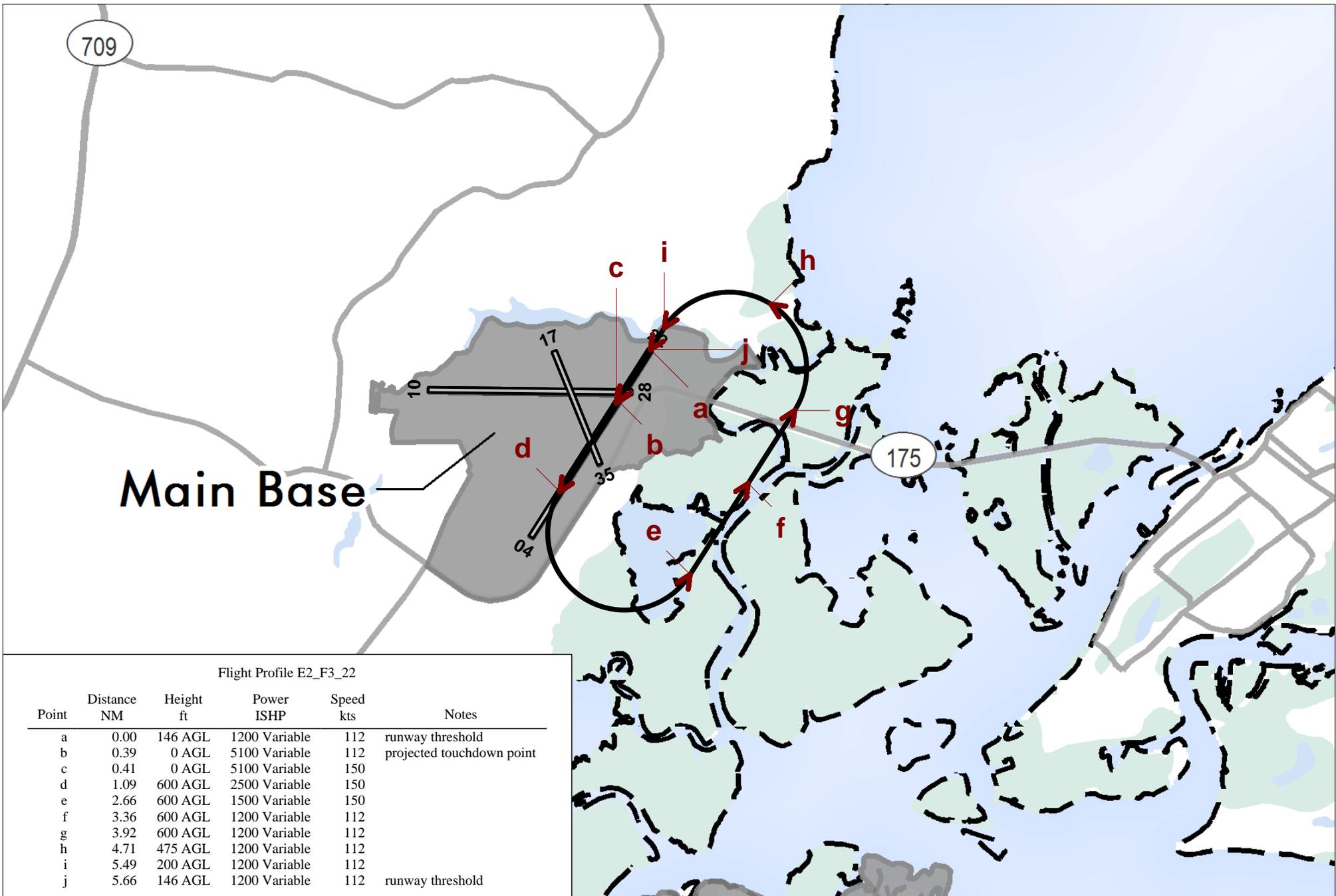


Flight Profile E2_F5_10
FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





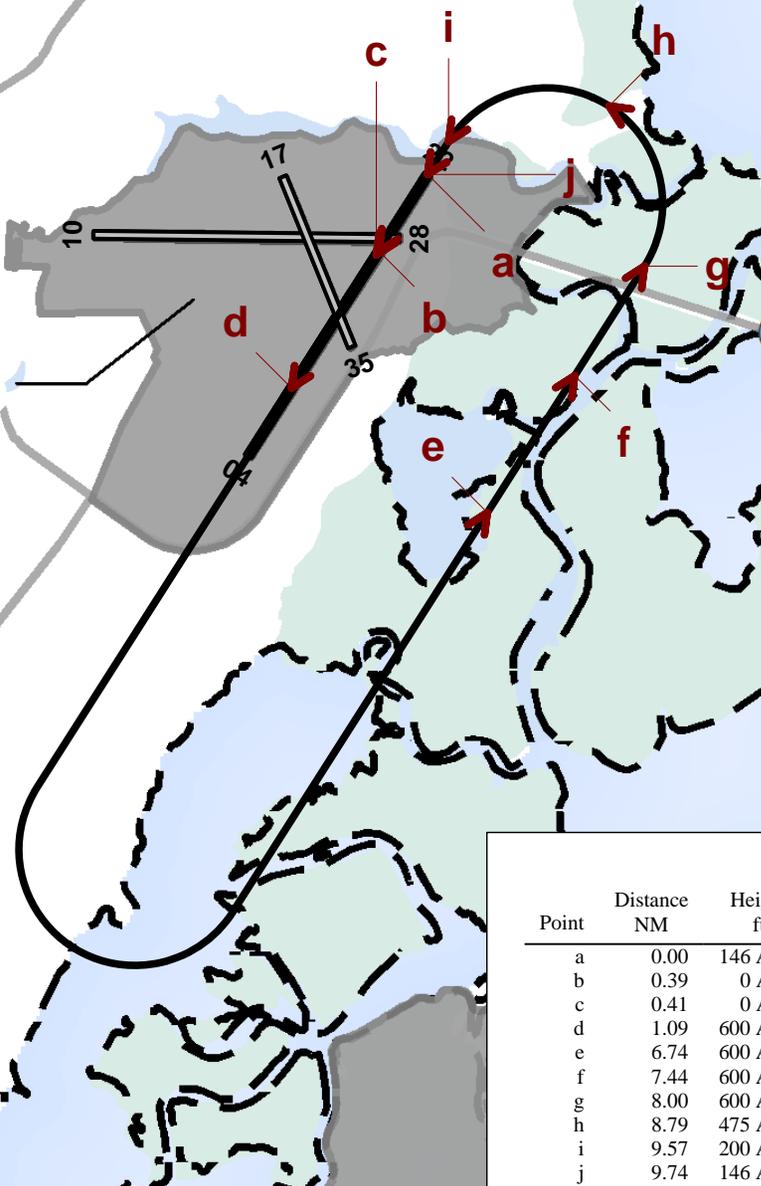
Flight Profile E2_F3_22
FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



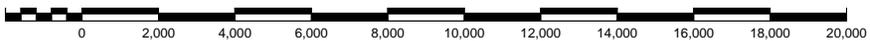
Main Base



Flight Profile E2_F5_22

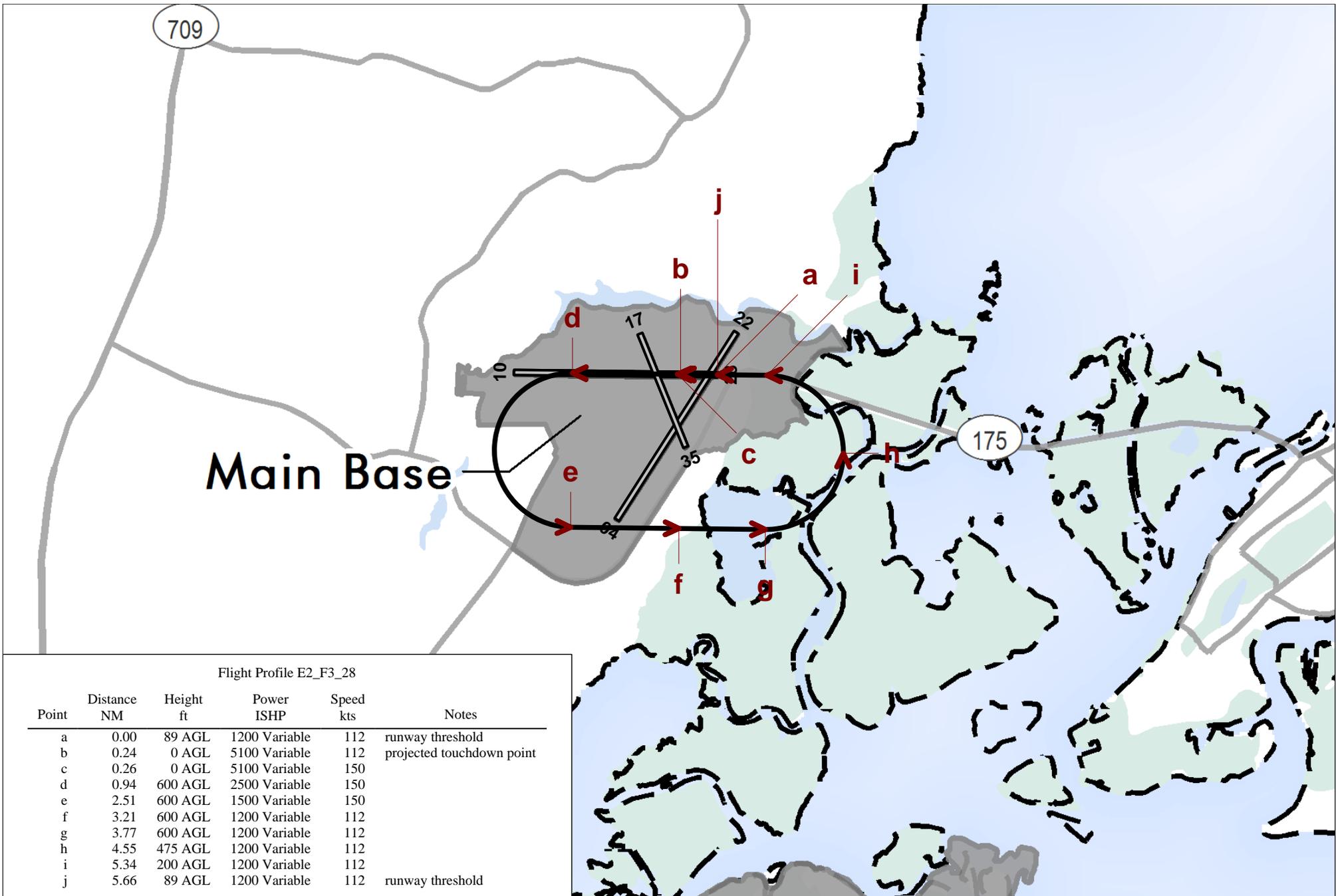
| Point | Distance NM | Height ft | Power ISHP | Speed kts | Notes |
|-------|----------------|--------------|---------------|--------------|---------------------------|
| a | 0.00 | 146 AGL | 1200 Variable | 112 | runway threshold |
| b | 0.39 | 0 AGL | 5100 Variable | 112 | projected touchdown point |
| c | 0.41 | 0 AGL | 5100 Variable | 150 | |
| d | 1.09 | 600 AGL | 2500 Variable | 150 | |
| e | 6.74 | 600 AGL | 1500 Variable | 150 | |
| f | 7.44 | 600 AGL | 1200 Variable | 112 | |
| g | 8.00 | 600 AGL | 1200 Variable | 112 | |
| h | 8.79 | 475 AGL | 1200 Variable | 112 | |
| i | 9.57 | 200 AGL | 1200 Variable | 112 | |
| j | 9.74 | 146 AGL | 1200 Variable | 112 | runway threshold |

Flight Profile E2_F5_22
FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





Flight Profile E2_F3_28

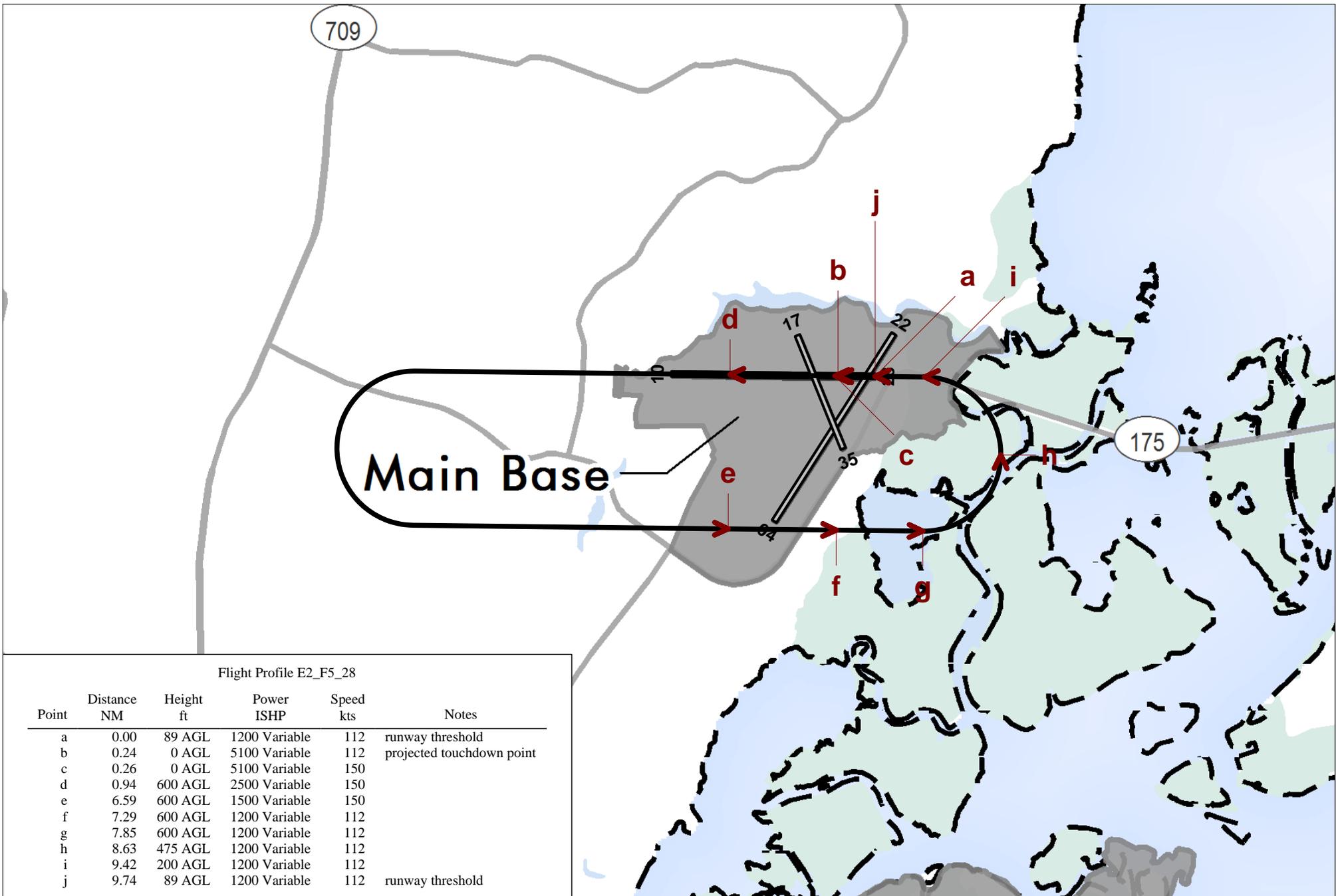
| Point | Distance NM | Height ft | Power ISHP | Speed kts | Notes |
|-------|----------------|--------------|---------------|--------------|---------------------------|
| a | 0.00 | 89 AGL | 1200 Variable | 112 | runway threshold |
| b | 0.24 | 0 AGL | 5100 Variable | 112 | projected touchdown point |
| c | 0.26 | 0 AGL | 5100 Variable | 150 | |
| d | 0.94 | 600 AGL | 2500 Variable | 150 | |
| e | 2.51 | 600 AGL | 1500 Variable | 150 | |
| f | 3.21 | 600 AGL | 1200 Variable | 112 | |
| g | 3.77 | 600 AGL | 1200 Variable | 112 | |
| h | 4.55 | 475 AGL | 1200 Variable | 112 | |
| i | 5.34 | 200 AGL | 1200 Variable | 112 | |
| j | 5.66 | 89 AGL | 1200 Variable | 112 | runway threshold |

Flight Profile E2_F3_28
FCLP 3 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)





Flight Profile E2_F5_28

| Point | Distance NM | Height ft | Power ISHP | Speed kts | Notes |
|-------|-------------|-----------|---------------|-----------|---------------------------|
| a | 0.00 | 89 AGL | 1200 Variable | 112 | runway threshold |
| b | 0.24 | 0 AGL | 5100 Variable | 112 | projected touchdown point |
| c | 0.26 | 0 AGL | 5100 Variable | 150 | |
| d | 0.94 | 600 AGL | 2500 Variable | 150 | |
| e | 6.59 | 600 AGL | 1500 Variable | 150 | |
| f | 7.29 | 600 AGL | 1200 Variable | 112 | |
| g | 7.85 | 600 AGL | 1200 Variable | 112 | |
| h | 8.63 | 475 AGL | 1200 Variable | 112 | |
| i | 9.42 | 200 AGL | 1200 Variable | 112 | |
| j | 9.74 | 89 AGL | 1200 Variable | 112 | runway threshold |

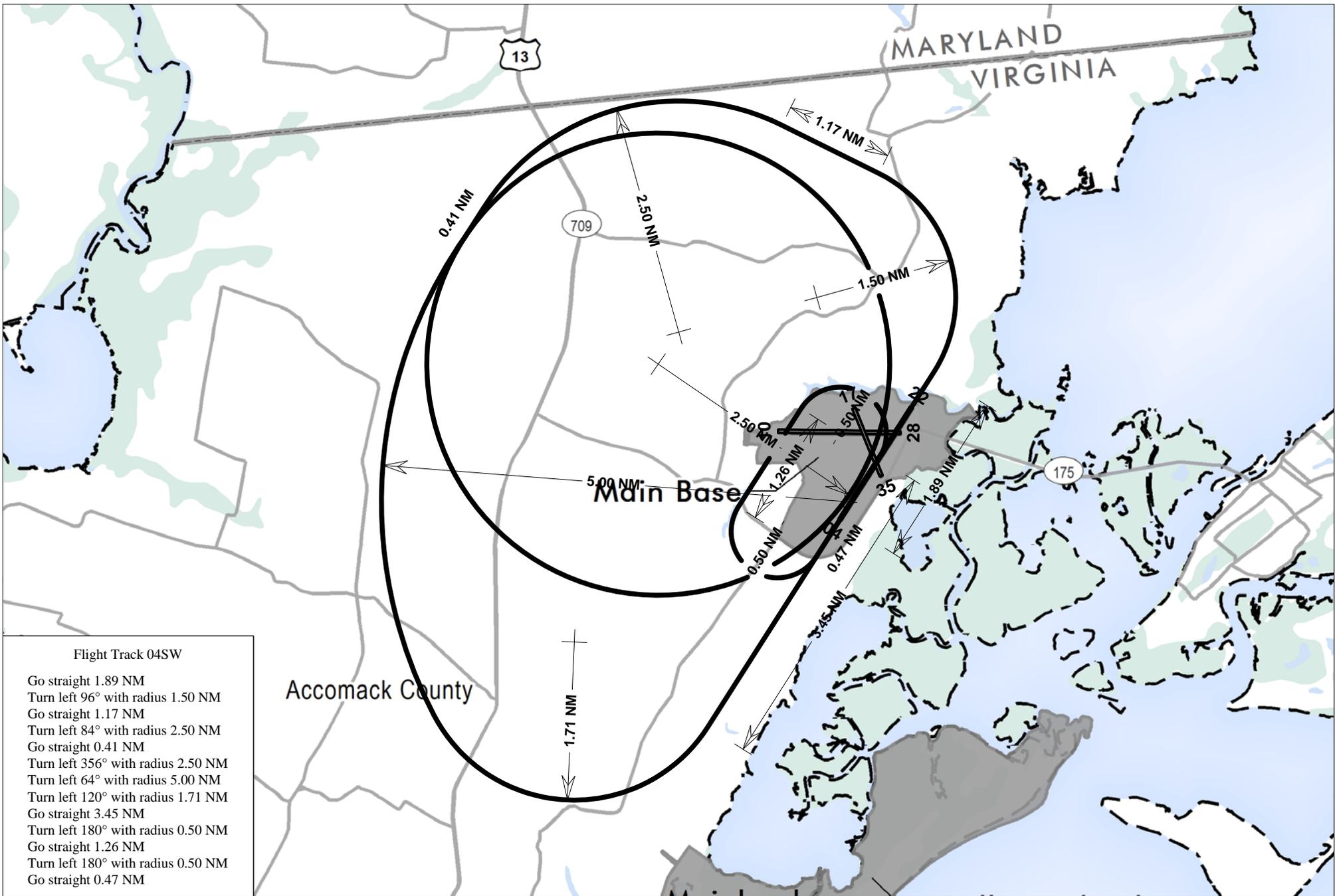
Flight Profile E2_F5_28
FCLP 5 ship



Scale in Feet 1:60,000 (1 inch = 5,000 feet)



Example of Crew Swap Flight Track



Flight Track 04SW

- Go straight 1.89 NM
- Turn left 96° with radius 1.50 NM
- Go straight 1.17 NM
- Turn left 84° with radius 2.50 NM
- Go straight 0.41 NM
- Turn left 356° with radius 2.50 NM
- Turn left 64° with radius 5.00 NM
- Turn left 120° with radius 1.71 NM
- Go straight 3.45 NM
- Turn left 180° with radius 0.50 NM
- Go straight 1.26 NM
- Turn left 180° with radius 0.50 NM
- Go straight 0.47 NM

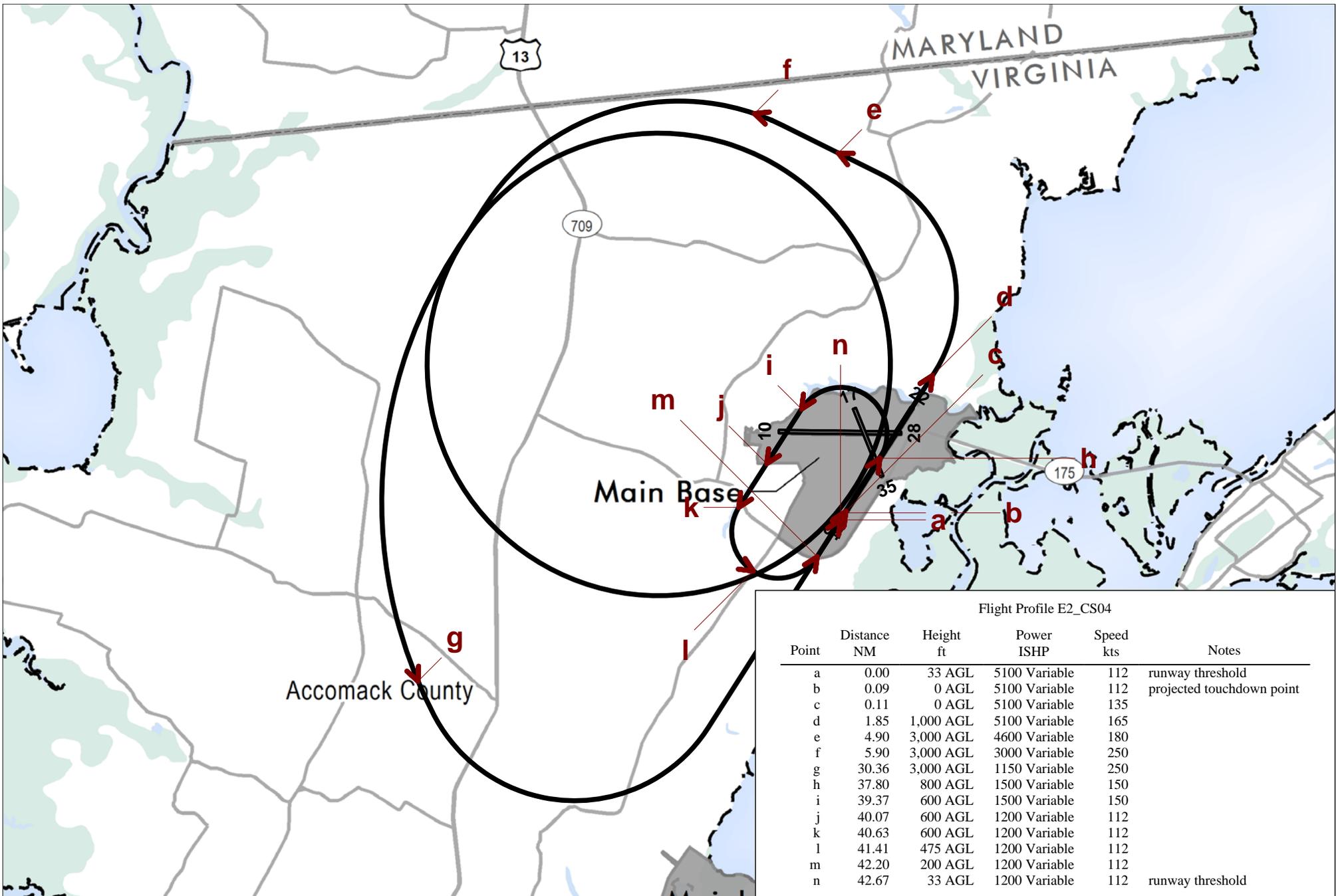
Flight Track 04SW
Crew Swap Pattern

0 4,000 8,000 12,000 16,000 20,000 24,000 28,000 32,000

Scale in Feet 1:100,000 (1 inch = 8,330 feet)

A-70

Maps of Crew Swap Flight Profiles

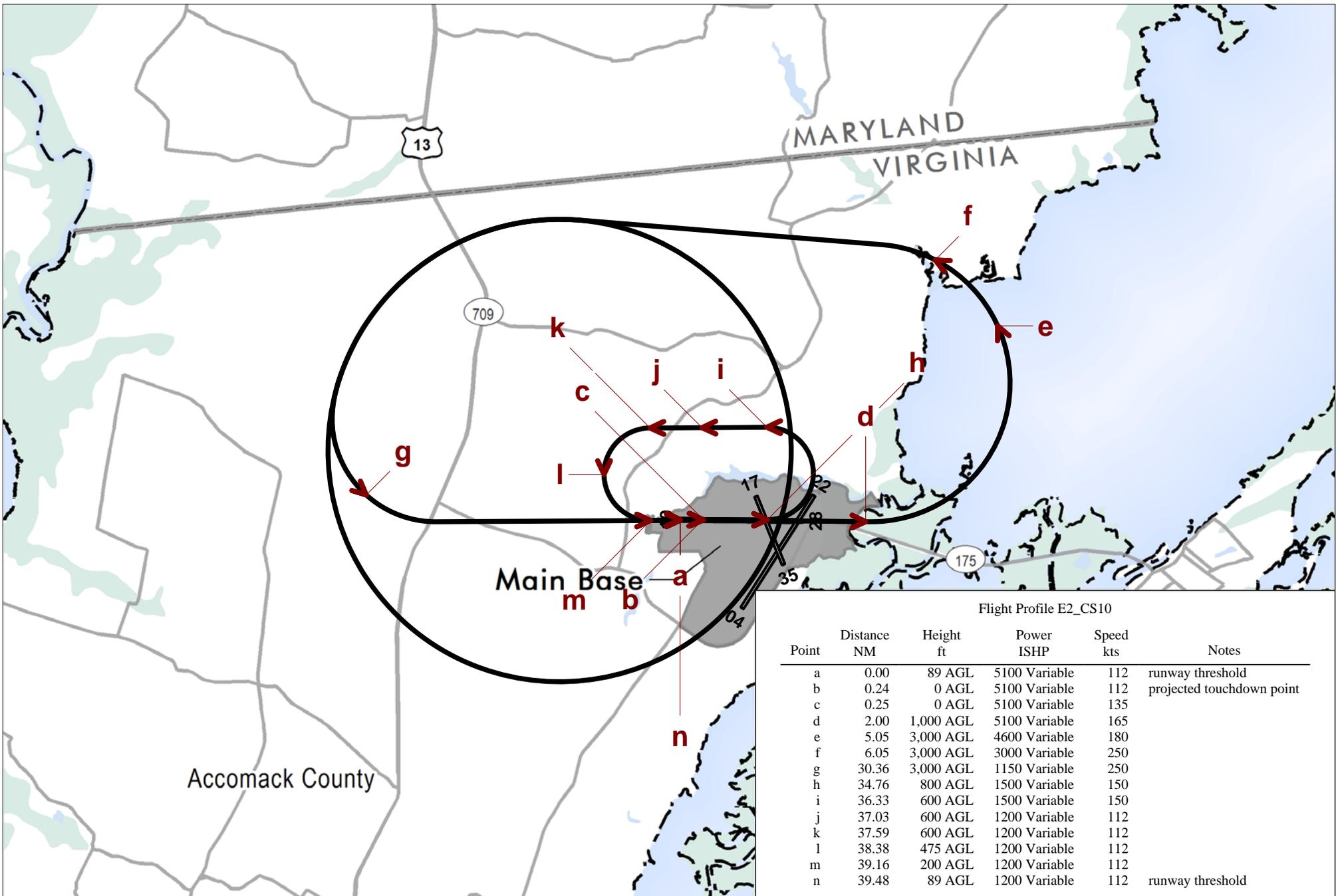


Flight Profile E2_CS04
Crew Swap



Scale in Feet 1:100,000 (1 inch = 8,330 feet)





Flight Profile E2_CS10

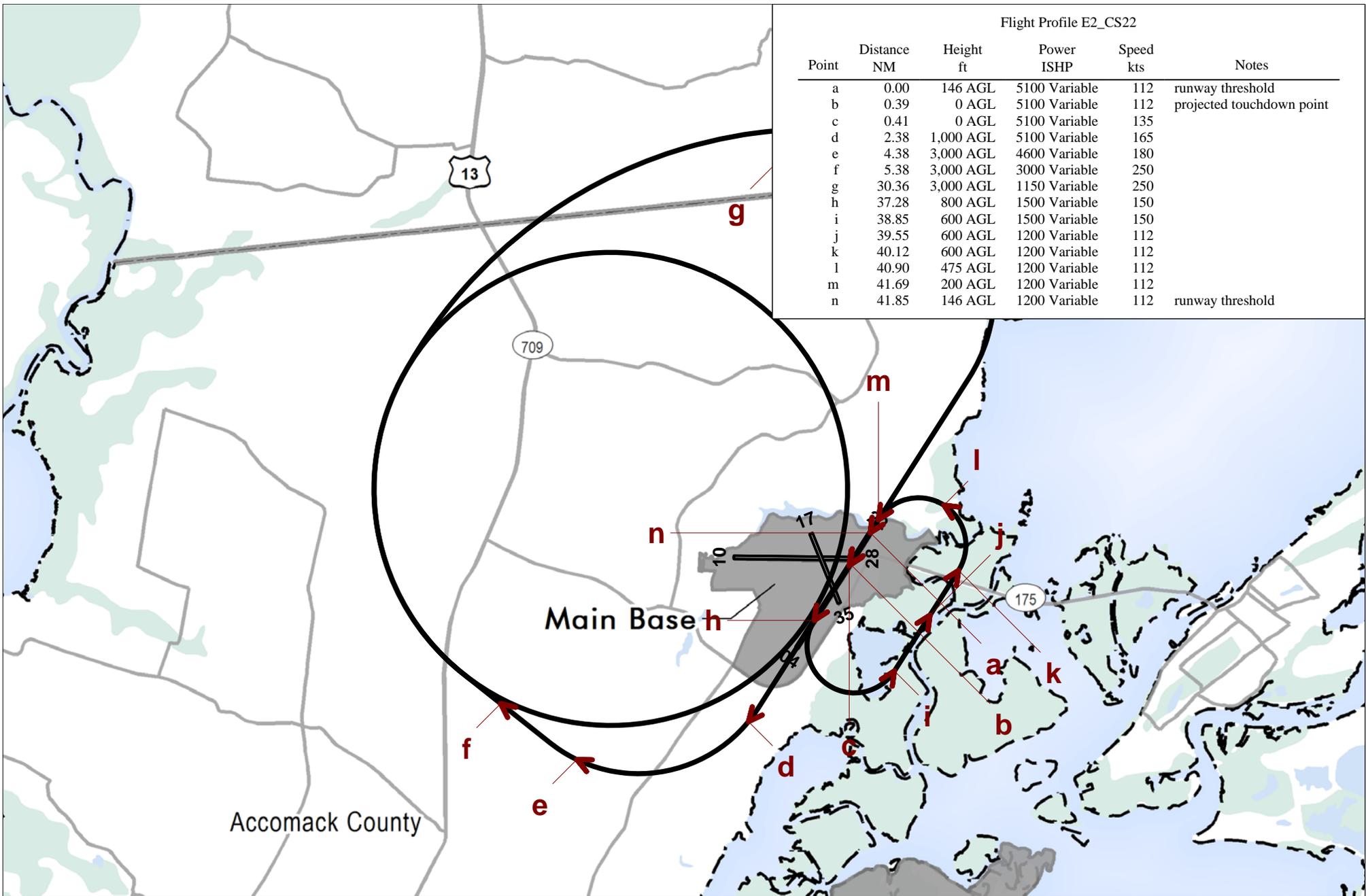
| Point | Distance NM | Height ft | Power ISHP | Speed kts | Notes |
|-------|-------------|-----------|---------------|-----------|---------------------------|
| a | 0.00 | 89 AGL | 5100 Variable | 112 | runway threshold |
| b | 0.24 | 0 AGL | 5100 Variable | 112 | projected touchdown point |
| c | 0.25 | 0 AGL | 5100 Variable | 135 | |
| d | 2.00 | 1,000 AGL | 5100 Variable | 165 | |
| e | 5.05 | 3,000 AGL | 4600 Variable | 180 | |
| f | 6.05 | 3,000 AGL | 3000 Variable | 250 | |
| g | 30.36 | 3,000 AGL | 1150 Variable | 250 | |
| h | 34.76 | 800 AGL | 1500 Variable | 150 | |
| i | 36.33 | 600 AGL | 1500 Variable | 150 | |
| j | 37.03 | 600 AGL | 1200 Variable | 112 | |
| k | 37.59 | 600 AGL | 1200 Variable | 112 | |
| l | 38.38 | 475 AGL | 1200 Variable | 112 | |
| m | 39.16 | 200 AGL | 1200 Variable | 112 | |
| n | 39.48 | 89 AGL | 1200 Variable | 112 | runway threshold |

Flight Profile E2_CS10
Crew Swap



Scale in Feet 1:100,000 (1 inch = 8,330 feet)





Flight Profile E2_CS22

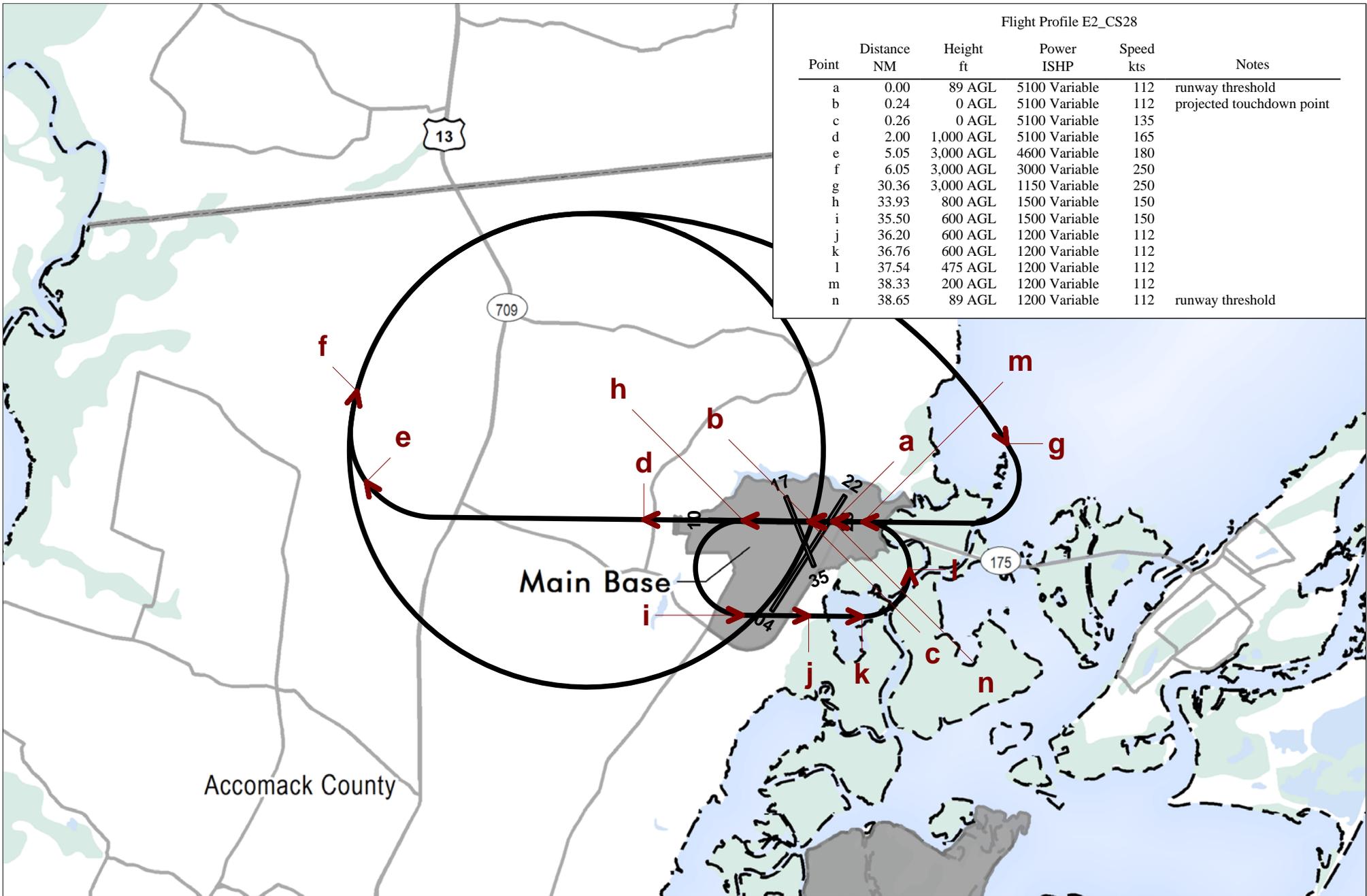
Crew Swap

Hold Pattern to the right to avoid no fly areas



Scale in Feet 1:100,000 (1 inch = 8,330 feet)





Flight Profile E2_CS28

Crew Swap

Hold Pattern to the right to avoid no fly areas



Scale in Feet 1:100,000 (1 inch = 8,330 feet)



Appendix B: Points of Interest SEL Tables for Top Contributor to the DNL at Emporia-Greenville Regional Airport

| Location ID | Description | Latitude | Longitude | Total DNL (dB) | | |
|-------------------------------------|--|----------|-----------|----------------|--------|--------|
| | | | | Baseline | Alt 1A | Alt 1B |
| City of Emporia, Virginia | | | | | | |
| CoE-1 | Emmanuel Worship Center | 36.68782 | -77.51477 | <45 | 51.7 | 54.3 |
| CoE-2 | Industrial Park | 36.71605 | -77.51754 | <45 | 45.8 | 52.3 |
| CoE-3 | Meherrin River Park Complex | 36.68277 | -77.53170 | <45 | <45 | <45 |
| CoE-4 | Tall Oaks Residential Subdivision | 36.68029 | -77.53586 | <45 | <45 | <45 |
| CoE-5 | Belfield-Emporia Historic District | 36.69298 | -77.53656 | <45 | <45 | <45 |
| CoE-6 | Southern Virginia Regional Medical Center | 36.69936 | -77.53892 | <45 | <45 | <45 |
| CoE-7 | City of Emporia Municipal Building | 36.68800 | -77.54184 | <45 | <45 | <45 |
| CoE-8 | Hicksford-Emporia Historic District | 36.68604 | -77.54279 | <45 | <45 | <45 |
| CoE-9 | Greenville High School | 36.68084 | -77.55271 | <45 | <45 | <45 |
| CoE-10 | Interchange at Route 58/I-95 | 36.70255 | -77.54938 | <45 | <45 | <45 |
| Greenville County, Virginia | | | | | | |
| GC-1 | Intersection of Low Ground Road and Goose Pond Road | 36.62271 | -77.45093 | <45 | <45 | <45 |
| GC-2 | Elnora Jarrell Worship Center | 36.65163 | -77.54973 | <45 | <45 | <45 |
| GC-3 | Bryants Corner | 36.66283 | -77.52912 | <45 | <45 | <45 |
| GC-4 | Union Grove Church of Christ | 36.71079 | -77.50806 | <45 | 50.9 | 55.7 |
| GC-5 | Edward W. Wyatt Middle School | 36.71481 | -77.53241 | <45 | <45 | 57.4 |
| GC-6 | Greenville County Administration Offices | 36.73636 | -77.51385 | <45 | <45 | 46.9 |
| GC-7 | Emporia Country Club | 36.75134 | -77.49254 | <45 | 45.5 | 45.9 |
| GC-8 | Future Industrial Area #1 | 36.76865 | -77.51813 | <45 | <45 | <45 |
| GC-9 | Greenville Correctional Center | 36.79828 | -77.48670 | <45 | <45 | <45 |
| GC-10 | Intersection of State Route 611 and James River Junction | 36.70400 | -77.47773 | <45 | 54.8 | 54.9 |
| GC-11 | Oak Grove Baptist Church | 36.69437 | -77.48711 | 50 | 64.8 | 64.9 |
| Southampton County, Virginia | | | | | | |
| SC-1 | Mid Atlantic Gin | 36.68045 | -77.48122 | 47.3 | 63.3 | 63.3 |
| SC-2 | Intersection of Route 58 and State Route 711 | 36.68312 | -77.43962 | <45 | <45 | 47.8 |
| SC-3 | Valley Proteins Inc. | 36.68135 | -77.40144 | <45 | <45 | <45 |
| SC-4 | Intersection of Adams Grove Road at Railroad | 36.69318 | -77.38601 | <45 | <45 | <45 |
| SC-5 | Pleasant Grove Baptist Church | 36.68551 | -77.38125 | <45 | <45 | <45 |
| SC-6 | Capron Community Church of God | 36.68723 | -77.37347 | <45 | <45 | <45 |
| SC-7 | Deerfield Correctional Center | 36.72636 | -77.24507 | <45 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-1 | 1 | CH-47D | GCA Box | 33GCA | 2259 | 0.5 | 0.0 | 85.1 | <45 | <45 |
| CoE-1 | 2 | MH-53 | GCA Box | 33GCA | 2277 | 0.1 | 0.0 | 90.3 | <45 | <45 |
| CoE-1 | 3 | Single Prop | FCLP | 33F3 | 2523 | 0.7 | 0.1 | 74.3 | <45 | <45 |
| CoE-1 | 4 | Single Prop | GCA Box | 33GCA | 1887 | 0.2 | 0.0 | 78.5 | <45 | <45 |
| CoE-1 | 5 | CH-47D | DEP | RWY33D | 7544 | 0.5 | 0.0 | 70.6 | <45 | <45 |
| CoE-1 | 6 | Single Prop | DEP | RWY33D | 7569 | 0.4 | 0.1 | 64.8 | <45 | <45 |
| CoE-1 | 7 | CH-47D | Para Drops | 33PARA | 6077 | 0.1 | 0.0 | 76.6 | <45 | <45 |
| CoE-1 | 8 | CH-47D | Para Drops | 33PARA | 6077 | 0.1 | 0.0 | 76.5 | <45 | <45 |
| CoE-1 | 9 | CH-47D | Para Drops | 15PARA | 6959 | 0.1 | 0.0 | 75.3 | <45 | <45 |
| CoE-1 | 10 | CH-47D | ARR | 33VOR | 9611 | 0.5 | 0.0 | 63.1 | <45 | <45 |
| CoE-1 | 11 | CH-47D | Para Drops | 15PARA | 7229 | 0.1 | 0.0 | 74.8 | <45 | <45 |
| CoE-1 | 12 | Business Jet | DEP | RWY33D | 7563 | 0.1 | 0.0 | 71.1 | <45 | <45 |
| CoE-1 | 13 | Single Prop | FCLP | 15F3 | 7535 | 0.2 | 0.0 | 60.5 | <45 | <45 |
| CoE-1 | 14 | Super King Air | DEP | RWY33D | 7550 | 0.1 | 0.0 | 63.4 | <45 | <45 |
| CoE-1 | 15 | Single Prop | DEP | RWY15D | 8147 | 0.1 | 0.0 | 60.7 | <45 | <45 |
| CoE-1 | 16 | MH-53 | ARR | 33VORH | 10968 | 0.1 | 0.0 | 65.4 | <45 | <45 |
| CoE-1 | 17 | Single Prop | GCA Box | 15GCA | 7529 | 0.1 | 0.0 | 62.9 | <45 | <45 |
| CoE-1 | 18 | MH-53 | DEP | 33D3 | 8624 | 0.1 | 0.0 | 63.6 | <45 | <45 |
| CoE-1 | 19 | Business Jet | DEP | RWY15D | 8147 | 0.0 | 0.0 | 68.7 | <45 | <45 |
| CoE-1 | 20 | Single Prop | ARR | RWY15A | 7528 | 0.1 | 0.0 | 56.7 | <45 | <45 |
| CoE-2 | 1 | CH-47D | DEP | RWY33D | 2558 | 0.5 | 0.0 | 85.4 | <45 | <45 |
| CoE-2 | 2 | Single Prop | DEP | RWY33D | 2863 | 0.4 | 0.1 | 72.7 | <45 | <45 |
| CoE-2 | 3 | Business Jet | DEP | RWY33D | 2706 | 0.1 | 0.0 | 82.4 | <45 | <45 |
| CoE-2 | 4 | CH-47D | GCA Box | 33GCA | 8123 | 0.5 | 0.0 | 71.6 | <45 | <45 |
| CoE-2 | 5 | CH-47D | DEP | RWY33D | 2558 | 0.0 | 0.0 | 85.4 | <45 | <45 |
| CoE-2 | 6 | Single Prop | ARR | RWY15A | 2438 | 0.1 | 0.0 | 68.7 | <45 | <45 |
| CoE-2 | 7 | Super King Air | DEP | RWY33D | 3185 | 0.1 | 0.0 | 71.1 | <45 | <45 |
| CoE-2 | 8 | CH-47D | Para Drops | 33PARA | 5864 | 0.1 | 0.0 | 76.7 | <45 | <45 |
| CoE-2 | 9 | Single Prop | FCLP | 33F3 | 8875 | 0.7 | 0.1 | 61.5 | <45 | <45 |
| CoE-2 | 10 | MH-53 | GCA Box | 33GCA | 8098 | 0.1 | 0.0 | 73.1 | <45 | <45 |
| CoE-2 | 11 | CH-47D | Para Drops | 33PARA | 5534 | 0.1 | 0.0 | 75.9 | <45 | <45 |
| CoE-2 | 12 | CH-47D | ARR | RWY15A | 2568 | 0.0 | 0.0 | 81.2 | <45 | <45 |
| CoE-2 | 13 | Single Prop | GCA Box | 15GCA | 2484 | 0.1 | 0.0 | 69.7 | <45 | <45 |
| CoE-2 | 14 | Single Prop | GCA Box | 33GCA | 7952 | 0.2 | 0.0 | 64.4 | <45 | <45 |
| CoE-2 | 15 | Single Prop | FCLP | 15F3 | 7632 | 0.2 | 0.0 | 58.8 | <45 | <45 |
| CoE-2 | 16 | CH-47D | Para Drops | 15PARA | 8813 | 0.1 | 0.0 | 69.6 | <45 | <45 |
| CoE-2 | 17 | CH-47D | ARR | 33VOR | 15078 | 0.5 | 0.0 | 57.3 | <45 | <45 |
| CoE-2 | 18 | CH-47D | Para Drops | 15PARA | 8813 | 0.1 | 0.0 | 69.2 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-2 | 19 | Super King Air | ARR | RWY15A | 2448 | 0.0 | 0.0 | 67.5 | <45 | <45 |
| CoE-2 | 20 | Business Jet | ARR | RWY15A | 2450 | 0.0 | 0.0 | 69.9 | <45 | <45 |
| CoE-3 | 1 | CH-47D | GCA Box | 33GCA | 2683 | 0.5 | 0.0 | 83.0 | <45 | <45 |
| CoE-3 | 2 | MH-53 | GCA Box | 33GCA | 2648 | 0.1 | 0.0 | 85.0 | <45 | <45 |
| CoE-3 | 3 | Single Prop | GCA Box | 33GCA | 2682 | 0.2 | 0.0 | 74.4 | <45 | <45 |
| CoE-3 | 4 | Single Prop | FCLP | 33F3 | 7542 | 0.7 | 0.1 | 63.7 | <45 | <45 |
| CoE-3 | 5 | CH-47D | DEP | RWY33D | 12671 | 0.5 | 0.0 | 67.0 | <45 | <45 |
| CoE-3 | 6 | Single Prop | DEP | RWY33D | 12694 | 0.4 | 0.1 | 58.5 | <45 | <45 |
| CoE-3 | 7 | CH-47D | ARR | 33VOR | 14604 | 0.5 | 0.0 | 59.1 | <45 | <45 |
| CoE-3 | 8 | CH-47D | Para Drops | 33PARA | 10197 | 0.1 | 0.0 | 70.2 | <45 | <45 |
| CoE-3 | 9 | CH-47D | Para Drops | 33PARA | 10197 | 0.1 | 0.0 | 70.2 | <45 | <45 |
| CoE-3 | 10 | CH-47D | Para Drops | 15PARA | 10493 | 0.1 | 0.0 | 70.1 | <45 | <45 |
| CoE-3 | 11 | CH-47D | Para Drops | 15PARA | 10723 | 0.1 | 0.0 | 69.4 | <45 | <45 |
| CoE-3 | 12 | MH-53 | ARR | 33VORH | 15699 | 0.1 | 0.0 | 64.0 | <45 | <45 |
| CoE-3 | 13 | Single Prop | FCLP | 15F3 | 12746 | 0.2 | 0.0 | 54.0 | <45 | <45 |
| CoE-3 | 14 | Business Jet | DEP | RWY33D | 12689 | 0.1 | 0.0 | 62.8 | <45 | <45 |
| CoE-3 | 15 | Super King Air | DEP | RWY33D | 12684 | 0.1 | 0.0 | 57.7 | <45 | <45 |
| CoE-3 | 16 | Single Prop | DEP | RWY15D | 13409 | 0.1 | 0.0 | 55.0 | <45 | <45 |
| CoE-3 | 17 | Single Prop | GCA Box | 15GCA | 12661 | 0.1 | 0.0 | 57.4 | <45 | <45 |
| CoE-3 | 18 | MH-53 | DEP | 33D3 | 13821 | 0.1 | 0.0 | 55.0 | <45 | <45 |
| CoE-3 | 19 | CH-47D | DEP | RWY33D | 12671 | 0.0 | 0.0 | 67.1 | <45 | <45 |
| CoE-3 | 20 | Single Prop | ARR | RWY15A | 12659 | 0.1 | 0.0 | 52.0 | <45 | <45 |
| CoE-4 | 1 | CH-47D | GCA Box | 33GCA | 3576 | 0.5 | 0.0 | 80.5 | <45 | <45 |
| CoE-4 | 2 | MH-53 | GCA Box | 33GCA | 3578 | 0.1 | 0.0 | 83.6 | <45 | <45 |
| CoE-4 | 3 | Single Prop | GCA Box | 33GCA | 3578 | 0.2 | 0.0 | 71.7 | <45 | <45 |
| CoE-4 | 4 | CH-47D | DEP | RWY33D | 14188 | 0.5 | 0.0 | 66.1 | <45 | <45 |
| CoE-4 | 5 | Single Prop | FCLP | 33F3 | 8922 | 0.7 | 0.1 | 61.7 | <45 | <45 |
| CoE-4 | 6 | Single Prop | DEP | RWY33D | 14208 | 0.4 | 0.1 | 57.3 | <45 | <45 |
| CoE-4 | 7 | CH-47D | ARR | 33VOR | 15915 | 0.5 | 0.0 | 58.4 | <45 | <45 |
| CoE-4 | 8 | CH-47D | Para Drops | 33PARA | 11289 | 0.1 | 0.0 | 68.9 | <45 | <45 |
| CoE-4 | 9 | CH-47D | Para Drops | 33PARA | 11289 | 0.1 | 0.0 | 68.8 | <45 | <45 |
| CoE-4 | 10 | CH-47D | Para Drops | 15PARA | 11391 | 0.1 | 0.0 | 69.0 | <45 | <45 |
| CoE-4 | 11 | CH-47D | Para Drops | 15PARA | 11616 | 0.1 | 0.0 | 68.3 | <45 | <45 |
| CoE-4 | 12 | MH-53 | ARR | 33VORH | 16919 | 0.1 | 0.0 | 63.3 | <45 | <45 |
| CoE-4 | 13 | Single Prop | FCLP | 15F3 | 14252 | 0.2 | 0.0 | 52.5 | <45 | <45 |
| CoE-4 | 14 | Business Jet | DEP | RWY33D | 14204 | 0.1 | 0.0 | 61.1 | <45 | <45 |
| CoE-4 | 15 | Single Prop | DEP | RWY15D | 14836 | 0.1 | 0.0 | 54.0 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-4 | 16 | Super King Air | DEP | RWY33D | 14199 | 0.1 | 0.0 | 56.4 | <45 | <45 |
| CoE-4 | 17 | MH-53 | DEP | 33D3 | 15213 | 0.1 | 0.0 | 53.2 | <45 | <45 |
| CoE-4 | 18 | Single Prop | GCA Box | 15GCA | 14179 | 0.1 | 0.0 | 56.3 | <45 | <45 |
| CoE-4 | 19 | CH-47D | DEP | RWY33D | 14188 | 0.0 | 0.0 | 66.2 | <45 | <45 |
| CoE-4 | 20 | Single Prop | ARR | RWY15A | 14178 | 0.1 | 0.0 | 50.9 | <45 | <45 |
| | | | | | | | | | | |
| CoE-5 | 1 | CH-47D | GCA Box | 33GCA | 4993 | 0.5 | 0.0 | 77.4 | <45 | <45 |
| CoE-5 | 2 | MH-53 | GCA Box | 33GCA | 4930 | 0.1 | 0.0 | 81.4 | <45 | <45 |
| CoE-5 | 3 | CH-47D | DEP | RWY33D | 11746 | 0.5 | 0.0 | 69.4 | <45 | <45 |
| CoE-5 | 4 | Single Prop | GCA Box | 33GCA | 4943 | 0.2 | 0.0 | 68.9 | <45 | <45 |
| CoE-5 | 5 | Single Prop | FCLP | 33F3 | 8887 | 0.7 | 0.1 | 61.7 | <45 | <45 |
| CoE-5 | 6 | Single Prop | DEP | RWY33D | 11785 | 0.4 | 0.1 | 59.7 | <45 | <45 |
| CoE-5 | 7 | CH-47D | Para Drops | 33PARA | 12073 | 0.1 | 0.0 | 69.4 | <45 | <45 |
| CoE-5 | 8 | CH-47D | Para Drops | 33PARA | 11249 | 0.1 | 0.0 | 69.4 | <45 | <45 |
| CoE-5 | 9 | CH-47D | ARR | 33VOR | 16176 | 0.5 | 0.0 | 57.1 | <45 | <45 |
| CoE-5 | 10 | CH-47D | Para Drops | 15PARA | 13210 | 0.1 | 0.0 | 67.6 | <45 | <45 |
| CoE-5 | 11 | CH-47D | Para Drops | 15PARA | 13210 | 0.1 | 0.0 | 67.2 | <45 | <45 |
| CoE-5 | 12 | Business Jet | DEP | RWY33D | 11772 | 0.1 | 0.0 | 64.3 | <45 | <45 |
| CoE-5 | 13 | MH-53 | ARR | 33VORH | 17615 | 0.1 | 0.0 | 62.4 | <45 | <45 |
| CoE-5 | 14 | Super King Air | DEP | RWY33D | 11811 | 0.1 | 0.0 | 58.9 | <45 | <45 |
| CoE-5 | 15 | Single Prop | FCLP | 15F3 | 12695 | 0.2 | 0.0 | 53.4 | <45 | <45 |
| CoE-5 | 16 | CH-47D | DEP | RWY33D | 11746 | 0.0 | 0.0 | 69.5 | <45 | <45 |
| CoE-5 | 17 | Single Prop | DEP | RWY15D | 14355 | 0.1 | 0.0 | 54.0 | <45 | <45 |
| CoE-5 | 18 | Single Prop | ARR | RWY15A | 11724 | 0.1 | 0.0 | 53.9 | <45 | <45 |
| CoE-5 | 19 | Single Prop | GCA Box | 15GCA | 11728 | 0.1 | 0.0 | 57.7 | <45 | <45 |
| CoE-5 | 20 | MH-53 | DEP | 33D3 | 14967 | 0.1 | 0.0 | 54.6 | <45 | <45 |
| | | | | | | | | | | |
| CoE-6 | 1 | CH-47D | GCA Box | 33GCA | 6892 | 0.5 | 0.0 | 74.4 | <45 | <45 |
| CoE-6 | 2 | CH-47D | DEP | RWY33D | 11010 | 0.5 | 0.0 | 71.0 | <45 | <45 |
| CoE-6 | 3 | MH-53 | GCA Box | 33GCA | 6896 | 0.1 | 0.0 | 79.0 | <45 | <45 |
| CoE-6 | 4 | Single Prop | FCLP | 33F3 | 10089 | 0.7 | 0.1 | 60.2 | <45 | <45 |
| CoE-6 | 5 | Single Prop | GCA Box | 33GCA | 6843 | 0.2 | 0.0 | 65.8 | <45 | <45 |
| CoE-6 | 6 | Single Prop | DEP | RWY33D | 11066 | 0.4 | 0.1 | 60.4 | <45 | <45 |
| CoE-6 | 7 | CH-47D | Para Drops | 33PARA | 11916 | 0.1 | 0.0 | 69.1 | <45 | <45 |
| CoE-6 | 8 | CH-47D | Para Drops | 33PARA | 11410 | 0.1 | 0.0 | 68.9 | <45 | <45 |
| CoE-6 | 9 | CH-47D | ARR | 33VOR | 17359 | 0.5 | 0.0 | 55.5 | <45 | <45 |
| CoE-6 | 10 | Business Jet | DEP | RWY33D | 11037 | 0.1 | 0.0 | 65.3 | <45 | <45 |
| CoE-6 | 11 | CH-47D | Para Drops | 15PARA | 13663 | 0.1 | 0.0 | 66.2 | <45 | <45 |
| CoE-6 | 12 | Super King Air | DEP | RWY33D | 11127 | 0.1 | 0.0 | 59.7 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-6 | 13 | CH-47D | Para Drops | 15PARA | 13663 | 0.1 | 0.0 | 66.0 | <45 | <45 |
| CoE-6 | 14 | CH-47D | DEP | RWY33D | 11010 | 0.0 | 0.0 | 71.1 | <45 | <45 |
| CoE-6 | 15 | MH-53 | ARR | 33VORH | 18952 | 0.1 | 0.0 | 61.3 | <45 | <45 |
| CoE-6 | 16 | Single Prop | ARR | RWY15A | 10979 | 0.1 | 0.0 | 55.1 | <45 | <45 |
| CoE-6 | 17 | Single Prop | FCLP | 15F3 | 12967 | 0.2 | 0.0 | 52.9 | <45 | <45 |
| CoE-6 | 18 | Single Prop | GCA Box | 15GCA | 10987 | 0.1 | 0.0 | 58.2 | <45 | <45 |
| CoE-6 | 19 | CH-47D | ARR | RWY15A | 11003 | 0.0 | 0.0 | 68.3 | <45 | <45 |
| CoE-6 | 20 | MH-53 | DEP | 33D3 | 15904 | 0.1 | 0.0 | 54.4 | <45 | <45 |
| CoE-7 | 1 | CH-47D | GCA Box | 33GCA | 5524 | 0.5 | 0.0 | 76.4 | <45 | <45 |
| CoE-7 | 2 | MH-53 | GCA Box | 33GCA | 5495 | 0.1 | 0.0 | 79.2 | <45 | <45 |
| CoE-7 | 3 | CH-47D | DEP | RWY33D | 14043 | 0.5 | 0.0 | 67.4 | <45 | <45 |
| CoE-7 | 4 | Single Prop | GCA Box | 33GCA | 5516 | 0.2 | 0.0 | 67.7 | <45 | <45 |
| CoE-7 | 5 | Single Prop | FCLP | 33F3 | 10301 | 0.7 | 0.1 | 59.9 | <45 | <45 |
| CoE-7 | 6 | Single Prop | DEP | RWY33D | 14073 | 0.4 | 0.1 | 57.6 | <45 | <45 |
| CoE-7 | 7 | CH-47D | ARR | 33VOR | 17541 | 0.5 | 0.0 | 56.3 | <45 | <45 |
| CoE-7 | 8 | CH-47D | Para Drops | 33PARA | 13492 | 0.1 | 0.0 | 67.8 | <45 | <45 |
| CoE-7 | 9 | CH-47D | Para Drops | 33PARA | 13276 | 0.1 | 0.0 | 67.6 | <45 | <45 |
| CoE-7 | 10 | CH-47D | Para Drops | 15PARA | 13901 | 0.1 | 0.0 | 66.7 | <45 | <45 |
| CoE-7 | 11 | CH-47D | Para Drops | 15PARA | 14087 | 0.1 | 0.0 | 66.2 | <45 | <45 |
| CoE-7 | 12 | MH-53 | ARR | 33VORH | 18812 | 0.1 | 0.0 | 62.3 | <45 | <45 |
| CoE-7 | 13 | Business Jet | DEP | RWY33D | 14065 | 0.1 | 0.0 | 61.4 | <45 | <45 |
| CoE-7 | 14 | Super King Air | DEP | RWY33D | 14089 | 0.1 | 0.0 | 56.7 | <45 | <45 |
| CoE-7 | 15 | Single Prop | FCLP | 15F3 | 14701 | 0.2 | 0.0 | 51.4 | <45 | <45 |
| CoE-7 | 16 | MH-53 | DEP | 33D3 | 16531 | 0.1 | 0.0 | 52.3 | <45 | <45 |
| CoE-7 | 17 | CH-47D | DEP | RWY33D | 14043 | 0.0 | 0.0 | 67.4 | <45 | <45 |
| CoE-7 | 18 | Single Prop | DEP | RWY15D | 15987 | 0.1 | 0.0 | 52.8 | <45 | <45 |
| CoE-7 | 19 | Single Prop | GCA Box | 15GCA | 14029 | 0.1 | 0.0 | 56.0 | <45 | <45 |
| CoE-7 | 20 | Single Prop | ARR | RWY15A | 14026 | 0.1 | 0.0 | 51.9 | <45 | <45 |
| CoE-8 | 1 | CH-47D | GCA Box | 33GCA | 5586 | 0.5 | 0.0 | 76.3 | <45 | <45 |
| CoE-8 | 2 | MH-53 | GCA Box | 33GCA | 5528 | 0.1 | 0.0 | 79.4 | <45 | <45 |
| CoE-8 | 3 | CH-47D | DEP | RWY33D | 14677 | 0.5 | 0.0 | 66.7 | <45 | <45 |
| CoE-8 | 4 | Single Prop | GCA Box | 33GCA | 5582 | 0.2 | 0.0 | 67.5 | <45 | <45 |
| CoE-8 | 5 | Single Prop | FCLP | 33F3 | 10604 | 0.7 | 0.1 | 59.6 | <45 | <45 |
| CoE-8 | 6 | Single Prop | DEP | RWY33D | 14704 | 0.4 | 0.1 | 57.0 | <45 | <45 |
| CoE-8 | 7 | CH-47D | ARR | 33VOR | 17807 | 0.5 | 0.0 | 56.2 | <45 | <45 |
| CoE-8 | 8 | CH-47D | Para Drops | 33PARA | 13598 | 0.1 | 0.0 | 67.4 | <45 | <45 |
| CoE-8 | 9 | CH-47D | Para Drops | 33PARA | 13598 | 0.1 | 0.0 | 67.3 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-8 | 10 | CH-47D | Para Drops | 15PARA | 13928 | 0.1 | 0.0 | 66.6 | <45 | <45 |
| CoE-8 | 11 | CH-47D | Para Drops | 15PARA | 14103 | 0.1 | 0.0 | 66.1 | <45 | <45 |
| CoE-8 | 12 | MH-53 | ARR | 33VORH | 19014 | 0.1 | 0.0 | 62.3 | <45 | <45 |
| CoE-8 | 13 | Business Jet | DEP | RWY33D | 14698 | 0.1 | 0.0 | 60.7 | <45 | <45 |
| CoE-8 | 14 | Super King Air | DEP | RWY33D | 14716 | 0.1 | 0.0 | 56.1 | <45 | <45 |
| CoE-8 | 15 | MH-53 | DEP | 33D3 | 16863 | 0.1 | 0.0 | 51.8 | <45 | <45 |
| CoE-8 | 16 | Single Prop | FCLP | 15F3 | 15206 | 0.2 | 0.0 | 51.0 | <45 | <45 |
| CoE-8 | 17 | Single Prop | DEP | RWY15D | 16353 | 0.1 | 0.0 | 52.6 | <45 | <45 |
| CoE-8 | 18 | CH-47D | DEP | RWY33D | 14677 | 0.0 | 0.0 | 66.8 | <45 | <45 |
| CoE-8 | 19 | Single Prop | GCA Box | 15GCA | 14664 | 0.1 | 0.0 | 55.6 | <45 | <45 |
| CoE-8 | 20 | Single Prop | ARR | RWY15A | 14662 | 0.1 | 0.0 | 51.3 | <45 | <45 |
| CoE-9 | 1 | CH-47D | GCA Box | 33GCA | 8151 | 0.5 | 0.0 | 72.7 | <45 | <45 |
| CoE-9 | 2 | MH-53 | GCA Box | 33GCA | 8154 | 0.1 | 0.0 | 74.5 | <45 | <45 |
| CoE-9 | 3 | CH-47D | DEP | RWY33D | 18141 | 0.5 | 0.0 | 64.3 | <45 | <45 |
| CoE-9 | 4 | Single Prop | GCA Box | 33GCA | 8152 | 0.2 | 0.0 | 63.7 | <45 | <45 |
| CoE-9 | 5 | Single Prop | FCLP | 33F3 | 13699 | 0.7 | 0.1 | 56.2 | <45 | <45 |
| CoE-9 | 6 | Single Prop | DEP | RWY33D | 18164 | 0.4 | 0.1 | 54.3 | <45 | <45 |
| CoE-9 | 7 | CH-47D | ARR | 33VOR | 20802 | 0.5 | 0.0 | 53.8 | <45 | <45 |
| CoE-9 | 8 | CH-47D | Para Drops | 33PARA | 16212 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| CoE-9 | 9 | CH-47D | Para Drops | 33PARA | 16212 | 0.1 | 0.0 | 64.5 | <45 | <45 |
| CoE-9 | 10 | CH-47D | Para Drops | 15PARA | 16216 | 0.1 | 0.0 | 64.3 | <45 | <45 |
| CoE-9 | 11 | MH-53 | ARR | 33VORH | 21853 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| CoE-9 | 12 | CH-47D | Para Drops | 15PARA | 16382 | 0.1 | 0.0 | 63.7 | <45 | <45 |
| CoE-9 | 13 | MH-53 | DEP | 33D3 | 20003 | 0.1 | 0.0 | 48.6 | <45 | <45 |
| CoE-9 | 14 | Super King Air | DEP | RWY33D | 18173 | 0.1 | 0.0 | 53.2 | <45 | <45 |
| CoE-9 | 15 | Single Prop | DEP | RWY15D | 19558 | 0.1 | 0.0 | 50.4 | <45 | <45 |
| CoE-9 | 16 | CH-47D | DEP | RWY33D | 18141 | 0.0 | 0.0 | 64.4 | <45 | <45 |
| CoE-9 | 17 | Business Jet | DEP | RWY33D | 18158 | 0.1 | 0.0 | 56.9 | <45 | <45 |
| CoE-9 | 18 | Single Prop | FCLP | 15F3 | 18608 | 0.2 | 0.0 | 47.6 | <45 | <45 |
| CoE-9 | 19 | Single Prop | GCA Box | 15GCA | 18131 | 0.1 | 0.0 | 53.3 | <45 | <45 |
| CoE-9 | 20 | Single Prop | ARR | RWY15A | 18129 | 0.1 | 0.0 | 48.8 | <45 | <45 |
| CoE-10 | 1 | CH-47D | GCA Box | 33GCA | 9878 | 0.5 | 0.0 | 70.5 | <45 | <45 |
| CoE-10 | 2 | CH-47D | DEP | RWY33D | 12867 | 0.5 | 0.0 | 70.0 | <45 | <45 |
| CoE-10 | 3 | MH-53 | GCA Box | 33GCA | 9826 | 0.1 | 0.0 | 73.3 | <45 | <45 |
| CoE-10 | 4 | Single Prop | FCLP | 33F3 | 13356 | 0.7 | 0.1 | 56.9 | <45 | <45 |
| CoE-10 | 5 | Single Prop | DEP | RWY33D | 12946 | 0.4 | 0.1 | 58.5 | <45 | <45 |
| CoE-10 | 6 | Single Prop | GCA Box | 33GCA | 9850 | 0.2 | 0.0 | 61.8 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-10 | 7 | CH-47D | Para Drops | 33PARA | 14643 | 0.1 | 0.0 | 66.1 | <45 | <45 |
| CoE-10 | 8 | CH-47D | Para Drops | 33PARA | 14358 | 0.1 | 0.0 | 66.0 | <45 | <45 |
| CoE-10 | 9 | Business Jet | DEP | RWY33D | 12904 | 0.1 | 0.0 | 62.6 | <45 | <45 |
| CoE-10 | 10 | CH-47D | DEP | RWY33D | 12867 | 0.0 | 0.0 | 70.0 | <45 | <45 |
| CoE-10 | 11 | Super King Air | DEP | RWY33D | 13044 | 0.1 | 0.0 | 57.8 | <45 | <45 |
| CoE-10 | 12 | MH-53 | ARR | 33VORH | 22232 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| CoE-10 | 13 | CH-47D | Para Drops | 15PARA | 16736 | 0.1 | 0.0 | 63.3 | <45 | <45 |
| CoE-10 | 14 | CH-47D | Para Drops | 15PARA | 16736 | 0.1 | 0.0 | 63.2 | <45 | <45 |
| CoE-10 | 15 | CH-47D | ARR | 33VOR | 20630 | 0.5 | 0.0 | 50.9 | <45 | <45 |
| CoE-10 | 16 | Single Prop | ARR | RWY15A | 12847 | 0.1 | 0.0 | 53.7 | <45 | <45 |
| CoE-10 | 17 | MH-53 | DEP | 33D3 | 19139 | 0.1 | 0.0 | 51.8 | <45 | <45 |
| CoE-10 | 18 | CH-47D | ARR | RWY15A | 12877 | 0.0 | 0.0 | 67.6 | <45 | <45 |
| CoE-10 | 19 | Single Prop | GCA Box | 15GCA | 12858 | 0.1 | 0.0 | 56.5 | <45 | <45 |
| CoE-10 | 20 | Single Prop | FCLP | 15F3 | 15959 | 0.2 | 0.0 | 49.8 | <45 | <45 |
| GC-1 | 1 | CH-47D | GCA Box | 33GCA | 5795 | 0.5 | 0.0 | 79.1 | <45 | <45 |
| GC-1 | 2 | CH-47D | ARR | 33VOR | 5802 | 0.5 | 0.0 | 78.0 | <45 | <45 |
| GC-1 | 3 | MH-53 | GCA Box | 33GCA | 5795 | 0.1 | 0.0 | 83.0 | <45 | <45 |
| GC-1 | 4 | MH-53 | ARR | 33VORH | 5786 | 0.1 | 0.0 | 82.9 | <45 | <45 |
| GC-1 | 5 | Single Prop | GCA Box | 33GCA | 5762 | 0.2 | 0.0 | 68.3 | <45 | <45 |
| GC-1 | 6 | Single Prop | ARR | RWY33A | 5694 | 0.4 | 0.1 | 62.6 | <45 | <45 |
| GC-1 | 7 | Single Prop | DEP | RWY15D | 6139 | 0.1 | 0.0 | 65.8 | <45 | <45 |
| GC-1 | 8 | CH-47D | DEP | RWY15D | 5664 | 0.0 | 0.0 | 79.9 | <45 | <45 |
| GC-1 | 9 | CH-47D | ARR | RWY33A | 5802 | 0.0 | 0.0 | 78.0 | <45 | <45 |
| GC-1 | 10 | Business Jet | DEP | RWY15D | 5867 | 0.0 | 0.0 | 73.5 | <45 | <45 |
| GC-1 | 11 | Super King Air | ARR | RWY33A | 5700 | 0.1 | 0.0 | 60.0 | <45 | <45 |
| GC-1 | 12 | Super King Air | DEP | RWY15D | 6805 | 0.0 | 0.0 | 64.4 | <45 | <45 |
| GC-1 | 13 | CH-47D | Para Drops | 15PARA | 14214 | 0.1 | 0.0 | 65.9 | <45 | <45 |
| GC-1 | 14 | CH-47D | Para Drops | 15PARA | 14482 | 0.1 | 0.0 | 65.8 | <45 | <45 |
| GC-1 | 15 | Single Prop | FCLP | 33F3 | 16717 | 0.7 | 0.1 | 49.7 | <45 | <45 |
| GC-1 | 16 | Business Jet | ARR | RWY33A | 5703 | 0.1 | 0.0 | 61.1 | <45 | <45 |
| GC-1 | 17 | MH-53 | DEP | 33D3 | 24320 | 0.1 | 0.0 | 51.2 | <45 | <45 |
| GC-1 | 18 | CH-47D | Para Drops | 33PARA | 17805 | 0.1 | 0.0 | 60.8 | <45 | <45 |
| GC-1 | 19 | Single Prop | FCLP | 15F3 | 20823 | 0.2 | 0.0 | 49.7 | <45 | <45 |
| GC-1 | 20 | CH-47D | Para Drops | 33PARA | 17805 | 0.1 | 0.0 | 59.5 | <45 | <45 |
| GC-2 | 1 | CH-47D | GCA Box | 33GCA | 11475 | 0.5 | 0.0 | 70.8 | <45 | <45 |
| GC-2 | 2 | MH-53 | GCA Box | 33GCA | 11439 | 0.1 | 0.0 | 73.1 | <45 | <45 |
| GC-2 | 3 | Single Prop | GCA Box | 33GCA | 11475 | 0.2 | 0.0 | 61.3 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-2 | 4 | CH-47D | DEP | RWY33D | 23453 | 0.5 | 0.0 | 57.5 | <45 | <45 |
| GC-2 | 5 | Single Prop | FCLP | 33F3 | 17404 | 0.7 | 0.1 | 53.1 | <45 | <45 |
| GC-2 | 6 | CH-47D | ARR | 33VOR | 23472 | 0.5 | 0.0 | 56.4 | <45 | <45 |
| GC-2 | 7 | CH-47D | Para Drops | 15PARA | 15861 | 0.1 | 0.0 | 64.2 | <45 | <45 |
| GC-2 | 8 | CH-47D | Para Drops | 15PARA | 16120 | 0.1 | 0.0 | 63.8 | <45 | <45 |
| GC-2 | 9 | Single Prop | DEP | RWY33D | 23453 | 0.4 | 0.1 | 49.7 | <45 | <45 |
| GC-2 | 10 | MH-53 | ARR | 33VORH | 23639 | 0.1 | 0.0 | 57.3 | <45 | <45 |
| GC-2 | 11 | MH-53 | DEP | 33D3 | 23453 | 0.1 | 0.0 | 42.9 | <45 | <45 |
| GC-2 | 12 | CH-47D | Para Drops | 33PARA | 17563 | 0.1 | 0.0 | 60.9 | <45 | <45 |
| GC-2 | 13 | CH-47D | Para Drops | 33PARA | 17563 | 0.1 | 0.0 | 60.8 | <45 | <45 |
| GC-2 | 14 | Single Prop | DEP | RWY15D | 23452 | 0.1 | 0.0 | 49.5 | <45 | <45 |
| GC-2 | 15 | Super King Air | DEP | RWY33D | 23452 | 0.1 | 0.0 | 49.8 | <45 | <45 |
| GC-2 | 16 | Single Prop | GCA Box | 15GCA | 23452 | 0.1 | 0.0 | 50.6 | <45 | <45 |
| GC-2 | 17 | Single Prop | FCLP | 15F3 | 23452 | 0.2 | 0.0 | 43.4 | <45 | <45 |
| GC-2 | 18 | Business Jet | DEP | RWY33D | 23452 | 0.1 | 0.0 | 50.6 | <45 | <45 |
| GC-2 | 19 | CH-47D | DEP | RWY33D | 23453 | 0.0 | 0.0 | 57.7 | <45 | <45 |
| GC-2 | 20 | Super King Air | DEP | RWY15D | 23452 | 0.0 | 0.0 | 50.0 | <45 | <45 |
| GC-3 | 1 | CH-47D | GCA Box | 33GCA | 4477 | 0.5 | 0.0 | 79.9 | <45 | <45 |
| GC-3 | 2 | MH-53 | GCA Box | 33GCA | 4445 | 0.1 | 0.0 | 84.1 | <45 | <45 |
| GC-3 | 3 | Single Prop | GCA Box | 33GCA | 4477 | 0.2 | 0.0 | 70.5 | <45 | <45 |
| GC-3 | 4 | Single Prop | FCLP | 33F3 | 10133 | 0.7 | 0.1 | 60.7 | <45 | <45 |
| GC-3 | 5 | CH-47D | DEP | RWY33D | 16161 | 0.5 | 0.0 | 62.4 | <45 | <45 |
| GC-3 | 6 | CH-47D | ARR | 33VOR | 16184 | 0.5 | 0.0 | 60.5 | <45 | <45 |
| GC-3 | 7 | CH-47D | Para Drops | 15PARA | 9075 | 0.1 | 0.0 | 71.3 | <45 | <45 |
| GC-3 | 8 | CH-47D | Para Drops | 15PARA | 9480 | 0.1 | 0.0 | 70.7 | <45 | <45 |
| GC-3 | 9 | Single Prop | DEP | RWY33D | 16161 | 0.4 | 0.1 | 54.5 | <45 | <45 |
| GC-3 | 10 | CH-47D | Para Drops | 33PARA | 10365 | 0.1 | 0.0 | 67.5 | <45 | <45 |
| GC-3 | 11 | CH-47D | Para Drops | 33PARA | 10365 | 0.1 | 0.0 | 67.5 | <45 | <45 |
| GC-3 | 12 | MH-53 | ARR | 33VORH | 16415 | 0.1 | 0.0 | 63.0 | <45 | <45 |
| GC-3 | 13 | Single Prop | DEP | RWY15D | 16161 | 0.1 | 0.0 | 54.3 | <45 | <45 |
| GC-3 | 14 | Single Prop | FCLP | 15F3 | 16160 | 0.2 | 0.0 | 51.9 | <45 | <45 |
| GC-3 | 15 | MH-53 | DEP | 33D3 | 16161 | 0.1 | 0.0 | 48.6 | <45 | <45 |
| GC-3 | 16 | Super King Air | DEP | RWY33D | 16160 | 0.1 | 0.0 | 54.6 | <45 | <45 |
| GC-3 | 17 | Single Prop | GCA Box | 15GCA | 16161 | 0.1 | 0.0 | 55.8 | <45 | <45 |
| GC-3 | 18 | Business Jet | DEP | RWY33D | 16161 | 0.1 | 0.0 | 57.8 | <45 | <45 |
| GC-3 | 19 | Single Prop | ARR | RWY33A | 16415 | 0.4 | 0.1 | 45.4 | <45 | <45 |
| GC-3 | 20 | CH-47D | DEP | RWY33D | 16161 | 0.0 | 0.0 | 62.5 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-4 | 1 | CH-47D | DEP | RWY33D | 1453 | 0.5 | 0.0 | 84.8 | <45 | <45 |
| GC-4 | 2 | Single Prop | DEP | RWY33D | 1765 | 0.4 | 0.1 | 76.6 | <45 | <45 |
| GC-4 | 3 | Business Jet | DEP | RWY33D | 1650 | 0.1 | 0.0 | 87.2 | <45 | <45 |
| GC-4 | 4 | CH-47D | GCA Box | 33GCA | 5276 | 0.5 | 0.0 | 74.9 | <45 | <45 |
| GC-4 | 5 | CH-47D | Para Drops | 33PARA | 2650 | 0.1 | 0.0 | 82.6 | <45 | <45 |
| GC-4 | 6 | CH-47D | Para Drops | 33PARA | 3214 | 0.1 | 0.0 | 82.6 | <45 | <45 |
| GC-4 | 7 | Single Prop | ARR | RWY15A | 1245 | 0.1 | 0.0 | 73.1 | <45 | <45 |
| GC-4 | 8 | Single Prop | FCLP | 33F3 | 5938 | 0.7 | 0.1 | 66.3 | <45 | <45 |
| GC-4 | 9 | Super King Air | DEP | RWY33D | 1972 | 0.1 | 0.0 | 74.7 | <45 | <45 |
| GC-4 | 10 | CH-47D | ARR | RWY15A | 1403 | 0.0 | 0.0 | 85.7 | <45 | <45 |
| GC-4 | 11 | MH-53 | GCA Box | 33GCA | 5270 | 0.1 | 0.0 | 76.4 | <45 | <45 |
| GC-4 | 12 | CH-47D | DEP | RWY33D | 1453 | 0.0 | 0.0 | 84.8 | <45 | <45 |
| GC-4 | 13 | Single Prop | GCA Box | 15GCA | 1293 | 0.1 | 0.0 | 74.4 | <45 | <45 |
| GC-4 | 14 | Single Prop | GCA Box | 33GCA | 5038 | 0.2 | 0.0 | 68.8 | <45 | <45 |
| GC-4 | 15 | Single Prop | FCLP | 15F3 | 4343 | 0.2 | 0.0 | 64.0 | <45 | <45 |
| GC-4 | 16 | Super King Air | ARR | RWY15A | 1260 | 0.0 | 0.0 | 72.8 | <45 | <45 |
| GC-4 | 17 | CH-47D | Para Drops | 15PARA | 5478 | 0.1 | 0.0 | 74.2 | <45 | <45 |
| GC-4 | 18 | CH-47D | Para Drops | 15PARA | 5478 | 0.1 | 0.0 | 74.0 | <45 | <45 |
| GC-4 | 19 | Business Jet | ARR | RWY15A | 1263 | 0.0 | 0.0 | 75.9 | <45 | <45 |
| GC-4 | 20 | CH-47D | ARR | 33VOR | 11799 | 0.5 | 0.0 | 60.1 | <45 | <45 |
| | | | | | | | | | | |
| GC-5 | 1 | CH-47D | DEP | RWY33D | 6277 | 0.5 | 0.0 | 77.9 | <45 | <45 |
| GC-5 | 2 | CH-47D | GCA Box | 33GCA | 10160 | 0.5 | 0.0 | 70.1 | <45 | <45 |
| GC-5 | 3 | Single Prop | DEP | RWY33D | 6460 | 0.4 | 0.1 | 65.6 | <45 | <45 |
| GC-5 | 4 | MH-53 | GCA Box | 33GCA | 10125 | 0.1 | 0.0 | 73.5 | <45 | <45 |
| GC-5 | 5 | Business Jet | DEP | RWY33D | 6362 | 0.1 | 0.0 | 72.6 | <45 | <45 |
| GC-5 | 6 | Single Prop | FCLP | 33F3 | 11307 | 0.7 | 0.1 | 58.4 | <45 | <45 |
| GC-5 | 7 | CH-47D | DEP | RWY33D | 6277 | 0.0 | 0.0 | 77.9 | <45 | <45 |
| GC-5 | 8 | Single Prop | GCA Box | 33GCA | 10062 | 0.2 | 0.0 | 62.2 | <45 | <45 |
| GC-5 | 9 | CH-47D | Para Drops | 33PARA | 9755 | 0.1 | 0.0 | 71.3 | <45 | <45 |
| GC-5 | 10 | Super King Air | DEP | RWY33D | 6686 | 0.1 | 0.0 | 64.9 | <45 | <45 |
| GC-5 | 11 | CH-47D | Para Drops | 33PARA | 9573 | 0.1 | 0.0 | 70.4 | <45 | <45 |
| GC-5 | 12 | Single Prop | ARR | RWY15A | 6241 | 0.1 | 0.0 | 61.0 | <45 | <45 |
| GC-5 | 13 | CH-47D | ARR | RWY15A | 6308 | 0.0 | 0.0 | 74.3 | <45 | <45 |
| GC-5 | 14 | Single Prop | GCA Box | 15GCA | 6266 | 0.1 | 0.0 | 62.7 | <45 | <45 |
| GC-5 | 15 | CH-47D | Para Drops | 15PARA | 12633 | 0.1 | 0.0 | 66.0 | <45 | <45 |
| GC-5 | 16 | CH-47D | ARR | 33VOR | 18095 | 0.5 | 0.0 | 53.6 | <45 | <45 |
| GC-5 | 17 | CH-47D | Para Drops | 15PARA | 12633 | 0.1 | 0.0 | 65.6 | <45 | <45 |
| GC-5 | 18 | Single Prop | FCLP | 15F3 | 11561 | 0.2 | 0.0 | 54.3 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-5 | 19 | MH-53 | ARR | 33VORH | 19986 | 0.1 | 0.0 | 60.4 | <45 | <45 |
| GC-5 | 20 | MH-53 | DEP | 33D3 | 16082 | 0.1 | 0.0 | 57.7 | <45 | <45 |
| GC-6 | 1 | CH-47D | DEP | RWY33D | 2909 | 0.5 | 0.0 | 85.4 | <45 | <45 |
| GC-6 | 2 | Single Prop | DEP | RWY33D | 3469 | 0.4 | 0.1 | 70.9 | <45 | <45 |
| GC-6 | 3 | Business Jet | DEP | RWY33D | 3166 | 0.1 | 0.0 | 80.6 | <45 | <45 |
| GC-6 | 4 | CH-47D | DEP | RWY33D | 2909 | 0.0 | 0.0 | 85.4 | <45 | <45 |
| GC-6 | 5 | Single Prop | ARR | RWY15A | 2882 | 0.1 | 0.0 | 68.2 | <45 | <45 |
| GC-6 | 6 | CH-47D | GCA Box | 33GCA | 14433 | 0.5 | 0.0 | 64.9 | <45 | <45 |
| GC-6 | 7 | CH-47D | ARR | RWY15A | 3080 | 0.0 | 0.0 | 81.7 | <45 | <45 |
| GC-6 | 8 | Super King Air | DEP | RWY33D | 4127 | 0.1 | 0.0 | 68.9 | <45 | <45 |
| GC-6 | 9 | Single Prop | GCA Box | 15GCA | 2964 | 0.1 | 0.0 | 69.2 | <45 | <45 |
| GC-6 | 10 | CH-47D | Para Drops | 33PARA | 9780 | 0.1 | 0.0 | 70.9 | <45 | <45 |
| GC-6 | 11 | CH-47D | Para Drops | 33PARA | 9483 | 0.1 | 0.0 | 70.7 | <45 | <45 |
| GC-6 | 12 | Single Prop | FCLP | 33F3 | 15242 | 0.7 | 0.1 | 54.1 | <45 | <45 |
| GC-6 | 13 | MH-53 | GCA Box | 33GCA | 14397 | 0.1 | 0.0 | 65.6 | <45 | <45 |
| GC-6 | 14 | Super King Air | ARR | RWY15A | 2892 | 0.0 | 0.0 | 66.2 | <45 | <45 |
| GC-6 | 15 | Single Prop | GCA Box | 33GCA | 14351 | 0.2 | 0.0 | 57.0 | <45 | <45 |
| GC-6 | 16 | Business Jet | ARR | RWY15A | 2896 | 0.0 | 0.0 | 68.5 | <45 | <45 |
| GC-6 | 17 | Single Prop | FCLP | 15F3 | 11629 | 0.2 | 0.0 | 54.8 | <45 | <45 |
| GC-6 | 18 | CH-47D | Para Drops | 15PARA | 12979 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| GC-6 | 19 | MH-53 | DEP | 33D3 | 17903 | 0.1 | 0.0 | 60.5 | <45 | <45 |
| GC-6 | 20 | CH-47D | Para Drops | 15PARA | 12979 | 0.1 | 0.0 | 64.0 | <45 | <45 |
| GC-7 | 1 | CH-47D | DEP | RWY33D | 11018 | 0.5 | 0.0 | 72.9 | <45 | <45 |
| GC-7 | 2 | Single Prop | GCA Box | 15GCA | 2317 | 0.1 | 0.0 | 75.9 | <45 | <45 |
| GC-7 | 3 | Single Prop | DEP | RWY33D | 11196 | 0.4 | 0.1 | 60.1 | <45 | <45 |
| GC-7 | 4 | CH-47D | GCA Box | 33GCA | 19296 | 0.5 | 0.0 | 59.7 | <45 | <45 |
| GC-7 | 5 | CH-47D | Para Drops | 33PARA | 12513 | 0.1 | 0.0 | 67.7 | <45 | <45 |
| GC-7 | 6 | CH-47D | Para Drops | 33PARA | 12105 | 0.1 | 0.0 | 67.7 | <45 | <45 |
| GC-7 | 7 | CH-47D | DEP | RWY33D | 11018 | 0.0 | 0.0 | 72.9 | <45 | <45 |
| GC-7 | 8 | Business Jet | DEP | RWY33D | 11095 | 0.1 | 0.0 | 65.0 | <45 | <45 |
| GC-7 | 9 | MH-53 | DEP | 33D3 | 19148 | 0.1 | 0.0 | 63.2 | <45 | <45 |
| GC-7 | 10 | Super King Air | DEP | RWY33D | 11445 | 0.1 | 0.0 | 59.4 | <45 | <45 |
| GC-7 | 11 | Single Prop | FCLP | 33F3 | 19983 | 0.7 | 0.1 | 49.7 | <45 | <45 |
| GC-7 | 12 | CH-47D | ARR | RWY15A | 11073 | 0.0 | 0.0 | 70.7 | <45 | <45 |
| GC-7 | 13 | Single Prop | ARR | RWY15A | 11015 | 0.1 | 0.0 | 56.0 | <45 | <45 |
| GC-7 | 14 | Single Prop | FCLP | 15F3 | 14476 | 0.2 | 0.0 | 52.9 | <45 | <45 |
| GC-7 | 15 | MH-53 | GCA Box | 33GCA | 19279 | 0.1 | 0.0 | 60.1 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-7 | 16 | Single Prop | GCA Box | 33GCA | 19247 | 0.2 | 0.0 | 52.8 | <45 | <45 |
| GC-7 | 17 | MH-53 | ARR | 33VORH | 25762 | 0.1 | 0.0 | 57.2 | <45 | <45 |
| GC-7 | 18 | CH-47D | Para Drops | 15PARA | 15689 | 0.1 | 0.0 | 61.5 | <45 | <45 |
| GC-7 | 19 | CH-47D | Para Drops | 15PARA | 15689 | 0.1 | 0.0 | 60.7 | <45 | <45 |
| GC-7 | 20 | CH-47D | ARR | 33VOR | 23967 | 0.5 | 0.0 | 44.5 | <45 | <45 |
| | | | | | | | | | | |
| GC-8 | 1 | CH-47D | DEP | RWY33D | 8442 | 0.5 | 0.0 | 76.2 | <45 | <45 |
| GC-8 | 2 | Single Prop | GCA Box | 15GCA | 4264 | 0.1 | 0.0 | 72.1 | <45 | <45 |
| GC-8 | 3 | Single Prop | DEP | RWY33D | 8936 | 0.4 | 0.1 | 62.1 | <45 | <45 |
| GC-8 | 4 | CH-47D | DEP | RWY33D | 8442 | 0.0 | 0.0 | 76.2 | <45 | <45 |
| GC-8 | 5 | Business Jet | DEP | RWY33D | 8643 | 0.1 | 0.0 | 68.3 | <45 | <45 |
| GC-8 | 6 | CH-47D | GCA Box | 33GCA | 26113 | 0.5 | 0.0 | 57.4 | <45 | <45 |
| GC-8 | 7 | CH-47D | ARR | RWY15A | 8569 | 0.0 | 0.0 | 75.0 | <45 | <45 |
| GC-8 | 8 | Single Prop | ARR | RWY15A | 8508 | 0.1 | 0.0 | 58.5 | <45 | <45 |
| GC-8 | 9 | Super King Air | DEP | RWY33D | 9706 | 0.1 | 0.0 | 60.8 | <45 | <45 |
| GC-8 | 10 | CH-47D | Para Drops | 33PARA | 20472 | 0.1 | 0.0 | 62.2 | <45 | <45 |
| GC-8 | 11 | MH-53 | GCA Box | 33GCA | 26077 | 0.1 | 0.0 | 56.6 | <45 | <45 |
| GC-8 | 12 | MH-53 | DEP | 33D3 | 28486 | 0.1 | 0.0 | 55.7 | <45 | <45 |
| GC-8 | 13 | MH-53 | ARR | 33VORH | 33808 | 0.1 | 0.0 | 54.9 | <45 | <45 |
| GC-8 | 14 | CH-47D | Para Drops | 33PARA | 20269 | 0.1 | 0.0 | 60.8 | <45 | <45 |
| GC-8 | 15 | Single Prop | GCA Box | 33GCA | 26069 | 0.2 | 0.0 | 48.4 | <45 | <45 |
| GC-8 | 16 | Single Prop | FCLP | 33F3 | 26940 | 0.7 | 0.1 | 42.1 | <45 | <45 |
| GC-8 | 17 | Super King Air | ARR | RWY15A | 8512 | 0.0 | 0.0 | 55.8 | <45 | <45 |
| GC-8 | 18 | Single Prop | FCLP | 15F3 | 22581 | 0.2 | 0.0 | 45.6 | <45 | <45 |
| GC-8 | 19 | CH-47D | Para Drops | 15PARA | 23906 | 0.1 | 0.0 | 56.2 | <45 | <45 |
| GC-8 | 20 | Business Jet | ARR | RWY15A | 8514 | 0.0 | 0.0 | 56.2 | <45 | <45 |
| | | | | | | | | | | |
| GC-9 | 1 | CH-47D | DEP | RWY33D | 22108 | 0.5 | 0.0 | 64.5 | <45 | <45 |
| GC-9 | 2 | Single Prop | GCA Box | 15GCA | 10183 | 0.1 | 0.0 | 61.6 | <45 | <45 |
| GC-9 | 3 | Single Prop | DEP | RWY33D | 22348 | 0.4 | 0.1 | 51.7 | <45 | <45 |
| GC-9 | 4 | MH-53 | DEP | 33D3 | 32617 | 0.1 | 0.0 | 56.2 | <45 | <45 |
| GC-9 | 5 | MH-53 | ARR | 33VORH | 42576 | 0.1 | 0.0 | 54.4 | <45 | <45 |
| GC-9 | 6 | MH-53 | GCA Box | 33GCA | 36413 | 0.1 | 0.0 | 52.0 | <45 | <45 |
| GC-9 | 7 | CH-47D | GCA Box | 33GCA | 36434 | 0.5 | 0.0 | 50.1 | <45 | <45 |
| GC-9 | 8 | CH-47D | ARR | RWY15A | 22167 | 0.0 | 0.0 | 64.8 | <45 | <45 |
| GC-9 | 9 | CH-47D | DEP | RWY33D | 22108 | 0.0 | 0.0 | 64.7 | <45 | <45 |
| GC-9 | 10 | Super King Air | DEP | RWY33D | 22766 | 0.1 | 0.0 | 50.6 | <45 | <45 |
| GC-9 | 11 | Single Prop | ARR | RWY15A | 22147 | 0.1 | 0.0 | 48.0 | <45 | <45 |
| GC-9 | 12 | CH-47D | Para Drops | 33PARA | 29144 | 0.1 | 0.0 | 55.5 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-9 | 13 | Business Jet | DEP | RWY33D | 22204 | 0.1 | 0.0 | 52.9 | <45 | <45 |
| GC-9 | 14 | CH-47D | Para Drops | 33PARA | 28927 | 0.1 | 0.0 | 54.3 | <45 | <45 |
| GC-9 | 15 | CH-47D | Para Drops | 15PARA | 32537 | 0.1 | 0.0 | 49.3 | <45 | <45 |
| GC-9 | 16 | Single Prop | GCA Box | 33GCA | 36408 | 0.2 | 0.0 | 39.7 | <45 | <45 |
| GC-9 | 17 | CH-47D | ARR | 33VOR | 40879 | 0.5 | 0.0 | 34.2 | <45 | <45 |
| GC-9 | 18 | Single Prop | FCLP | 15F3 | 31402 | 0.2 | 0.0 | 34.7 | <45 | <45 |
| GC-9 | 19 | Single Prop | FCLP | 33F3 | 37138 | 0.7 | 0.1 | 29.0 | <45 | <45 |
| GC-9 | 20 | Super King Air | ARR | RWY15A | 22149 | 0.0 | 0.0 | 42.6 | <45 | <45 |
| | | | | | | | | | | |
| GC-10 | 1 | MH-53 | DEP | 33D3 | 2318 | 0.1 | 0.0 | 86.4 | <45 | <45 |
| GC-10 | 2 | Single Prop | FCLP | 15F3 | 1652 | 0.2 | 0.0 | 78.0 | <45 | <45 |
| GC-10 | 3 | CH-47D | Para Drops | 15PARA | 1523 | 0.1 | 0.0 | 87.7 | <45 | <45 |
| GC-10 | 4 | CH-47D | Para Drops | 15PARA | 1523 | 0.1 | 0.0 | 87.7 | <45 | <45 |
| GC-10 | 5 | CH-47D | DEP | RWY33D | 4775 | 0.5 | 0.0 | 73.7 | <45 | <45 |
| GC-10 | 6 | CH-47D | GCA Box | 33GCA | 4919 | 0.5 | 0.0 | 73.6 | <45 | <45 |
| GC-10 | 7 | Single Prop | FCLP | 33F3 | 4928 | 0.7 | 0.1 | 69.7 | <45 | <45 |
| GC-10 | 8 | CH-47D | Para Drops | 33PARA | 3540 | 0.1 | 0.0 | 84.4 | <45 | <45 |
| GC-10 | 9 | CH-47D | Para Drops | 33PARA | 4153 | 0.1 | 0.0 | 83.0 | <45 | <45 |
| GC-10 | 10 | Single Prop | DEP | RWY33D | 4799 | 0.4 | 0.1 | 69.8 | <45 | <45 |
| GC-10 | 11 | MH-53 | GCA Box | 33GCA | 4948 | 0.1 | 0.0 | 78.0 | <45 | <45 |
| GC-10 | 12 | Business Jet | DEP | RWY33D | 4791 | 0.1 | 0.0 | 77.4 | <45 | <45 |
| GC-10 | 13 | Single Prop | GCA Box | 33GCA | 4815 | 0.2 | 0.0 | 69.8 | <45 | <45 |
| GC-10 | 14 | CH-47D | ARR | 33VOR | 6655 | 0.5 | 0.0 | 66.1 | <45 | <45 |
| GC-10 | 15 | Single Prop | DEP | RWY15D | 5084 | 0.1 | 0.0 | 66.3 | <45 | <45 |
| GC-10 | 16 | Single Prop | GCA Box | 15GCA | 4758 | 0.1 | 0.0 | 69.8 | <45 | <45 |
| GC-10 | 17 | Super King Air | DEP | RWY33D | 4776 | 0.1 | 0.0 | 67.7 | <45 | <45 |
| GC-10 | 18 | Business Jet | DEP | RWY15D | 5084 | 0.0 | 0.0 | 74.3 | <45 | <45 |
| GC-10 | 19 | MH-53 | ARR | 33VORH | 8180 | 0.1 | 0.0 | 66.1 | <45 | <45 |
| GC-10 | 20 | C-23 | Para Drops | 33PARA_2 | 3387 | 0.0 | 0.0 | 75.5 | <45 | <45 |
| | | | | | | | | | | |
| GC-11 | 1 | Business Jet | DEP | RWY15D | 688 | 0.0 | 0.0 | 110.0 | 45.0 | 45.0 |
| GC-11 | 2 | Single Prop | FCLP | 33F3 | 566 | 0.7 | 0.1 | 88.9 | <45 | 46.9 |
| GC-11 | 3 | CH-47D | DEP | RWY33D | 602 | 0.5 | 0.0 | 90.9 | <45 | 47.8 |
| GC-11 | 4 | Super King Air | DEP | RWY15D | 688 | 0.0 | 0.0 | 98.8 | <45 | 48.3 |
| GC-11 | 5 | Business Jet | DEP | RWY33D | 646 | 0.1 | 0.0 | 97.6 | <45 | 48.6 |
| GC-11 | 6 | CH-47D | GCA Box | 33GCA | 1086 | 0.5 | 0.0 | 86.9 | <45 | 48.9 |
| GC-11 | 7 | Single Prop | DEP | RWY33D | 688 | 0.4 | 0.1 | 84.9 | <45 | 49.1 |
| GC-11 | 8 | Single Prop | FCLP | 15F3 | 502 | 0.2 | 0.0 | 86.8 | <45 | 49.3 |
| GC-11 | 9 | Single Prop | DEP | RWY15D | 688 | 0.1 | 0.0 | 88.0 | <45 | 49.4 |

| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-11 | 10 | Single Prop | GCA Box | 33GCA | 670 | 0.2 | 0.0 | 85.9 | <45 | 49.5 |
| GC-11 | 11 | MH-53 | DEP | 33D3 | 919 | 0.1 | 0.0 | 91.0 | <45 | 49.6 |
| GC-11 | 12 | CH-47D | Para Drops | 15PARA | 512 | 0.1 | 0.0 | 94.6 | <45 | 49.7 |
| GC-11 | 13 | CH-47D | Para Drops | 15PARA | 512 | 0.1 | 0.0 | 94.6 | <45 | 49.8 |
| GC-11 | 14 | CH-47D | Para Drops | 33PARA | 1017 | 0.1 | 0.0 | 93.0 | <45 | 49.8 |
| GC-11 | 15 | MH-53 | GCA Box | 33GCA | 1154 | 0.1 | 0.0 | 89.8 | <45 | 49.9 |
| GC-11 | 16 | CH-47D | Para Drops | 33PARA | 1003 | 0.1 | 0.0 | 92.7 | <45 | 49.9 |
| GC-11 | 17 | Super King Air | DEP | RWY33D | 584 | 0.1 | 0.0 | 83.4 | <45 | 50.0 |
| GC-11 | 18 | Single Prop | GCA Box | 15GCA | 502 | 0.1 | 0.0 | 84.4 | <45 | 50.0 |
| GC-11 | 19 | CH-47D | ARR | RWY15A | 534 | 0.0 | 0.0 | 91.2 | <45 | 50.0 |
| GC-11 | 20 | Single Prop | ARR | RWY15A | 501 | 0.1 | 0.0 | 76.8 | <45 | 50.0 |
| SC-1 | 1 | Single Prop | FCLP | 33F3 | 955 | 0.7 | 0.1 | 87.0 | <45 | <45 |
| SC-1 | 2 | CH-47D | GCA Box | 33GCA | 954 | 0.5 | 0.0 | 88.9 | <45 | <45 |
| SC-1 | 3 | Super King Air | DEP | RWY33D | 954 | 0.1 | 0.0 | 92.9 | <45 | <45 |
| SC-1 | 4 | Single Prop | DEP | RWY33D | 954 | 0.4 | 0.1 | 85.6 | <45 | <45 |
| SC-1 | 5 | CH-47D | DEP | RWY33D | 954 | 0.5 | 0.0 | 86.6 | <45 | 45.2 |
| SC-1 | 6 | CH-47D | ARR | 33VOR | 964 | 0.5 | 0.0 | 86.5 | <45 | 45.7 |
| SC-1 | 7 | Single Prop | FCLP | 15F3 | 970 | 0.2 | 0.0 | 87.1 | <45 | 46.1 |
| SC-1 | 8 | Business Jet | DEP | RWY33D | 954 | 0.1 | 0.0 | 94.7 | <45 | 46.4 |
| SC-1 | 9 | MH-53 | GCA Box | 33GCA | 955 | 0.1 | 0.0 | 91.3 | <45 | 46.6 |
| SC-1 | 10 | Single Prop | GCA Box | 33GCA | 954 | 0.2 | 0.0 | 84.7 | <45 | 46.7 |
| SC-1 | 11 | CH-47D | Para Drops | 15PARA | 1214 | 0.1 | 0.0 | 92.1 | <45 | 46.8 |
| SC-1 | 12 | CH-47D | Para Drops | 15PARA | 1205 | 0.1 | 0.0 | 91.7 | <45 | 46.9 |
| SC-1 | 13 | Single Prop | DEP | RWY15D | 1031 | 0.1 | 0.0 | 82.5 | <45 | 47.0 |
| SC-1 | 14 | CH-47D | Para Drops | 33PARA | 956 | 0.1 | 0.0 | 90.7 | <45 | 47.0 |
| SC-1 | 15 | Business Jet | DEP | RWY15D | 1009 | 0.0 | 0.0 | 93.9 | <45 | 47.1 |
| SC-1 | 16 | CH-47D | Para Drops | 33PARA | 956 | 0.1 | 0.0 | 90.7 | <45 | 47.2 |
| SC-1 | 17 | MH-53 | ARR | 33VORH | 971 | 0.1 | 0.0 | 87.2 | <45 | 47.2 |
| SC-1 | 18 | Single Prop | GCA Box | 15GCA | 1024 | 0.1 | 0.0 | 83.3 | <45 | 47.3 |
| SC-1 | 19 | Single Prop | ARR | RWY33A | 971 | 0.4 | 0.1 | 69.2 | <45 | 47.3 |
| SC-1 | 20 | Super King Air | DEP | RWY15D | 982 | 0.0 | 0.0 | 80.0 | <45 | 47.3 |
| SC-2 | 1 | CH-47D | GCA Box | 33GCA | 9648 | 0.5 | 0.0 | 69.2 | <45 | <45 |
| SC-2 | 2 | Single Prop | GCA Box | 15GCA | 2529 | 0.1 | 0.0 | 75.4 | <45 | <45 |
| SC-2 | 3 | CH-47D | ARR | 33VOR | 9656 | 0.5 | 0.0 | 68.0 | <45 | <45 |
| SC-2 | 4 | Single Prop | FCLP | 15F3 | 5968 | 0.2 | 0.0 | 66.0 | <45 | <45 |
| SC-2 | 5 | MH-53 | ARR | 33VORH | 9649 | 0.1 | 0.0 | 73.2 | <45 | <45 |
| SC-2 | 6 | MH-53 | DEP | 33D3 | 10183 | 0.1 | 0.0 | 72.1 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-2 | 7 | MH-53 | GCA Box | 33GCA | 9649 | 0.1 | 0.0 | 71.9 | <45 | <45 |
| SC-2 | 8 | CH-47D | DEP | RWY33D | 11324 | 0.5 | 0.0 | 62.0 | <45 | <45 |
| SC-2 | 9 | CH-47D | Para Drops | 15PARA | 8660 | 0.1 | 0.0 | 72.6 | <45 | <45 |
| SC-2 | 10 | CH-47D | Para Drops | 15PARA | 9534 | 0.1 | 0.0 | 72.6 | <45 | <45 |
| SC-2 | 11 | Single Prop | FCLP | 33F3 | 10085 | 0.7 | 0.1 | 56.4 | <45 | <45 |
| SC-2 | 12 | CH-47D | Para Drops | 33PARA | 10313 | 0.1 | 0.0 | 70.8 | <45 | <45 |
| SC-2 | 13 | CH-47D | Para Drops | 33PARA | 10405 | 0.1 | 0.0 | 70.4 | <45 | <45 |
| SC-2 | 14 | Single Prop | DEP | RWY15D | 9699 | 0.1 | 0.0 | 61.8 | <45 | <45 |
| SC-2 | 15 | Single Prop | DEP | RWY33D | 11324 | 0.4 | 0.1 | 56.6 | <45 | <45 |
| SC-2 | 16 | Single Prop | GCA Box | 33GCA | 9646 | 0.2 | 0.0 | 59.9 | <45 | <45 |
| SC-2 | 17 | Single Prop | ARR | RWY33A | 9643 | 0.4 | 0.1 | 55.3 | <45 | <45 |
| SC-2 | 18 | Business Jet | DEP | RWY33D | 11324 | 0.1 | 0.0 | 65.5 | <45 | <45 |
| SC-2 | 19 | Business Jet | DEP | RWY15D | 9694 | 0.0 | 0.0 | 67.3 | <45 | <45 |
| SC-2 | 20 | CH-47D | DEP | RWY15D | 9663 | 0.0 | 0.0 | 70.2 | <45 | <45 |
| SC-3 | 1 | CH-47D | ARR | 33VOR | 18525 | 0.5 | 0.0 | 63.8 | <45 | <45 |
| SC-3 | 2 | CH-47D | GCA Box | 33GCA | 18517 | 0.5 | 0.0 | 62.1 | <45 | <45 |
| SC-3 | 3 | MH-53 | DEP | 33D3 | 16753 | 0.1 | 0.0 | 66.4 | <45 | <45 |
| SC-3 | 4 | MH-53 | ARR | 33VORH | 18517 | 0.1 | 0.0 | 65.1 | <45 | <45 |
| SC-3 | 5 | MH-53 | GCA Box | 33GCA | 18517 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| SC-3 | 6 | Single Prop | GCA Box | 15GCA | 12116 | 0.1 | 0.0 | 59.6 | <45 | <45 |
| SC-3 | 7 | Single Prop | FCLP | 15F3 | 17115 | 0.2 | 0.0 | 53.1 | <45 | <45 |
| SC-3 | 8 | Single Prop | ARR | RWY33A | 18505 | 0.4 | 0.1 | 49.5 | <45 | <45 |
| SC-3 | 9 | Single Prop | DEP | RWY15D | 18571 | 0.1 | 0.0 | 54.2 | <45 | <45 |
| SC-3 | 10 | CH-47D | Para Drops | 15PARA | 19681 | 0.1 | 0.0 | 62.4 | <45 | <45 |
| SC-3 | 11 | Single Prop | GCA Box | 33GCA | 18512 | 0.2 | 0.0 | 52.8 | <45 | <45 |
| SC-3 | 12 | CH-47D | Para Drops | 15PARA | 19150 | 0.1 | 0.0 | 62.2 | <45 | <45 |
| SC-3 | 13 | Single Prop | DEP | RWY33D | 22508 | 0.4 | 0.1 | 47.9 | <45 | <45 |
| SC-3 | 14 | CH-47D | Para Drops | 33PARA | 20667 | 0.1 | 0.0 | 60.9 | <45 | <45 |
| SC-3 | 15 | CH-47D | Para Drops | 33PARA | 20789 | 0.1 | 0.0 | 60.6 | <45 | <45 |
| SC-3 | 16 | Single Prop | FCLP | 33F3 | 20803 | 0.7 | 0.1 | 44.2 | <45 | <45 |
| SC-3 | 17 | CH-47D | DEP | RWY33D | 22508 | 0.5 | 0.0 | 47.5 | <45 | <45 |
| SC-3 | 18 | CH-47D | DEP | RWY15D | 18520 | 0.0 | 0.0 | 65.4 | <45 | <45 |
| SC-3 | 19 | CH-47D | ARR | RWY33A | 18525 | 0.0 | 0.0 | 63.8 | <45 | <45 |
| SC-3 | 20 | Business Jet | DEP | RWY33D | 22508 | 0.1 | 0.0 | 53.8 | <45 | <45 |
| SC-4 | 1 | CH-47D | ARR | 33VOR | 24681 | 0.5 | 0.0 | 60.1 | <45 | <45 |
| SC-4 | 2 | MH-53 | DEP | 33D3 | 15561 | 0.1 | 0.0 | 68.0 | <45 | <45 |
| SC-4 | 3 | CH-47D | GCA Box | 33GCA | 24676 | 0.5 | 0.0 | 58.3 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-4 | 4 | MH-53 | GCA Box | 33GCA | 24676 | 0.1 | 0.0 | 60.9 | <45 | <45 |
| SC-4 | 5 | MH-53 | ARR | 33VORH | 24676 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| SC-4 | 6 | Single Prop | GCA Box | 15GCA | 15965 | 0.1 | 0.0 | 56.3 | <45 | <45 |
| SC-4 | 7 | Single Prop | FCLP | 15F3 | 21671 | 0.2 | 0.0 | 49.2 | <45 | <45 |
| SC-4 | 8 | Single Prop | DEP | RWY15D | 24713 | 0.1 | 0.0 | 50.1 | <45 | <45 |
| SC-4 | 9 | CH-47D | Para Drops | 15PARA | 24120 | 0.1 | 0.0 | 58.9 | <45 | <45 |
| SC-4 | 10 | Single Prop | GCA Box | 33GCA | 24673 | 0.2 | 0.0 | 49.2 | <45 | <45 |
| SC-4 | 11 | CH-47D | Para Drops | 33PARA | 23989 | 0.1 | 0.0 | 58.2 | <45 | <45 |
| SC-4 | 12 | Single Prop | ARR | RWY33A | 24668 | 0.4 | 0.1 | 45.0 | <45 | <45 |
| SC-4 | 13 | CH-47D | Para Drops | 15PARA | 24120 | 0.1 | 0.0 | 58.5 | <45 | <45 |
| SC-4 | 14 | Single Prop | DEP | RWY33D | 27360 | 0.4 | 0.1 | 44.8 | <45 | <45 |
| SC-4 | 15 | CH-47D | Para Drops | 33PARA | 24111 | 0.1 | 0.0 | 57.8 | <45 | <45 |
| SC-4 | 16 | CH-47D | DEP | RWY15D | 24681 | 0.0 | 0.0 | 60.7 | <45 | <45 |
| SC-4 | 17 | CH-47D | ARR | RWY33A | 24681 | 0.0 | 0.0 | 60.1 | <45 | <45 |
| SC-4 | 18 | CH-47D | DEP | RWY33D | 27360 | 0.5 | 0.0 | 41.8 | <45 | <45 |
| SC-4 | 19 | Super King Air | DEP | RWY33D | 27360 | 0.1 | 0.0 | 46.3 | <45 | <45 |
| SC-4 | 20 | Single Prop | FCLP | 33F3 | 26171 | 0.7 | 0.1 | 36.5 | <45 | <45 |
| SC-5 | 1 | CH-47D | ARR | 33VOR | 24258 | 0.5 | 0.0 | 61.0 | <45 | <45 |
| SC-5 | 2 | CH-47D | GCA Box | 33GCA | 24251 | 0.5 | 0.0 | 58.6 | <45 | <45 |
| SC-5 | 3 | MH-53 | DEP | 33D3 | 18657 | 0.1 | 0.0 | 65.1 | <45 | <45 |
| SC-5 | 4 | MH-53 | GCA Box | 33GCA | 24252 | 0.1 | 0.0 | 61.2 | <45 | <45 |
| SC-5 | 5 | MH-53 | ARR | 33VORH | 24252 | 0.1 | 0.0 | 60.8 | <45 | <45 |
| SC-5 | 6 | Single Prop | GCA Box | 15GCA | 17539 | 0.1 | 0.0 | 55.2 | <45 | <45 |
| SC-5 | 7 | Single Prop | ARR | RWY33A | 24239 | 0.4 | 0.1 | 45.9 | <45 | <45 |
| SC-5 | 8 | Single Prop | DEP | RWY15D | 24301 | 0.1 | 0.0 | 50.5 | <45 | <45 |
| SC-5 | 9 | Single Prop | FCLP | 15F3 | 22943 | 0.2 | 0.0 | 48.3 | <45 | <45 |
| SC-5 | 10 | Single Prop | GCA Box | 33GCA | 24247 | 0.2 | 0.0 | 49.4 | <45 | <45 |
| SC-5 | 11 | CH-47D | Para Drops | 15PARA | 25699 | 0.1 | 0.0 | 58.2 | <45 | <45 |
| SC-5 | 12 | CH-47D | Para Drops | 15PARA | 25241 | 0.1 | 0.0 | 57.7 | <45 | <45 |
| SC-5 | 13 | Single Prop | DEP | RWY33D | 28462 | 0.4 | 0.1 | 44.0 | <45 | <45 |
| SC-5 | 14 | CH-47D | Para Drops | 33PARA | 25907 | 0.1 | 0.0 | 56.8 | <45 | <45 |
| SC-5 | 15 | CH-47D | Para Drops | 33PARA | 26009 | 0.1 | 0.0 | 56.7 | <45 | <45 |
| SC-5 | 16 | CH-47D | DEP | RWY15D | 24247 | 0.0 | 0.0 | 61.5 | <45 | <45 |
| SC-5 | 17 | CH-47D | ARR | RWY33A | 24258 | 0.0 | 0.0 | 61.0 | <45 | <45 |
| SC-5 | 18 | Super King Air | DEP | RWY33D | 28462 | 0.1 | 0.0 | 45.1 | <45 | <45 |
| SC-5 | 19 | CH-47D | DEP | RWY33D | 28462 | 0.5 | 0.0 | 39.2 | <45 | <45 |
| SC-5 | 20 | Single Prop | FCLP | 33F3 | 26892 | 0.7 | 0.1 | 35.4 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-6 | 1 | CH-47D | ARR | 33VOR | 26493 | 0.5 | 0.0 | 59.9 | <45 | <45 |
| SC-6 | 2 | CH-47D | GCA Box | 33GCA | 26486 | 0.5 | 0.0 | 57.3 | <45 | <45 |
| SC-6 | 3 | MH-53 | DEP | 33D3 | 19357 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| SC-6 | 4 | MH-53 | GCA Box | 33GCA | 26487 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| SC-6 | 5 | MH-53 | ARR | 33VORH | 26487 | 0.1 | 0.0 | 59.4 | <45 | <45 |
| SC-6 | 6 | Single Prop | GCA Box | 15GCA | 19722 | 0.1 | 0.0 | 53.7 | <45 | <45 |
| SC-6 | 7 | Single Prop | ARR | RWY33A | 26474 | 0.4 | 0.1 | 44.4 | <45 | <45 |
| SC-6 | 8 | Single Prop | DEP | RWY15D | 26535 | 0.1 | 0.0 | 49.0 | <45 | <45 |
| SC-6 | 9 | Single Prop | GCA Box | 33GCA | 26481 | 0.2 | 0.0 | 48.1 | <45 | <45 |
| SC-6 | 10 | Single Prop | FCLP | 15F3 | 25223 | 0.2 | 0.0 | 46.0 | <45 | <45 |
| SC-6 | 11 | Single Prop | DEP | RWY33D | 30778 | 0.4 | 0.1 | 42.6 | <45 | <45 |
| SC-6 | 12 | CH-47D | Para Drops | 15PARA | 27966 | 0.1 | 0.0 | 56.0 | <45 | <45 |
| SC-6 | 13 | CH-47D | Para Drops | 15PARA | 27601 | 0.1 | 0.0 | 56.0 | <45 | <45 |
| SC-6 | 14 | CH-47D | Para Drops | 33PARA | 28096 | 0.1 | 0.0 | 55.4 | <45 | <45 |
| SC-6 | 15 | CH-47D | Para Drops | 33PARA | 27996 | 0.1 | 0.0 | 55.2 | <45 | <45 |
| SC-6 | 16 | CH-47D | ARR | RWY33A | 26493 | 0.0 | 0.0 | 59.9 | <45 | <45 |
| SC-6 | 17 | CH-47D | DEP | RWY15D | 26480 | 0.0 | 0.0 | 59.4 | <45 | <45 |
| SC-6 | 18 | Super King Air | DEP | RWY33D | 30778 | 0.1 | 0.0 | 44.1 | <45 | <45 |
| SC-6 | 19 | Super King Air | DEP | RWY15D | 26607 | 0.0 | 0.0 | 48.0 | <45 | <45 |
| SC-6 | 20 | CH-47D | DEP | RWY33D | 30778 | 0.5 | 0.0 | 37.3 | <45 | <45 |
| | | | | | | | | | | |
| SC-7 | 1 | CH-47D | ARR | 33VOR | 65574 | 0.5 | 0.0 | 31.9 | <45 | <45 |
| SC-7 | 2 | Single Prop | DEP | RWY15D | 65614 | 0.1 | 0.0 | 34.6 | <45 | <45 |
| SC-7 | 3 | Single Prop | DEP | RWY33D | 70264 | 0.4 | 0.1 | 27.3 | <45 | <45 |
| SC-7 | 4 | CH-47D | DEP | RWY33D | 70264 | 0.5 | 0.0 | 28.3 | <45 | <45 |
| SC-7 | 5 | Super King Air | DEP | RWY33D | 70264 | 0.1 | 0.0 | 33.8 | <45 | <45 |
| SC-7 | 6 | CH-47D | GCA Box | 33GCA | 65575 | 0.5 | 0.0 | 27.2 | <45 | <45 |
| SC-7 | 7 | CH-47D | Para Drops | 33PARA | 65439 | 0.1 | 0.0 | 38.4 | <45 | <45 |
| SC-7 | 8 | Super King Air | DEP | RWY15D | 65702 | 0.0 | 0.0 | 35.4 | <45 | <45 |
| SC-7 | 9 | CH-47D | Para Drops | 15PARA | 66216 | 0.1 | 0.0 | 36.8 | <45 | <45 |
| SC-7 | 10 | Single Prop | FCLP | 33F3 | 69216 | 0.7 | 0.1 | 17.1 | <45 | <45 |
| SC-7 | 11 | Single Prop | GCA Box | 33GCA | 65573 | 0.2 | 0.0 | 20.5 | <45 | <45 |
| SC-7 | 12 | Single Prop | ARR | RWY33A | 65565 | 0.4 | 0.1 | 16.4 | <45 | <45 |
| SC-7 | 13 | Single Prop | FCLP | 15F3 | 64434 | 0.2 | 0.0 | 18.0 | <45 | <45 |
| SC-7 | 14 | Single Prop | GCA Box | 15GCA | 58392 | 0.1 | 0.0 | 22.8 | <45 | <45 |
| SC-7 | 15 | Business Jet | DEP | RWY33D | 70264 | 0.1 | 0.0 | 25.2 | <45 | <45 |
| SC-7 | 16 | CH-47D | Para Drops | 33PARA | 65374 | 0.1 | 0.0 | 26.0 | <45 | <45 |
| SC-7 | 17 | CH-47D | DEP | RWY15D | 65559 | 0.0 | 0.0 | 32.1 | <45 | <45 |
| SC-7 | 18 | CH-47D | ARR | RWY33A | 65574 | 0.0 | 0.0 | 31.9 | <45 | <45 |



| Emporia: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-7 | 19 | CH-47D | Para Drops | 15PARA | 66216 | 0.1 | 0.0 | 25.9 | <45 | <45 |
| SC-7 | 20 | Business Jet | DEP | RWY15D | 65582 | 0.0 | 0.0 | 26.5 | <45 | <45 |

| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-1 | 1 | E-2/C-2 | FCLP | 33F3 | 2392 | 25.6 | 3.0 | 82.0 | 50.1 | 50.1 |
| CoE-1 | 2 | E-2/C-2 | DEP | 33D2 | 1915 | 0.7 | 0.1 | 89.5 | <45 | 50.7 |
| CoE-1 | 3 | E-2/C-2 | Crew Swap | 33SW | 2387 | 2.9 | 0.3 | 82.4 | <45 | 51.2 |
| CoE-1 | 4 | E-2/C-2 | FCLP | 15F3 | 7534 | 22.7 | 2.6 | 72.1 | <45 | 51.5 |
| CoE-1 | 5 | CH-47D | GCA Box | 33GCA | 2259 | 0.5 | 0.0 | 85.1 | <45 | 51.6 |
| CoE-1 | 6 | E-2/C-2 | Crew Swap | 15SW | 7526 | 2.6 | 0.3 | 75.8 | <45 | 51.6 |
| CoE-1 | 7 | MH-53 | GCA Box | 33GCA | 2277 | 0.1 | 0.0 | 90.3 | <45 | 51.7 |
| CoE-1 | 8 | E-2/C-2 | ARR | 33O1 | 2411 | 0.7 | 0.1 | 75.1 | <45 | 51.7 |
| CoE-1 | 9 | Single Prop | FCLP | 33F3 | 2523 | 0.7 | 0.1 | 74.3 | <45 | 51.7 |
| CoE-1 | 10 | Single Prop | GCA Box | 33GCA | 1887 | 0.2 | 0.0 | 78.5 | <45 | 51.7 |
| CoE-1 | 11 | E-2/C-2 | DEP | 15D2 | 8147 | 0.6 | 0.1 | 73.3 | <45 | 51.7 |
| CoE-1 | 12 | E-2/C-2 | ARR | 15O1 | 7533 | 0.6 | 0.1 | 72.4 | <45 | 51.7 |
| CoE-1 | 13 | CH-47D | DEP | RWY33D | 7544 | 0.5 | 0.0 | 70.6 | <45 | 51.8 |
| CoE-1 | 14 | Single Prop | DEP | RWY33D | 7569 | 0.4 | 0.1 | 64.8 | <45 | 51.8 |
| CoE-1 | 15 | CH-47D | Para Drops | 33PARA | 6077 | 0.1 | 0.0 | 76.6 | <45 | 51.8 |
| CoE-1 | 16 | CH-47D | Para Drops | 33PARA | 6077 | 0.1 | 0.0 | 76.5 | <45 | 51.8 |
| CoE-1 | 17 | CH-47D | Para Drops | 15PARA | 6959 | 0.1 | 0.0 | 75.3 | <45 | 51.8 |
| CoE-1 | 18 | CH-47D | ARR | 33VOR | 9611 | 0.5 | 0.0 | 63.1 | <45 | 51.8 |
| CoE-1 | 19 | CH-47D | Para Drops | 15PARA | 7229 | 0.1 | 0.0 | 74.8 | <45 | 51.8 |
| CoE-1 | 20 | Business Jet | DEP | RWY33D | 7563 | 0.1 | 0.0 | 71.1 | <45 | 51.8 |
| CoE-2 | 1 | E-2/C-2 | Crew Swap | 33SW | 3878 | 2.9 | 0.3 | 84.3 | <45 | <45 |
| CoE-2 | 2 | E-2/C-2 | FCLP | 33F3 | 8845 | 25.6 | 3.0 | 70.2 | <45 | <45 |
| CoE-2 | 3 | CH-47D | DEP | RWY33D | 2558 | 0.5 | 0.0 | 85.4 | <45 | <45 |
| CoE-2 | 4 | E-2/C-2 | FCLP | 15F3 | 7627 | 22.7 | 2.6 | 67.1 | <45 | 45.1 |
| CoE-2 | 5 | E-2/C-2 | ARR | 15O1 | 2543 | 0.6 | 0.1 | 81.2 | <45 | 45.4 |
| CoE-2 | 6 | E-2/C-2 | Crew Swap | 15SW | 2907 | 2.6 | 0.3 | 74.8 | <45 | 45.6 |
| CoE-2 | 7 | E-2/C-2 | DEP | 33D2 | 8656 | 0.7 | 0.1 | 75.0 | <45 | 45.7 |
| CoE-2 | 8 | Single Prop | DEP | RWY33D | 2863 | 0.4 | 0.1 | 72.7 | <45 | 45.7 |
| CoE-2 | 9 | Business Jet | DEP | RWY33D | 2706 | 0.1 | 0.0 | 82.4 | <45 | 45.7 |
| CoE-2 | 10 | CH-47D | GCA Box | 33GCA | 8123 | 0.5 | 0.0 | 71.6 | <45 | 45.8 |
| CoE-2 | 11 | E-2/C-2 | DEP | 15D2 | 12262 | 0.6 | 0.1 | 65.9 | <45 | 45.8 |
| CoE-2 | 12 | CH-47D | DEP | RWY33D | 2558 | 0.0 | 0.0 | 85.4 | <45 | 45.8 |
| CoE-2 | 13 | E-2/C-2 | ARR | 33O1 | 8839 | 0.7 | 0.1 | 64.9 | <45 | 45.8 |
| CoE-2 | 14 | Single Prop | ARR | RWY15A | 2438 | 0.1 | 0.0 | 68.7 | <45 | 45.8 |
| CoE-2 | 15 | Super King Air | DEP | RWY33D | 3185 | 0.1 | 0.0 | 71.1 | <45 | 45.8 |
| CoE-2 | 16 | CH-47D | Para Drops | 33PARA | 5864 | 0.1 | 0.0 | 76.7 | <45 | 45.8 |
| CoE-2 | 17 | Single Prop | FCLP | 33F3 | 8875 | 0.7 | 0.1 | 61.5 | <45 | 45.8 |
| CoE-2 | 18 | MH-53 | GCA Box | 33GCA | 8098 | 0.1 | 0.0 | 73.1 | <45 | 45.8 |



| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-2 | 19 | CH-47D | Para Drops | 33PARA | 5534 | 0.1 | 0.0 | 75.9 | <45 | 45.8 |
| CoE-2 | 20 | CH-47D | ARR | RWY15A | 2568 | 0.0 | 0.0 | 81.2 | <45 | 45.8 |
| CoE-3 | 1 | E-2/C-2 | FCLP | 33F3 | 7498 | 25.6 | 3.0 | 71.6 | <45 | <45 |
| CoE-3 | 2 | E-2/C-2 | Crew Swap | 33SW | 7486 | 2.9 | 0.3 | 74.5 | <45 | <45 |
| CoE-3 | 3 | CH-47D | GCA Box | 33GCA | 2683 | 0.5 | 0.0 | 83.0 | <45 | <45 |
| CoE-3 | 4 | E-2/C-2 | FCLP | 15F3 | 12746 | 22.7 | 2.6 | 65.0 | <45 | <45 |
| CoE-3 | 5 | E-2/C-2 | DEP | 33D2 | 6801 | 0.7 | 0.1 | 77.9 | <45 | <45 |
| CoE-3 | 6 | E-2/C-2 | Crew Swap | 15SW | 12715 | 2.6 | 0.3 | 70.6 | <45 | <45 |
| CoE-3 | 7 | MH-53 | GCA Box | 33GCA | 2648 | 0.1 | 0.0 | 85.0 | <45 | <45 |
| CoE-3 | 8 | Single Prop | GCA Box | 33GCA | 2682 | 0.2 | 0.0 | 74.4 | <45 | <45 |
| CoE-3 | 9 | E-2/C-2 | DEP | 15D2 | 13409 | 0.6 | 0.1 | 68.0 | <45 | <45 |
| CoE-3 | 10 | E-2/C-2 | ARR | 33O1 | 7499 | 0.7 | 0.1 | 67.3 | <45 | <45 |
| CoE-3 | 11 | E-2/C-2 | ARR | 15O1 | 12682 | 0.6 | 0.1 | 66.0 | <45 | <45 |
| CoE-3 | 12 | Single Prop | FCLP | 33F3 | 7542 | 0.7 | 0.1 | 63.7 | <45 | <45 |
| CoE-3 | 13 | CH-47D | DEP | RWY33D | 12671 | 0.5 | 0.0 | 67.0 | <45 | <45 |
| CoE-3 | 14 | Single Prop | DEP | RWY33D | 12694 | 0.4 | 0.1 | 58.5 | <45 | <45 |
| CoE-3 | 15 | CH-47D | ARR | 33VOR | 14604 | 0.5 | 0.0 | 59.1 | <45 | <45 |
| CoE-3 | 16 | CH-47D | Para Drops | 33PARA | 10197 | 0.1 | 0.0 | 70.2 | <45 | <45 |
| CoE-3 | 17 | CH-47D | Para Drops | 33PARA | 10197 | 0.1 | 0.0 | 70.2 | <45 | <45 |
| CoE-3 | 18 | CH-47D | Para Drops | 15PARA | 10493 | 0.1 | 0.0 | 70.1 | <45 | <45 |
| CoE-3 | 19 | CH-47D | Para Drops | 15PARA | 10723 | 0.1 | 0.0 | 69.4 | <45 | <45 |
| CoE-3 | 20 | MH-53 | ARR | 33VORH | 15699 | 0.1 | 0.0 | 64.0 | <45 | <45 |
| CoE-4 | 1 | E-2/C-2 | FCLP | 33F3 | 8884 | 25.6 | 3.0 | 69.8 | <45 | <45 |
| CoE-4 | 2 | E-2/C-2 | Crew Swap | 33SW | 8872 | 2.9 | 0.3 | 73.0 | <45 | <45 |
| CoE-4 | 3 | E-2/C-2 | FCLP | 15F3 | 14252 | 22.7 | 2.6 | 63.2 | <45 | <45 |
| CoE-4 | 4 | CH-47D | GCA Box | 33GCA | 3576 | 0.5 | 0.0 | 80.5 | <45 | <45 |
| CoE-4 | 5 | E-2/C-2 | DEP | 33D2 | 8138 | 0.7 | 0.1 | 75.9 | <45 | <45 |
| CoE-4 | 6 | E-2/C-2 | Crew Swap | 15SW | 14226 | 2.6 | 0.3 | 69.5 | <45 | <45 |
| CoE-4 | 7 | MH-53 | GCA Box | 33GCA | 3578 | 0.1 | 0.0 | 83.6 | <45 | <45 |
| CoE-4 | 8 | E-2/C-2 | DEP | 15D2 | 14836 | 0.6 | 0.1 | 66.9 | <45 | <45 |
| CoE-4 | 9 | Single Prop | GCA Box | 33GCA | 3578 | 0.2 | 0.0 | 71.7 | <45 | <45 |
| CoE-4 | 10 | E-2/C-2 | ARR | 33O1 | 8881 | 0.7 | 0.1 | 65.8 | <45 | <45 |
| CoE-4 | 11 | E-2/C-2 | ARR | 15O1 | 14198 | 0.6 | 0.1 | 64.5 | <45 | <45 |
| CoE-4 | 12 | CH-47D | DEP | RWY33D | 14188 | 0.5 | 0.0 | 66.1 | <45 | <45 |
| CoE-4 | 13 | Single Prop | FCLP | 33F3 | 8922 | 0.7 | 0.1 | 61.7 | <45 | <45 |
| CoE-4 | 14 | Single Prop | DEP | RWY33D | 14208 | 0.4 | 0.1 | 57.3 | <45 | <45 |
| CoE-4 | 15 | CH-47D | ARR | 33VOR | 15915 | 0.5 | 0.0 | 58.4 | <45 | <45 |

| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-4 | 16 | CH-47D | Para Drops | 33PARA | 11289 | 0.1 | 0.0 | 68.9 | <45 | <45 |
| CoE-4 | 17 | CH-47D | Para Drops | 33PARA | 11289 | 0.1 | 0.0 | 68.8 | <45 | <45 |
| CoE-4 | 18 | CH-47D | Para Drops | 15PARA | 11391 | 0.1 | 0.0 | 69.0 | <45 | <45 |
| CoE-4 | 19 | CH-47D | Para Drops | 15PARA | 11616 | 0.1 | 0.0 | 68.3 | <45 | <45 |
| CoE-4 | 20 | MH-53 | ARR | 33VORH | 16919 | 0.1 | 0.0 | 63.3 | <45 | <45 |
| CoE-5 | 1 | E-2/C-2 | FCLP | 33F3 | 8852 | 25.6 | 3.0 | 69.8 | <45 | <45 |
| CoE-5 | 2 | E-2/C-2 | Crew Swap | 33SW | 8839 | 2.9 | 0.3 | 74.5 | <45 | <45 |
| CoE-5 | 3 | E-2/C-2 | FCLP | 15F3 | 12694 | 22.7 | 2.6 | 63.4 | <45 | <45 |
| CoE-5 | 4 | E-2/C-2 | DEP | 33D2 | 8291 | 0.7 | 0.1 | 75.6 | <45 | <45 |
| CoE-5 | 5 | E-2/C-2 | Crew Swap | 15SW | 11804 | 2.6 | 0.3 | 69.7 | <45 | <45 |
| CoE-5 | 6 | CH-47D | GCA Box | 33GCA | 4993 | 0.5 | 0.0 | 77.4 | <45 | <45 |
| CoE-5 | 7 | MH-53 | GCA Box | 33GCA | 4930 | 0.1 | 0.0 | 81.4 | <45 | <45 |
| CoE-5 | 8 | CH-47D | DEP | RWY33D | 11746 | 0.5 | 0.0 | 69.4 | <45 | <45 |
| CoE-5 | 9 | E-2/C-2 | ARR | 15O1 | 11743 | 0.6 | 0.1 | 67.1 | <45 | <45 |
| CoE-5 | 10 | E-2/C-2 | DEP | 15D2 | 14355 | 0.6 | 0.1 | 66.1 | <45 | <45 |
| CoE-5 | 11 | E-2/C-2 | ARR | 33O1 | 8854 | 0.7 | 0.1 | 65.1 | <45 | <45 |
| CoE-5 | 12 | Single Prop | GCA Box | 33GCA | 4943 | 0.2 | 0.0 | 68.9 | <45 | <45 |
| CoE-5 | 13 | Single Prop | FCLP | 33F3 | 8887 | 0.7 | 0.1 | 61.7 | <45 | <45 |
| CoE-5 | 14 | Single Prop | DEP | RWY33D | 11785 | 0.4 | 0.1 | 59.7 | <45 | <45 |
| CoE-5 | 15 | CH-47D | Para Drops | 33PARA | 12073 | 0.1 | 0.0 | 69.4 | <45 | <45 |
| CoE-5 | 16 | CH-47D | Para Drops | 33PARA | 11249 | 0.1 | 0.0 | 69.4 | <45 | <45 |
| CoE-5 | 17 | CH-47D | ARR | 33VOR | 16176 | 0.5 | 0.0 | 57.1 | <45 | <45 |
| CoE-5 | 18 | CH-47D | Para Drops | 15PARA | 13210 | 0.1 | 0.0 | 67.6 | <45 | <45 |
| CoE-5 | 19 | CH-47D | Para Drops | 15PARA | 13210 | 0.1 | 0.0 | 67.2 | <45 | <45 |
| CoE-5 | 20 | Business Jet | DEP | RWY33D | 11772 | 0.1 | 0.0 | 64.3 | <45 | <45 |
| CoE-6 | 1 | E-2/C-2 | FCLP | 33F3 | 10068 | 25.6 | 3.0 | 68.3 | <45 | <45 |
| CoE-6 | 2 | E-2/C-2 | Crew Swap | 33SW | 10055 | 2.9 | 0.3 | 74.5 | <45 | <45 |
| CoE-6 | 3 | E-2/C-2 | FCLP | 15F3 | 12966 | 22.7 | 2.6 | 62.0 | <45 | <45 |
| CoE-6 | 4 | E-2/C-2 | Crew Swap | 15SW | 11078 | 2.6 | 0.3 | 69.0 | <45 | <45 |
| CoE-6 | 5 | E-2/C-2 | DEP | 33D2 | 9557 | 0.7 | 0.1 | 73.9 | <45 | <45 |
| CoE-6 | 6 | CH-47D | GCA Box | 33GCA | 6892 | 0.5 | 0.0 | 74.4 | <45 | <45 |
| CoE-6 | 7 | CH-47D | DEP | RWY33D | 11010 | 0.5 | 0.0 | 71.0 | <45 | <45 |
| CoE-6 | 8 | MH-53 | GCA Box | 33GCA | 6896 | 0.1 | 0.0 | 79.0 | <45 | <45 |
| CoE-6 | 9 | E-2/C-2 | ARR | 15O1 | 10994 | 0.6 | 0.1 | 67.7 | <45 | <45 |
| CoE-6 | 10 | E-2/C-2 | DEP | 15D2 | 15249 | 0.6 | 0.1 | 64.5 | <45 | <45 |
| CoE-6 | 11 | E-2/C-2 | ARR | 33O1 | 10057 | 0.7 | 0.1 | 63.6 | <45 | <45 |
| CoE-6 | 12 | Single Prop | FCLP | 33F3 | 10089 | 0.7 | 0.1 | 60.2 | <45 | <45 |



| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-6 | 13 | Single Prop | GCA Box | 33GCA | 6843 | 0.2 | 0.0 | 65.8 | <45 | <45 |
| CoE-6 | 14 | Single Prop | DEP | RWY33D | 11066 | 0.4 | 0.1 | 60.4 | <45 | <45 |
| CoE-6 | 15 | CH-47D | Para Drops | 33PARA | 11916 | 0.1 | 0.0 | 69.1 | <45 | <45 |
| CoE-6 | 16 | CH-47D | Para Drops | 33PARA | 11410 | 0.1 | 0.0 | 68.9 | <45 | <45 |
| CoE-6 | 17 | CH-47D | ARR | 33VOR | 17359 | 0.5 | 0.0 | 55.5 | <45 | <45 |
| CoE-6 | 18 | Business Jet | DEP | RWY33D | 11037 | 0.1 | 0.0 | 65.3 | <45 | <45 |
| CoE-6 | 19 | CH-47D | Para Drops | 15PARA | 13663 | 0.1 | 0.0 | 66.2 | <45 | <45 |
| CoE-6 | 20 | Super King Air | DEP | RWY33D | 11127 | 0.1 | 0.0 | 59.7 | <45 | <45 |
| | | | | | | | | | | |
| CoE-7 | 1 | E-2/C-2 | FCLP | 33F3 | 10270 | 25.6 | 3.0 | 68.0 | <45 | <45 |
| CoE-7 | 2 | E-2/C-2 | Crew Swap | 33SW | 10257 | 2.9 | 0.3 | 72.5 | <45 | <45 |
| CoE-7 | 3 | E-2/C-2 | FCLP | 15F3 | 14700 | 22.7 | 2.6 | 61.0 | <45 | <45 |
| CoE-7 | 4 | E-2/C-2 | DEP | 33D2 | 9649 | 0.7 | 0.1 | 73.9 | <45 | <45 |
| CoE-7 | 5 | E-2/C-2 | Crew Swap | 15SW | 14089 | 2.6 | 0.3 | 68.3 | <45 | <45 |
| CoE-7 | 6 | CH-47D | GCA Box | 33GCA | 5524 | 0.5 | 0.0 | 76.4 | <45 | <45 |
| CoE-7 | 7 | MH-53 | GCA Box | 33GCA | 5495 | 0.1 | 0.0 | 79.2 | <45 | <45 |
| CoE-7 | 8 | CH-47D | DEP | RWY33D | 14043 | 0.5 | 0.0 | 67.4 | <45 | <45 |
| CoE-7 | 9 | E-2/C-2 | DEP | 15D2 | 15987 | 0.6 | 0.1 | 64.9 | <45 | <45 |
| CoE-7 | 10 | E-2/C-2 | ARR | 15O1 | 14043 | 0.6 | 0.1 | 64.7 | <45 | <45 |
| CoE-7 | 11 | E-2/C-2 | ARR | 33O1 | 10281 | 0.7 | 0.1 | 63.7 | <45 | <45 |
| CoE-7 | 12 | Single Prop | GCA Box | 33GCA | 5516 | 0.2 | 0.0 | 67.7 | <45 | <45 |
| CoE-7 | 13 | Single Prop | FCLP | 33F3 | 10301 | 0.7 | 0.1 | 59.9 | <45 | <45 |
| CoE-7 | 14 | Single Prop | DEP | RWY33D | 14073 | 0.4 | 0.1 | 57.6 | <45 | <45 |
| CoE-7 | 15 | CH-47D | ARR | 33VOR | 17541 | 0.5 | 0.0 | 56.3 | <45 | <45 |
| CoE-7 | 16 | CH-47D | Para Drops | 33PARA | 13492 | 0.1 | 0.0 | 67.8 | <45 | <45 |
| CoE-7 | 17 | CH-47D | Para Drops | 33PARA | 13276 | 0.1 | 0.0 | 67.6 | <45 | <45 |
| CoE-7 | 18 | CH-47D | Para Drops | 15PARA | 13901 | 0.1 | 0.0 | 66.7 | <45 | <45 |
| CoE-7 | 19 | CH-47D | Para Drops | 15PARA | 14087 | 0.1 | 0.0 | 66.2 | <45 | <45 |
| CoE-7 | 20 | MH-53 | ARR | 33VORH | 18812 | 0.1 | 0.0 | 62.3 | <45 | <45 |
| | | | | | | | | | | |
| CoE-8 | 1 | E-2/C-2 | FCLP | 33F3 | 10573 | 25.6 | 3.0 | 67.7 | <45 | <45 |
| CoE-8 | 2 | E-2/C-2 | Crew Swap | 33SW | 10560 | 2.9 | 0.3 | 72.1 | <45 | <45 |
| CoE-8 | 3 | E-2/C-2 | FCLP | 15F3 | 15206 | 22.7 | 2.6 | 60.4 | <45 | <45 |
| CoE-8 | 4 | E-2/C-2 | Crew Swap | 15SW | 14720 | 2.6 | 0.3 | 68.1 | <45 | <45 |
| CoE-8 | 5 | CH-47D | GCA Box | 33GCA | 5586 | 0.5 | 0.0 | 76.3 | <45 | <45 |
| CoE-8 | 6 | E-2/C-2 | DEP | 33D2 | 9929 | 0.7 | 0.1 | 73.5 | <45 | <45 |
| CoE-8 | 7 | MH-53 | GCA Box | 33GCA | 5528 | 0.1 | 0.0 | 79.4 | <45 | <45 |
| CoE-8 | 8 | E-2/C-2 | DEP | 15D2 | 16353 | 0.6 | 0.1 | 64.7 | <45 | <45 |
| CoE-8 | 9 | CH-47D | DEP | RWY33D | 14677 | 0.5 | 0.0 | 66.7 | <45 | <45 |



| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-8 | 10 | E-2/C-2 | ARR | 33O1 | 10583 | 0.7 | 0.1 | 63.5 | <45 | <45 |
| CoE-8 | 11 | E-2/C-2 | ARR | 15O1 | 14678 | 0.6 | 0.1 | 64.1 | <45 | <45 |
| CoE-8 | 12 | Single Prop | GCA Box | 33GCA | 5582 | 0.2 | 0.0 | 67.5 | <45 | <45 |
| CoE-8 | 13 | Single Prop | FCLP | 33F3 | 10604 | 0.7 | 0.1 | 59.6 | <45 | <45 |
| CoE-8 | 14 | Single Prop | DEP | RWY33D | 14704 | 0.4 | 0.1 | 57.0 | <45 | <45 |
| CoE-8 | 15 | CH-47D | ARR | 33VOR | 17807 | 0.5 | 0.0 | 56.2 | <45 | <45 |
| CoE-8 | 16 | CH-47D | Para Drops | 33PARA | 13598 | 0.1 | 0.0 | 67.4 | <45 | <45 |
| CoE-8 | 17 | CH-47D | Para Drops | 33PARA | 13598 | 0.1 | 0.0 | 67.3 | <45 | <45 |
| CoE-8 | 18 | CH-47D | Para Drops | 15PARA | 13928 | 0.1 | 0.0 | 66.6 | <45 | <45 |
| CoE-8 | 19 | CH-47D | Para Drops | 15PARA | 14103 | 0.1 | 0.0 | 66.1 | <45 | <45 |
| CoE-8 | 20 | MH-53 | ARR | 33VORH | 19014 | 0.1 | 0.0 | 62.3 | <45 | <45 |
| CoE-9 | 1 | E-2/C-2 | FCLP | 33F3 | 13674 | 25.6 | 3.0 | 63.8 | <45 | <45 |
| CoE-9 | 2 | E-2/C-2 | Crew Swap | 33SW | 13661 | 2.9 | 0.3 | 69.1 | <45 | <45 |
| CoE-9 | 3 | E-2/C-2 | Crew Swap | 15SW | 18175 | 2.6 | 0.3 | 65.5 | <45 | <45 |
| CoE-9 | 4 | E-2/C-2 | DEP | 33D2 | 12969 | 0.7 | 0.1 | 70.5 | <45 | <45 |
| CoE-9 | 5 | CH-47D | GCA Box | 33GCA | 8151 | 0.5 | 0.0 | 72.7 | <45 | <45 |
| CoE-9 | 6 | E-2/C-2 | FCLP | 15F3 | 18607 | 22.7 | 2.6 | 54.9 | <45 | <45 |
| CoE-9 | 7 | MH-53 | GCA Box | 33GCA | 8154 | 0.1 | 0.0 | 74.5 | <45 | <45 |
| CoE-9 | 8 | CH-47D | DEP | RWY33D | 18141 | 0.5 | 0.0 | 64.3 | <45 | <45 |
| CoE-9 | 9 | E-2/C-2 | DEP | 15D2 | 19558 | 0.6 | 0.1 | 61.5 | <45 | <45 |
| CoE-9 | 10 | E-2/C-2 | ARR | 33O1 | 13677 | 0.7 | 0.1 | 60.2 | <45 | <45 |
| CoE-9 | 11 | E-2/C-2 | ARR | 15O1 | 18142 | 0.6 | 0.1 | 60.5 | <45 | <45 |
| CoE-9 | 12 | Single Prop | GCA Box | 33GCA | 8152 | 0.2 | 0.0 | 63.7 | <45 | <45 |
| CoE-9 | 13 | Single Prop | FCLP | 33F3 | 13699 | 0.7 | 0.1 | 56.2 | <45 | <45 |
| CoE-9 | 14 | Single Prop | DEP | RWY33D | 18164 | 0.4 | 0.1 | 54.3 | <45 | <45 |
| CoE-9 | 15 | CH-47D | ARR | 33VOR | 20802 | 0.5 | 0.0 | 53.8 | <45 | <45 |
| CoE-9 | 16 | CH-47D | Para Drops | 33PARA | 16212 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| CoE-9 | 17 | CH-47D | Para Drops | 33PARA | 16212 | 0.1 | 0.0 | 64.5 | <45 | <45 |
| CoE-9 | 18 | CH-47D | Para Drops | 15PARA | 16216 | 0.1 | 0.0 | 64.3 | <45 | <45 |
| CoE-9 | 19 | MH-53 | ARR | 33VORH | 21853 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| CoE-9 | 20 | CH-47D | Para Drops | 15PARA | 16382 | 0.1 | 0.0 | 63.7 | <45 | <45 |
| CoE-10 | 1 | E-2/C-2 | FCLP | 33F3 | 13341 | 25.6 | 3.0 | 64.4 | <45 | <45 |
| CoE-10 | 2 | E-2/C-2 | Crew Swap | 33SW | 13327 | 2.9 | 0.3 | 71.9 | <45 | <45 |
| CoE-10 | 3 | E-2/C-2 | Crew Swap | 15SW | 12943 | 2.6 | 0.3 | 66.2 | <45 | <45 |
| CoE-10 | 4 | E-2/C-2 | FCLP | 15F3 | 15958 | 22.7 | 2.6 | 56.1 | <45 | <45 |
| CoE-10 | 5 | E-2/C-2 | DEP | 33D2 | 12828 | 0.7 | 0.1 | 70.1 | <45 | <45 |
| CoE-10 | 6 | CH-47D | GCA Box | 33GCA | 9878 | 0.5 | 0.0 | 70.5 | <45 | <45 |



| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-10 | 7 | CH-47D | DEP | RWY33D | 12867 | 0.5 | 0.0 | 70.0 | <45 | <45 |
| CoE-10 | 8 | E-2/C-2 | ARR | 15O1 | 12990 | 0.6 | 0.1 | 65.2 | <45 | <45 |
| CoE-10 | 9 | MH-53 | GCA Box | 33GCA | 9826 | 0.1 | 0.0 | 73.3 | <45 | <45 |
| CoE-10 | 10 | E-2/C-2 | ARR | 33O1 | 13330 | 0.7 | 0.1 | 60.5 | <45 | <45 |
| CoE-10 | 11 | E-2/C-2 | DEP | 15D2 | 18476 | 0.6 | 0.1 | 60.1 | <45 | <45 |
| CoE-10 | 12 | Single Prop | FCLP | 33F3 | 13356 | 0.7 | 0.1 | 56.9 | <45 | <45 |
| CoE-10 | 13 | Single Prop | DEP | RWY33D | 12946 | 0.4 | 0.1 | 58.5 | <45 | <45 |
| CoE-10 | 14 | Single Prop | GCA Box | 33GCA | 9850 | 0.2 | 0.0 | 61.8 | <45 | <45 |
| CoE-10 | 15 | CH-47D | Para Drops | 33PARA | 14643 | 0.1 | 0.0 | 66.1 | <45 | <45 |
| CoE-10 | 16 | CH-47D | Para Drops | 33PARA | 14358 | 0.1 | 0.0 | 66.0 | <45 | <45 |
| CoE-10 | 17 | Business Jet | DEP | RWY33D | 12904 | 0.1 | 0.0 | 62.6 | <45 | <45 |
| CoE-10 | 18 | CH-47D | DEP | RWY33D | 12867 | 0.0 | 0.0 | 70.0 | <45 | <45 |
| CoE-10 | 19 | Super King Air | DEP | RWY33D | 13044 | 0.1 | 0.0 | 57.8 | <45 | <45 |
| CoE-10 | 20 | MH-53 | ARR | 33VORH | 22232 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| | | | | | | | | | | |
| GC-1 | 1 | E-2/C-2 | Crew Swap | 15SW | 12369 | 2.6 | 0.3 | 72.6 | <45 | <45 |
| GC-1 | 2 | CH-47D | GCA Box | 33GCA | 5795 | 0.5 | 0.0 | 79.1 | <45 | <45 |
| GC-1 | 3 | E-2/C-2 | DEP | 15D2 | 6741 | 0.6 | 0.1 | 76.6 | <45 | <45 |
| GC-1 | 4 | CH-47D | ARR | 33VOR | 5802 | 0.5 | 0.0 | 78.0 | <45 | <45 |
| GC-1 | 5 | E-2/C-2 | Crew Swap | 33SW | 6482 | 2.9 | 0.3 | 67.2 | <45 | <45 |
| GC-1 | 6 | E-2/C-2 | ARR | 33O1 | 6504 | 0.7 | 0.1 | 72.4 | <45 | <45 |
| GC-1 | 7 | E-2/C-2 | DEP | 33D2 | 6721 | 0.7 | 0.1 | 71.7 | <45 | <45 |
| GC-1 | 8 | MH-53 | GCA Box | 33GCA | 5795 | 0.1 | 0.0 | 83.0 | <45 | <45 |
| GC-1 | 9 | MH-53 | ARR | 33VORH | 5786 | 0.1 | 0.0 | 82.9 | <45 | <45 |
| GC-1 | 10 | E-2/C-2 | FCLP | 15F3 | 20816 | 22.7 | 2.6 | 54.4 | <45 | <45 |
| GC-1 | 11 | E-2/C-2 | FCLP | 33F3 | 16712 | 25.6 | 3.0 | 52.2 | <45 | <45 |
| GC-1 | 12 | Single Prop | GCA Box | 33GCA | 5762 | 0.2 | 0.0 | 68.3 | <45 | <45 |
| GC-1 | 13 | Single Prop | ARR | RWY33A | 5694 | 0.4 | 0.1 | 62.6 | <45 | <45 |
| GC-1 | 14 | Single Prop | DEP | RWY15D | 6139 | 0.1 | 0.0 | 65.8 | <45 | <45 |
| GC-1 | 15 | CH-47D | DEP | RWY15D | 5664 | 0.0 | 0.0 | 79.9 | <45 | <45 |
| GC-1 | 16 | CH-47D | ARR | RWY33A | 5802 | 0.0 | 0.0 | 78.0 | <45 | <45 |
| GC-1 | 17 | Business Jet | DEP | RWY15D | 5867 | 0.0 | 0.0 | 73.5 | <45 | <45 |
| GC-1 | 18 | E-2/C-2 | ARR | 15O1 | 20819 | 0.6 | 0.1 | 53.7 | <45 | <45 |
| GC-1 | 19 | Super King Air | ARR | RWY33A | 5700 | 0.1 | 0.0 | 60.0 | <45 | <45 |
| GC-1 | 20 | Super King Air | DEP | RWY15D | 6805 | 0.0 | 0.0 | 64.4 | <45 | <45 |
| | | | | | | | | | | |
| GC-2 | 1 | E-2/C-2 | FCLP | 33F3 | 17386 | 25.6 | 3.0 | 59.1 | <45 | <45 |
| GC-2 | 2 | E-2/C-2 | Crew Swap | 33SW | 17378 | 2.9 | 0.3 | 64.9 | <45 | <45 |
| GC-2 | 3 | E-2/C-2 | Crew Swap | 15SW | 23452 | 2.6 | 0.3 | 64.0 | <45 | <45 |

| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-2 | 4 | CH-47D | GCA Box | 33GCA | 11475 | 0.5 | 0.0 | 70.8 | <45 | <45 |
| GC-2 | 5 | E-2/C-2 | DEP | 33D2 | 16590 | 0.7 | 0.1 | 67.3 | <45 | <45 |
| GC-2 | 6 | E-2/C-2 | FCLP | 15F3 | 23453 | 22.7 | 2.6 | 50.0 | <45 | <45 |
| GC-2 | 7 | MH-53 | GCA Box | 33GCA | 11439 | 0.1 | 0.0 | 73.1 | <45 | <45 |
| GC-2 | 8 | E-2/C-2 | DEP | 15D2 | 23452 | 0.6 | 0.1 | 61.5 | <45 | <45 |
| GC-2 | 9 | E-2/C-2 | ARR | 33O1 | 17386 | 0.7 | 0.1 | 56.8 | <45 | <45 |
| GC-2 | 10 | Single Prop | GCA Box | 33GCA | 11475 | 0.2 | 0.0 | 61.3 | <45 | <45 |
| GC-2 | 11 | CH-47D | DEP | RWY33D | 23453 | 0.5 | 0.0 | 57.5 | <45 | <45 |
| GC-2 | 12 | Single Prop | FCLP | 33F3 | 17404 | 0.7 | 0.1 | 53.1 | <45 | <45 |
| GC-2 | 13 | CH-47D | ARR | 33VOR | 23472 | 0.5 | 0.0 | 56.4 | <45 | <45 |
| GC-2 | 14 | E-2/C-2 | ARR | 15O1 | 23465 | 0.6 | 0.1 | 53.0 | <45 | <45 |
| GC-2 | 15 | CH-47D | Para Drops | 15PARA | 15861 | 0.1 | 0.0 | 64.2 | <45 | <45 |
| GC-2 | 16 | CH-47D | Para Drops | 15PARA | 16120 | 0.1 | 0.0 | 63.8 | <45 | <45 |
| GC-2 | 17 | Single Prop | DEP | RWY33D | 23453 | 0.4 | 0.1 | 49.7 | <45 | <45 |
| GC-2 | 18 | MH-53 | ARR | 33VORH | 23639 | 0.1 | 0.0 | 57.3 | <45 | <45 |
| GC-2 | 19 | MH-53 | DEP | 33D3 | 23453 | 0.1 | 0.0 | 42.9 | <45 | <45 |
| GC-2 | 20 | CH-47D | Para Drops | 33PARA | 17563 | 0.1 | 0.0 | 60.9 | <45 | <45 |
| | | | | | | | | | | |
| GC-3 | 1 | E-2/C-2 | FCLP | 33F3 | 10102 | 25.6 | 3.0 | 68.7 | <45 | <45 |
| GC-3 | 2 | E-2/C-2 | FCLP | 15F3 | 16161 | 22.7 | 2.6 | 62.8 | <45 | <45 |
| GC-3 | 3 | E-2/C-2 | Crew Swap | 33SW | 10093 | 2.9 | 0.3 | 71.1 | <45 | <45 |
| GC-3 | 4 | CH-47D | GCA Box | 33GCA | 4477 | 0.5 | 0.0 | 79.9 | <45 | <45 |
| GC-3 | 5 | E-2/C-2 | DEP | 33D2 | 9351 | 0.7 | 0.1 | 75.1 | <45 | <45 |
| GC-3 | 6 | E-2/C-2 | Crew Swap | 15SW | 16161 | 2.6 | 0.3 | 69.6 | <45 | <45 |
| GC-3 | 7 | MH-53 | GCA Box | 33GCA | 4445 | 0.1 | 0.0 | 84.1 | <45 | <45 |
| GC-3 | 8 | E-2/C-2 | DEP | 15D2 | 16161 | 0.6 | 0.1 | 67.7 | <45 | <45 |
| GC-3 | 9 | E-2/C-2 | ARR | 33O1 | 10102 | 0.7 | 0.1 | 65.8 | <45 | <45 |
| GC-3 | 10 | Single Prop | GCA Box | 33GCA | 4477 | 0.2 | 0.0 | 70.5 | <45 | <45 |
| GC-3 | 11 | Single Prop | FCLP | 33F3 | 10133 | 0.7 | 0.1 | 60.7 | <45 | <45 |
| GC-3 | 12 | E-2/C-2 | ARR | 15O1 | 16180 | 0.6 | 0.1 | 61.4 | <45 | <45 |
| GC-3 | 13 | CH-47D | DEP | RWY33D | 16161 | 0.5 | 0.0 | 62.4 | <45 | <45 |
| GC-3 | 14 | CH-47D | ARR | 33VOR | 16184 | 0.5 | 0.0 | 60.5 | <45 | <45 |
| GC-3 | 15 | CH-47D | Para Drops | 15PARA | 9075 | 0.1 | 0.0 | 71.3 | <45 | <45 |
| GC-3 | 16 | CH-47D | Para Drops | 15PARA | 9480 | 0.1 | 0.0 | 70.7 | <45 | <45 |
| GC-3 | 17 | Single Prop | DEP | RWY33D | 16161 | 0.4 | 0.1 | 54.5 | <45 | <45 |
| GC-3 | 18 | CH-47D | Para Drops | 33PARA | 10365 | 0.1 | 0.0 | 67.5 | <45 | <45 |
| GC-3 | 19 | CH-47D | Para Drops | 33PARA | 10365 | 0.1 | 0.0 | 67.5 | <45 | <45 |
| GC-3 | 20 | MH-53 | ARR | 33VORH | 16415 | 0.1 | 0.0 | 63.0 | <45 | <45 |



| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-4 | 1 | E-2/C-2 | Crew Swap | 33SW | 1836 | 2.9 | 0.3 | 90.3 | 49.0 | 49.0 |
| GC-4 | 2 | E-2/C-2 | FCLP | 33F3 | 5892 | 25.6 | 3.0 | 74.5 | <45 | 49.9 |
| GC-4 | 3 | E-2/C-2 | FCLP | 15F3 | 4334 | 22.7 | 2.6 | 72.0 | <45 | 50.3 |
| GC-4 | 4 | E-2/C-2 | ARR | 15O1 | 1403 | 0.6 | 0.1 | 86.2 | <45 | 50.5 |
| GC-4 | 5 | E-2/C-2 | Crew Swap | 15SW | 1922 | 2.6 | 0.3 | 78.3 | <45 | 50.7 |
| GC-4 | 6 | CH-47D | DEP | RWY33D | 1453 | 0.5 | 0.0 | 84.8 | <45 | 50.8 |
| GC-4 | 7 | E-2/C-2 | DEP | 33D2 | 5749 | 0.7 | 0.1 | 79.5 | <45 | 50.9 |
| GC-4 | 8 | Single Prop | DEP | RWY33D | 1765 | 0.4 | 0.1 | 76.6 | <45 | 50.9 |
| GC-4 | 9 | Business Jet | DEP | RWY33D | 1650 | 0.1 | 0.0 | 87.2 | <45 | 50.9 |
| GC-4 | 10 | CH-47D | GCA Box | 33GCA | 5276 | 0.5 | 0.0 | 74.9 | <45 | 50.9 |
| GC-4 | 11 | E-2/C-2 | DEP | 15D2 | 8957 | 0.6 | 0.1 | 68.8 | <45 | 50.9 |
| GC-4 | 12 | CH-47D | Para Drops | 33PARA | 2650 | 0.1 | 0.0 | 82.6 | <45 | 50.9 |
| GC-4 | 13 | CH-47D | Para Drops | 33PARA | 3214 | 0.1 | 0.0 | 82.6 | <45 | 50.9 |
| GC-4 | 14 | E-2/C-2 | ARR | 33O1 | 5880 | 0.7 | 0.1 | 67.7 | <45 | 50.9 |
| GC-4 | 15 | Single Prop | ARR | RWY15A | 1245 | 0.1 | 0.0 | 73.1 | <45 | 50.9 |
| GC-4 | 16 | Single Prop | FCLP | 33F3 | 5938 | 0.7 | 0.1 | 66.3 | <45 | 50.9 |
| GC-4 | 17 | Super King Air | DEP | RWY33D | 1972 | 0.1 | 0.0 | 74.7 | <45 | 50.9 |
| GC-4 | 18 | CH-47D | ARR | RWY15A | 1403 | 0.0 | 0.0 | 85.7 | <45 | 50.9 |
| GC-4 | 19 | MH-53 | GCA Box | 33GCA | 5270 | 0.1 | 0.0 | 76.4 | <45 | 50.9 |
| GC-4 | 20 | CH-47D | DEP | RWY33D | 1453 | 0.0 | 0.0 | 84.8 | <45 | 50.9 |
| GC-5 | | | | | | | | | | |
| GC-5 | 1 | E-2/C-2 | Crew Swap | 33SW | 8097 | 2.9 | 0.3 | 77.5 | <45 | <45 |
| GC-5 | 2 | E-2/C-2 | FCLP | 33F3 | 11276 | 25.6 | 3.0 | 67.0 | <45 | <45 |
| GC-5 | 3 | E-2/C-2 | FCLP | 15F3 | 11558 | 22.7 | 2.6 | 62.2 | <45 | <45 |
| GC-5 | 4 | E-2/C-2 | Crew Swap | 15SW | 6466 | 2.6 | 0.3 | 70.2 | <45 | <45 |
| GC-5 | 5 | CH-47D | DEP | RWY33D | 6277 | 0.5 | 0.0 | 77.9 | <45 | <45 |
| GC-5 | 6 | E-2/C-2 | ARR | 15O1 | 6641 | 0.6 | 0.1 | 72.6 | <45 | <45 |
| GC-5 | 7 | E-2/C-2 | DEP | 33D2 | 10951 | 0.7 | 0.1 | 72.1 | <45 | <45 |
| GC-5 | 8 | CH-47D | GCA Box | 33GCA | 10160 | 0.5 | 0.0 | 70.1 | <45 | <45 |
| GC-5 | 9 | Single Prop | DEP | RWY33D | 6460 | 0.4 | 0.1 | 65.6 | <45 | <45 |
| GC-5 | 10 | E-2/C-2 | ARR | 33O1 | 11287 | 0.7 | 0.1 | 62.3 | <45 | <45 |
| GC-5 | 11 | E-2/C-2 | DEP | 15D2 | 15440 | 0.6 | 0.1 | 62.8 | <45 | <45 |
| GC-5 | 12 | MH-53 | GCA Box | 33GCA | 10125 | 0.1 | 0.0 | 73.5 | <45 | <45 |
| GC-5 | 13 | Business Jet | DEP | RWY33D | 6362 | 0.1 | 0.0 | 72.6 | <45 | <45 |
| GC-5 | 14 | Single Prop | FCLP | 33F3 | 11307 | 0.7 | 0.1 | 58.4 | <45 | <45 |
| GC-5 | 15 | CH-47D | DEP | RWY33D | 6277 | 0.0 | 0.0 | 77.9 | <45 | <45 |
| GC-5 | 16 | Single Prop | GCA Box | 33GCA | 10062 | 0.2 | 0.0 | 62.2 | <45 | <45 |
| GC-5 | 17 | CH-47D | Para Drops | 33PARA | 9755 | 0.1 | 0.0 | 71.3 | <45 | <45 |
| GC-5 | 18 | Super King Air | DEP | RWY33D | 6686 | 0.1 | 0.0 | 64.9 | <45 | <45 |



| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-5 | 19 | CH-47D | Para Drops | 33PARA | 9573 | 0.1 | 0.0 | 70.4 | <45 | <45 |
| GC-5 | 20 | Single Prop | ARR | RWY15A | 6241 | 0.1 | 0.0 | 61.0 | <45 | <45 |
| GC-6 | 1 | E-2/C-2 | Crew Swap | 33SW | 4019 | 2.9 | 0.3 | 83.6 | <45 | <45 |
| GC-6 | 2 | E-2/C-2 | ARR | 15O1 | 1519 | 0.6 | 0.1 | 85.2 | <45 | <45 |
| GC-6 | 3 | CH-47D | DEP | RWY33D | 2909 | 0.5 | 0.0 | 85.4 | <45 | <45 |
| GC-6 | 4 | E-2/C-2 | Crew Swap | 15SW | 2755 | 2.6 | 0.3 | 74.0 | <45 | <45 |
| GC-6 | 5 | E-2/C-2 | FCLP | 33F3 | 15226 | 25.6 | 3.0 | 63.0 | <45 | <45 |
| GC-6 | 6 | E-2/C-2 | FCLP | 15F3 | 11623 | 22.7 | 2.6 | 60.8 | <45 | <45 |
| GC-6 | 7 | Single Prop | DEP | RWY33D | 3469 | 0.4 | 0.1 | 70.9 | <45 | <45 |
| GC-6 | 8 | Business Jet | DEP | RWY33D | 3166 | 0.1 | 0.0 | 80.6 | <45 | <45 |
| GC-6 | 9 | E-2/C-2 | DEP | 33D2 | 15117 | 0.7 | 0.1 | 67.4 | <45 | <45 |
| GC-6 | 10 | CH-47D | DEP | RWY33D | 2909 | 0.0 | 0.0 | 85.4 | <45 | <45 |
| GC-6 | 11 | E-2/C-2 | ARR | 33O1 | 10611 | 0.7 | 0.1 | 63.0 | <45 | <45 |
| GC-6 | 12 | Single Prop | ARR | RWY15A | 2882 | 0.1 | 0.0 | 68.2 | <45 | <45 |
| GC-6 | 13 | CH-47D | GCA Box | 33GCA | 14433 | 0.5 | 0.0 | 64.9 | <45 | <45 |
| GC-6 | 14 | CH-47D | ARR | RWY15A | 3080 | 0.0 | 0.0 | 81.7 | <45 | <45 |
| GC-6 | 15 | Super King Air | DEP | RWY33D | 4127 | 0.1 | 0.0 | 68.9 | <45 | <45 |
| GC-6 | 16 | Single Prop | GCA Box | 15GCA | 2964 | 0.1 | 0.0 | 69.2 | <45 | <45 |
| GC-6 | 17 | E-2/C-2 | DEP | 15D2 | 17717 | 0.6 | 0.1 | 58.9 | <45 | <45 |
| GC-6 | 18 | CH-47D | Para Drops | 33PARA | 9780 | 0.1 | 0.0 | 70.9 | <45 | <45 |
| GC-6 | 19 | CH-47D | Para Drops | 33PARA | 9483 | 0.1 | 0.0 | 70.7 | <45 | <45 |
| GC-6 | 20 | Single Prop | FCLP | 33F3 | 15242 | 0.7 | 0.1 | 54.1 | <45 | <45 |
| GC-7 | 1 | E-2/C-2 | Crew Swap | 33SW | 3836 | 2.9 | 0.3 | 83.8 | <45 | <45 |
| GC-7 | 2 | E-2/C-2 | ARR | 15O1 | 837 | 0.6 | 0.1 | 89.8 | <45 | 45.2 |
| GC-7 | 3 | E-2/C-2 | Crew Swap | 15SW | 6217 | 2.6 | 0.3 | 73.5 | <45 | 45.4 |
| GC-7 | 4 | E-2/C-2 | FCLP | 15F3 | 14466 | 22.7 | 2.6 | 57.7 | <45 | 45.4 |
| GC-7 | 5 | E-2/C-2 | FCLP | 33F3 | 19980 | 25.6 | 3.0 | 56.4 | <45 | 45.4 |
| GC-7 | 6 | CH-47D | DEP | RWY33D | 11018 | 0.5 | 0.0 | 72.9 | <45 | 45.5 |
| GC-7 | 7 | E-2/C-2 | ARR | 33O1 | 5407 | 0.7 | 0.1 | 69.4 | <45 | 45.5 |
| GC-7 | 8 | Single Prop | GCA Box | 15GCA | 2317 | 0.1 | 0.0 | 75.9 | <45 | 45.5 |
| GC-7 | 9 | E-2/C-2 | DEP | 33D2 | 19927 | 0.7 | 0.1 | 61.9 | <45 | 45.5 |
| GC-7 | 10 | Single Prop | DEP | RWY33D | 11196 | 0.4 | 0.1 | 60.1 | <45 | 45.5 |
| GC-7 | 11 | CH-47D | GCA Box | 33GCA | 19296 | 0.5 | 0.0 | 59.7 | <45 | 45.5 |
| GC-7 | 12 | E-2/C-2 | DEP | 15D2 | 21464 | 0.6 | 0.1 | 55.9 | <45 | 45.5 |
| GC-7 | 13 | CH-47D | Para Drops | 33PARA | 12513 | 0.1 | 0.0 | 67.7 | <45 | 45.5 |
| GC-7 | 14 | CH-47D | Para Drops | 33PARA | 12105 | 0.1 | 0.0 | 67.7 | <45 | 45.5 |
| GC-7 | 15 | CH-47D | DEP | RWY33D | 11018 | 0.0 | 0.0 | 72.9 | <45 | 45.5 |

| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-7 | 16 | Business Jet | DEP | RWY33D | 11095 | 0.1 | 0.0 | 65.0 | <45 | 45.5 |
| GC-7 | 17 | MH-53 | DEP | 33D3 | 19148 | 0.1 | 0.0 | 63.2 | <45 | 45.5 |
| GC-7 | 18 | Super King Air | DEP | RWY33D | 11445 | 0.1 | 0.0 | 59.4 | <45 | 45.5 |
| GC-7 | 19 | Single Prop | FCLP | 33F3 | 19983 | 0.7 | 0.1 | 49.7 | <45 | 45.5 |
| GC-7 | 20 | CH-47D | ARR | RWY15A | 11073 | 0.0 | 0.0 | 70.7 | <45 | 45.5 |
| | | | | | | | | | | |
| GC-8 | 1 | E-2/C-2 | Crew Swap | 33SW | 12441 | 2.9 | 0.3 | 72.1 | <45 | <45 |
| GC-8 | 2 | E-2/C-2 | Crew Swap | 15SW | 4776 | 2.6 | 0.3 | 68.9 | <45 | <45 |
| GC-8 | 3 | CH-47D | DEP | RWY33D | 8442 | 0.5 | 0.0 | 76.2 | <45 | <45 |
| GC-8 | 4 | E-2/C-2 | ARR | 15O1 | 9561 | 0.6 | 0.1 | 68.9 | <45 | <45 |
| GC-8 | 5 | Single Prop | GCA Box | 15GCA | 4264 | 0.1 | 0.0 | 72.1 | <45 | <45 |
| GC-8 | 6 | E-2/C-2 | ARR | 33O1 | 13348 | 0.7 | 0.1 | 61.2 | <45 | <45 |
| GC-8 | 7 | Single Prop | DEP | RWY33D | 8936 | 0.4 | 0.1 | 62.1 | <45 | <45 |
| GC-8 | 8 | E-2/C-2 | FCLP | 15F3 | 22577 | 22.7 | 2.6 | 43.4 | <45 | <45 |
| GC-8 | 9 | E-2/C-2 | FCLP | 33F3 | 26931 | 25.6 | 3.0 | 42.8 | <45 | <45 |
| GC-8 | 10 | E-2/C-2 | DEP | 33D2 | 26845 | 0.7 | 0.1 | 57.1 | <45 | <45 |
| GC-8 | 11 | CH-47D | DEP | RWY33D | 8442 | 0.0 | 0.0 | 76.2 | <45 | <45 |
| GC-8 | 12 | Business Jet | DEP | RWY33D | 8643 | 0.1 | 0.0 | 68.3 | <45 | <45 |
| GC-8 | 13 | CH-47D | GCA Box | 33GCA | 26113 | 0.5 | 0.0 | 57.4 | <45 | <45 |
| GC-8 | 14 | CH-47D | ARR | RWY15A | 8569 | 0.0 | 0.0 | 75.0 | <45 | <45 |
| GC-8 | 15 | Single Prop | ARR | RWY15A | 8508 | 0.1 | 0.0 | 58.5 | <45 | <45 |
| GC-8 | 16 | Super King Air | DEP | RWY33D | 9706 | 0.1 | 0.0 | 60.8 | <45 | <45 |
| GC-8 | 17 | CH-47D | Para Drops | 33PARA | 20472 | 0.1 | 0.0 | 62.2 | <45 | <45 |
| GC-8 | 18 | E-2/C-2 | DEP | 15D2 | 29125 | 0.6 | 0.1 | 48.0 | <45 | <45 |
| GC-8 | 19 | MH-53 | GCA Box | 33GCA | 26077 | 0.1 | 0.0 | 56.6 | <45 | <45 |
| GC-8 | 20 | MH-53 | DEP | 33D3 | 28486 | 0.1 | 0.0 | 55.7 | <45 | <45 |
| | | | | | | | | | | |
| GC-9 | 1 | E-2/C-2 | Crew Swap | 33SW | 17418 | 2.9 | 0.3 | 66.9 | <45 | <45 |
| GC-9 | 2 | E-2/C-2 | Crew Swap | 15SW | 11413 | 2.6 | 0.3 | 66.6 | <45 | <45 |
| GC-9 | 3 | E-2/C-2 | ARR | 33O1 | 12029 | 0.7 | 0.1 | 64.3 | <45 | <45 |
| GC-9 | 4 | E-2/C-2 | ARR | 15O1 | 9455 | 0.6 | 0.1 | 63.6 | <45 | <45 |
| GC-9 | 5 | CH-47D | DEP | RWY33D | 22108 | 0.5 | 0.0 | 64.5 | <45 | <45 |
| GC-9 | 6 | Single Prop | GCA Box | 15GCA | 10183 | 0.1 | 0.0 | 61.6 | <45 | <45 |
| GC-9 | 7 | E-2/C-2 | FCLP | 15F3 | 31397 | 22.7 | 2.6 | 35.8 | <45 | <45 |
| GC-9 | 8 | Single Prop | DEP | RWY33D | 22348 | 0.4 | 0.1 | 51.7 | <45 | <45 |
| GC-9 | 9 | E-2/C-2 | FCLP | 33F3 | 37137 | 25.6 | 3.0 | 34.9 | <45 | <45 |
| GC-9 | 10 | E-2/C-2 | DEP | 33D2 | 37095 | 0.7 | 0.1 | 49.2 | <45 | <45 |
| GC-9 | 11 | MH-53 | DEP | 33D3 | 32617 | 0.1 | 0.0 | 56.2 | <45 | <45 |
| GC-9 | 12 | MH-53 | ARR | 33VORH | 42576 | 0.1 | 0.0 | 54.4 | <45 | <45 |

| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-9 | 13 | MH-53 | GCA Box | 33GCA | 36413 | 0.1 | 0.0 | 52.0 | <45 | <45 |
| GC-9 | 14 | CH-47D | GCA Box | 33GCA | 36434 | 0.5 | 0.0 | 50.1 | <45 | <45 |
| GC-9 | 15 | CH-47D | ARR | RWY15A | 22167 | 0.0 | 0.0 | 64.8 | <45 | <45 |
| GC-9 | 16 | E-2/C-2 | DEP | 15D2 | 38503 | 0.6 | 0.1 | 44.9 | <45 | <45 |
| GC-9 | 17 | CH-47D | DEP | RWY33D | 22108 | 0.0 | 0.0 | 64.7 | <45 | <45 |
| GC-9 | 18 | Super King Air | DEP | RWY33D | 22766 | 0.1 | 0.0 | 50.6 | <45 | <45 |
| GC-9 | 19 | Single Prop | ARR | RWY15A | 22147 | 0.1 | 0.0 | 48.0 | <45 | <45 |
| GC-9 | 20 | CH-47D | Para Drops | 33PARA | 29144 | 0.1 | 0.0 | 55.5 | <45 | <45 |
| GC-10 | 1 | E-2/C-2 | FCLP | 15F3 | 1446 | 22.7 | 2.6 | 85.6 | 53.2 | 53.2 |
| GC-10 | 2 | E-2/C-2 | FCLP | 33F3 | 4954 | 25.6 | 3.0 | 78.6 | 46.7 | 54.1 |
| GC-10 | 3 | E-2/C-2 | Crew Swap | 33SW | 3977 | 2.9 | 0.3 | 84.6 | <45 | 54.4 |
| GC-10 | 4 | E-2/C-2 | Crew Swap | 15SW | 1439 | 2.6 | 0.3 | 84.2 | <45 | 54.7 |
| GC-10 | 5 | E-2/C-2 | ARR | 15O1 | 1446 | 0.6 | 0.1 | 82.0 | <45 | 54.7 |
| GC-10 | 6 | E-2/C-2 | DEP | 33D2 | 4960 | 0.7 | 0.1 | 80.9 | <45 | 54.7 |
| GC-10 | 7 | E-2/C-2 | DEP | 15D2 | 5084 | 0.6 | 0.1 | 77.5 | <45 | 54.8 |
| GC-10 | 8 | MH-53 | DEP | 33D3 | 2318 | 0.1 | 0.0 | 86.4 | <45 | 54.8 |
| GC-10 | 9 | Single Prop | FCLP | 15F3 | 1652 | 0.2 | 0.0 | 78.0 | <45 | 54.8 |
| GC-10 | 10 | E-2/C-2 | ARR | 33O1 | 4968 | 0.7 | 0.1 | 73.2 | <45 | 54.8 |
| GC-10 | 11 | CH-47D | Para Drops | 15PARA | 1523 | 0.1 | 0.0 | 87.7 | <45 | 54.8 |
| GC-10 | 12 | CH-47D | Para Drops | 15PARA | 1523 | 0.1 | 0.0 | 87.7 | <45 | 54.8 |
| GC-10 | 13 | CH-47D | DEP | RWY33D | 4775 | 0.5 | 0.0 | 73.7 | <45 | 54.8 |
| GC-10 | 14 | CH-47D | GCA Box | 33GCA | 4919 | 0.5 | 0.0 | 73.6 | <45 | 54.8 |
| GC-10 | 15 | Single Prop | FCLP | 33F3 | 4928 | 0.7 | 0.1 | 69.7 | <45 | 54.8 |
| GC-10 | 16 | CH-47D | Para Drops | 33PARA | 3540 | 0.1 | 0.0 | 84.4 | <45 | 54.8 |
| GC-10 | 17 | CH-47D | Para Drops | 33PARA | 4153 | 0.1 | 0.0 | 83.0 | <45 | 54.8 |
| GC-10 | 18 | Single Prop | DEP | RWY33D | 4799 | 0.4 | 0.1 | 69.8 | <45 | 54.8 |
| GC-10 | 19 | MH-53 | GCA Box | 33GCA | 4948 | 0.1 | 0.0 | 78.0 | <45 | 54.8 |
| GC-10 | 20 | Business Jet | DEP | RWY33D | 4791 | 0.1 | 0.0 | 77.4 | <45 | 54.8 |
| GC-11 | 1 | E-2/C-2 | FCLP | 33F3 | 783 | 25.6 | 3.0 | 94.1 | 62.2 | 62.2 |
| GC-11 | 2 | E-2/C-2 | Crew Swap | 33SW | 647 | 2.9 | 0.3 | 98.5 | 57.2 | 63.4 |
| GC-11 | 3 | E-2/C-2 | FCLP | 15F3 | 504 | 22.7 | 2.6 | 89.5 | 57.0 | 64.3 |
| GC-11 | 4 | E-2/C-2 | Crew Swap | 15SW | 513 | 2.6 | 0.3 | 93.0 | 51.1 | 64.5 |
| GC-11 | 5 | E-2/C-2 | DEP | 33D2 | 609 | 0.7 | 0.1 | 98.2 | 50.8 | 64.7 |
| GC-11 | 6 | Business Jet | DEP | RWY15D | 688 | 0.0 | 0.0 | 110.0 | 45.0 | 64.7 |
| GC-11 | 7 | E-2/C-2 | ARR | 15O1 | 504 | 0.6 | 0.1 | 90.5 | <45 | 64.7 |
| GC-11 | 8 | Single Prop | FCLP | 33F3 | 566 | 0.7 | 0.1 | 88.9 | <45 | 64.8 |
| GC-11 | 9 | CH-47D | DEP | RWY33D | 602 | 0.5 | 0.0 | 90.9 | <45 | 64.8 |



| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-11 | 10 | E-2/C-2 | ARR | 33O1 | 809 | 0.7 | 0.1 | 86.2 | <45 | 64.8 |
| GC-11 | 11 | E-2/C-2 | DEP | 15D2 | 689 | 0.6 | 0.1 | 86.4 | <45 | 64.8 |
| GC-11 | 12 | Super King Air | DEP | RWY15D | 688 | 0.0 | 0.0 | 98.8 | <45 | 64.8 |
| GC-11 | 13 | Business Jet | DEP | RWY33D | 646 | 0.1 | 0.0 | 97.6 | <45 | 64.8 |
| GC-11 | 14 | CH-47D | GCA Box | 33GCA | 1086 | 0.5 | 0.0 | 86.9 | <45 | 64.8 |
| GC-11 | 15 | Single Prop | DEP | RWY33D | 688 | 0.4 | 0.1 | 84.9 | <45 | 64.8 |
| GC-11 | 16 | Single Prop | FCLP | 15F3 | 502 | 0.2 | 0.0 | 86.8 | <45 | 64.8 |
| GC-11 | 17 | Single Prop | DEP | RWY15D | 688 | 0.1 | 0.0 | 88.0 | <45 | 64.9 |
| GC-11 | 18 | Single Prop | GCA Box | 33GCA | 670 | 0.2 | 0.0 | 85.9 | <45 | 64.9 |
| GC-11 | 19 | MH-53 | DEP | 33D3 | 919 | 0.1 | 0.0 | 91.0 | <45 | 64.9 |
| GC-11 | 20 | CH-47D | Para Drops | 15PARA | 512 | 0.1 | 0.0 | 94.6 | <45 | 64.9 |
| SC-1 | 1 | E-2/C-2 | FCLP | 15F3 | 1112 | 22.7 | 2.6 | 92.9 | 60.4 | 60.4 |
| SC-1 | 2 | E-2/C-2 | FCLP | 33F3 | 955 | 25.6 | 3.0 | 89.1 | 57.1 | 62.1 |
| SC-1 | 3 | E-2/C-2 | Crew Swap | 15SW | 1024 | 2.6 | 0.3 | 95.4 | 53.5 | 62.6 |
| SC-1 | 4 | E-2/C-2 | Crew Swap | 33SW | 955 | 2.9 | 0.3 | 93.4 | 52.1 | 63.0 |
| SC-1 | 5 | E-2/C-2 | DEP | 15D2 | 996 | 0.6 | 0.1 | 95.0 | 47.0 | 63.1 |
| SC-1 | 6 | E-2/C-2 | DEP | 33D2 | 955 | 0.7 | 0.1 | 88.5 | <45 | 63.1 |
| SC-1 | 7 | E-2/C-2 | ARR | 33O1 | 972 | 0.7 | 0.1 | 88.1 | <45 | 63.2 |
| SC-1 | 8 | Single Prop | FCLP | 33F3 | 955 | 0.7 | 0.1 | 87.0 | <45 | 63.2 |
| SC-1 | 9 | CH-47D | GCA Box | 33GCA | 954 | 0.5 | 0.0 | 88.9 | <45 | 63.2 |
| SC-1 | 10 | Super King Air | DEP | RWY33D | 954 | 0.1 | 0.0 | 92.9 | <45 | 63.2 |
| SC-1 | 11 | Single Prop | DEP | RWY33D | 954 | 0.4 | 0.1 | 85.6 | <45 | 63.2 |
| SC-1 | 12 | E-2/C-2 | ARR | 15O1 | 1242 | 0.6 | 0.1 | 84.8 | <45 | 63.2 |
| SC-1 | 13 | CH-47D | DEP | RWY33D | 954 | 0.5 | 0.0 | 86.6 | <45 | 63.2 |
| SC-1 | 14 | CH-47D | ARR | 33VOR | 964 | 0.5 | 0.0 | 86.5 | <45 | 63.2 |
| SC-1 | 15 | Single Prop | FCLP | 15F3 | 970 | 0.2 | 0.0 | 87.1 | <45 | 63.3 |
| SC-1 | 16 | Business Jet | DEP | RWY33D | 954 | 0.1 | 0.0 | 94.7 | <45 | 63.3 |
| SC-1 | 17 | MH-53 | GCA Box | 33GCA | 955 | 0.1 | 0.0 | 91.3 | <45 | 63.3 |
| SC-1 | 18 | Single Prop | GCA Box | 33GCA | 954 | 0.2 | 0.0 | 84.7 | <45 | 63.3 |
| SC-1 | 19 | CH-47D | Para Drops | 15PARA | 1214 | 0.1 | 0.0 | 92.1 | <45 | 63.3 |
| SC-1 | 20 | CH-47D | Para Drops | 15PARA | 1205 | 0.1 | 0.0 | 91.7 | <45 | 63.3 |
| SC-2 | 1 | E-2/C-2 | FCLP | 15F3 | 5915 | 22.7 | 2.6 | 74.1 | <45 | <45 |
| SC-2 | 2 | E-2/C-2 | Crew Swap | 15SW | 5917 | 2.6 | 0.3 | 80.3 | <45 | <45 |
| SC-2 | 3 | E-2/C-2 | FCLP | 33F3 | 10084 | 25.6 | 3.0 | 67.4 | <45 | <45 |
| SC-2 | 4 | E-2/C-2 | Crew Swap | 33SW | 7347 | 2.9 | 0.3 | 76.2 | <45 | <45 |
| SC-2 | 5 | E-2/C-2 | DEP | 15D2 | 9666 | 0.6 | 0.1 | 75.8 | <45 | <45 |
| SC-2 | 6 | E-2/C-2 | ARR | 33O1 | 2424 | 0.7 | 0.1 | 73.7 | <45 | <45 |

| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-2 | 7 | E-2/C-2 | DEP | 33D2 | 11324 | 0.7 | 0.1 | 68.4 | <45 | <45 |
| SC-2 | 8 | E-2/C-2 | ARR | 15O1 | 5925 | 0.6 | 0.1 | 68.4 | <45 | <45 |
| SC-2 | 9 | CH-47D | GCA Box | 33GCA | 9648 | 0.5 | 0.0 | 69.2 | <45 | <45 |
| SC-2 | 10 | Single Prop | GCA Box | 15GCA | 2529 | 0.1 | 0.0 | 75.4 | <45 | <45 |
| SC-2 | 11 | CH-47D | ARR | 33VOR | 9656 | 0.5 | 0.0 | 68.0 | <45 | <45 |
| SC-2 | 12 | Single Prop | FCLP | 15F3 | 5968 | 0.2 | 0.0 | 66.0 | <45 | <45 |
| SC-2 | 13 | MH-53 | ARR | 33VORH | 9649 | 0.1 | 0.0 | 73.2 | <45 | <45 |
| SC-2 | 14 | MH-53 | DEP | 33D3 | 10183 | 0.1 | 0.0 | 72.1 | <45 | <45 |
| SC-2 | 15 | MH-53 | GCA Box | 33GCA | 9649 | 0.1 | 0.0 | 71.9 | <45 | <45 |
| SC-2 | 16 | CH-47D | DEP | RWY33D | 11324 | 0.5 | 0.0 | 62.0 | <45 | <45 |
| SC-2 | 17 | CH-47D | Para Drops | 15PARA | 8660 | 0.1 | 0.0 | 72.6 | <45 | <45 |
| SC-2 | 18 | CH-47D | Para Drops | 15PARA | 9534 | 0.1 | 0.0 | 72.6 | <45 | <45 |
| SC-2 | 19 | Single Prop | FCLP | 33F3 | 10085 | 0.7 | 0.1 | 56.4 | <45 | <45 |
| SC-2 | 20 | CH-47D | Para Drops | 33PARA | 10313 | 0.1 | 0.0 | 70.8 | <45 | <45 |
| SC-3 | 1 | E-2/C-2 | Crew Swap | 15SW | 3528 | 2.6 | 0.3 | 83.8 | <45 | <45 |
| SC-3 | 2 | E-2/C-2 | Crew Swap | 33SW | 3598 | 2.9 | 0.3 | 79.8 | <45 | <45 |
| SC-3 | 3 | E-2/C-2 | FCLP | 15F3 | 17096 | 22.7 | 2.6 | 59.1 | <45 | <45 |
| SC-3 | 4 | E-2/C-2 | DEP | 15D2 | 18555 | 0.6 | 0.1 | 67.4 | <45 | <45 |
| SC-3 | 5 | E-2/C-2 | ARR | 33O1 | 10199 | 0.7 | 0.1 | 64.3 | <45 | <45 |
| SC-3 | 6 | E-2/C-2 | FCLP | 33F3 | 20803 | 25.6 | 3.0 | 47.7 | <45 | <45 |
| SC-3 | 7 | E-2/C-2 | DEP | 33D2 | 21886 | 0.7 | 0.1 | 61.4 | <45 | <45 |
| SC-3 | 8 | CH-47D | ARR | 33VOR | 18525 | 0.5 | 0.0 | 63.8 | <45 | <45 |
| SC-3 | 9 | CH-47D | GCA Box | 33GCA | 18517 | 0.5 | 0.0 | 62.1 | <45 | <45 |
| SC-3 | 10 | E-2/C-2 | ARR | 15O1 | 17106 | 0.6 | 0.1 | 56.3 | <45 | <45 |
| SC-3 | 11 | MH-53 | DEP | 33D3 | 16753 | 0.1 | 0.0 | 66.4 | <45 | <45 |
| SC-3 | 12 | MH-53 | ARR | 33VORH | 18517 | 0.1 | 0.0 | 65.1 | <45 | <45 |
| SC-3 | 13 | MH-53 | GCA Box | 33GCA | 18517 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| SC-3 | 14 | Single Prop | GCA Box | 15GCA | 12116 | 0.1 | 0.0 | 59.6 | <45 | <45 |
| SC-3 | 15 | Single Prop | FCLP | 15F3 | 17115 | 0.2 | 0.0 | 53.1 | <45 | <45 |
| SC-3 | 16 | Single Prop | ARR | RWY33A | 18505 | 0.4 | 0.1 | 49.5 | <45 | <45 |
| SC-3 | 17 | Single Prop | DEP | RWY15D | 18571 | 0.1 | 0.0 | 54.2 | <45 | <45 |
| SC-3 | 18 | CH-47D | Para Drops | 15PARA | 19681 | 0.1 | 0.0 | 62.4 | <45 | <45 |
| SC-3 | 19 | Single Prop | GCA Box | 33GCA | 18512 | 0.2 | 0.0 | 52.8 | <45 | <45 |
| SC-3 | 20 | CH-47D | Para Drops | 15PARA | 19150 | 0.1 | 0.0 | 62.2 | <45 | <45 |
| SC-4 | 1 | E-2/C-2 | Crew Swap | 15SW | 2226 | 2.6 | 0.3 | 83.6 | <45 | <45 |
| SC-4 | 2 | E-2/C-2 | Crew Swap | 33SW | 2516 | 2.9 | 0.3 | 81.8 | <45 | <45 |
| SC-4 | 3 | E-2/C-2 | FCLP | 15F3 | 21656 | 22.7 | 2.6 | 51.0 | <45 | <45 |

| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-4 | 4 | E-2/C-2 | DEP | 15D2 | 24698 | 0.6 | 0.1 | 63.1 | <45 | <45 |
| SC-4 | 5 | E-2/C-2 | DEP | 33D2 | 27360 | 0.7 | 0.1 | 58.7 | <45 | <45 |
| SC-4 | 6 | E-2/C-2 | ARR | 33O1 | 16238 | 0.7 | 0.1 | 58.6 | <45 | <45 |
| SC-4 | 7 | CH-47D | ARR | 33VOR | 24681 | 0.5 | 0.0 | 60.1 | <45 | <45 |
| SC-4 | 8 | MH-53 | DEP | 33D3 | 15561 | 0.1 | 0.0 | 68.0 | <45 | <45 |
| SC-4 | 9 | CH-47D | GCA Box | 33GCA | 24676 | 0.5 | 0.0 | 58.3 | <45 | <45 |
| SC-4 | 10 | E-2/C-2 | FCLP | 33F3 | 26171 | 25.6 | 3.0 | 39.6 | <45 | <45 |
| SC-4 | 11 | MH-53 | GCA Box | 33GCA | 24676 | 0.1 | 0.0 | 60.9 | <45 | <45 |
| SC-4 | 12 | E-2/C-2 | ARR | 15O1 | 21664 | 0.6 | 0.1 | 49.4 | <45 | <45 |
| SC-4 | 13 | MH-53 | ARR | 33VORH | 24676 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| SC-4 | 14 | Single Prop | GCA Box | 15GCA | 15965 | 0.1 | 0.0 | 56.3 | <45 | <45 |
| SC-4 | 15 | Single Prop | FCLP | 15F3 | 21671 | 0.2 | 0.0 | 49.2 | <45 | <45 |
| SC-4 | 16 | Single Prop | DEP | RWY15D | 24713 | 0.1 | 0.0 | 50.1 | <45 | <45 |
| SC-4 | 17 | CH-47D | Para Drops | 15PARA | 24120 | 0.1 | 0.0 | 58.9 | <45 | <45 |
| SC-4 | 18 | Single Prop | GCA Box | 33GCA | 24673 | 0.2 | 0.0 | 49.2 | <45 | <45 |
| SC-4 | 19 | CH-47D | Para Drops | 33PARA | 23989 | 0.1 | 0.0 | 58.2 | <45 | <45 |
| SC-4 | 20 | Single Prop | ARR | RWY33A | 24668 | 0.4 | 0.1 | 45.0 | <45 | <45 |
| | | | | | | | | | | |
| SC-5 | 1 | E-2/C-2 | Crew Swap | 15SW | 2934 | 2.6 | 0.3 | 81.9 | <45 | <45 |
| SC-5 | 2 | E-2/C-2 | Crew Swap | 33SW | 3747 | 2.9 | 0.3 | 81.0 | <45 | <45 |
| SC-5 | 3 | E-2/C-2 | FCLP | 15F3 | 22929 | 22.7 | 2.6 | 48.5 | <45 | <45 |
| SC-5 | 4 | E-2/C-2 | DEP | 15D2 | 24298 | 0.6 | 0.1 | 63.5 | <45 | <45 |
| SC-5 | 5 | E-2/C-2 | ARR | 33O1 | 16036 | 0.7 | 0.1 | 59.5 | <45 | <45 |
| SC-5 | 6 | E-2/C-2 | DEP | 33D2 | 26243 | 0.7 | 0.1 | 59.4 | <45 | <45 |
| SC-5 | 7 | CH-47D | ARR | 33VOR | 24258 | 0.5 | 0.0 | 61.0 | <45 | <45 |
| SC-5 | 8 | CH-47D | GCA Box | 33GCA | 24251 | 0.5 | 0.0 | 58.6 | <45 | <45 |
| SC-5 | 9 | MH-53 | DEP | 33D3 | 18657 | 0.1 | 0.0 | 65.1 | <45 | <45 |
| SC-5 | 10 | E-2/C-2 | FCLP | 33F3 | 26892 | 25.6 | 3.0 | 38.3 | <45 | <45 |
| SC-5 | 11 | MH-53 | GCA Box | 33GCA | 24252 | 0.1 | 0.0 | 61.2 | <45 | <45 |
| SC-5 | 12 | MH-53 | ARR | 33VORH | 24252 | 0.1 | 0.0 | 60.8 | <45 | <45 |
| SC-5 | 13 | E-2/C-2 | ARR | 15O1 | 22940 | 0.6 | 0.1 | 47.2 | <45 | <45 |
| SC-5 | 14 | Single Prop | GCA Box | 15GCA | 17539 | 0.1 | 0.0 | 55.2 | <45 | <45 |
| SC-5 | 15 | Single Prop | ARR | RWY33A | 24239 | 0.4 | 0.1 | 45.9 | <45 | <45 |
| SC-5 | 16 | Single Prop | DEP | RWY15D | 24301 | 0.1 | 0.0 | 50.5 | <45 | <45 |
| SC-5 | 17 | Single Prop | FCLP | 15F3 | 22943 | 0.2 | 0.0 | 48.3 | <45 | <45 |
| SC-5 | 18 | Single Prop | GCA Box | 33GCA | 24247 | 0.2 | 0.0 | 49.4 | <45 | <45 |
| SC-5 | 19 | CH-47D | Para Drops | 15PARA | 25699 | 0.1 | 0.0 | 58.2 | <45 | <45 |
| SC-5 | 20 | CH-47D | Para Drops | 15PARA | 25241 | 0.1 | 0.0 | 57.7 | <45 | <45 |

| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-6 | 1 | E-2/C-2 | Crew Swap | 33SW | 3010 | 2.9 | 0.3 | 81.0 | <45 | <45 |
| SC-6 | 2 | E-2/C-2 | Crew Swap | 15SW | 4359 | 2.6 | 0.3 | 79.0 | <45 | <45 |
| SC-6 | 3 | E-2/C-2 | DEP | 15D2 | 23864 | 0.6 | 0.1 | 62.4 | <45 | <45 |
| SC-6 | 4 | E-2/C-2 | DEP | 33D2 | 26334 | 0.7 | 0.1 | 59.1 | <45 | <45 |
| SC-6 | 5 | E-2/C-2 | FCLP | 15F3 | 25210 | 22.7 | 2.6 | 43.8 | <45 | <45 |
| SC-6 | 6 | E-2/C-2 | ARR | 33O1 | 18318 | 0.7 | 0.1 | 57.2 | <45 | <45 |
| SC-6 | 7 | CH-47D | ARR | 33VOR | 26493 | 0.5 | 0.0 | 59.9 | <45 | <45 |
| SC-6 | 8 | CH-47D | GCA Box | 33GCA | 26486 | 0.5 | 0.0 | 57.3 | <45 | <45 |
| SC-6 | 9 | MH-53 | DEP | 33D3 | 19357 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| SC-6 | 10 | E-2/C-2 | FCLP | 33F3 | 29250 | 25.6 | 3.0 | 36.8 | <45 | <45 |
| SC-6 | 11 | MH-53 | GCA Box | 33GCA | 26487 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| SC-6 | 12 | MH-53 | ARR | 33VORH | 26487 | 0.1 | 0.0 | 59.4 | <45 | <45 |
| SC-6 | 13 | Single Prop | GCA Box | 15GCA | 19722 | 0.1 | 0.0 | 53.7 | <45 | <45 |
| SC-6 | 14 | Single Prop | ARR | RWY33A | 26474 | 0.4 | 0.1 | 44.4 | <45 | <45 |
| SC-6 | 15 | E-2/C-2 | ARR | 15O1 | 25221 | 0.6 | 0.1 | 43.5 | <45 | <45 |
| SC-6 | 16 | Single Prop | DEP | RWY15D | 26535 | 0.1 | 0.0 | 49.0 | <45 | <45 |
| SC-6 | 17 | Single Prop | GCA Box | 33GCA | 26481 | 0.2 | 0.0 | 48.1 | <45 | <45 |
| SC-6 | 18 | Single Prop | FCLP | 15F3 | 25223 | 0.2 | 0.0 | 46.0 | <45 | <45 |
| SC-6 | 19 | Single Prop | DEP | RWY33D | 30778 | 0.4 | 0.1 | 42.6 | <45 | <45 |
| SC-6 | 20 | CH-47D | Para Drops | 15PARA | 27966 | 0.1 | 0.0 | 56.0 | <45 | <45 |
| SC-7 | 1 | E-2/C-2 | DEP | 33D2 | 9554 | 0.7 | 0.1 | 66.8 | <45 | <45 |
| SC-7 | 2 | E-2/C-2 | DEP | 15D2 | 11474 | 0.6 | 0.1 | 65.1 | <45 | <45 |
| SC-7 | 3 | E-2/C-2 | Crew Swap | 15SW | 40895 | 2.6 | 0.3 | 53.3 | <45 | <45 |
| SC-7 | 4 | E-2/C-2 | Crew Swap | 33SW | 39409 | 2.9 | 0.3 | 52.2 | <45 | <45 |
| SC-7 | 5 | E-2/C-2 | ARR | 33O1 | 58094 | 0.7 | 0.1 | 45.2 | <45 | <45 |
| SC-7 | 6 | E-2/C-2 | FCLP | 15F3 | 64429 | 22.7 | 2.6 | 24.4 | <45 | <45 |
| SC-7 | 7 | E-2/C-2 | ARR | 15O1 | 62100 | 0.6 | 0.1 | 39.8 | <45 | <45 |
| SC-7 | 8 | E-2/C-2 | FCLP | 33F3 | 69216 | 25.6 | 3.0 | 23.2 | <45 | <45 |
| SC-7 | 9 | CH-47D | ARR | 33VOR | 65574 | 0.5 | 0.0 | 31.9 | <45 | <45 |
| SC-7 | 10 | Single Prop | DEP | RWY15D | 65614 | 0.1 | 0.0 | 34.6 | <45 | <45 |
| SC-7 | 11 | Single Prop | DEP | RWY33D | 70264 | 0.4 | 0.1 | 27.3 | <45 | <45 |
| SC-7 | 12 | CH-47D | DEP | RWY33D | 70264 | 0.5 | 0.0 | 28.3 | <45 | <45 |
| SC-7 | 13 | Super King Air | DEP | RWY33D | 70264 | 0.1 | 0.0 | 33.8 | <45 | <45 |
| SC-7 | 14 | CH-47D | GCA Box | 33GCA | 65575 | 0.5 | 0.0 | 27.2 | <45 | <45 |
| SC-7 | 15 | CH-47D | Para Drops | 33PARA | 65439 | 0.1 | 0.0 | 38.4 | <45 | <45 |
| SC-7 | 16 | Super King Air | DEP | RWY15D | 65702 | 0.0 | 0.0 | 35.4 | <45 | <45 |
| SC-7 | 17 | CH-47D | Para Drops | 15PARA | 66216 | 0.1 | 0.0 | 36.8 | <45 | <45 |
| SC-7 | 18 | Single Prop | FCLP | 33F3 | 69216 | 0.7 | 0.1 | 17.1 | <45 | <45 |



| Emporia: Alt 1A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-7 | 19 | Single Prop | GCA Box | 33GCA | 65573 | 0.2 | 0.0 | 20.5 | <45 | <45 |
| SC-7 | 20 | Single Prop | ARR | RWY33A | 65565 | 0.4 | 0.1 | 16.4 | <45 | <45 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-1 | 1 | E-2/C-2 | FCLP | 33F5 | 1568 | 17.1 | 2.0 | 86.4 | 52.7 | 52.7 |
| CoE-1 | 2 | E-2/C-2 | FCLP | 33F3 | 2392 | 8.5 | 1.0 | 82.0 | 45.3 | 53.4 |
| CoE-1 | 3 | E-2/C-2 | DEP | 33D2 | 1915 | 0.9 | 0.1 | 89.5 | <45 | 53.8 |
| CoE-1 | 4 | E-2/C-2 | Crew Swap | 33SW | 2387 | 2.8 | 0.3 | 82.4 | <45 | 54.0 |
| CoE-1 | 5 | E-2/C-2 | FCLP | 15F5 | 7534 | 15.1 | 1.8 | 72.4 | <45 | 54.1 |
| CoE-1 | 6 | CH-47D | GCA Box | 33GCA | 2259 | 0.5 | 0.0 | 85.1 | <45 | 54.2 |
| CoE-1 | 7 | E-2/C-2 | FCLP | 15F3 | 7534 | 7.6 | 0.9 | 72.1 | <45 | 54.2 |
| CoE-1 | 8 | E-2/C-2 | Crew Swap | 15SW | 7526 | 2.5 | 0.3 | 75.8 | <45 | 54.3 |
| CoE-1 | 9 | MH-53 | GCA Box | 33GCA | 2277 | 0.1 | 0.0 | 90.3 | <45 | 54.3 |
| CoE-1 | 10 | E-2/C-2 | ARR | 33O1 | 2411 | 0.9 | 0.1 | 75.1 | <45 | 54.3 |
| CoE-1 | 11 | Single Prop | FCLP | 33F3 | 2523 | 0.7 | 0.1 | 74.3 | <45 | 54.3 |
| CoE-1 | 12 | E-2/C-2 | DEP | 15D2 | 8147 | 0.8 | 0.1 | 73.3 | <45 | 54.3 |
| CoE-1 | 13 | Single Prop | GCA Box | 33GCA | 1887 | 0.2 | 0.0 | 78.5 | <45 | 54.3 |
| CoE-1 | 14 | E-2/C-2 | ARR | 15O1 | 7533 | 0.8 | 0.1 | 72.4 | <45 | 54.3 |
| CoE-1 | 15 | CH-47D | DEP | RWY33D | 7544 | 0.5 | 0.0 | 70.6 | <45 | 54.3 |
| CoE-1 | 16 | Single Prop | DEP | RWY33D | 7569 | 0.4 | 0.1 | 64.8 | <45 | 54.3 |
| CoE-1 | 17 | CH-47D | Para Drops | 33PARA | 6077 | 0.1 | 0.0 | 76.6 | <45 | 54.3 |
| CoE-1 | 18 | CH-47D | Para Drops | 33PARA | 6077 | 0.1 | 0.0 | 76.5 | <45 | 54.3 |
| CoE-1 | 19 | CH-47D | Para Drops | 15PARA | 6959 | 0.1 | 0.0 | 75.3 | <45 | 54.3 |
| CoE-1 | 20 | CH-47D | ARR | 33VOR | 9611 | 0.5 | 0.0 | 63.1 | <45 | 54.3 |
| | | | | | | | | | | |
| CoE-2 | 1 | E-2/C-2 | FCLP | 33F5 | 2430 | 17.1 | 2.0 | 85.0 | 51.3 | 51.3 |
| CoE-2 | 2 | E-2/C-2 | Crew Swap | 33SW | 3878 | 2.8 | 0.3 | 84.3 | <45 | 51.9 |
| CoE-2 | 3 | CH-47D | DEP | RWY33D | 2558 | 0.5 | 0.0 | 85.4 | <45 | 52.0 |
| CoE-2 | 4 | E-2/C-2 | ARR | 15O1 | 2543 | 0.8 | 0.1 | 81.2 | <45 | 52.0 |
| CoE-2 | 5 | E-2/C-2 | FCLP | 33F3 | 8845 | 8.5 | 1.0 | 70.2 | <45 | 52.1 |
| CoE-2 | 6 | E-2/C-2 | FCLP | 15F5 | 7627 | 15.1 | 1.8 | 67.5 | <45 | 52.1 |
| CoE-2 | 7 | E-2/C-2 | Crew Swap | 15SW | 2907 | 2.5 | 0.3 | 74.8 | <45 | 52.2 |
| CoE-2 | 8 | E-2/C-2 | FCLP | 15F3 | 7627 | 7.6 | 0.9 | 67.1 | <45 | 52.2 |
| CoE-2 | 9 | E-2/C-2 | DEP | 33D2 | 8656 | 0.9 | 0.1 | 75.0 | <45 | 52.2 |
| CoE-2 | 10 | Single Prop | DEP | RWY33D | 2863 | 0.4 | 0.1 | 72.7 | <45 | 52.2 |
| CoE-2 | 11 | Business Jet | DEP | RWY33D | 2706 | 0.1 | 0.0 | 82.4 | <45 | 52.2 |
| CoE-2 | 12 | CH-47D | GCA Box | 33GCA | 8123 | 0.5 | 0.0 | 71.6 | <45 | 52.2 |
| CoE-2 | 13 | E-2/C-2 | DEP | 15D2 | 12262 | 0.8 | 0.1 | 65.9 | <45 | 52.2 |
| CoE-2 | 14 | E-2/C-2 | ARR | 33O1 | 8839 | 0.9 | 0.1 | 64.9 | <45 | 52.2 |
| CoE-2 | 15 | CH-47D | DEP | RWY33D | 2558 | 0.0 | 0.0 | 85.4 | <45 | 52.3 |
| CoE-2 | 16 | Single Prop | ARR | RWY15A | 2438 | 0.1 | 0.0 | 68.7 | <45 | 52.3 |
| CoE-2 | 17 | Super King Air | DEP | RWY33D | 3185 | 0.1 | 0.0 | 71.1 | <45 | 52.3 |
| CoE-2 | 18 | CH-47D | Para Drops | 33PARA | 5864 | 0.1 | 0.0 | 76.7 | <45 | 52.3 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-2 | 19 | Single Prop | FCLP | 33F3 | 8875 | 0.7 | 0.1 | 61.5 | <45 | 52.3 |
| CoE-2 | 20 | MH-53 | GCA Box | 33GCA | 8098 | 0.1 | 0.0 | 73.1 | <45 | 52.3 |
| CoE-3 | 1 | E-2/C-2 | FCLP | 33F5 | 6608 | 17.1 | 2.0 | 75.1 | <45 | <45 |
| CoE-3 | 2 | E-2/C-2 | FCLP | 33F3 | 7498 | 8.5 | 1.0 | 71.6 | <45 | <45 |
| CoE-3 | 3 | E-2/C-2 | Crew Swap | 33SW | 7486 | 2.8 | 0.3 | 74.5 | <45 | <45 |
| CoE-3 | 4 | CH-47D | GCA Box | 33GCA | 2683 | 0.5 | 0.0 | 83.0 | <45 | <45 |
| CoE-3 | 5 | E-2/C-2 | FCLP | 15F5 | 12746 | 15.1 | 1.8 | 65.7 | <45 | <45 |
| CoE-3 | 6 | E-2/C-2 | DEP | 33D2 | 6801 | 0.9 | 0.1 | 77.9 | <45 | <45 |
| CoE-3 | 7 | E-2/C-2 | Crew Swap | 15SW | 12715 | 2.5 | 0.3 | 70.6 | <45 | <45 |
| CoE-3 | 8 | E-2/C-2 | FCLP | 15F3 | 12746 | 7.6 | 0.9 | 65.0 | <45 | <45 |
| CoE-3 | 9 | MH-53 | GCA Box | 33GCA | 2648 | 0.1 | 0.0 | 85.0 | <45 | <45 |
| CoE-3 | 10 | Single Prop | GCA Box | 33GCA | 2682 | 0.2 | 0.0 | 74.4 | <45 | <45 |
| CoE-3 | 11 | E-2/C-2 | DEP | 15D2 | 13409 | 0.8 | 0.1 | 68.0 | <45 | <45 |
| CoE-3 | 12 | E-2/C-2 | ARR | 33O1 | 7499 | 0.9 | 0.1 | 67.3 | <45 | <45 |
| CoE-3 | 13 | E-2/C-2 | ARR | 15O1 | 12682 | 0.8 | 0.1 | 66.0 | <45 | <45 |
| CoE-3 | 14 | Single Prop | FCLP | 33F3 | 7542 | 0.7 | 0.1 | 63.7 | <45 | <45 |
| CoE-3 | 15 | CH-47D | DEP | RWY33D | 12671 | 0.5 | 0.0 | 67.0 | <45 | <45 |
| CoE-3 | 16 | Single Prop | DEP | RWY33D | 12694 | 0.4 | 0.1 | 58.5 | <45 | <45 |
| CoE-3 | 17 | CH-47D | ARR | 33VOR | 14604 | 0.5 | 0.0 | 59.1 | <45 | <45 |
| CoE-3 | 18 | CH-47D | Para Drops | 33PARA | 10197 | 0.1 | 0.0 | 70.2 | <45 | <45 |
| CoE-3 | 19 | CH-47D | Para Drops | 33PARA | 10197 | 0.1 | 0.0 | 70.2 | <45 | <45 |
| CoE-3 | 20 | CH-47D | Para Drops | 15PARA | 10493 | 0.1 | 0.0 | 70.1 | <45 | <45 |
| CoE-4 | 1 | E-2/C-2 | FCLP | 33F5 | 8122 | 17.1 | 2.0 | 73.0 | <45 | <45 |
| CoE-4 | 2 | E-2/C-2 | FCLP | 33F3 | 8884 | 8.5 | 1.0 | 69.8 | <45 | <45 |
| CoE-4 | 3 | E-2/C-2 | Crew Swap | 33SW | 8872 | 2.8 | 0.3 | 73.0 | <45 | <45 |
| CoE-4 | 4 | CH-47D | GCA Box | 33GCA | 3576 | 0.5 | 0.0 | 80.5 | <45 | <45 |
| CoE-4 | 5 | E-2/C-2 | FCLP | 15F5 | 14252 | 15.1 | 1.8 | 64.0 | <45 | <45 |
| CoE-4 | 6 | E-2/C-2 | DEP | 33D2 | 8138 | 0.9 | 0.1 | 75.9 | <45 | <45 |
| CoE-4 | 7 | E-2/C-2 | Crew Swap | 15SW | 14226 | 2.5 | 0.3 | 69.5 | <45 | <45 |
| CoE-4 | 8 | E-2/C-2 | FCLP | 15F3 | 14252 | 7.6 | 0.9 | 63.2 | <45 | <45 |
| CoE-4 | 9 | MH-53 | GCA Box | 33GCA | 3578 | 0.1 | 0.0 | 83.6 | <45 | <45 |
| CoE-4 | 10 | E-2/C-2 | DEP | 15D2 | 14836 | 0.8 | 0.1 | 66.9 | <45 | <45 |
| CoE-4 | 11 | E-2/C-2 | ARR | 33O1 | 8881 | 0.9 | 0.1 | 65.8 | <45 | <45 |
| CoE-4 | 12 | Single Prop | GCA Box | 33GCA | 3578 | 0.2 | 0.0 | 71.7 | <45 | <45 |
| CoE-4 | 13 | E-2/C-2 | ARR | 15O1 | 14198 | 0.8 | 0.1 | 64.5 | <45 | <45 |
| CoE-4 | 14 | CH-47D | DEP | RWY33D | 14188 | 0.5 | 0.0 | 66.1 | <45 | <45 |
| CoE-4 | 15 | Single Prop | FCLP | 33F3 | 8922 | 0.7 | 0.1 | 61.7 | <45 | <45 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-4 | 16 | Single Prop | DEP | RWY33D | 14208 | 0.4 | 0.1 | 57.3 | <45 | <45 |
| CoE-4 | 17 | CH-47D | ARR | 33VOR | 15915 | 0.5 | 0.0 | 58.4 | <45 | <45 |
| CoE-4 | 18 | CH-47D | Para Drops | 33PARA | 11289 | 0.1 | 0.0 | 68.9 | <45 | <45 |
| CoE-4 | 19 | CH-47D | Para Drops | 33PARA | 11289 | 0.1 | 0.0 | 68.8 | <45 | <45 |
| CoE-4 | 20 | CH-47D | Para Drops | 15PARA | 11391 | 0.1 | 0.0 | 69.0 | <45 | <45 |
| CoE-5 | 1 | E-2/C-2 | FCLP | 33F5 | 5671 | 17.1 | 2.0 | 76.5 | <45 | <45 |
| CoE-5 | 2 | E-2/C-2 | FCLP | 33F3 | 8852 | 8.5 | 1.0 | 69.8 | <45 | <45 |
| CoE-5 | 3 | E-2/C-2 | Crew Swap | 33SW | 8839 | 2.8 | 0.3 | 74.5 | <45 | <45 |
| CoE-5 | 4 | E-2/C-2 | FCLP | 15F5 | 12694 | 15.1 | 1.8 | 64.1 | <45 | <45 |
| CoE-5 | 5 | E-2/C-2 | DEP | 33D2 | 8291 | 0.9 | 0.1 | 75.6 | <45 | <45 |
| CoE-5 | 6 | E-2/C-2 | Crew Swap | 15SW | 11804 | 2.5 | 0.3 | 69.7 | <45 | <45 |
| CoE-5 | 7 | CH-47D | GCA Box | 33GCA | 4993 | 0.5 | 0.0 | 77.4 | <45 | <45 |
| CoE-5 | 8 | E-2/C-2 | FCLP | 15F3 | 12694 | 7.6 | 0.9 | 63.4 | <45 | <45 |
| CoE-5 | 9 | MH-53 | GCA Box | 33GCA | 4930 | 0.1 | 0.0 | 81.4 | <45 | <45 |
| CoE-5 | 10 | E-2/C-2 | ARR | 15O1 | 11743 | 0.8 | 0.1 | 67.1 | <45 | <45 |
| CoE-5 | 11 | CH-47D | DEP | RWY33D | 11746 | 0.5 | 0.0 | 69.4 | <45 | <45 |
| CoE-5 | 12 | E-2/C-2 | DEP | 15D2 | 14355 | 0.8 | 0.1 | 66.1 | <45 | <45 |
| CoE-5 | 13 | E-2/C-2 | ARR | 33O1 | 8854 | 0.9 | 0.1 | 65.1 | <45 | <45 |
| CoE-5 | 14 | Single Prop | GCA Box | 33GCA | 4943 | 0.2 | 0.0 | 68.9 | <45 | <45 |
| CoE-5 | 15 | Single Prop | FCLP | 33F3 | 8887 | 0.7 | 0.1 | 61.7 | <45 | <45 |
| CoE-5 | 16 | Single Prop | DEP | RWY33D | 11785 | 0.4 | 0.1 | 59.7 | <45 | <45 |
| CoE-5 | 17 | CH-47D | Para Drops | 33PARA | 12073 | 0.1 | 0.0 | 69.4 | <45 | <45 |
| CoE-5 | 18 | CH-47D | Para Drops | 33PARA | 11249 | 0.1 | 0.0 | 69.4 | <45 | <45 |
| CoE-5 | 19 | CH-47D | ARR | 33VOR | 16176 | 0.5 | 0.0 | 57.1 | <45 | <45 |
| CoE-5 | 20 | CH-47D | Para Drops | 15PARA | 13210 | 0.1 | 0.0 | 67.6 | <45 | <45 |
| CoE-6 | 1 | E-2/C-2 | FCLP | 33F5 | 4925 | 17.1 | 2.0 | 77.4 | <45 | <45 |
| CoE-6 | 2 | E-2/C-2 | Crew Swap | 33SW | 10055 | 2.8 | 0.3 | 74.5 | <45 | <45 |
| CoE-6 | 3 | E-2/C-2 | FCLP | 33F3 | 10068 | 8.5 | 1.0 | 68.3 | <45 | <45 |
| CoE-6 | 4 | E-2/C-2 | FCLP | 15F5 | 12966 | 15.1 | 1.8 | 62.7 | <45 | <45 |
| CoE-6 | 5 | E-2/C-2 | DEP | 33D2 | 9557 | 0.9 | 0.1 | 73.9 | <45 | <45 |
| CoE-6 | 6 | E-2/C-2 | Crew Swap | 15SW | 11078 | 2.5 | 0.3 | 69.0 | <45 | <45 |
| CoE-6 | 7 | E-2/C-2 | FCLP | 15F3 | 12966 | 7.6 | 0.9 | 62.0 | <45 | <45 |
| CoE-6 | 8 | CH-47D | GCA Box | 33GCA | 6892 | 0.5 | 0.0 | 74.4 | <45 | <45 |
| CoE-6 | 9 | CH-47D | DEP | RWY33D | 11010 | 0.5 | 0.0 | 71.0 | <45 | <45 |
| CoE-6 | 10 | E-2/C-2 | ARR | 15O1 | 10994 | 0.8 | 0.1 | 67.7 | <45 | <45 |
| CoE-6 | 11 | MH-53 | GCA Box | 33GCA | 6896 | 0.1 | 0.0 | 79.0 | <45 | <45 |
| CoE-6 | 12 | E-2/C-2 | DEP | 15D2 | 15249 | 0.8 | 0.1 | 64.5 | <45 | <45 |



| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-6 | 13 | E-2/C-2 | ARR | 33O1 | 10057 | 0.9 | 0.1 | 63.6 | <45 | <45 |
| CoE-6 | 14 | Single Prop | FCLP | 33F3 | 10089 | 0.7 | 0.1 | 60.2 | <45 | <45 |
| CoE-6 | 15 | Single Prop | GCA Box | 33GCA | 6843 | 0.2 | 0.0 | 65.8 | <45 | <45 |
| CoE-6 | 16 | Single Prop | DEP | RWY33D | 11066 | 0.4 | 0.1 | 60.4 | <45 | <45 |
| CoE-6 | 17 | CH-47D | Para Drops | 33PARA | 11916 | 0.1 | 0.0 | 69.1 | <45 | <45 |
| CoE-6 | 18 | CH-47D | Para Drops | 33PARA | 11410 | 0.1 | 0.0 | 68.9 | <45 | <45 |
| CoE-6 | 19 | CH-47D | ARR | 33VOR | 17359 | 0.5 | 0.0 | 55.5 | <45 | <45 |
| CoE-6 | 20 | Business Jet | DEP | RWY33D | 11037 | 0.1 | 0.0 | 65.3 | <45 | <45 |
| | | | | | | | | | | |
| CoE-7 | 1 | E-2/C-2 | FCLP | 33F5 | 7967 | 17.1 | 2.0 | 73.1 | <45 | <45 |
| CoE-7 | 2 | E-2/C-2 | FCLP | 33F3 | 10270 | 8.5 | 1.0 | 68.0 | <45 | <45 |
| CoE-7 | 3 | E-2/C-2 | Crew Swap | 33SW | 10257 | 2.8 | 0.3 | 72.5 | <45 | <45 |
| CoE-7 | 4 | E-2/C-2 | FCLP | 15F5 | 14700 | 15.1 | 1.8 | 61.7 | <45 | <45 |
| CoE-7 | 5 | E-2/C-2 | DEP | 33D2 | 9649 | 0.9 | 0.1 | 73.9 | <45 | <45 |
| CoE-7 | 6 | E-2/C-2 | Crew Swap | 15SW | 14089 | 2.5 | 0.3 | 68.3 | <45 | <45 |
| CoE-7 | 7 | CH-47D | GCA Box | 33GCA | 5524 | 0.5 | 0.0 | 76.4 | <45 | <45 |
| CoE-7 | 8 | E-2/C-2 | FCLP | 15F3 | 14700 | 7.6 | 0.9 | 61.0 | <45 | <45 |
| CoE-7 | 9 | MH-53 | GCA Box | 33GCA | 5495 | 0.1 | 0.0 | 79.2 | <45 | <45 |
| CoE-7 | 10 | E-2/C-2 | DEP | 15D2 | 15987 | 0.8 | 0.1 | 64.9 | <45 | <45 |
| CoE-7 | 11 | E-2/C-2 | ARR | 15O1 | 14043 | 0.8 | 0.1 | 64.7 | <45 | <45 |
| CoE-7 | 12 | CH-47D | DEP | RWY33D | 14043 | 0.5 | 0.0 | 67.4 | <45 | <45 |
| CoE-7 | 13 | E-2/C-2 | ARR | 33O1 | 10281 | 0.9 | 0.1 | 63.7 | <45 | <45 |
| CoE-7 | 14 | Single Prop | GCA Box | 33GCA | 5516 | 0.2 | 0.0 | 67.7 | <45 | <45 |
| CoE-7 | 15 | Single Prop | FCLP | 33F3 | 10301 | 0.7 | 0.1 | 59.9 | <45 | <45 |
| CoE-7 | 16 | Single Prop | DEP | RWY33D | 14073 | 0.4 | 0.1 | 57.6 | <45 | <45 |
| CoE-7 | 17 | CH-47D | ARR | 33VOR | 17541 | 0.5 | 0.0 | 56.3 | <45 | <45 |
| CoE-7 | 18 | CH-47D | Para Drops | 33PARA | 13492 | 0.1 | 0.0 | 67.8 | <45 | <45 |
| CoE-7 | 19 | CH-47D | Para Drops | 33PARA | 13276 | 0.1 | 0.0 | 67.6 | <45 | <45 |
| CoE-7 | 20 | CH-47D | Para Drops | 15PARA | 13901 | 0.1 | 0.0 | 66.7 | <45 | <45 |
| | | | | | | | | | | |
| CoE-8 | 1 | E-2/C-2 | FCLP | 33F5 | 8601 | 17.1 | 2.0 | 72.4 | <45 | <45 |
| CoE-8 | 2 | E-2/C-2 | FCLP | 33F3 | 10573 | 8.5 | 1.0 | 67.7 | <45 | <45 |
| CoE-8 | 3 | E-2/C-2 | Crew Swap | 33SW | 10560 | 2.8 | 0.3 | 72.1 | <45 | <45 |
| CoE-8 | 4 | E-2/C-2 | FCLP | 15F5 | 15206 | 15.1 | 1.8 | 61.2 | <45 | <45 |
| CoE-8 | 5 | E-2/C-2 | DEP | 33D2 | 9929 | 0.9 | 0.1 | 73.5 | <45 | <45 |
| CoE-8 | 6 | CH-47D | GCA Box | 33GCA | 5586 | 0.5 | 0.0 | 76.3 | <45 | <45 |
| CoE-8 | 7 | E-2/C-2 | Crew Swap | 15SW | 14720 | 2.5 | 0.3 | 68.1 | <45 | <45 |
| CoE-8 | 8 | E-2/C-2 | FCLP | 15F3 | 15206 | 7.6 | 0.9 | 60.4 | <45 | <45 |
| CoE-8 | 9 | MH-53 | GCA Box | 33GCA | 5528 | 0.1 | 0.0 | 79.4 | <45 | <45 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-8 | 10 | E-2/C-2 | DEP | 15D2 | 16353 | 0.8 | 0.1 | 64.7 | <45 | <45 |
| CoE-8 | 11 | E-2/C-2 | ARR | 33O1 | 10583 | 0.9 | 0.1 | 63.5 | <45 | <45 |
| CoE-8 | 12 | E-2/C-2 | ARR | 15O1 | 14678 | 0.8 | 0.1 | 64.1 | <45 | <45 |
| CoE-8 | 13 | CH-47D | DEP | RWY33D | 14677 | 0.5 | 0.0 | 66.7 | <45 | <45 |
| CoE-8 | 14 | Single Prop | GCA Box | 33GCA | 5582 | 0.2 | 0.0 | 67.5 | <45 | <45 |
| CoE-8 | 15 | Single Prop | FCLP | 33F3 | 10604 | 0.7 | 0.1 | 59.6 | <45 | <45 |
| CoE-8 | 16 | Single Prop | DEP | RWY33D | 14704 | 0.4 | 0.1 | 57.0 | <45 | <45 |
| CoE-8 | 17 | CH-47D | ARR | 33VOR | 17807 | 0.5 | 0.0 | 56.2 | <45 | <45 |
| CoE-8 | 18 | CH-47D | Para Drops | 33PARA | 13598 | 0.1 | 0.0 | 67.4 | <45 | <45 |
| CoE-8 | 19 | CH-47D | Para Drops | 33PARA | 13598 | 0.1 | 0.0 | 67.3 | <45 | <45 |
| CoE-8 | 20 | CH-47D | Para Drops | 15PARA | 13928 | 0.1 | 0.0 | 66.6 | <45 | <45 |
| CoE-9 | 1 | E-2/C-2 | FCLP | 33F5 | 12063 | 17.1 | 2.0 | 68.1 | <45 | <45 |
| CoE-9 | 2 | E-2/C-2 | Crew Swap | 33SW | 13661 | 2.8 | 0.3 | 69.1 | <45 | <45 |
| CoE-9 | 3 | E-2/C-2 | FCLP | 33F3 | 13674 | 8.5 | 1.0 | 63.8 | <45 | <45 |
| CoE-9 | 4 | E-2/C-2 | DEP | 33D2 | 12969 | 0.9 | 0.1 | 70.5 | <45 | <45 |
| CoE-9 | 5 | E-2/C-2 | Crew Swap | 15SW | 18175 | 2.5 | 0.3 | 65.5 | <45 | <45 |
| CoE-9 | 6 | CH-47D | GCA Box | 33GCA | 8151 | 0.5 | 0.0 | 72.7 | <45 | <45 |
| CoE-9 | 7 | E-2/C-2 | FCLP | 15F5 | 18607 | 15.1 | 1.8 | 55.8 | <45 | <45 |
| CoE-9 | 8 | E-2/C-2 | FCLP | 15F3 | 18607 | 7.6 | 0.9 | 54.9 | <45 | <45 |
| CoE-9 | 9 | MH-53 | GCA Box | 33GCA | 8154 | 0.1 | 0.0 | 74.5 | <45 | <45 |
| CoE-9 | 10 | E-2/C-2 | DEP | 15D2 | 19558 | 0.8 | 0.1 | 61.5 | <45 | <45 |
| CoE-9 | 11 | CH-47D | DEP | RWY33D | 18141 | 0.5 | 0.0 | 64.3 | <45 | <45 |
| CoE-9 | 12 | E-2/C-2 | ARR | 33O1 | 13677 | 0.9 | 0.1 | 60.2 | <45 | <45 |
| CoE-9 | 13 | E-2/C-2 | ARR | 15O1 | 18142 | 0.8 | 0.1 | 60.5 | <45 | <45 |
| CoE-9 | 14 | Single Prop | GCA Box | 33GCA | 8152 | 0.2 | 0.0 | 63.7 | <45 | <45 |
| CoE-9 | 15 | Single Prop | FCLP | 33F3 | 13699 | 0.7 | 0.1 | 56.2 | <45 | <45 |
| CoE-9 | 16 | Single Prop | DEP | RWY33D | 18164 | 0.4 | 0.1 | 54.3 | <45 | <45 |
| CoE-9 | 17 | CH-47D | ARR | 33VOR | 20802 | 0.5 | 0.0 | 53.8 | <45 | <45 |
| CoE-9 | 18 | CH-47D | Para Drops | 33PARA | 16212 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| CoE-9 | 19 | CH-47D | Para Drops | 33PARA | 16212 | 0.1 | 0.0 | 64.5 | <45 | <45 |
| CoE-9 | 20 | CH-47D | Para Drops | 15PARA | 16216 | 0.1 | 0.0 | 64.3 | <45 | <45 |
| CoE-10 | 1 | E-2/C-2 | FCLP | 33F5 | 6811 | 17.1 | 2.0 | 73.7 | <45 | <45 |
| CoE-10 | 2 | E-2/C-2 | Crew Swap | 33SW | 13327 | 2.8 | 0.3 | 71.9 | <45 | <45 |
| CoE-10 | 3 | E-2/C-2 | FCLP | 33F3 | 13341 | 8.5 | 1.0 | 64.4 | <45 | <45 |
| CoE-10 | 4 | E-2/C-2 | Crew Swap | 15SW | 12943 | 2.5 | 0.3 | 66.2 | <45 | <45 |
| CoE-10 | 5 | E-2/C-2 | DEP | 33D2 | 12828 | 0.9 | 0.1 | 70.1 | <45 | <45 |
| CoE-10 | 6 | E-2/C-2 | FCLP | 15F5 | 15958 | 15.1 | 1.8 | 56.9 | <45 | <45 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| CoE-10 | 7 | CH-47D | GCA Box | 33GCA | 9878 | 0.5 | 0.0 | 70.5 | <45 | <45 |
| CoE-10 | 8 | CH-47D | DEP | RWY33D | 12867 | 0.5 | 0.0 | 70.0 | <45 | <45 |
| CoE-10 | 9 | E-2/C-2 | FCLP | 15F3 | 15958 | 7.6 | 0.9 | 56.1 | <45 | <45 |
| CoE-10 | 10 | E-2/C-2 | ARR | 15O1 | 12990 | 0.8 | 0.1 | 65.2 | <45 | <45 |
| CoE-10 | 11 | MH-53 | GCA Box | 33GCA | 9826 | 0.1 | 0.0 | 73.3 | <45 | <45 |
| CoE-10 | 12 | E-2/C-2 | ARR | 33O1 | 13330 | 0.9 | 0.1 | 60.5 | <45 | <45 |
| CoE-10 | 13 | E-2/C-2 | DEP | 15D2 | 18476 | 0.8 | 0.1 | 60.1 | <45 | <45 |
| CoE-10 | 14 | Single Prop | FCLP | 33F3 | 13356 | 0.7 | 0.1 | 56.9 | <45 | <45 |
| CoE-10 | 15 | Single Prop | DEP | RWY33D | 12946 | 0.4 | 0.1 | 58.5 | <45 | <45 |
| CoE-10 | 16 | Single Prop | GCA Box | 33GCA | 9850 | 0.2 | 0.0 | 61.8 | <45 | <45 |
| CoE-10 | 17 | CH-47D | Para Drops | 33PARA | 14643 | 0.1 | 0.0 | 66.1 | <45 | <45 |
| CoE-10 | 18 | CH-47D | Para Drops | 33PARA | 14358 | 0.1 | 0.0 | 66.0 | <45 | <45 |
| CoE-10 | 19 | Business Jet | DEP | RWY33D | 12904 | 0.1 | 0.0 | 62.6 | <45 | <45 |
| CoE-10 | 20 | CH-47D | DEP | RWY33D | 12867 | 0.0 | 0.0 | 70.0 | <45 | <45 |
| GC-1 | 1 | E-2/C-2 | FCLP | 15F5 | 10054 | 15.1 | 1.8 | 68.7 | <45 | <45 |
| GC-1 | 2 | E-2/C-2 | Crew Swap | 15SW | 12369 | 2.5 | 0.3 | 72.6 | <45 | <45 |
| GC-1 | 3 | E-2/C-2 | DEP | 15D2 | 6741 | 0.8 | 0.1 | 76.6 | <45 | <45 |
| GC-1 | 4 | CH-47D | GCA Box | 33GCA | 5795 | 0.5 | 0.0 | 79.1 | <45 | <45 |
| GC-1 | 5 | CH-47D | ARR | 33VOR | 5802 | 0.5 | 0.0 | 78.0 | <45 | <45 |
| GC-1 | 6 | E-2/C-2 | ARR | 33O1 | 6504 | 0.9 | 0.1 | 72.4 | <45 | <45 |
| GC-1 | 7 | E-2/C-2 | Crew Swap | 33SW | 6482 | 2.8 | 0.3 | 67.2 | <45 | <45 |
| GC-1 | 8 | E-2/C-2 | DEP | 33D2 | 6721 | 0.9 | 0.1 | 71.7 | <45 | <45 |
| GC-1 | 9 | MH-53 | GCA Box | 33GCA | 5795 | 0.1 | 0.0 | 83.0 | <45 | <45 |
| GC-1 | 10 | MH-53 | ARR | 33VORH | 5786 | 0.1 | 0.0 | 82.9 | <45 | <45 |
| GC-1 | 11 | E-2/C-2 | FCLP | 33F5 | 16713 | 17.1 | 2.0 | 52.4 | <45 | <45 |
| GC-1 | 12 | E-2/C-2 | FCLP | 15F3 | 20816 | 7.6 | 0.9 | 54.4 | <45 | <45 |
| GC-1 | 13 | Single Prop | GCA Box | 33GCA | 5762 | 0.2 | 0.0 | 68.3 | <45 | <45 |
| GC-1 | 14 | E-2/C-2 | FCLP | 33F3 | 16712 | 8.5 | 1.0 | 52.2 | <45 | <45 |
| GC-1 | 15 | Single Prop | ARR | RWY33A | 5694 | 0.4 | 0.1 | 62.6 | <45 | <45 |
| GC-1 | 16 | Single Prop | DEP | RWY15D | 6139 | 0.1 | 0.0 | 65.8 | <45 | <45 |
| GC-1 | 17 | CH-47D | DEP | RWY15D | 5664 | 0.0 | 0.0 | 79.9 | <45 | <45 |
| GC-1 | 18 | CH-47D | ARR | RWY33A | 5802 | 0.0 | 0.0 | 78.0 | <45 | <45 |
| GC-1 | 19 | Business Jet | DEP | RWY15D | 5867 | 0.0 | 0.0 | 73.5 | <45 | <45 |
| GC-1 | 20 | E-2/C-2 | ARR | 15O1 | 20819 | 0.8 | 0.1 | 53.7 | <45 | <45 |
| GC-2 | 1 | E-2/C-2 | FCLP | 33F5 | 17386 | 17.1 | 2.0 | 60.8 | <45 | <45 |
| GC-2 | 2 | E-2/C-2 | Crew Swap | 33SW | 17378 | 2.8 | 0.3 | 64.9 | <45 | <45 |
| GC-2 | 3 | E-2/C-2 | FCLP | 33F3 | 17386 | 8.5 | 1.0 | 59.1 | <45 | <45 |



| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-2 | 4 | E-2/C-2 | Crew Swap | 15SW | 23452 | 2.5 | 0.3 | 64.0 | <45 | <45 |
| GC-2 | 5 | CH-47D | GCA Box | 33GCA | 11475 | 0.5 | 0.0 | 70.8 | <45 | <45 |
| GC-2 | 6 | E-2/C-2 | DEP | 33D2 | 16590 | 0.9 | 0.1 | 67.3 | <45 | <45 |
| GC-2 | 7 | E-2/C-2 | FCLP | 15F5 | 23453 | 15.1 | 1.8 | 51.3 | <45 | <45 |
| GC-2 | 8 | MH-53 | GCA Box | 33GCA | 11439 | 0.1 | 0.0 | 73.1 | <45 | <45 |
| GC-2 | 9 | E-2/C-2 | DEP | 15D2 | 23452 | 0.8 | 0.1 | 61.5 | <45 | <45 |
| GC-2 | 10 | E-2/C-2 | FCLP | 15F3 | 23453 | 7.6 | 0.9 | 50.0 | <45 | <45 |
| GC-2 | 11 | E-2/C-2 | ARR | 33O1 | 17386 | 0.9 | 0.1 | 56.8 | <45 | <45 |
| GC-2 | 12 | Single Prop | GCA Box | 33GCA | 11475 | 0.2 | 0.0 | 61.3 | <45 | <45 |
| GC-2 | 13 | CH-47D | DEP | RWY33D | 23453 | 0.5 | 0.0 | 57.5 | <45 | <45 |
| GC-2 | 14 | Single Prop | FCLP | 33F3 | 17404 | 0.7 | 0.1 | 53.1 | <45 | <45 |
| GC-2 | 15 | CH-47D | ARR | 33VOR | 23472 | 0.5 | 0.0 | 56.4 | <45 | <45 |
| GC-2 | 16 | E-2/C-2 | ARR | 15O1 | 23465 | 0.8 | 0.1 | 53.0 | <45 | <45 |
| GC-2 | 17 | CH-47D | Para Drops | 15PARA | 15861 | 0.1 | 0.0 | 64.2 | <45 | <45 |
| GC-2 | 18 | CH-47D | Para Drops | 15PARA | 16120 | 0.1 | 0.0 | 63.8 | <45 | <45 |
| GC-2 | 19 | Single Prop | DEP | RWY33D | 23453 | 0.4 | 0.1 | 49.7 | <45 | <45 |
| GC-2 | 20 | MH-53 | ARR | 33VORH | 23639 | 0.1 | 0.0 | 57.3 | <45 | <45 |
| GC-3 | 1 | E-2/C-2 | FCLP | 33F5 | 10102 | 17.1 | 2.0 | 69.9 | <45 | <45 |
| GC-3 | 2 | E-2/C-2 | FCLP | 33F3 | 10102 | 8.5 | 1.0 | 68.7 | <45 | <45 |
| GC-3 | 3 | CH-47D | GCA Box | 33GCA | 4477 | 0.5 | 0.0 | 79.9 | <45 | <45 |
| GC-3 | 4 | E-2/C-2 | FCLP | 15F5 | 16161 | 15.1 | 1.8 | 63.8 | <45 | <45 |
| GC-3 | 5 | E-2/C-2 | Crew Swap | 33SW | 10093 | 2.8 | 0.3 | 71.1 | <45 | <45 |
| GC-3 | 6 | E-2/C-2 | DEP | 33D2 | 9351 | 0.9 | 0.1 | 75.1 | <45 | <45 |
| GC-3 | 7 | E-2/C-2 | Crew Swap | 15SW | 16161 | 2.5 | 0.3 | 69.6 | <45 | <45 |
| GC-3 | 8 | E-2/C-2 | FCLP | 15F3 | 16161 | 7.6 | 0.9 | 62.8 | <45 | <45 |
| GC-3 | 9 | MH-53 | GCA Box | 33GCA | 4445 | 0.1 | 0.0 | 84.1 | <45 | <45 |
| GC-3 | 10 | E-2/C-2 | DEP | 15D2 | 16161 | 0.8 | 0.1 | 67.7 | <45 | <45 |
| GC-3 | 11 | E-2/C-2 | ARR | 33O1 | 10102 | 0.9 | 0.1 | 65.8 | <45 | <45 |
| GC-3 | 12 | Single Prop | GCA Box | 33GCA | 4477 | 0.2 | 0.0 | 70.5 | <45 | <45 |
| GC-3 | 13 | E-2/C-2 | ARR | 15O1 | 16180 | 0.8 | 0.1 | 61.4 | <45 | <45 |
| GC-3 | 14 | Single Prop | FCLP | 33F3 | 10133 | 0.7 | 0.1 | 60.7 | <45 | <45 |
| GC-3 | 15 | CH-47D | DEP | RWY33D | 16161 | 0.5 | 0.0 | 62.4 | <45 | <45 |
| GC-3 | 16 | CH-47D | ARR | 33VOR | 16184 | 0.5 | 0.0 | 60.5 | <45 | <45 |
| GC-3 | 17 | CH-47D | Para Drops | 15PARA | 9075 | 0.1 | 0.0 | 71.3 | <45 | <45 |
| GC-3 | 18 | CH-47D | Para Drops | 15PARA | 9480 | 0.1 | 0.0 | 70.7 | <45 | <45 |
| GC-3 | 19 | Single Prop | DEP | RWY33D | 16161 | 0.4 | 0.1 | 54.5 | <45 | <45 |
| GC-3 | 20 | CH-47D | Para Drops | 33PARA | 10365 | 0.1 | 0.0 | 67.5 | <45 | <45 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-4 | 1 | E-2/C-2 | FCLP | 33F5 | 1301 | 17.1 | 2.0 | 87.9 | 54.2 | 54.2 |
| GC-4 | 2 | E-2/C-2 | Crew Swap | 33SW | 1836 | 2.8 | 0.3 | 90.3 | 48.8 | 55.3 |
| GC-4 | 3 | E-2/C-2 | ARR | 15O1 | 1403 | 0.8 | 0.1 | 86.2 | <45 | 55.4 |
| GC-4 | 4 | E-2/C-2 | FCLP | 15F5 | 4334 | 15.1 | 1.8 | 72.1 | <45 | 55.5 |
| GC-4 | 5 | E-2/C-2 | FCLP | 33F3 | 5892 | 8.5 | 1.0 | 74.5 | <45 | 55.5 |
| GC-4 | 6 | E-2/C-2 | Crew Swap | 15SW | 1922 | 2.5 | 0.3 | 78.3 | <45 | 55.6 |
| GC-4 | 7 | E-2/C-2 | FCLP | 15F3 | 4334 | 7.6 | 0.9 | 72.0 | <45 | 55.6 |
| GC-4 | 8 | CH-47D | DEP | RWY33D | 1453 | 0.5 | 0.0 | 84.8 | <45 | 55.7 |
| GC-4 | 9 | E-2/C-2 | DEP | 33D2 | 5749 | 0.9 | 0.1 | 79.5 | <45 | 55.7 |
| GC-4 | 10 | Single Prop | DEP | RWY33D | 1765 | 0.4 | 0.1 | 76.6 | <45 | 55.7 |
| GC-4 | 11 | Business Jet | DEP | RWY33D | 1650 | 0.1 | 0.0 | 87.2 | <45 | 55.7 |
| GC-4 | 12 | CH-47D | GCA Box | 33GCA | 5276 | 0.5 | 0.0 | 74.9 | <45 | 55.7 |
| GC-4 | 13 | E-2/C-2 | DEP | 15D2 | 8957 | 0.8 | 0.1 | 68.8 | <45 | 55.7 |
| GC-4 | 14 | E-2/C-2 | ARR | 33O1 | 5880 | 0.9 | 0.1 | 67.7 | <45 | 55.7 |
| GC-4 | 15 | CH-47D | Para Drops | 33PARA | 2650 | 0.1 | 0.0 | 82.6 | <45 | 55.7 |
| GC-4 | 16 | CH-47D | Para Drops | 33PARA | 3214 | 0.1 | 0.0 | 82.6 | <45 | 55.7 |
| GC-4 | 17 | Single Prop | ARR | RWY15A | 1245 | 0.1 | 0.0 | 73.1 | <45 | 55.7 |
| GC-4 | 18 | Single Prop | FCLP | 33F3 | 5938 | 0.7 | 0.1 | 66.3 | <45 | 55.7 |
| GC-4 | 19 | Super King Air | DEP | RWY33D | 1972 | 0.1 | 0.0 | 74.7 | <45 | 55.7 |
| GC-4 | 20 | CH-47D | ARR | RWY15A | 1403 | 0.0 | 0.0 | 85.7 | <45 | 55.7 |
| | | | | | | | | | | |
| GC-5 | 1 | E-2/C-2 | FCLP | 33F5 | 771 | 17.1 | 2.0 | 91.0 | 57.3 | 57.3 |
| GC-5 | 2 | E-2/C-2 | Crew Swap | 33SW | 8097 | 2.8 | 0.3 | 77.5 | <45 | 57.3 |
| GC-5 | 3 | E-2/C-2 | FCLP | 33F3 | 11276 | 8.5 | 1.0 | 67.0 | <45 | 57.3 |
| GC-5 | 4 | E-2/C-2 | FCLP | 15F5 | 11558 | 15.1 | 1.8 | 62.7 | <45 | 57.3 |
| GC-5 | 5 | E-2/C-2 | Crew Swap | 15SW | 6466 | 2.5 | 0.3 | 70.2 | <45 | 57.4 |
| GC-5 | 6 | CH-47D | DEP | RWY33D | 6277 | 0.5 | 0.0 | 77.9 | <45 | 57.4 |
| GC-5 | 7 | E-2/C-2 | ARR | 15O1 | 6641 | 0.8 | 0.1 | 72.6 | <45 | 57.4 |
| GC-5 | 8 | E-2/C-2 | DEP | 33D2 | 10951 | 0.9 | 0.1 | 72.1 | <45 | 57.4 |
| GC-5 | 9 | E-2/C-2 | FCLP | 15F3 | 11558 | 7.6 | 0.9 | 62.2 | <45 | 57.4 |
| GC-5 | 10 | CH-47D | GCA Box | 33GCA | 10160 | 0.5 | 0.0 | 70.1 | <45 | 57.4 |
| GC-5 | 11 | Single Prop | DEP | RWY33D | 6460 | 0.4 | 0.1 | 65.6 | <45 | 57.4 |
| GC-5 | 12 | E-2/C-2 | ARR | 33O1 | 11287 | 0.9 | 0.1 | 62.3 | <45 | 57.4 |
| GC-5 | 13 | E-2/C-2 | DEP | 15D2 | 15440 | 0.8 | 0.1 | 62.8 | <45 | 57.4 |
| GC-5 | 14 | MH-53 | GCA Box | 33GCA | 10125 | 0.1 | 0.0 | 73.5 | <45 | 57.4 |
| GC-5 | 15 | Business Jet | DEP | RWY33D | 6362 | 0.1 | 0.0 | 72.6 | <45 | 57.4 |
| GC-5 | 16 | Single Prop | FCLP | 33F3 | 11307 | 0.7 | 0.1 | 58.4 | <45 | 57.4 |
| GC-5 | 17 | CH-47D | DEP | RWY33D | 6277 | 0.0 | 0.0 | 77.9 | <45 | 57.4 |
| GC-5 | 18 | Single Prop | GCA Box | 33GCA | 10062 | 0.2 | 0.0 | 62.2 | <45 | 57.4 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-5 | 19 | CH-47D | Para Drops | 33PARA | 9755 | 0.1 | 0.0 | 71.3 | <45 | 57.4 |
| GC-5 | 20 | Super King Air | DEP | RWY33D | 6686 | 0.1 | 0.0 | 64.9 | <45 | 57.4 |
| GC-6 | 1 | E-2/C-2 | FCLP | 33F5 | 4590 | 17.1 | 2.0 | 76.6 | <45 | <45 |
| GC-6 | 2 | E-2/C-2 | Crew Swap | 33SW | 4019 | 2.8 | 0.3 | 83.6 | <45 | 45.5 |
| GC-6 | 3 | E-2/C-2 | ARR | 15O1 | 1519 | 0.8 | 0.1 | 85.2 | <45 | 46.2 |
| GC-6 | 4 | CH-47D | DEP | RWY33D | 2909 | 0.5 | 0.0 | 85.4 | <45 | 46.5 |
| GC-6 | 5 | E-2/C-2 | Crew Swap | 15SW | 2755 | 2.5 | 0.3 | 74.0 | <45 | 46.7 |
| GC-6 | 6 | E-2/C-2 | FCLP | 15F5 | 11623 | 15.1 | 1.8 | 61.2 | <45 | 46.7 |
| GC-6 | 7 | E-2/C-2 | FCLP | 33F3 | 15226 | 8.5 | 1.0 | 63.0 | <45 | 46.8 |
| GC-6 | 8 | E-2/C-2 | FCLP | 15F3 | 11623 | 7.6 | 0.9 | 60.8 | <45 | 46.8 |
| GC-6 | 9 | Single Prop | DEP | RWY33D | 3469 | 0.4 | 0.1 | 70.9 | <45 | 46.8 |
| GC-6 | 10 | E-2/C-2 | DEP | 33D2 | 15117 | 0.9 | 0.1 | 67.4 | <45 | 46.8 |
| GC-6 | 11 | Business Jet | DEP | RWY33D | 3166 | 0.1 | 0.0 | 80.6 | <45 | 46.8 |
| GC-6 | 12 | CH-47D | DEP | RWY33D | 2909 | 0.0 | 0.0 | 85.4 | <45 | 46.8 |
| GC-6 | 13 | E-2/C-2 | ARR | 33O1 | 10611 | 0.9 | 0.1 | 63.0 | <45 | 46.8 |
| GC-6 | 14 | Single Prop | ARR | RWY15A | 2882 | 0.1 | 0.0 | 68.2 | <45 | 46.8 |
| GC-6 | 15 | CH-47D | GCA Box | 33GCA | 14433 | 0.5 | 0.0 | 64.9 | <45 | 46.8 |
| GC-6 | 16 | CH-47D | ARR | RWY15A | 3080 | 0.0 | 0.0 | 81.7 | <45 | 46.8 |
| GC-6 | 17 | Super King Air | DEP | RWY33D | 4127 | 0.1 | 0.0 | 68.9 | <45 | 46.8 |
| GC-6 | 18 | Single Prop | GCA Box | 15GCA | 2964 | 0.1 | 0.0 | 69.2 | <45 | 46.8 |
| GC-6 | 19 | E-2/C-2 | DEP | 15D2 | 17717 | 0.8 | 0.1 | 58.9 | <45 | 46.8 |
| GC-6 | 20 | CH-47D | Para Drops | 33PARA | 9780 | 0.1 | 0.0 | 70.9 | <45 | 46.8 |
| GC-7 | 1 | E-2/C-2 | ARR | 15O1 | 837 | 0.8 | 0.1 | 89.8 | <45 | <45 |
| GC-7 | 2 | E-2/C-2 | Crew Swap | 33SW | 3836 | 2.8 | 0.3 | 83.8 | <45 | 45.5 |
| GC-7 | 3 | E-2/C-2 | FCLP | 33F5 | 12166 | 17.1 | 2.0 | 66.6 | <45 | 45.7 |
| GC-7 | 4 | E-2/C-2 | Crew Swap | 15SW | 6217 | 2.5 | 0.3 | 73.5 | <45 | 45.9 |
| GC-7 | 5 | E-2/C-2 | FCLP | 15F5 | 14466 | 15.1 | 1.8 | 58.1 | <45 | 45.9 |
| GC-7 | 6 | CH-47D | DEP | RWY33D | 11018 | 0.5 | 0.0 | 72.9 | <45 | 45.9 |
| GC-7 | 7 | E-2/C-2 | ARR | 33O1 | 5407 | 0.9 | 0.1 | 69.4 | <45 | 45.9 |
| GC-7 | 8 | E-2/C-2 | FCLP | 15F3 | 14466 | 7.6 | 0.9 | 57.7 | <45 | 45.9 |
| GC-7 | 9 | E-2/C-2 | FCLP | 33F3 | 19980 | 8.5 | 1.0 | 56.4 | <45 | 45.9 |
| GC-7 | 10 | Single Prop | GCA Box | 15GCA | 2317 | 0.1 | 0.0 | 75.9 | <45 | 46.0 |
| GC-7 | 11 | E-2/C-2 | DEP | 33D2 | 19927 | 0.9 | 0.1 | 61.9 | <45 | 46.0 |
| GC-7 | 12 | Single Prop | DEP | RWY33D | 11196 | 0.4 | 0.1 | 60.1 | <45 | 46.0 |
| GC-7 | 13 | CH-47D | GCA Box | 33GCA | 19296 | 0.5 | 0.0 | 59.7 | <45 | 46.0 |
| GC-7 | 14 | E-2/C-2 | DEP | 15D2 | 21464 | 0.8 | 0.1 | 55.9 | <45 | 46.0 |
| GC-7 | 15 | CH-47D | Para Drops | 33PARA | 12513 | 0.1 | 0.0 | 67.7 | <45 | 46.0 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-7 | 16 | CH-47D | Para Drops | 33PARA | 12105 | 0.1 | 0.0 | 67.7 | <45 | 46.0 |
| GC-7 | 17 | CH-47D | DEP | RWY33D | 11018 | 0.0 | 0.0 | 72.9 | <45 | 46.0 |
| GC-7 | 18 | Business Jet | DEP | RWY33D | 11095 | 0.1 | 0.0 | 65.0 | <45 | 46.0 |
| GC-7 | 19 | MH-53 | DEP | 33D3 | 19148 | 0.1 | 0.0 | 63.2 | <45 | 46.0 |
| GC-7 | 20 | Super King Air | DEP | RWY33D | 11445 | 0.1 | 0.0 | 59.4 | <45 | 46.0 |
| | | | | | | | | | | |
| GC-8 | 1 | E-2/C-2 | Crew Swap | 33SW | 12441 | 2.8 | 0.3 | 72.1 | <45 | <45 |
| GC-8 | 2 | E-2/C-2 | FCLP | 33F5 | 16066 | 17.1 | 2.0 | 61.9 | <45 | <45 |
| GC-8 | 3 | E-2/C-2 | Crew Swap | 15SW | 4776 | 2.5 | 0.3 | 68.9 | <45 | <45 |
| GC-8 | 4 | CH-47D | DEP | RWY33D | 8442 | 0.5 | 0.0 | 76.2 | <45 | <45 |
| GC-8 | 5 | E-2/C-2 | ARR | 15O1 | 9561 | 0.8 | 0.1 | 68.9 | <45 | <45 |
| GC-8 | 6 | Single Prop | GCA Box | 15GCA | 4264 | 0.1 | 0.0 | 72.1 | <45 | <45 |
| GC-8 | 7 | E-2/C-2 | ARR | 33O1 | 13348 | 0.9 | 0.1 | 61.2 | <45 | <45 |
| GC-8 | 8 | Single Prop | DEP | RWY33D | 8936 | 0.4 | 0.1 | 62.1 | <45 | <45 |
| GC-8 | 9 | E-2/C-2 | DEP | 33D2 | 26845 | 0.9 | 0.1 | 57.1 | <45 | <45 |
| GC-8 | 10 | E-2/C-2 | FCLP | 15F5 | 22577 | 15.1 | 1.8 | 44.2 | <45 | <45 |
| GC-8 | 11 | CH-47D | DEP | RWY33D | 8442 | 0.0 | 0.0 | 76.2 | <45 | <45 |
| GC-8 | 12 | Business Jet | DEP | RWY33D | 8643 | 0.1 | 0.0 | 68.3 | <45 | <45 |
| GC-8 | 13 | CH-47D | GCA Box | 33GCA | 26113 | 0.5 | 0.0 | 57.4 | <45 | <45 |
| GC-8 | 14 | CH-47D | ARR | RWY15A | 8569 | 0.0 | 0.0 | 75.0 | <45 | <45 |
| GC-8 | 15 | E-2/C-2 | FCLP | 15F3 | 22577 | 7.6 | 0.9 | 43.4 | <45 | <45 |
| GC-8 | 16 | E-2/C-2 | FCLP | 33F3 | 26931 | 8.5 | 1.0 | 42.8 | <45 | <45 |
| GC-8 | 17 | Single Prop | ARR | RWY15A | 8508 | 0.1 | 0.0 | 58.5 | <45 | <45 |
| GC-8 | 18 | Super King Air | DEP | RWY33D | 9706 | 0.1 | 0.0 | 60.8 | <45 | <45 |
| GC-8 | 19 | E-2/C-2 | DEP | 15D2 | 29125 | 0.8 | 0.1 | 48.0 | <45 | <45 |
| GC-8 | 20 | CH-47D | Para Drops | 33PARA | 20472 | 0.1 | 0.0 | 62.2 | <45 | <45 |
| | | | | | | | | | | |
| GC-9 | 1 | E-2/C-2 | Crew Swap | 33SW | 17418 | 2.8 | 0.3 | 66.9 | <45 | <45 |
| GC-9 | 2 | E-2/C-2 | Crew Swap | 15SW | 11413 | 2.5 | 0.3 | 66.6 | <45 | <45 |
| GC-9 | 3 | E-2/C-2 | ARR | 33O1 | 12029 | 0.9 | 0.1 | 64.3 | <45 | <45 |
| GC-9 | 4 | E-2/C-2 | ARR | 15O1 | 9455 | 0.8 | 0.1 | 63.6 | <45 | <45 |
| GC-9 | 5 | CH-47D | DEP | RWY33D | 22108 | 0.5 | 0.0 | 64.5 | <45 | <45 |
| GC-9 | 6 | E-2/C-2 | FCLP | 33F5 | 28445 | 17.1 | 2.0 | 41.0 | <45 | <45 |
| GC-9 | 7 | Single Prop | GCA Box | 15GCA | 10183 | 0.1 | 0.0 | 61.6 | <45 | <45 |
| GC-9 | 8 | E-2/C-2 | FCLP | 15F5 | 31397 | 15.1 | 1.8 | 37.9 | <45 | <45 |
| GC-9 | 9 | Single Prop | DEP | RWY33D | 22348 | 0.4 | 0.1 | 51.7 | <45 | <45 |
| GC-9 | 10 | E-2/C-2 | DEP | 33D2 | 37095 | 0.9 | 0.1 | 49.2 | <45 | <45 |
| GC-9 | 11 | MH-53 | DEP | 33D3 | 32617 | 0.1 | 0.0 | 56.2 | <45 | <45 |
| GC-9 | 12 | MH-53 | ARR | 33VORH | 42576 | 0.1 | 0.0 | 54.4 | <45 | <45 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-9 | 13 | MH-53 | GCA Box | 33GCA | 36413 | 0.1 | 0.0 | 52.0 | <45 | <45 |
| GC-9 | 14 | CH-47D | GCA Box | 33GCA | 36434 | 0.5 | 0.0 | 50.1 | <45 | <45 |
| GC-9 | 15 | E-2/C-2 | FCLP | 15F3 | 31397 | 7.6 | 0.9 | 35.8 | <45 | <45 |
| GC-9 | 16 | E-2/C-2 | FCLP | 33F3 | 37137 | 8.5 | 1.0 | 34.9 | <45 | <45 |
| GC-9 | 17 | E-2/C-2 | DEP | 15D2 | 38503 | 0.8 | 0.1 | 44.9 | <45 | <45 |
| GC-9 | 18 | CH-47D | ARR | RWY15A | 22167 | 0.0 | 0.0 | 64.8 | <45 | <45 |
| GC-9 | 19 | CH-47D | DEP | RWY33D | 22108 | 0.0 | 0.0 | 64.7 | <45 | <45 |
| GC-9 | 20 | Super King Air | DEP | RWY33D | 22766 | 0.1 | 0.0 | 50.6 | <45 | <45 |
| | | | | | | | | | | |
| GC-10 | 1 | E-2/C-2 | FCLP | 15F5 | 1447 | 15.1 | 1.8 | 85.6 | 51.4 | 51.4 |
| GC-10 | 2 | E-2/C-2 | FCLP | 15F3 | 1446 | 7.6 | 0.9 | 85.6 | 48.4 | 53.2 |
| GC-10 | 3 | E-2/C-2 | FCLP | 33F5 | 4794 | 17.1 | 2.0 | 79.7 | 46.0 | 53.9 |
| GC-10 | 4 | E-2/C-2 | Crew Swap | 33SW | 3977 | 2.8 | 0.3 | 84.6 | <45 | 54.3 |
| GC-10 | 5 | E-2/C-2 | Crew Swap | 15SW | 1439 | 2.5 | 0.3 | 84.2 | <45 | 54.5 |
| GC-10 | 6 | E-2/C-2 | FCLP | 33F3 | 4954 | 8.5 | 1.0 | 78.6 | <45 | 54.8 |
| GC-10 | 7 | E-2/C-2 | ARR | 15O1 | 1446 | 0.8 | 0.1 | 82.0 | <45 | 54.8 |
| GC-10 | 8 | E-2/C-2 | DEP | 33D2 | 4960 | 0.9 | 0.1 | 80.9 | <45 | 54.8 |
| GC-10 | 9 | E-2/C-2 | DEP | 15D2 | 5084 | 0.8 | 0.1 | 77.5 | <45 | 54.8 |
| GC-10 | 10 | MH-53 | DEP | 33D3 | 2318 | 0.1 | 0.0 | 86.4 | <45 | 54.9 |
| GC-10 | 11 | Single Prop | FCLP | 15F3 | 1652 | 0.2 | 0.0 | 78.0 | <45 | 54.9 |
| GC-10 | 12 | E-2/C-2 | ARR | 33O1 | 4968 | 0.9 | 0.1 | 73.2 | <45 | 54.9 |
| GC-10 | 13 | CH-47D | Para Drops | 15PARA | 1523 | 0.1 | 0.0 | 87.7 | <45 | 54.9 |
| GC-10 | 14 | CH-47D | Para Drops | 15PARA | 1523 | 0.1 | 0.0 | 87.7 | <45 | 54.9 |
| GC-10 | 15 | CH-47D | DEP | RWY33D | 4775 | 0.5 | 0.0 | 73.7 | <45 | 54.9 |
| GC-10 | 16 | CH-47D | GCA Box | 33GCA | 4919 | 0.5 | 0.0 | 73.6 | <45 | 54.9 |
| GC-10 | 17 | Single Prop | FCLP | 33F3 | 4928 | 0.7 | 0.1 | 69.7 | <45 | 54.9 |
| GC-10 | 18 | CH-47D | Para Drops | 33PARA | 3540 | 0.1 | 0.0 | 84.4 | <45 | 54.9 |
| GC-10 | 19 | CH-47D | Para Drops | 33PARA | 4153 | 0.1 | 0.0 | 83.0 | <45 | 54.9 |
| GC-10 | 20 | Single Prop | DEP | RWY33D | 4799 | 0.4 | 0.1 | 69.8 | <45 | 54.9 |
| | | | | | | | | | | |
| GC-11 | 1 | E-2/C-2 | FCLP | 33F5 | 778 | 17.1 | 2.0 | 94.2 | 60.5 | 60.5 |
| GC-11 | 2 | E-2/C-2 | FCLP | 33F3 | 783 | 8.5 | 1.0 | 94.1 | 57.4 | 62.2 |
| GC-11 | 3 | E-2/C-2 | Crew Swap | 33SW | 647 | 2.8 | 0.3 | 98.5 | 57.0 | 63.4 |
| GC-11 | 4 | E-2/C-2 | FCLP | 15F5 | 504 | 15.1 | 1.8 | 89.5 | 55.2 | 64.0 |
| GC-11 | 5 | E-2/C-2 | FCLP | 15F3 | 504 | 7.6 | 0.9 | 89.5 | 52.2 | 64.3 |
| GC-11 | 6 | E-2/C-2 | DEP | 33D2 | 609 | 0.9 | 0.1 | 98.2 | 51.4 | 64.5 |
| GC-11 | 7 | E-2/C-2 | Crew Swap | 15SW | 513 | 2.5 | 0.3 | 93.0 | 50.9 | 64.7 |
| GC-11 | 8 | Business Jet | DEP | RWY15D | 688 | 0.0 | 0.0 | 110.0 | 45.0 | 64.7 |
| GC-11 | 9 | E-2/C-2 | ARR | 15O1 | 504 | 0.8 | 0.1 | 90.5 | <45 | 64.7 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| GC-11 | 10 | Single Prop | FCLP | 33F3 | 566 | 0.7 | 0.1 | 88.9 | <45 | 64.8 |
| GC-11 | 11 | CH-47D | DEP | RWY33D | 602 | 0.5 | 0.0 | 90.9 | <45 | 64.8 |
| GC-11 | 12 | E-2/C-2 | ARR | 33O1 | 809 | 0.9 | 0.1 | 86.2 | <45 | 64.8 |
| GC-11 | 13 | E-2/C-2 | DEP | 15D2 | 689 | 0.8 | 0.1 | 86.4 | <45 | 64.8 |
| GC-11 | 14 | Super King Air | DEP | RWY15D | 688 | 0.0 | 0.0 | 98.8 | <45 | 64.8 |
| GC-11 | 15 | Business Jet | DEP | RWY33D | 646 | 0.1 | 0.0 | 97.6 | <45 | 64.8 |
| GC-11 | 16 | CH-47D | GCA Box | 33GCA | 1086 | 0.5 | 0.0 | 86.9 | <45 | 64.8 |
| GC-11 | 17 | Single Prop | DEP | RWY33D | 688 | 0.4 | 0.1 | 84.9 | <45 | 64.8 |
| GC-11 | 18 | Single Prop | FCLP | 15F3 | 502 | 0.2 | 0.0 | 86.8 | <45 | 64.8 |
| GC-11 | 19 | Single Prop | DEP | RWY15D | 688 | 0.1 | 0.0 | 88.0 | <45 | 64.9 |
| GC-11 | 20 | Single Prop | GCA Box | 33GCA | 670 | 0.2 | 0.0 | 85.9 | <45 | 64.9 |
| SC-1 | 1 | E-2/C-2 | FCLP | 15F5 | 1112 | 15.1 | 1.8 | 92.9 | 58.7 | 58.7 |
| SC-1 | 2 | E-2/C-2 | FCLP | 15F3 | 1112 | 7.6 | 0.9 | 92.9 | 55.6 | 60.4 |
| SC-1 | 3 | E-2/C-2 | FCLP | 33F5 | 955 | 17.1 | 2.0 | 89.0 | 55.3 | 61.6 |
| SC-1 | 4 | E-2/C-2 | Crew Swap | 15SW | 1024 | 2.5 | 0.3 | 95.4 | 53.3 | 62.2 |
| SC-1 | 5 | E-2/C-2 | FCLP | 33F3 | 955 | 8.5 | 1.0 | 89.1 | 52.3 | 62.6 |
| SC-1 | 6 | E-2/C-2 | Crew Swap | 33SW | 955 | 2.8 | 0.3 | 93.4 | 51.9 | 63.0 |
| SC-1 | 7 | E-2/C-2 | DEP | 15D2 | 996 | 0.8 | 0.1 | 95.0 | 47.7 | 63.1 |
| SC-1 | 8 | E-2/C-2 | DEP | 33D2 | 955 | 0.9 | 0.1 | 88.5 | <45 | 63.1 |
| SC-1 | 9 | E-2/C-2 | ARR | 33O1 | 972 | 0.9 | 0.1 | 88.1 | <45 | 63.2 |
| SC-1 | 10 | Single Prop | FCLP | 33F3 | 955 | 0.7 | 0.1 | 87.0 | <45 | 63.2 |
| SC-1 | 11 | CH-47D | GCA Box | 33GCA | 954 | 0.5 | 0.0 | 88.9 | <45 | 63.2 |
| SC-1 | 12 | E-2/C-2 | ARR | 15O1 | 1242 | 0.8 | 0.1 | 84.8 | <45 | 63.2 |
| SC-1 | 13 | Super King Air | DEP | RWY33D | 954 | 0.1 | 0.0 | 92.9 | <45 | 63.2 |
| SC-1 | 14 | Single Prop | DEP | RWY33D | 954 | 0.4 | 0.1 | 85.6 | <45 | 63.2 |
| SC-1 | 15 | CH-47D | DEP | RWY33D | 954 | 0.5 | 0.0 | 86.6 | <45 | 63.2 |
| SC-1 | 16 | CH-47D | ARR | 33VOR | 964 | 0.5 | 0.0 | 86.5 | <45 | 63.2 |
| SC-1 | 17 | Single Prop | FCLP | 15F3 | 970 | 0.2 | 0.0 | 87.1 | <45 | 63.3 |
| SC-1 | 18 | Business Jet | DEP | RWY33D | 954 | 0.1 | 0.0 | 94.7 | <45 | 63.3 |
| SC-1 | 19 | MH-53 | GCA Box | 33GCA | 955 | 0.1 | 0.0 | 91.3 | <45 | 63.3 |
| SC-1 | 20 | Single Prop | GCA Box | 33GCA | 954 | 0.2 | 0.0 | 84.7 | <45 | 63.3 |
| SC-2 | 1 | E-2/C-2 | FCLP | 15F5 | 3612 | 15.1 | 1.8 | 80.3 | 46.1 | 46.1 |
| SC-2 | 2 | E-2/C-2 | Crew Swap | 15SW | 5917 | 2.5 | 0.3 | 80.3 | <45 | 46.8 |
| SC-2 | 3 | E-2/C-2 | FCLP | 15F3 | 5915 | 7.6 | 0.9 | 74.1 | <45 | 47.2 |
| SC-2 | 4 | E-2/C-2 | Crew Swap | 33SW | 7347 | 2.8 | 0.3 | 76.2 | <45 | 47.4 |
| SC-2 | 5 | E-2/C-2 | FCLP | 33F5 | 10084 | 17.1 | 2.0 | 68.0 | <45 | 47.6 |
| SC-2 | 6 | E-2/C-2 | FCLP | 33F3 | 10084 | 8.5 | 1.0 | 67.4 | <45 | 47.7 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-2 | 7 | E-2/C-2 | DEP | 15D2 | 9666 | 0.8 | 0.1 | 75.8 | <45 | 47.8 |
| SC-2 | 8 | E-2/C-2 | ARR | 33O1 | 2424 | 0.9 | 0.1 | 73.7 | <45 | 47.8 |
| SC-2 | 9 | E-2/C-2 | DEP | 33D2 | 11324 | 0.9 | 0.1 | 68.4 | <45 | 47.8 |
| SC-2 | 10 | E-2/C-2 | ARR | 15O1 | 5925 | 0.8 | 0.1 | 68.4 | <45 | 47.8 |
| SC-2 | 11 | CH-47D | GCA Box | 33GCA | 9648 | 0.5 | 0.0 | 69.2 | <45 | 47.8 |
| SC-2 | 12 | Single Prop | GCA Box | 15GCA | 2529 | 0.1 | 0.0 | 75.4 | <45 | 47.8 |
| SC-2 | 13 | CH-47D | ARR | 33VOR | 9656 | 0.5 | 0.0 | 68.0 | <45 | 47.8 |
| SC-2 | 14 | Single Prop | FCLP | 15F3 | 5968 | 0.2 | 0.0 | 66.0 | <45 | 47.8 |
| SC-2 | 15 | MH-53 | ARR | 33VORH | 9649 | 0.1 | 0.0 | 73.2 | <45 | 47.8 |
| SC-2 | 16 | MH-53 | DEP | 33D3 | 10183 | 0.1 | 0.0 | 72.1 | <45 | 47.8 |
| SC-2 | 17 | MH-53 | GCA Box | 33GCA | 9649 | 0.1 | 0.0 | 71.9 | <45 | 47.8 |
| SC-2 | 18 | CH-47D | DEP | RWY33D | 11324 | 0.5 | 0.0 | 62.0 | <45 | 47.8 |
| SC-2 | 19 | CH-47D | Para Drops | 15PARA | 8660 | 0.1 | 0.0 | 72.6 | <45 | 47.8 |
| SC-2 | 20 | CH-47D | Para Drops | 15PARA | 9534 | 0.1 | 0.0 | 72.6 | <45 | 47.8 |
| SC-3 | 1 | E-2/C-2 | Crew Swap | 15SW | 3528 | 2.5 | 0.3 | 83.8 | <45 | <45 |
| SC-3 | 2 | E-2/C-2 | Crew Swap | 33SW | 3598 | 2.8 | 0.3 | 79.8 | <45 | <45 |
| SC-3 | 3 | E-2/C-2 | FCLP | 15F5 | 12441 | 15.1 | 1.8 | 66.7 | <45 | <45 |
| SC-3 | 4 | E-2/C-2 | FCLP | 15F3 | 17096 | 7.6 | 0.9 | 59.1 | <45 | <45 |
| SC-3 | 5 | E-2/C-2 | DEP | 15D2 | 18555 | 0.8 | 0.1 | 67.4 | <45 | <45 |
| SC-3 | 6 | E-2/C-2 | ARR | 33O1 | 10199 | 0.9 | 0.1 | 64.3 | <45 | <45 |
| SC-3 | 7 | E-2/C-2 | FCLP | 33F5 | 20803 | 17.1 | 2.0 | 48.8 | <45 | <45 |
| SC-3 | 8 | E-2/C-2 | DEP | 33D2 | 21886 | 0.9 | 0.1 | 61.4 | <45 | <45 |
| SC-3 | 9 | CH-47D | ARR | 33VOR | 18525 | 0.5 | 0.0 | 63.8 | <45 | <45 |
| SC-3 | 10 | CH-47D | GCA Box | 33GCA | 18517 | 0.5 | 0.0 | 62.1 | <45 | <45 |
| SC-3 | 11 | E-2/C-2 | FCLP | 33F3 | 20803 | 8.5 | 1.0 | 47.7 | <45 | <45 |
| SC-3 | 12 | E-2/C-2 | ARR | 15O1 | 17106 | 0.8 | 0.1 | 56.3 | <45 | <45 |
| SC-3 | 13 | MH-53 | DEP | 33D3 | 16753 | 0.1 | 0.0 | 66.4 | <45 | <45 |
| SC-3 | 14 | MH-53 | ARR | 33VORH | 18517 | 0.1 | 0.0 | 65.1 | <45 | <45 |
| SC-3 | 15 | MH-53 | GCA Box | 33GCA | 18517 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| SC-3 | 16 | Single Prop | GCA Box | 15GCA | 12116 | 0.1 | 0.0 | 59.6 | <45 | <45 |
| SC-3 | 17 | Single Prop | FCLP | 15F3 | 17115 | 0.2 | 0.0 | 53.1 | <45 | <45 |
| SC-3 | 18 | Single Prop | ARR | RWY33A | 18505 | 0.4 | 0.1 | 49.5 | <45 | <45 |
| SC-3 | 19 | Single Prop | DEP | RWY15D | 18571 | 0.1 | 0.0 | 54.2 | <45 | <45 |
| SC-3 | 20 | CH-47D | Para Drops | 15PARA | 19681 | 0.1 | 0.0 | 62.4 | <45 | <45 |
| SC-4 | 1 | E-2/C-2 | Crew Swap | 15SW | 2226 | 2.5 | 0.3 | 83.6 | <45 | <45 |
| SC-4 | 2 | E-2/C-2 | Crew Swap | 33SW | 2516 | 2.8 | 0.3 | 81.8 | <45 | <45 |
| SC-4 | 3 | E-2/C-2 | FCLP | 15F5 | 18594 | 15.1 | 1.8 | 58.7 | <45 | <45 |



| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-4 | 4 | E-2/C-2 | DEP | 15D2 | 24698 | 0.8 | 0.1 | 63.1 | <45 | <45 |
| SC-4 | 5 | E-2/C-2 | FCLP | 15F3 | 21656 | 7.6 | 0.9 | 51.0 | <45 | <45 |
| SC-4 | 6 | E-2/C-2 | DEP | 33D2 | 27360 | 0.9 | 0.1 | 58.7 | <45 | <45 |
| SC-4 | 7 | E-2/C-2 | ARR | 33O1 | 16238 | 0.9 | 0.1 | 58.6 | <45 | <45 |
| SC-4 | 8 | CH-47D | ARR | 33VOR | 24681 | 0.5 | 0.0 | 60.1 | <45 | <45 |
| SC-4 | 9 | MH-53 | DEP | 33D3 | 15561 | 0.1 | 0.0 | 68.0 | <45 | <45 |
| SC-4 | 10 | CH-47D | GCA Box | 33GCA | 24676 | 0.5 | 0.0 | 58.3 | <45 | <45 |
| SC-4 | 11 | E-2/C-2 | FCLP | 33F5 | 26171 | 17.1 | 2.0 | 41.0 | <45 | <45 |
| SC-4 | 12 | E-2/C-2 | FCLP | 33F3 | 26171 | 8.5 | 1.0 | 39.6 | <45 | <45 |
| SC-4 | 13 | MH-53 | GCA Box | 33GCA | 24676 | 0.1 | 0.0 | 60.9 | <45 | <45 |
| SC-4 | 14 | E-2/C-2 | ARR | 15O1 | 21664 | 0.8 | 0.1 | 49.4 | <45 | <45 |
| SC-4 | 15 | MH-53 | ARR | 33VORH | 24676 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| SC-4 | 16 | Single Prop | GCA Box | 15GCA | 15965 | 0.1 | 0.0 | 56.3 | <45 | <45 |
| SC-4 | 17 | Single Prop | FCLP | 15F3 | 21671 | 0.2 | 0.0 | 49.2 | <45 | <45 |
| SC-4 | 18 | Single Prop | DEP | RWY15D | 24713 | 0.1 | 0.0 | 50.1 | <45 | <45 |
| SC-4 | 19 | CH-47D | Para Drops | 15PARA | 24120 | 0.1 | 0.0 | 58.9 | <45 | <45 |
| SC-4 | 20 | Single Prop | GCA Box | 33GCA | 24673 | 0.2 | 0.0 | 49.2 | <45 | <45 |
| | | | | | | | | | | |
| SC-5 | 1 | E-2/C-2 | Crew Swap | 15SW | 2934 | 2.5 | 0.3 | 81.9 | <45 | <45 |
| SC-5 | 2 | E-2/C-2 | Crew Swap | 33SW | 3747 | 2.8 | 0.3 | 81.0 | <45 | <45 |
| SC-5 | 3 | E-2/C-2 | FCLP | 15F5 | 18329 | 15.1 | 1.8 | 58.8 | <45 | <45 |
| SC-5 | 4 | E-2/C-2 | DEP | 15D2 | 24298 | 0.8 | 0.1 | 63.5 | <45 | <45 |
| SC-5 | 5 | E-2/C-2 | ARR | 33O1 | 16036 | 0.9 | 0.1 | 59.5 | <45 | <45 |
| SC-5 | 6 | E-2/C-2 | DEP | 33D2 | 26243 | 0.9 | 0.1 | 59.4 | <45 | <45 |
| SC-5 | 7 | E-2/C-2 | FCLP | 15F3 | 22929 | 7.6 | 0.9 | 48.5 | <45 | <45 |
| SC-5 | 8 | CH-47D | ARR | 33VOR | 24258 | 0.5 | 0.0 | 61.0 | <45 | <45 |
| SC-5 | 9 | CH-47D | GCA Box | 33GCA | 24251 | 0.5 | 0.0 | 58.6 | <45 | <45 |
| SC-5 | 10 | MH-53 | DEP | 33D3 | 18657 | 0.1 | 0.0 | 65.1 | <45 | <45 |
| SC-5 | 11 | E-2/C-2 | FCLP | 33F5 | 26892 | 17.1 | 2.0 | 39.9 | <45 | <45 |
| SC-5 | 12 | MH-53 | GCA Box | 33GCA | 24252 | 0.1 | 0.0 | 61.2 | <45 | <45 |
| SC-5 | 13 | MH-53 | ARR | 33VORH | 24252 | 0.1 | 0.0 | 60.8 | <45 | <45 |
| SC-5 | 14 | E-2/C-2 | FCLP | 33F3 | 26892 | 8.5 | 1.0 | 38.3 | <45 | <45 |
| SC-5 | 15 | E-2/C-2 | ARR | 15O1 | 22940 | 0.8 | 0.1 | 47.2 | <45 | <45 |
| SC-5 | 16 | Single Prop | GCA Box | 15GCA | 17539 | 0.1 | 0.0 | 55.2 | <45 | <45 |
| SC-5 | 17 | Single Prop | ARR | RWY33A | 24239 | 0.4 | 0.1 | 45.9 | <45 | <45 |
| SC-5 | 18 | Single Prop | DEP | RWY15D | 24301 | 0.1 | 0.0 | 50.5 | <45 | <45 |
| SC-5 | 19 | Single Prop | FCLP | 15F3 | 22943 | 0.2 | 0.0 | 48.3 | <45 | <45 |
| SC-5 | 20 | Single Prop | GCA Box | 33GCA | 24247 | 0.2 | 0.0 | 49.4 | <45 | <45 |

| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|----------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-6 | 1 | E-2/C-2 | Crew Swap | 33SW | 3010 | 2.8 | 0.3 | 81.0 | <45 | <45 |
| SC-6 | 2 | E-2/C-2 | Crew Swap | 15SW | 4359 | 2.5 | 0.3 | 79.0 | <45 | <45 |
| SC-6 | 3 | E-2/C-2 | FCLP | 15F5 | 20646 | 15.1 | 1.8 | 54.7 | <45 | <45 |
| SC-6 | 4 | E-2/C-2 | DEP | 15D2 | 23864 | 0.8 | 0.1 | 62.4 | <45 | <45 |
| SC-6 | 5 | E-2/C-2 | DEP | 33D2 | 26334 | 0.9 | 0.1 | 59.1 | <45 | <45 |
| SC-6 | 6 | E-2/C-2 | ARR | 33O1 | 18318 | 0.9 | 0.1 | 57.2 | <45 | <45 |
| SC-6 | 7 | CH-47D | ARR | 33VOR | 26493 | 0.5 | 0.0 | 59.9 | <45 | <45 |
| SC-6 | 8 | CH-47D | GCA Box | 33GCA | 26486 | 0.5 | 0.0 | 57.3 | <45 | <45 |
| SC-6 | 9 | E-2/C-2 | FCLP | 15F3 | 25210 | 7.6 | 0.9 | 43.8 | <45 | <45 |
| SC-6 | 10 | MH-53 | DEP | 33D3 | 19357 | 0.1 | 0.0 | 64.7 | <45 | <45 |
| SC-6 | 11 | E-2/C-2 | FCLP | 33F5 | 29250 | 17.1 | 2.0 | 38.4 | <45 | <45 |
| SC-6 | 12 | MH-53 | GCA Box | 33GCA | 26487 | 0.1 | 0.0 | 60.1 | <45 | <45 |
| SC-6 | 13 | MH-53 | ARR | 33VORH | 26487 | 0.1 | 0.0 | 59.4 | <45 | <45 |
| SC-6 | 14 | E-2/C-2 | FCLP | 33F3 | 29250 | 8.5 | 1.0 | 36.8 | <45 | <45 |
| SC-6 | 15 | Single Prop | GCA Box | 15GCA | 19722 | 0.1 | 0.0 | 53.7 | <45 | <45 |
| SC-6 | 16 | E-2/C-2 | ARR | 15O1 | 25221 | 0.8 | 0.1 | 43.5 | <45 | <45 |
| SC-6 | 17 | Single Prop | ARR | RWY33A | 26474 | 0.4 | 0.1 | 44.4 | <45 | <45 |
| SC-6 | 18 | Single Prop | DEP | RWY15D | 26535 | 0.1 | 0.0 | 49.0 | <45 | <45 |
| SC-6 | 19 | Single Prop | GCA Box | 33GCA | 26481 | 0.2 | 0.0 | 48.1 | <45 | <45 |
| SC-6 | 20 | Single Prop | FCLP | 15F3 | 25223 | 0.2 | 0.0 | 46.0 | <45 | <45 |
| SC-7 | 1 | E-2/C-2 | DEP | 33D2 | 9554 | 0.9 | 0.1 | 66.8 | <45 | <45 |
| SC-7 | 2 | E-2/C-2 | DEP | 15D2 | 11474 | 0.8 | 0.1 | 65.1 | <45 | <45 |
| SC-7 | 3 | E-2/C-2 | Crew Swap | 15SW | 40895 | 2.5 | 0.3 | 53.3 | <45 | <45 |
| SC-7 | 4 | E-2/C-2 | Crew Swap | 33SW | 39409 | 2.8 | 0.3 | 52.2 | <45 | <45 |
| SC-7 | 5 | E-2/C-2 | ARR | 33O1 | 58094 | 0.9 | 0.1 | 45.2 | <45 | <45 |
| SC-7 | 6 | E-2/C-2 | FCLP | 15F5 | 60817 | 15.1 | 1.8 | 27.2 | <45 | <45 |
| SC-7 | 7 | E-2/C-2 | ARR | 15O1 | 62100 | 0.8 | 0.1 | 39.8 | <45 | <45 |
| SC-7 | 8 | E-2/C-2 | FCLP | 33F5 | 69216 | 17.1 | 2.0 | 25.2 | <45 | <45 |
| SC-7 | 9 | E-2/C-2 | FCLP | 15F3 | 64429 | 7.6 | 0.9 | 24.4 | <45 | <45 |
| SC-7 | 10 | E-2/C-2 | FCLP | 33F3 | 69216 | 8.5 | 1.0 | 23.2 | <45 | <45 |
| SC-7 | 11 | CH-47D | ARR | 33VOR | 65574 | 0.5 | 0.0 | 31.9 | <45 | <45 |
| SC-7 | 12 | Single Prop | DEP | RWY15D | 65614 | 0.1 | 0.0 | 34.6 | <45 | <45 |
| SC-7 | 13 | Single Prop | DEP | RWY33D | 70264 | 0.4 | 0.1 | 27.3 | <45 | <45 |
| SC-7 | 14 | CH-47D | DEP | RWY33D | 70264 | 0.5 | 0.0 | 28.3 | <45 | <45 |
| SC-7 | 15 | Super King Air | DEP | RWY33D | 70264 | 0.1 | 0.0 | 33.8 | <45 | <45 |
| SC-7 | 16 | CH-47D | GCA Box | 33GCA | 65575 | 0.5 | 0.0 | 27.2 | <45 | <45 |
| SC-7 | 17 | CH-47D | Para Drops | 33PARA | 65439 | 0.1 | 0.0 | 38.4 | <45 | <45 |
| SC-7 | 18 | Super King Air | DEP | RWY15D | 65702 | 0.0 | 0.0 | 35.4 | <45 | <45 |



| Emporia: Alt 1B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| SC-7 | 19 | CH-47D | Para Drops | 15PARA | 66216 | 0.1 | 0.0 | 36.8 | <45 | <45 |
| SC-7 | 20 | Single Prop | FCLP | 33F3 | 69216 | 0.7 | 0.1 | 17.1 | <45 | <45 |

Appendix C: Points of Interest SEL Tables for Top Contributor to the DNL at Wallops Flight Facility

| Location ID | Description | Latitude | Longitude | Total DNL (dB) | | | | |
|-------------|--|----------|-----------|----------------|--------|--------|--------|--------|
| | | | | Baseline | Alt 2A | Alt 2B | Alt 2C | Alt 2D |
| AC-1 | Intersection of US 13 and SR 709 | 37.97986 | 75.53012 | <45 | <45 | <45 | <45 | <45 |
| AC-2 | T's Corner (east of intersection of US 13 and Chincoteague Rd) | 37.94559 | 75.53969 | 49.1 | 49.7 | 49.7 | 52.7 | 53.5 |
| AC-3 | Arcadia High School | 37.92565 | 75.54959 | <45 | 46.4 | 46.3 | 45.8 | 47.0 |
| AC-4 | Temperanceville at Intersection of US 13 and SR 695 | 37.893 | 75.54888 | <45 | <45 | <45 | <45 | <45 |
| AC-5 | Captain's Cove Community Pool | 37.99063 | 75.42181 | <45 | <45 | 45.3 | 45.6 | 45.7 |
| AC-6 | Horntown at Intersection of SR 679 and SR 709 | 37.96971 | 75.46310 | 52.8 | 53.8 | 59.5 | 54.1 | 54.2 |
| AC-7 | Trail's End Community Pool | 37.95577 | 75.45085 | 62.4 | 63.3 | 64 | 63.0 | 63.1 |
| AC-8 | Olde Mill Pointe Traffic Circle | 37.95077 | 75.48857 | 56.1 | 57.0 | 57.1 | 58.0 | 58.3 |
| AC-9 | Wattsville at Intersection of SR 679 and Chincoteague Road | 37.93403 | 75.49924 | 61.2 | 61.4 | 61.4 | 61.6 | 61.9 |
| AC-10 | Atlantic at Intersection of SR 679 and Nocks Landing Road | 37.9034 | 75.50457 | 45.1 | 50.8 | 51.6 | 46.6 | 47.1 |
| AC-11 | Assawoman at Intersection of SR 670 and Wallops Island Road | 37.87439 | 75.52087 | <45 | <45 | <45 | <45 | <45 |
| AC-12 | Marine Science Consortium | 37.93441 | 75.48218 | 55 | 57.6 | 57.7 | 59.9 | 59.2 |
| AC-13 | NASA Visitor Center | 37.93848 | 75.45734 | 63.5 | 66.8 | 66.9 | 64.5 | 64.6 |
| AC-14 | USFWS Maintenance Yard at Wallops Island NWR | 37.91902 | 75.47368 | 62.4 | 63.7 | 64.3 | 62.8 | 62.8 |
| AC-15 | Ballast Narrows at Wallops Island NWR | 37.88827 | 75.45856 | <45 | <45 | 47.4 | <45 | <45 |
| AC-16 | Chincoteague High School | 37.9428 | 75.36462 | <45 | <45 | <45 | <45 | <45 |
| AC-17 | Chincoteague Waterfront Park | 37.93468 | 75.37687 | <45 | <45 | <45 | <45 | <45 |
| AC-18 | Chincoteague Chamber of Commerce on Piney Island | 37.92675 | 75.35452 | <45 | <45 | <45 | <45 | <45 |
| AC-19 | Curtis Merritt Harbor, Chincoteague Island | 37.9027 | 75.40628 | <45 | <45 | <45 | <45 | <45 |
| AC-20 | Tom's Cove Visitor Center | 37.89011 | 75.34476 | <45 | <45 | <45 | <45 | <45 |
| AC-21 | Mid-Atlantic Regional Spaceport | 37.85081 | 75.47113 | <45 | <45 | <45 | <45 | <45 |
| AC-22 | Withams at Intersection of SR 693 and SR 703 | 37.94546 | 75.57746 | <45 | <45 | <45 | 45.0 | 45.0 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-1 | 1 | Jet Fighter | T & G | 10T1 | 8777 | 0.3 | 0.0 | 87.0 | <45 | <45 |
| AC-1 | 2 | Jet Fighter | ARR | P1001 | 9278 | 0.0 | 0.0 | 88.9 | <45 | <45 |
| AC-1 | 3 | Jet Fighter | DEP | P10D2 | 11460 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-1 | 4 | Jet Fighter | DEP | P28D2 | 13597 | 0.1 | 0.0 | 85.7 | <45 | <45 |
| AC-1 | 5 | Jet Fighter | T & G | 28T1 | 17787 | 0.4 | 0.0 | 76.2 | <45 | <45 |
| AC-1 | 6 | P-3C | DEP | 10D3 | 5654 | 1.0 | 0.0 | 71.9 | <45 | <45 |
| AC-1 | 7 | P-3C | DEP | 28D3 | 12683 | 1.6 | 0.0 | 68.3 | <45 | <45 |
| AC-1 | 8 | Jet Fighter | DEP | P04D2 | 12312 | 0.0 | 0.0 | 87.2 | <45 | <45 |
| AC-1 | 9 | E-2/C-2 | DEP | N28D2 | 13506 | 0.5 | 0.0 | 71.5 | <45 | <45 |
| AC-1 | 10 | B-737-400* | DEP | 10D3 | 7434 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-1 | 11 | Jet Fighter | T & G | 04T1 | 16808 | 0.1 | 0.0 | 76.7 | <45 | <45 |
| AC-1 | 12 | E-2/C-2 | T & G | 10T1 | 8766 | 1.3 | 0.0 | 65.7 | <45 | <45 |
| AC-1 | 13 | E-2/C-2 | T & G | 10T1 | 8781 | 0.8 | 0.0 | 66.6 | <45 | <45 |
| AC-1 | 14 | E-2/C-2 | DEP | N10D2 | 10064 | 0.3 | 0.0 | 70.3 | <45 | <45 |
| AC-1 | 15 | B-737-400* | DEP | 28D3 | 12768 | 0.4 | 0.0 | 68.9 | <45 | <45 |
| AC-1 | 16 | E-2/C-2 | T & G | 28T1 | 17770 | 1.9 | 0.0 | 62.4 | <45 | <45 |
| AC-1 | 17 | E-2/C-2 | T & G | 28T1 | 17787 | 1.3 | 0.0 | 63.6 | <45 | <45 |
| AC-1 | 18 | E-2/C-2 | ARR | N28O1 | 4601 | 0.5 | 0.0 | 67.0 | <45 | <45 |
| AC-1 | 19 | P-3C | DEP | 04D3 | 9895 | 0.4 | 0.0 | 66.8 | <45 | <45 |
| AC-1 | 20 | Jet Fighter | T & G | 22T1 | 24678 | 0.3 | 0.0 | 68.5 | <45 | <45 |
| AC-2 | 1 | Jet Fighter | DEP | P28D2 | 3181 | 0.1 | 0.0 | 105.6 | <45 | <45 |
| AC-2 | 2 | Jet Fighter | ARR | P1001 | 1303 | 0.0 | 0.0 | 105.4 | <45 | 46.8 |
| AC-2 | 3 | P-3C | DEP | 28D3 | 1710 | 1.6 | 0.0 | 87.4 | <45 | 47.6 |
| AC-2 | 4 | P-3C | ARR | 10A1 | 865 | 1.0 | 0.0 | 88.8 | <45 | 48.3 |
| AC-2 | 5 | E-2/C-2 | DEP | N28D2 | 2480 | 0.5 | 0.0 | 87.1 | <45 | 48.5 |
| AC-2 | 6 | B-737-400* | ARR | 10A1 | 824 | 0.3 | 0.0 | 89.1 | <45 | 48.6 |
| AC-2 | 7 | B-737-400* | DEP | 28D3 | 2257 | 0.4 | 0.0 | 86.8 | <45 | 48.8 |
| AC-2 | 8 | Jet Fighter | T & G | 10T1 | 7671 | 0.3 | 0.0 | 88.3 | <45 | 48.9 |
| AC-2 | 9 | Jet Fighter | T & G | 28T1 | 12579 | 0.4 | 0.0 | 83.6 | <45 | 48.9 |
| AC-2 | 10 | A-10A | ARR | 10A1 | 809 | 0.0 | 0.0 | 95.2 | <45 | 49.0 |
| AC-2 | 11 | E-2/C-2 | ARR | N1001 | 1284 | 0.3 | 0.0 | 78.3 | <45 | 49.0 |
| AC-2 | 12 | Jet Fighter | DEP | P10D2 | 15779 | 0.0 | 0.0 | 86.7 | <45 | 49.0 |
| AC-2 | 13 | C-12 | ARR | 10A1 | 845 | 0.1 | 0.0 | 81.5 | <45 | 49.0 |
| AC-2 | 14 | Jet Fighter | T & G | 04T1 | 12515 | 0.1 | 0.0 | 81.8 | <45 | 49.0 |
| AC-2 | 15 | Jet Fighter | DEP | P22D2 | 13643 | 0.0 | 0.0 | 86.0 | <45 | 49.1 |
| AC-2 | 16 | E-2/C-2 | T & G | 28T1 | 12555 | 1.9 | 0.0 | 66.9 | <45 | 49.1 |
| AC-2 | 17 | C-12 | DEP | 28D3 | 1988 | 0.2 | 0.0 | 75.2 | <45 | 49.1 |
| AC-2 | 18 | E-2/C-2 | T & G | 28T1 | 12579 | 1.3 | 0.0 | 67.2 | <45 | 49.1 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-2 | 19 | E-2/C-2 | T & G | 10T1 | 7674 | 1.3 | 0.0 | 66.7 | <45 | 49.1 |
| AC-2 | 20 | Jet Fighter | ARR | P28O1 | 12553 | 0.1 | 0.0 | 79.1 | <45 | 49.1 |
| AC-3 | 1 | Jet Fighter | DEP | P28D2 | 7378 | 0.1 | 0.0 | 95.3 | <45 | <45 |
| AC-3 | 2 | Jet Fighter | T & G | 28T1 | 14817 | 0.4 | 0.0 | 86.0 | <45 | <45 |
| AC-3 | 3 | Jet Fighter | DEP | P22D2 | 7745 | 0.0 | 0.0 | 93.8 | <45 | <45 |
| AC-3 | 4 | E-2/C-2 | DEP | N28D2 | 6980 | 0.5 | 0.0 | 77.4 | <45 | <45 |
| AC-3 | 5 | P-3C | DEP | 28D3 | 8116 | 1.6 | 0.0 | 72.6 | <45 | <45 |
| AC-3 | 6 | Jet Fighter | T & G | 10T1 | 13489 | 0.3 | 0.0 | 78.4 | <45 | <45 |
| AC-3 | 7 | P-3C | DEP | 22D3 | 5524 | 1.0 | 0.0 | 72.3 | <45 | <45 |
| AC-3 | 8 | B-737-400* | DEP | 22D3 | 5749 | 0.3 | 0.0 | 76.8 | <45 | <45 |
| AC-3 | 9 | Jet Fighter | ARR | P10O1 | 6490 | 0.0 | 0.0 | 84.3 | <45 | <45 |
| AC-3 | 10 | Jet Fighter | T & G | 04T1 | 13046 | 0.1 | 0.0 | 80.3 | <45 | <45 |
| AC-3 | 11 | B-737-400* | DEP | 28D3 | 8271 | 0.4 | 0.0 | 74.4 | <45 | <45 |
| AC-3 | 12 | E-2/C-2 | DEP | N22D2 | 6604 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-3 | 13 | Jet Fighter | ARR | P28O1 | 14810 | 0.1 | 0.0 | 80.1 | <45 | <45 |
| AC-3 | 14 | Jet Fighter | DEP | P10D2 | 19642 | 0.0 | 0.0 | 81.3 | <45 | <45 |
| AC-3 | 15 | E-2/C-2 | T & G | 28T1 | 14797 | 1.9 | 0.0 | 63.8 | <45 | <45 |
| AC-3 | 16 | E-2/C-2 | T & G | 28T1 | 14817 | 1.3 | 0.0 | 64.7 | <45 | <45 |
| AC-3 | 17 | Jet Fighter | T & G | 22T1 | 22526 | 0.3 | 0.0 | 70.0 | <45 | <45 |
| AC-3 | 18 | Jet Fighter | ARR | P04O1 | 13393 | 0.0 | 0.0 | 81.2 | <45 | <45 |
| AC-3 | 19 | E-2/C-2 | ARR | N10O1 | 6495 | 0.3 | 0.0 | 68.1 | <45 | <45 |
| AC-3 | 20 | E-2/C-2 | T & G | 10T1 | 13490 | 0.8 | 0.0 | 63.1 | <45 | <45 |
| AC-4 | 1 | Jet Fighter | DEP | P22D2 | 8419 | 0.0 | 0.0 | 92.8 | <45 | <45 |
| AC-4 | 2 | Jet Fighter | T & G | 28T1 | 19341 | 0.4 | 0.0 | 77.4 | <45 | <45 |
| AC-4 | 3 | P-3C | DEP | 22D3 | 7019 | 1.0 | 0.0 | 70.6 | <45 | <45 |
| AC-4 | 4 | Jet Fighter | T & G | 04T1 | 15883 | 0.1 | 0.0 | 79.0 | <45 | <45 |
| AC-4 | 5 | B-737-400* | DEP | 22D3 | 7086 | 0.3 | 0.0 | 74.9 | <45 | <45 |
| AC-4 | 6 | E-2/C-2 | DEP | N22D2 | 7509 | 0.3 | 0.0 | 74.1 | <45 | <45 |
| AC-4 | 7 | Jet Fighter | DEP | P28D2 | 18643 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-4 | 8 | Jet Fighter | ARR | P04O1 | 12523 | 0.0 | 0.0 | 82.3 | <45 | <45 |
| AC-4 | 9 | P-3C | DEP | 28D3 | 19551 | 1.6 | 0.0 | 62.5 | <45 | <45 |
| AC-4 | 10 | E-2/C-2 | DEP | N28D2 | 18494 | 0.5 | 0.0 | 67.1 | <45 | <45 |
| AC-4 | 11 | Jet Fighter | T & G | 22T1 | 24486 | 0.3 | 0.0 | 68.9 | <45 | <45 |
| AC-4 | 12 | E-2/C-2 | ARR | N04O1 | 2756 | 0.1 | 0.0 | 70.9 | <45 | <45 |
| AC-4 | 13 | E-2/C-2 | T & G | 28T1 | 19341 | 1.3 | 0.0 | 60.8 | <45 | <45 |
| AC-4 | 14 | Jet Fighter | ARR | P28O1 | 19313 | 0.1 | 0.0 | 72.8 | <45 | <45 |
| AC-4 | 15 | E-2/C-2 | T & G | 28T1 | 19326 | 1.9 | 0.0 | 57.8 | <45 | <45 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-4 | 16 | Jet Fighter | T & G | 10T1 | 22196 | 0.3 | 0.0 | 65.7 | <45 | <45 |
| AC-4 | 17 | B-737-400* | DEP | 28D3 | 19595 | 0.4 | 0.0 | 62.1 | <45 | <45 |
| AC-4 | 18 | C-12 | DEP | 22D3 | 6924 | 0.1 | 0.0 | 64.8 | <45 | <45 |
| AC-4 | 19 | Jet Fighter | DEP | P10D2 | 25875 | 0.0 | 0.0 | 69.3 | <45 | <45 |
| AC-4 | 20 | E-2/C-2 | T & G | 22T1 | 24486 | 0.8 | 0.0 | 56.8 | <45 | <45 |
| | | | | | | | | | | |
| AC-5 | 1 | P-3C | ARR | 22A1 | 1054 | 1.0 | 0.0 | 86.0 | <45 | <45 |
| AC-5 | 2 | Jet Fighter | DEP | P04D2 | 4058 | 0.0 | 0.0 | 101.8 | <45 | <45 |
| AC-5 | 3 | Jet Fighter | ARR | P22O1 | 1188 | 0.0 | 0.0 | 98.3 | <45 | <45 |
| AC-5 | 4 | B-737-400* | ARR | 22A1 | 1009 | 0.3 | 0.0 | 86.5 | <45 | <45 |
| AC-5 | 5 | Jet Fighter | DEP | P10D2 | 8124 | 0.0 | 0.0 | 93.0 | <45 | <45 |
| AC-5 | 6 | P-3C | DEP | 04D3 | 2562 | 0.4 | 0.0 | 81.8 | <45 | <45 |
| AC-5 | 7 | Jet Fighter | T & G | 22T1 | 10538 | 0.3 | 0.0 | 83.9 | <45 | <45 |
| AC-5 | 8 | Jet Fighter | T & G | 10T1 | 12991 | 0.3 | 0.0 | 82.8 | <45 | <45 |
| AC-5 | 9 | A-10A | ARR | 22A1 | 1002 | 0.0 | 0.0 | 92.3 | <45 | <45 |
| AC-5 | 10 | B-737-400* | DEP | 04D3 | 3066 | 0.1 | 0.0 | 83.2 | <45 | <45 |
| AC-5 | 11 | E-2/C-2 | DEP | N04D2 | 3391 | 0.1 | 0.0 | 82.2 | <45 | <45 |
| AC-5 | 12 | Jet Fighter | T & G | 04T1 | 15566 | 0.1 | 0.0 | 80.5 | <45 | <45 |
| AC-5 | 13 | P-3C | DEP | 10D3 | 6359 | 1.0 | 0.0 | 70.8 | <45 | <45 |
| AC-5 | 14 | B-737-400* | DEP | 10D3 | 6446 | 0.3 | 0.0 | 75.2 | <45 | <45 |
| AC-5 | 15 | C-12 | ARR | 22A1 | 1032 | 0.1 | 0.0 | 78.6 | <45 | <45 |
| AC-5 | 16 | Jet Fighter | DEP | P22D2 | 18388 | 0.0 | 0.0 | 83.5 | <45 | <45 |
| AC-5 | 17 | E-2/C-2 | DEP | N10D2 | 7179 | 0.3 | 0.0 | 74.0 | <45 | <45 |
| AC-5 | 18 | Jet Fighter | T & G | 28T1 | 18209 | 0.4 | 0.0 | 71.5 | <45 | <45 |
| AC-5 | 19 | E-2/C-2 | T & G | 10T1 | 12967 | 1.3 | 0.0 | 66.4 | <45 | <45 |
| AC-5 | 20 | E-2/C-2 | ARR | N22O1 | 3001 | 0.3 | 0.0 | 70.8 | <45 | <45 |
| | | | | | | | | | | |
| AC-6 | 1 | Jet Fighter | T & G | 10T1 | 2121 | 0.3 | 0.0 | 106.2 | 51.2 | 51.2 |
| AC-6 | 2 | Jet Fighter | T & G | 04T1 | 3004 | 0.1 | 0.0 | 101.4 | <45 | 51.8 |
| AC-6 | 3 | Jet Fighter | ARR | P10O1 | 2121 | 0.0 | 0.0 | 105.2 | <45 | 52.3 |
| AC-6 | 4 | Jet Fighter | T & G | 22T1 | 6426 | 0.3 | 0.0 | 90.6 | <45 | 52.4 |
| AC-6 | 5 | E-2/C-2 | T & G | 10T1 | 1973 | 1.3 | 0.0 | 83.1 | <45 | 52.5 |
| AC-6 | 6 | E-2/C-2 | T & G | 10T1 | 2121 | 0.8 | 0.0 | 82.9 | <45 | 52.5 |
| AC-6 | 7 | Jet Fighter | T & G | 28T1 | 9794 | 0.4 | 0.0 | 84.9 | <45 | 52.5 |
| AC-6 | 8 | Jet Fighter | DEP | P10D2 | 8690 | 0.0 | 0.0 | 93.8 | <45 | 52.6 |
| AC-6 | 9 | Jet Fighter | DEP | P04D2 | 6438 | 0.0 | 0.0 | 96.3 | <45 | 52.6 |
| AC-6 | 10 | Jet Fighter | ARR | P22O1 | 6429 | 0.0 | 0.0 | 91.7 | <45 | 52.6 |
| AC-6 | 11 | Jet Fighter | DEP | P28D2 | 9799 | 0.1 | 0.0 | 89.5 | <45 | 52.6 |
| AC-6 | 12 | E-2/C-2 | T & G | 04T1 | 2901 | 0.5 | 0.0 | 80.7 | <45 | 52.6 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-6 | 13 | Jet Fighter | DEP | P22D2 | 8471 | 0.0 | 0.0 | 90.0 | <45 | 52.7 |
| AC-6 | 14 | E-2/C-2 | T & G | 04T1 | 3004 | 0.4 | 0.0 | 80.6 | <45 | 52.7 |
| AC-6 | 15 | P-3C | DEP | 10D3 | 4608 | 1.0 | 0.0 | 75.1 | <45 | 52.7 |
| AC-6 | 16 | E-2/C-2 | T & G | 28T1 | 9791 | 1.9 | 0.0 | 71.4 | <45 | 52.7 |
| AC-6 | 17 | A-10A | T & G | 10T1 | 2389 | 0.1 | 0.0 | 83.5 | <45 | 52.7 |
| AC-6 | 18 | Jet Fighter | ARR | P04O1 | 3303 | 0.0 | 0.0 | 90.6 | <45 | 52.7 |
| AC-6 | 19 | E-2/C-2 | T & G | 28T1 | 9793 | 1.3 | 0.0 | 71.8 | <45 | 52.7 |
| AC-6 | 20 | P-3C | DEP | 04D3 | 6421 | 0.4 | 0.0 | 76.4 | <45 | 52.7 |
| | | | | | | | | | | |
| AC-7 | 1 | Jet Fighter | T & G | 22T1 | 674 | 0.3 | 0.0 | 115.8 | 60.5 | 60.5 |
| AC-7 | 2 | Jet Fighter | ARR | P22O1 | 695 | 0.0 | 0.0 | 116.0 | 52.9 | 61.2 |
| AC-7 | 3 | Jet Fighter | T & G | 10T1 | 2181 | 0.3 | 0.0 | 107.4 | 52.5 | 61.8 |
| AC-7 | 4 | Jet Fighter | T & G | 04T1 | 1525 | 0.1 | 0.0 | 108.7 | 50.0 | 62.0 |
| AC-7 | 5 | Jet Fighter | DEP | P04D2 | 876 | 0.0 | 0.0 | 112.7 | 46.2 | 62.2 |
| AC-7 | 6 | Jet Fighter | T & G | 28T1 | 4737 | 0.4 | 0.0 | 96.5 | <45 | 62.2 |
| AC-7 | 7 | P-3C | DEP | 04D3 | 975 | 0.4 | 0.0 | 92.8 | <45 | 62.2 |
| AC-7 | 8 | P-3C | ARR | 22A1 | 689 | 1.0 | 0.0 | 89.1 | <45 | 62.3 |
| AC-7 | 9 | Jet Fighter | DEP | P22D2 | 3252 | 0.0 | 0.0 | 102.0 | <45 | 62.3 |
| AC-7 | 10 | E-2/C-2 | T & G | 10T1 | 2034 | 1.3 | 0.0 | 86.0 | <45 | 62.3 |
| AC-7 | 11 | E-2/C-2 | T & G | 22T1 | 674 | 1.2 | 0.0 | 85.7 | <45 | 62.3 |
| AC-7 | 12 | Jet Fighter | DEP | P10D2 | 4771 | 0.0 | 0.0 | 99.6 | <45 | 62.3 |
| AC-7 | 13 | Jet Fighter | DEP | P28D2 | 5079 | 0.1 | 0.0 | 97.8 | <45 | 62.3 |
| AC-7 | 14 | A-10A | T & G | 22T1 | 691 | 0.1 | 0.0 | 95.3 | <45 | 62.3 |
| AC-7 | 15 | E-2/C-2 | DEP | N04D2 | 1235 | 0.1 | 0.0 | 93.3 | <45 | 62.3 |
| AC-7 | 16 | E-2/C-2 | T & G | 10T1 | 2181 | 0.8 | 0.0 | 85.7 | <45 | 62.4 |
| AC-7 | 17 | Jet Fighter | ARR | P28O1 | 4738 | 0.1 | 0.0 | 96.3 | <45 | 62.4 |
| AC-7 | 18 | E-2/C-2 | T & G | 22T1 | 674 | 0.8 | 0.0 | 85.8 | <45 | 62.4 |
| AC-7 | 19 | E-2/C-2 | ARR | N22O1 | 1019 | 0.3 | 0.0 | 89.4 | <45 | 62.4 |
| AC-7 | 20 | B-737-400* | DEP | 04D3 | 1180 | 0.1 | 0.0 | 93.3 | <45 | 62.4 |
| | | | | | | | | | | |
| AC-8 | 1 | Jet Fighter | T & G | 04T1 | 1400 | 0.1 | 0.0 | 110.4 | 51.7 | 51.7 |
| AC-8 | 2 | Jet Fighter | T & G | 10T1 | 2848 | 0.3 | 0.0 | 104.0 | 49.1 | 53.6 |
| AC-8 | 3 | Jet Fighter | T & G | 28T1 | 3082 | 0.4 | 0.0 | 102.1 | 48.9 | 54.9 |
| AC-8 | 4 | Jet Fighter | ARR | P04O1 | 1400 | 0.0 | 0.0 | 110.1 | <45 | 55.2 |
| AC-8 | 5 | Jet Fighter | DEP | P28D2 | 2905 | 0.1 | 0.0 | 103.0 | <45 | 55.4 |
| AC-8 | 6 | Jet Fighter | DEP | P10D2 | 3026 | 0.0 | 0.0 | 104.2 | <45 | 55.6 |
| AC-8 | 7 | Jet Fighter | ARR | P10O1 | 2848 | 0.0 | 0.0 | 103.4 | <45 | 55.7 |
| AC-8 | 8 | P-3C | DEP | 28D3 | 2887 | 1.6 | 0.0 | 84.3 | <45 | 55.7 |
| AC-8 | 9 | E-2/C-2 | T & G | 04T1 | 1156 | 0.5 | 0.0 | 87.2 | <45 | 55.8 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-8 | 10 | E-2/C-2 | T & G | 28T1 | 2980 | 1.9 | 0.0 | 81.6 | <45 | 55.8 |
| AC-8 | 11 | E-2/C-2 | DEP | N28D2 | 2925 | 0.5 | 0.0 | 87.0 | <45 | 55.9 |
| AC-8 | 12 | P-3C | DEP | 10D3 | 3026 | 1.0 | 0.0 | 83.6 | <45 | 55.9 |
| AC-8 | 13 | E-2/C-2 | T & G | 10T1 | 2847 | 1.3 | 0.0 | 82.2 | <45 | 55.9 |
| AC-8 | 14 | E-2/C-2 | T & G | 28T1 | 3082 | 1.3 | 0.0 | 81.5 | <45 | 55.9 |
| AC-8 | 15 | B-737-400* | DEP | 28D3 | 2884 | 0.4 | 0.0 | 86.1 | <45 | 56.0 |
| AC-8 | 16 | Jet Fighter | T & G | 22T1 | 8916 | 0.3 | 0.0 | 88.3 | <45 | 56.0 |
| AC-8 | 17 | E-2/C-2 | T & G | 10T1 | 2847 | 0.8 | 0.0 | 82.4 | <45 | 56.0 |
| AC-8 | 18 | E-2/C-2 | T & G | 04T1 | 1400 | 0.4 | 0.0 | 86.0 | <45 | 56.0 |
| AC-8 | 19 | Jet Fighter | ARR | P28O1 | 3097 | 0.1 | 0.0 | 92.5 | <45 | 56.0 |
| AC-8 | 20 | B-737-400* | DEP | 10D3 | 3026 | 0.3 | 0.0 | 83.8 | <45 | 56.0 |
| | | | | | | | | | | |
| AC-9 | 1 | Jet Fighter | T & G | 28T1 | 1027 | 0.4 | 0.0 | 112.6 | 59.4 | 59.4 |
| AC-9 | 2 | Jet Fighter | T & G | 04T1 | 1032 | 0.1 | 0.0 | 112.6 | 53.9 | 60.5 |
| AC-9 | 3 | Jet Fighter | ARR | P04O1 | 1032 | 0.0 | 0.0 | 112.7 | 46.3 | 60.7 |
| AC-9 | 4 | E-2/C-2 | T & G | 28T1 | 665 | 1.9 | 0.0 | 92.4 | 45.7 | 60.8 |
| AC-9 | 5 | Jet Fighter | T & G | 10T1 | 3273 | 0.3 | 0.0 | 100.3 | 45.4 | 60.9 |
| AC-9 | 6 | Jet Fighter | DEP | P28D2 | 3318 | 0.1 | 0.0 | 102.6 | <45 | 61.0 |
| AC-9 | 7 | E-2/C-2 | T & G | 28T1 | 1027 | 1.3 | 0.0 | 89.5 | <45 | 61.0 |
| AC-9 | 8 | A-10A | T & G | 28T1 | 958 | 0.2 | 0.0 | 97.9 | <45 | 61.1 |
| AC-9 | 9 | Jet Fighter | ARR | P10O1 | 3283 | 0.0 | 0.0 | 101.1 | <45 | 61.1 |
| AC-9 | 10 | P-3C | DEP | 28D3 | 3348 | 1.6 | 0.0 | 82.7 | <45 | 61.1 |
| AC-9 | 11 | Jet Fighter | ARR | P28O1 | 977 | 0.1 | 0.0 | 96.1 | <45 | 61.1 |
| AC-9 | 12 | E-2/C-2 | T & G | 04T1 | 672 | 0.5 | 0.0 | 86.3 | <45 | 61.1 |
| AC-9 | 13 | Jet Fighter | DEP | P10D2 | 5218 | 0.0 | 0.0 | 96.8 | <45 | 61.1 |
| AC-9 | 14 | E-2/C-2 | DEP | N28D2 | 3406 | 0.5 | 0.0 | 85.7 | <45 | 61.1 |
| AC-9 | 15 | Jet Fighter | T & G | 22T1 | 8663 | 0.3 | 0.0 | 88.1 | <45 | 61.1 |
| AC-9 | 16 | B-737-400* | DEP | 28D3 | 3414 | 0.4 | 0.0 | 84.9 | <45 | 61.1 |
| AC-9 | 17 | E-2/C-2 | T & G | 04T1 | 1032 | 0.4 | 0.0 | 84.1 | <45 | 61.1 |
| AC-9 | 18 | Jet Fighter | DEP | P22D2 | 8277 | 0.0 | 0.0 | 93.1 | <45 | 61.1 |
| AC-9 | 19 | E-2/C-2 | T & G | 10T1 | 3273 | 1.3 | 0.0 | 76.6 | <45 | 61.1 |
| AC-9 | 20 | E-2/C-2 | T & G | 10T1 | 3273 | 0.8 | 0.0 | 76.9 | <45 | 61.1 |
| | | | | | | | | | | |
| AC-10 | 1 | Jet Fighter | DEP | P22D2 | 3592 | 0.0 | 0.0 | 104.2 | <45 | <45 |
| AC-10 | 2 | Jet Fighter | T & G | 04T1 | 3974 | 0.1 | 0.0 | 96.4 | <45 | <45 |
| AC-10 | 3 | Jet Fighter | T & G | 28T1 | 7964 | 0.4 | 0.0 | 89.3 | <45 | <45 |
| AC-10 | 4 | P-3C | DEP | 22D3 | 2607 | 1.0 | 0.0 | 83.8 | <45 | <45 |
| AC-10 | 5 | E-2/C-2 | DEP | N22D2 | 2919 | 0.3 | 0.0 | 86.3 | <45 | <45 |
| AC-10 | 6 | Jet Fighter | ARR | P04O1 | 3746 | 0.0 | 0.0 | 97.6 | <45 | <45 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-10 | 7 | B-737-400* | DEP | 22D3 | 2977 | 0.3 | 0.0 | 84.7 | <45 | <45 |
| AC-10 | 8 | Jet Fighter | T & G | 22T1 | 11315 | 0.3 | 0.0 | 84.4 | <45 | <45 |
| AC-10 | 9 | E-2/C-2 | T & G | 28T1 | 7926 | 1.9 | 0.0 | 70.8 | <45 | <45 |
| AC-10 | 10 | Jet Fighter | ARR | P28O1 | 7965 | 0.1 | 0.0 | 84.9 | <45 | <45 |
| AC-10 | 11 | E-2/C-2 | T & G | 28T1 | 7964 | 1.3 | 0.0 | 71.2 | <45 | <45 |
| AC-10 | 12 | Jet Fighter | DEP | P28D2 | 14454 | 0.1 | 0.0 | 83.5 | <45 | <45 |
| AC-10 | 13 | Jet Fighter | T & G | 10T1 | 14462 | 0.3 | 0.0 | 75.1 | <45 | <45 |
| AC-10 | 14 | P-3C | DEP | 28D3 | 14453 | 1.6 | 0.0 | 66.9 | <45 | <45 |
| AC-10 | 15 | E-2/C-2 | ARR | N04O1 | 3700 | 0.1 | 0.0 | 76.8 | <45 | 45.0 |
| AC-10 | 16 | P-3C | ARR | 04A1 | 3681 | 0.4 | 0.0 | 72.0 | <45 | 45.0 |
| AC-10 | 17 | E-2/C-2 | T & G | 04T1 | 3981 | 0.5 | 0.0 | 71.2 | <45 | 45.0 |
| AC-10 | 18 | Jet Fighter | DEP | P04D2 | 12974 | 0.0 | 0.0 | 85.3 | <45 | 45.0 |
| AC-10 | 19 | E-2/C-2 | DEP | N28D2 | 14471 | 0.5 | 0.0 | 70.8 | <45 | 45.0 |
| AC-10 | 20 | E-2/C-2 | T & G | 22T1 | 11288 | 1.2 | 0.0 | 67.2 | <45 | 45.0 |
| AC-11 | 1 | Jet Fighter | DEP | P22D2 | 9883 | 0.0 | 0.0 | 89.4 | <45 | <45 |
| AC-11 | 2 | P-3C | ARR | 04A1 | 2346 | 0.4 | 0.0 | 78.0 | <45 | <45 |
| AC-11 | 3 | Jet Fighter | ARR | P04O1 | 2596 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-11 | 4 | B-737-400* | ARR | 04A1 | 2320 | 0.1 | 0.0 | 79.4 | <45 | <45 |
| AC-11 | 5 | Jet Fighter | T & G | 28T1 | 19482 | 0.4 | 0.0 | 73.4 | <45 | <45 |
| AC-11 | 6 | P-3C | DEP | 22D3 | 9410 | 1.0 | 0.0 | 69.0 | <45 | <45 |
| AC-11 | 7 | Jet Fighter | T & G | 22T1 | 21445 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-11 | 8 | E-2/C-2 | DEP | N22D2 | 9563 | 0.3 | 0.0 | 73.0 | <45 | <45 |
| AC-11 | 9 | Jet Fighter | T & G | 04T1 | 15505 | 0.1 | 0.0 | 77.3 | <45 | <45 |
| AC-11 | 10 | B-737-400* | DEP | 22D3 | 9558 | 0.3 | 0.0 | 71.0 | <45 | <45 |
| AC-11 | 11 | E-2/C-2 | T & G | 28T1 | 19482 | 1.3 | 0.0 | 60.0 | <45 | <45 |
| AC-11 | 12 | A-10A | ARR | 04A1 | 2319 | 0.0 | 0.0 | 82.1 | <45 | <45 |
| AC-11 | 13 | C-12 | ARR | 04A1 | 2330 | 0.1 | 0.0 | 73.0 | <45 | <45 |
| AC-11 | 14 | Jet Fighter | DEP | P28D2 | 25092 | 0.1 | 0.0 | 72.2 | <45 | <45 |
| AC-11 | 15 | P-3C | DEP | 28D3 | 25054 | 1.6 | 0.0 | 58.4 | <45 | <45 |
| AC-11 | 16 | E-2/C-2 | DEP | N28D2 | 25075 | 0.5 | 0.0 | 62.2 | <45 | <45 |
| AC-11 | 17 | Jet Fighter | ARR | P22O1 | 21414 | 0.0 | 0.0 | 72.3 | <45 | <45 |
| AC-11 | 18 | Jet Fighter | ARR | P28O1 | 19479 | 0.1 | 0.0 | 70.1 | <45 | <45 |
| AC-11 | 19 | E-2/C-2 | T & G | 28T1 | 19467 | 1.9 | 0.0 | 55.5 | <45 | <45 |
| AC-11 | 20 | E-2/C-2 | T & G | 22T1 | 21445 | 0.8 | 0.0 | 58.9 | <45 | <45 |
| AC-12 | 1 | Jet Fighter | T & G | 28T1 | 3216 | 0.4 | 0.0 | 104.1 | 51.0 | 51.0 |
| AC-12 | 2 | Jet Fighter | T & G | 10T1 | 3099 | 0.3 | 0.0 | 102.4 | 47.5 | 52.6 |
| AC-12 | 3 | Jet Fighter | DEP | P28D2 | 3149 | 0.1 | 0.0 | 104.4 | <45 | 53.1 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-12 | 4 | Jet Fighter | T & G | 04T1 | 3850 | 0.1 | 0.0 | 102.0 | <45 | 53.5 |
| AC-12 | 5 | Jet Fighter | T & G | 22T1 | 4279 | 0.3 | 0.0 | 98.5 | <45 | 53.9 |
| AC-12 | 6 | Jet Fighter | DEP | P10D2 | 3104 | 0.0 | 0.0 | 105.8 | <45 | 54.2 |
| AC-12 | 7 | Jet Fighter | DEP | P22D2 | 4205 | 0.0 | 0.0 | 100.6 | <45 | 54.3 |
| AC-12 | 8 | E-2/C-2 | T & G | 28T1 | 3149 | 1.9 | 0.0 | 83.8 | <45 | 54.4 |
| AC-12 | 9 | P-3C | DEP | 28D3 | 3114 | 1.6 | 0.0 | 84.0 | <45 | 54.5 |
| AC-12 | 10 | Jet Fighter | ARR | P10O1 | 3214 | 0.0 | 0.0 | 99.0 | <45 | 54.5 |
| AC-12 | 11 | Jet Fighter | ARR | P28O1 | 3244 | 0.1 | 0.0 | 97.1 | <45 | 54.6 |
| AC-12 | 12 | Jet Fighter | DEP | P04D2 | 4168 | 0.0 | 0.0 | 101.9 | <45 | 54.7 |
| AC-12 | 13 | E-2/C-2 | T & G | 28T1 | 3244 | 1.3 | 0.0 | 83.8 | <45 | 54.7 |
| AC-12 | 14 | E-2/C-2 | T & G | 10T1 | 3099 | 1.3 | 0.0 | 83.5 | <45 | 54.8 |
| AC-12 | 15 | Jet Fighter | ARR | P04O1 | 3850 | 0.0 | 0.0 | 101.1 | <45 | 54.8 |
| AC-12 | 16 | E-2/C-2 | DEP | N28D2 | 3134 | 0.5 | 0.0 | 86.4 | <45 | 54.8 |
| AC-12 | 17 | E-2/C-2 | T & G | 10T1 | 3099 | 0.8 | 0.0 | 83.7 | <45 | 54.9 |
| AC-12 | 18 | P-3C | DEP | 22D3 | 4186 | 1.0 | 0.0 | 80.8 | <45 | 54.9 |
| AC-12 | 19 | B-737-400* | DEP | 28D3 | 3101 | 0.4 | 0.0 | 84.2 | <45 | 54.9 |
| AC-12 | 20 | E-2/C-2 | T & G | 22T1 | 4207 | 1.2 | 0.0 | 79.3 | <45 | 54.9 |
| AC-13 | 1 | Jet Fighter | T & G | 22T1 | 1188 | 0.3 | 0.0 | 113.3 | 58.0 | 58.0 |
| AC-13 | 2 | Jet Fighter | T & G | 28T1 | 1570 | 0.4 | 0.0 | 109.8 | 56.6 | 60.4 |
| AC-13 | 3 | Jet Fighter | DEP | P22D2 | 1248 | 0.0 | 0.0 | 117.2 | 54.1 | 61.3 |
| AC-13 | 4 | Jet Fighter | T & G | 10T1 | 1848 | 0.3 | 0.0 | 108.6 | 53.6 | 62.0 |
| AC-13 | 5 | Jet Fighter | T & G | 04T1 | 1313 | 0.1 | 0.0 | 111.9 | 53.2 | 62.5 |
| AC-13 | 6 | Jet Fighter | DEP | P28D2 | 1570 | 0.1 | 0.0 | 111.1 | 50.1 | 62.8 |
| AC-13 | 7 | Jet Fighter | DEP | P04D2 | 1248 | 0.0 | 0.0 | 115.8 | 49.3 | 63.0 |
| AC-13 | 8 | Jet Fighter | ARR | P28O1 | 1570 | 0.1 | 0.0 | 107.3 | 46.3 | 63.1 |
| AC-13 | 9 | Jet Fighter | DEP | P10D2 | 1674 | 0.0 | 0.0 | 108.4 | 45.7 | 63.1 |
| AC-13 | 10 | E-2/C-2 | T & G | 22T1 | 1154 | 1.2 | 0.0 | 93.7 | 45.0 | 63.2 |
| AC-13 | 11 | E-2/C-2 | T & G | 22T1 | 1240 | 0.8 | 0.0 | 93.2 | <45 | 63.3 |
| AC-13 | 12 | P-3C | DEP | 10D3 | 1619 | 1.0 | 0.0 | 90.5 | <45 | 63.3 |
| AC-13 | 13 | P-3C | DEP | 22D3 | 1104 | 1.0 | 0.0 | 90.9 | <45 | 63.3 |
| AC-13 | 14 | Jet Fighter | ARR | P22O1 | 1477 | 0.0 | 0.0 | 104.2 | <45 | 63.3 |
| AC-13 | 15 | E-2/C-2 | T & G | 28T1 | 1570 | 1.9 | 0.0 | 87.0 | <45 | 63.4 |
| AC-13 | 16 | P-3C | DEP | 04D3 | 1122 | 0.4 | 0.0 | 92.9 | <45 | 63.4 |
| AC-13 | 17 | E-2/C-2 | DEP | N22D2 | 1104 | 0.3 | 0.0 | 93.4 | <45 | 63.4 |
| AC-13 | 18 | E-2/C-2 | T & G | 28T1 | 1570 | 1.3 | 0.0 | 87.2 | <45 | 63.4 |
| AC-13 | 19 | E-2/C-2 | DEP | N10D2 | 1671 | 0.3 | 0.0 | 92.4 | <45 | 63.4 |
| AC-13 | 20 | E-2/C-2 | T & G | 10T1 | 1674 | 1.3 | 0.0 | 86.6 | <45 | 63.4 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-14 | 1 | Jet Fighter | T & G | 28T1 | 1250 | 0.4 | 0.0 | 111.9 | 58.7 | 58.7 |
| AC-14 | 2 | Jet Fighter | T & G | 22T1 | 1261 | 0.3 | 0.0 | 110.9 | 55.6 | 60.4 |
| AC-14 | 3 | Jet Fighter | T & G | 04T1 | 899 | 0.1 | 0.0 | 113.4 | 54.8 | 61.5 |
| AC-14 | 4 | Jet Fighter | ARR | P28O1 | 1250 | 0.1 | 0.0 | 111.8 | 50.8 | 61.8 |
| AC-14 | 5 | Jet Fighter | DEP | P22D2 | 1058 | 0.0 | 0.0 | 110.6 | 47.6 | 62.0 |
| AC-14 | 6 | Jet Fighter | ARR | P04O1 | 912 | 0.0 | 0.0 | 113.7 | 47.3 | 62.1 |
| AC-14 | 7 | P-3C | DEP | 22D3 | 1126 | 1.0 | 0.0 | 92.2 | <45 | 62.2 |
| AC-14 | 8 | E-2/C-2 | T & G | 28T1 | 973 | 1.9 | 0.0 | 88.8 | <45 | 62.2 |
| AC-14 | 9 | E-2/C-2 | T & G | 22T1 | 988 | 1.2 | 0.0 | 89.6 | <45 | 62.3 |
| AC-14 | 10 | E-2/C-2 | DEP | N22D2 | 1215 | 0.3 | 0.0 | 93.6 | <45 | 62.3 |
| AC-14 | 11 | E-2/C-2 | T & G | 28T1 | 1250 | 1.3 | 0.0 | 87.2 | <45 | 62.3 |
| AC-14 | 12 | A-10A | T & G | 22T1 | 1040 | 0.1 | 0.0 | 96.9 | <45 | 62.3 |
| AC-14 | 13 | B-737-400* | DEP | 22D3 | 1282 | 0.3 | 0.0 | 92.9 | <45 | 62.3 |
| AC-14 | 14 | E-2/C-2 | T & G | 22T1 | 1261 | 0.8 | 0.0 | 88.0 | <45 | 62.3 |
| AC-14 | 15 | Jet Fighter | DEP | P04D2 | 3034 | 0.0 | 0.0 | 102.6 | <45 | 62.4 |
| AC-14 | 16 | P-3C | ARR | 04A1 | 908 | 0.4 | 0.0 | 86.6 | <45 | 62.4 |
| AC-14 | 17 | Jet Fighter | T & G | 10T1 | 8699 | 0.3 | 0.0 | 88.4 | <45 | 62.4 |
| AC-14 | 18 | E-2/C-2 | T & G | 04T1 | 899 | 0.5 | 0.0 | 84.1 | <45 | 62.4 |
| AC-14 | 19 | Jet Fighter | ARR | P22O1 | 1256 | 0.0 | 0.0 | 94.7 | <45 | 62.4 |
| AC-14 | 20 | E-2/C-2 | ARR | N04O1 | 909 | 0.1 | 0.0 | 88.9 | <45 | 62.4 |
| AC-15 | 1 | Jet Fighter | T & G | 22T1 | 8782 | 0.3 | 0.0 | 88.9 | <45 | <45 |
| AC-15 | 2 | Jet Fighter | T & G | 28T1 | 12002 | 0.4 | 0.0 | 84.6 | <45 | <45 |
| AC-15 | 3 | Jet Fighter | T & G | 04T1 | 11567 | 0.1 | 0.0 | 86.3 | <45 | <45 |
| AC-15 | 4 | Jet Fighter | DEP | P22D2 | 10746 | 0.0 | 0.0 | 89.4 | <45 | <45 |
| AC-15 | 5 | Jet Fighter | ARR | P22O1 | 8751 | 0.0 | 0.0 | 87.0 | <45 | <45 |
| AC-15 | 6 | Jet Fighter | ARR | P28O1 | 12002 | 0.1 | 0.0 | 84.4 | <45 | <45 |
| AC-15 | 7 | P-3C | DEP | 22D3 | 10645 | 1.0 | 0.0 | 72.6 | <45 | <45 |
| AC-15 | 8 | E-2/C-2 | T & G | 22T1 | 8746 | 1.2 | 0.0 | 71.3 | <45 | <45 |
| AC-15 | 9 | E-2/C-2 | T & G | 28T1 | 11975 | 1.9 | 0.0 | 68.5 | <45 | <45 |
| AC-15 | 10 | E-2/C-2 | DEP | N22D2 | 10683 | 0.3 | 0.0 | 75.8 | <45 | <45 |
| AC-15 | 11 | E-2/C-2 | T & G | 22T1 | 8782 | 0.8 | 0.0 | 71.6 | <45 | <45 |
| AC-15 | 12 | Jet Fighter | T & G | 10T1 | 19882 | 0.3 | 0.0 | 75.0 | <45 | <45 |
| AC-15 | 13 | E-2/C-2 | T & G | 28T1 | 12002 | 1.3 | 0.0 | 68.2 | <45 | <45 |
| AC-15 | 14 | Jet Fighter | ARR | P04O1 | 10597 | 0.0 | 0.0 | 85.8 | <45 | <45 |
| AC-15 | 15 | P-3C | DEP | 28D3 | 19858 | 1.6 | 0.0 | 66.3 | <45 | <45 |
| AC-15 | 16 | Jet Fighter | DEP | P04D2 | 14574 | 0.0 | 0.0 | 85.2 | <45 | <45 |
| AC-15 | 17 | Jet Fighter | DEP | P28D2 | 19858 | 0.1 | 0.0 | 79.0 | <45 | <45 |
| AC-15 | 18 | Jet Fighter | DEP | P10D2 | 19867 | 0.0 | 0.0 | 79.8 | <45 | <45 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-15 | 19 | B-737-400* | DEP | 22D3 | 10688 | 0.3 | 0.0 | 72.0 | <45 | <45 |
| AC-15 | 20 | E-2/C-2 | T & G | 04T1 | 11567 | 0.5 | 0.0 | 68.3 | <45 | <45 |
| AC-16 | 1 | P-3C | ARR | 28A1 | 1456 | 1.6 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 2 | Jet Fighter | T & G | 28T1 | 18612 | 0.4 | 0.0 | 85.3 | <45 | <45 |
| AC-16 | 3 | B-737-400* | ARR | 28A1 | 1406 | 0.4 | 0.0 | 84.9 | <45 | <45 |
| AC-16 | 4 | Jet Fighter | ARR | P28O1 | 2138 | 0.1 | 0.0 | 90.3 | <45 | <45 |
| AC-16 | 5 | A-10A | ARR | 28A1 | 1407 | 0.0 | 0.0 | 91.2 | <45 | <45 |
| AC-16 | 6 | Jet Fighter | T & G | 10T1 | 23084 | 0.3 | 0.0 | 80.3 | <45 | <45 |
| AC-16 | 7 | Jet Fighter | DEP | P10D2 | 12242 | 0.0 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 8 | C-12 | ARR | 28A1 | 1422 | 0.2 | 0.0 | 79.9 | <45 | <45 |
| AC-16 | 9 | Jet Fighter | T & G | 22T1 | 16596 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-16 | 10 | Jet Fighter | DEP | P28D2 | 26733 | 0.1 | 0.0 | 82.9 | <45 | <45 |
| AC-16 | 11 | P-3C | DEP | 10D3 | 11881 | 1.0 | 0.0 | 67.5 | <45 | <45 |
| AC-16 | 12 | E-2/C-2 | DEP | N10D2 | 12009 | 0.3 | 0.0 | 71.1 | <45 | <45 |
| AC-16 | 13 | Jet Fighter | ARR | P22O1 | 16888 | 0.0 | 0.0 | 78.6 | <45 | <45 |
| AC-16 | 14 | Jet Fighter | ARR | P10O1 | 23396 | 0.0 | 0.0 | 78.0 | <45 | <45 |
| AC-16 | 15 | E-2/C-2 | T & G | 28T1 | 18613 | 1.9 | 0.0 | 61.9 | <45 | <45 |
| AC-16 | 16 | E-2/C-2 | T & G | 22T1 | 16584 | 1.2 | 0.0 | 64.0 | <45 | <45 |
| AC-16 | 17 | P-3C | DEP | 22D3 | 26055 | 1.0 | 0.0 | 64.6 | <45 | <45 |
| AC-16 | 18 | B-737-400* | DEP | 10D3 | 11979 | 0.3 | 0.0 | 69.2 | <45 | <45 |
| AC-16 | 19 | Jet Fighter | T & G | 04T1 | 25985 | 0.1 | 0.0 | 72.9 | <45 | <45 |
| AC-16 | 20 | E-2/C-2 | T & G | 10T1 | 23071 | 1.3 | 0.0 | 62.2 | <45 | <45 |
| AC-17 | 1 | P-3C | ARR | 28A1 | 3066 | 1.6 | 0.0 | 79.0 | <45 | <45 |
| AC-17 | 2 | Jet Fighter | T & G | 28T1 | 14755 | 0.4 | 0.0 | 83.8 | <45 | <45 |
| AC-17 | 3 | Jet Fighter | DEP | P10D2 | 10377 | 0.0 | 0.0 | 89.9 | <45 | <45 |
| AC-17 | 4 | Jet Fighter | ARR | P28O1 | 3281 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-17 | 5 | Jet Fighter | T & G | 22T1 | 13958 | 0.3 | 0.0 | 81.6 | <45 | <45 |
| AC-17 | 6 | B-737-400* | ARR | 28A1 | 3046 | 0.4 | 0.0 | 78.8 | <45 | <45 |
| AC-17 | 7 | Jet Fighter | T & G | 10T1 | 20271 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-17 | 8 | Jet Fighter | DEP | P28D2 | 23389 | 0.1 | 0.0 | 84.3 | <45 | <45 |
| AC-17 | 9 | P-3C | DEP | 10D3 | 10034 | 1.0 | 0.0 | 69.8 | <45 | <45 |
| AC-17 | 10 | E-2/C-2 | DEP | N10D2 | 10180 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-17 | 11 | C-12 | ARR | 28A1 | 3055 | 0.2 | 0.0 | 75.0 | <45 | <45 |
| AC-17 | 12 | Jet Fighter | ARR | P22O1 | 14130 | 0.0 | 0.0 | 81.5 | <45 | <45 |
| AC-17 | 13 | P-3C | DEP | 22D3 | 22943 | 1.0 | 0.0 | 67.4 | <45 | <45 |
| AC-17 | 14 | E-2/C-2 | T & G | 28T1 | 14757 | 1.9 | 0.0 | 64.2 | <45 | <45 |
| AC-17 | 15 | E-2/C-2 | T & G | 22T1 | 13940 | 1.2 | 0.0 | 66.0 | <45 | <45 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-17 | 16 | B-737-400* | DEP | 10D3 | 10029 | 0.3 | 0.0 | 71.3 | <45 | <45 |
| AC-17 | 17 | Jet Fighter | T & G | 04T1 | 22987 | 0.1 | 0.0 | 75.0 | <45 | <45 |
| AC-17 | 18 | B-737-400* | DEP | 22D3 | 22943 | 0.3 | 0.0 | 70.7 | <45 | <45 |
| AC-17 | 19 | E-2/C-2 | T & G | 28T1 | 14757 | 1.3 | 0.0 | 63.6 | <45 | <45 |
| AC-17 | 20 | E-2/C-2 | T & G | 22T1 | 13959 | 0.8 | 0.0 | 65.7 | <45 | <45 |
| | | | | | | | | | | |
| AC-18 | 1 | Jet Fighter | T & G | 28T1 | 21250 | 0.4 | 0.0 | 82.4 | <45 | <45 |
| AC-18 | 2 | P-3C | ARR | 28A1 | 5853 | 1.6 | 0.0 | 70.4 | <45 | <45 |
| AC-18 | 3 | Jet Fighter | ARR | P28O1 | 6151 | 0.1 | 0.0 | 82.5 | <45 | <45 |
| AC-18 | 4 | Jet Fighter | T & G | 10T1 | 27279 | 0.3 | 0.0 | 76.5 | <45 | <45 |
| AC-18 | 5 | Jet Fighter | DEP | P10D2 | 17181 | 0.0 | 0.0 | 82.6 | <45 | <45 |
| AC-18 | 6 | Jet Fighter | DEP | P28D2 | 30218 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-18 | 7 | Jet Fighter | T & G | 22T1 | 21003 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-18 | 8 | B-737-400* | ARR | 28A1 | 5840 | 0.4 | 0.0 | 70.8 | <45 | <45 |
| AC-18 | 9 | P-3C | DEP | 10D3 | 16965 | 1.0 | 0.0 | 64.3 | <45 | <45 |
| AC-18 | 10 | E-2/C-2 | DEP | N10D2 | 17062 | 0.3 | 0.0 | 68.0 | <45 | <45 |
| AC-18 | 11 | E-2/C-2 | T & G | 28T1 | 21252 | 1.9 | 0.0 | 59.9 | <45 | <45 |
| AC-18 | 12 | C-12 | ARR | 28A1 | 5843 | 0.2 | 0.0 | 68.4 | <45 | <45 |
| AC-18 | 13 | E-2/C-2 | T & G | 10T1 | 27267 | 1.3 | 0.0 | 60.3 | <45 | <45 |
| AC-18 | 14 | E-2/C-2 | T & G | 28T1 | 21252 | 1.3 | 0.0 | 59.7 | <45 | <45 |
| AC-18 | 15 | P-3C | DEP | 28D3 | 30218 | 1.6 | 0.0 | 58.0 | <45 | <45 |
| AC-18 | 16 | Jet Fighter | ARR | P22O1 | 21159 | 0.0 | 0.0 | 73.6 | <45 | <45 |
| AC-18 | 17 | B-737-400* | DEP | 10D3 | 16946 | 0.3 | 0.0 | 65.1 | <45 | <45 |
| AC-18 | 18 | E-2/C-2 | T & G | 22T1 | 20991 | 1.2 | 0.0 | 59.1 | <45 | <45 |
| AC-18 | 19 | Jet Fighter | ARR | P10O1 | 27584 | 0.0 | 0.0 | 73.0 | <45 | <45 |
| AC-18 | 20 | E-2/C-2 | ARR | N28O1 | 14777 | 0.5 | 0.0 | 61.4 | <45 | <45 |
| | | | | | | | | | | |
| AC-19 | 1 | Jet Fighter | T & G | 28T1 | 10794 | 0.4 | 0.0 | 85.8 | <45 | <45 |
| AC-19 | 2 | Jet Fighter | T & G | 22T1 | 12655 | 0.3 | 0.0 | 83.8 | <45 | <45 |
| AC-19 | 3 | Jet Fighter | ARR | P28O1 | 11319 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-19 | 4 | Jet Fighter | DEP | P10D2 | 15218 | 0.0 | 0.0 | 84.1 | <45 | <45 |
| AC-19 | 5 | Jet Fighter | T & G | 10T1 | 19756 | 0.3 | 0.0 | 75.5 | <45 | <45 |
| AC-19 | 6 | Jet Fighter | DEP | P28D2 | 20735 | 0.1 | 0.0 | 80.8 | <45 | <45 |
| AC-19 | 7 | E-2/C-2 | T & G | 28T1 | 10785 | 1.9 | 0.0 | 66.4 | <45 | <45 |
| AC-19 | 8 | Jet Fighter | T & G | 04T1 | 20517 | 0.1 | 0.0 | 78.1 | <45 | <45 |
| AC-19 | 9 | E-2/C-2 | T & G | 22T1 | 12630 | 1.2 | 0.0 | 68.1 | <45 | <45 |
| AC-19 | 10 | Jet Fighter | ARR | P22O1 | 12655 | 0.0 | 0.0 | 82.4 | <45 | <45 |
| AC-19 | 11 | B-737-400* | DEP | 28D3 | 20735 | 0.4 | 0.0 | 71.6 | <45 | <45 |
| AC-19 | 12 | P-3C | DEP | 22D3 | 20516 | 1.0 | 0.0 | 67.5 | <45 | <45 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-19 | 13 | E-2/C-2 | T & G | 28T1 | 10796 | 1.3 | 0.0 | 65.9 | <45 | <45 |
| AC-19 | 14 | E-2/C-2 | T & G | 22T1 | 12655 | 0.8 | 0.0 | 68.0 | <45 | <45 |
| AC-19 | 15 | P-3C | DEP | 10D3 | 15122 | 1.0 | 0.0 | 66.4 | <45 | <45 |
| AC-19 | 16 | P-3C | DEP | 28D3 | 20735 | 1.6 | 0.0 | 64.5 | <45 | <45 |
| AC-19 | 17 | Jet Fighter | DEP | P22D2 | 20523 | 0.0 | 0.0 | 79.5 | <45 | <45 |
| AC-19 | 18 | E-2/C-2 | DEP | N10D2 | 15165 | 0.3 | 0.0 | 70.0 | <45 | <45 |
| AC-19 | 19 | E-2/C-2 | T & G | 10T1 | 19740 | 1.3 | 0.0 | 63.5 | <45 | <45 |
| AC-19 | 20 | E-2/C-2 | DEP | N22D2 | 20517 | 0.3 | 0.0 | 69.3 | <45 | <45 |
| | | | | | | | | | | |
| AC-20 | 1 | Jet Fighter | T & G | 28T1 | 27869 | 0.4 | 0.0 | 74.1 | <45 | <45 |
| AC-20 | 2 | Jet Fighter | ARR | P28O1 | 19159 | 0.1 | 0.0 | 75.0 | <45 | <45 |
| AC-20 | 3 | Jet Fighter | T & G | 22T1 | 30094 | 0.3 | 0.0 | 67.0 | <45 | <45 |
| AC-20 | 4 | Jet Fighter | DEP | P28D2 | 37716 | 0.1 | 0.0 | 72.1 | <45 | <45 |
| AC-20 | 5 | E-2/C-2 | T & G | 28T1 | 27868 | 1.9 | 0.0 | 57.6 | <45 | <45 |
| AC-20 | 6 | Jet Fighter | T & G | 10T1 | 35915 | 0.3 | 0.0 | 65.8 | <45 | <45 |
| AC-20 | 7 | Jet Fighter | DEP | P10D2 | 27833 | 0.0 | 0.0 | 73.5 | <45 | <45 |
| AC-20 | 8 | E-2/C-2 | T & G | 28T1 | 27870 | 1.3 | 0.0 | 58.0 | <45 | <45 |
| AC-20 | 9 | E-2/C-2 | T & G | 22T1 | 30083 | 1.2 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 10 | P-3C | DEP | 10D3 | 27723 | 1.0 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 11 | P-3C | DEP | 22D3 | 37975 | 1.0 | 0.0 | 57.8 | <45 | <45 |
| AC-20 | 12 | P-3C | DEP | 28D3 | 37716 | 1.6 | 0.0 | 55.7 | <45 | <45 |
| AC-20 | 13 | E-2/C-2 | DEP | N10D2 | 27757 | 0.3 | 0.0 | 61.8 | <45 | <45 |
| AC-20 | 14 | E-2/C-2 | T & G | 10T1 | 35906 | 1.3 | 0.0 | 55.4 | <45 | <45 |
| AC-20 | 15 | B-737-400* | DEP | 28D3 | 37716 | 0.4 | 0.0 | 59.4 | <45 | <45 |
| AC-20 | 16 | E-2/C-2 | DEP | N28D2 | 37716 | 0.5 | 0.0 | 58.0 | <45 | <45 |
| AC-20 | 17 | E-2/C-2 | T & G | 22T1 | 30094 | 0.8 | 0.0 | 56.3 | <45 | <45 |
| AC-20 | 18 | Jet Fighter | T & G | 04T1 | 37988 | 0.1 | 0.0 | 64.4 | <45 | <45 |
| AC-20 | 19 | P-3C | DEP | 04D3 | 37978 | 0.4 | 0.0 | 58.3 | <45 | <45 |
| AC-20 | 20 | E-2/C-2 | T & G | 04T1 | 37980 | 0.5 | 0.0 | 56.6 | <45 | <45 |
| | | | | | | | | | | |
| AC-21 | 1 | Jet Fighter | T & G | 22T1 | 22652 | 0.3 | 0.0 | 79.7 | <45 | <45 |
| AC-21 | 2 | Jet Fighter | DEP | P22D2 | 19394 | 0.0 | 0.0 | 83.1 | <45 | <45 |
| AC-21 | 3 | Jet Fighter | T & G | 04T1 | 22691 | 0.1 | 0.0 | 76.3 | <45 | <45 |
| AC-21 | 4 | Jet Fighter | T & G | 28T1 | 25644 | 0.4 | 0.0 | 69.8 | <45 | <45 |
| AC-21 | 5 | Jet Fighter | ARR | P22O1 | 22633 | 0.0 | 0.0 | 77.6 | <45 | <45 |
| AC-21 | 6 | P-3C | DEP | 22D3 | 19270 | 1.0 | 0.0 | 62.9 | <45 | <45 |
| AC-21 | 7 | E-2/C-2 | T & G | 22T1 | 22638 | 1.2 | 0.0 | 61.7 | <45 | <45 |
| AC-21 | 8 | E-2/C-2 | T & G | 28T1 | 25632 | 1.9 | 0.0 | 59.5 | <45 | <45 |
| AC-21 | 9 | E-2/C-2 | DEP | N22D2 | 19303 | 0.3 | 0.0 | 66.6 | <45 | <45 |

| Wallops: Baseline | | | | | | | | | | |
|-------------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-21 | 10 | E-2/C-2 | T & G | 22T1 | 22652 | 0.8 | 0.0 | 61.0 | <45 | <45 |
| AC-21 | 11 | E-2/C-2 | T & G | 28T1 | 25644 | 1.3 | 0.0 | 58.8 | <45 | <45 |
| AC-21 | 12 | Jet Fighter | DEP | P04D2 | 27771 | 0.0 | 0.0 | 76.7 | <45 | <45 |
| AC-21 | 13 | P-3C | DEP | 28D3 | 33523 | 1.6 | 0.0 | 57.5 | <45 | <45 |
| AC-21 | 14 | Jet Fighter | T & G | 10T1 | 33528 | 0.3 | 0.0 | 64.8 | <45 | <45 |
| AC-21 | 15 | P-3C | DEP | 10D3 | 33523 | 1.0 | 0.0 | 58.8 | <45 | <45 |
| AC-21 | 16 | E-2/C-2 | T & G | 10T1 | 33527 | 1.3 | 0.0 | 56.8 | <45 | <45 |
| AC-21 | 17 | E-2/C-2 | T & G | 04T1 | 22691 | 0.5 | 0.0 | 60.4 | <45 | <45 |
| AC-21 | 18 | B-737-400* | DEP | 22D3 | 19313 | 0.3 | 0.0 | 63.1 | <45 | <45 |
| AC-21 | 19 | Jet Fighter | ARR | P28O1 | 25644 | 0.1 | 0.0 | 68.7 | <45 | <45 |
| AC-21 | 20 | E-2/C-2 | DEP | N28D2 | 33524 | 0.5 | 0.0 | 59.7 | <45 | <45 |
| | | | | | | | | | | |
| AC-22 | 1 | Jet Fighter | DEP | P28D2 | 5477 | 0.1 | 0.0 | 98.6 | <45 | <45 |
| AC-22 | 2 | P-3C | ARR | 10A1 | 2297 | 1.0 | 0.0 | 79.7 | <45 | <45 |
| AC-22 | 3 | P-3C | DEP | 28D3 | 3975 | 1.6 | 0.0 | 76.1 | <45 | <45 |
| AC-22 | 4 | B-737-400* | DEP | 28D3 | 4099 | 0.4 | 0.0 | 80.8 | <45 | <45 |
| AC-22 | 5 | E-2/C-2 | DEP | N28D2 | 4256 | 0.5 | 0.0 | 78.3 | <45 | <45 |
| AC-22 | 6 | B-737-400* | ARR | 10A1 | 2266 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-22 | 7 | Jet Fighter | ARR | P10O1 | 2166 | 0.0 | 0.0 | 88.0 | <45 | <45 |
| AC-22 | 8 | Jet Fighter | DEP | P22D2 | 11289 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-22 | 9 | Jet Fighter | T & G | 10T1 | 18371 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-22 | 10 | Jet Fighter | T & G | 28T1 | 23151 | 0.4 | 0.0 | 75.0 | <45 | <45 |
| AC-22 | 11 | E-2/C-2 | ARR | N10O1 | 1727 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-22 | 12 | Jet Fighter | DEP | P10D2 | 17102 | 0.0 | 0.0 | 81.7 | <45 | <45 |
| AC-22 | 13 | P-3C | DEP | 22D3 | 8556 | 1.0 | 0.0 | 67.3 | <45 | <45 |
| AC-22 | 14 | A-10A | ARR | 10A1 | 2266 | 0.0 | 0.0 | 83.9 | <45 | <45 |
| AC-22 | 15 | C-12 | ARR | 10A1 | 2276 | 0.1 | 0.0 | 74.7 | <45 | <45 |
| AC-22 | 16 | B-737-400* | DEP | 22D3 | 9058 | 0.3 | 0.0 | 71.5 | <45 | <45 |
| AC-22 | 17 | E-2/C-2 | DEP | N22D2 | 10118 | 0.3 | 0.0 | 70.1 | <45 | <45 |
| AC-22 | 18 | C-12 | DEP | 28D3 | 3813 | 0.2 | 0.0 | 70.3 | <45 | <45 |
| AC-22 | 19 | P-3C | DEP | 10D3 | 12976 | 1.0 | 0.0 | 62.8 | <45 | <45 |
| AC-22 | 20 | Jet Fighter | ARR | P28O1 | 23118 | 0.1 | 0.0 | 72.8 | <45 | <45 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-1 | 1 | E-2/C-2 | Crew Swap | 22SW | 5237 | 3.6 | 0.4 | 79.3 | <45 | <45 |
| AC-1 | 2 | E-2/C-2 | Crew Swap | 04SW | 5678 | 2.9 | 0.3 | 79.6 | <45 | <45 |
| AC-1 | 3 | Jet Fighter | T & G | 10T1 | 8777 | 0.3 | 0.0 | 87.0 | <45 | <45 |
| AC-1 | 4 | E-2/C-2 | FCLP | 04F1 | 18750 | 20.7 | 2.4 | 59.8 | <45 | <45 |
| AC-1 | 5 | Jet Fighter | ARR | P1001 | 9278 | 0.0 | 0.0 | 88.9 | <45 | <45 |
| AC-1 | 6 | Jet Fighter | DEP | P10D2 | 11460 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-1 | 7 | Jet Fighter | DEP | P28D2 | 13597 | 0.1 | 0.0 | 85.7 | <45 | <45 |
| AC-1 | 8 | E-2/C-2 | FCLP | 22F1 | 24678 | 26.4 | 3.1 | 56.3 | <45 | <45 |
| AC-1 | 9 | Jet Fighter | T & G | 28T1 | 17787 | 0.4 | 0.0 | 76.2 | <45 | <45 |
| AC-1 | 10 | P-3C | DEP | 10D3 | 5654 | 1.0 | 0.0 | 71.9 | <45 | <45 |
| AC-1 | 11 | E-2/C-2 | DEP | N04D2 | 10742 | 0.7 | 0.1 | 69.8 | <45 | <45 |
| AC-1 | 12 | P-3C | DEP | 28D3 | 12683 | 1.6 | 0.0 | 68.3 | <45 | <45 |
| AC-1 | 13 | Jet Fighter | DEP | P04D2 | 12312 | 0.0 | 0.0 | 87.2 | <45 | <45 |
| AC-1 | 14 | E-2/C-2 | DEP | N28D2 | 13506 | 0.5 | 0.0 | 71.5 | <45 | <45 |
| AC-1 | 15 | B-737-400* | DEP | 10D3 | 7434 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-1 | 16 | E-2/C-2 | ARR | N22O1 | 6081 | 0.9 | 0.1 | 65.1 | <45 | <45 |
| AC-1 | 17 | Jet Fighter | T & G | 04T1 | 16808 | 0.1 | 0.0 | 76.7 | <45 | <45 |
| AC-1 | 18 | E-2/C-2 | T & G | 10T1 | 8766 | 1.3 | 0.0 | 65.7 | <45 | <45 |
| AC-1 | 19 | E-2/C-2 | DEP | N22D2 | 24678 | 0.9 | 0.1 | 63.0 | <45 | <45 |
| AC-1 | 20 | E-2/C-2 | T & G | 10T1 | 8781 | 0.8 | 0.0 | 66.6 | <45 | <45 |
| AC-2 | 1 | Jet Fighter | DEP | P28D2 | 3181 | 0.1 | 0.0 | 105.6 | <45 | <45 |
| AC-2 | 2 | Jet Fighter | ARR | P1001 | 1303 | 0.0 | 0.0 | 105.4 | <45 | 46.8 |
| AC-2 | 3 | P-3C | DEP | 28D3 | 1710 | 1.6 | 0.0 | 87.4 | <45 | 47.6 |
| AC-2 | 4 | P-3C | ARR | 10A1 | 865 | 1.0 | 0.0 | 88.8 | <45 | 48.3 |
| AC-2 | 5 | E-2/C-2 | Crew Swap | 22SW | 7062 | 3.6 | 0.4 | 78.6 | <45 | 48.7 |
| AC-2 | 6 | E-2/C-2 | Crew Swap | 04SW | 7204 | 2.9 | 0.3 | 77.2 | <45 | 48.9 |
| AC-2 | 7 | E-2/C-2 | DEP | N28D2 | 2480 | 0.5 | 0.0 | 87.1 | <45 | 49.1 |
| AC-2 | 8 | B-737-400* | ARR | 10A1 | 824 | 0.3 | 0.0 | 89.1 | <45 | 49.2 |
| AC-2 | 9 | B-737-400* | DEP | 28D3 | 2257 | 0.4 | 0.0 | 86.8 | <45 | 49.3 |
| AC-2 | 10 | Jet Fighter | T & G | 10T1 | 7671 | 0.3 | 0.0 | 88.3 | <45 | 49.4 |
| AC-2 | 11 | Jet Fighter | T & G | 28T1 | 12579 | 0.4 | 0.0 | 83.6 | <45 | 49.5 |
| AC-2 | 12 | E-2/C-2 | FCLP | 04F1 | 14422 | 20.7 | 2.4 | 62.7 | <45 | 49.5 |
| AC-2 | 13 | A-10A | ARR | 10A1 | 809 | 0.0 | 0.0 | 95.2 | <45 | 49.6 |
| AC-2 | 14 | E-2/C-2 | FCLP | 22F1 | 21394 | 26.4 | 3.1 | 56.9 | <45 | 49.6 |
| AC-2 | 15 | E-2/C-2 | ARR | N1001 | 1284 | 0.3 | 0.0 | 78.3 | <45 | 49.6 |
| AC-2 | 16 | Jet Fighter | DEP | P10D2 | 15779 | 0.0 | 0.0 | 86.7 | <45 | 49.6 |
| AC-2 | 17 | C-12 | ARR | 10A1 | 845 | 0.1 | 0.0 | 81.5 | <45 | 49.6 |
| AC-2 | 18 | E-2/C-2 | DEP | N22D2 | 13141 | 0.9 | 0.1 | 69.7 | <45 | 49.6 |
| AC-2 | 19 | Jet Fighter | T & G | 04T1 | 12515 | 0.1 | 0.0 | 81.8 | <45 | 49.6 |
| AC-2 | 20 | Jet Fighter | DEP | P22D2 | 13643 | 0.0 | 0.0 | 86.0 | <45 | 49.6 |
| AC-3 | 1 | E-2/C-2 | Crew Swap | 22SW | 2957 | 3.6 | 0.4 | 84.1 | <45 | <45 |
| AC-3 | 2 | E-2/C-2 | Crew Swap | 04SW | 3095 | 2.9 | 0.3 | 81.6 | <45 | 45.3 |
| AC-3 | 3 | Jet Fighter | DEP | P28D2 | 7378 | 0.1 | 0.0 | 95.3 | <45 | 45.7 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-3 | 4 | Jet Fighter | T & G | 28T1 | 14817 | 0.4 | 0.0 | 86.0 | <45 | 45.9 |
| AC-3 | 5 | Jet Fighter | DEP | P22D2 | 7745 | 0.0 | 0.0 | 93.8 | <45 | 46.0 |
| AC-3 | 6 | E-2/C-2 | DEP | N22D2 | 6604 | 0.9 | 0.1 | 74.5 | <45 | 46.1 |
| AC-3 | 7 | E-2/C-2 | FCLP | 04F1 | 15574 | 20.7 | 2.4 | 60.0 | <45 | 46.1 |
| AC-3 | 8 | E-2/C-2 | DEP | N28D2 | 6980 | 0.5 | 0.0 | 77.4 | <45 | 46.2 |
| AC-3 | 9 | P-3C | DEP | 28D3 | 8116 | 1.6 | 0.0 | 72.6 | <45 | 46.2 |
| AC-3 | 10 | Jet Fighter | T & G | 10T1 | 13489 | 0.3 | 0.0 | 78.4 | <45 | 46.2 |
| AC-3 | 11 | E-2/C-2 | FCLP | 22F1 | 23369 | 26.4 | 3.1 | 54.8 | <45 | 46.2 |
| AC-3 | 12 | P-3C | DEP | 22D3 | 5524 | 1.0 | 0.0 | 72.3 | <45 | 46.3 |
| AC-3 | 13 | B-737-400* | DEP | 22D3 | 5749 | 0.3 | 0.0 | 76.8 | <45 | 46.3 |
| AC-3 | 14 | Jet Fighter | ARR | P1001 | 6490 | 0.0 | 0.0 | 84.3 | <45 | 46.3 |
| AC-3 | 15 | Jet Fighter | T & G | 04T1 | 13046 | 0.1 | 0.0 | 80.3 | <45 | 46.3 |
| AC-3 | 16 | B-737-400* | DEP | 28D3 | 8271 | 0.4 | 0.0 | 74.4 | <45 | 46.3 |
| AC-3 | 17 | E-2/C-2 | DEP | N22D2 | 6604 | 0.3 | 0.0 | 74.5 | <45 | 46.3 |
| AC-3 | 18 | Jet Fighter | ARR | P2801 | 14810 | 0.1 | 0.0 | 80.1 | <45 | 46.3 |
| AC-3 | 19 | Jet Fighter | DEP | P10D2 | 19642 | 0.0 | 0.0 | 81.3 | <45 | 46.4 |
| AC-3 | 20 | E-2/C-2 | T & G | 28T1 | 14797 | 1.9 | 0.0 | 63.8 | <45 | 46.4 |
| AC-4 | 1 | E-2/C-2 | Crew Swap | 22SW | 9479 | 3.6 | 0.4 | 75.4 | <45 | <45 |
| AC-4 | 2 | E-2/C-2 | Crew Swap | 04SW | 4631 | 2.9 | 0.3 | 73.7 | <45 | <45 |
| AC-4 | 3 | Jet Fighter | DEP | P22D2 | 8419 | 0.0 | 0.0 | 92.8 | <45 | <45 |
| AC-4 | 4 | E-2/C-2 | DEP | N22D2 | 7509 | 0.9 | 0.1 | 74.1 | <45 | <45 |
| AC-4 | 5 | Jet Fighter | T & G | 28T1 | 19341 | 0.4 | 0.0 | 77.4 | <45 | <45 |
| AC-4 | 6 | E-2/C-2 | ARR | N04O1 | 2748 | 0.7 | 0.1 | 70.9 | <45 | <45 |
| AC-4 | 7 | P-3C | DEP | 22D3 | 7019 | 1.0 | 0.0 | 70.6 | <45 | <45 |
| AC-4 | 8 | Jet Fighter | T & G | 04T1 | 15883 | 0.1 | 0.0 | 79.0 | <45 | <45 |
| AC-4 | 9 | B-737-400* | DEP | 22D3 | 7086 | 0.3 | 0.0 | 74.9 | <45 | <45 |
| AC-4 | 10 | E-2/C-2 | DEP | N22D2 | 7509 | 0.3 | 0.0 | 74.1 | <45 | <45 |
| AC-4 | 11 | Jet Fighter | DEP | P28D2 | 18643 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-4 | 12 | E-2/C-2 | FCLP | 04F1 | 18718 | 20.7 | 2.4 | 51.3 | <45 | <45 |
| AC-4 | 13 | E-2/C-2 | FCLP | 22F1 | 26015 | 26.4 | 3.1 | 49.5 | <45 | <45 |
| AC-4 | 14 | Jet Fighter | ARR | P04O1 | 12523 | 0.0 | 0.0 | 82.3 | <45 | <45 |
| AC-4 | 15 | P-3C | DEP | 28D3 | 19551 | 1.6 | 0.0 | 62.5 | <45 | <45 |
| AC-4 | 16 | E-2/C-2 | DEP | N28D2 | 18494 | 0.5 | 0.0 | 67.1 | <45 | <45 |
| AC-4 | 17 | Jet Fighter | T & G | 22T1 | 24486 | 0.3 | 0.0 | 68.9 | <45 | <45 |
| AC-4 | 18 | E-2/C-2 | ARR | N04O1 | 2756 | 0.1 | 0.0 | 70.9 | <45 | <45 |
| AC-4 | 19 | E-2/C-2 | T & G | 28T1 | 19341 | 1.3 | 0.0 | 60.8 | <45 | <45 |
| AC-4 | 20 | Jet Fighter | ARR | P2801 | 19313 | 0.1 | 0.0 | 72.8 | <45 | <45 |
| AC-5 | 1 | P-3C | ARR | 22A1 | 1054 | 1.0 | 0.0 | 86.0 | <45 | <45 |
| AC-5 | 2 | Jet Fighter | DEP | P04D2 | 4058 | 0.0 | 0.0 | 101.8 | <45 | <45 |
| AC-5 | 3 | E-2/C-2 | Crew Swap | 04SW | 9044 | 2.9 | 0.3 | 76.7 | <45 | <45 |
| AC-5 | 4 | Jet Fighter | ARR | P22O1 | 1188 | 0.0 | 0.0 | 98.3 | <45 | <45 |
| AC-5 | 5 | E-2/C-2 | DEP | N04D2 | 3391 | 0.7 | 0.1 | 82.2 | <45 | <45 |
| AC-5 | 6 | E-2/C-2 | Crew Swap | 22SW | 2606 | 3.6 | 0.4 | 73.3 | <45 | <45 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-5 | 7 | B-737-400* | ARR | 22A1 | 1009 | 0.3 | 0.0 | 86.5 | <45 | <45 |
| AC-5 | 8 | Jet Fighter | DEP | P10D2 | 8124 | 0.0 | 0.0 | 93.0 | <45 | <45 |
| AC-5 | 9 | P-3C | DEP | 04D3 | 2562 | 0.4 | 0.0 | 81.8 | <45 | <45 |
| AC-5 | 10 | Jet Fighter | T & G | 22T1 | 10538 | 0.3 | 0.0 | 83.9 | <45 | <45 |
| AC-5 | 11 | E-2/C-2 | FCLP | 04F1 | 19476 | 20.7 | 2.4 | 60.7 | <45 | <45 |
| AC-5 | 12 | Jet Fighter | T & G | 10T1 | 12991 | 0.3 | 0.0 | 82.8 | <45 | <45 |
| AC-5 | 13 | E-2/C-2 | FCLP | 22F1 | 14658 | 26.4 | 3.1 | 59.2 | <45 | <45 |
| AC-5 | 14 | A-10A | ARR | 22A1 | 1002 | 0.0 | 0.0 | 92.3 | <45 | <45 |
| AC-5 | 15 | B-737-400* | DEP | 04D3 | 3066 | 0.1 | 0.0 | 83.2 | <45 | <45 |
| AC-5 | 16 | E-2/C-2 | DEP | N04D2 | 3391 | 0.1 | 0.0 | 82.2 | <45 | <45 |
| AC-5 | 17 | E-2/C-2 | ARR | N22O1 | 3001 | 0.9 | 0.1 | 70.8 | <45 | <45 |
| AC-5 | 18 | Jet Fighter | T & G | 04T1 | 15566 | 0.1 | 0.0 | 80.5 | <45 | <45 |
| AC-5 | 19 | P-3C | DEP | 10D3 | 6359 | 1.0 | 0.0 | 70.8 | <45 | <45 |
| AC-5 | 20 | B-737-400* | DEP | 10D3 | 6446 | 0.3 | 0.0 | 75.2 | <45 | <45 |
| AC-6 | 1 | Jet Fighter | T & G | 10T1 | 2121 | 0.3 | 0.0 | 106.2 | 51.2 | 51.2 |
| AC-6 | 2 | E-2/C-2 | Crew Swap | 04SW | 3126 | 2.9 | 0.3 | 85.0 | <45 | 51.9 |
| AC-6 | 3 | Jet Fighter | T & G | 04T1 | 3004 | 0.1 | 0.0 | 101.4 | <45 | 52.4 |
| AC-6 | 4 | Jet Fighter | ARR | P10O1 | 2121 | 0.0 | 0.0 | 105.2 | <45 | 52.8 |
| AC-6 | 5 | E-2/C-2 | Crew Swap | 22SW | 2806 | 3.6 | 0.4 | 81.4 | <45 | 53.1 |
| AC-6 | 6 | E-2/C-2 | FCLP | 04F1 | 7094 | 20.7 | 2.4 | 72.3 | <45 | 53.3 |
| AC-6 | 7 | E-2/C-2 | FCLP | 22F1 | 7419 | 26.4 | 3.1 | 69.8 | <45 | 53.4 |
| AC-6 | 8 | Jet Fighter | T & G | 22T1 | 6426 | 0.3 | 0.0 | 90.6 | <45 | 53.5 |
| AC-6 | 9 | E-2/C-2 | T & G | 10T1 | 1973 | 1.3 | 0.0 | 83.1 | <45 | 53.5 |
| AC-6 | 10 | E-2/C-2 | T & G | 10T1 | 2121 | 0.8 | 0.0 | 82.9 | <45 | 53.6 |
| AC-6 | 11 | E-2/C-2 | DEP | N04D2 | 6486 | 0.7 | 0.1 | 79.9 | <45 | 53.6 |
| AC-6 | 12 | Jet Fighter | T & G | 28T1 | 9794 | 0.4 | 0.0 | 84.9 | <45 | 53.6 |
| AC-6 | 13 | Jet Fighter | DEP | P10D2 | 8690 | 0.0 | 0.0 | 93.8 | <45 | 53.7 |
| AC-6 | 14 | Jet Fighter | DEP | P04D2 | 6438 | 0.0 | 0.0 | 96.3 | <45 | 53.7 |
| AC-6 | 15 | Jet Fighter | ARR | P22O1 | 6429 | 0.0 | 0.0 | 91.7 | <45 | 53.7 |
| AC-6 | 16 | Jet Fighter | DEP | P28D2 | 9799 | 0.1 | 0.0 | 89.5 | <45 | 53.7 |
| AC-6 | 17 | E-2/C-2 | T & G | 04T1 | 2901 | 0.5 | 0.0 | 80.7 | <45 | 53.7 |
| AC-6 | 18 | E-2/C-2 | ARR | N22O1 | 6402 | 0.9 | 0.1 | 73.7 | <45 | 53.7 |
| AC-6 | 19 | Jet Fighter | DEP | P22D2 | 8471 | 0.0 | 0.0 | 90.0 | <45 | 53.7 |
| AC-6 | 20 | E-2/C-2 | T & G | 04T1 | 3004 | 0.4 | 0.0 | 80.6 | <45 | 53.7 |
| AC-7 | 1 | Jet Fighter | T & G | 22T1 | 674 | 0.3 | 0.0 | 115.8 | 60.5 | 60.5 |
| AC-7 | 2 | Jet Fighter | ARR | P22O1 | 695 | 0.0 | 0.0 | 116.0 | 52.9 | 61.2 |
| AC-7 | 3 | Jet Fighter | T & G | 10T1 | 2181 | 0.3 | 0.0 | 107.4 | 52.5 | 61.8 |
| AC-7 | 4 | E-2/C-2 | Crew Swap | 04SW | 1230 | 2.9 | 0.3 | 93.8 | 52.4 | 62.2 |
| AC-7 | 5 | Jet Fighter | T & G | 04T1 | 1525 | 0.1 | 0.0 | 108.7 | 50.0 | 62.5 |
| AC-7 | 6 | E-2/C-2 | FCLP | 22F1 | 1276 | 26.4 | 3.1 | 80.7 | 48.9 | 62.7 |
| AC-7 | 7 | Jet Fighter | DEP | P04D2 | 876 | 0.0 | 0.0 | 112.7 | 46.2 | 62.8 |
| AC-7 | 8 | E-2/C-2 | DEP | N04D2 | 1235 | 0.7 | 0.1 | 93.3 | 45.8 | 62.9 |
| AC-7 | 9 | E-2/C-2 | FCLP | 04F1 | 4525 | 20.7 | 2.4 | 77.3 | <45 | 62.9 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-7 | 10 | E-2/C-2 | Crew Swap | 22SW | 1297 | 3.6 | 0.4 | 84.5 | <45 | 63.0 |
| AC-7 | 11 | Jet Fighter | T & G | 28T1 | 4737 | 0.4 | 0.0 | 96.5 | <45 | 63.0 |
| AC-7 | 12 | E-2/C-2 | ARR | N22O1 | 1019 | 0.9 | 0.1 | 89.4 | <45 | 63.1 |
| AC-7 | 13 | P-3C | DEP | 04D3 | 975 | 0.4 | 0.0 | 92.8 | <45 | 63.1 |
| AC-7 | 14 | P-3C | ARR | 22A1 | 689 | 1.0 | 0.0 | 89.1 | <45 | 63.1 |
| AC-7 | 15 | Jet Fighter | DEP | P22D2 | 3252 | 0.0 | 0.0 | 102.0 | <45 | 63.1 |
| AC-7 | 16 | E-2/C-2 | T & G | 10T1 | 2034 | 1.3 | 0.0 | 86.0 | <45 | 63.1 |
| AC-7 | 17 | E-2/C-2 | T & G | 22T1 | 674 | 1.2 | 0.0 | 85.7 | <45 | 63.1 |
| AC-7 | 18 | Jet Fighter | DEP | P10D2 | 4771 | 0.0 | 0.0 | 99.6 | <45 | 63.2 |
| AC-7 | 19 | Jet Fighter | DEP | P28D2 | 5079 | 0.1 | 0.0 | 97.8 | <45 | 63.2 |
| AC-7 | 20 | A-10A | T & G | 22T1 | 691 | 0.1 | 0.0 | 95.3 | <45 | 63.2 |
| AC-8 | 1 | Jet Fighter | T & G | 04T1 | 1400 | 0.1 | 0.0 | 110.4 | 51.7 | 51.7 |
| AC-8 | 2 | Jet Fighter | T & G | 10T1 | 2848 | 0.3 | 0.0 | 104.0 | 49.1 | 53.6 |
| AC-8 | 3 | Jet Fighter | T & G | 28T1 | 3082 | 0.4 | 0.0 | 102.1 | 48.9 | 54.9 |
| AC-8 | 4 | E-2/C-2 | FCLP | 04F1 | 2882 | 20.7 | 2.4 | 80.6 | 47.8 | 55.6 |
| AC-8 | 5 | Jet Fighter | ARR | P04O1 | 1400 | 0.0 | 0.0 | 110.1 | <45 | 55.9 |
| AC-8 | 6 | Jet Fighter | DEP | P28D2 | 2905 | 0.1 | 0.0 | 103.0 | <45 | 56.1 |
| AC-8 | 7 | Jet Fighter | DEP | P10D2 | 3026 | 0.0 | 0.0 | 104.2 | <45 | 56.2 |
| AC-8 | 8 | E-2/C-2 | FCLP | 22F1 | 8902 | 26.4 | 3.1 | 72.9 | <45 | 56.3 |
| AC-8 | 9 | Jet Fighter | ARR | P10O1 | 2848 | 0.0 | 0.0 | 103.4 | <45 | 56.5 |
| AC-8 | 10 | E-2/C-2 | Crew Swap | 04SW | 2891 | 2.9 | 0.3 | 82.0 | <45 | 56.6 |
| AC-8 | 11 | E-2/C-2 | Crew Swap | 22SW | 8669 | 3.6 | 0.4 | 78.5 | <45 | 56.6 |
| AC-8 | 12 | P-3C | DEP | 28D3 | 2887 | 1.6 | 0.0 | 84.3 | <45 | 56.7 |
| AC-8 | 13 | E-2/C-2 | T & G | 04T1 | 1156 | 0.5 | 0.0 | 87.2 | <45 | 56.7 |
| AC-8 | 14 | E-2/C-2 | T & G | 28T1 | 2980 | 1.9 | 0.0 | 81.6 | <45 | 56.7 |
| AC-8 | 15 | E-2/C-2 | DEP | N28D2 | 2925 | 0.5 | 0.0 | 87.0 | <45 | 56.8 |
| AC-8 | 16 | P-3C | DEP | 10D3 | 3026 | 1.0 | 0.0 | 83.6 | <45 | 56.8 |
| AC-8 | 17 | E-2/C-2 | T & G | 10T1 | 2847 | 1.3 | 0.0 | 82.2 | <45 | 56.8 |
| AC-8 | 18 | E-2/C-2 | T & G | 28T1 | 3082 | 1.3 | 0.0 | 81.5 | <45 | 56.8 |
| AC-8 | 19 | B-737-400* | DEP | 28D3 | 2884 | 0.4 | 0.0 | 86.1 | <45 | 56.9 |
| AC-8 | 20 | Jet Fighter | T & G | 22T1 | 8916 | 0.3 | 0.0 | 88.3 | <45 | 56.9 |
| AC-9 | 1 | Jet Fighter | T & G | 28T1 | 1027 | 0.4 | 0.0 | 112.6 | 59.4 | 59.4 |
| AC-9 | 2 | Jet Fighter | T & G | 04T1 | 1032 | 0.1 | 0.0 | 112.6 | 53.9 | 60.5 |
| AC-9 | 3 | Jet Fighter | ARR | P04O1 | 1032 | 0.0 | 0.0 | 112.7 | 46.3 | 60.7 |
| AC-9 | 4 | E-2/C-2 | T & G | 28T1 | 665 | 1.9 | 0.0 | 92.4 | 45.7 | 60.8 |
| AC-9 | 5 | E-2/C-2 | FCLP | 04F1 | 2254 | 20.7 | 2.4 | 78.4 | 45.6 | 60.9 |
| AC-9 | 6 | Jet Fighter | T & G | 10T1 | 3273 | 0.3 | 0.0 | 100.3 | 45.4 | 61.0 |
| AC-9 | 7 | Jet Fighter | DEP | P28D2 | 3318 | 0.1 | 0.0 | 102.6 | <45 | 61.1 |
| AC-9 | 8 | E-2/C-2 | T & G | 28T1 | 1027 | 1.3 | 0.0 | 89.5 | <45 | 61.1 |
| AC-9 | 9 | A-10A | T & G | 28T1 | 958 | 0.2 | 0.0 | 97.9 | <45 | 61.2 |
| AC-9 | 10 | E-2/C-2 | Crew Swap | 22SW | 7327 | 3.6 | 0.4 | 80.4 | <45 | 61.2 |
| AC-9 | 11 | E-2/C-2 | FCLP | 22F1 | 9075 | 26.4 | 3.1 | 71.6 | <45 | 61.2 |
| AC-9 | 12 | E-2/C-2 | Crew Swap | 04SW | 2262 | 2.9 | 0.3 | 80.5 | <45 | 61.3 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-9 | 13 | Jet Fighter | ARR | P1001 | 3283 | 0.0 | 0.0 | 101.1 | <45 | 61.3 |
| AC-9 | 14 | P-3C | DEP | 28D3 | 3348 | 1.6 | 0.0 | 82.7 | <45 | 61.3 |
| AC-9 | 15 | Jet Fighter | ARR | P2801 | 977 | 0.1 | 0.0 | 96.1 | <45 | 61.3 |
| AC-9 | 16 | E-2/C-2 | T & G | 04T1 | 672 | 0.5 | 0.0 | 86.3 | <45 | 61.3 |
| AC-9 | 17 | Jet Fighter | DEP | P10D2 | 5218 | 0.0 | 0.0 | 96.8 | <45 | 61.3 |
| AC-9 | 18 | E-2/C-2 | DEP | N28D2 | 3406 | 0.5 | 0.0 | 85.7 | <45 | 61.3 |
| AC-9 | 19 | Jet Fighter | T & G | 22T1 | 8663 | 0.3 | 0.0 | 88.1 | <45 | 61.3 |
| AC-9 | 20 | B-737-400* | DEP | 28D3 | 3414 | 0.4 | 0.0 | 84.9 | <45 | 61.3 |
| AC-10 | 1 | E-2/C-2 | Crew Swap | 22SW | 2238 | 3.6 | 0.4 | 88.7 | 48.3 | 48.3 |
| AC-10 | 2 | Jet Fighter | DEP | P22D2 | 3592 | 0.0 | 0.0 | 104.2 | <45 | 49.1 |
| AC-10 | 3 | E-2/C-2 | DEP | N22D2 | 2919 | 0.9 | 0.1 | 86.3 | <45 | 49.6 |
| AC-10 | 4 | Jet Fighter | T & G | 04T1 | 3974 | 0.1 | 0.0 | 96.4 | <45 | 49.9 |
| AC-10 | 5 | E-2/C-2 | Crew Swap | 04SW | 3965 | 2.9 | 0.3 | 77.7 | <45 | 50.0 |
| AC-10 | 6 | Jet Fighter | T & G | 28T1 | 7964 | 0.4 | 0.0 | 89.3 | <45 | 50.2 |
| AC-10 | 7 | P-3C | DEP | 22D3 | 2607 | 1.0 | 0.0 | 83.8 | <45 | 50.3 |
| AC-10 | 8 | E-2/C-2 | FCLP | 04F1 | 6603 | 20.7 | 2.4 | 67.1 | <45 | 50.4 |
| AC-10 | 9 | E-2/C-2 | FCLP | 22F1 | 12998 | 26.4 | 3.1 | 65.6 | <45 | 50.5 |
| AC-10 | 10 | E-2/C-2 | DEP | N22D2 | 2919 | 0.3 | 0.0 | 86.3 | <45 | 50.6 |
| AC-10 | 11 | Jet Fighter | ARR | P04O1 | 3746 | 0.0 | 0.0 | 97.6 | <45 | 50.6 |
| AC-10 | 12 | E-2/C-2 | ARR | N04O1 | 3700 | 0.7 | 0.1 | 77.2 | <45 | 50.7 |
| AC-10 | 13 | B-737-400* | DEP | 22D3 | 2977 | 0.3 | 0.0 | 84.7 | <45 | 50.7 |
| AC-10 | 14 | Jet Fighter | T & G | 22T1 | 11315 | 0.3 | 0.0 | 84.4 | <45 | 50.7 |
| AC-10 | 15 | E-2/C-2 | T & G | 28T1 | 7926 | 1.9 | 0.0 | 70.8 | <45 | 50.7 |
| AC-10 | 16 | Jet Fighter | ARR | P2801 | 7965 | 0.1 | 0.0 | 84.9 | <45 | 50.8 |
| AC-10 | 17 | E-2/C-2 | T & G | 28T1 | 7964 | 1.3 | 0.0 | 71.2 | <45 | 50.8 |
| AC-10 | 18 | Jet Fighter | DEP | P28D2 | 14454 | 0.1 | 0.0 | 83.5 | <45 | 50.8 |
| AC-10 | 19 | Jet Fighter | T & G | 10T1 | 14462 | 0.3 | 0.0 | 75.1 | <45 | 50.8 |
| AC-10 | 20 | P-3C | DEP | 28D3 | 14453 | 1.6 | 0.0 | 66.9 | <45 | 50.8 |
| AC-11 | 1 | E-2/C-2 | Crew Swap | 22SW | 11780 | 3.6 | 0.4 | 72.9 | <45 | <45 |
| AC-11 | 2 | E-2/C-2 | Crew Swap | 04SW | 2424 | 2.9 | 0.3 | 73.0 | <45 | <45 |
| AC-11 | 3 | E-2/C-2 | DEP | N22D2 | 9563 | 0.9 | 0.1 | 73.0 | <45 | <45 |
| AC-11 | 4 | Jet Fighter | DEP | P22D2 | 9883 | 0.0 | 0.0 | 89.4 | <45 | <45 |
| AC-11 | 5 | P-3C | ARR | 04A1 | 2346 | 0.4 | 0.0 | 78.0 | <45 | <45 |
| AC-11 | 6 | Jet Fighter | ARR | P04O1 | 2596 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-11 | 7 | B-737-400* | ARR | 04A1 | 2320 | 0.1 | 0.0 | 79.4 | <45 | <45 |
| AC-11 | 8 | Jet Fighter | T & G | 28T1 | 19482 | 0.4 | 0.0 | 73.4 | <45 | <45 |
| AC-11 | 9 | P-3C | DEP | 22D3 | 9410 | 1.0 | 0.0 | 69.0 | <45 | <45 |
| AC-11 | 10 | Jet Fighter | T & G | 22T1 | 21445 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-11 | 11 | E-2/C-2 | DEP | N22D2 | 9563 | 0.3 | 0.0 | 73.0 | <45 | <45 |
| AC-11 | 12 | E-2/C-2 | ARR | N04O1 | 5375 | 0.7 | 0.1 | 66.1 | <45 | <45 |
| AC-11 | 13 | Jet Fighter | T & G | 04T1 | 15505 | 0.1 | 0.0 | 77.3 | <45 | <45 |
| AC-11 | 14 | E-2/C-2 | FCLP | 22F1 | 23480 | 26.4 | 3.1 | 49.0 | <45 | <45 |
| AC-11 | 15 | E-2/C-2 | FCLP | 04F1 | 18045 | 20.7 | 2.4 | 49.5 | <45 | <45 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-11 | 16 | B-737-400* | DEP | 22D3 | 9558 | 0.3 | 0.0 | 71.0 | <45 | <45 |
| AC-11 | 17 | E-2/C-2 | T & G | 28T1 | 19482 | 1.3 | 0.0 | 60.0 | <45 | <45 |
| AC-11 | 18 | A-10A | ARR | 04A1 | 2319 | 0.0 | 0.0 | 82.1 | <45 | <45 |
| AC-11 | 19 | C-12 | ARR | 04A1 | 2330 | 0.1 | 0.0 | 73.0 | <45 | <45 |
| AC-11 | 20 | Jet Fighter | DEP | P28D2 | 25092 | 0.1 | 0.0 | 72.2 | <45 | <45 |
| | | | | | | | | | | |
| AC-12 | 1 | E-2/C-2 | FCLP | 04F1 | 1987 | 20.7 | 2.4 | 83.8 | 51.0 | 51.0 |
| AC-12 | 2 | Jet Fighter | T & G | 28T1 | 3216 | 0.4 | 0.0 | 104.1 | 51.0 | 54.0 |
| AC-12 | 3 | E-2/C-2 | FCLP | 22F1 | 4373 | 26.4 | 3.1 | 79.8 | 48.0 | 54.9 |
| AC-12 | 4 | Jet Fighter | T & G | 10T1 | 3099 | 0.3 | 0.0 | 102.4 | 47.5 | 55.7 |
| AC-12 | 5 | E-2/C-2 | Crew Swap | 22SW | 4190 | 3.6 | 0.4 | 85.3 | <45 | 56.0 |
| AC-12 | 6 | E-2/C-2 | Crew Swap | 04SW | 1979 | 2.9 | 0.3 | 85.4 | <45 | 56.3 |
| AC-12 | 7 | Jet Fighter | DEP | P28D2 | 3149 | 0.1 | 0.0 | 104.4 | <45 | 56.5 |
| AC-12 | 8 | Jet Fighter | T & G | 04T1 | 3850 | 0.1 | 0.0 | 102.0 | <45 | 56.7 |
| AC-12 | 9 | Jet Fighter | T & G | 22T1 | 4279 | 0.3 | 0.0 | 98.5 | <45 | 56.9 |
| AC-12 | 10 | Jet Fighter | DEP | P10D2 | 3104 | 0.0 | 0.0 | 105.8 | <45 | 57.1 |
| AC-12 | 11 | E-2/C-2 | DEP | N22D2 | 4195 | 0.9 | 0.1 | 84.0 | <45 | 57.1 |
| AC-12 | 12 | Jet Fighter | DEP | P22D2 | 4205 | 0.0 | 0.0 | 100.6 | <45 | 57.2 |
| AC-12 | 13 | E-2/C-2 | T & G | 28T1 | 3149 | 1.9 | 0.0 | 83.8 | <45 | 57.2 |
| AC-12 | 14 | P-3C | DEP | 28D3 | 3114 | 1.6 | 0.0 | 84.0 | <45 | 57.2 |
| AC-12 | 15 | Jet Fighter | ARR | P1001 | 3214 | 0.0 | 0.0 | 99.0 | <45 | 57.3 |
| AC-12 | 16 | Jet Fighter | ARR | P28O1 | 3244 | 0.1 | 0.0 | 97.1 | <45 | 57.3 |
| AC-12 | 17 | Jet Fighter | DEP | P04D2 | 4168 | 0.0 | 0.0 | 101.9 | <45 | 57.3 |
| AC-12 | 18 | E-2/C-2 | T & G | 28T1 | 3244 | 1.3 | 0.0 | 83.8 | <45 | 57.4 |
| AC-12 | 19 | E-2/C-2 | T & G | 10T1 | 3099 | 1.3 | 0.0 | 83.5 | <45 | 57.4 |
| AC-12 | 20 | E-2/C-2 | ARR | N04O1 | 1987 | 0.7 | 0.1 | 82.4 | <45 | 57.4 |
| | | | | | | | | | | |
| AC-13 | 1 | E-2/C-2 | FCLP | 22F1 | 1107 | 26.4 | 3.1 | 93.5 | 61.7 | 61.7 |
| AC-13 | 2 | Jet Fighter | T & G | 22T1 | 1188 | 0.3 | 0.0 | 113.3 | 58.0 | 63.2 |
| AC-13 | 3 | E-2/C-2 | FCLP | 04F1 | 1316 | 20.7 | 2.4 | 89.5 | 56.6 | 64.1 |
| AC-13 | 4 | Jet Fighter | T & G | 28T1 | 1570 | 0.4 | 0.0 | 109.8 | 56.6 | 64.8 |
| AC-13 | 5 | E-2/C-2 | Crew Swap | 22SW | 1105 | 3.6 | 0.4 | 95.1 | 54.7 | 65.2 |
| AC-13 | 6 | Jet Fighter | DEP | P22D2 | 1248 | 0.0 | 0.0 | 117.2 | 54.1 | 65.5 |
| AC-13 | 7 | Jet Fighter | T & G | 10T1 | 1848 | 0.3 | 0.0 | 108.6 | 53.6 | 65.8 |
| AC-13 | 8 | E-2/C-2 | Crew Swap | 04SW | 1191 | 2.9 | 0.3 | 94.7 | 53.3 | 66.1 |
| AC-13 | 9 | Jet Fighter | T & G | 04T1 | 1313 | 0.1 | 0.0 | 111.9 | 53.2 | 66.3 |
| AC-13 | 10 | Jet Fighter | DEP | P28D2 | 1570 | 0.1 | 0.0 | 111.1 | 50.1 | 66.4 |
| AC-13 | 11 | Jet Fighter | DEP | P04D2 | 1248 | 0.0 | 0.0 | 115.8 | 49.3 | 66.5 |
| AC-13 | 12 | E-2/C-2 | DEP | N22D2 | 1104 | 0.9 | 0.1 | 93.4 | 47.0 | 66.5 |
| AC-13 | 13 | E-2/C-2 | DEP | N04D2 | 1184 | 0.7 | 0.1 | 94.1 | 46.6 | 66.6 |
| AC-13 | 14 | Jet Fighter | ARR | P28O1 | 1570 | 0.1 | 0.0 | 107.3 | 46.3 | 66.6 |
| AC-13 | 15 | Jet Fighter | DEP | P10D2 | 1674 | 0.0 | 0.0 | 108.4 | 45.7 | 66.6 |
| AC-13 | 16 | E-2/C-2 | T & G | 22T1 | 1154 | 1.2 | 0.0 | 93.7 | 45.0 | 66.7 |
| AC-13 | 17 | E-2/C-2 | T & G | 22T1 | 1240 | 0.8 | 0.0 | 93.2 | <45 | 66.7 |
| AC-13 | 18 | P-3C | DEP | 10D3 | 1619 | 1.0 | 0.0 | 90.5 | <45 | 66.7 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-13 | 19 | P-3C | DEP | 22D3 | 1104 | 1.0 | 0.0 | 90.9 | <45 | 66.7 |
| AC-13 | 20 | Jet Fighter | ARR | P22O1 | 1477 | 0.0 | 0.0 | 104.2 | <45 | 66.7 |
| AC-14 | 1 | Jet Fighter | T & G | 28T1 | 1250 | 0.4 | 0.0 | 111.9 | 58.7 | 58.7 |
| AC-14 | 2 | Jet Fighter | T & G | 22T1 | 1261 | 0.3 | 0.0 | 110.9 | 55.6 | 60.4 |
| AC-14 | 3 | Jet Fighter | T & G | 04T1 | 899 | 0.1 | 0.0 | 113.4 | 54.8 | 61.5 |
| AC-14 | 4 | E-2/C-2 | Crew Swap | 22SW | 1155 | 3.6 | 0.4 | 94.3 | 53.9 | 62.2 |
| AC-14 | 5 | E-2/C-2 | FCLP | 22F1 | 2487 | 26.4 | 3.1 | 82.8 | 51.0 | 62.5 |
| AC-14 | 6 | E-2/C-2 | FCLP | 04F1 | 909 | 20.7 | 2.4 | 83.8 | 51.0 | 62.8 |
| AC-14 | 7 | Jet Fighter | ARR | P28O1 | 1250 | 0.1 | 0.0 | 111.8 | 50.8 | 63.1 |
| AC-14 | 8 | Jet Fighter | DEP | P22D2 | 1058 | 0.0 | 0.0 | 110.6 | 47.6 | 63.2 |
| AC-14 | 9 | Jet Fighter | ARR | P04O1 | 912 | 0.0 | 0.0 | 113.7 | 47.3 | 63.3 |
| AC-14 | 10 | E-2/C-2 | DEP | N22D2 | 1215 | 0.9 | 0.1 | 93.6 | 47.2 | 63.4 |
| AC-14 | 11 | E-2/C-2 | Crew Swap | 04SW | 900 | 2.9 | 0.3 | 85.9 | <45 | 63.5 |
| AC-14 | 12 | P-3C | DEP | 22D3 | 1126 | 1.0 | 0.0 | 92.2 | <45 | 63.5 |
| AC-14 | 13 | E-2/C-2 | T & G | 28T1 | 973 | 1.9 | 0.0 | 88.8 | <45 | 63.5 |
| AC-14 | 14 | E-2/C-2 | ARR | N04O1 | 909 | 0.7 | 0.1 | 88.9 | <45 | 63.5 |
| AC-14 | 15 | E-2/C-2 | T & G | 22T1 | 988 | 1.2 | 0.0 | 89.6 | <45 | 63.6 |
| AC-14 | 16 | E-2/C-2 | DEP | N22D2 | 1215 | 0.3 | 0.0 | 93.6 | <45 | 63.6 |
| AC-14 | 17 | E-2/C-2 | T & G | 28T1 | 1250 | 1.3 | 0.0 | 87.2 | <45 | 63.6 |
| AC-14 | 18 | A-10A | T & G | 22T1 | 1040 | 0.1 | 0.0 | 96.9 | <45 | 63.6 |
| AC-14 | 19 | B-737-400* | DEP | 22D3 | 1282 | 0.3 | 0.0 | 92.9 | <45 | 63.6 |
| AC-14 | 20 | E-2/C-2 | T & G | 22T1 | 1261 | 0.8 | 0.0 | 88.0 | <45 | 63.6 |
| AC-15 | 1 | E-2/C-2 | FCLP | 22F1 | 11288 | 26.4 | 3.1 | 68.8 | <45 | <45 |
| AC-15 | 2 | E-2/C-2 | Crew Swap | 22SW | 11263 | 3.6 | 0.4 | 75.9 | <45 | <45 |
| AC-15 | 3 | E-2/C-2 | FCLP | 04F1 | 12343 | 20.7 | 2.4 | 67.2 | <45 | <45 |
| AC-15 | 4 | Jet Fighter | T & G | 22T1 | 8782 | 0.3 | 0.0 | 88.9 | <45 | <45 |
| AC-15 | 5 | Jet Fighter | T & G | 28T1 | 12002 | 0.4 | 0.0 | 84.6 | <45 | <45 |
| AC-15 | 6 | E-2/C-2 | Crew Swap | 04SW | 10650 | 2.9 | 0.3 | 71.7 | <45 | <45 |
| AC-15 | 7 | E-2/C-2 | DEP | N22D2 | 10683 | 0.9 | 0.1 | 75.8 | <45 | <45 |
| AC-15 | 8 | Jet Fighter | T & G | 04T1 | 11567 | 0.1 | 0.0 | 86.3 | <45 | <45 |
| AC-15 | 9 | Jet Fighter | DEP | P22D2 | 10746 | 0.0 | 0.0 | 89.4 | <45 | <45 |
| AC-15 | 10 | Jet Fighter | ARR | P22O1 | 8751 | 0.0 | 0.0 | 87.0 | <45 | <45 |
| AC-15 | 11 | Jet Fighter | ARR | P28O1 | 12002 | 0.1 | 0.0 | 84.4 | <45 | <45 |
| AC-15 | 12 | P-3C | DEP | 22D3 | 10645 | 1.0 | 0.0 | 72.6 | <45 | <45 |
| AC-15 | 13 | E-2/C-2 | T & G | 22T1 | 8746 | 1.2 | 0.0 | 71.3 | <45 | <45 |
| AC-15 | 14 | E-2/C-2 | T & G | 28T1 | 11975 | 1.9 | 0.0 | 68.5 | <45 | <45 |
| AC-15 | 15 | E-2/C-2 | ARR | N04O1 | 10580 | 0.7 | 0.1 | 69.1 | <45 | <45 |
| AC-15 | 16 | E-2/C-2 | DEP | N22D2 | 10683 | 0.3 | 0.0 | 75.8 | <45 | <45 |
| AC-15 | 17 | E-2/C-2 | T & G | 22T1 | 8782 | 0.8 | 0.0 | 71.6 | <45 | <45 |
| AC-15 | 18 | E-2/C-2 | DEP | N04D2 | 14574 | 0.7 | 0.1 | 67.8 | <45 | <45 |
| AC-15 | 19 | Jet Fighter | T & G | 10T1 | 19882 | 0.3 | 0.0 | 75.0 | <45 | <45 |
| AC-15 | 20 | E-2/C-2 | T & G | 28T1 | 12002 | 1.3 | 0.0 | 68.2 | <45 | <45 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-16 | 1 | P-3C | ARR | 28A1 | 1456 | 1.6 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 2 | Jet Fighter | T & G | 28T1 | 18612 | 0.4 | 0.0 | 85.3 | <45 | <45 |
| AC-16 | 3 | B-737-400* | ARR | 28A1 | 1406 | 0.4 | 0.0 | 84.9 | <45 | <45 |
| AC-16 | 4 | E-2/C-2 | FCLP | 22F1 | 19883 | 26.4 | 3.1 | 61.3 | <45 | <45 |
| AC-16 | 5 | Jet Fighter | ARR | P28O1 | 2138 | 0.1 | 0.0 | 90.3 | <45 | <45 |
| AC-16 | 6 | E-2/C-2 | FCLP | 04F1 | 27654 | 20.7 | 2.4 | 60.5 | <45 | <45 |
| AC-16 | 7 | A-10A | ARR | 28A1 | 1407 | 0.0 | 0.0 | 91.2 | <45 | <45 |
| AC-16 | 8 | E-2/C-2 | Crew Swap | 04SW | 24364 | 2.9 | 0.3 | 67.1 | <45 | <45 |
| AC-16 | 9 | E-2/C-2 | Crew Swap | 22SW | 19890 | 3.6 | 0.4 | 65.9 | <45 | <45 |
| AC-16 | 10 | Jet Fighter | T & G | 10T1 | 23084 | 0.3 | 0.0 | 80.3 | <45 | <45 |
| AC-16 | 11 | Jet Fighter | DEP | P10D2 | 12242 | 0.0 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 12 | C-12 | ARR | 28A1 | 1422 | 0.2 | 0.0 | 79.9 | <45 | <45 |
| AC-16 | 13 | Jet Fighter | T & G | 22T1 | 16596 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-16 | 14 | Jet Fighter | DEP | P28D2 | 26733 | 0.1 | 0.0 | 82.9 | <45 | <45 |
| AC-16 | 15 | P-3C | DEP | 10D3 | 11881 | 1.0 | 0.0 | 67.5 | <45 | <45 |
| AC-16 | 16 | E-2/C-2 | DEP | N04D2 | 22984 | 0.7 | 0.1 | 64.9 | <45 | <45 |
| AC-16 | 17 | E-2/C-2 | DEP | N10D2 | 12009 | 0.3 | 0.0 | 71.1 | <45 | <45 |
| AC-16 | 18 | Jet Fighter | ARR | P22O1 | 16888 | 0.0 | 0.0 | 78.6 | <45 | <45 |
| AC-16 | 19 | Jet Fighter | ARR | P10O1 | 23396 | 0.0 | 0.0 | 78.0 | <45 | <45 |
| AC-16 | 20 | E-2/C-2 | T & G | 28T1 | 18613 | 1.9 | 0.0 | 61.9 | <45 | <45 |
| AC-17 | 1 | P-3C | ARR | 28A1 | 3066 | 1.6 | 0.0 | 79.0 | <45 | <45 |
| AC-17 | 2 | E-2/C-2 | FCLP | 22F1 | 16714 | 26.4 | 3.1 | 63.1 | <45 | <45 |
| AC-17 | 3 | Jet Fighter | T & G | 28T1 | 14755 | 0.4 | 0.0 | 83.8 | <45 | <45 |
| AC-17 | 4 | E-2/C-2 | FCLP | 04F1 | 24276 | 20.7 | 2.4 | 62.1 | <45 | <45 |
| AC-17 | 5 | Jet Fighter | DEP | P10D2 | 10377 | 0.0 | 0.0 | 89.9 | <45 | <45 |
| AC-17 | 6 | E-2/C-2 | Crew Swap | 22SW | 16716 | 3.6 | 0.4 | 67.5 | <45 | <45 |
| AC-17 | 7 | E-2/C-2 | Crew Swap | 04SW | 21968 | 2.9 | 0.3 | 68.5 | <45 | <45 |
| AC-17 | 8 | Jet Fighter | ARR | P28O1 | 3281 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-17 | 9 | Jet Fighter | T & G | 22T1 | 13958 | 0.3 | 0.0 | 81.6 | <45 | <45 |
| AC-17 | 10 | B-737-400* | ARR | 28A1 | 3046 | 0.4 | 0.0 | 78.8 | <45 | <45 |
| AC-17 | 11 | Jet Fighter | T & G | 10T1 | 20271 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-17 | 12 | Jet Fighter | DEP | P28D2 | 23389 | 0.1 | 0.0 | 84.3 | <45 | <45 |
| AC-17 | 13 | P-3C | DEP | 10D3 | 10034 | 1.0 | 0.0 | 69.8 | <45 | <45 |
| AC-17 | 14 | E-2/C-2 | DEP | N04D2 | 21539 | 0.7 | 0.1 | 67.9 | <45 | <45 |
| AC-17 | 15 | E-2/C-2 | DEP | N10D2 | 10180 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-17 | 16 | E-2/C-2 | DEP | N22D2 | 22943 | 0.9 | 0.1 | 65.5 | <45 | <45 |
| AC-17 | 17 | C-12 | ARR | 28A1 | 3055 | 0.2 | 0.0 | 75.0 | <45 | <45 |
| AC-17 | 18 | Jet Fighter | ARR | P22O1 | 14130 | 0.0 | 0.0 | 81.5 | <45 | <45 |
| AC-17 | 19 | P-3C | DEP | 22D3 | 22943 | 1.0 | 0.0 | 67.4 | <45 | <45 |
| AC-17 | 20 | E-2/C-2 | T & G | 28T1 | 14757 | 1.9 | 0.0 | 64.2 | <45 | <45 |
| AC-18 | 1 | Jet Fighter | T & G | 28T1 | 21250 | 0.4 | 0.0 | 82.4 | <45 | <45 |
| AC-18 | 2 | E-2/C-2 | FCLP | 22F1 | 23644 | 26.4 | 3.1 | 56.6 | <45 | <45 |
| AC-18 | 3 | E-2/C-2 | FCLP | 04F1 | 31061 | 20.7 | 2.4 | 56.8 | <45 | <45 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-18 | 4 | P-3C | ARR | 28A1 | 5853 | 1.6 | 0.0 | 70.4 | <45 | <45 |
| AC-18 | 5 | E-2/C-2 | Crew Swap | 04SW | 29020 | 2.9 | 0.3 | 63.4 | <45 | <45 |
| AC-18 | 6 | Jet Fighter | ARR | P28O1 | 6151 | 0.1 | 0.0 | 82.5 | <45 | <45 |
| AC-18 | 7 | Jet Fighter | T & G | 10T1 | 27279 | 0.3 | 0.0 | 76.5 | <45 | <45 |
| AC-18 | 8 | E-2/C-2 | Crew Swap | 22SW | 23644 | 3.6 | 0.4 | 61.8 | <45 | <45 |
| AC-18 | 9 | Jet Fighter | DEP | P10D2 | 17181 | 0.0 | 0.0 | 82.6 | <45 | <45 |
| AC-18 | 10 | Jet Fighter | DEP | P28D2 | 30218 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-18 | 11 | Jet Fighter | T & G | 22T1 | 21003 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-18 | 12 | B-737-400* | ARR | 28A1 | 5840 | 0.4 | 0.0 | 70.8 | <45 | <45 |
| AC-18 | 13 | E-2/C-2 | DEP | N04D2 | 28522 | 0.7 | 0.1 | 62.7 | <45 | <45 |
| AC-18 | 14 | P-3C | DEP | 10D3 | 16965 | 1.0 | 0.0 | 64.3 | <45 | <45 |
| AC-18 | 15 | E-2/C-2 | DEP | N10D2 | 17062 | 0.3 | 0.0 | 68.0 | <45 | <45 |
| AC-18 | 16 | E-2/C-2 | T & G | 28T1 | 21252 | 1.9 | 0.0 | 59.9 | <45 | <45 |
| AC-18 | 17 | C-12 | ARR | 28A1 | 5843 | 0.2 | 0.0 | 68.4 | <45 | <45 |
| AC-18 | 18 | E-2/C-2 | T & G | 10T1 | 27267 | 1.3 | 0.0 | 60.3 | <45 | <45 |
| AC-18 | 19 | E-2/C-2 | T & G | 28T1 | 21252 | 1.3 | 0.0 | 59.7 | <45 | <45 |
| AC-18 | 20 | E-2/C-2 | DEP | N22D2 | 29879 | 0.9 | 0.1 | 57.6 | <45 | <45 |
| AC-19 | 1 | E-2/C-2 | FCLP | 22F1 | 14450 | 26.4 | 3.1 | 66.1 | <45 | <45 |
| AC-19 | 2 | E-2/C-2 | FCLP | 04F1 | 20516 | 20.7 | 2.4 | 65.8 | <45 | <45 |
| AC-19 | 3 | Jet Fighter | T & G | 28T1 | 10794 | 0.4 | 0.0 | 85.8 | <45 | <45 |
| AC-19 | 4 | E-2/C-2 | Crew Swap | 22SW | 14442 | 3.6 | 0.4 | 71.6 | <45 | <45 |
| AC-19 | 5 | E-2/C-2 | Crew Swap | 04SW | 20515 | 2.9 | 0.3 | 70.5 | <45 | <45 |
| AC-19 | 6 | Jet Fighter | T & G | 22T1 | 12655 | 0.3 | 0.0 | 83.8 | <45 | <45 |
| AC-19 | 7 | Jet Fighter | ARR | P28O1 | 11319 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-19 | 8 | E-2/C-2 | DEP | N22D2 | 20517 | 0.9 | 0.1 | 69.3 | <45 | <45 |
| AC-19 | 9 | E-2/C-2 | DEP | N04D2 | 20514 | 0.7 | 0.1 | 69.4 | <45 | <45 |
| AC-19 | 10 | Jet Fighter | DEP | P10D2 | 15218 | 0.0 | 0.0 | 84.1 | <45 | <45 |
| AC-19 | 11 | Jet Fighter | T & G | 10T1 | 19756 | 0.3 | 0.0 | 75.5 | <45 | <45 |
| AC-19 | 12 | Jet Fighter | DEP | P28D2 | 20735 | 0.1 | 0.0 | 80.8 | <45 | <45 |
| AC-19 | 13 | E-2/C-2 | T & G | 28T1 | 10785 | 1.9 | 0.0 | 66.4 | <45 | <45 |
| AC-19 | 14 | Jet Fighter | T & G | 04T1 | 20517 | 0.1 | 0.0 | 78.1 | <45 | <45 |
| AC-19 | 15 | E-2/C-2 | T & G | 22T1 | 12630 | 1.2 | 0.0 | 68.1 | <45 | <45 |
| AC-19 | 16 | Jet Fighter | ARR | P22O1 | 12655 | 0.0 | 0.0 | 82.4 | <45 | <45 |
| AC-19 | 17 | B-737-400* | DEP | 28D3 | 20735 | 0.4 | 0.0 | 71.6 | <45 | <45 |
| AC-19 | 18 | P-3C | DEP | 22D3 | 20516 | 1.0 | 0.0 | 67.5 | <45 | <45 |
| AC-19 | 19 | E-2/C-2 | T & G | 28T1 | 10796 | 1.3 | 0.0 | 65.9 | <45 | <45 |
| AC-19 | 20 | E-2/C-2 | T & G | 22T1 | 12655 | 0.8 | 0.0 | 68.0 | <45 | <45 |
| AC-20 | 1 | E-2/C-2 | FCLP | 22F1 | 31905 | 26.4 | 3.1 | 56.6 | <45 | <45 |
| AC-20 | 2 | E-2/C-2 | FCLP | 04F1 | 38107 | 20.7 | 2.4 | 55.4 | <45 | <45 |
| AC-20 | 3 | Jet Fighter | T & G | 28T1 | 27869 | 0.4 | 0.0 | 74.1 | <45 | <45 |
| AC-20 | 4 | E-2/C-2 | Crew Swap | 22SW | 31896 | 3.6 | 0.4 | 61.1 | <45 | <45 |
| AC-20 | 5 | E-2/C-2 | Crew Swap | 04SW | 37982 | 2.9 | 0.3 | 60.2 | <45 | <45 |
| AC-20 | 6 | Jet Fighter | ARR | P28O1 | 19159 | 0.1 | 0.0 | 75.0 | <45 | <45 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-20 | 7 | E-2/C-2 | DEP | N22D2 | 37976 | 0.9 | 0.1 | 58.2 | <45 | <45 |
| AC-20 | 8 | Jet Fighter | T & G | 22T1 | 30094 | 0.3 | 0.0 | 67.0 | <45 | <45 |
| AC-20 | 9 | E-2/C-2 | DEP | N04D2 | 37981 | 0.7 | 0.1 | 58.7 | <45 | <45 |
| AC-20 | 10 | Jet Fighter | DEP | P28D2 | 37716 | 0.1 | 0.0 | 72.1 | <45 | <45 |
| AC-20 | 11 | E-2/C-2 | T & G | 28T1 | 27868 | 1.9 | 0.0 | 57.6 | <45 | <45 |
| AC-20 | 12 | Jet Fighter | T & G | 10T1 | 35915 | 0.3 | 0.0 | 65.8 | <45 | <45 |
| AC-20 | 13 | Jet Fighter | DEP | P10D2 | 27833 | 0.0 | 0.0 | 73.5 | <45 | <45 |
| AC-20 | 14 | E-2/C-2 | T & G | 28T1 | 27870 | 1.3 | 0.0 | 58.0 | <45 | <45 |
| AC-20 | 15 | E-2/C-2 | T & G | 22T1 | 30083 | 1.2 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 16 | P-3C | DEP | 10D3 | 27723 | 1.0 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 17 | P-3C | DEP | 22D3 | 37975 | 1.0 | 0.0 | 57.8 | <45 | <45 |
| AC-20 | 18 | P-3C | DEP | 28D3 | 37716 | 1.6 | 0.0 | 55.7 | <45 | <45 |
| AC-20 | 19 | E-2/C-2 | DEP | N10D2 | 27757 | 0.3 | 0.0 | 61.8 | <45 | <45 |
| AC-20 | 20 | E-2/C-2 | T & G | 10T1 | 35906 | 1.3 | 0.0 | 55.4 | <45 | <45 |
| AC-21 | 1 | E-2/C-2 | FCLP | 22F1 | 25166 | 26.4 | 3.1 | 61.0 | <45 | <45 |
| AC-21 | 2 | E-2/C-2 | Crew Swap | 22SW | 21455 | 3.6 | 0.4 | 69.0 | <45 | <45 |
| AC-21 | 3 | E-2/C-2 | FCLP | 04F1 | 24243 | 20.7 | 2.4 | 59.5 | <45 | <45 |
| AC-21 | 4 | E-2/C-2 | Crew Swap | 04SW | 15938 | 2.9 | 0.3 | 66.0 | <45 | <45 |
| AC-21 | 5 | Jet Fighter | T & G | 22T1 | 22652 | 0.3 | 0.0 | 79.7 | <45 | <45 |
| AC-21 | 6 | E-2/C-2 | DEP | N22D2 | 19303 | 0.9 | 0.1 | 66.6 | <45 | <45 |
| AC-21 | 7 | Jet Fighter | DEP | P22D2 | 19394 | 0.0 | 0.0 | 83.1 | <45 | <45 |
| AC-21 | 8 | Jet Fighter | T & G | 04T1 | 22691 | 0.1 | 0.0 | 76.3 | <45 | <45 |
| AC-21 | 9 | Jet Fighter | T & G | 28T1 | 25644 | 0.4 | 0.0 | 69.8 | <45 | <45 |
| AC-21 | 10 | E-2/C-2 | DEP | N04D2 | 27771 | 0.7 | 0.1 | 63.8 | <45 | <45 |
| AC-21 | 11 | Jet Fighter | ARR | P22O1 | 22633 | 0.0 | 0.0 | 77.6 | <45 | <45 |
| AC-21 | 12 | E-2/C-2 | ARR | N04O1 | 17115 | 0.7 | 0.1 | 61.2 | <45 | <45 |
| AC-21 | 13 | P-3C | DEP | 22D3 | 19270 | 1.0 | 0.0 | 62.9 | <45 | <45 |
| AC-21 | 14 | E-2/C-2 | T & G | 22T1 | 22638 | 1.2 | 0.0 | 61.7 | <45 | <45 |
| AC-21 | 15 | E-2/C-2 | T & G | 28T1 | 25632 | 1.9 | 0.0 | 59.5 | <45 | <45 |
| AC-21 | 16 | E-2/C-2 | DEP | N22D2 | 19303 | 0.3 | 0.0 | 66.6 | <45 | <45 |
| AC-21 | 17 | E-2/C-2 | ARR | N22O1 | 25165 | 0.9 | 0.1 | 57.3 | <45 | <45 |
| AC-21 | 18 | E-2/C-2 | T & G | 22T1 | 22652 | 0.8 | 0.0 | 61.0 | <45 | <45 |
| AC-21 | 19 | E-2/C-2 | T & G | 28T1 | 25644 | 1.3 | 0.0 | 58.8 | <45 | <45 |
| AC-21 | 20 | Jet Fighter | DEP | P04D2 | 27771 | 0.0 | 0.0 | 76.7 | <45 | <45 |
| AC-22 | 1 | E-2/C-2 | Crew Swap | 04SW | 3639 | 2.9 | 0.3 | 80.8 | <45 | <45 |
| AC-22 | 2 | E-2/C-2 | Crew Swap | 22SW | 4874 | 3.6 | 0.4 | 79.3 | <45 | <45 |
| AC-22 | 3 | Jet Fighter | DEP | P28D2 | 5477 | 0.1 | 0.0 | 98.6 | <45 | <45 |
| AC-22 | 4 | P-3C | ARR | 10A1 | 2297 | 1.0 | 0.0 | 79.7 | <45 | <45 |
| AC-22 | 5 | P-3C | DEP | 28D3 | 3975 | 1.6 | 0.0 | 76.1 | <45 | <45 |
| AC-22 | 6 | B-737-400* | DEP | 28D3 | 4099 | 0.4 | 0.0 | 80.8 | <45 | <45 |
| AC-22 | 7 | E-2/C-2 | DEP | N28D2 | 4256 | 0.5 | 0.0 | 78.3 | <45 | <45 |
| AC-22 | 8 | B-737-400* | ARR | 10A1 | 2266 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-22 | 9 | Jet Fighter | ARR | P10O1 | 2166 | 0.0 | 0.0 | 88.0 | <45 | <45 |

| Wallops: Alt 2A | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-22 | 10 | Jet Fighter | DEP | P22D2 | 11289 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-22 | 11 | Jet Fighter | T & G | 10T1 | 18371 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-22 | 12 | E-2/C-2 | DEP | N22D2 | 10118 | 0.9 | 0.1 | 70.1 | <45 | <45 |
| AC-22 | 13 | Jet Fighter | T & G | 28T1 | 23151 | 0.4 | 0.0 | 75.0 | <45 | <45 |
| AC-22 | 14 | E-2/C-2 | FCLP | 04F1 | 24633 | 20.7 | 2.4 | 54.4 | <45 | <45 |
| AC-22 | 15 | E-2/C-2 | ARR | N1001 | 1727 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-22 | 16 | Jet Fighter | DEP | P10D2 | 17102 | 0.0 | 0.0 | 81.7 | <45 | <45 |
| AC-22 | 17 | P-3C | DEP | 22D3 | 8556 | 1.0 | 0.0 | 67.3 | <45 | <45 |
| AC-22 | 18 | A-10A | ARR | 10A1 | 2266 | 0.0 | 0.0 | 83.9 | <45 | <45 |
| AC-22 | 19 | C-12 | ARR | 10A1 | 2276 | 0.1 | 0.0 | 74.7 | <45 | <45 |
| AC-22 | 20 | B-737-400* | DEP | 22D3 | 9058 | 0.3 | 0.0 | 71.5 | <45 | <45 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-1 | 1 | E-2/C-2 | Crew Swap | 22SW | 5237 | 3.5 | 0.4 | 79.3 | <45 | <45 |
| AC-1 | 2 | E-2/C-2 | Crew Swap | 04SW | 5678 | 2.7 | 0.3 | 79.6 | <45 | <45 |
| AC-1 | 3 | Jet Fighter | T & G | 10T1 | 8777 | 0.3 | 0.0 | 87.0 | <45 | <45 |
| AC-1 | 4 | E-2/C-2 | FCLP | 04F2 | 18610 | 13.8 | 1.6 | 62.8 | <45 | <45 |
| AC-1 | 5 | Jet Fighter | ARR | P1001 | 9278 | 0.0 | 0.0 | 88.9 | <45 | <45 |
| AC-1 | 6 | Jet Fighter | DEP | P10D2 | 11460 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-1 | 7 | Jet Fighter | DEP | P28D2 | 13597 | 0.1 | 0.0 | 85.7 | <45 | <45 |
| AC-1 | 8 | E-2/C-2 | FCLP | 22F2 | 24678 | 17.6 | 2.1 | 57.5 | <45 | <45 |
| AC-1 | 9 | E-2/C-2 | DEP | N04D2 | 10742 | 0.8 | 0.1 | 69.8 | <45 | <45 |
| AC-1 | 10 | Jet Fighter | T & G | 28T1 | 17787 | 0.4 | 0.0 | 76.2 | <45 | <45 |
| AC-1 | 11 | P-3C | DEP | 10D3 | 5654 | 1.0 | 0.0 | 71.9 | <45 | <45 |
| AC-1 | 12 | E-2/C-2 | FCLP | 04F1 | 18750 | 6.9 | 0.8 | 59.8 | <45 | <45 |
| AC-1 | 13 | P-3C | DEP | 28D3 | 12683 | 1.6 | 0.0 | 68.3 | <45 | <45 |
| AC-1 | 14 | Jet Fighter | DEP | P04D2 | 12312 | 0.0 | 0.0 | 87.2 | <45 | <45 |
| AC-1 | 15 | E-2/C-2 | FCLP | 22F1 | 24678 | 8.8 | 1.0 | 56.3 | <45 | <45 |
| AC-1 | 16 | E-2/C-2 | ARR | N22O1 | 6081 | 1.1 | 0.1 | 65.1 | <45 | <45 |
| AC-1 | 17 | E-2/C-2 | DEP | N28D2 | 13506 | 0.5 | 0.0 | 71.5 | <45 | <45 |
| AC-1 | 18 | B-737-400* | DEP | 10D3 | 7434 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-1 | 19 | Jet Fighter | T & G | 04T1 | 16808 | 0.1 | 0.0 | 76.7 | <45 | <45 |
| AC-1 | 20 | E-2/C-2 | T & G | 10T1 | 8766 | 1.3 | 0.0 | 65.7 | <45 | <45 |
| AC-2 | 1 | Jet Fighter | DEP | P28D2 | 3181 | 0.1 | 0.0 | 105.6 | <45 | <45 |
| AC-2 | 2 | Jet Fighter | ARR | P1001 | 1303 | 0.0 | 0.0 | 105.4 | <45 | 46.8 |
| AC-2 | 3 | P-3C | DEP | 28D3 | 1710 | 1.6 | 0.0 | 87.4 | <45 | 47.6 |
| AC-2 | 4 | P-3C | ARR | 10A1 | 865 | 1.0 | 0.0 | 88.8 | <45 | 48.3 |
| AC-2 | 5 | E-2/C-2 | Crew Swap | 22SW | 7062 | 3.5 | 0.4 | 78.6 | <45 | 48.6 |
| AC-2 | 6 | E-2/C-2 | Crew Swap | 04SW | 7204 | 2.7 | 0.3 | 77.2 | <45 | 48.9 |
| AC-2 | 7 | E-2/C-2 | DEP | N28D2 | 2480 | 0.5 | 0.0 | 87.1 | <45 | 49.0 |
| AC-2 | 8 | B-737-400* | ARR | 10A1 | 824 | 0.3 | 0.0 | 89.1 | <45 | 49.2 |
| AC-2 | 9 | B-737-400* | DEP | 28D3 | 2257 | 0.4 | 0.0 | 86.8 | <45 | 49.3 |
| AC-2 | 10 | Jet Fighter | T & G | 10T1 | 7671 | 0.3 | 0.0 | 88.3 | <45 | 49.4 |
| AC-2 | 11 | Jet Fighter | T & G | 28T1 | 12579 | 0.4 | 0.0 | 83.6 | <45 | 49.5 |
| AC-2 | 12 | E-2/C-2 | FCLP | 04F2 | 14422 | 13.8 | 1.6 | 64.0 | <45 | 49.5 |
| AC-2 | 13 | A-10A | ARR | 10A1 | 809 | 0.0 | 0.0 | 95.2 | <45 | 49.5 |
| AC-2 | 14 | E-2/C-2 | FCLP | 22F2 | 20382 | 17.6 | 2.1 | 60.2 | <45 | 49.6 |
| AC-2 | 15 | E-2/C-2 | FCLP | 04F1 | 14422 | 6.9 | 0.8 | 62.7 | <45 | 49.6 |
| AC-2 | 16 | E-2/C-2 | ARR | N1001 | 1284 | 0.3 | 0.0 | 78.3 | <45 | 49.6 |
| AC-2 | 17 | Jet Fighter | DEP | P10D2 | 15779 | 0.0 | 0.0 | 86.7 | <45 | 49.6 |
| AC-2 | 18 | E-2/C-2 | DEP | N22D2 | 13141 | 1.1 | 0.1 | 69.7 | <45 | 49.6 |
| AC-2 | 19 | C-12 | ARR | 10A1 | 845 | 0.1 | 0.0 | 81.5 | <45 | 49.6 |
| AC-2 | 20 | Jet Fighter | T & G | 04T1 | 12515 | 0.1 | 0.0 | 81.8 | <45 | 49.6 |
| AC-3 | 1 | E-2/C-2 | Crew Swap | 22SW | 2957 | 3.5 | 0.4 | 84.1 | <45 | <45 |
| AC-3 | 2 | E-2/C-2 | Crew Swap | 04SW | 3095 | 2.7 | 0.3 | 81.6 | <45 | 45.1 |
| AC-3 | 3 | Jet Fighter | DEP | P28D2 | 7378 | 0.1 | 0.0 | 95.3 | <45 | 45.5 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-3 | 4 | Jet Fighter | T & G | 28T1 | 14817 | 0.4 | 0.0 | 86.0 | <45 | 45.7 |
| AC-3 | 5 | Jet Fighter | DEP | P22D2 | 7745 | 0.0 | 0.0 | 93.8 | <45 | 45.8 |
| AC-3 | 6 | E-2/C-2 | DEP | N22D2 | 6604 | 1.1 | 0.1 | 74.5 | <45 | 45.9 |
| AC-3 | 7 | E-2/C-2 | FCLP | 22F2 | 19051 | 17.6 | 2.1 | 60.4 | <45 | 46.0 |
| AC-3 | 8 | E-2/C-2 | FCLP | 04F2 | 15574 | 13.8 | 1.6 | 61.1 | <45 | 46.0 |
| AC-3 | 9 | E-2/C-2 | DEP | N28D2 | 6980 | 0.5 | 0.0 | 77.4 | <45 | 46.1 |
| AC-3 | 10 | P-3C | DEP | 28D3 | 8116 | 1.6 | 0.0 | 72.6 | <45 | 46.1 |
| AC-3 | 11 | Jet Fighter | T & G | 10T1 | 13489 | 0.3 | 0.0 | 78.4 | <45 | 46.1 |
| AC-3 | 12 | P-3C | DEP | 22D3 | 5524 | 1.0 | 0.0 | 72.3 | <45 | 46.1 |
| AC-3 | 13 | E-2/C-2 | FCLP | 04F1 | 15574 | 6.9 | 0.8 | 60.0 | <45 | 46.2 |
| AC-3 | 14 | B-737-400* | DEP | 22D3 | 5749 | 0.3 | 0.0 | 76.8 | <45 | 46.2 |
| AC-3 | 15 | Jet Fighter | ARR | P1001 | 6490 | 0.0 | 0.0 | 84.3 | <45 | 46.2 |
| AC-3 | 16 | Jet Fighter | T & G | 04T1 | 13046 | 0.1 | 0.0 | 80.3 | <45 | 46.2 |
| AC-3 | 17 | B-737-400* | DEP | 28D3 | 8271 | 0.4 | 0.0 | 74.4 | <45 | 46.2 |
| AC-3 | 18 | E-2/C-2 | DEP | N22D2 | 6604 | 0.3 | 0.0 | 74.5 | <45 | 46.2 |
| AC-3 | 19 | Jet Fighter | ARR | P2801 | 14810 | 0.1 | 0.0 | 80.1 | <45 | 46.2 |
| AC-3 | 20 | Jet Fighter | DEP | P10D2 | 19642 | 0.0 | 0.0 | 81.3 | <45 | 46.3 |
| AC-4 | 1 | E-2/C-2 | Crew Swap | 22SW | 9479 | 3.5 | 0.4 | 75.4 | <45 | <45 |
| AC-4 | 2 | E-2/C-2 | Crew Swap | 04SW | 4631 | 2.7 | 0.3 | 73.7 | <45 | <45 |
| AC-4 | 3 | Jet Fighter | DEP | P22D2 | 8419 | 0.0 | 0.0 | 92.8 | <45 | <45 |
| AC-4 | 4 | E-2/C-2 | DEP | N22D2 | 7509 | 1.1 | 0.1 | 74.1 | <45 | <45 |
| AC-4 | 5 | E-2/C-2 | FCLP | 22F2 | 16676 | 17.6 | 2.1 | 61.6 | <45 | <45 |
| AC-4 | 6 | Jet Fighter | T & G | 28T1 | 19341 | 0.4 | 0.0 | 77.4 | <45 | <45 |
| AC-4 | 7 | E-2/C-2 | ARR | N04O1 | 2748 | 0.8 | 0.1 | 70.9 | <45 | <45 |
| AC-4 | 8 | P-3C | DEP | 22D3 | 7019 | 1.0 | 0.0 | 70.6 | <45 | <45 |
| AC-4 | 9 | Jet Fighter | T & G | 04T1 | 15883 | 0.1 | 0.0 | 79.0 | <45 | <45 |
| AC-4 | 10 | B-737-400* | DEP | 22D3 | 7086 | 0.3 | 0.0 | 74.9 | <45 | <45 |
| AC-4 | 11 | E-2/C-2 | DEP | N22D2 | 7509 | 0.3 | 0.0 | 74.1 | <45 | <45 |
| AC-4 | 12 | Jet Fighter | DEP | P28D2 | 18643 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-4 | 13 | E-2/C-2 | FCLP | 04F2 | 18718 | 13.8 | 1.6 | 52.8 | <45 | <45 |
| AC-4 | 14 | Jet Fighter | ARR | P04O1 | 12523 | 0.0 | 0.0 | 82.3 | <45 | <45 |
| AC-4 | 15 | P-3C | DEP | 28D3 | 19551 | 1.6 | 0.0 | 62.5 | <45 | <45 |
| AC-4 | 16 | E-2/C-2 | DEP | N28D2 | 18494 | 0.5 | 0.0 | 67.1 | <45 | <45 |
| AC-4 | 17 | E-2/C-2 | FCLP | 04F1 | 18718 | 6.9 | 0.8 | 51.3 | <45 | <45 |
| AC-4 | 18 | Jet Fighter | T & G | 22T1 | 24486 | 0.3 | 0.0 | 68.9 | <45 | <45 |
| AC-4 | 19 | E-2/C-2 | ARR | N04O1 | 2756 | 0.1 | 0.0 | 70.9 | <45 | <45 |
| AC-4 | 20 | E-2/C-2 | FCLP | 22F1 | 26015 | 8.8 | 1.0 | 49.5 | <45 | <45 |
| AC-5 | 1 | E-2/C-2 | FCLP | 04F2 | 7293 | 13.8 | 1.6 | 72.6 | <45 | <45 |
| AC-5 | 2 | P-3C | ARR | 22A1 | 1054 | 1.0 | 0.0 | 86.0 | <45 | <45 |
| AC-5 | 3 | E-2/C-2 | DEP | N04D2 | 3391 | 0.8 | 0.1 | 82.2 | <45 | <45 |
| AC-5 | 4 | Jet Fighter | DEP | P04D2 | 4058 | 0.0 | 0.0 | 101.8 | <45 | <45 |
| AC-5 | 5 | Jet Fighter | ARR | P22O1 | 1188 | 0.0 | 0.0 | 98.3 | <45 | <45 |
| AC-5 | 6 | E-2/C-2 | Crew Swap | 04SW | 9044 | 2.7 | 0.3 | 76.7 | <45 | <45 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-5 | 7 | E-2/C-2 | Crew Swap | 22SW | 2606 | 3.5 | 0.4 | 73.3 | <45 | <45 |
| AC-5 | 8 | B-737-400* | ARR | 22A1 | 1009 | 0.3 | 0.0 | 86.5 | <45 | <45 |
| AC-5 | 9 | Jet Fighter | DEP | P10D2 | 8124 | 0.0 | 0.0 | 93.0 | <45 | <45 |
| AC-5 | 10 | P-3C | DEP | 04D3 | 2562 | 0.4 | 0.0 | 81.8 | <45 | <45 |
| AC-5 | 11 | Jet Fighter | T & G | 22T1 | 10538 | 0.3 | 0.0 | 83.9 | <45 | <45 |
| AC-5 | 12 | Jet Fighter | T & G | 10T1 | 12991 | 0.3 | 0.0 | 82.8 | <45 | <45 |
| AC-5 | 13 | E-2/C-2 | FCLP | 22F2 | 14658 | 17.6 | 2.1 | 61.3 | <45 | <45 |
| AC-5 | 14 | A-10A | ARR | 22A1 | 1002 | 0.0 | 0.0 | 92.3 | <45 | 45.0 |
| AC-5 | 15 | E-2/C-2 | ARR | N22O1 | 3001 | 1.1 | 0.1 | 70.8 | <45 | 45.0 |
| AC-5 | 16 | B-737-400* | DEP | 04D3 | 3066 | 0.1 | 0.0 | 83.2 | <45 | 45.1 |
| AC-5 | 17 | E-2/C-2 | DEP | N04D2 | 3391 | 0.1 | 0.0 | 82.2 | <45 | 45.1 |
| AC-5 | 18 | E-2/C-2 | FCLP | 04F1 | 19476 | 6.9 | 0.8 | 60.7 | <45 | 45.1 |
| AC-5 | 19 | E-2/C-2 | FCLP | 22F1 | 14658 | 8.8 | 1.0 | 59.2 | <45 | 45.1 |
| AC-5 | 20 | Jet Fighter | T & G | 04T1 | 15566 | 0.1 | 0.0 | 80.5 | <45 | 45.2 |
| AC-6 | 1 | E-2/C-2 | FCLP | 04F2 | 624 | 13.8 | 1.6 | 92.8 | 58.2 | 58.2 |
| AC-6 | 2 | Jet Fighter | T & G | 10T1 | 2121 | 0.3 | 0.0 | 106.2 | 51.2 | 59.0 |
| AC-6 | 3 | E-2/C-2 | Crew Swap | 04SW | 3126 | 2.7 | 0.3 | 85.0 | <45 | 59.1 |
| AC-6 | 4 | Jet Fighter | T & G | 04T1 | 3004 | 0.1 | 0.0 | 101.4 | <45 | 59.2 |
| AC-6 | 5 | Jet Fighter | ARR | P10O1 | 2121 | 0.0 | 0.0 | 105.2 | <45 | 59.3 |
| AC-6 | 6 | E-2/C-2 | Crew Swap | 22SW | 2806 | 3.5 | 0.4 | 81.4 | <45 | 59.3 |
| AC-6 | 7 | E-2/C-2 | FCLP | 22F2 | 7419 | 17.6 | 2.1 | 70.2 | <45 | 59.4 |
| AC-6 | 8 | Jet Fighter | T & G | 22T1 | 6426 | 0.3 | 0.0 | 90.6 | <45 | 59.4 |
| AC-6 | 9 | E-2/C-2 | T & G | 10T1 | 1973 | 1.3 | 0.0 | 83.1 | <45 | 59.4 |
| AC-6 | 10 | E-2/C-2 | FCLP | 04F1 | 7094 | 6.9 | 0.8 | 72.3 | <45 | 59.4 |
| AC-6 | 11 | E-2/C-2 | FCLP | 22F1 | 7419 | 8.8 | 1.0 | 69.8 | <45 | 59.4 |
| AC-6 | 12 | E-2/C-2 | DEP | N04D2 | 6486 | 0.8 | 0.1 | 79.9 | <45 | 59.4 |
| AC-6 | 13 | E-2/C-2 | T & G | 10T1 | 2121 | 0.8 | 0.0 | 82.9 | <45 | 59.4 |
| AC-6 | 14 | Jet Fighter | T & G | 28T1 | 9794 | 0.4 | 0.0 | 84.9 | <45 | 59.4 |
| AC-6 | 15 | Jet Fighter | DEP | P10D2 | 8690 | 0.0 | 0.0 | 93.8 | <45 | 59.4 |
| AC-6 | 16 | Jet Fighter | DEP | P04D2 | 6438 | 0.0 | 0.0 | 96.3 | <45 | 59.5 |
| AC-6 | 17 | Jet Fighter | ARR | P22O1 | 6429 | 0.0 | 0.0 | 91.7 | <45 | 59.5 |
| AC-6 | 18 | Jet Fighter | DEP | P28D2 | 9799 | 0.1 | 0.0 | 89.5 | <45 | 59.5 |
| AC-6 | 19 | E-2/C-2 | T & G | 04T1 | 2901 | 0.5 | 0.0 | 80.7 | <45 | 59.5 |
| AC-6 | 20 | E-2/C-2 | ARR | N22O1 | 6402 | 1.1 | 0.1 | 73.7 | <45 | 59.5 |
| AC-7 | 1 | Jet Fighter | T & G | 22T1 | 674 | 0.3 | 0.0 | 115.8 | 60.5 | 60.5 |
| AC-7 | 2 | E-2/C-2 | FCLP | 04F2 | 876 | 13.8 | 1.6 | 90.9 | 56.3 | 61.9 |
| AC-7 | 3 | Jet Fighter | ARR | P22O1 | 695 | 0.0 | 0.0 | 116.0 | 52.9 | 62.4 |
| AC-7 | 4 | Jet Fighter | T & G | 10T1 | 2181 | 0.3 | 0.0 | 107.4 | 52.5 | 62.8 |
| AC-7 | 5 | E-2/C-2 | Crew Swap | 04SW | 1230 | 2.7 | 0.3 | 93.8 | 52.2 | 63.2 |
| AC-7 | 6 | Jet Fighter | T & G | 04T1 | 1525 | 0.1 | 0.0 | 108.7 | 50.0 | 63.4 |
| AC-7 | 7 | E-2/C-2 | FCLP | 22F2 | 1276 | 17.6 | 2.1 | 80.7 | 47.1 | 63.5 |
| AC-7 | 8 | E-2/C-2 | DEP | N04D2 | 1235 | 0.8 | 0.1 | 93.3 | 46.5 | 63.6 |
| AC-7 | 9 | Jet Fighter | DEP | P04D2 | 876 | 0.0 | 0.0 | 112.7 | 46.2 | 63.7 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-7 | 10 | E-2/C-2 | FCLP | 22F1 | 1276 | 8.8 | 1.0 | 80.7 | <45 | 63.7 |
| AC-7 | 11 | E-2/C-2 | Crew Swap | 22SW | 1297 | 3.5 | 0.4 | 84.5 | <45 | 63.8 |
| AC-7 | 12 | E-2/C-2 | ARR | N22O1 | 1019 | 1.1 | 0.1 | 89.4 | <45 | 63.8 |
| AC-7 | 13 | Jet Fighter | T & G | 28T1 | 4737 | 0.4 | 0.0 | 96.5 | <45 | 63.8 |
| AC-7 | 14 | P-3C | DEP | 04D3 | 975 | 0.4 | 0.0 | 92.8 | <45 | 63.9 |
| AC-7 | 15 | E-2/C-2 | FCLP | 04F1 | 4525 | 6.9 | 0.8 | 77.3 | <45 | 63.9 |
| AC-7 | 16 | P-3C | ARR | 22A1 | 689 | 1.0 | 0.0 | 89.1 | <45 | 63.9 |
| AC-7 | 17 | Jet Fighter | DEP | P22D2 | 3252 | 0.0 | 0.0 | 102.0 | <45 | 63.9 |
| AC-7 | 18 | E-2/C-2 | T & G | 10T1 | 2034 | 1.3 | 0.0 | 86.0 | <45 | 63.9 |
| AC-7 | 19 | E-2/C-2 | T & G | 22T1 | 674 | 1.2 | 0.0 | 85.7 | <45 | 63.9 |
| AC-7 | 20 | Jet Fighter | DEP | P10D2 | 4771 | 0.0 | 0.0 | 99.6 | <45 | 63.9 |
| AC-8 | 1 | Jet Fighter | T & G | 04T1 | 1400 | 0.1 | 0.0 | 110.4 | 51.7 | 51.7 |
| AC-8 | 2 | Jet Fighter | T & G | 10T1 | 2848 | 0.3 | 0.0 | 104.0 | 49.1 | 53.6 |
| AC-8 | 3 | Jet Fighter | T & G | 28T1 | 3082 | 0.4 | 0.0 | 102.1 | 48.9 | 54.9 |
| AC-8 | 4 | E-2/C-2 | FCLP | 04F2 | 2882 | 13.8 | 1.6 | 81.4 | 46.8 | 55.5 |
| AC-8 | 5 | Jet Fighter | ARR | P04O1 | 1400 | 0.0 | 0.0 | 110.1 | <45 | 55.8 |
| AC-8 | 6 | E-2/C-2 | FCLP | 04F1 | 2882 | 6.9 | 0.8 | 80.6 | <45 | 56.0 |
| AC-8 | 7 | Jet Fighter | DEP | P28D2 | 2905 | 0.1 | 0.0 | 103.0 | <45 | 56.2 |
| AC-8 | 8 | Jet Fighter | DEP | P10D2 | 3026 | 0.0 | 0.0 | 104.2 | <45 | 56.3 |
| AC-8 | 9 | Jet Fighter | ARR | P10O1 | 2848 | 0.0 | 0.0 | 103.4 | <45 | 56.4 |
| AC-8 | 10 | E-2/C-2 | Crew Swap | 04SW | 2891 | 2.7 | 0.3 | 82.0 | <45 | 56.5 |
| AC-8 | 11 | E-2/C-2 | FCLP | 22F2 | 8902 | 17.6 | 2.1 | 73.6 | <45 | 56.6 |
| AC-8 | 12 | E-2/C-2 | Crew Swap | 22SW | 8669 | 3.5 | 0.4 | 78.5 | <45 | 56.7 |
| AC-8 | 13 | P-3C | DEP | 28D3 | 2887 | 1.6 | 0.0 | 84.3 | <45 | 56.7 |
| AC-8 | 14 | E-2/C-2 | FCLP | 22F1 | 8902 | 8.8 | 1.0 | 72.9 | <45 | 56.8 |
| AC-8 | 15 | E-2/C-2 | T & G | 04T1 | 1156 | 0.5 | 0.0 | 87.2 | <45 | 56.8 |
| AC-8 | 16 | E-2/C-2 | T & G | 28T1 | 2980 | 1.9 | 0.0 | 81.6 | <45 | 56.8 |
| AC-8 | 17 | E-2/C-2 | DEP | N28D2 | 2925 | 0.5 | 0.0 | 87.0 | <45 | 56.8 |
| AC-8 | 18 | P-3C | DEP | 10D3 | 3026 | 1.0 | 0.0 | 83.6 | <45 | 56.9 |
| AC-8 | 19 | E-2/C-2 | T & G | 10T1 | 2847 | 1.3 | 0.0 | 82.2 | <45 | 56.9 |
| AC-8 | 20 | E-2/C-2 | T & G | 28T1 | 3082 | 1.3 | 0.0 | 81.5 | <45 | 56.9 |
| AC-9 | 1 | Jet Fighter | T & G | 28T1 | 1027 | 0.4 | 0.0 | 112.6 | 59.4 | 59.4 |
| AC-9 | 2 | Jet Fighter | T & G | 04T1 | 1032 | 0.1 | 0.0 | 112.6 | 53.9 | 60.5 |
| AC-9 | 3 | Jet Fighter | ARR | P04O1 | 1032 | 0.0 | 0.0 | 112.7 | 46.3 | 60.7 |
| AC-9 | 4 | E-2/C-2 | T & G | 28T1 | 665 | 1.9 | 0.0 | 92.4 | 45.7 | 60.8 |
| AC-9 | 5 | Jet Fighter | T & G | 10T1 | 3273 | 0.3 | 0.0 | 100.3 | 45.4 | 60.9 |
| AC-9 | 6 | E-2/C-2 | FCLP | 04F2 | 2254 | 13.8 | 1.6 | 78.5 | <45 | 61.0 |
| AC-9 | 7 | Jet Fighter | DEP | P28D2 | 3318 | 0.1 | 0.0 | 102.6 | <45 | 61.1 |
| AC-9 | 8 | E-2/C-2 | T & G | 28T1 | 1027 | 1.3 | 0.0 | 89.5 | <45 | 61.1 |
| AC-9 | 9 | A-10A | T & G | 28T1 | 958 | 0.2 | 0.0 | 97.9 | <45 | 61.1 |
| AC-9 | 10 | E-2/C-2 | FCLP | 04F1 | 2254 | 6.9 | 0.8 | 78.4 | <45 | 61.2 |
| AC-9 | 11 | E-2/C-2 | FCLP | 22F2 | 8277 | 17.6 | 2.1 | 74.1 | <45 | 61.2 |
| AC-9 | 12 | E-2/C-2 | Crew Swap | 22SW | 7327 | 3.5 | 0.4 | 80.4 | <45 | 61.2 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-9 | 13 | E-2/C-2 | Crew Swap | 04SW | 2262 | 2.7 | 0.3 | 80.5 | <45 | 61.3 |
| AC-9 | 14 | Jet Fighter | ARR | P1001 | 3283 | 0.0 | 0.0 | 101.1 | <45 | 61.3 |
| AC-9 | 15 | P-3C | DEP | 28D3 | 3348 | 1.6 | 0.0 | 82.7 | <45 | 61.3 |
| AC-9 | 16 | Jet Fighter | ARR | P2801 | 977 | 0.1 | 0.0 | 96.1 | <45 | 61.3 |
| AC-9 | 17 | E-2/C-2 | FCLP | 22F1 | 9075 | 8.8 | 1.0 | 71.6 | <45 | 61.3 |
| AC-9 | 18 | E-2/C-2 | T & G | 04T1 | 672 | 0.5 | 0.0 | 86.3 | <45 | 61.3 |
| AC-9 | 19 | Jet Fighter | DEP | P10D2 | 5218 | 0.0 | 0.0 | 96.8 | <45 | 61.3 |
| AC-9 | 20 | E-2/C-2 | DEP | N28D2 | 3406 | 0.5 | 0.0 | 85.7 | <45 | 61.3 |
| AC-10 | 1 | E-2/C-2 | Crew Swap | 22SW | 2238 | 3.5 | 0.4 | 88.7 | 48.2 | 48.2 |
| AC-10 | 2 | E-2/C-2 | FCLP | 22F2 | 4009 | 17.6 | 2.1 | 78.1 | <45 | 49.7 |
| AC-10 | 3 | Jet Fighter | DEP | P22D2 | 3592 | 0.0 | 0.0 | 104.2 | <45 | 50.3 |
| AC-10 | 4 | E-2/C-2 | DEP | N22D2 | 2919 | 1.1 | 0.1 | 86.3 | <45 | 50.7 |
| AC-10 | 5 | Jet Fighter | T & G | 04T1 | 3974 | 0.1 | 0.0 | 96.4 | <45 | 50.9 |
| AC-10 | 6 | Jet Fighter | T & G | 28T1 | 7964 | 0.4 | 0.0 | 89.3 | <45 | 51.1 |
| AC-10 | 7 | E-2/C-2 | Crew Swap | 04SW | 3965 | 2.7 | 0.3 | 77.7 | <45 | 51.2 |
| AC-10 | 8 | P-3C | DEP | 22D3 | 2607 | 1.0 | 0.0 | 83.8 | <45 | 51.3 |
| AC-10 | 9 | E-2/C-2 | FCLP | 04F2 | 6602 | 13.8 | 1.6 | 67.4 | <45 | 51.4 |
| AC-10 | 10 | E-2/C-2 | DEP | N22D2 | 2919 | 0.3 | 0.0 | 86.3 | <45 | 51.4 |
| AC-10 | 11 | Jet Fighter | ARR | P04O1 | 3746 | 0.0 | 0.0 | 97.6 | <45 | 51.4 |
| AC-10 | 12 | E-2/C-2 | ARR | N04O1 | 3700 | 0.8 | 0.1 | 77.2 | <45 | 51.5 |
| AC-10 | 13 | B-737-400* | DEP | 22D3 | 2977 | 0.3 | 0.0 | 84.7 | <45 | 51.5 |
| AC-10 | 14 | E-2/C-2 | FCLP | 04F1 | 6603 | 6.9 | 0.8 | 67.1 | <45 | 51.5 |
| AC-10 | 15 | Jet Fighter | T & G | 22T1 | 11315 | 0.3 | 0.0 | 84.4 | <45 | 51.6 |
| AC-10 | 16 | E-2/C-2 | FCLP | 22F1 | 12998 | 8.8 | 1.0 | 65.6 | <45 | 51.6 |
| AC-10 | 17 | E-2/C-2 | T & G | 28T1 | 7926 | 1.9 | 0.0 | 70.8 | <45 | 51.6 |
| AC-10 | 18 | Jet Fighter | ARR | P2801 | 7965 | 0.1 | 0.0 | 84.9 | <45 | 51.6 |
| AC-10 | 19 | E-2/C-2 | T & G | 28T1 | 7964 | 1.3 | 0.0 | 71.2 | <45 | 51.6 |
| AC-10 | 20 | Jet Fighter | DEP | P28D2 | 14454 | 0.1 | 0.0 | 83.5 | <45 | 51.6 |
| AC-11 | 1 | E-2/C-2 | FCLP | 22F2 | 11503 | 17.6 | 2.1 | 66.0 | <45 | <45 |
| AC-11 | 2 | E-2/C-2 | Crew Swap | 22SW | 11780 | 3.5 | 0.4 | 72.9 | <45 | <45 |
| AC-11 | 3 | E-2/C-2 | Crew Swap | 04SW | 2424 | 2.7 | 0.3 | 73.0 | <45 | <45 |
| AC-11 | 4 | E-2/C-2 | DEP | N22D2 | 9563 | 1.1 | 0.1 | 73.0 | <45 | <45 |
| AC-11 | 5 | Jet Fighter | DEP | P22D2 | 9883 | 0.0 | 0.0 | 89.4 | <45 | <45 |
| AC-11 | 6 | P-3C | ARR | 04A1 | 2346 | 0.4 | 0.0 | 78.0 | <45 | <45 |
| AC-11 | 7 | Jet Fighter | ARR | P04O1 | 2596 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-11 | 8 | B-737-400* | ARR | 04A1 | 2320 | 0.1 | 0.0 | 79.4 | <45 | <45 |
| AC-11 | 9 | Jet Fighter | T & G | 28T1 | 19482 | 0.4 | 0.0 | 73.4 | <45 | <45 |
| AC-11 | 10 | P-3C | DEP | 22D3 | 9410 | 1.0 | 0.0 | 69.0 | <45 | <45 |
| AC-11 | 11 | E-2/C-2 | ARR | N04O1 | 5375 | 0.8 | 0.1 | 66.1 | <45 | <45 |
| AC-11 | 12 | Jet Fighter | T & G | 22T1 | 21445 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-11 | 13 | E-2/C-2 | DEP | N22D2 | 9563 | 0.3 | 0.0 | 73.0 | <45 | <45 |
| AC-11 | 14 | Jet Fighter | T & G | 04T1 | 15505 | 0.1 | 0.0 | 77.3 | <45 | <45 |
| AC-11 | 15 | B-737-400* | DEP | 22D3 | 9558 | 0.3 | 0.0 | 71.0 | <45 | <45 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-11 | 16 | E-2/C-2 | FCLP | 04F2 | 18045 | 13.8 | 1.6 | 50.4 | <45 | <45 |
| AC-11 | 17 | E-2/C-2 | FCLP | 22F1 | 23480 | 8.8 | 1.0 | 49.0 | <45 | <45 |
| AC-11 | 18 | E-2/C-2 | FCLP | 04F1 | 18045 | 6.9 | 0.8 | 49.5 | <45 | <45 |
| AC-11 | 19 | E-2/C-2 | T & G | 28T1 | 19482 | 1.3 | 0.0 | 60.0 | <45 | <45 |
| AC-11 | 20 | A-10A | ARR | 04A1 | 2319 | 0.0 | 0.0 | 82.1 | <45 | <45 |
| AC-12 | 1 | Jet Fighter | T & G | 28T1 | 3216 | 0.4 | 0.0 | 104.1 | 51.0 | 51.0 |
| AC-12 | 2 | E-2/C-2 | FCLP | 04F2 | 1987 | 13.8 | 1.6 | 83.8 | 49.2 | 53.2 |
| AC-12 | 3 | Jet Fighter | T & G | 10T1 | 3099 | 0.3 | 0.0 | 102.4 | 47.5 | 54.2 |
| AC-12 | 4 | E-2/C-2 | FCLP | 22F2 | 4205 | 17.6 | 2.1 | 80.9 | 47.3 | 55.0 |
| AC-12 | 5 | E-2/C-2 | FCLP | 04F1 | 1987 | 6.9 | 0.8 | 83.8 | 46.2 | 55.5 |
| AC-12 | 6 | E-2/C-2 | Crew Swap | 22SW | 4190 | 3.5 | 0.4 | 85.3 | <45 | 55.9 |
| AC-12 | 7 | E-2/C-2 | Crew Swap | 04SW | 1979 | 2.7 | 0.3 | 85.4 | <45 | 56.1 |
| AC-12 | 8 | Jet Fighter | DEP | P28D2 | 3149 | 0.1 | 0.0 | 104.4 | <45 | 56.4 |
| AC-12 | 9 | Jet Fighter | T & G | 04T1 | 3850 | 0.1 | 0.0 | 102.0 | <45 | 56.6 |
| AC-12 | 10 | E-2/C-2 | FCLP | 22F1 | 4373 | 8.8 | 1.0 | 79.8 | <45 | 56.8 |
| AC-12 | 11 | Jet Fighter | T & G | 22T1 | 4279 | 0.3 | 0.0 | 98.5 | <45 | 57.0 |
| AC-12 | 12 | Jet Fighter | DEP | P10D2 | 3104 | 0.0 | 0.0 | 105.8 | <45 | 57.1 |
| AC-12 | 13 | E-2/C-2 | DEP | N22D2 | 4195 | 1.1 | 0.1 | 84.0 | <45 | 57.2 |
| AC-12 | 14 | Jet Fighter | DEP | P22D2 | 4205 | 0.0 | 0.0 | 100.6 | <45 | 57.2 |
| AC-12 | 15 | E-2/C-2 | T & G | 28T1 | 3149 | 1.9 | 0.0 | 83.8 | <45 | 57.3 |
| AC-12 | 16 | P-3C | DEP | 28D3 | 3114 | 1.6 | 0.0 | 84.0 | <45 | 57.3 |
| AC-12 | 17 | Jet Fighter | ARR | P1001 | 3214 | 0.0 | 0.0 | 99.0 | <45 | 57.4 |
| AC-12 | 18 | Jet Fighter | ARR | P2801 | 3244 | 0.1 | 0.0 | 97.1 | <45 | 57.4 |
| AC-12 | 19 | E-2/C-2 | ARR | N0401 | 1987 | 0.8 | 0.1 | 82.4 | <45 | 57.4 |
| AC-12 | 20 | Jet Fighter | DEP | P04D2 | 4168 | 0.0 | 0.0 | 101.9 | <45 | 57.4 |
| AC-13 | 1 | E-2/C-2 | FCLP | 22F2 | 1107 | 17.6 | 2.1 | 93.4 | 59.9 | 59.9 |
| AC-13 | 2 | Jet Fighter | T & G | 22T1 | 1188 | 0.3 | 0.0 | 113.3 | 58.0 | 62.1 |
| AC-13 | 3 | E-2/C-2 | FCLP | 22F1 | 1107 | 8.8 | 1.0 | 93.5 | 56.9 | 63.2 |
| AC-13 | 4 | Jet Fighter | T & G | 28T1 | 1570 | 0.4 | 0.0 | 109.8 | 56.6 | 64.1 |
| AC-13 | 5 | E-2/C-2 | FCLP | 04F2 | 1248 | 13.8 | 1.6 | 90.1 | 55.5 | 64.6 |
| AC-13 | 6 | E-2/C-2 | Crew Swap | 22SW | 1105 | 3.5 | 0.4 | 95.1 | 54.6 | 65.0 |
| AC-13 | 7 | Jet Fighter | DEP | P22D2 | 1248 | 0.0 | 0.0 | 117.2 | 54.1 | 65.4 |
| AC-13 | 8 | Jet Fighter | T & G | 10T1 | 1848 | 0.3 | 0.0 | 108.6 | 53.6 | 65.7 |
| AC-13 | 9 | Jet Fighter | T & G | 04T1 | 1313 | 0.1 | 0.0 | 111.9 | 53.2 | 65.9 |
| AC-13 | 10 | E-2/C-2 | Crew Swap | 04SW | 1191 | 2.7 | 0.3 | 94.7 | 53.1 | 66.1 |
| AC-13 | 11 | E-2/C-2 | FCLP | 04F1 | 1316 | 6.9 | 0.8 | 89.5 | 51.9 | 66.3 |
| AC-13 | 12 | Jet Fighter | DEP | P28D2 | 1570 | 0.1 | 0.0 | 111.1 | 50.1 | 66.4 |
| AC-13 | 13 | Jet Fighter | DEP | P04D2 | 1248 | 0.0 | 0.0 | 115.8 | 49.3 | 66.5 |
| AC-13 | 14 | E-2/C-2 | DEP | N22D2 | 1104 | 1.1 | 0.1 | 93.4 | 47.7 | 66.5 |
| AC-13 | 15 | E-2/C-2 | DEP | N04D2 | 1184 | 0.8 | 0.1 | 94.1 | 47.3 | 66.6 |
| AC-13 | 16 | Jet Fighter | ARR | P2801 | 1570 | 0.1 | 0.0 | 107.3 | 46.3 | 66.6 |
| AC-13 | 17 | Jet Fighter | DEP | P10D2 | 1674 | 0.0 | 0.0 | 108.4 | 45.7 | 66.7 |
| AC-13 | 18 | E-2/C-2 | T & G | 22T1 | 1154 | 1.2 | 0.0 | 93.7 | 45.0 | 66.7 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-13 | 19 | E-2/C-2 | T & G | 22T1 | 1240 | 0.8 | 0.0 | 93.2 | <45 | 66.7 |
| AC-13 | 20 | P-3C | DEP | 10D3 | 1619 | 1.0 | 0.0 | 90.5 | <45 | 66.7 |
| AC-14 | 1 | Jet Fighter | T & G | 28T1 | 1250 | 0.4 | 0.0 | 111.9 | 58.7 | 58.7 |
| AC-14 | 2 | E-2/C-2 | FCLP | 22F2 | 1058 | 17.6 | 2.1 | 89.7 | 56.1 | 60.6 |
| AC-14 | 3 | Jet Fighter | T & G | 22T1 | 1261 | 0.3 | 0.0 | 110.9 | 55.6 | 61.8 |
| AC-14 | 4 | Jet Fighter | T & G | 04T1 | 899 | 0.1 | 0.0 | 113.4 | 54.8 | 62.6 |
| AC-14 | 5 | E-2/C-2 | Crew Swap | 22SW | 1155 | 3.5 | 0.4 | 94.3 | 53.8 | 63.1 |
| AC-14 | 6 | Jet Fighter | ARR | P28O1 | 1250 | 0.1 | 0.0 | 111.8 | 50.8 | 63.4 |
| AC-14 | 7 | E-2/C-2 | FCLP | 04F2 | 909 | 13.8 | 1.6 | 83.8 | 49.2 | 63.5 |
| AC-14 | 8 | E-2/C-2 | DEP | N22D2 | 1215 | 1.1 | 0.1 | 93.6 | 47.9 | 63.7 |
| AC-14 | 9 | Jet Fighter | DEP | P22D2 | 1058 | 0.0 | 0.0 | 110.6 | 47.6 | 63.8 |
| AC-14 | 10 | Jet Fighter | ARR | P04O1 | 912 | 0.0 | 0.0 | 113.7 | 47.3 | 63.9 |
| AC-14 | 11 | E-2/C-2 | FCLP | 22F1 | 2487 | 8.8 | 1.0 | 82.8 | 46.2 | 63.9 |
| AC-14 | 12 | E-2/C-2 | FCLP | 04F1 | 909 | 6.9 | 0.8 | 83.8 | 46.2 | 64.0 |
| AC-14 | 13 | E-2/C-2 | Crew Swap | 04SW | 900 | 2.7 | 0.3 | 85.9 | <45 | 64.0 |
| AC-14 | 14 | P-3C | DEP | 22D3 | 1126 | 1.0 | 0.0 | 92.2 | <45 | 64.1 |
| AC-14 | 15 | E-2/C-2 | T & G | 28T1 | 973 | 1.9 | 0.0 | 88.8 | <45 | 64.1 |
| AC-14 | 16 | E-2/C-2 | ARR | N04O1 | 909 | 0.8 | 0.1 | 88.9 | <45 | 64.1 |
| AC-14 | 17 | E-2/C-2 | T & G | 22T1 | 988 | 1.2 | 0.0 | 89.6 | <45 | 64.2 |
| AC-14 | 18 | E-2/C-2 | DEP | N22D2 | 1215 | 0.3 | 0.0 | 93.6 | <45 | 64.2 |
| AC-14 | 19 | E-2/C-2 | T & G | 28T1 | 1250 | 1.3 | 0.0 | 87.2 | <45 | 64.2 |
| AC-14 | 20 | A-10A | T & G | 22T1 | 1040 | 0.1 | 0.0 | 96.9 | <45 | 64.2 |
| AC-15 | 1 | E-2/C-2 | FCLP | 22F2 | 4514 | 17.6 | 2.1 | 79.2 | 45.7 | 45.7 |
| AC-15 | 2 | E-2/C-2 | Crew Swap | 22SW | 11263 | 3.5 | 0.4 | 75.9 | <45 | 46.1 |
| AC-15 | 3 | E-2/C-2 | FCLP | 04F2 | 12343 | 13.8 | 1.6 | 68.3 | <45 | 46.3 |
| AC-15 | 4 | Jet Fighter | T & G | 22T1 | 8782 | 0.3 | 0.0 | 88.9 | <45 | 46.5 |
| AC-15 | 5 | E-2/C-2 | FCLP | 22F1 | 11288 | 8.8 | 1.0 | 68.8 | <45 | 46.7 |
| AC-15 | 6 | Jet Fighter | T & G | 28T1 | 12002 | 0.4 | 0.0 | 84.6 | <45 | 46.8 |
| AC-15 | 7 | E-2/C-2 | Crew Swap | 04SW | 10650 | 2.7 | 0.3 | 71.7 | <45 | 46.9 |
| AC-15 | 8 | E-2/C-2 | DEP | N22D2 | 10683 | 1.1 | 0.1 | 75.8 | <45 | 47.0 |
| AC-15 | 9 | E-2/C-2 | FCLP | 04F1 | 12343 | 6.9 | 0.8 | 67.2 | <45 | 47.1 |
| AC-15 | 10 | Jet Fighter | T & G | 04T1 | 11567 | 0.1 | 0.0 | 86.3 | <45 | 47.1 |
| AC-15 | 11 | Jet Fighter | DEP | P22D2 | 10746 | 0.0 | 0.0 | 89.4 | <45 | 47.2 |
| AC-15 | 12 | Jet Fighter | ARR | P22O1 | 8751 | 0.0 | 0.0 | 87.0 | <45 | 47.2 |
| AC-15 | 13 | Jet Fighter | ARR | P28O1 | 12002 | 0.1 | 0.0 | 84.4 | <45 | 47.2 |
| AC-15 | 14 | P-3C | DEP | 22D3 | 10645 | 1.0 | 0.0 | 72.6 | <45 | 47.2 |
| AC-15 | 15 | E-2/C-2 | T & G | 22T1 | 8746 | 1.2 | 0.0 | 71.3 | <45 | 47.2 |
| AC-15 | 16 | E-2/C-2 | ARR | N04O1 | 10580 | 0.8 | 0.1 | 69.1 | <45 | 47.3 |
| AC-15 | 17 | E-2/C-2 | T & G | 28T1 | 11975 | 1.9 | 0.0 | 68.5 | <45 | 47.3 |
| AC-15 | 18 | E-2/C-2 | DEP | N22D2 | 10683 | 0.3 | 0.0 | 75.8 | <45 | 47.3 |
| AC-15 | 19 | E-2/C-2 | T & G | 22T1 | 8782 | 0.8 | 0.0 | 71.6 | <45 | 47.3 |
| AC-15 | 20 | E-2/C-2 | DEP | N04D2 | 14574 | 0.8 | 0.1 | 67.8 | <45 | 47.3 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-16 | 1 | P-3C | ARR | 28A1 | 1456 | 1.6 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 2 | Jet Fighter | T & G | 28T1 | 18612 | 0.4 | 0.0 | 85.3 | <45 | <45 |
| AC-16 | 3 | B-737-400* | ARR | 28A1 | 1406 | 0.4 | 0.0 | 84.9 | <45 | <45 |
| AC-16 | 4 | E-2/C-2 | FCLP | 04F2 | 23204 | 13.8 | 1.6 | 64.1 | <45 | <45 |
| AC-16 | 5 | E-2/C-2 | FCLP | 22F2 | 19883 | 17.6 | 2.1 | 63.0 | <45 | <45 |
| AC-16 | 6 | Jet Fighter | ARR | P28O1 | 2138 | 0.1 | 0.0 | 90.3 | <45 | <45 |
| AC-16 | 7 | A-10A | ARR | 28A1 | 1407 | 0.0 | 0.0 | 91.2 | <45 | <45 |
| AC-16 | 8 | E-2/C-2 | Crew Swap | 04SW | 24364 | 2.7 | 0.3 | 67.1 | <45 | <45 |
| AC-16 | 9 | Jet Fighter | T & G | 10T1 | 23084 | 0.3 | 0.0 | 80.3 | <45 | <45 |
| AC-16 | 10 | E-2/C-2 | Crew Swap | 22SW | 19890 | 3.5 | 0.4 | 65.9 | <45 | <45 |
| AC-16 | 11 | Jet Fighter | DEP | P10D2 | 12242 | 0.0 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 12 | E-2/C-2 | FCLP | 22F1 | 19883 | 8.8 | 1.0 | 61.3 | <45 | <45 |
| AC-16 | 13 | C-12 | ARR | 28A1 | 1422 | 0.2 | 0.0 | 79.9 | <45 | <45 |
| AC-16 | 14 | Jet Fighter | T & G | 22T1 | 16596 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-16 | 15 | E-2/C-2 | FCLP | 04F1 | 27654 | 6.9 | 0.8 | 60.5 | <45 | <45 |
| AC-16 | 16 | Jet Fighter | DEP | P28D2 | 26733 | 0.1 | 0.0 | 82.9 | <45 | <45 |
| AC-16 | 17 | P-3C | DEP | 10D3 | 11881 | 1.0 | 0.0 | 67.5 | <45 | <45 |
| AC-16 | 18 | E-2/C-2 | DEP | N04D2 | 22984 | 0.8 | 0.1 | 64.9 | <45 | <45 |
| AC-16 | 19 | E-2/C-2 | DEP | N10D2 | 12009 | 0.3 | 0.0 | 71.1 | <45 | <45 |
| AC-16 | 20 | E-2/C-2 | DEP | N22D2 | 26056 | 1.1 | 0.1 | 61.4 | <45 | <45 |
| AC-17 | 1 | P-3C | ARR | 28A1 | 3066 | 1.6 | 0.0 | 79.0 | <45 | <45 |
| AC-17 | 2 | E-2/C-2 | FCLP | 22F2 | 16714 | 17.6 | 2.1 | 64.8 | <45 | <45 |
| AC-17 | 3 | E-2/C-2 | FCLP | 04F2 | 21489 | 13.8 | 1.6 | 65.5 | <45 | <45 |
| AC-17 | 4 | Jet Fighter | T & G | 28T1 | 14755 | 0.4 | 0.0 | 83.8 | <45 | <45 |
| AC-17 | 5 | Jet Fighter | DEP | P10D2 | 10377 | 0.0 | 0.0 | 89.9 | <45 | <45 |
| AC-17 | 6 | E-2/C-2 | Crew Swap | 22SW | 16716 | 3.5 | 0.4 | 67.5 | <45 | <45 |
| AC-17 | 7 | E-2/C-2 | Crew Swap | 04SW | 21968 | 2.7 | 0.3 | 68.5 | <45 | <45 |
| AC-17 | 8 | Jet Fighter | ARR | P28O1 | 3281 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-17 | 9 | E-2/C-2 | FCLP | 22F1 | 16714 | 8.8 | 1.0 | 63.1 | <45 | <45 |
| AC-17 | 10 | Jet Fighter | T & G | 22T1 | 13958 | 0.3 | 0.0 | 81.6 | <45 | <45 |
| AC-17 | 11 | B-737-400* | ARR | 28A1 | 3046 | 0.4 | 0.0 | 78.8 | <45 | <45 |
| AC-17 | 12 | Jet Fighter | T & G | 10T1 | 20271 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-17 | 13 | E-2/C-2 | FCLP | 04F1 | 24276 | 6.9 | 0.8 | 62.1 | <45 | <45 |
| AC-17 | 14 | Jet Fighter | DEP | P28D2 | 23389 | 0.1 | 0.0 | 84.3 | <45 | <45 |
| AC-17 | 15 | E-2/C-2 | DEP | N04D2 | 21539 | 0.8 | 0.1 | 67.9 | <45 | <45 |
| AC-17 | 16 | P-3C | DEP | 10D3 | 10034 | 1.0 | 0.0 | 69.8 | <45 | <45 |
| AC-17 | 17 | E-2/C-2 | DEP | N22D2 | 22943 | 1.1 | 0.1 | 65.5 | <45 | <45 |
| AC-17 | 18 | E-2/C-2 | DEP | N10D2 | 10180 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-17 | 19 | C-12 | ARR | 28A1 | 3055 | 0.2 | 0.0 | 75.0 | <45 | <45 |
| AC-17 | 20 | Jet Fighter | ARR | P22O1 | 14130 | 0.0 | 0.0 | 81.5 | <45 | <45 |
| AC-18 | 1 | Jet Fighter | T & G | 28T1 | 21250 | 0.4 | 0.0 | 82.4 | <45 | <45 |
| AC-18 | 2 | E-2/C-2 | FCLP | 04F2 | 28484 | 13.8 | 1.6 | 60.7 | <45 | <45 |
| AC-18 | 3 | E-2/C-2 | FCLP | 22F2 | 23644 | 17.6 | 2.1 | 57.8 | <45 | <45 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-18 | 4 | P-3C | ARR | 28A1 | 5853 | 1.6 | 0.0 | 70.4 | <45 | <45 |
| AC-18 | 5 | E-2/C-2 | Crew Swap | 04SW | 29020 | 2.7 | 0.3 | 63.4 | <45 | <45 |
| AC-18 | 6 | Jet Fighter | ARR | P28O1 | 6151 | 0.1 | 0.0 | 82.5 | <45 | <45 |
| AC-18 | 7 | Jet Fighter | T & G | 10T1 | 27279 | 0.3 | 0.0 | 76.5 | <45 | <45 |
| AC-18 | 8 | E-2/C-2 | Crew Swap | 22SW | 23644 | 3.5 | 0.4 | 61.8 | <45 | <45 |
| AC-18 | 9 | E-2/C-2 | FCLP | 22F1 | 23644 | 8.8 | 1.0 | 56.6 | <45 | <45 |
| AC-18 | 10 | Jet Fighter | DEP | P10D2 | 17181 | 0.0 | 0.0 | 82.6 | <45 | <45 |
| AC-18 | 11 | E-2/C-2 | FCLP | 04F1 | 31061 | 6.9 | 0.8 | 56.8 | <45 | <45 |
| AC-18 | 12 | Jet Fighter | DEP | P28D2 | 30218 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-18 | 13 | Jet Fighter | T & G | 22T1 | 21003 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-18 | 14 | B-737-400* | ARR | 28A1 | 5840 | 0.4 | 0.0 | 70.8 | <45 | <45 |
| AC-18 | 15 | E-2/C-2 | DEP | N04D2 | 28522 | 0.8 | 0.1 | 62.7 | <45 | <45 |
| AC-18 | 16 | P-3C | DEP | 10D3 | 16965 | 1.0 | 0.0 | 64.3 | <45 | <45 |
| AC-18 | 17 | E-2/C-2 | DEP | N10D2 | 17062 | 0.3 | 0.0 | 68.0 | <45 | <45 |
| AC-18 | 18 | E-2/C-2 | T & G | 28T1 | 21252 | 1.9 | 0.0 | 59.9 | <45 | <45 |
| AC-18 | 19 | C-12 | ARR | 28A1 | 5843 | 0.2 | 0.0 | 68.4 | <45 | <45 |
| AC-18 | 20 | E-2/C-2 | T & G | 10T1 | 27267 | 1.3 | 0.0 | 60.3 | <45 | <45 |
| AC-19 | 1 | E-2/C-2 | FCLP | 22F2 | 14450 | 17.6 | 2.1 | 68.4 | <45 | <45 |
| AC-19 | 2 | E-2/C-2 | FCLP | 04F2 | 20516 | 13.8 | 1.6 | 67.4 | <45 | <45 |
| AC-19 | 3 | Jet Fighter | T & G | 28T1 | 10794 | 0.4 | 0.0 | 85.8 | <45 | <45 |
| AC-19 | 4 | E-2/C-2 | Crew Swap | 22SW | 14442 | 3.5 | 0.4 | 71.6 | <45 | <45 |
| AC-19 | 5 | E-2/C-2 | FCLP | 22F1 | 14450 | 8.8 | 1.0 | 66.1 | <45 | <45 |
| AC-19 | 6 | E-2/C-2 | Crew Swap | 04SW | 20515 | 2.7 | 0.3 | 70.5 | <45 | <45 |
| AC-19 | 7 | Jet Fighter | T & G | 22T1 | 12655 | 0.3 | 0.0 | 83.8 | <45 | <45 |
| AC-19 | 8 | E-2/C-2 | FCLP | 04F1 | 20516 | 6.9 | 0.8 | 65.8 | <45 | <45 |
| AC-19 | 9 | Jet Fighter | ARR | P28O1 | 11319 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-19 | 10 | E-2/C-2 | DEP | N22D2 | 20517 | 1.1 | 0.1 | 69.3 | <45 | <45 |
| AC-19 | 11 | E-2/C-2 | DEP | N04D2 | 20514 | 0.8 | 0.1 | 69.4 | <45 | <45 |
| AC-19 | 12 | Jet Fighter | DEP | P10D2 | 15218 | 0.0 | 0.0 | 84.1 | <45 | <45 |
| AC-19 | 13 | Jet Fighter | T & G | 10T1 | 19756 | 0.3 | 0.0 | 75.5 | <45 | <45 |
| AC-19 | 14 | Jet Fighter | DEP | P28D2 | 20735 | 0.1 | 0.0 | 80.8 | <45 | <45 |
| AC-19 | 15 | E-2/C-2 | T & G | 28T1 | 10785 | 1.9 | 0.0 | 66.4 | <45 | <45 |
| AC-19 | 16 | Jet Fighter | T & G | 04T1 | 20517 | 0.1 | 0.0 | 78.1 | <45 | <45 |
| AC-19 | 17 | E-2/C-2 | T & G | 22T1 | 12630 | 1.2 | 0.0 | 68.1 | <45 | <45 |
| AC-19 | 18 | Jet Fighter | ARR | P22O1 | 12655 | 0.0 | 0.0 | 82.4 | <45 | <45 |
| AC-19 | 19 | B-737-400* | DEP | 28D3 | 20735 | 0.4 | 0.0 | 71.6 | <45 | <45 |
| AC-19 | 20 | P-3C | DEP | 22D3 | 20516 | 1.0 | 0.0 | 67.5 | <45 | <45 |
| AC-20 | 1 | E-2/C-2 | FCLP | 22F2 | 31905 | 17.6 | 2.1 | 58.3 | <45 | <45 |
| AC-20 | 2 | E-2/C-2 | FCLP | 04F2 | 37980 | 13.8 | 1.6 | 57.2 | <45 | <45 |
| AC-20 | 3 | Jet Fighter | T & G | 28T1 | 27869 | 0.4 | 0.0 | 74.1 | <45 | <45 |
| AC-20 | 4 | E-2/C-2 | Crew Swap | 22SW | 31896 | 3.5 | 0.4 | 61.1 | <45 | <45 |
| AC-20 | 5 | E-2/C-2 | FCLP | 22F1 | 31905 | 8.8 | 1.0 | 56.6 | <45 | <45 |
| AC-20 | 6 | E-2/C-2 | Crew Swap | 04SW | 37982 | 2.7 | 0.3 | 60.2 | <45 | <45 |

| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-20 | 7 | E-2/C-2 | FCLP | 04F1 | 38107 | 6.9 | 0.8 | 55.4 | <45 | <45 |
| AC-20 | 8 | Jet Fighter | ARR | P2801 | 19159 | 0.1 | 0.0 | 75.0 | <45 | <45 |
| AC-20 | 9 | E-2/C-2 | DEP | N22D2 | 37976 | 1.1 | 0.1 | 58.2 | <45 | <45 |
| AC-20 | 10 | E-2/C-2 | DEP | N04D2 | 37981 | 0.8 | 0.1 | 58.7 | <45 | <45 |
| AC-20 | 11 | Jet Fighter | T & G | 22T1 | 30094 | 0.3 | 0.0 | 67.0 | <45 | <45 |
| AC-20 | 12 | Jet Fighter | DEP | P28D2 | 37716 | 0.1 | 0.0 | 72.1 | <45 | <45 |
| AC-20 | 13 | E-2/C-2 | T & G | 28T1 | 27868 | 1.9 | 0.0 | 57.6 | <45 | <45 |
| AC-20 | 14 | Jet Fighter | T & G | 10T1 | 35915 | 0.3 | 0.0 | 65.8 | <45 | <45 |
| AC-20 | 15 | Jet Fighter | DEP | P10D2 | 27833 | 0.0 | 0.0 | 73.5 | <45 | <45 |
| AC-20 | 16 | E-2/C-2 | T & G | 28T1 | 27870 | 1.3 | 0.0 | 58.0 | <45 | <45 |
| AC-20 | 17 | E-2/C-2 | T & G | 22T1 | 30083 | 1.2 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 18 | P-3C | DEP | 10D3 | 27723 | 1.0 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 19 | P-3C | DEP | 22D3 | 37975 | 1.0 | 0.0 | 57.8 | <45 | <45 |
| AC-20 | 20 | P-3C | DEP | 28D3 | 37716 | 1.6 | 0.0 | 55.7 | <45 | <45 |
| AC-21 | 1 | E-2/C-2 | FCLP | 22F2 | 14662 | 17.6 | 2.1 | 67.6 | <45 | <45 |
| AC-21 | 2 | E-2/C-2 | Crew Swap | 22SW | 21455 | 3.5 | 0.4 | 69.0 | <45 | <45 |
| AC-21 | 3 | E-2/C-2 | FCLP | 04F2 | 24242 | 13.8 | 1.6 | 62.1 | <45 | <45 |
| AC-21 | 4 | Jet Fighter | T & G | 22T1 | 22652 | 0.3 | 0.0 | 79.7 | <45 | <45 |
| AC-21 | 5 | E-2/C-2 | FCLP | 22F1 | 25166 | 8.8 | 1.0 | 61.0 | <45 | <45 |
| AC-21 | 6 | E-2/C-2 | Crew Swap | 04SW | 15938 | 2.7 | 0.3 | 66.0 | <45 | <45 |
| AC-21 | 7 | E-2/C-2 | FCLP | 04F1 | 24243 | 6.9 | 0.8 | 59.5 | <45 | <45 |
| AC-21 | 8 | E-2/C-2 | DEP | N22D2 | 19303 | 1.1 | 0.1 | 66.6 | <45 | <45 |
| AC-21 | 9 | Jet Fighter | DEP | P22D2 | 19394 | 0.0 | 0.0 | 83.1 | <45 | <45 |
| AC-21 | 10 | Jet Fighter | T & G | 04T1 | 22691 | 0.1 | 0.0 | 76.3 | <45 | <45 |
| AC-21 | 11 | E-2/C-2 | DEP | N04D2 | 27771 | 0.8 | 0.1 | 63.8 | <45 | <45 |
| AC-21 | 12 | Jet Fighter | T & G | 28T1 | 25644 | 0.4 | 0.0 | 69.8 | <45 | <45 |
| AC-21 | 13 | Jet Fighter | ARR | P2201 | 22633 | 0.0 | 0.0 | 77.6 | <45 | <45 |
| AC-21 | 14 | E-2/C-2 | ARR | N0401 | 17115 | 0.8 | 0.1 | 61.2 | <45 | <45 |
| AC-21 | 15 | P-3C | DEP | 22D3 | 19270 | 1.0 | 0.0 | 62.9 | <45 | <45 |
| AC-21 | 16 | E-2/C-2 | T & G | 22T1 | 22638 | 1.2 | 0.0 | 61.7 | <45 | <45 |
| AC-21 | 17 | E-2/C-2 | T & G | 28T1 | 25632 | 1.9 | 0.0 | 59.5 | <45 | <45 |
| AC-21 | 18 | E-2/C-2 | DEP | N22D2 | 19303 | 0.3 | 0.0 | 66.6 | <45 | <45 |
| AC-21 | 19 | E-2/C-2 | ARR | N2201 | 25165 | 1.1 | 0.1 | 57.3 | <45 | <45 |
| AC-21 | 20 | E-2/C-2 | T & G | 22T1 | 22652 | 0.8 | 0.0 | 61.0 | <45 | <45 |
| AC-22 | 1 | E-2/C-2 | Crew Swap | 04SW | 3639 | 2.7 | 0.3 | 80.8 | <45 | <45 |
| AC-22 | 2 | E-2/C-2 | Crew Swap | 22SW | 4874 | 3.5 | 0.4 | 79.3 | <45 | <45 |
| AC-22 | 3 | Jet Fighter | DEP | P28D2 | 5477 | 0.1 | 0.0 | 98.6 | <45 | <45 |
| AC-22 | 4 | P-3C | ARR | 10A1 | 2297 | 1.0 | 0.0 | 79.7 | <45 | <45 |
| AC-22 | 5 | P-3C | DEP | 28D3 | 3975 | 1.6 | 0.0 | 76.1 | <45 | <45 |
| AC-22 | 6 | B-737-400* | DEP | 28D3 | 4099 | 0.4 | 0.0 | 80.8 | <45 | <45 |
| AC-22 | 7 | E-2/C-2 | DEP | N28D2 | 4256 | 0.5 | 0.0 | 78.3 | <45 | <45 |
| AC-22 | 8 | B-737-400* | ARR | 10A1 | 2266 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-22 | 9 | Jet Fighter | ARR | P1001 | 2166 | 0.0 | 0.0 | 88.0 | <45 | <45 |



| Wallops: Alt 2B | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-22 | 10 | Jet Fighter | DEP | P22D2 | 11289 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-22 | 11 | E-2/C-2 | DEP | N22D2 | 10118 | 1.1 | 0.1 | 70.1 | <45 | <45 |
| AC-22 | 12 | Jet Fighter | T & G | 10T1 | 18371 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-22 | 13 | Jet Fighter | T & G | 28T1 | 23151 | 0.4 | 0.0 | 75.0 | <45 | <45 |
| AC-22 | 14 | E-2/C-2 | FCLP | 04F2 | 24633 | 13.8 | 1.6 | 56.3 | <45 | <45 |
| AC-22 | 15 | E-2/C-2 | ARR | N1001 | 1727 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-22 | 16 | Jet Fighter | DEP | P10D2 | 17102 | 0.0 | 0.0 | 81.7 | <45 | <45 |
| AC-22 | 17 | P-3C | DEP | 22D3 | 8556 | 1.0 | 0.0 | 67.3 | <45 | <45 |
| AC-22 | 18 | A-10A | ARR | 10A1 | 2266 | 0.0 | 0.0 | 83.9 | <45 | <45 |
| AC-22 | 19 | C-12 | ARR | 10A1 | 2276 | 0.1 | 0.0 | 74.7 | <45 | <45 |
| AC-22 | 20 | E-2/C-2 | FCLP | 04F1 | 24633 | 6.9 | 0.8 | 54.4 | <45 | <45 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-1 | 1 | E-2/C-2 | Crew Swap | 28SW | 5619 | 4.0 | 0.5 | 80.4 | <45 | <45 |
| AC-1 | 2 | E-2/C-2 | Crew Swap | 10SW | 5611 | 2.5 | 0.3 | 79.7 | <45 | <45 |
| AC-1 | 3 | Jet Fighter | T & G | 10T1 | 8777 | 0.3 | 0.0 | 87.0 | <45 | <45 |
| AC-1 | 4 | E-2/C-2 | FCLP | 28F1 | 19451 | 29.2 | 3.4 | 61.6 | <45 | <45 |
| AC-1 | 5 | E-2/C-2 | FCLP | 10F1 | 12147 | 17.9 | 2.1 | 63.0 | <45 | <45 |
| AC-1 | 6 | Jet Fighter | ARR | P1001 | 9278 | 0.0 | 0.0 | 88.9 | <45 | <45 |
| AC-1 | 7 | E-2/C-2 | DEP | N28D2 | 13506 | 1.0 | 0.1 | 71.5 | <45 | <45 |
| AC-1 | 8 | Jet Fighter | DEP | P10D2 | 11460 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-1 | 9 | Jet Fighter | DEP | P28D2 | 13597 | 0.1 | 0.0 | 85.7 | <45 | <45 |
| AC-1 | 10 | Jet Fighter | T & G | 28T1 | 17787 | 0.4 | 0.0 | 76.2 | <45 | <45 |
| AC-1 | 11 | P-3C | DEP | 10D3 | 5654 | 1.0 | 0.0 | 71.9 | <45 | <45 |
| AC-1 | 12 | E-2/C-2 | DEP | N10D2 | 10064 | 0.6 | 0.1 | 70.3 | <45 | <45 |
| AC-1 | 13 | E-2/C-2 | ARR | N28O1 | 4601 | 1.0 | 0.1 | 67.0 | <45 | <45 |
| AC-1 | 14 | P-3C | DEP | 28D3 | 12683 | 1.6 | 0.0 | 68.3 | <45 | <45 |
| AC-1 | 15 | Jet Fighter | DEP | P04D2 | 12312 | 0.0 | 0.0 | 87.2 | <45 | <45 |
| AC-1 | 16 | E-2/C-2 | DEP | N28D2 | 13506 | 0.5 | 0.0 | 71.5 | <45 | <45 |
| AC-1 | 17 | B-737-400* | DEP | 10D3 | 7434 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-1 | 18 | Jet Fighter | T & G | 04T1 | 16808 | 0.1 | 0.0 | 76.7 | <45 | <45 |
| AC-1 | 19 | E-2/C-2 | T & G | 10T1 | 8766 | 1.3 | 0.0 | 65.7 | <45 | <45 |
| AC-1 | 20 | E-2/C-2 | ARR | N1001 | 12152 | 0.6 | 0.1 | 65.1 | <45 | <45 |
| AC-2 | 1 | E-2/C-2 | Crew Swap | 28SW | 2374 | 4.0 | 0.5 | 89.2 | 49.3 | 49.3 |
| AC-2 | 2 | Jet Fighter | DEP | P28D2 | 3181 | 0.1 | 0.0 | 105.6 | <45 | 50.6 |
| AC-2 | 3 | Jet Fighter | ARR | P1001 | 1303 | 0.0 | 0.0 | 105.4 | <45 | 51.2 |
| AC-2 | 4 | E-2/C-2 | DEP | N28D2 | 2480 | 1.0 | 0.1 | 87.1 | <45 | 51.6 |
| AC-2 | 5 | P-3C | DEP | 28D3 | 1710 | 1.6 | 0.0 | 87.4 | <45 | 51.9 |
| AC-2 | 6 | P-3C | ARR | 10A1 | 865 | 1.0 | 0.0 | 88.8 | <45 | 52.2 |
| AC-2 | 7 | E-2/C-2 | Crew Swap | 10SW | 2789 | 2.5 | 0.3 | 78.2 | <45 | 52.3 |
| AC-2 | 8 | E-2/C-2 | DEP | N28D2 | 2480 | 0.5 | 0.0 | 87.1 | <45 | 52.4 |
| AC-2 | 9 | B-737-400* | ARR | 10A1 | 824 | 0.3 | 0.0 | 89.1 | <45 | 52.4 |
| AC-2 | 10 | B-737-400* | DEP | 28D3 | 2257 | 0.4 | 0.0 | 86.8 | <45 | 52.5 |
| AC-2 | 11 | Jet Fighter | T & G | 10T1 | 7671 | 0.3 | 0.0 | 88.3 | <45 | 52.5 |
| AC-2 | 12 | E-2/C-2 | FCLP | 28F1 | 15455 | 29.2 | 3.4 | 63.7 | <45 | 52.6 |
| AC-2 | 13 | E-2/C-2 | FCLP | 10F1 | 10941 | 17.9 | 2.1 | 64.4 | <45 | 52.6 |
| AC-2 | 14 | Jet Fighter | T & G | 28T1 | 12579 | 0.4 | 0.0 | 83.6 | <45 | 52.6 |
| AC-2 | 15 | E-2/C-2 | ARR | N1001 | 1284 | 0.6 | 0.1 | 78.3 | <45 | 52.7 |
| AC-2 | 16 | A-10A | ARR | 10A1 | 809 | 0.0 | 0.0 | 95.2 | <45 | 52.7 |
| AC-2 | 17 | E-2/C-2 | ARR | N1001 | 1284 | 0.3 | 0.0 | 78.3 | <45 | 52.7 |
| AC-2 | 18 | Jet Fighter | DEP | P10D2 | 15779 | 0.0 | 0.0 | 86.7 | <45 | 52.7 |
| AC-2 | 19 | C-12 | ARR | 10A1 | 845 | 0.1 | 0.0 | 81.5 | <45 | 52.7 |
| AC-2 | 20 | Jet Fighter | T & G | 04T1 | 12515 | 0.1 | 0.0 | 81.8 | <45 | 52.7 |
| AC-3 | 1 | E-2/C-2 | Crew Swap | 28SW | 3150 | 4.0 | 0.5 | 82.8 | <45 | <45 |
| AC-3 | 2 | E-2/C-2 | Crew Swap | 10SW | 3139 | 2.5 | 0.3 | 81.0 | <45 | <45 |
| AC-3 | 3 | Jet Fighter | DEP | P28D2 | 7378 | 0.1 | 0.0 | 95.3 | <45 | <45 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-3 | 4 | Jet Fighter | T & G | 28T1 | 14817 | 0.4 | 0.0 | 86.0 | <45 | 45.0 |
| AC-3 | 5 | E-2/C-2 | DEP | N28D2 | 6980 | 1.0 | 0.1 | 77.4 | <45 | 45.2 |
| AC-3 | 6 | Jet Fighter | DEP | P22D2 | 7745 | 0.0 | 0.0 | 93.8 | <45 | 45.4 |
| AC-3 | 7 | E-2/C-2 | FCLP | 28F1 | 18109 | 29.2 | 3.4 | 61.2 | <45 | 45.5 |
| AC-3 | 8 | E-2/C-2 | DEP | N28D2 | 6980 | 0.5 | 0.0 | 77.4 | <45 | 45.5 |
| AC-3 | 9 | P-3C | DEP | 28D3 | 8116 | 1.6 | 0.0 | 72.6 | <45 | 45.6 |
| AC-3 | 10 | E-2/C-2 | FCLP | 10F1 | 16086 | 17.9 | 2.1 | 58.5 | <45 | 45.6 |
| AC-3 | 11 | Jet Fighter | T & G | 10T1 | 13489 | 0.3 | 0.0 | 78.4 | <45 | 45.6 |
| AC-3 | 12 | P-3C | DEP | 22D3 | 5524 | 1.0 | 0.0 | 72.3 | <45 | 45.7 |
| AC-3 | 13 | B-737-400* | DEP | 22D3 | 5749 | 0.3 | 0.0 | 76.8 | <45 | 45.7 |
| AC-3 | 14 | Jet Fighter | ARR | P1001 | 6490 | 0.0 | 0.0 | 84.3 | <45 | 45.7 |
| AC-3 | 15 | Jet Fighter | T & G | 04T1 | 13046 | 0.1 | 0.0 | 80.3 | <45 | 45.7 |
| AC-3 | 16 | B-737-400* | DEP | 28D3 | 8271 | 0.4 | 0.0 | 74.4 | <45 | 45.7 |
| AC-3 | 17 | E-2/C-2 | DEP | N22D2 | 6604 | 0.3 | 0.0 | 74.5 | <45 | 45.7 |
| AC-3 | 18 | E-2/C-2 | ARR | N1001 | 6495 | 0.6 | 0.1 | 68.1 | <45 | 45.7 |
| AC-3 | 19 | Jet Fighter | ARR | P2801 | 14810 | 0.1 | 0.0 | 80.1 | <45 | 45.8 |
| AC-3 | 20 | Jet Fighter | DEP | P10D2 | 19642 | 0.0 | 0.0 | 81.3 | <45 | 45.8 |
| AC-4 | 1 | E-2/C-2 | Crew Swap | 28SW | 10212 | 4.0 | 0.5 | 71.8 | <45 | <45 |
| AC-4 | 2 | Jet Fighter | DEP | P22D2 | 8419 | 0.0 | 0.0 | 92.8 | <45 | <45 |
| AC-4 | 3 | E-2/C-2 | Crew Swap | 10SW | 9972 | 2.5 | 0.3 | 69.8 | <45 | <45 |
| AC-4 | 4 | Jet Fighter | T & G | 28T1 | 19341 | 0.4 | 0.0 | 77.4 | <45 | <45 |
| AC-4 | 5 | E-2/C-2 | DEP | N28D2 | 18494 | 1.0 | 0.1 | 67.1 | <45 | <45 |
| AC-4 | 6 | P-3C | DEP | 22D3 | 7019 | 1.0 | 0.0 | 70.6 | <45 | <45 |
| AC-4 | 7 | Jet Fighter | T & G | 04T1 | 15883 | 0.1 | 0.0 | 79.0 | <45 | <45 |
| AC-4 | 8 | E-2/C-2 | FCLP | 28F1 | 22611 | 29.2 | 3.4 | 51.6 | <45 | <45 |
| AC-4 | 9 | B-737-400* | DEP | 22D3 | 7086 | 0.3 | 0.0 | 74.9 | <45 | <45 |
| AC-4 | 10 | E-2/C-2 | DEP | N22D2 | 7509 | 0.3 | 0.0 | 74.1 | <45 | <45 |
| AC-4 | 11 | Jet Fighter | DEP | P28D2 | 18643 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-4 | 12 | Jet Fighter | ARR | P04O1 | 12523 | 0.0 | 0.0 | 82.3 | <45 | <45 |
| AC-4 | 13 | P-3C | DEP | 28D3 | 19551 | 1.6 | 0.0 | 62.5 | <45 | <45 |
| AC-4 | 14 | E-2/C-2 | DEP | N28D2 | 18494 | 0.5 | 0.0 | 67.1 | <45 | <45 |
| AC-4 | 15 | E-2/C-2 | FCLP | 10F1 | 23838 | 17.9 | 2.1 | 47.6 | <45 | <45 |
| AC-4 | 16 | Jet Fighter | T & G | 22T1 | 24486 | 0.3 | 0.0 | 68.9 | <45 | <45 |
| AC-4 | 17 | E-2/C-2 | ARR | N04O1 | 2756 | 0.1 | 0.0 | 70.9 | <45 | <45 |
| AC-4 | 18 | E-2/C-2 | T & G | 28T1 | 19341 | 1.3 | 0.0 | 60.8 | <45 | <45 |
| AC-4 | 19 | Jet Fighter | ARR | P2801 | 19313 | 0.1 | 0.0 | 72.8 | <45 | <45 |
| AC-4 | 20 | E-2/C-2 | T & G | 28T1 | 19326 | 1.9 | 0.0 | 57.8 | <45 | <45 |
| AC-5 | 1 | E-2/C-2 | Crew Swap | 10SW | 3225 | 2.5 | 0.3 | 83.5 | <45 | <45 |
| AC-5 | 2 | P-3C | ARR | 22A1 | 1054 | 1.0 | 0.0 | 86.0 | <45 | <45 |
| AC-5 | 3 | Jet Fighter | DEP | P04D2 | 4058 | 0.0 | 0.0 | 101.8 | <45 | <45 |
| AC-5 | 4 | Jet Fighter | ARR | P22O1 | 1188 | 0.0 | 0.0 | 98.3 | <45 | <45 |
| AC-5 | 5 | E-2/C-2 | Crew Swap | 28SW | 7876 | 4.0 | 0.5 | 73.4 | <45 | <45 |
| AC-5 | 6 | B-737-400* | ARR | 22A1 | 1009 | 0.3 | 0.0 | 86.5 | <45 | <45 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-5 | 7 | Jet Fighter | DEP | P10D2 | 8124 | 0.0 | 0.0 | 93.0 | <45 | <45 |
| AC-5 | 8 | E-2/C-2 | FCLP | 10F1 | 16024 | 17.9 | 2.1 | 63.2 | <45 | <45 |
| AC-5 | 9 | P-3C | DEP | 04D3 | 2562 | 0.4 | 0.0 | 81.8 | <45 | 45.0 |
| AC-5 | 10 | Jet Fighter | T & G | 22T1 | 10538 | 0.3 | 0.0 | 83.9 | <45 | 45.1 |
| AC-5 | 11 | Jet Fighter | T & G | 10T1 | 12991 | 0.3 | 0.0 | 82.8 | <45 | 45.2 |
| AC-5 | 12 | E-2/C-2 | FCLP | 28F1 | 19057 | 29.2 | 3.4 | 58.3 | <45 | 45.2 |
| AC-5 | 13 | E-2/C-2 | DEP | N10D2 | 7179 | 0.6 | 0.1 | 74.0 | <45 | 45.3 |
| AC-5 | 14 | A-10A | ARR | 22A1 | 1002 | 0.0 | 0.0 | 92.3 | <45 | 45.3 |
| AC-5 | 15 | B-737-400* | DEP | 04D3 | 3066 | 0.1 | 0.0 | 83.2 | <45 | 45.4 |
| AC-5 | 16 | E-2/C-2 | DEP | N04D2 | 3391 | 0.1 | 0.0 | 82.2 | <45 | 45.4 |
| AC-5 | 17 | Jet Fighter | T & G | 04T1 | 15566 | 0.1 | 0.0 | 80.5 | <45 | 45.4 |
| AC-5 | 18 | P-3C | DEP | 10D3 | 6359 | 1.0 | 0.0 | 70.8 | <45 | 45.4 |
| AC-5 | 19 | B-737-400* | DEP | 10D3 | 6446 | 0.3 | 0.0 | 75.2 | <45 | 45.4 |
| AC-5 | 20 | C-12 | ARR | 22A1 | 1032 | 0.1 | 0.0 | 78.6 | <45 | 45.5 |
| AC-6 | 1 | Jet Fighter | T & G | 10T1 | 2121 | 0.3 | 0.0 | 106.2 | 51.2 | 51.2 |
| AC-6 | 2 | E-2/C-2 | FCLP | 10F1 | 3790 | 17.9 | 2.1 | 78.1 | <45 | 52.1 |
| AC-6 | 3 | Jet Fighter | T & G | 04T1 | 3004 | 0.1 | 0.0 | 101.4 | <45 | 52.6 |
| AC-6 | 4 | Jet Fighter | ARR | P1001 | 2121 | 0.0 | 0.0 | 105.2 | <45 | 53.0 |
| AC-6 | 5 | E-2/C-2 | Crew Swap | 28SW | 3152 | 4.0 | 0.5 | 81.7 | <45 | 53.3 |
| AC-6 | 6 | E-2/C-2 | Crew Swap | 10SW | 2997 | 2.5 | 0.3 | 83.0 | <45 | 53.5 |
| AC-6 | 7 | E-2/C-2 | FCLP | 28F1 | 9791 | 29.2 | 3.4 | 70.9 | <45 | 53.7 |
| AC-6 | 8 | Jet Fighter | T & G | 22T1 | 6426 | 0.3 | 0.0 | 90.6 | <45 | 53.8 |
| AC-6 | 9 | E-2/C-2 | T & G | 10T1 | 1973 | 1.3 | 0.0 | 83.1 | <45 | 53.8 |
| AC-6 | 10 | E-2/C-2 | T & G | 10T1 | 2121 | 0.8 | 0.0 | 82.9 | <45 | 53.9 |
| AC-6 | 11 | Jet Fighter | T & G | 28T1 | 9794 | 0.4 | 0.0 | 84.9 | <45 | 53.9 |
| AC-6 | 12 | Jet Fighter | DEP | P10D2 | 8690 | 0.0 | 0.0 | 93.8 | <45 | 53.9 |
| AC-6 | 13 | Jet Fighter | DEP | P04D2 | 6438 | 0.0 | 0.0 | 96.3 | <45 | 53.9 |
| AC-6 | 14 | E-2/C-2 | DEP | N10D2 | 6954 | 0.6 | 0.1 | 77.0 | <45 | 53.9 |
| AC-6 | 15 | Jet Fighter | ARR | P2201 | 6429 | 0.0 | 0.0 | 91.7 | <45 | 54.0 |
| AC-6 | 16 | Jet Fighter | DEP | P28D2 | 9799 | 0.1 | 0.0 | 89.5 | <45 | 54.0 |
| AC-6 | 17 | E-2/C-2 | T & G | 04T1 | 2901 | 0.5 | 0.0 | 80.7 | <45 | 54.0 |
| AC-6 | 18 | E-2/C-2 | DEP | N28D2 | 9791 | 1.0 | 0.1 | 73.5 | <45 | 54.0 |
| AC-6 | 19 | Jet Fighter | DEP | P22D2 | 8471 | 0.0 | 0.0 | 90.0 | <45 | 54.0 |
| AC-6 | 20 | E-2/C-2 | T & G | 04T1 | 3004 | 0.4 | 0.0 | 80.6 | <45 | 54.0 |
| AC-7 | 1 | Jet Fighter | T & G | 22T1 | 674 | 0.3 | 0.0 | 115.8 | 60.5 | 60.5 |
| AC-7 | 2 | Jet Fighter | ARR | P2201 | 695 | 0.0 | 0.0 | 116.0 | 52.9 | 61.2 |
| AC-7 | 3 | Jet Fighter | T & G | 10T1 | 2181 | 0.3 | 0.0 | 107.4 | 52.5 | 61.8 |
| AC-7 | 4 | E-2/C-2 | FCLP | 10F1 | 1551 | 17.9 | 2.1 | 85.8 | 52.3 | 62.2 |
| AC-7 | 5 | Jet Fighter | T & G | 04T1 | 1525 | 0.1 | 0.0 | 108.7 | 50.0 | 62.5 |
| AC-7 | 6 | Jet Fighter | DEP | P04D2 | 876 | 0.0 | 0.0 | 112.7 | 46.2 | 62.6 |
| AC-7 | 7 | E-2/C-2 | Crew Swap | 10SW | 1609 | 2.5 | 0.3 | 86.9 | <45 | 62.7 |
| AC-7 | 8 | E-2/C-2 | FCLP | 28F1 | 4739 | 29.2 | 3.4 | 76.0 | <45 | 62.7 |
| AC-7 | 9 | Jet Fighter | T & G | 28T1 | 4737 | 0.4 | 0.0 | 96.5 | <45 | 62.8 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-7 | 10 | E-2/C-2 | Crew Swap | 28SW | 3072 | 4.0 | 0.5 | 81.9 | <45 | 62.8 |
| AC-7 | 11 | P-3C | DEP | 04D3 | 975 | 0.4 | 0.0 | 92.8 | <45 | 62.8 |
| AC-7 | 12 | P-3C | ARR | 22A1 | 689 | 1.0 | 0.0 | 89.1 | <45 | 62.8 |
| AC-7 | 13 | Jet Fighter | DEP | P22D2 | 3252 | 0.0 | 0.0 | 102.0 | <45 | 62.9 |
| AC-7 | 14 | E-2/C-2 | T & G | 10T1 | 2034 | 1.3 | 0.0 | 86.0 | <45 | 62.9 |
| AC-7 | 15 | E-2/C-2 | T & G | 22T1 | 674 | 1.2 | 0.0 | 85.7 | <45 | 62.9 |
| AC-7 | 16 | Jet Fighter | DEP | P10D2 | 4771 | 0.0 | 0.0 | 99.6 | <45 | 62.9 |
| AC-7 | 17 | Jet Fighter | DEP | P28D2 | 5079 | 0.1 | 0.0 | 97.8 | <45 | 62.9 |
| AC-7 | 18 | A-10A | T & G | 22T1 | 691 | 0.1 | 0.0 | 95.3 | <45 | 62.9 |
| AC-7 | 19 | E-2/C-2 | DEP | N04D2 | 1235 | 0.1 | 0.0 | 93.3 | <45 | 62.9 |
| AC-7 | 20 | E-2/C-2 | T & G | 10T1 | 2181 | 0.8 | 0.0 | 85.7 | <45 | 62.9 |
| AC-8 | 1 | Jet Fighter | T & G | 04T1 | 1400 | 0.1 | 0.0 | 110.4 | 51.7 | 51.7 |
| AC-8 | 2 | Jet Fighter | T & G | 10T1 | 2848 | 0.3 | 0.0 | 104.0 | 49.1 | 53.6 |
| AC-8 | 3 | Jet Fighter | T & G | 28T1 | 3082 | 0.4 | 0.0 | 102.1 | 48.9 | 54.9 |
| AC-8 | 4 | E-2/C-2 | FCLP | 28F1 | 3779 | 29.2 | 3.4 | 80.1 | 48.8 | 55.8 |
| AC-8 | 5 | E-2/C-2 | FCLP | 10F1 | 2850 | 17.9 | 2.1 | 81.5 | 48.0 | 56.5 |
| AC-8 | 6 | E-2/C-2 | Crew Swap | 28SW | 2927 | 4.0 | 0.5 | 87.7 | 47.7 | 57.0 |
| AC-8 | 7 | Jet Fighter | ARR | P04O1 | 1400 | 0.0 | 0.0 | 110.1 | <45 | 57.2 |
| AC-8 | 8 | Jet Fighter | DEP | P28D2 | 2905 | 0.1 | 0.0 | 103.0 | <45 | 57.3 |
| AC-8 | 9 | E-2/C-2 | Crew Swap | 10SW | 2909 | 2.5 | 0.3 | 84.0 | <45 | 57.5 |
| AC-8 | 10 | Jet Fighter | DEP | P10D2 | 3026 | 0.0 | 0.0 | 104.2 | <45 | 57.6 |
| AC-8 | 11 | E-2/C-2 | DEP | N28D2 | 2925 | 1.0 | 0.1 | 87.0 | <45 | 57.7 |
| AC-8 | 12 | Jet Fighter | ARR | P10O1 | 2848 | 0.0 | 0.0 | 103.4 | <45 | 57.8 |
| AC-8 | 13 | P-3C | DEP | 28D3 | 2887 | 1.6 | 0.0 | 84.3 | <45 | 57.8 |
| AC-8 | 14 | E-2/C-2 | T & G | 04T1 | 1156 | 0.5 | 0.0 | 87.2 | <45 | 57.8 |
| AC-8 | 15 | E-2/C-2 | T & G | 28T1 | 2980 | 1.9 | 0.0 | 81.6 | <45 | 57.8 |
| AC-8 | 16 | E-2/C-2 | DEP | N28D2 | 2925 | 0.5 | 0.0 | 87.0 | <45 | 57.9 |
| AC-8 | 17 | P-3C | DEP | 10D3 | 3026 | 1.0 | 0.0 | 83.6 | <45 | 57.9 |
| AC-8 | 18 | E-2/C-2 | ARR | N10O1 | 2850 | 0.6 | 0.1 | 82.2 | <45 | 57.9 |
| AC-8 | 19 | E-2/C-2 | T & G | 10T1 | 2847 | 1.3 | 0.0 | 82.2 | <45 | 57.9 |
| AC-8 | 20 | E-2/C-2 | T & G | 28T1 | 3082 | 1.3 | 0.0 | 81.5 | <45 | 57.9 |
| AC-9 | 1 | Jet Fighter | T & G | 28T1 | 1027 | 0.4 | 0.0 | 112.6 | 59.4 | 59.4 |
| AC-9 | 2 | Jet Fighter | T & G | 04T1 | 1032 | 0.1 | 0.0 | 112.6 | 53.9 | 60.5 |
| AC-9 | 3 | E-2/C-2 | FCLP | 28F1 | 3380 | 29.2 | 3.4 | 79.5 | 48.1 | 60.7 |
| AC-9 | 4 | E-2/C-2 | Crew Swap | 28SW | 3332 | 4.0 | 0.5 | 86.7 | 46.7 | 60.9 |
| AC-9 | 5 | Jet Fighter | ARR | P04O1 | 1032 | 0.0 | 0.0 | 112.7 | 46.3 | 61.1 |
| AC-9 | 6 | E-2/C-2 | T & G | 28T1 | 665 | 1.9 | 0.0 | 92.4 | 45.7 | 61.2 |
| AC-9 | 7 | Jet Fighter | T & G | 10T1 | 3273 | 0.3 | 0.0 | 100.3 | 45.4 | 61.3 |
| AC-9 | 8 | E-2/C-2 | FCLP | 10F1 | 3631 | 17.9 | 2.1 | 75.2 | <45 | 61.3 |
| AC-9 | 9 | Jet Fighter | DEP | P28D2 | 3318 | 0.1 | 0.0 | 102.6 | <45 | 61.4 |
| AC-9 | 10 | E-2/C-2 | T & G | 28T1 | 1027 | 1.3 | 0.0 | 89.5 | <45 | 61.4 |
| AC-9 | 11 | A-10A | T & G | 28T1 | 958 | 0.2 | 0.0 | 97.9 | <45 | 61.5 |
| AC-9 | 12 | E-2/C-2 | DEP | N28D2 | 3406 | 1.0 | 0.1 | 85.7 | <45 | 61.5 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-9 | 13 | Jet Fighter | ARR | P1001 | 3283 | 0.0 | 0.0 | 101.1 | <45 | 61.5 |
| AC-9 | 14 | E-2/C-2 | Crew Swap | 10SW | 3525 | 2.5 | 0.3 | 79.5 | <45 | 61.5 |
| AC-9 | 15 | P-3C | DEP | 28D3 | 3348 | 1.6 | 0.0 | 82.7 | <45 | 61.5 |
| AC-9 | 16 | Jet Fighter | ARR | P2801 | 977 | 0.1 | 0.0 | 96.1 | <45 | 61.5 |
| AC-9 | 17 | E-2/C-2 | T & G | 04T1 | 672 | 0.5 | 0.0 | 86.3 | <45 | 61.6 |
| AC-9 | 18 | Jet Fighter | DEP | P10D2 | 5218 | 0.0 | 0.0 | 96.8 | <45 | 61.6 |
| AC-9 | 19 | E-2/C-2 | DEP | N28D2 | 3406 | 0.5 | 0.0 | 85.7 | <45 | 61.6 |
| AC-9 | 20 | Jet Fighter | T & G | 22T1 | 8663 | 0.3 | 0.0 | 88.1 | <45 | 61.6 |
| AC-10 | 1 | Jet Fighter | DEP | P22D2 | 3592 | 0.0 | 0.0 | 104.2 | <45 | <45 |
| AC-10 | 2 | Jet Fighter | T & G | 04T1 | 3974 | 0.1 | 0.0 | 96.4 | <45 | <45 |
| AC-10 | 3 | E-2/C-2 | Crew Swap | 28SW | 4963 | 4.0 | 0.5 | 77.5 | <45 | <45 |
| AC-10 | 4 | Jet Fighter | T & G | 28T1 | 7964 | 0.4 | 0.0 | 89.3 | <45 | <45 |
| AC-10 | 5 | E-2/C-2 | FCLP | 28F1 | 10801 | 29.2 | 3.4 | 67.0 | <45 | 45.1 |
| AC-10 | 6 | E-2/C-2 | Crew Swap | 10SW | 4950 | 2.5 | 0.3 | 76.5 | <45 | 45.4 |
| AC-10 | 7 | P-3C | DEP | 22D3 | 2607 | 1.0 | 0.0 | 83.8 | <45 | 45.8 |
| AC-10 | 8 | E-2/C-2 | DEP | N22D2 | 2919 | 0.3 | 0.0 | 86.3 | <45 | 45.9 |
| AC-10 | 9 | Jet Fighter | ARR | P0401 | 3746 | 0.0 | 0.0 | 97.6 | <45 | 46.1 |
| AC-10 | 10 | B-737-400* | DEP | 22D3 | 2977 | 0.3 | 0.0 | 84.7 | <45 | 46.2 |
| AC-10 | 11 | Jet Fighter | T & G | 22T1 | 11315 | 0.3 | 0.0 | 84.4 | <45 | 46.3 |
| AC-10 | 12 | E-2/C-2 | FCLP | 10F1 | 14804 | 17.9 | 2.1 | 60.6 | <45 | 46.3 |
| AC-10 | 13 | E-2/C-2 | DEP | N28D2 | 14471 | 1.0 | 0.1 | 70.8 | <45 | 46.3 |
| AC-10 | 14 | E-2/C-2 | T & G | 28T1 | 7926 | 1.9 | 0.0 | 70.8 | <45 | 46.4 |
| AC-10 | 15 | Jet Fighter | ARR | P2801 | 7965 | 0.1 | 0.0 | 84.9 | <45 | 46.4 |
| AC-10 | 16 | E-2/C-2 | T & G | 28T1 | 7964 | 1.3 | 0.0 | 71.2 | <45 | 46.4 |
| AC-10 | 17 | Jet Fighter | DEP | P28D2 | 14454 | 0.1 | 0.0 | 83.5 | <45 | 46.4 |
| AC-10 | 18 | Jet Fighter | T & G | 10T1 | 14462 | 0.3 | 0.0 | 75.1 | <45 | 46.4 |
| AC-10 | 19 | P-3C | DEP | 28D3 | 14453 | 1.6 | 0.0 | 66.9 | <45 | 46.4 |
| AC-10 | 20 | E-2/C-2 | ARR | N0401 | 3700 | 0.1 | 0.0 | 76.8 | <45 | 46.5 |
| AC-11 | 1 | E-2/C-2 | Crew Swap | 28SW | 14614 | 4.0 | 0.5 | 67.2 | <45 | <45 |
| AC-11 | 2 | Jet Fighter | DEP | P22D2 | 9883 | 0.0 | 0.0 | 89.4 | <45 | <45 |
| AC-11 | 3 | P-3C | ARR | 04A1 | 2346 | 0.4 | 0.0 | 78.0 | <45 | <45 |
| AC-11 | 4 | E-2/C-2 | Crew Swap | 10SW | 14664 | 2.5 | 0.3 | 65.5 | <45 | <45 |
| AC-11 | 5 | Jet Fighter | ARR | P0401 | 2596 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-11 | 6 | B-737-400* | ARR | 04A1 | 2320 | 0.1 | 0.0 | 79.4 | <45 | <45 |
| AC-11 | 7 | Jet Fighter | T & G | 28T1 | 19482 | 0.4 | 0.0 | 73.4 | <45 | <45 |
| AC-11 | 8 | P-3C | DEP | 22D3 | 9410 | 1.0 | 0.0 | 69.0 | <45 | <45 |
| AC-11 | 9 | Jet Fighter | T & G | 22T1 | 21445 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-11 | 10 | E-2/C-2 | FCLP | 28F1 | 22248 | 29.2 | 3.4 | 50.4 | <45 | <45 |
| AC-11 | 11 | E-2/C-2 | DEP | N22D2 | 9563 | 0.3 | 0.0 | 73.0 | <45 | <45 |
| AC-11 | 12 | Jet Fighter | T & G | 04T1 | 15505 | 0.1 | 0.0 | 77.3 | <45 | <45 |
| AC-11 | 13 | E-2/C-2 | DEP | N28D2 | 25075 | 1.0 | 0.1 | 62.2 | <45 | <45 |
| AC-11 | 14 | B-737-400* | DEP | 22D3 | 9558 | 0.3 | 0.0 | 71.0 | <45 | <45 |
| AC-11 | 15 | E-2/C-2 | T & G | 28T1 | 19482 | 1.3 | 0.0 | 60.0 | <45 | <45 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-11 | 16 | A-10A | ARR | 04A1 | 2319 | 0.0 | 0.0 | 82.1 | <45 | <45 |
| AC-11 | 17 | C-12 | ARR | 04A1 | 2330 | 0.1 | 0.0 | 73.0 | <45 | <45 |
| AC-11 | 18 | Jet Fighter | DEP | P28D2 | 25092 | 0.1 | 0.0 | 72.2 | <45 | <45 |
| AC-11 | 19 | P-3C | DEP | 28D3 | 25054 | 1.6 | 0.0 | 58.4 | <45 | <45 |
| AC-11 | 20 | E-2/C-2 | DEP | N28D2 | 25075 | 0.5 | 0.0 | 62.2 | <45 | <45 |
| AC-12 | 1 | E-2/C-2 | FCLP | 28F1 | 1684 | 29.2 | 3.4 | 88.0 | 56.6 | 56.6 |
| AC-12 | 2 | Jet Fighter | T & G | 28T1 | 3216 | 0.4 | 0.0 | 104.1 | 51.0 | 57.6 |
| AC-12 | 3 | E-2/C-2 | Crew Swap | 28SW | 1780 | 4.0 | 0.5 | 89.1 | 49.1 | 58.2 |
| AC-12 | 4 | E-2/C-2 | FCLP | 10F1 | 3099 | 17.9 | 2.1 | 82.3 | 48.8 | 58.7 |
| AC-12 | 5 | Jet Fighter | T & G | 10T1 | 3099 | 0.3 | 0.0 | 102.4 | 47.5 | 59.0 |
| AC-12 | 6 | Jet Fighter | DEP | P28D2 | 3149 | 0.1 | 0.0 | 104.4 | <45 | 59.1 |
| AC-12 | 7 | Jet Fighter | T & G | 04T1 | 3850 | 0.1 | 0.0 | 102.0 | <45 | 59.2 |
| AC-12 | 8 | E-2/C-2 | Crew Swap | 10SW | 3099 | 2.5 | 0.3 | 85.3 | <45 | 59.3 |
| AC-12 | 9 | Jet Fighter | T & G | 22T1 | 4279 | 0.3 | 0.0 | 98.5 | <45 | 59.4 |
| AC-12 | 10 | Jet Fighter | DEP | P10D2 | 3104 | 0.0 | 0.0 | 105.8 | <45 | 59.5 |
| AC-12 | 11 | E-2/C-2 | DEP | N28D2 | 3134 | 1.0 | 0.1 | 86.4 | <45 | 59.6 |
| AC-12 | 12 | Jet Fighter | DEP | P22D2 | 4205 | 0.0 | 0.0 | 100.6 | <45 | 59.6 |
| AC-12 | 13 | E-2/C-2 | T & G | 28T1 | 3149 | 1.9 | 0.0 | 83.8 | <45 | 59.6 |
| AC-12 | 14 | P-3C | DEP | 28D3 | 3114 | 1.6 | 0.0 | 84.0 | <45 | 59.7 |
| AC-12 | 15 | Jet Fighter | ARR | P1001 | 3214 | 0.0 | 0.0 | 99.0 | <45 | 59.7 |
| AC-12 | 16 | Jet Fighter | ARR | P2801 | 3244 | 0.1 | 0.0 | 97.1 | <45 | 59.7 |
| AC-12 | 17 | Jet Fighter | DEP | P04D2 | 4168 | 0.0 | 0.0 | 101.9 | <45 | 59.7 |
| AC-12 | 18 | E-2/C-2 | T & G | 28T1 | 3244 | 1.3 | 0.0 | 83.8 | <45 | 59.7 |
| AC-12 | 19 | E-2/C-2 | T & G | 10T1 | 3099 | 1.3 | 0.0 | 83.5 | <45 | 59.8 |
| AC-12 | 20 | Jet Fighter | ARR | P0401 | 3850 | 0.0 | 0.0 | 101.1 | <45 | 59.8 |
| AC-13 | 1 | Jet Fighter | T & G | 22T1 | 1188 | 0.3 | 0.0 | 113.3 | 58.0 | 58.0 |
| AC-13 | 2 | Jet Fighter | T & G | 28T1 | 1570 | 0.4 | 0.0 | 109.8 | 56.6 | 60.4 |
| AC-13 | 3 | Jet Fighter | DEP | P22D2 | 1248 | 0.0 | 0.0 | 117.2 | 54.1 | 61.3 |
| AC-13 | 4 | Jet Fighter | T & G | 10T1 | 1848 | 0.3 | 0.0 | 108.6 | 53.6 | 62.0 |
| AC-13 | 5 | E-2/C-2 | FCLP | 28F1 | 1571 | 29.2 | 3.4 | 84.6 | 53.3 | 62.5 |
| AC-13 | 6 | Jet Fighter | T & G | 04T1 | 1313 | 0.1 | 0.0 | 111.9 | 53.2 | 63.0 |
| AC-13 | 7 | E-2/C-2 | Crew Swap | 10SW | 1676 | 2.5 | 0.3 | 93.0 | 50.9 | 63.3 |
| AC-13 | 8 | E-2/C-2 | FCLP | 10F1 | 2203 | 17.9 | 2.1 | 84.4 | 50.9 | 63.5 |
| AC-13 | 9 | Jet Fighter | DEP | P28D2 | 1570 | 0.1 | 0.0 | 111.1 | 50.1 | 63.7 |
| AC-13 | 10 | Jet Fighter | DEP | P04D2 | 1248 | 0.0 | 0.0 | 115.8 | 49.3 | 63.9 |
| AC-13 | 11 | E-2/C-2 | Crew Swap | 28SW | 1571 | 4.0 | 0.5 | 89.2 | 49.3 | 64.0 |
| AC-13 | 12 | Jet Fighter | ARR | P2801 | 1570 | 0.1 | 0.0 | 107.3 | 46.3 | 64.1 |
| AC-13 | 13 | Jet Fighter | DEP | P10D2 | 1674 | 0.0 | 0.0 | 108.4 | 45.7 | 64.2 |
| AC-13 | 14 | E-2/C-2 | T & G | 22T1 | 1154 | 1.2 | 0.0 | 93.7 | 45.0 | 64.2 |
| AC-13 | 15 | E-2/C-2 | DEP | N10D2 | 1671 | 0.6 | 0.1 | 92.4 | <45 | 64.3 |
| AC-13 | 16 | E-2/C-2 | T & G | 22T1 | 1240 | 0.8 | 0.0 | 93.2 | <45 | 64.3 |
| AC-13 | 17 | P-3C | DEP | 10D3 | 1619 | 1.0 | 0.0 | 90.5 | <45 | 64.3 |
| AC-13 | 18 | P-3C | DEP | 22D3 | 1104 | 1.0 | 0.0 | 90.9 | <45 | 64.3 |



| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-13 | 19 | Jet Fighter | ARR | P2201 | 1477 | 0.0 | 0.0 | 104.2 | <45 | 64.4 |
| AC-13 | 20 | E-2/C-2 | T & G | 28T1 | 1570 | 1.9 | 0.0 | 87.0 | <45 | 64.4 |
| AC-14 | 1 | Jet Fighter | T & G | 28T1 | 1250 | 0.4 | 0.0 | 111.9 | 58.7 | 58.7 |
| AC-14 | 2 | Jet Fighter | T & G | 22T1 | 1261 | 0.3 | 0.0 | 110.9 | 55.6 | 60.4 |
| AC-14 | 3 | Jet Fighter | T & G | 04T1 | 899 | 0.1 | 0.0 | 113.4 | 54.8 | 61.5 |
| AC-14 | 4 | Jet Fighter | ARR | P2801 | 1250 | 0.1 | 0.0 | 111.8 | 50.8 | 61.8 |
| AC-14 | 5 | E-2/C-2 | FCLP | 28F1 | 2673 | 29.2 | 3.4 | 81.5 | 50.1 | 62.1 |
| AC-14 | 6 | Jet Fighter | DEP | P22D2 | 1058 | 0.0 | 0.0 | 110.6 | 47.6 | 62.3 |
| AC-14 | 7 | Jet Fighter | ARR | P0401 | 912 | 0.0 | 0.0 | 113.7 | 47.3 | 62.4 |
| AC-14 | 8 | E-2/C-2 | Crew Swap | 28SW | 2688 | 4.0 | 0.5 | 83.6 | <45 | 62.5 |
| AC-14 | 9 | P-3C | DEP | 22D3 | 1126 | 1.0 | 0.0 | 92.2 | <45 | 62.5 |
| AC-14 | 10 | E-2/C-2 | T & G | 28T1 | 973 | 1.9 | 0.0 | 88.8 | <45 | 62.5 |
| AC-14 | 11 | E-2/C-2 | T & G | 22T1 | 988 | 1.2 | 0.0 | 89.6 | <45 | 62.6 |
| AC-14 | 12 | E-2/C-2 | FCLP | 10F1 | 8690 | 17.9 | 2.1 | 72.9 | <45 | 62.6 |
| AC-14 | 13 | E-2/C-2 | DEP | N22D2 | 1215 | 0.3 | 0.0 | 93.6 | <45 | 62.6 |
| AC-14 | 14 | E-2/C-2 | Crew Swap | 10SW | 2708 | 2.5 | 0.3 | 81.3 | <45 | 62.6 |
| AC-14 | 15 | E-2/C-2 | T & G | 28T1 | 1250 | 1.3 | 0.0 | 87.2 | <45 | 62.7 |
| AC-14 | 16 | A-10A | T & G | 22T1 | 1040 | 0.1 | 0.0 | 96.9 | <45 | 62.7 |
| AC-14 | 17 | B-737-400* | DEP | 22D3 | 1282 | 0.3 | 0.0 | 92.9 | <45 | 62.7 |
| AC-14 | 18 | E-2/C-2 | T & G | 22T1 | 1261 | 0.8 | 0.0 | 88.0 | <45 | 62.7 |
| AC-14 | 19 | Jet Fighter | DEP | P04D2 | 3034 | 0.0 | 0.0 | 102.6 | <45 | 62.7 |
| AC-14 | 20 | E-2/C-2 | ARR | N2801 | 2673 | 1.0 | 0.1 | 79.7 | <45 | 62.7 |
| AC-15 | 1 | E-2/C-2 | FCLP | 28F1 | 13795 | 29.2 | 3.4 | 66.2 | <45 | <45 |
| AC-15 | 2 | Jet Fighter | T & G | 22T1 | 8782 | 0.3 | 0.0 | 88.9 | <45 | <45 |
| AC-15 | 3 | Jet Fighter | T & G | 28T1 | 12002 | 0.4 | 0.0 | 84.6 | <45 | <45 |
| AC-15 | 4 | E-2/C-2 | Crew Swap | 28SW | 13811 | 4.0 | 0.5 | 71.0 | <45 | <45 |
| AC-15 | 5 | E-2/C-2 | FCLP | 10F1 | 19960 | 17.9 | 2.1 | 63.2 | <45 | <45 |
| AC-15 | 6 | E-2/C-2 | Crew Swap | 10SW | 13764 | 2.5 | 0.3 | 70.5 | <45 | <45 |
| AC-15 | 7 | Jet Fighter | T & G | 04T1 | 11567 | 0.1 | 0.0 | 86.3 | <45 | <45 |
| AC-15 | 8 | Jet Fighter | DEP | P22D2 | 10746 | 0.0 | 0.0 | 89.4 | <45 | <45 |
| AC-15 | 9 | Jet Fighter | ARR | P2201 | 8751 | 0.0 | 0.0 | 87.0 | <45 | <45 |
| AC-15 | 10 | Jet Fighter | ARR | P2801 | 12002 | 0.1 | 0.0 | 84.4 | <45 | <45 |
| AC-15 | 11 | P-3C | DEP | 22D3 | 10645 | 1.0 | 0.0 | 72.6 | <45 | <45 |
| AC-15 | 12 | E-2/C-2 | T & G | 22T1 | 8746 | 1.2 | 0.0 | 71.3 | <45 | <45 |
| AC-15 | 13 | E-2/C-2 | T & G | 28T1 | 11975 | 1.9 | 0.0 | 68.5 | <45 | <45 |
| AC-15 | 14 | E-2/C-2 | DEP | N22D2 | 10683 | 0.3 | 0.0 | 75.8 | <45 | <45 |
| AC-15 | 15 | E-2/C-2 | T & G | 22T1 | 8782 | 0.8 | 0.0 | 71.6 | <45 | <45 |
| AC-15 | 16 | Jet Fighter | T & G | 10T1 | 19882 | 0.3 | 0.0 | 75.0 | <45 | <45 |
| AC-15 | 17 | E-2/C-2 | T & G | 28T1 | 12002 | 1.3 | 0.0 | 68.2 | <45 | <45 |
| AC-15 | 18 | E-2/C-2 | DEP | N28D2 | 19858 | 1.0 | 0.1 | 65.7 | <45 | <45 |
| AC-15 | 19 | Jet Fighter | ARR | P0401 | 10597 | 0.0 | 0.0 | 85.8 | <45 | <45 |
| AC-15 | 20 | E-2/C-2 | DEP | N10D2 | 19866 | 0.6 | 0.1 | 67.3 | <45 | <45 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-16 | 1 | P-3C | ARR | 28A1 | 1456 | 1.6 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 2 | Jet Fighter | T & G | 28T1 | 18612 | 0.4 | 0.0 | 85.3 | <45 | <45 |
| AC-16 | 3 | B-737-400* | ARR | 28A1 | 1406 | 0.4 | 0.0 | 84.9 | <45 | <45 |
| AC-16 | 4 | E-2/C-2 | FCLP | 28F1 | 21956 | 29.2 | 3.4 | 60.8 | <45 | <45 |
| AC-16 | 5 | Jet Fighter | ARR | P28O1 | 2138 | 0.1 | 0.0 | 90.3 | <45 | <45 |
| AC-16 | 6 | E-2/C-2 | Crew Swap | 10SW | 15132 | 2.5 | 0.3 | 70.9 | <45 | <45 |
| AC-16 | 7 | E-2/C-2 | FCLP | 10F1 | 26147 | 17.9 | 2.1 | 60.3 | <45 | <45 |
| AC-16 | 8 | E-2/C-2 | Crew Swap | 28SW | 15311 | 4.0 | 0.5 | 66.8 | <45 | <45 |
| AC-16 | 9 | A-10A | ARR | 28A1 | 1407 | 0.0 | 0.0 | 91.2 | <45 | <45 |
| AC-16 | 10 | Jet Fighter | T & G | 10T1 | 23084 | 0.3 | 0.0 | 80.3 | <45 | <45 |
| AC-16 | 11 | Jet Fighter | DEP | P10D2 | 12242 | 0.0 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 12 | C-12 | ARR | 28A1 | 1422 | 0.2 | 0.0 | 79.9 | <45 | <45 |
| AC-16 | 13 | Jet Fighter | T & G | 22T1 | 16596 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-16 | 14 | E-2/C-2 | DEP | N10D2 | 12009 | 0.6 | 0.1 | 71.1 | <45 | <45 |
| AC-16 | 15 | Jet Fighter | DEP | P28D2 | 26733 | 0.1 | 0.0 | 82.9 | <45 | <45 |
| AC-16 | 16 | P-3C | DEP | 10D3 | 11881 | 1.0 | 0.0 | 67.5 | <45 | <45 |
| AC-16 | 17 | E-2/C-2 | ARR | N28O1 | 9436 | 1.0 | 0.1 | 63.2 | <45 | <45 |
| AC-16 | 18 | E-2/C-2 | DEP | N10D2 | 12009 | 0.3 | 0.0 | 71.1 | <45 | <45 |
| AC-16 | 19 | E-2/C-2 | DEP | N28D2 | 26733 | 1.0 | 0.1 | 62.0 | <45 | <45 |
| AC-16 | 20 | Jet Fighter | ARR | P22O1 | 16888 | 0.0 | 0.0 | 78.6 | <45 | <45 |
| AC-17 | 1 | P-3C | ARR | 28A1 | 3066 | 1.6 | 0.0 | 79.0 | <45 | <45 |
| AC-17 | 2 | E-2/C-2 | FCLP | 28F1 | 18239 | 29.2 | 3.4 | 62.5 | <45 | <45 |
| AC-17 | 3 | Jet Fighter | T & G | 28T1 | 14755 | 0.4 | 0.0 | 83.8 | <45 | <45 |
| AC-17 | 4 | E-2/C-2 | Crew Swap | 10SW | 13323 | 2.5 | 0.3 | 72.6 | <45 | <45 |
| AC-17 | 5 | E-2/C-2 | FCLP | 10F1 | 23158 | 17.9 | 2.1 | 61.8 | <45 | <45 |
| AC-17 | 6 | E-2/C-2 | Crew Swap | 28SW | 12737 | 4.0 | 0.5 | 68.3 | <45 | <45 |
| AC-17 | 7 | Jet Fighter | DEP | P10D2 | 10377 | 0.0 | 0.0 | 89.9 | <45 | <45 |
| AC-17 | 8 | Jet Fighter | ARR | P28O1 | 3281 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-17 | 9 | Jet Fighter | T & G | 22T1 | 13958 | 0.3 | 0.0 | 81.6 | <45 | <45 |
| AC-17 | 10 | B-737-400* | ARR | 28A1 | 3046 | 0.4 | 0.0 | 78.8 | <45 | <45 |
| AC-17 | 11 | Jet Fighter | T & G | 10T1 | 20271 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-17 | 12 | E-2/C-2 | DEP | N10D2 | 10180 | 0.6 | 0.1 | 73.5 | <45 | <45 |
| AC-17 | 13 | Jet Fighter | DEP | P28D2 | 23389 | 0.1 | 0.0 | 84.3 | <45 | <45 |
| AC-17 | 14 | P-3C | DEP | 10D3 | 10034 | 1.0 | 0.0 | 69.8 | <45 | <45 |
| AC-17 | 15 | E-2/C-2 | ARR | N28O1 | 7923 | 1.0 | 0.1 | 66.3 | <45 | <45 |
| AC-17 | 16 | E-2/C-2 | DEP | N10D2 | 10180 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-17 | 17 | C-12 | ARR | 28A1 | 3055 | 0.2 | 0.0 | 75.0 | <45 | <45 |
| AC-17 | 18 | Jet Fighter | ARR | P22O1 | 14130 | 0.0 | 0.0 | 81.5 | <45 | <45 |
| AC-17 | 19 | P-3C | DEP | 22D3 | 22943 | 1.0 | 0.0 | 67.4 | <45 | <45 |
| AC-17 | 20 | E-2/C-2 | T & G | 28T1 | 14757 | 1.9 | 0.0 | 64.2 | <45 | <45 |
| AC-18 | 1 | Jet Fighter | T & G | 28T1 | 21250 | 0.4 | 0.0 | 82.4 | <45 | <45 |
| AC-18 | 2 | E-2/C-2 | FCLP | 28F1 | 24833 | 29.2 | 3.4 | 59.1 | <45 | <45 |
| AC-18 | 3 | E-2/C-2 | FCLP | 10F1 | 30119 | 17.9 | 2.1 | 58.9 | <45 | <45 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-18 | 4 | E-2/C-2 | Crew Swap | 10SW | 20278 | 2.5 | 0.3 | 67.1 | <45 | <45 |
| AC-18 | 5 | E-2/C-2 | Crew Swap | 28SW | 19698 | 4.0 | 0.5 | 65.0 | <45 | <45 |
| AC-18 | 6 | P-3C | ARR | 28A1 | 5853 | 1.6 | 0.0 | 70.4 | <45 | <45 |
| AC-18 | 7 | Jet Fighter | ARR | P28O1 | 6151 | 0.1 | 0.0 | 82.5 | <45 | <45 |
| AC-18 | 8 | Jet Fighter | T & G | 10T1 | 27279 | 0.3 | 0.0 | 76.5 | <45 | <45 |
| AC-18 | 9 | E-2/C-2 | DEP | N10D2 | 17062 | 0.6 | 0.1 | 68.0 | <45 | <45 |
| AC-18 | 10 | Jet Fighter | DEP | P10D2 | 17181 | 0.0 | 0.0 | 82.6 | <45 | <45 |
| AC-18 | 11 | Jet Fighter | DEP | P28D2 | 30218 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-18 | 12 | Jet Fighter | T & G | 22T1 | 21003 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-18 | 13 | B-737-400* | ARR | 28A1 | 5840 | 0.4 | 0.0 | 70.8 | <45 | <45 |
| AC-18 | 14 | E-2/C-2 | ARR | N28O1 | 14777 | 1.0 | 0.1 | 61.4 | <45 | <45 |
| AC-18 | 15 | E-2/C-2 | DEP | N28D2 | 30219 | 1.0 | 0.1 | 61.3 | <45 | <45 |
| AC-18 | 16 | P-3C | DEP | 10D3 | 16965 | 1.0 | 0.0 | 64.3 | <45 | <45 |
| AC-18 | 17 | E-2/C-2 | DEP | N10D2 | 17062 | 0.3 | 0.0 | 68.0 | <45 | <45 |
| AC-18 | 18 | E-2/C-2 | T & G | 28T1 | 21252 | 1.9 | 0.0 | 59.9 | <45 | <45 |
| AC-18 | 19 | C-12 | ARR | 28A1 | 5843 | 0.2 | 0.0 | 68.4 | <45 | <45 |
| AC-18 | 20 | E-2/C-2 | T & G | 10T1 | 27267 | 1.3 | 0.0 | 60.3 | <45 | <45 |
| AC-19 | 1 | E-2/C-2 | FCLP | 28F1 | 14206 | 29.2 | 3.4 | 64.3 | <45 | <45 |
| AC-19 | 2 | Jet Fighter | T & G | 28T1 | 10794 | 0.4 | 0.0 | 85.8 | <45 | <45 |
| AC-19 | 3 | E-2/C-2 | FCLP | 10F1 | 21481 | 17.9 | 2.1 | 62.5 | <45 | <45 |
| AC-19 | 4 | E-2/C-2 | Crew Swap | 28SW | 14267 | 4.0 | 0.5 | 68.9 | <45 | <45 |
| AC-19 | 5 | Jet Fighter | T & G | 22T1 | 12655 | 0.3 | 0.0 | 83.8 | <45 | <45 |
| AC-19 | 6 | E-2/C-2 | Crew Swap | 10SW | 16778 | 2.5 | 0.3 | 70.4 | <45 | <45 |
| AC-19 | 7 | Jet Fighter | ARR | P28O1 | 11319 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-19 | 8 | E-2/C-2 | DEP | N10D2 | 15165 | 0.6 | 0.1 | 70.0 | <45 | <45 |
| AC-19 | 9 | Jet Fighter | DEP | P10D2 | 15218 | 0.0 | 0.0 | 84.1 | <45 | <45 |
| AC-19 | 10 | Jet Fighter | T & G | 10T1 | 19756 | 0.3 | 0.0 | 75.5 | <45 | <45 |
| AC-19 | 11 | Jet Fighter | DEP | P28D2 | 20735 | 0.1 | 0.0 | 80.8 | <45 | <45 |
| AC-19 | 12 | E-2/C-2 | T & G | 28T1 | 10785 | 1.9 | 0.0 | 66.4 | <45 | <45 |
| AC-19 | 13 | Jet Fighter | T & G | 04T1 | 20517 | 0.1 | 0.0 | 78.1 | <45 | <45 |
| AC-19 | 14 | E-2/C-2 | T & G | 22T1 | 12630 | 1.2 | 0.0 | 68.1 | <45 | <45 |
| AC-19 | 15 | Jet Fighter | ARR | P22O1 | 12655 | 0.0 | 0.0 | 82.4 | <45 | <45 |
| AC-19 | 16 | E-2/C-2 | ARR | N28O1 | 14214 | 1.0 | 0.1 | 65.0 | <45 | <45 |
| AC-19 | 17 | B-737-400* | DEP | 28D3 | 20735 | 0.4 | 0.0 | 71.6 | <45 | <45 |
| AC-19 | 18 | E-2/C-2 | DEP | N28D2 | 20735 | 1.0 | 0.1 | 64.2 | <45 | <45 |
| AC-19 | 19 | P-3C | DEP | 22D3 | 20516 | 1.0 | 0.0 | 67.5 | <45 | <45 |
| AC-19 | 20 | E-2/C-2 | T & G | 28T1 | 10796 | 1.3 | 0.0 | 65.9 | <45 | <45 |
| AC-20 | 1 | E-2/C-2 | FCLP | 28F1 | 31508 | 29.2 | 3.4 | 56.4 | <45 | <45 |
| AC-20 | 2 | E-2/C-2 | Crew Swap | 28SW | 29435 | 4.0 | 0.5 | 61.5 | <45 | <45 |
| AC-20 | 3 | E-2/C-2 | FCLP | 10F1 | 38223 | 17.9 | 2.1 | 55.0 | <45 | <45 |
| AC-20 | 4 | Jet Fighter | T & G | 28T1 | 27869 | 0.4 | 0.0 | 74.1 | <45 | <45 |
| AC-20 | 5 | E-2/C-2 | Crew Swap | 10SW | 30732 | 2.5 | 0.3 | 62.9 | <45 | <45 |
| AC-20 | 6 | Jet Fighter | ARR | P28O1 | 19159 | 0.1 | 0.0 | 75.0 | <45 | <45 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-20 | 7 | E-2/C-2 | DEP | N10D2 | 27757 | 0.6 | 0.1 | 61.8 | <45 | <45 |
| AC-20 | 8 | E-2/C-2 | DEP | N28D2 | 37716 | 1.0 | 0.1 | 58.0 | <45 | <45 |
| AC-20 | 9 | Jet Fighter | T & G | 22T1 | 30094 | 0.3 | 0.0 | 67.0 | <45 | <45 |
| AC-20 | 10 | Jet Fighter | DEP | P28D2 | 37716 | 0.1 | 0.0 | 72.1 | <45 | <45 |
| AC-20 | 11 | E-2/C-2 | T & G | 28T1 | 27868 | 1.9 | 0.0 | 57.6 | <45 | <45 |
| AC-20 | 12 | Jet Fighter | T & G | 10T1 | 35915 | 0.3 | 0.0 | 65.8 | <45 | <45 |
| AC-20 | 13 | Jet Fighter | DEP | P10D2 | 27833 | 0.0 | 0.0 | 73.5 | <45 | <45 |
| AC-20 | 14 | E-2/C-2 | ARR | N28O1 | 26069 | 1.0 | 0.1 | 56.7 | <45 | <45 |
| AC-20 | 15 | E-2/C-2 | T & G | 28T1 | 27870 | 1.3 | 0.0 | 58.0 | <45 | <45 |
| AC-20 | 16 | E-2/C-2 | T & G | 22T1 | 30083 | 1.2 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 17 | P-3C | DEP | 10D3 | 27723 | 1.0 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 18 | P-3C | DEP | 22D3 | 37975 | 1.0 | 0.0 | 57.8 | <45 | <45 |
| AC-20 | 19 | P-3C | DEP | 28D3 | 37716 | 1.6 | 0.0 | 55.7 | <45 | <45 |
| AC-20 | 20 | E-2/C-2 | DEP | N10D2 | 27757 | 0.3 | 0.0 | 61.8 | <45 | <45 |
| AC-21 | 1 | E-2/C-2 | FCLP | 28F1 | 27454 | 29.2 | 3.4 | 57.7 | <45 | <45 |
| AC-21 | 2 | Jet Fighter | T & G | 22T1 | 22652 | 0.3 | 0.0 | 79.7 | <45 | <45 |
| AC-21 | 3 | E-2/C-2 | Crew Swap | 28SW | 24831 | 4.0 | 0.5 | 63.6 | <45 | <45 |
| AC-21 | 4 | E-2/C-2 | FCLP | 10F1 | 33525 | 17.9 | 2.1 | 56.0 | <45 | <45 |
| AC-21 | 5 | E-2/C-2 | Crew Swap | 10SW | 24941 | 2.5 | 0.3 | 62.8 | <45 | <45 |
| AC-21 | 6 | Jet Fighter | DEP | P22D2 | 19394 | 0.0 | 0.0 | 83.1 | <45 | <45 |
| AC-21 | 7 | Jet Fighter | T & G | 04T1 | 22691 | 0.1 | 0.0 | 76.3 | <45 | <45 |
| AC-21 | 8 | Jet Fighter | T & G | 28T1 | 25644 | 0.4 | 0.0 | 69.8 | <45 | <45 |
| AC-21 | 9 | Jet Fighter | ARR | P22O1 | 22633 | 0.0 | 0.0 | 77.6 | <45 | <45 |
| AC-21 | 10 | E-2/C-2 | DEP | N28D2 | 33524 | 1.0 | 0.1 | 59.7 | <45 | <45 |
| AC-21 | 11 | P-3C | DEP | 22D3 | 19270 | 1.0 | 0.0 | 62.9 | <45 | <45 |
| AC-21 | 12 | E-2/C-2 | T & G | 22T1 | 22638 | 1.2 | 0.0 | 61.7 | <45 | <45 |
| AC-21 | 13 | E-2/C-2 | T & G | 28T1 | 25632 | 1.9 | 0.0 | 59.5 | <45 | <45 |
| AC-21 | 14 | E-2/C-2 | DEP | N22D2 | 19303 | 0.3 | 0.0 | 66.6 | <45 | <45 |
| AC-21 | 15 | E-2/C-2 | DEP | N10D2 | 33524 | 0.6 | 0.1 | 59.5 | <45 | <45 |
| AC-21 | 16 | E-2/C-2 | T & G | 22T1 | 22652 | 0.8 | 0.0 | 61.0 | <45 | <45 |
| AC-21 | 17 | E-2/C-2 | T & G | 28T1 | 25644 | 1.3 | 0.0 | 58.8 | <45 | <45 |
| AC-21 | 18 | Jet Fighter | DEP | P04D2 | 27771 | 0.0 | 0.0 | 76.7 | <45 | <45 |
| AC-21 | 19 | P-3C | DEP | 28D3 | 33523 | 1.6 | 0.0 | 57.5 | <45 | <45 |
| AC-21 | 20 | Jet Fighter | T & G | 10T1 | 33528 | 0.3 | 0.0 | 64.8 | <45 | <45 |
| AC-22 | 1 | E-2/C-2 | Crew Swap | 28SW | 4916 | 4.0 | 0.5 | 81.5 | <45 | <45 |
| AC-22 | 2 | Jet Fighter | DEP | P28D2 | 5477 | 0.1 | 0.0 | 98.6 | <45 | <45 |
| AC-22 | 3 | E-2/C-2 | Crew Swap | 10SW | 4387 | 2.5 | 0.3 | 78.3 | <45 | <45 |
| AC-22 | 4 | E-2/C-2 | DEP | N28D2 | 4256 | 1.0 | 0.1 | 78.3 | <45 | <45 |
| AC-22 | 5 | P-3C | ARR | 10A1 | 2297 | 1.0 | 0.0 | 79.7 | <45 | <45 |
| AC-22 | 6 | P-3C | DEP | 28D3 | 3975 | 1.6 | 0.0 | 76.1 | <45 | <45 |
| AC-22 | 7 | B-737-400* | DEP | 28D3 | 4099 | 0.4 | 0.0 | 80.8 | <45 | <45 |
| AC-22 | 8 | E-2/C-2 | ARR | N10O1 | 1727 | 0.6 | 0.1 | 74.5 | <45 | <45 |
| AC-22 | 9 | E-2/C-2 | DEP | N28D2 | 4256 | 0.5 | 0.0 | 78.3 | <45 | <45 |

| Wallops: Alt 2C | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-22 | 10 | B-737-400* | ARR | 10A1 | 2266 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-22 | 11 | Jet Fighter | ARR | P1001 | 2166 | 0.0 | 0.0 | 88.0 | <45 | <45 |
| AC-22 | 12 | Jet Fighter | DEP | P22D2 | 11289 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-22 | 13 | Jet Fighter | T & G | 10T1 | 18371 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-22 | 14 | Jet Fighter | T & G | 28T1 | 23151 | 0.4 | 0.0 | 75.0 | <45 | <45 |
| AC-22 | 15 | E-2/C-2 | FCLP | 10F1 | 21766 | 17.9 | 2.1 | 55.0 | <45 | <45 |
| AC-22 | 16 | E-2/C-2 | ARR | N1001 | 1727 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-22 | 17 | E-2/C-2 | FCLP | 28F1 | 26173 | 29.2 | 3.4 | 50.4 | <45 | <45 |
| AC-22 | 18 | Jet Fighter | DEP | P10D2 | 17102 | 0.0 | 0.0 | 81.7 | <45 | <45 |
| AC-22 | 19 | P-3C | DEP | 22D3 | 8556 | 1.0 | 0.0 | 67.3 | <45 | <45 |
| AC-22 | 20 | A-10A | ARR | 10A1 | 2266 | 0.0 | 0.0 | 83.9 | <45 | <45 |

| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-1 | 1 | E-2/C-2 | Crew Swap | 28SW | 5619 | 3.9 | 0.5 | 80.4 | <45 | <45 |
| AC-1 | 2 | E-2/C-2 | Crew Swap | 10SW | 5611 | 2.4 | 0.3 | 79.7 | <45 | <45 |
| AC-1 | 3 | E-2/C-2 | FCLP | 28F2 | 13646 | 19.5 | 2.3 | 66.7 | <45 | <45 |
| AC-1 | 4 | Jet Fighter | T & G | 10T1 | 8777 | 0.3 | 0.0 | 87.0 | <45 | <45 |
| AC-1 | 5 | E-2/C-2 | FCLP | 10F2 | 12148 | 11.9 | 1.4 | 63.8 | <45 | <45 |
| AC-1 | 6 | E-2/C-2 | DEP | N28D2 | 13506 | 1.2 | 0.1 | 71.5 | <45 | <45 |
| AC-1 | 7 | Jet Fighter | ARR | P1001 | 9278 | 0.0 | 0.0 | 88.9 | <45 | <45 |
| AC-1 | 8 | E-2/C-2 | FCLP | 28F1 | 19451 | 9.7 | 1.1 | 61.6 | <45 | <45 |
| AC-1 | 9 | Jet Fighter | DEP | P10D2 | 11460 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-1 | 10 | Jet Fighter | DEP | P28D2 | 13597 | 0.1 | 0.0 | 85.7 | <45 | <45 |
| AC-1 | 11 | E-2/C-2 | FCLP | 10F1 | 12147 | 6.0 | 0.7 | 63.0 | <45 | <45 |
| AC-1 | 12 | Jet Fighter | T & G | 28T1 | 17787 | 0.4 | 0.0 | 76.2 | <45 | <45 |
| AC-1 | 13 | E-2/C-2 | DEP | N10D2 | 10064 | 0.7 | 0.1 | 70.3 | <45 | <45 |
| AC-1 | 14 | P-3C | DEP | 10D3 | 5654 | 1.0 | 0.0 | 71.9 | <45 | <45 |
| AC-1 | 15 | E-2/C-2 | ARR | N28O1 | 4601 | 1.2 | 0.1 | 67.0 | <45 | <45 |
| AC-1 | 16 | P-3C | DEP | 28D3 | 12683 | 1.6 | 0.0 | 68.3 | <45 | <45 |
| AC-1 | 17 | Jet Fighter | DEP | P04D2 | 12312 | 0.0 | 0.0 | 87.2 | <45 | <45 |
| AC-1 | 18 | E-2/C-2 | DEP | N28D2 | 13506 | 0.5 | 0.0 | 71.5 | <45 | <45 |
| AC-1 | 19 | B-737-400* | DEP | 10D3 | 7434 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-1 | 20 | Jet Fighter | T & G | 04T1 | 16808 | 0.1 | 0.0 | 76.7 | <45 | <45 |
| AC-2 | 1 | E-2/C-2 | Crew Swap | 28SW | 2374 | 3.9 | 0.5 | 89.2 | 49.1 | 49.1 |
| AC-2 | 2 | E-2/C-2 | FCLP | 28F2 | 3881 | 19.5 | 2.3 | 78.7 | 45.6 | 50.7 |
| AC-2 | 3 | Jet Fighter | DEP | P28D2 | 3181 | 0.1 | 0.0 | 105.6 | <45 | 51.7 |
| AC-2 | 4 | Jet Fighter | ARR | P1001 | 1303 | 0.0 | 0.0 | 105.4 | <45 | 52.2 |
| AC-2 | 5 | E-2/C-2 | DEP | N28D2 | 2480 | 1.2 | 0.1 | 87.1 | <45 | 52.6 |
| AC-2 | 6 | P-3C | DEP | 28D3 | 1710 | 1.6 | 0.0 | 87.4 | <45 | 52.8 |
| AC-2 | 7 | P-3C | ARR | 10A1 | 865 | 1.0 | 0.0 | 88.8 | <45 | 53.0 |
| AC-2 | 8 | E-2/C-2 | Crew Swap | 10SW | 2789 | 2.4 | 0.3 | 78.2 | <45 | 53.1 |
| AC-2 | 9 | E-2/C-2 | DEP | N28D2 | 2480 | 0.5 | 0.0 | 87.1 | <45 | 53.2 |
| AC-2 | 10 | B-737-400* | ARR | 10A1 | 824 | 0.3 | 0.0 | 89.1 | <45 | 53.2 |
| AC-2 | 11 | B-737-400* | DEP | 28D3 | 2257 | 0.4 | 0.0 | 86.8 | <45 | 53.3 |
| AC-2 | 12 | Jet Fighter | T & G | 10T1 | 7671 | 0.3 | 0.0 | 88.3 | <45 | 53.3 |
| AC-2 | 13 | E-2/C-2 | ARR | N1001 | 1284 | 0.7 | 0.1 | 78.3 | <45 | 53.3 |
| AC-2 | 14 | Jet Fighter | T & G | 28T1 | 12579 | 0.4 | 0.0 | 83.6 | <45 | 53.4 |
| AC-2 | 15 | E-2/C-2 | FCLP | 10F2 | 10942 | 11.9 | 1.4 | 64.9 | <45 | 53.4 |
| AC-2 | 16 | A-10A | ARR | 10A1 | 809 | 0.0 | 0.0 | 95.2 | <45 | 53.4 |
| AC-2 | 17 | E-2/C-2 | FCLP | 28F1 | 15455 | 9.7 | 1.1 | 63.7 | <45 | 53.4 |
| AC-2 | 18 | E-2/C-2 | FCLP | 10F1 | 10941 | 6.0 | 0.7 | 64.4 | <45 | 53.4 |
| AC-2 | 19 | E-2/C-2 | ARR | N1001 | 1284 | 0.3 | 0.0 | 78.3 | <45 | 53.4 |
| AC-2 | 20 | Jet Fighter | DEP | P10D2 | 15779 | 0.0 | 0.0 | 86.7 | <45 | 53.4 |
| AC-3 | 1 | E-2/C-2 | Crew Swap | 28SW | 3150 | 3.9 | 0.5 | 82.8 | <45 | <45 |
| AC-3 | 2 | E-2/C-2 | FCLP | 28F2 | 6109 | 19.5 | 2.3 | 74.3 | <45 | 45.0 |
| AC-3 | 3 | E-2/C-2 | Crew Swap | 10SW | 3139 | 2.4 | 0.3 | 81.0 | <45 | 45.9 |

| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-3 | 4 | Jet Fighter | DEP | P28D2 | 7378 | 0.1 | 0.0 | 95.3 | <45 | 46.2 |
| AC-3 | 5 | Jet Fighter | T & G | 28T1 | 14817 | 0.4 | 0.0 | 86.0 | <45 | 46.4 |
| AC-3 | 6 | E-2/C-2 | DEP | N28D2 | 6980 | 1.2 | 0.1 | 77.4 | <45 | 46.6 |
| AC-3 | 7 | Jet Fighter | DEP | P22D2 | 7745 | 0.0 | 0.0 | 93.8 | <45 | 46.7 |
| AC-3 | 8 | E-2/C-2 | DEP | N28D2 | 6980 | 0.5 | 0.0 | 77.4 | <45 | 46.7 |
| AC-3 | 9 | P-3C | DEP | 28D3 | 8116 | 1.6 | 0.0 | 72.6 | <45 | 46.8 |
| AC-3 | 10 | E-2/C-2 | FCLP | 28F1 | 18109 | 9.7 | 1.1 | 61.2 | <45 | 46.8 |
| AC-3 | 11 | E-2/C-2 | FCLP | 10F2 | 16087 | 11.9 | 1.4 | 59.3 | <45 | 46.8 |
| AC-3 | 12 | Jet Fighter | T & G | 10T1 | 13489 | 0.3 | 0.0 | 78.4 | <45 | 46.8 |
| AC-3 | 13 | P-3C | DEP | 22D3 | 5524 | 1.0 | 0.0 | 72.3 | <45 | 46.8 |
| AC-3 | 14 | B-737-400* | DEP | 22D3 | 5749 | 0.3 | 0.0 | 76.8 | <45 | 46.9 |
| AC-3 | 15 | Jet Fighter | ARR | P1001 | 6490 | 0.0 | 0.0 | 84.3 | <45 | 46.9 |
| AC-3 | 16 | Jet Fighter | T & G | 04T1 | 13046 | 0.1 | 0.0 | 80.3 | <45 | 46.9 |
| AC-3 | 17 | B-737-400* | DEP | 28D3 | 8271 | 0.4 | 0.0 | 74.4 | <45 | 46.9 |
| AC-3 | 18 | E-2/C-2 | ARR | N1001 | 6495 | 0.7 | 0.1 | 68.1 | <45 | 46.9 |
| AC-3 | 19 | E-2/C-2 | FCLP | 10F1 | 16086 | 6.0 | 0.7 | 58.5 | <45 | 46.9 |
| AC-3 | 20 | E-2/C-2 | DEP | N22D2 | 6604 | 0.3 | 0.0 | 74.5 | <45 | 46.9 |
| AC-4 | 1 | E-2/C-2 | FCLP | 28F2 | 14294 | 19.5 | 2.3 | 66.0 | <45 | <45 |
| AC-4 | 2 | E-2/C-2 | Crew Swap | 28SW | 10212 | 3.9 | 0.5 | 71.8 | <45 | <45 |
| AC-4 | 3 | Jet Fighter | DEP | P22D2 | 8419 | 0.0 | 0.0 | 92.8 | <45 | <45 |
| AC-4 | 4 | E-2/C-2 | Crew Swap | 10SW | 9972 | 2.4 | 0.3 | 69.8 | <45 | <45 |
| AC-4 | 5 | Jet Fighter | T & G | 28T1 | 19341 | 0.4 | 0.0 | 77.4 | <45 | <45 |
| AC-4 | 6 | E-2/C-2 | DEP | N28D2 | 18494 | 1.2 | 0.1 | 67.1 | <45 | <45 |
| AC-4 | 7 | P-3C | DEP | 22D3 | 7019 | 1.0 | 0.0 | 70.6 | <45 | <45 |
| AC-4 | 8 | Jet Fighter | T & G | 04T1 | 15883 | 0.1 | 0.0 | 79.0 | <45 | <45 |
| AC-4 | 9 | B-737-400* | DEP | 22D3 | 7086 | 0.3 | 0.0 | 74.9 | <45 | <45 |
| AC-4 | 10 | E-2/C-2 | DEP | N22D2 | 7509 | 0.3 | 0.0 | 74.1 | <45 | <45 |
| AC-4 | 11 | Jet Fighter | DEP | P28D2 | 18643 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-4 | 12 | Jet Fighter | ARR | P04O1 | 12523 | 0.0 | 0.0 | 82.3 | <45 | <45 |
| AC-4 | 13 | E-2/C-2 | FCLP | 28F1 | 22611 | 9.7 | 1.1 | 51.6 | <45 | <45 |
| AC-4 | 14 | P-3C | DEP | 28D3 | 19551 | 1.6 | 0.0 | 62.5 | <45 | <45 |
| AC-4 | 15 | E-2/C-2 | DEP | N28D2 | 18494 | 0.5 | 0.0 | 67.1 | <45 | <45 |
| AC-4 | 16 | Jet Fighter | T & G | 22T1 | 24486 | 0.3 | 0.0 | 68.9 | <45 | <45 |
| AC-4 | 17 | E-2/C-2 | FCLP | 10F2 | 23839 | 11.9 | 1.4 | 48.5 | <45 | <45 |
| AC-4 | 18 | E-2/C-2 | ARR | N04O1 | 2756 | 0.1 | 0.0 | 70.9 | <45 | <45 |
| AC-4 | 19 | E-2/C-2 | T & G | 28T1 | 19341 | 1.3 | 0.0 | 60.8 | <45 | <45 |
| AC-4 | 20 | Jet Fighter | ARR | P28O1 | 19313 | 0.1 | 0.0 | 72.8 | <45 | <45 |
| AC-5 | 1 | E-2/C-2 | Crew Swap | 10SW | 3225 | 2.4 | 0.3 | 83.5 | <45 | <45 |
| AC-5 | 2 | P-3C | ARR | 22A1 | 1054 | 1.0 | 0.0 | 86.0 | <45 | <45 |
| AC-5 | 3 | Jet Fighter | DEP | P04D2 | 4058 | 0.0 | 0.0 | 101.8 | <45 | <45 |
| AC-5 | 4 | Jet Fighter | ARR | P22O1 | 1188 | 0.0 | 0.0 | 98.3 | <45 | <45 |
| AC-5 | 5 | E-2/C-2 | FCLP | 10F2 | 11425 | 11.9 | 1.4 | 69.5 | <45 | <45 |
| AC-5 | 6 | E-2/C-2 | Crew Swap | 28SW | 7876 | 3.9 | 0.5 | 73.4 | <45 | <45 |

| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-5 | 7 | B-737-400* | ARR | 22A1 | 1009 | 0.3 | 0.0 | 86.5 | <45 | <45 |
| AC-5 | 8 | Jet Fighter | DEP | P10D2 | 8124 | 0.0 | 0.0 | 93.0 | <45 | 45.0 |
| AC-5 | 9 | P-3C | DEP | 04D3 | 2562 | 0.4 | 0.0 | 81.8 | <45 | 45.1 |
| AC-5 | 10 | Jet Fighter | T & G | 22T1 | 10538 | 0.3 | 0.0 | 83.9 | <45 | 45.2 |
| AC-5 | 11 | Jet Fighter | T & G | 10T1 | 12991 | 0.3 | 0.0 | 82.8 | <45 | 45.3 |
| AC-5 | 12 | E-2/C-2 | DEP | N10D2 | 7179 | 0.7 | 0.1 | 74.0 | <45 | 45.3 |
| AC-5 | 13 | E-2/C-2 | FCLP | 28F2 | 19058 | 19.5 | 2.3 | 59.2 | <45 | 45.4 |
| AC-5 | 14 | A-10A | ARR | 22A1 | 1002 | 0.0 | 0.0 | 92.3 | <45 | 45.4 |
| AC-5 | 15 | E-2/C-2 | FCLP | 10F1 | 16024 | 6.0 | 0.7 | 63.2 | <45 | 45.5 |
| AC-5 | 16 | B-737-400* | DEP | 04D3 | 3066 | 0.1 | 0.0 | 83.2 | <45 | 45.5 |
| AC-5 | 17 | E-2/C-2 | DEP | N04D2 | 3391 | 0.1 | 0.0 | 82.2 | <45 | 45.6 |
| AC-5 | 18 | E-2/C-2 | FCLP | 28F1 | 19057 | 9.7 | 1.1 | 58.3 | <45 | 45.6 |
| AC-5 | 19 | Jet Fighter | T & G | 04T1 | 15566 | 0.1 | 0.0 | 80.5 | <45 | 45.6 |
| AC-5 | 20 | P-3C | DEP | 10D3 | 6359 | 1.0 | 0.0 | 70.8 | <45 | 45.6 |
| AC-6 | 1 | Jet Fighter | T & G | 10T1 | 2121 | 0.3 | 0.0 | 106.2 | 51.2 | 51.2 |
| AC-6 | 2 | E-2/C-2 | FCLP | 10F2 | 3756 | 11.9 | 1.4 | 79.5 | <45 | 52.0 |
| AC-6 | 3 | Jet Fighter | T & G | 04T1 | 3004 | 0.1 | 0.0 | 101.4 | <45 | 52.5 |
| AC-6 | 4 | Jet Fighter | ARR | P1001 | 2121 | 0.0 | 0.0 | 105.2 | <45 | 52.9 |
| AC-6 | 5 | E-2/C-2 | Crew Swap | 28SW | 3152 | 3.9 | 0.5 | 81.7 | <45 | 53.2 |
| AC-6 | 6 | E-2/C-2 | Crew Swap | 10SW | 2997 | 2.4 | 0.3 | 83.0 | <45 | 53.5 |
| AC-6 | 7 | E-2/C-2 | FCLP | 10F1 | 3790 | 6.0 | 0.7 | 78.1 | <45 | 53.7 |
| AC-6 | 8 | E-2/C-2 | FCLP | 28F2 | 9791 | 19.5 | 2.3 | 71.5 | <45 | 53.8 |
| AC-6 | 9 | Jet Fighter | T & G | 22T1 | 6426 | 0.3 | 0.0 | 90.6 | <45 | 53.8 |
| AC-6 | 10 | E-2/C-2 | FCLP | 28F1 | 9791 | 9.7 | 1.1 | 70.9 | <45 | 53.9 |
| AC-6 | 11 | E-2/C-2 | T & G | 10T1 | 1973 | 1.3 | 0.0 | 83.1 | <45 | 53.9 |
| AC-6 | 12 | E-2/C-2 | T & G | 10T1 | 2121 | 0.8 | 0.0 | 82.9 | <45 | 54.0 |
| AC-6 | 13 | Jet Fighter | T & G | 28T1 | 9794 | 0.4 | 0.0 | 84.9 | <45 | 54.0 |
| AC-6 | 14 | Jet Fighter | DEP | P10D2 | 8690 | 0.0 | 0.0 | 93.8 | <45 | 54.0 |
| AC-6 | 15 | Jet Fighter | DEP | P04D2 | 6438 | 0.0 | 0.0 | 96.3 | <45 | 54.0 |
| AC-6 | 16 | E-2/C-2 | DEP | N10D2 | 6954 | 0.7 | 0.1 | 77.0 | <45 | 54.1 |
| AC-6 | 17 | Jet Fighter | ARR | P2201 | 6429 | 0.0 | 0.0 | 91.7 | <45 | 54.1 |
| AC-6 | 18 | Jet Fighter | DEP | P28D2 | 9799 | 0.1 | 0.0 | 89.5 | <45 | 54.1 |
| AC-6 | 19 | E-2/C-2 | T & G | 04T1 | 2901 | 0.5 | 0.0 | 80.7 | <45 | 54.1 |
| AC-6 | 20 | E-2/C-2 | DEP | N28D2 | 9791 | 1.2 | 0.1 | 73.5 | <45 | 54.1 |
| AC-7 | 1 | Jet Fighter | T & G | 22T1 | 674 | 0.3 | 0.0 | 115.8 | 60.5 | 60.5 |
| AC-7 | 2 | Jet Fighter | ARR | P2201 | 695 | 0.0 | 0.0 | 116.0 | 52.9 | 61.2 |
| AC-7 | 3 | Jet Fighter | T & G | 10T1 | 2181 | 0.3 | 0.0 | 107.4 | 52.5 | 61.8 |
| AC-7 | 4 | E-2/C-2 | FCLP | 10F2 | 1457 | 11.9 | 1.4 | 87.3 | 52.1 | 62.2 |
| AC-7 | 5 | Jet Fighter | T & G | 04T1 | 1525 | 0.1 | 0.0 | 108.7 | 50.0 | 62.5 |
| AC-7 | 6 | E-2/C-2 | FCLP | 10F1 | 1551 | 6.0 | 0.7 | 85.8 | 47.5 | 62.6 |
| AC-7 | 7 | Jet Fighter | DEP | P04D2 | 876 | 0.0 | 0.0 | 112.7 | 46.2 | 62.7 |
| AC-7 | 8 | E-2/C-2 | Crew Swap | 10SW | 1609 | 2.4 | 0.3 | 86.9 | <45 | 62.8 |
| AC-7 | 9 | Jet Fighter | T & G | 28T1 | 4737 | 0.4 | 0.0 | 96.5 | <45 | 62.8 |

| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-7 | 10 | E-2/C-2 | FCLP | 28F2 | 4739 | 19.5 | 2.3 | 76.2 | <45 | 62.9 |
| AC-7 | 11 | E-2/C-2 | Crew Swap | 28SW | 3072 | 3.9 | 0.5 | 81.9 | <45 | 62.9 |
| AC-7 | 12 | E-2/C-2 | FCLP | 28F1 | 4739 | 9.7 | 1.1 | 76.0 | <45 | 62.9 |
| AC-7 | 13 | P-3C | DEP | 04D3 | 975 | 0.4 | 0.0 | 92.8 | <45 | 62.9 |
| AC-7 | 14 | P-3C | ARR | 22A1 | 689 | 1.0 | 0.0 | 89.1 | <45 | 63.0 |
| AC-7 | 15 | Jet Fighter | DEP | P22D2 | 3252 | 0.0 | 0.0 | 102.0 | <45 | 63.0 |
| AC-7 | 16 | E-2/C-2 | T & G | 10T1 | 2034 | 1.3 | 0.0 | 86.0 | <45 | 63.0 |
| AC-7 | 17 | E-2/C-2 | T & G | 22T1 | 674 | 1.2 | 0.0 | 85.7 | <45 | 63.0 |
| AC-7 | 18 | Jet Fighter | DEP | P10D2 | 4771 | 0.0 | 0.0 | 99.6 | <45 | 63.0 |
| AC-7 | 19 | Jet Fighter | DEP | P28D2 | 5079 | 0.1 | 0.0 | 97.8 | <45 | 63.0 |
| AC-7 | 20 | A-10A | T & G | 22T1 | 691 | 0.1 | 0.0 | 95.3 | <45 | 63.0 |
| AC-8 | 1 | Jet Fighter | T & G | 04T1 | 1400 | 0.1 | 0.0 | 110.4 | 51.7 | 51.7 |
| AC-8 | 2 | E-2/C-2 | FCLP | 28F2 | 2905 | 19.5 | 2.3 | 82.9 | 49.8 | 53.9 |
| AC-8 | 3 | Jet Fighter | T & G | 10T1 | 2848 | 0.3 | 0.0 | 104.0 | 49.1 | 55.1 |
| AC-8 | 4 | Jet Fighter | T & G | 28T1 | 3082 | 0.4 | 0.0 | 102.1 | 48.9 | 56.0 |
| AC-8 | 5 | E-2/C-2 | Crew Swap | 28SW | 2927 | 3.9 | 0.5 | 87.7 | 47.5 | 56.6 |
| AC-8 | 6 | E-2/C-2 | FCLP | 10F2 | 2850 | 11.9 | 1.4 | 81.6 | 46.3 | 57.0 |
| AC-8 | 7 | E-2/C-2 | FCLP | 28F1 | 3779 | 9.7 | 1.1 | 80.1 | <45 | 57.2 |
| AC-8 | 8 | Jet Fighter | ARR | P04O1 | 1400 | 0.0 | 0.0 | 110.1 | <45 | 57.4 |
| AC-8 | 9 | E-2/C-2 | FCLP | 10F1 | 2850 | 6.0 | 0.7 | 81.5 | <45 | 57.6 |
| AC-8 | 10 | Jet Fighter | DEP | P28D2 | 2905 | 0.1 | 0.0 | 103.0 | <45 | 57.7 |
| AC-8 | 11 | E-2/C-2 | Crew Swap | 10SW | 2909 | 2.4 | 0.3 | 84.0 | <45 | 57.8 |
| AC-8 | 12 | E-2/C-2 | DEP | N28D2 | 2925 | 1.2 | 0.1 | 87.0 | <45 | 57.9 |
| AC-8 | 13 | Jet Fighter | DEP | P10D2 | 3026 | 0.0 | 0.0 | 104.2 | <45 | 58.0 |
| AC-8 | 14 | Jet Fighter | ARR | P10O1 | 2848 | 0.0 | 0.0 | 103.4 | <45 | 58.1 |
| AC-8 | 15 | P-3C | DEP | 28D3 | 2887 | 1.6 | 0.0 | 84.3 | <45 | 58.1 |
| AC-8 | 16 | E-2/C-2 | T & G | 04T1 | 1156 | 0.5 | 0.0 | 87.2 | <45 | 58.1 |
| AC-8 | 17 | E-2/C-2 | T & G | 28T1 | 2980 | 1.9 | 0.0 | 81.6 | <45 | 58.1 |
| AC-8 | 18 | E-2/C-2 | DEP | N28D2 | 2925 | 0.5 | 0.0 | 87.0 | <45 | 58.2 |
| AC-8 | 19 | E-2/C-2 | ARR | N10O1 | 2850 | 0.7 | 0.1 | 82.2 | <45 | 58.2 |
| AC-8 | 20 | P-3C | DEP | 10D3 | 3026 | 1.0 | 0.0 | 83.6 | <45 | 58.2 |
| AC-9 | 1 | Jet Fighter | T & G | 28T1 | 1027 | 0.4 | 0.0 | 112.6 | 59.4 | 59.4 |
| AC-9 | 2 | Jet Fighter | T & G | 04T1 | 1032 | 0.1 | 0.0 | 112.6 | 53.9 | 60.5 |
| AC-9 | 3 | E-2/C-2 | FCLP | 28F2 | 2862 | 19.5 | 2.3 | 84.2 | 51.1 | 61.0 |
| AC-9 | 4 | E-2/C-2 | Crew Swap | 28SW | 3332 | 3.9 | 0.5 | 86.7 | 46.5 | 61.1 |
| AC-9 | 5 | Jet Fighter | ARR | P04O1 | 1032 | 0.0 | 0.0 | 112.7 | 46.3 | 61.3 |
| AC-9 | 6 | E-2/C-2 | T & G | 28T1 | 665 | 1.9 | 0.0 | 92.4 | 45.7 | 61.4 |
| AC-9 | 7 | Jet Fighter | T & G | 10T1 | 3273 | 0.3 | 0.0 | 100.3 | 45.4 | 61.5 |
| AC-9 | 8 | E-2/C-2 | FCLP | 28F1 | 3380 | 9.7 | 1.1 | 79.5 | <45 | 61.6 |
| AC-9 | 9 | Jet Fighter | DEP | P28D2 | 3318 | 0.1 | 0.0 | 102.6 | <45 | 61.6 |
| AC-9 | 10 | E-2/C-2 | T & G | 28T1 | 1027 | 1.3 | 0.0 | 89.5 | <45 | 61.6 |
| AC-9 | 11 | A-10A | T & G | 28T1 | 958 | 0.2 | 0.0 | 97.9 | <45 | 61.7 |
| AC-9 | 12 | E-2/C-2 | DEP | N28D2 | 3406 | 1.2 | 0.1 | 85.7 | <45 | 61.7 |



| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-9 | 13 | E-2/C-2 | FCLP | 10F2 | 3631 | 11.9 | 1.4 | 75.4 | <45 | 61.7 |
| AC-9 | 14 | Jet Fighter | ARR | P1001 | 3283 | 0.0 | 0.0 | 101.1 | <45 | 61.8 |
| AC-9 | 15 | E-2/C-2 | Crew Swap | 10SW | 3525 | 2.4 | 0.3 | 79.5 | <45 | 61.8 |
| AC-9 | 16 | E-2/C-2 | FCLP | 10F1 | 3631 | 6.0 | 0.7 | 75.2 | <45 | 61.8 |
| AC-9 | 17 | P-3C | DEP | 28D3 | 3348 | 1.6 | 0.0 | 82.7 | <45 | 61.8 |
| AC-9 | 18 | Jet Fighter | ARR | P2801 | 977 | 0.1 | 0.0 | 96.1 | <45 | 61.8 |
| AC-9 | 19 | E-2/C-2 | T & G | 04T1 | 672 | 0.5 | 0.0 | 86.3 | <45 | 61.8 |
| AC-9 | 20 | Jet Fighter | DEP | P10D2 | 5218 | 0.0 | 0.0 | 96.8 | <45 | 61.8 |
| AC-10 | 1 | Jet Fighter | DEP | P22D2 | 3592 | 0.0 | 0.0 | 104.2 | <45 | <45 |
| AC-10 | 2 | E-2/C-2 | FCLP | 28F2 | 8372 | 19.5 | 2.3 | 72.5 | <45 | <45 |
| AC-10 | 3 | Jet Fighter | T & G | 04T1 | 3974 | 0.1 | 0.0 | 96.4 | <45 | <45 |
| AC-10 | 4 | E-2/C-2 | Crew Swap | 28SW | 4963 | 3.9 | 0.5 | 77.5 | <45 | 45.1 |
| AC-10 | 5 | Jet Fighter | T & G | 28T1 | 7964 | 0.4 | 0.0 | 89.3 | <45 | 45.7 |
| AC-10 | 6 | P-3C | DEP | 22D3 | 2607 | 1.0 | 0.0 | 83.8 | <45 | 46.0 |
| AC-10 | 7 | E-2/C-2 | Crew Swap | 10SW | 4950 | 2.4 | 0.3 | 76.5 | <45 | 46.3 |
| AC-10 | 8 | E-2/C-2 | DEP | N22D2 | 2919 | 0.3 | 0.0 | 86.3 | <45 | 46.4 |
| AC-10 | 9 | Jet Fighter | ARR | P0401 | 3746 | 0.0 | 0.0 | 97.6 | <45 | 46.5 |
| AC-10 | 10 | E-2/C-2 | FCLP | 28F1 | 10801 | 9.7 | 1.1 | 67.0 | <45 | 46.7 |
| AC-10 | 11 | B-737-400* | DEP | 22D3 | 2977 | 0.3 | 0.0 | 84.7 | <45 | 46.7 |
| AC-10 | 12 | Jet Fighter | T & G | 22T1 | 11315 | 0.3 | 0.0 | 84.4 | <45 | 46.8 |
| AC-10 | 13 | E-2/C-2 | FCLP | 10F2 | 14804 | 11.9 | 1.4 | 61.5 | <45 | 46.9 |
| AC-10 | 14 | E-2/C-2 | DEP | N28D2 | 14471 | 1.2 | 0.1 | 70.8 | <45 | 46.9 |
| AC-10 | 15 | E-2/C-2 | T & G | 28T1 | 7926 | 1.9 | 0.0 | 70.8 | <45 | 46.9 |
| AC-10 | 16 | Jet Fighter | ARR | P2801 | 7965 | 0.1 | 0.0 | 84.9 | <45 | 46.9 |
| AC-10 | 17 | E-2/C-2 | T & G | 28T1 | 7964 | 1.3 | 0.0 | 71.2 | <45 | 46.9 |
| AC-10 | 18 | Jet Fighter | DEP | P28D2 | 14454 | 0.1 | 0.0 | 83.5 | <45 | 47.0 |
| AC-10 | 19 | E-2/C-2 | FCLP | 10F1 | 14804 | 6.0 | 0.7 | 60.6 | <45 | 47.0 |
| AC-10 | 20 | Jet Fighter | T & G | 10T1 | 14462 | 0.3 | 0.0 | 75.1 | <45 | 47.0 |
| AC-11 | 1 | E-2/C-2 | Crew Swap | 28SW | 14614 | 3.9 | 0.5 | 67.2 | <45 | <45 |
| AC-11 | 2 | Jet Fighter | DEP | P22D2 | 9883 | 0.0 | 0.0 | 89.4 | <45 | <45 |
| AC-11 | 3 | P-3C | ARR | 04A1 | 2346 | 0.4 | 0.0 | 78.0 | <45 | <45 |
| AC-11 | 4 | E-2/C-2 | FCLP | 28F2 | 18956 | 19.5 | 2.3 | 57.9 | <45 | <45 |
| AC-11 | 5 | E-2/C-2 | Crew Swap | 10SW | 14664 | 2.4 | 0.3 | 65.5 | <45 | <45 |
| AC-11 | 6 | Jet Fighter | ARR | P0401 | 2596 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-11 | 7 | B-737-400* | ARR | 04A1 | 2320 | 0.1 | 0.0 | 79.4 | <45 | <45 |
| AC-11 | 8 | Jet Fighter | T & G | 28T1 | 19482 | 0.4 | 0.0 | 73.4 | <45 | <45 |
| AC-11 | 9 | P-3C | DEP | 22D3 | 9410 | 1.0 | 0.0 | 69.0 | <45 | <45 |
| AC-11 | 10 | Jet Fighter | T & G | 22T1 | 21445 | 0.3 | 0.0 | 74.5 | <45 | <45 |
| AC-11 | 11 | E-2/C-2 | DEP | N22D2 | 9563 | 0.3 | 0.0 | 73.0 | <45 | <45 |
| AC-11 | 12 | Jet Fighter | T & G | 04T1 | 15505 | 0.1 | 0.0 | 77.3 | <45 | <45 |
| AC-11 | 13 | E-2/C-2 | DEP | N28D2 | 25075 | 1.2 | 0.1 | 62.2 | <45 | <45 |
| AC-11 | 14 | B-737-400* | DEP | 22D3 | 9558 | 0.3 | 0.0 | 71.0 | <45 | <45 |
| AC-11 | 15 | E-2/C-2 | FCLP | 28F1 | 22248 | 9.7 | 1.1 | 50.4 | <45 | <45 |

| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-11 | 16 | E-2/C-2 | T & G | 28T1 | 19482 | 1.3 | 0.0 | 60.0 | <45 | <45 |
| AC-11 | 17 | A-10A | ARR | 04A1 | 2319 | 0.0 | 0.0 | 82.1 | <45 | <45 |
| AC-11 | 18 | C-12 | ARR | 04A1 | 2330 | 0.1 | 0.0 | 73.0 | <45 | <45 |
| AC-11 | 19 | Jet Fighter | DEP | P28D2 | 25092 | 0.1 | 0.0 | 72.2 | <45 | <45 |
| AC-11 | 20 | P-3C | DEP | 28D3 | 25054 | 1.6 | 0.0 | 58.4 | <45 | <45 |
| | | | | | | | | | | |
| AC-12 | 1 | E-2/C-2 | FCLP | 28F2 | 3028 | 19.5 | 2.3 | 85.0 | 51.9 | 51.9 |
| AC-12 | 2 | E-2/C-2 | FCLP | 28F1 | 1684 | 9.7 | 1.1 | 88.0 | 51.8 | 54.9 |
| AC-12 | 3 | Jet Fighter | T & G | 28T1 | 3216 | 0.4 | 0.0 | 104.1 | 51.0 | 56.4 |
| AC-12 | 4 | E-2/C-2 | Crew Swap | 28SW | 1780 | 3.9 | 0.5 | 89.1 | 48.9 | 57.1 |
| AC-12 | 5 | Jet Fighter | T & G | 10T1 | 3099 | 0.3 | 0.0 | 102.4 | 47.5 | 57.5 |
| AC-12 | 6 | E-2/C-2 | FCLP | 10F2 | 3099 | 11.9 | 1.4 | 82.4 | 47.2 | 57.9 |
| AC-12 | 7 | E-2/C-2 | FCLP | 10F1 | 3099 | 6.0 | 0.7 | 82.3 | <45 | 58.1 |
| AC-12 | 8 | Jet Fighter | DEP | P28D2 | 3149 | 0.1 | 0.0 | 104.4 | <45 | 58.2 |
| AC-12 | 9 | Jet Fighter | T & G | 04T1 | 3850 | 0.1 | 0.0 | 102.0 | <45 | 58.4 |
| AC-12 | 10 | Jet Fighter | T & G | 22T1 | 4279 | 0.3 | 0.0 | 98.5 | <45 | 58.5 |
| AC-12 | 11 | Jet Fighter | DEP | P10D2 | 3104 | 0.0 | 0.0 | 105.8 | <45 | 58.6 |
| AC-12 | 12 | E-2/C-2 | Crew Swap | 10SW | 3099 | 2.4 | 0.3 | 85.3 | <45 | 58.7 |
| AC-12 | 13 | E-2/C-2 | DEP | N28D2 | 3134 | 1.2 | 0.1 | 86.4 | <45 | 58.8 |
| AC-12 | 14 | Jet Fighter | DEP | P22D2 | 4205 | 0.0 | 0.0 | 100.6 | <45 | 58.8 |
| AC-12 | 15 | E-2/C-2 | T & G | 28T1 | 3149 | 1.9 | 0.0 | 83.8 | <45 | 58.9 |
| AC-12 | 16 | P-3C | DEP | 28D3 | 3114 | 1.6 | 0.0 | 84.0 | <45 | 58.9 |
| AC-12 | 17 | Jet Fighter | ARR | P1001 | 3214 | 0.0 | 0.0 | 99.0 | <45 | 58.9 |
| AC-12 | 18 | Jet Fighter | ARR | P28O1 | 3244 | 0.1 | 0.0 | 97.1 | <45 | 58.9 |
| AC-12 | 19 | Jet Fighter | DEP | P04D2 | 4168 | 0.0 | 0.0 | 101.9 | <45 | 59.0 |
| AC-12 | 20 | E-2/C-2 | T & G | 28T1 | 3244 | 1.3 | 0.0 | 83.8 | <45 | 59.0 |
| | | | | | | | | | | |
| AC-13 | 1 | Jet Fighter | T & G | 22T1 | 1188 | 0.3 | 0.0 | 113.3 | 58.0 | 58.0 |
| AC-13 | 2 | Jet Fighter | T & G | 28T1 | 1570 | 0.4 | 0.0 | 109.8 | 56.6 | 60.4 |
| AC-13 | 3 | Jet Fighter | DEP | P22D2 | 1248 | 0.0 | 0.0 | 117.2 | 54.1 | 61.3 |
| AC-13 | 4 | Jet Fighter | T & G | 10T1 | 1848 | 0.3 | 0.0 | 108.6 | 53.6 | 62.0 |
| AC-13 | 5 | Jet Fighter | T & G | 04T1 | 1313 | 0.1 | 0.0 | 111.9 | 53.2 | 62.5 |
| AC-13 | 6 | E-2/C-2 | FCLP | 10F2 | 1674 | 11.9 | 1.4 | 87.1 | 51.8 | 62.9 |
| AC-13 | 7 | E-2/C-2 | FCLP | 28F2 | 1571 | 19.5 | 2.3 | 84.6 | 51.5 | 63.2 |
| AC-13 | 8 | E-2/C-2 | Crew Swap | 10SW | 1676 | 2.4 | 0.3 | 93.0 | 50.7 | 63.4 |
| AC-13 | 9 | Jet Fighter | DEP | P28D2 | 1570 | 0.1 | 0.0 | 111.1 | 50.1 | 63.6 |
| AC-13 | 10 | Jet Fighter | DEP | P04D2 | 1248 | 0.0 | 0.0 | 115.8 | 49.3 | 63.8 |
| AC-13 | 11 | E-2/C-2 | Crew Swap | 28SW | 1571 | 3.9 | 0.5 | 89.2 | 49.1 | 63.9 |
| AC-13 | 12 | E-2/C-2 | FCLP | 28F1 | 1571 | 9.7 | 1.1 | 84.6 | 48.5 | 64.1 |
| AC-13 | 13 | Jet Fighter | ARR | P28O1 | 1570 | 0.1 | 0.0 | 107.3 | 46.3 | 64.1 |
| AC-13 | 14 | E-2/C-2 | FCLP | 10F1 | 2203 | 6.0 | 0.7 | 84.4 | 46.1 | 64.2 |
| AC-13 | 15 | Jet Fighter | DEP | P10D2 | 1674 | 0.0 | 0.0 | 108.4 | 45.7 | 64.3 |
| AC-13 | 16 | E-2/C-2 | DEP | N10D2 | 1671 | 0.7 | 0.1 | 92.4 | 45.0 | 64.3 |
| AC-13 | 17 | E-2/C-2 | T & G | 22T1 | 1154 | 1.2 | 0.0 | 93.7 | 45.0 | 64.4 |
| AC-13 | 18 | E-2/C-2 | T & G | 22T1 | 1240 | 0.8 | 0.0 | 93.2 | <45 | 64.4 |



| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-13 | 19 | P-3C | DEP | 10D3 | 1619 | 1.0 | 0.0 | 90.5 | <45 | 64.4 |
| AC-13 | 20 | P-3C | DEP | 22D3 | 1104 | 1.0 | 0.0 | 90.9 | <45 | 64.4 |
| AC-14 | 1 | Jet Fighter | T & G | 28T1 | 1250 | 0.4 | 0.0 | 111.9 | 58.7 | 58.7 |
| AC-14 | 2 | Jet Fighter | T & G | 22T1 | 1261 | 0.3 | 0.0 | 110.9 | 55.6 | 60.4 |
| AC-14 | 3 | Jet Fighter | T & G | 04T1 | 899 | 0.1 | 0.0 | 113.4 | 54.8 | 61.5 |
| AC-14 | 4 | Jet Fighter | ARR | P28O1 | 1250 | 0.1 | 0.0 | 111.8 | 50.8 | 61.8 |
| AC-14 | 5 | E-2/C-2 | FCLP | 28F2 | 2673 | 19.5 | 2.3 | 81.9 | 48.8 | 62.0 |
| AC-14 | 6 | Jet Fighter | DEP | P22D2 | 1058 | 0.0 | 0.0 | 110.6 | 47.6 | 62.2 |
| AC-14 | 7 | Jet Fighter | ARR | P04O1 | 912 | 0.0 | 0.0 | 113.7 | 47.3 | 62.3 |
| AC-14 | 8 | E-2/C-2 | FCLP | 28F1 | 2673 | 9.7 | 1.1 | 81.5 | 45.4 | 62.4 |
| AC-14 | 9 | E-2/C-2 | Crew Swap | 28SW | 2688 | 3.9 | 0.5 | 83.6 | <45 | 62.5 |
| AC-14 | 10 | P-3C | DEP | 22D3 | 1126 | 1.0 | 0.0 | 92.2 | <45 | 62.5 |
| AC-14 | 11 | E-2/C-2 | T & G | 28T1 | 973 | 1.9 | 0.0 | 88.8 | <45 | 62.6 |
| AC-14 | 12 | E-2/C-2 | T & G | 22T1 | 988 | 1.2 | 0.0 | 89.6 | <45 | 62.6 |
| AC-14 | 13 | E-2/C-2 | DEP | N22D2 | 1215 | 0.3 | 0.0 | 93.6 | <45 | 62.6 |
| AC-14 | 14 | E-2/C-2 | Crew Swap | 10SW | 2708 | 2.4 | 0.3 | 81.3 | <45 | 62.6 |
| AC-14 | 15 | E-2/C-2 | FCLP | 10F2 | 8690 | 11.9 | 1.4 | 74.2 | <45 | 62.6 |
| AC-14 | 16 | E-2/C-2 | T & G | 28T1 | 1250 | 1.3 | 0.0 | 87.2 | <45 | 62.7 |
| AC-14 | 17 | A-10A | T & G | 22T1 | 1040 | 0.1 | 0.0 | 96.9 | <45 | 62.7 |
| AC-14 | 18 | B-737-400* | DEP | 22D3 | 1282 | 0.3 | 0.0 | 92.9 | <45 | 62.7 |
| AC-14 | 19 | E-2/C-2 | T & G | 22T1 | 1261 | 0.8 | 0.0 | 88.0 | <45 | 62.7 |
| AC-14 | 20 | Jet Fighter | DEP | P04D2 | 3034 | 0.0 | 0.0 | 102.6 | <45 | 62.7 |
| AC-15 | 1 | E-2/C-2 | FCLP | 28F2 | 13795 | 19.5 | 2.3 | 68.1 | <45 | <45 |
| AC-15 | 2 | Jet Fighter | T & G | 22T1 | 8782 | 0.3 | 0.0 | 88.9 | <45 | <45 |
| AC-15 | 3 | Jet Fighter | T & G | 28T1 | 12002 | 0.4 | 0.0 | 84.6 | <45 | <45 |
| AC-15 | 4 | E-2/C-2 | Crew Swap | 28SW | 13811 | 3.9 | 0.5 | 71.0 | <45 | <45 |
| AC-15 | 5 | E-2/C-2 | FCLP | 28F1 | 13795 | 9.7 | 1.1 | 66.2 | <45 | <45 |
| AC-15 | 6 | E-2/C-2 | FCLP | 10F2 | 19867 | 11.9 | 1.4 | 65.3 | <45 | <45 |
| AC-15 | 7 | E-2/C-2 | Crew Swap | 10SW | 13764 | 2.4 | 0.3 | 70.5 | <45 | <45 |
| AC-15 | 8 | Jet Fighter | T & G | 04T1 | 11567 | 0.1 | 0.0 | 86.3 | <45 | <45 |
| AC-15 | 9 | Jet Fighter | DEP | P22D2 | 10746 | 0.0 | 0.0 | 89.4 | <45 | <45 |
| AC-15 | 10 | E-2/C-2 | FCLP | 10F1 | 19960 | 6.0 | 0.7 | 63.2 | <45 | <45 |
| AC-15 | 11 | Jet Fighter | ARR | P22O1 | 8751 | 0.0 | 0.0 | 87.0 | <45 | <45 |
| AC-15 | 12 | Jet Fighter | ARR | P28O1 | 12002 | 0.1 | 0.0 | 84.4 | <45 | <45 |
| AC-15 | 13 | P-3C | DEP | 22D3 | 10645 | 1.0 | 0.0 | 72.6 | <45 | <45 |
| AC-15 | 14 | E-2/C-2 | T & G | 22T1 | 8746 | 1.2 | 0.0 | 71.3 | <45 | <45 |
| AC-15 | 15 | E-2/C-2 | T & G | 28T1 | 11975 | 1.9 | 0.0 | 68.5 | <45 | <45 |
| AC-15 | 16 | E-2/C-2 | DEP | N22D2 | 10683 | 0.3 | 0.0 | 75.8 | <45 | <45 |
| AC-15 | 17 | E-2/C-2 | T & G | 22T1 | 8782 | 0.8 | 0.0 | 71.6 | <45 | <45 |
| AC-15 | 18 | E-2/C-2 | DEP | N28D2 | 19858 | 1.2 | 0.1 | 65.7 | <45 | <45 |
| AC-15 | 19 | Jet Fighter | T & G | 10T1 | 19882 | 0.3 | 0.0 | 75.0 | <45 | <45 |
| AC-15 | 20 | E-2/C-2 | DEP | N10D2 | 19866 | 0.7 | 0.1 | 67.3 | <45 | <45 |

| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-16 | 1 | P-3C | ARR | 28A1 | 1456 | 1.6 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 2 | Jet Fighter | T & G | 28T1 | 18612 | 0.4 | 0.0 | 85.3 | <45 | <45 |
| AC-16 | 3 | B-737-400* | ARR | 28A1 | 1406 | 0.4 | 0.0 | 84.9 | <45 | <45 |
| AC-16 | 4 | E-2/C-2 | FCLP | 10F2 | 13863 | 11.9 | 1.4 | 65.5 | <45 | <45 |
| AC-16 | 5 | Jet Fighter | ARR | P28O1 | 2138 | 0.1 | 0.0 | 90.3 | <45 | <45 |
| AC-16 | 6 | E-2/C-2 | FCLP | 28F2 | 21957 | 19.5 | 2.3 | 62.3 | <45 | <45 |
| AC-16 | 7 | E-2/C-2 | Crew Swap | 10SW | 15132 | 2.4 | 0.3 | 70.9 | <45 | <45 |
| AC-16 | 8 | E-2/C-2 | Crew Swap | 28SW | 15311 | 3.9 | 0.5 | 66.8 | <45 | <45 |
| AC-16 | 9 | A-10A | ARR | 28A1 | 1407 | 0.0 | 0.0 | 91.2 | <45 | <45 |
| AC-16 | 10 | Jet Fighter | T & G | 10T1 | 23084 | 0.3 | 0.0 | 80.3 | <45 | <45 |
| AC-16 | 11 | Jet Fighter | DEP | P10D2 | 12242 | 0.0 | 0.0 | 87.6 | <45 | <45 |
| AC-16 | 12 | E-2/C-2 | FCLP | 28F1 | 21956 | 9.7 | 1.1 | 60.8 | <45 | <45 |
| AC-16 | 13 | C-12 | ARR | 28A1 | 1422 | 0.2 | 0.0 | 79.9 | <45 | <45 |
| AC-16 | 14 | E-2/C-2 | DEP | N10D2 | 12009 | 0.7 | 0.1 | 71.1 | <45 | <45 |
| AC-16 | 15 | Jet Fighter | T & G | 22T1 | 16596 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-16 | 16 | E-2/C-2 | FCLP | 10F1 | 26147 | 6.0 | 0.7 | 60.3 | <45 | <45 |
| AC-16 | 17 | Jet Fighter | DEP | P28D2 | 26733 | 0.1 | 0.0 | 82.9 | <45 | <45 |
| AC-16 | 18 | P-3C | DEP | 10D3 | 11881 | 1.0 | 0.0 | 67.5 | <45 | <45 |
| AC-16 | 19 | E-2/C-2 | ARR | N28O1 | 9436 | 1.2 | 0.1 | 63.2 | <45 | <45 |
| AC-16 | 20 | E-2/C-2 | DEP | N10D2 | 12009 | 0.3 | 0.0 | 71.1 | <45 | <45 |
| AC-17 | 1 | E-2/C-2 | FCLP | 10F2 | 11344 | 11.9 | 1.4 | 69.2 | <45 | <45 |
| AC-17 | 2 | P-3C | ARR | 28A1 | 3066 | 1.6 | 0.0 | 79.0 | <45 | <45 |
| AC-17 | 3 | Jet Fighter | T & G | 28T1 | 14755 | 0.4 | 0.0 | 83.8 | <45 | <45 |
| AC-17 | 4 | E-2/C-2 | FCLP | 28F2 | 18240 | 19.5 | 2.3 | 63.7 | <45 | <45 |
| AC-17 | 5 | E-2/C-2 | Crew Swap | 10SW | 13323 | 2.4 | 0.3 | 72.6 | <45 | <45 |
| AC-17 | 6 | E-2/C-2 | Crew Swap | 28SW | 12737 | 3.9 | 0.5 | 68.3 | <45 | <45 |
| AC-17 | 7 | Jet Fighter | DEP | P10D2 | 10377 | 0.0 | 0.0 | 89.9 | <45 | <45 |
| AC-17 | 8 | Jet Fighter | ARR | P28O1 | 3281 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-17 | 9 | E-2/C-2 | FCLP | 28F1 | 18239 | 9.7 | 1.1 | 62.5 | <45 | <45 |
| AC-17 | 10 | Jet Fighter | T & G | 22T1 | 13958 | 0.3 | 0.0 | 81.6 | <45 | <45 |
| AC-17 | 11 | E-2/C-2 | DEP | N10D2 | 10180 | 0.7 | 0.1 | 73.5 | <45 | <45 |
| AC-17 | 12 | B-737-400* | ARR | 28A1 | 3046 | 0.4 | 0.0 | 78.8 | <45 | <45 |
| AC-17 | 13 | Jet Fighter | T & G | 10T1 | 20271 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-17 | 14 | E-2/C-2 | FCLP | 10F1 | 23158 | 6.0 | 0.7 | 61.8 | <45 | <45 |
| AC-17 | 15 | Jet Fighter | DEP | P28D2 | 23389 | 0.1 | 0.0 | 84.3 | <45 | <45 |
| AC-17 | 16 | E-2/C-2 | ARR | N28O1 | 7923 | 1.2 | 0.1 | 66.3 | <45 | <45 |
| AC-17 | 17 | P-3C | DEP | 10D3 | 10034 | 1.0 | 0.0 | 69.8 | <45 | <45 |
| AC-17 | 18 | E-2/C-2 | DEP | N10D2 | 10180 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-17 | 19 | C-12 | ARR | 28A1 | 3055 | 0.2 | 0.0 | 75.0 | <45 | <45 |
| AC-17 | 20 | Jet Fighter | ARR | P22O1 | 14130 | 0.0 | 0.0 | 81.5 | <45 | <45 |
| AC-18 | 1 | E-2/C-2 | FCLP | 10F2 | 18400 | 11.9 | 1.4 | 65.4 | <45 | <45 |
| AC-18 | 2 | Jet Fighter | T & G | 28T1 | 21250 | 0.4 | 0.0 | 82.4 | <45 | <45 |
| AC-18 | 3 | E-2/C-2 | FCLP | 28F2 | 24834 | 19.5 | 2.3 | 60.5 | <45 | <45 |

| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-18 | 4 | E-2/C-2 | Crew Swap | 10SW | 20278 | 2.4 | 0.3 | 67.1 | <45 | <45 |
| AC-18 | 5 | E-2/C-2 | Crew Swap | 28SW | 19698 | 3.9 | 0.5 | 65.0 | <45 | <45 |
| AC-18 | 6 | E-2/C-2 | FCLP | 28F1 | 24833 | 9.7 | 1.1 | 59.1 | <45 | <45 |
| AC-18 | 7 | P-3C | ARR | 28A1 | 5853 | 1.6 | 0.0 | 70.4 | <45 | <45 |
| AC-18 | 8 | Jet Fighter | ARR | P28O1 | 6151 | 0.1 | 0.0 | 82.5 | <45 | <45 |
| AC-18 | 9 | Jet Fighter | T & G | 10T1 | 27279 | 0.3 | 0.0 | 76.5 | <45 | <45 |
| AC-18 | 10 | E-2/C-2 | FCLP | 10F1 | 30119 | 6.0 | 0.7 | 58.9 | <45 | <45 |
| AC-18 | 11 | E-2/C-2 | DEP | N10D2 | 17062 | 0.7 | 0.1 | 68.0 | <45 | <45 |
| AC-18 | 12 | Jet Fighter | DEP | P10D2 | 17181 | 0.0 | 0.0 | 82.6 | <45 | <45 |
| AC-18 | 13 | Jet Fighter | DEP | P28D2 | 30218 | 0.1 | 0.0 | 79.8 | <45 | <45 |
| AC-18 | 14 | Jet Fighter | T & G | 22T1 | 21003 | 0.3 | 0.0 | 73.5 | <45 | <45 |
| AC-18 | 15 | B-737-400* | ARR | 28A1 | 5840 | 0.4 | 0.0 | 70.8 | <45 | <45 |
| AC-18 | 16 | E-2/C-2 | ARR | N28O1 | 14777 | 1.2 | 0.1 | 61.4 | <45 | <45 |
| AC-18 | 17 | E-2/C-2 | DEP | N28D2 | 30219 | 1.2 | 0.1 | 61.3 | <45 | <45 |
| AC-18 | 18 | P-3C | DEP | 10D3 | 16965 | 1.0 | 0.0 | 64.3 | <45 | <45 |
| AC-18 | 19 | E-2/C-2 | DEP | N10D2 | 17062 | 0.3 | 0.0 | 68.0 | <45 | <45 |
| AC-18 | 20 | E-2/C-2 | T & G | 28T1 | 21252 | 1.9 | 0.0 | 59.9 | <45 | <45 |
| AC-19 | 1 | E-2/C-2 | FCLP | 28F2 | 14207 | 19.5 | 2.3 | 65.8 | <45 | <45 |
| AC-19 | 2 | Jet Fighter | T & G | 28T1 | 10794 | 0.4 | 0.0 | 85.8 | <45 | <45 |
| AC-19 | 3 | E-2/C-2 | FCLP | 10F2 | 15138 | 11.9 | 1.4 | 67.4 | <45 | <45 |
| AC-19 | 4 | E-2/C-2 | Crew Swap | 28SW | 14267 | 3.9 | 0.5 | 68.9 | <45 | <45 |
| AC-19 | 5 | Jet Fighter | T & G | 22T1 | 12655 | 0.3 | 0.0 | 83.8 | <45 | <45 |
| AC-19 | 6 | E-2/C-2 | FCLP | 28F1 | 14206 | 9.7 | 1.1 | 64.3 | <45 | <45 |
| AC-19 | 7 | E-2/C-2 | Crew Swap | 10SW | 16778 | 2.4 | 0.3 | 70.4 | <45 | <45 |
| AC-19 | 8 | Jet Fighter | ARR | P28O1 | 11319 | 0.1 | 0.0 | 87.5 | <45 | <45 |
| AC-19 | 9 | E-2/C-2 | FCLP | 10F1 | 21481 | 6.0 | 0.7 | 62.5 | <45 | <45 |
| AC-19 | 10 | E-2/C-2 | DEP | N10D2 | 15165 | 0.7 | 0.1 | 70.0 | <45 | <45 |
| AC-19 | 11 | Jet Fighter | DEP | P10D2 | 15218 | 0.0 | 0.0 | 84.1 | <45 | <45 |
| AC-19 | 12 | Jet Fighter | T & G | 10T1 | 19756 | 0.3 | 0.0 | 75.5 | <45 | <45 |
| AC-19 | 13 | Jet Fighter | DEP | P28D2 | 20735 | 0.1 | 0.0 | 80.8 | <45 | <45 |
| AC-19 | 14 | E-2/C-2 | T & G | 28T1 | 10785 | 1.9 | 0.0 | 66.4 | <45 | <45 |
| AC-19 | 15 | E-2/C-2 | ARR | N28O1 | 14214 | 1.2 | 0.1 | 65.0 | <45 | <45 |
| AC-19 | 16 | Jet Fighter | T & G | 04T1 | 20517 | 0.1 | 0.0 | 78.1 | <45 | <45 |
| AC-19 | 17 | E-2/C-2 | T & G | 22T1 | 12630 | 1.2 | 0.0 | 68.1 | <45 | <45 |
| AC-19 | 18 | Jet Fighter | ARR | P22O1 | 12655 | 0.0 | 0.0 | 82.4 | <45 | <45 |
| AC-19 | 19 | E-2/C-2 | DEP | N28D2 | 20735 | 1.2 | 0.1 | 64.2 | <45 | <45 |
| AC-19 | 20 | B-737-400* | DEP | 28D3 | 20735 | 0.4 | 0.0 | 71.6 | <45 | <45 |
| AC-20 | 1 | E-2/C-2 | FCLP | 28F2 | 31509 | 19.5 | 2.3 | 58.5 | <45 | <45 |
| AC-20 | 2 | E-2/C-2 | FCLP | 10F2 | 28438 | 11.9 | 1.4 | 58.9 | <45 | <45 |
| AC-20 | 3 | E-2/C-2 | Crew Swap | 28SW | 29435 | 3.9 | 0.5 | 61.5 | <45 | <45 |
| AC-20 | 4 | Jet Fighter | T & G | 28T1 | 27869 | 0.4 | 0.0 | 74.1 | <45 | <45 |
| AC-20 | 5 | E-2/C-2 | Crew Swap | 10SW | 30732 | 2.4 | 0.3 | 62.9 | <45 | <45 |
| AC-20 | 6 | E-2/C-2 | FCLP | 28F1 | 31508 | 9.7 | 1.1 | 56.4 | <45 | <45 |

| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-20 | 7 | E-2/C-2 | FCLP | 10F1 | 38223 | 6.0 | 0.7 | 55.0 | <45 | <45 |
| AC-20 | 8 | E-2/C-2 | DEP | N10D2 | 27757 | 0.7 | 0.1 | 61.8 | <45 | <45 |
| AC-20 | 9 | Jet Fighter | ARR | P28O1 | 19159 | 0.1 | 0.0 | 75.0 | <45 | <45 |
| AC-20 | 10 | E-2/C-2 | DEP | N28D2 | 37716 | 1.2 | 0.1 | 58.0 | <45 | <45 |
| AC-20 | 11 | Jet Fighter | T & G | 22T1 | 30094 | 0.3 | 0.0 | 67.0 | <45 | <45 |
| AC-20 | 12 | E-2/C-2 | ARR | N28O1 | 26069 | 1.2 | 0.1 | 56.7 | <45 | <45 |
| AC-20 | 13 | Jet Fighter | DEP | P28D2 | 37716 | 0.1 | 0.0 | 72.1 | <45 | <45 |
| AC-20 | 14 | E-2/C-2 | T & G | 28T1 | 27868 | 1.9 | 0.0 | 57.6 | <45 | <45 |
| AC-20 | 15 | Jet Fighter | T & G | 10T1 | 35915 | 0.3 | 0.0 | 65.8 | <45 | <45 |
| AC-20 | 16 | Jet Fighter | DEP | P10D2 | 27833 | 0.0 | 0.0 | 73.5 | <45 | <45 |
| AC-20 | 17 | E-2/C-2 | T & G | 28T1 | 27870 | 1.3 | 0.0 | 58.0 | <45 | <45 |
| AC-20 | 18 | E-2/C-2 | T & G | 22T1 | 30083 | 1.2 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 19 | P-3C | DEP | 10D3 | 27723 | 1.0 | 0.0 | 57.7 | <45 | <45 |
| AC-20 | 20 | P-3C | DEP | 22D3 | 37975 | 1.0 | 0.0 | 57.8 | <45 | <45 |
| AC-21 | 1 | E-2/C-2 | FCLP | 28F2 | 27454 | 19.5 | 2.3 | 60.0 | <45 | <45 |
| AC-21 | 2 | Jet Fighter | T & G | 22T1 | 22652 | 0.3 | 0.0 | 79.7 | <45 | <45 |
| AC-21 | 3 | E-2/C-2 | Crew Swap | 28SW | 24831 | 3.9 | 0.5 | 63.6 | <45 | <45 |
| AC-21 | 4 | E-2/C-2 | FCLP | 10F2 | 33525 | 11.9 | 1.4 | 57.7 | <45 | <45 |
| AC-21 | 5 | E-2/C-2 | FCLP | 28F1 | 27454 | 9.7 | 1.1 | 57.7 | <45 | <45 |
| AC-21 | 6 | E-2/C-2 | Crew Swap | 10SW | 24941 | 2.4 | 0.3 | 62.8 | <45 | <45 |
| AC-21 | 7 | Jet Fighter | DEP | P22D2 | 19394 | 0.0 | 0.0 | 83.1 | <45 | <45 |
| AC-21 | 8 | E-2/C-2 | FCLP | 10F1 | 33525 | 6.0 | 0.7 | 56.0 | <45 | <45 |
| AC-21 | 9 | Jet Fighter | T & G | 04T1 | 22691 | 0.1 | 0.0 | 76.3 | <45 | <45 |
| AC-21 | 10 | Jet Fighter | T & G | 28T1 | 25644 | 0.4 | 0.0 | 69.8 | <45 | <45 |
| AC-21 | 11 | Jet Fighter | ARR | P22O1 | 22633 | 0.0 | 0.0 | 77.6 | <45 | <45 |
| AC-21 | 12 | E-2/C-2 | DEP | N28D2 | 33524 | 1.2 | 0.1 | 59.7 | <45 | <45 |
| AC-21 | 13 | P-3C | DEP | 22D3 | 19270 | 1.0 | 0.0 | 62.9 | <45 | <45 |
| AC-21 | 14 | E-2/C-2 | T & G | 22T1 | 22638 | 1.2 | 0.0 | 61.7 | <45 | <45 |
| AC-21 | 15 | E-2/C-2 | T & G | 28T1 | 25632 | 1.9 | 0.0 | 59.5 | <45 | <45 |
| AC-21 | 16 | E-2/C-2 | DEP | N22D2 | 19303 | 0.3 | 0.0 | 66.6 | <45 | <45 |
| AC-21 | 17 | E-2/C-2 | DEP | N10D2 | 33524 | 0.7 | 0.1 | 59.5 | <45 | <45 |
| AC-21 | 18 | E-2/C-2 | T & G | 22T1 | 22652 | 0.8 | 0.0 | 61.0 | <45 | <45 |
| AC-21 | 19 | E-2/C-2 | T & G | 28T1 | 25644 | 1.3 | 0.0 | 58.8 | <45 | <45 |
| AC-21 | 20 | Jet Fighter | DEP | P04D2 | 27771 | 0.0 | 0.0 | 76.7 | <45 | <45 |
| AC-22 | 1 | E-2/C-2 | Crew Swap | 28SW | 4916 | 3.9 | 0.5 | 81.5 | <45 | <45 |
| AC-22 | 2 | Jet Fighter | DEP | P28D2 | 5477 | 0.1 | 0.0 | 98.6 | <45 | <45 |
| AC-22 | 3 | E-2/C-2 | Crew Swap | 10SW | 4387 | 2.4 | 0.3 | 78.3 | <45 | <45 |
| AC-22 | 4 | E-2/C-2 | DEP | N28D2 | 4256 | 1.2 | 0.1 | 78.3 | <45 | <45 |
| AC-22 | 5 | P-3C | ARR | 10A1 | 2297 | 1.0 | 0.0 | 79.7 | <45 | <45 |
| AC-22 | 6 | E-2/C-2 | FCLP | 28F2 | 13967 | 19.5 | 2.3 | 62.5 | <45 | <45 |
| AC-22 | 7 | P-3C | DEP | 28D3 | 3975 | 1.6 | 0.0 | 76.1 | <45 | <45 |
| AC-22 | 8 | B-737-400* | DEP | 28D3 | 4099 | 0.4 | 0.0 | 80.8 | <45 | <45 |
| AC-22 | 9 | E-2/C-2 | ARR | N10O1 | 1727 | 0.7 | 0.1 | 74.5 | <45 | <45 |



| Wallops: Alt 2D | | | | | | | | | | |
|-----------------|----------|---------------|------------|----------|------------|----------|------------|----------|----------|-----------|
| POINT ID | DNL RANK | AIRCRAFT NAME | TRACK TYPE | TRACK ID | SLANT (ft) | DAY TIME | NIGHT TIME | SEL (dB) | DNL (dB) | CUMU (dB) |
| AC-22 | 10 | E-2/C-2 | DEP | N28D2 | 4256 | 0.5 | 0.0 | 78.3 | <45 | <45 |
| AC-22 | 11 | B-737-400* | ARR | 10A1 | 2266 | 0.3 | 0.0 | 80.6 | <45 | <45 |
| AC-22 | 12 | Jet Fighter | ARR | P1001 | 2166 | 0.0 | 0.0 | 88.0 | <45 | <45 |
| AC-22 | 13 | Jet Fighter | DEP | P22D2 | 11289 | 0.0 | 0.0 | 88.1 | <45 | <45 |
| AC-22 | 14 | Jet Fighter | T & G | 10T1 | 18371 | 0.3 | 0.0 | 78.7 | <45 | <45 |
| AC-22 | 15 | Jet Fighter | T & G | 28T1 | 23151 | 0.4 | 0.0 | 75.0 | <45 | <45 |
| AC-22 | 16 | E-2/C-2 | FCLP | 10F2 | 21767 | 11.9 | 1.4 | 56.0 | <45 | <45 |
| AC-22 | 17 | E-2/C-2 | ARR | N1001 | 1727 | 0.3 | 0.0 | 74.5 | <45 | 45.0 |
| AC-22 | 18 | Jet Fighter | DEP | P10D2 | 17102 | 0.0 | 0.0 | 81.7 | <45 | 45.0 |
| AC-22 | 19 | P-3C | DEP | 22D3 | 8556 | 1.0 | 0.0 | 67.3 | <45 | 45.0 |
| AC-22 | 20 | E-2/C-2 | DEP | N10D2 | 15026 | 0.7 | 0.1 | 65.0 | <45 | 45.0 |

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C

Air Quality Calculations

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EMISSION INDEX TABLES AND EMISSION FACTORS: C-2A Aircraft

| Aircraft: C-2A. LTO Operations | | | | | | Engine(s): T56-A-425 (2) | | | | | APU Type: GTCP 36-201C | | | | | |
|--|-----------------------------------|------------------------------------|--|--|------------------------------|--------------------------------|--------------------|-------|--------------------|---------------------|---|-----------------|-------------|-----------------|------------------|--|
| Flight Operation and Flight Mode | Engine Power Setting ¹ | No. of Engines in Use ¹ | Time-in-Mode per Engine (min) ¹ | Fuel Flow Rate per Engine (lb/hr) ^{2,3} | Fuel Used (lbs) ³ | Emission Indexes ² | | | | | Emissions from Single Flight Operation ⁴ | | | | | |
| | | | | | | (pounds per 1,000 pounds fuel) | | | | | (lb/ op) | | | | | |
| | | | | | | EI CO | EI NO _x | EI HC | EI SO ₂ | EI PM ₁₀ | CO | NO _x | HC | SO ₂ | PM ₁₀ | |
| Departure | | | | | | | | | | | | | | | | |
| APU Use | On | 1 | 5 | 197 | 16 | 2 | 6.25 | 0.25 | 0.4 | 0.22 | 0.033 | 0.103 | 0.004 | 0.007 | 0.004 | |
| Start/Warm up | L/S G Idle | 2 | 12 | 599 | 240 | 30.11 | 3.53 | 22.32 | 0.4 | 3.97 | 7.214 | 0.846 | 5.348 | 0.096 | 0.951 | |
| Taxi Out | H/S G Idle | 2 | 5 | 756 | 126 | 5.65 | 6.35 | 1.42 | 0.4 | 3.97 | 0.712 | 0.8 | 0.179 | 0.05 | 0.5 | |
| Engine Run-up | 62% SHP | 2 | 0.5 | 1,600 | 27 | 1.12 | 9.47 | 0.25 | 0.4 | 3.97 | 0.03 | 0.253 | 0.007 | 0.011 | 0.106 | |
| Takeoff ⁵ | Military | 2 | 0.5 | 2,219 | 37 | 0.65 | 10.45 | 0.16 | 0.4 | 3.97 | 0.024 | 0.386 | 0.006 | 0.015 | 0.147 | |
| Climbout ⁶ | Military | 2 | 2 | 2,219 | 148 | 0.65 | 10.45 | 0.16 | 0.4 | 3.97 | 0.096 | 1.546 | 0.024 | 0.059 | 0.587 | |
| Single Departure Totals | | | | | 594 | | | | | | 8.11 | 3.93 | 5.57 | 0.24 | 2.3 | |
| Arrival straight in | | | | | | | | | | | | | | | | |
| Approach | 30% SHP | 2 | 5 | 1,100 | 183 | 2.16 | 8.06 | 0.49 | 0.4 | 3.97 | 0.396 | 1.478 | 0.09 | 0.073 | 0.728 | |
| On runway (WoW) | Flight Idle | 2 | 1 | 836 | 28 | 4.54 | 6.52 | 1.1 | 0.4 | 3.97 | 0.127 | 0.182 | 0.031 | 0.011 | 0.111 | |
| Taxi to Fuel Pit | H/S G Idle | 2 | 2 | 756 | 50 | 5.65 | 6.35 | 1.42 | 0.4 | 3.97 | 0.285 | 0.32 | 0.072 | 0.02 | 0.2 | |
| Hot Refuel | L/S G Idle | 1 | 15 | 599 | 150 | 30.11 | 3.53 | 22.32 | 0.4 | 3.97 | 4.509 | 0.529 | 3.342 | 0.06 | 0.595 | |
| Taxi to Squadron | H/S G Idle | 1 | 3 | 756 | 38 | 5.65 | 6.35 | 1.42 | 0.4 | 3.97 | 0.214 | 0.24 | 0.054 | 0.015 | 0.15 | |
| Shut Down | L/S G Idle | 1 | 1 | 599 | 10 | 30.11 | 3.53 | 22.32 | 0.4 | 3.97 | 0.301 | 0.035 | 0.223 | 0.004 | 0.04 | |
| Single Straight in Arrival Totals | | | | | 459 | | | | | | 5.83 | 2.78 | 3.81 | 0.18 | 1.82 | |
| Single C-2 LTO with Straight In Arrival | | | | | 1,053 | | | | | | 13.94 | 6.72 | 9.38 | 0.42 | 4.12 | |
| Single C-2 LTO without Start up, taxi, Shut down, hot refuel⁷ | | | | | 396 | | | | | | 0.64 | 3.59 | 0.15 | 0.16 | 1.57 | |
| Single C-2 LTO with hot refuel, but without Start up, taxi to squadron, and shut down⁸ | | | | | 749 | | | | | | 6.18 | 5.49 | 3.75 | 0.30 | 2.97 | |

Source: AESO Memorandum Report No. 9919, Revision B, April 2003

| Aircraft: E-2C, E-2C+. Mission Operations | | | | | | Engine(s): T56-A-425, -427 (2) | | | | | APU Type: None | | | | | |
|---|-----------------------------------|------------------------------------|--|--|------------------------------|--------------------------------|--------------------|-------|--------------------|---------------------|--|-----------------|-------------|-----------------|------------------|--|
| Flight Operation and Flight Mode | Engine Power Setting ¹ | No. of Engines in Use ¹ | Time-in-Mode per Engine (min) ¹ | Fuel Flow Rate per Engine (lb/hr) ² | Fuel Used (lbs) ³ | Emission Indexes ² | | | | | Emissions from Single Mission Operation ⁴ | | | | | |
| | | | | | | (pounds per 1,000 pounds fuel) | | | | | (lb/ op) | | | | | |
| | | | | | | EI CO | EI NO _x | EI HC | EI SO ₂ | EI PM ₁₀ | CO | NO _x | HC | SO ₂ | PM ₁₀ | |
| Touch-and-Go (T&G) | | | | | | | | | | | | | | | | |
| Approach | 30% SHP | 2 | 1 | 1,100 | 36.7 | 2.16 | 8.06 | 0.49 | 0.4 | 3.97 | 0.079 | 0.296 | 0.018 | 0.015 | 0.146 | |
| Climbout | 88% SHP | 2 | 2 | 2,025 | 135.0 | 0.8 | 10.15 | 0.18 | 0.4 | 3.97 | 0.108 | 1.370 | 0.024 | 0.054 | 0.536 | |
| Circle | 30% SHP | 2 | 4 | 1,100 | 146.7 | 2.16 | 8.06 | 0.49 | 0.4 | 3.97 | 0.317 | 1.182 | 0.072 | 0.059 | 0.582 | |
| Single Touch-and-Go Totals | | | | | 318.3 | | | | | | 0.50 | 2.85 | 0.11 | 0.13 | 1.26 | |

Source: AESO Memorandum Report No. 9936, Revision B, April 2000

Notes:

- 1) Estimated from 1998 pilot interviews, which are on file at AESO.
- 2) No Data available for these engines. Fuel flow and emission indexes are for the T56-GE-16 from: *T56-GE-16 Engine Fuel Flow and Emission Indexes -DRAFT-*; Aircraft Environmental Support Office; San Diego, Ca., March 2000; AESO Memorandum Report No. 9908, Revision B.
- 3) Fuel used = fuel flow x time-in-mode / 60 x no. of engines in use.
- 4) Emissions = fuel used / 1,000 x emission index
- 5) Takeoff is from ground level to 500 feet above ground level
- 6) Climbout is from 500 feet above ground level to 3,000 feet above ground level
- 7) Only Take Off, Climb out, Approach, and On Runway are included for LTOs that do not originate from the station and do not hot refuel. For example, total CO = 0.024 (Take off) + 0.096 (Climb out) + 0.396 (Approach) + 0.127 (On Runway) = 0.64 lbs CO/op.
- 8) For LTOs that do not originate from the station but do hot refuel. All steps except start up and return to squadron are included. For example, total CO = 13.94 (Total LTO) - 0.033 (APU use) - 7.214 (Start/Warm Up) - 0.214 (Taxi to Squadron) - 0.301 (Shut down) = 6.18 lbs CO/op.

Additional Annual Operations and Emissions: Emporia Airport

| | Departures | Arrivals | Pattern | Annual Operations | Pounds per Operation ¹ | | | | | | Fuel use | | Emissions (TPY) | | | | |
|-----------------------------------|------------|----------|---------|-------------------|-----------------------------------|------|-----------------|------|-----------------|------------------|----------------|--------------|-----------------|-------------|-----------------|------------------|--|
| | | | | | Fuel Use | CO | NO _x | HC | SO ₂ | PM ₁₀ | (tons) | CO | NO _x | HC | SO ₂ | PM ₁₀ | |
| Military | | | | | | | | | | | | | | | | | |
| E-2D/C-2D LTO | 703 | 703 | | 703 | 396.00 | 0.64 | 3.59 | 0.15 | 0.16 | 1.57 | 139.19 | 0.23 | 1.26 | 0.05 | 0.06 | 0.55 | |
| E-2D/C-2D Pattern | | | 43,594 | 43,594 | 318.33 | 0.50 | 2.85 | 0.11 | 0.13 | 1.26 | 6938.71 | 10.99 | 62.08 | 2.49 | 2.78 | 27.55 | |
| Total E-2D/C-2D Operations | | | | 44,297 | | | | | | | 7077.91 | 11.22 | 63.34 | 2.54 | 2.84 | 28.10 | |

¹ See previous emission index tables for references. Assumes no hot refuel.

Additional Annual Operations and Emissions: Wallops Flight Facility

| | Departures | Arrivals | Pattern | Annual Operations | Pounds per Operation ¹ | | | | | | Fuel use | | Emissions (TPY) | | | | |
|-----------------------------------|------------|----------|---------|-------------------|-----------------------------------|------|-----------------|------|-----------------|------------------|-----------------|--------------|-----------------|-------------|-----------------|------------------|--|
| | | | | | Fuel Use | CO | NO _x | HC | SO ₂ | PM ₁₀ | (tons) | CO | NO _x | HC | SO ₂ | PM ₁₀ | |
| Military | | | | | | | | | | | | | | | | | |
| E-2D/C-2D LTO | 703 | 703 | | 703 | 749 | 6.18 | 5.49 | 3.75 | 0.30 | 2.97 | 263.27 | 2.17 | 1.93 | 1.32 | 0.11 | 1.05 | |
| E-2D/C-2D Pattern | | | 43,594 | 43,594 | 318 | 0.50 | 2.85 | 0.11 | 0.13 | 1.26 | 6,938.71 | 10.99 | 62.08 | 2.49 | 2.78 | 27.55 | |
| Total E-2D/C-2D Operations | | | | 44,297 | | | | | | | 7,201.99 | 13.16 | 64.01 | 3.81 | 2.89 | 28.60 | |

¹ See previous emission index tables for references. Assumes hot refuel for LTOs.

Construction Information

Proposed Airfield Construction: Emporia-Greenville Regional Airport, Virginia

| Alternative | Number | Length(ft) | Width(ft) | Total Sq Ft | Acres |
|--|--------|------------|-----------|--------------|-------------|
| Alternative 1 | | | | | |
| Fresnel Lens Optical Landing System (IFLOLS) Pads(Concrete) | 2 | 20 | 12 | 480 | 0.01 |
| Manually Operated Visual Landing Aid System (MOVLAS) Pads (Concrete) | 2 | 6 | 6 | 72 | 0.00 |
| Landing Signal Officer (LSO) workstation Pads (Concrete) | 2 | 14 | 14 | 392 | 0.01 |
| Storage area paving(Asphalt) | 2 | 30 | 60 | 3,600 | 0.08 |
| Access(Asphalt) | 2 | 10 | 200 | 4,000 | 0.09 |
| Total Concrete Area | | | | 944 | 0.02 |
| Total Asphalt Area | | | | 7,600 | 0.17 |
| Total graded space | | | | 8,544 | 0.20 |

| | Total Sq Ft | Thickness (Ft) | Volume (cubic yard) | Cubic Yards per Truckload | Total # Loads |
|--------------------|-------------|----------------|---------------------|---------------------------|---------------|
| Concrete Delivered | 944 | 0.5 | 17 | 20 | 1 |
| Other Deliveries | | | | | 1 |
| Total | | | 17 | | 2 |

| | # workers | Average commute (miles) | Total # of Trips | Total Vehicle miles traveled(V MT) |
|----------------|-----------|-------------------------|------------------|------------------------------------|
| Worker Commute | 20 | 25 | 5,000 | 125,000 |

a. Analysis assumes all construction would occur in one year.

b. 250 workdays/year at 8 hours/day.

Construction Information

Proposed Airfield Construction: Wallops Flight Facility, Virginia

| Alternative | Number | Length(ft) | Width(ft) | Total Sq Ft | Acres |
|--|--------|------------|-----------|--------------|-------------|
| Alternative 2 | | | | | |
| Fresnel Lens Optical Landing System (IFLOLS) Pads(Concrete) | 2 | 20 | 12 | 480 | 0.01 |
| Manually Operated Visual Landing Aid System (MOVLAS) Pads (Concrete) | 2 | 6 | 6 | 72 | 0.00 |
| Landing Signal Officer (LSO) workstation Pads (Concrete) | 2 | 14 | 14 | 392 | 0.01 |
| Storage area paving(Asphalt) | 2 | 30 | 60 | 3,600 | 0.08 |
| Access(Asphalt) | 2 | 10 | 200 | 4,000 | 0.09 |
| Total Concrete Area | | | | 944 | 0.02 |
| Total Asphalt Area | | | | 7,600 | 0.17 |
| Total graded space | | | | 8,544 | 0.20 |

| | Total Sq Ft | Thickness (Ft) | Volume (cubic yard) | Cubic Yards per Truckload | Total # Loads |
|--------------------|-------------|----------------|---------------------|---------------------------|---------------|
| Concrete Delivered | 944 | 0.5 | 17 | 20 | 1 |
| Other Deliveries | | | | | 1 |
| Total | | | 17 | | 2 |

| | # workers | Average commute (miles) | Total # of Trips | Total Vehicle miles traveled(V MT) |
|----------------|-----------|-------------------------|------------------|------------------------------------|
| Worker Commute | 20 | 25 | 5,000 | 125,000 |

a. Analysis assumes all construction would occur in one year.

b. 250 workdays/year at 8 hours/day.

Nonroad Construction Equipment Exhaust Emission Factors

| Equipment Type | Fuel Type | SCC | Avg Size ¹ (hp) | Load ² | Engine Size Range | Emission Factor ³ (g/hp-hr) | | | | | | Equipment Emission Rate ⁴ (lbs/hr) | | | | | |
|-------------------------------|-----------|------------|-------------------------------|-------------------|----------------------|--|-------|-----------------|-----------------|------------------|-----------------|---|-------|-----------------|-----------------|------------------|-----------------|
| | | | | | | VOC | CO | NO _x | SO ₂ | PM ₁₀ | CO ₂ | VOC | CO | NO _x | SO ₂ | PM ₁₀ | CO ₂ |
| Asphalt Paving Machine | Diesel | 2270002003 | 91 | 0.59 | 75<hp≤100 | 0.269 | 2.827 | 2.633 | 0.006 | 0.375 | 595.313 | 0.032 | 0.335 | 0.312 | 0.001 | 0.044 | 70.464 |
| Vibratory Compactor | Diesel | 2270002009 | 8 | 0.43 | 6<hp≤11 | 0.681 | 4.490 | 4.952 | 0.007 | 0.501 | 588.218 | 0.005 | 0.034 | 0.038 | 0.000 | 0.004 | 4.461 |
| Generators | Diesel | 2270006005 | 22 | 0.43 | 16<hp≤25 | 0.738 | 3.026 | 5.360 | 0.007 | 0.488 | 588.051 | 0.015 | 0.063 | 0.112 | 0.000 | 0.010 | 12.264 |
| Air Compressors | Diesel | 2270006015 | 37 | 0.43 | 25<hp≤40 | 0.250 | 1.278 | 4.283 | 0.007 | 0.228 | 588.575 | 0.009 | 0.045 | 0.150 | 0.000 | 0.008 | 20.644 |
| Tractors/Loaders/Backhoes | Diesel | 2270002066 | 77 | 0.21 | 75<hp≤100 | 1.033 | 6.128 | 5.138 | 0.008 | 0.912 | 692.767 | 0.037 | 0.218 | 0.183 | 0.000 | 0.033 | 24.696 |
| Aerial Lifts (Cherry Pickers) | Diesel | 2270003010 | 43 | 0.21 | 40<hp≤50 | 1.810 | 6.781 | 5.879 | 0.008 | 0.978 | 690.333 | 0.036 | 0.135 | 0.117 | 0.000 | 0.019 | 13.743 |
| Crawler Tractor/Dozers | Diesel | 2270002069 | 157 | 0.59 | 100<hp≤175 | 0.206 | 1.000 | 2.435 | 0.006 | 0.241 | 536.182 | 0.042 | 0.204 | 0.497 | 0.001 | 0.049 | 109.494 |
| Off-Highway Trucks | Diesel | 2270002051 | 489 | 0.59 | 300<hp≤600 | 0.152 | 0.783 | 1.971 | 0.006 | 0.130 | 536.345 | 0.097 | 0.498 | 1.254 | 0.004 | 0.083 | 341.140 |

Notes:

1. Avg hp from "Nonroad Engine and Vehicle Emissions Study Report" EPA 460/3-91-02. Nov 1991.
2. Load from "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling" EPA420-P-04-005. April 2004.
3. Emission factors from EPA's NONROAD model (Year 2014).
4. Equipment Emission Rate = Average HP x Load x Emission Factor / 453.6 g/lb.

Mobile Equipment Exhaust Emissions, Construction and Demolition Equipment Use On Site

| Activity -- Alt 1 | Equipment List | Eqpt qty | Days Used | Emission Factors (lb/day/unit) ¹ | | | | | | | Emissions (TPY) | | | | | |
|------------------------|-----------------------|----------|-----------|---|------|-----------------|-----------------|------------------|-----------------|-------------|-----------------|-----------------|-----------------|------------------|-----------------|--|
| | | | | VOC | CO | NO _x | SO ₂ | PM ₁₀ | CO ₂ | VOC | CO | NO _x | SO ₂ | PM ₁₀ | CO ₂ | |
| Demolition | Loader | 0 | 0 | 0.29 | 1.75 | 1.47 | 0.002 | 0.26 | 197.57 | 0.00 | 0.00 | 0.00 | 0.000 | 0.00 | 0.00 | |
| | Haul Truck | 0 | 0 | 0.77 | 3.98 | 10.03 | 0.031 | 0.66 | 2729.12 | 0.00 | 0.00 | 0.00 | 0.000 | 0.00 | 0.00 | |
| Excavation | Backhoe Loader | 0 | 0 | 0.29 | 1.75 | 1.47 | 0.002 | 0.26 | 197.57 | 0.00 | 0.00 | 0.00 | 0.000 | 0.00 | 0.00 | |
| | Haul Truck | 0 | 0 | 0.77 | 3.98 | 10.03 | 0.031 | 0.66 | 2729.12 | 0.00 | 0.00 | 0.00 | 0.000 | 0.00 | 0.00 | |
| Cut and fill | Scraper | 1 | 30 | 0.34 | 1.63 | 3.98 | 0.010 | 0.39 | 875.95 | 0.01 | 0.02 | 0.06 | 0.000 | 0.01 | 13.14 | |
| | Bulldozer | 1 | 30 | 0.34 | 1.63 | 3.98 | 0.010 | 0.39 | 875.95 | 0.01 | 0.02 | 0.06 | 0.000 | 0.01 | 13.14 | |
| | Water Truck | 1 | 30 | 0.77 | 3.98 | 10.03 | 0.031 | 0.66 | 2729.12 | 0.01 | 0.06 | 0.15 | 0.000 | 0.01 | 40.94 | |
| Trenching | Trencher | 1 | 60 | 0.29 | 1.75 | 1.47 | 0.002 | 0.26 | 197.57 | 0.01 | 0.05 | 0.04 | 0.000 | 0.01 | 5.93 | |
| | Track loader | 1 | 60 | 0.29 | 1.75 | 1.47 | 0.002 | 0.26 | 197.57 | 0.01 | 0.05 | 0.04 | 0.000 | 0.01 | 5.93 | |
| Grading | Grader | 1 | 30 | 0.34 | 1.63 | 3.98 | 0.010 | 0.39 | 875.95 | 0.01 | 0.02 | 0.06 | 0.000 | 0.01 | 13.14 | |
| | Bulldozer | 1 | 30 | 0.34 | 1.63 | 3.98 | 0.010 | 0.39 | 875.95 | 0.01 | 0.02 | 0.06 | 0.000 | 0.01 | 13.14 | |
| | Water Truck | 1 | 30 | 0.77 | 3.98 | 10.03 | 0.031 | 0.66 | 2729.12 | 0.01 | 0.06 | 0.15 | 0.000 | 0.01 | 40.94 | |
| Concrete Slab pouring | Cement Truck | 1 | 30 | 0.77 | 3.98 | 10.03 | 0.031 | 0.66 | 2729.12 | 0.01 | 0.06 | 0.15 | 0.000 | 0.01 | 40.94 | |
| | Compactor | 1 | 30 | 0.04 | 0.27 | 0.30 | 0.000 | 0.03 | 35.69 | 0.00 | 0.00 | 0.00 | 0.000 | 0.00 | 0.54 | |
| Portable Equipment | Generator | 2 | 125 | 0.12 | 0.50 | 0.89 | 0.001 | 0.08 | 98.11 | 0.02 | 0.06 | 0.11 | 0.000 | 0.01 | 12.26 | |
| | Air Compressor | 2 | 125 | 0.07 | 0.36 | 1.20 | 0.002 | 0.06 | 165.15 | 0.01 | 0.04 | 0.15 | 0.000 | 0.01 | 20.64 | |
| Paving | Paving Machine Roller | 1 | 30 | 0.25 | 2.68 | 2.49 | 0.006 | 0.36 | 563.71 | 0.00 | 0.04 | 0.04 | 0.000 | 0.01 | 8.46 | |
| | Haul Truck | 1 | 30 | 0.77 | 3.98 | 10.03 | 0.031 | 0.66 | 2729.12 | 0.01 | 0.06 | 0.15 | 0.000 | 0.01 | 40.94 | |
| Architectural Coatings | Air Compressor | 1 | 30 | 0.07 | 0.36 | 1.20 | 0.002 | 0.06 | 165.15 | 0.00 | 0.01 | 0.02 | 0.000 | 0.00 | 2.48 | |
| Emissions (TPY) | | | | | | | | | | 0.11 | 0.60 | 1.25 | 0.003 | 0.104 | 272.5 | |

¹ Calculated using EPA NONROAD equipment emission rates (see Table 'Off Road Emission Factors'), assuming operation for 8 hours per day.

Onroad Construction Vehicle Exhaust Emission Factors

| Equipment Type | Fuel Type | Exhaust Emission Factor ^{a,b,c} (g/VMT) | | | | | | | Road Dust Emission Factor ^d (g/VMT) | | Total PM Emission Factor ^e (g/VMT) | |
|-----------------------|-----------|--|-------|-----------------|-----------------|------------------|-------------------|-----------------|--|-------------------|---|-------------------|
| | | VOC | CO | NO _x | SO ₂ | PM ₁₀ | PM _{2.5} | CO ₂ | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} |
| Cars and Light Trucks | Gasoline | 1.49 | 14.05 | 1.09 | 0.0127 | 0.0059 | 0.0055 | 440 | 3.13 | 0.341 | 3.13 | 0.347 |
| Delivery Vehicles | Diesel | 0.28 | 1.10 | 8.06 | 0.158 | 0.17 | 0.17 | 1,400 | 3.13 | 0.341 | 3.30 | 0.511 |

Notes:

- Emission factors for gasoline worker vehicles from "Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks (EPA420-F-05-22, EPA 2005). It was assumed that the vehicle make-up included 50% cars and 50% light-duty trucks/SUVs. SO₂ emission factor calculated from gasoline consumption rate and a sulfur content of 80 ppm.
- Emission factors for diesel worker and delivery vehicles (except SO₂ and CO₂) from "Assessing the Effects of Freight Movement on Air Quality at the National and Regional Level- Final Report" (U.S. Federal Highway Administration 2005).
- CO₂ and SO₂ emission factors for diesel worker and delivery vehicles from "Greenhouse Gas Protocol - Corporate Accounting and Reporting Standard / Mobile Guide" (World Resources Institute/World Business Council for Sustainable Development 2005). SO₂ emission factor calculated from diesel consumption rate and a sulfur content of 348 ppm.
- See emission factor derivation table below.
- Sum of exhaust and road dust emission factors.

Paved Roads - Emission Factor Derivation Table

| $E = (k(sL/2)^{0.65}(W/3)^{1.5}-C)$ <p style="text-align: right;">AP-42 Section 13.2.1 (11/06 version)</p> <p>where:</p> <ul style="list-style-type: none"> E = particulate emission factor (lb/VMT) k = particle size multiplier sL = road surface silt loading (g/m²) W = average vehicle weight (tons) C = emission factor for 1980's vehicle fleet exhaust, break wear and tire wear | | | | |
|--|------------------|------------------|-------------------|----------------|
| Parameter | Units | PM ₁₀ | PM _{2.5} | Reference |
| Mean Vehicle Weight | tons | 3 | 3 | Assumption |
| k factor | g/VMT | 7.3 | 1.1 | Table 13.2-1.1 |
| Silt Loading, sL | g/m ² | 0.6 | 0.6 | Table 13.2.1-3 |
| Emission factor, C | g/VMT | 0.2119 | 0.1617 | Table 13.2.1-2 |
| Emission factor, E | g/VMT | 3.13 | 0.341 | Table 13.2.1-3 |

Ground Transportation Vehicle Emissions for Construction/Demolition Waste Removal and Construction Fill Delivery

| Source | # of Trips ² | Avg Daily mileage per trip ³ | Total Annual Miles | Emission Factors (lbs/mi) ¹ | | | | | | Emissions (tpy) | | | | | |
|---------------------------------------|-------------------------|---|--------------------|--|--------|-----------------|-----------------|------------------|-------------------|-----------------|-------------|-----------------|-----------------|------------------|-------------------|
| | | | | VOC | CO | NO _x | SO ₂ | PM ₁₀ | PM _{2.5} | VOC | CO | NO _x | SO ₂ | PM ₁₀ | PM _{2.5} |
| Concrete/Fill and other Delivery | 2 | 50 | 94 | 0.0006 | 0.0024 | 0.0178 | 0.0003 | 0.0073 | 0.0011 | 0.00 | 0.00 | 0.00 | 0.000 | 0.00 | 0.00 |
| Worker commute | 5,000 | 30 | 150,000 | 0.0033 | 0.0310 | 0.0024 | 0.0000 | 0.0069 | 0.0008 | 0.25 | 2.32 | 0.18 | 0.002 | 0.52 | 0.06 |
| Total Ground Vehicle Emissions | | | | | | | | | | 0.25 | 2.32 | 0.18 | 0.00 | 0.52 | 0.06 |

¹ Refer to table 'Onroad Construction Vehicle Exhaust Emission Factors' in this appendix

² Refer to Construction Activities Tables of this appendix.

³ Assumes the use of local landfills for wastes and local sources for construction fill.

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Public Meeting Materials

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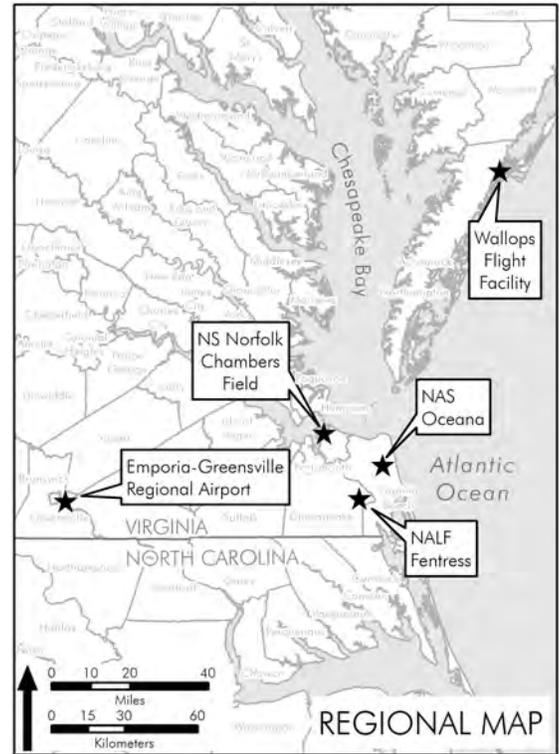


Proposed Action and Alternatives

Proposed Action

The Navy's proposed action is to acquire the use of an additional local airfield at either Emporia-Greenville Regional Airport or Wallops Flight Facility (WFF) Main Base for E-2 and C-2 landing practice as an interim solution to capacity shortfalls at Naval Auxiliary Landing Field (NALF) Fentress. The proposed action also includes minor modifications to the airfield infrastructure.

The Navy would conduct up to 20,000 E-2 and C-2 field carrier landing practice (FCLP) landings annually. Approximately 90 percent of FCLP operations would be performed during the hours of 7:00 a.m. to 10:00 p.m., and approximately 10 percent of FCLP operations would be performed between the hours of 10:00 p.m. and 7:00 a.m. Operations will conclude as early as possible.



C-2 Greyhound



E-2 Hawkeye

Purpose and Need

The purpose of the proposed action is to provide interim additional local FCLP training periods for E-2 and C-2 squadrons operating from Naval Station (NS) Norfolk Chambers Field. NALF Fentress is the only dedicated landing field supporting FCLP training for Navy FA-18, E-2, and C-2 aircraft from Naval Air Station (NAS) Oceana and NS Norfolk Chambers Field. A single landing field lacks the capacity to support local E-2 and C-2 FCLP training requirements under all operational conditions.

A copy of the Draft Environmental Assessment is available at:
https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837





Proposed Action and Alternatives

The Navy's environmental assessment evaluated the No Action Alternative as well as two action alternatives.

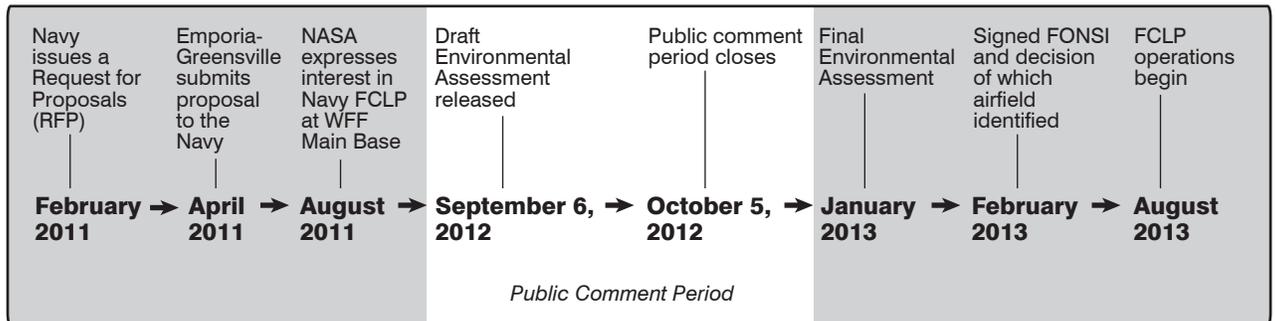
| No Action Alternative | Emporia-Greenville Regional Airport | | Wallops Flight Facility | |
|---|--|--|--|--|
| | Scenario 1 | Scenario 2 | Scenario 1 | Scenario 2 |
| <ul style="list-style-type: none"> The Navy would not use the airfield facilities at Emporia-Greenville Regional Airport or NASA Wallops Flight Facility for E-2 and C-2 FCLP. | <ul style="list-style-type: none"> Up to 3 aircraft in pattern. 20,000 practice landings annually. Day/night training to conclude as early as possible. | <ul style="list-style-type: none"> Up to 5 aircraft in pattern. 20,000 practice landings annually. Day/night training to conclude as early as possible. | Runway 04/22 <ul style="list-style-type: none"> Up to 5 aircraft in pattern. 20,000 practice landings annually. Day/night training to conclude as early as possible. | Runway 10/28 <ul style="list-style-type: none"> Up to 5 aircraft in pattern. 20,000 practice landings annually. Day/night training to conclude as early as possible. |
| <i>* Aircraft refueling and overnight detachments could occur at Wallops Flight Facility and were included in the analysis.</i> | | | | |

Airfield Infrastructure Modifications

In order to support E-2 and C-2 FCLP operations, the following infrastructure modifications and equipment need to be installed at either prospective FCLP airfield:

- Simulated Carrier Decks.** A painted, day/night simulated carrier deck with flush-deck lighting on existing runway surface.
- Concrete Pads.** Pads for placement of Navy equipment to be installed alongside the runway.
- Storage Area.** Fenced storage area for Navy equipment (applies to Emporia-Greenville only).
- Electrical Power.** Extend electricity for lights and equipment.

Timeline of Project



A copy of the Draft Environmental Assessment is available at:
https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837





Standard Field Carrier Landing Practice Pattern

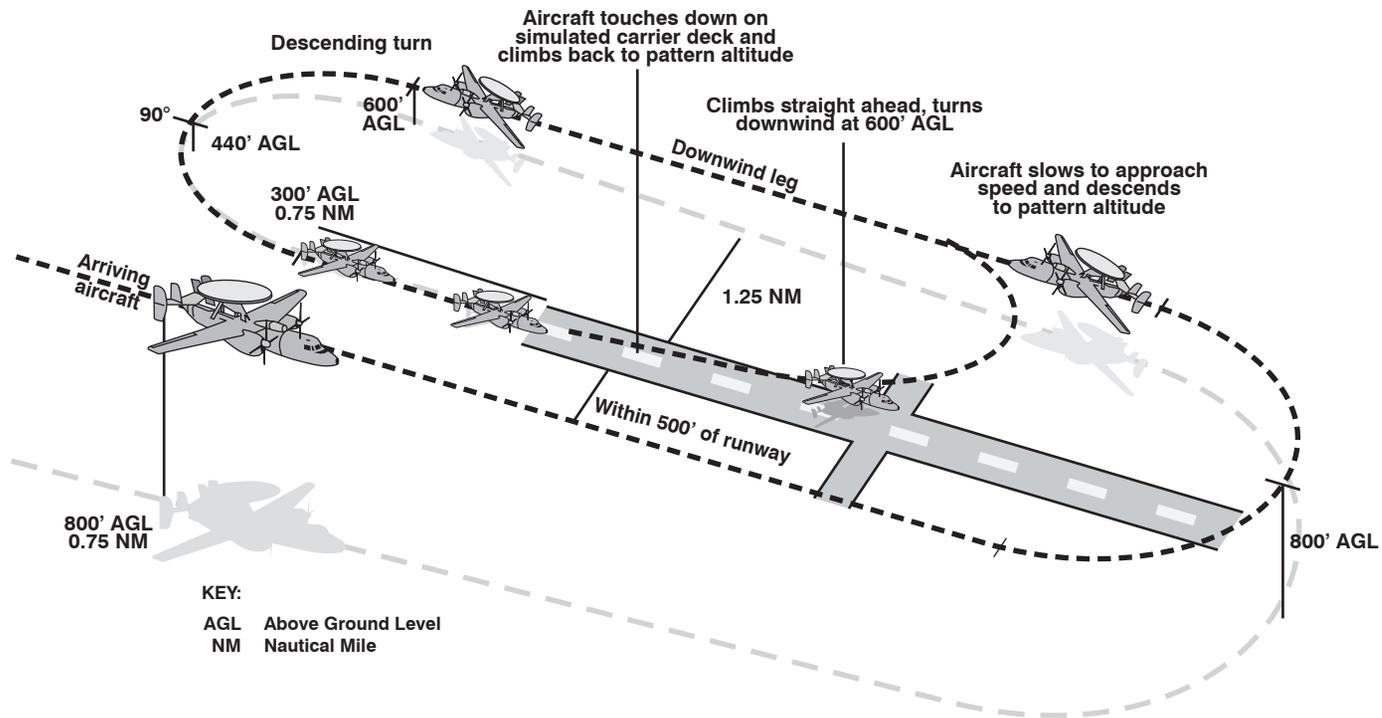
Field Carrier Landing Practice (FCLP) is required training for naval pilots before landing on an aircraft carrier. It should simulate, as nearly as practicable, the conditions pilots encounter during carrier landing operations. Flight patterns, altitudes, and lighting during FCLP simulate the conditions pilots encounter when landing on an aircraft carrier at sea during both day and nighttime operations.

When conducting a standard FCLP pattern, a pilot flies in a left-hand, racetrack-shaped pattern aligned with the runway. The pilot descends to an initial altitude of 1,200 feet above ground level approximately 3 nautical miles from the runway threshold and then descends to an altitude of 800 feet above ground level for the overhead arrival into the FCLP pattern. The actual FCLP pattern is flown at 600 feet above ground level.

Safety

Safety is always a priority for the Navy

- Safety record of E-2/C-2 aircraft is exemplary.
- Pilots undergo extensive training.



The Navy would conduct FCLP, which would include up to 20,000 practice landings annually at either Emporia-Greenville Regional Airport or Wallops Flight Facility (WFF) Main Base. Approximately 90 percent of FCLP operations would be performed during the hours of 7:00 a.m. to 10:00 p.m., and approximately 10 percent of the FCLP operations would be performed between the hours of 10:00 p.m. and 7:00 a.m.

A copy of the Draft Environmental Assessment is available at:
https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837



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Basics of Noise

Draft Environmental Assessment for E-2/C-2 Field Carrier Landing Practice Operations

What is Sound?

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear.

What is Noise?

Noise is unwanted sound. Whether sound is interpreted as pleasant (e.g., music) or unpleasant (e.g. jackhammers) depends largely on the listener's current activity, past experience, and attitude toward the source of that sound.

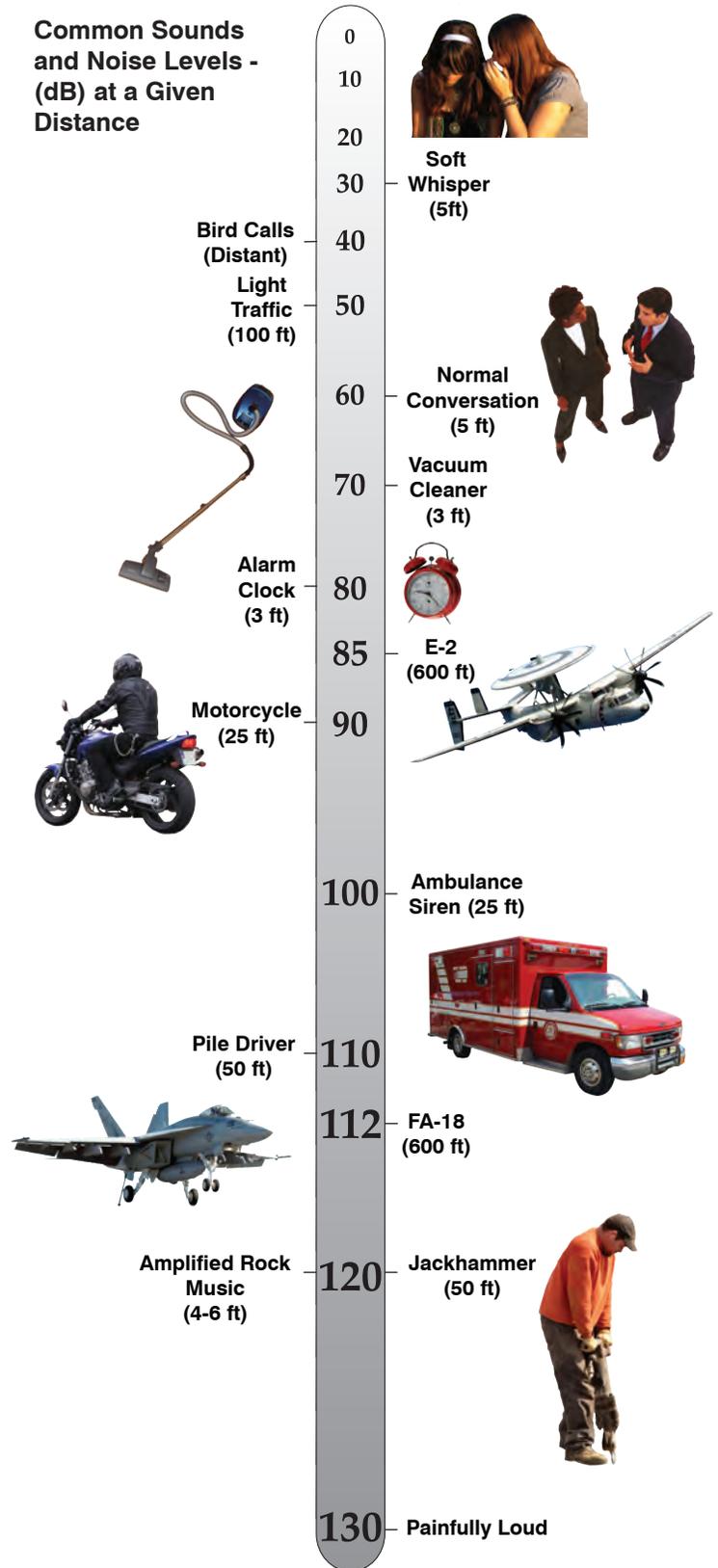
How are Sounds Measured?

The measurement and human perception of sound involves three basic physical characteristics: intensity, frequency, and duration. The loudest sounds that can be detected comfortably by the human ear have intensities that are a trillion times higher than those of sounds that can barely be detected. Because of this vast range, a linear scale does not accurately represent the intensity of sound. A logarithmic unit known as a decibel (abbreviated as "dB") is used to represent the intensity of a sound. Because of the logarithmic nature of the decibel unit, sound levels cannot be arithmetically added or subtracted.

Change in Perceived Loudness

- 1 dB Requires Close Attention to Notice
- 3 dB Barely Perceptible
- 5 dB Quite Noticeable
- 10 dB Dramatic... Twice or Half as Loud
- 20 dB Striking... Fourfold Change

Common Sounds and Noise Levels - (dB) at a Given Distance



A copy of the Draft Environmental Assessment is available at:
https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837





Basics of Noise

Noise Metrics

Aircraft noise levels are calculated in decibels (dB) using two common measurements:

Day-Night Average Sound Level

The Day-Night Average Sound Level (DNL) metric, in units of dB, is the recognized federal noise measure used by the Federal Aviation Administration, the U.S. Environmental Protection Agency, and other federal agencies for assessing aircraft noise exposures in communities in the vicinity of airfields.

- The average sound level exposure is calculated in dB over a 24-hour period.
- A 10-dB penalty is added to noise events occurring between 10 p.m. and 7 a.m.
- Used to determine long-term community response to environmental noise, particularly aircraft noise.
- Noise contours are depicted as lines that connect points of equal value.

The DNL for the existing noise environment is depicted as a series of contours that connect specific points of equal value, usually in 5 dB increments. The area between two noise contours is called a “noise zone.” The noise zones used to evaluate noise exposure in the vicinity of an airfield are the following generally accepted ranges:

- 65 to 70 dB DNL
- 70 to 75 dB DNL
- Greater than 75 dB DNL

Land use planning recommendations generally begin at the 65 dB DNL noise contour because, for purposes of compliance with Federal Aviation Regulation (FAR) Part 150, all land uses are considered to be compatible with noise levels less than 65 dB DNL.

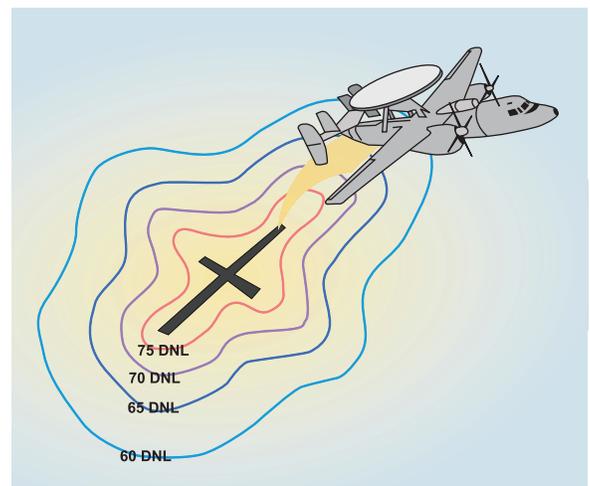
Sound Exposure Level

Sound Exposure Level (SEL) is a supplemental metric that is used to quantify the noise exposure associated with a single event at a specific location.

- Represents the total noise energy of a single event, such as a flyover, as if it occurred in one second
- Combines the loudness and duration of the event

Noise Modeling

- Computer modeling is used to assess noise
- Input includes:
 - Aircraft type
 - Number of operations
 - Flight tracks
 - Altitude
 - Power settings
 - Aircraft speed
 - Terrain
 - Temperature
 - Relative humidity
 - Pre-flight engine performance tests
- Output is presented on maps in the form of noise contours
- Noise modeling for the EA uses the best available data and models



A copy of the Draft Environmental Assessment is available at:
https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837





Draft Findings

The Draft Environmental Assessment analyzed the potential environmental impacts of both alternatives on the following resources:

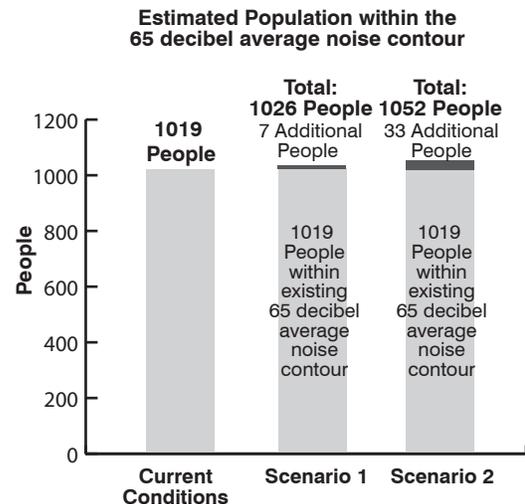
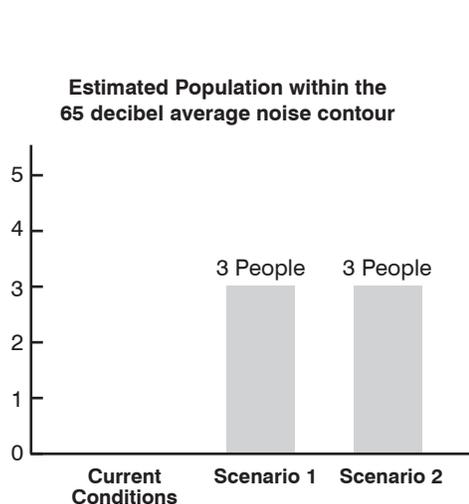
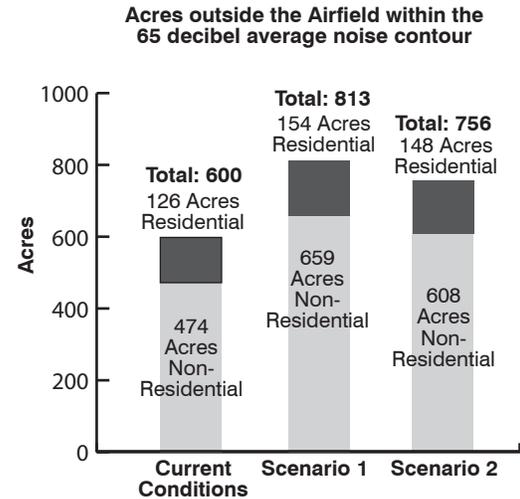
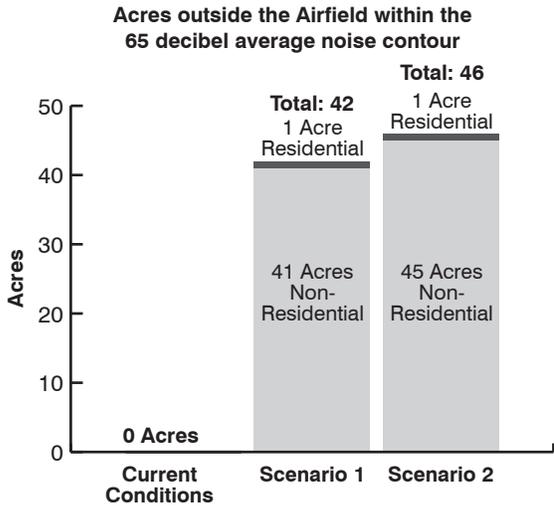
- Noise
- Land Use
- Aircraft Operations and Airspace
- Safety
- Air Quality
- Infrastructure and Utilities
- Visual Landscape: Light Emissions and Visual Impacts
- Geology, Topography, and Soils
- Water Resources
- Biological Resources
- Cultural Resources
- Socioeconomics (including Environmental Justice and Protection of Children)
- Environmental Management

Noise, Land Use, and Population

The Draft EA includes a comprehensive noise study of Emporia-Greenville Regional Airport and WFF Main Base, using the latest computer modeling and acoustic information. Under federal guidelines, all land uses are considered compatible with noise levels less than 65 decibels (dB) using the Day-Night Average Sound Level (DNL) measurement.

Emporia-Greenville Regional Airport

WFF Main Base



A copy of the Draft Environmental Assessment is available at:
https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837





Draft Findings

Aircraft Operations and Airspace

Emporia-Greenville Regional Airport

- There would be a minor impact as the runway would be temporarily closed during Field Carrier Landing Practice (FCLP) arrivals and departures, except in the case of an emergency.

WFF Main Base

- There would be a minor impact as the runway being used by the Navy for FCLP would be temporarily closed to non-FCLP participants, except in the case of an emergency.

Safety

Emporia-Greenville Regional Airport and WFF Main Base

- Safety is always a priority for the Navy.
- Safety record of E-2/C-2 aircraft is exemplary.
- Pilots undergo extensive training.

Air Quality

Emporia-Greenville Regional Airport and WFF Main Base

- Both airfields are located in regions that are in attainment of the National Ambient Air Quality Standards.
- The air emissions resulting from the short-term construction and annual aircraft operations would continue to meet standards for all criteria pollutants.

Infrastructure and Utilities

Emporia-Greenville Regional Airport and WFF Main Base

- New telephone and electric lines would be installed and operate within existing capacity.

Visual Landscape:

Light Emissions and Visual Impacts

Emporia-Greenville Regional Airport and WFF Main Base

- Modifications consistent with existing airfield setting.

Geology, Topography, and Soils

Emporia-Greenville Regional Airport and WFF Main Base

- Minor construction proposed; best management practices (soil erosion controls) would mitigate the potential impacts.

Water Resources

Emporia-Greenville Regional Airport and WFF Main Base

- No construction in surface waters, floodplains, or wetlands.
- Minor increases to new impervious surfaces would result from construction at either airfield; however, there would be no significant impact to stormwater runoff.

Biological Resources

Emporia-Greenville Regional Airport and WFF Main Base

- No impact to birds, fish, marine mammals.
- No effect on threatened and endangered species.
- No critical habitat designated.
- Coordinating with regulatory agencies.

Cultural Resources

Emporia-Greenville Regional Airport and WFF Main Base

- The Virginia State Historic Preservation Office has concurred with the Navy that there would be no significant impact.

Socioeconomics

(Including Environmental Justice and Protection of Children)

- No disproportionate impacts to minority or low-income populations or children.
- Potential beneficial economic impacts:
 - Navy would pay for use of the airfield.
 - Minor initial construction projects to prepare the airfield for FCLP.
 - *Emporia-Greenville Regional Airport*: Contract for local support services.
 - *WFF Main Base*: Potential for contributions to local economy if flight crews stay in the area.

Environmental Management

Emporia-Greenville Regional Airport

- No oil or hazardous materials would be stored or used at the airfield.

WFF Main Base

- If detachments occur, there would be some temporary storage of oil and hazardous materials which would be managed in accordance with existing installation processes.

Summary of Draft Findings

The proposed action would not result in significant adverse direct, indirect, or cumulative environmental impacts at Emporia-Greenville or WFF Main Base.

A copy of the Draft Environmental Assessment is available at:
https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837

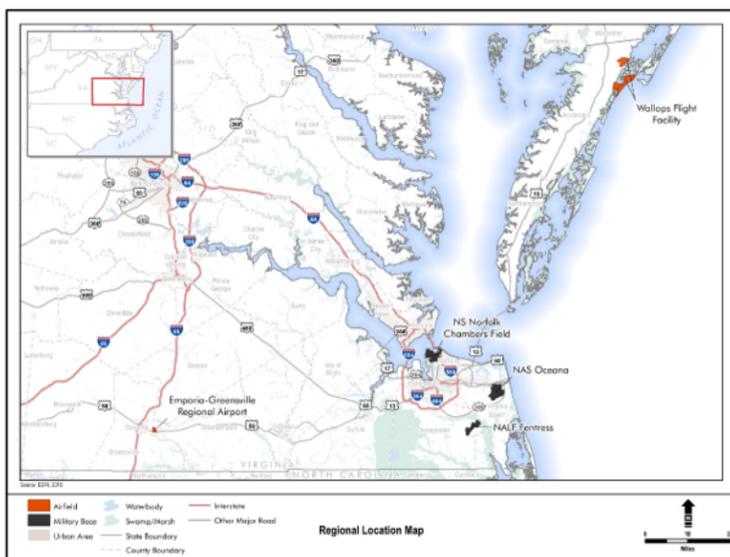




Proposed Action and Alternatives

Proposed Action

- Acquire the use of an additional local airfield for E-2 and C-2 landing practice as an interim solution to capacity shortfalls at Fentress.
- Minor modifications to the airfield infrastructure.
- Up to 20,000 E-2 and C-2 field carrier landing practice (FCLP) landings annually.
- Will conduct both daytime and nighttime training. In both cases, operations will conclude as early as possible.



Purpose and Need

- Provide interim additional local FCLP training periods for E-2 and C-2 squadrons only.
- Naval Auxiliary Landing Field (NALF) Fentress is the only dedicated landing field supporting FCLP training for Navy FA-18, E-2, and C-2 aircraft from Naval Air Station (NAS) Oceana and Naval Station (NS) Norfolk, Chambers Field.
- A single landing field lacks the capacity to support local E-2 and C-2 FCLP training requirements under all operational conditions.

Alternatives

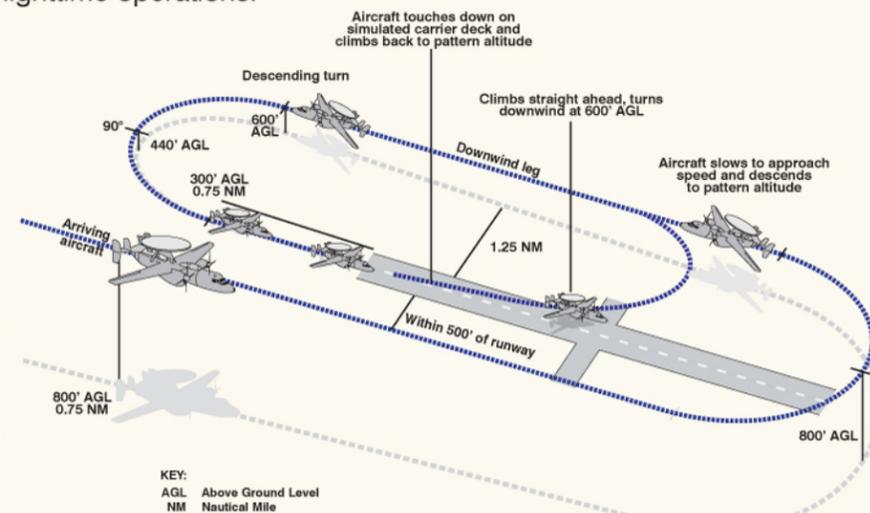
| No Action Alternative | Alternative 1 Emporia-Greenville Regional Airport | | Alternative 2 Wallops Flight Facility | |
|---|--|--|---|---|
| <ul style="list-style-type: none"> • The Navy would not use the airfield facilities at Emporia-Greenville Regional Airport or NASA Wallops Flight Facility (WFF) for E-2 and C-2 FCLP. | Scenario 1 <ul style="list-style-type: none"> • Up to 3 aircraft in pattern. • 20,000 practice landings annually. • Day/night training to conclude as early as possible. | Scenario 2 <ul style="list-style-type: none"> • Up to 5 aircraft in pattern. • 20,000 practice landings annually. • Day/night training to conclude as early as possible. | Scenario 1 Runway 04/22 <ul style="list-style-type: none"> • Up to 5 aircraft in pattern. • 20,000 practice landings annually. • Day/night training to conclude as early as possible. | Scenario 2 Runway 10/28 <ul style="list-style-type: none"> • Up to 5 aircraft in pattern. • 20,000 practice landings annually. • Day/night training to conclude as early as possible. |
| <small>* Aircraft refueling and overnight detachments could occur at Wallops Flight Facility and were included in the analysis.</small> | | | | |

What is FCLP?

- Field carrier landing practice (FCLP) is required training before landing on an aircraft carrier.
- Flight patterns, altitudes, and lighting during FCLP simulate the conditions pilots encounter when landing on an aircraft carrier at sea during both day and nighttime operations.

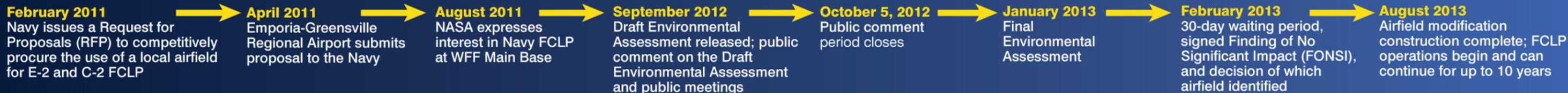


C-2



E-2

Timeline of Project

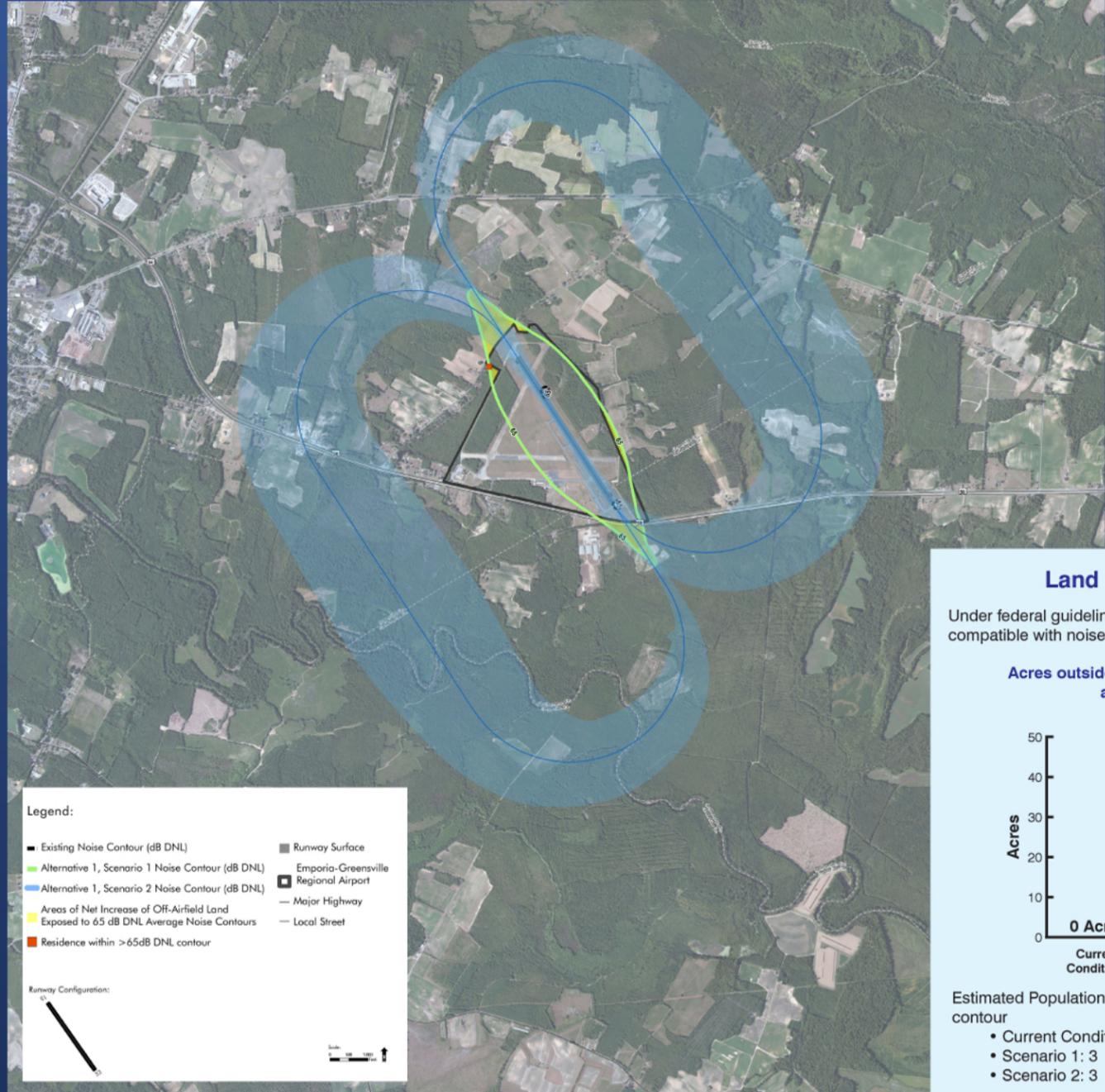


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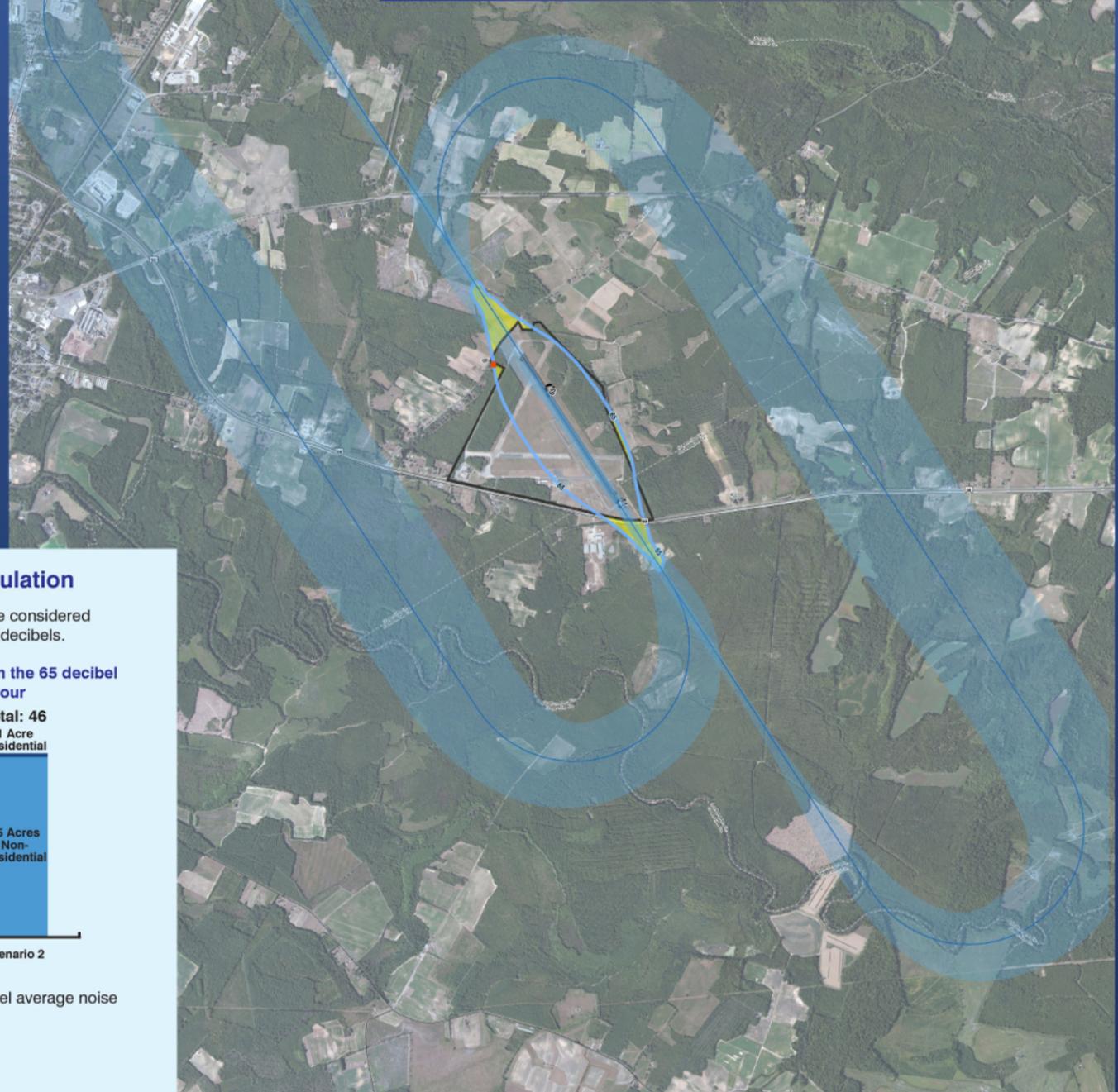


Alternative 1: Noise Impacts at Emporia-Greenville Regional Airport

Scenario 1: Up to 20,000 practice landings with up to 3 planes in the pattern



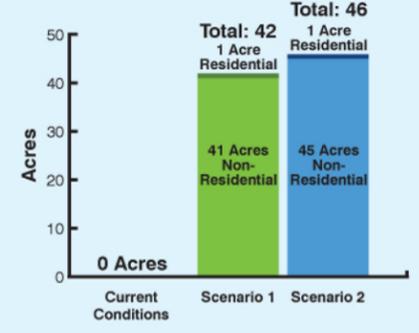
Scenario 2: Up to 20,000 practice landings with up to 5 planes in the pattern



Land Use and Population

Under federal guidelines, all land uses are considered compatible with noise levels less than 65 decibels.

Acres outside the Airfield within the 65 decibel average noise contour



Estimated Population within the 65 decibel average noise contour

- Current Conditions: 0
- Scenario 1: 3
- Scenario 2: 3

Source: Aerial Credits: Image courtesy of USGS © 2012 Microsoft Corporation

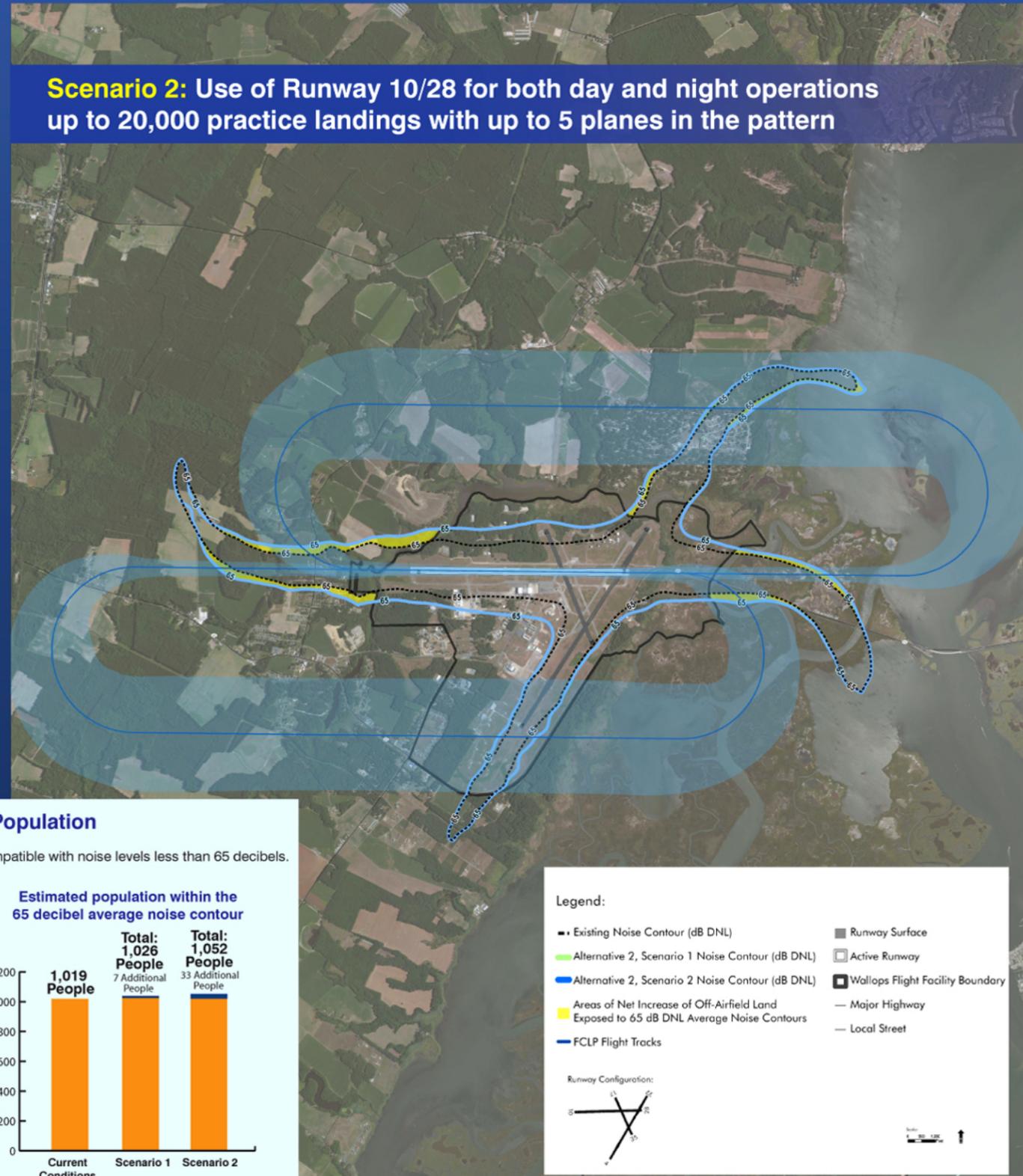
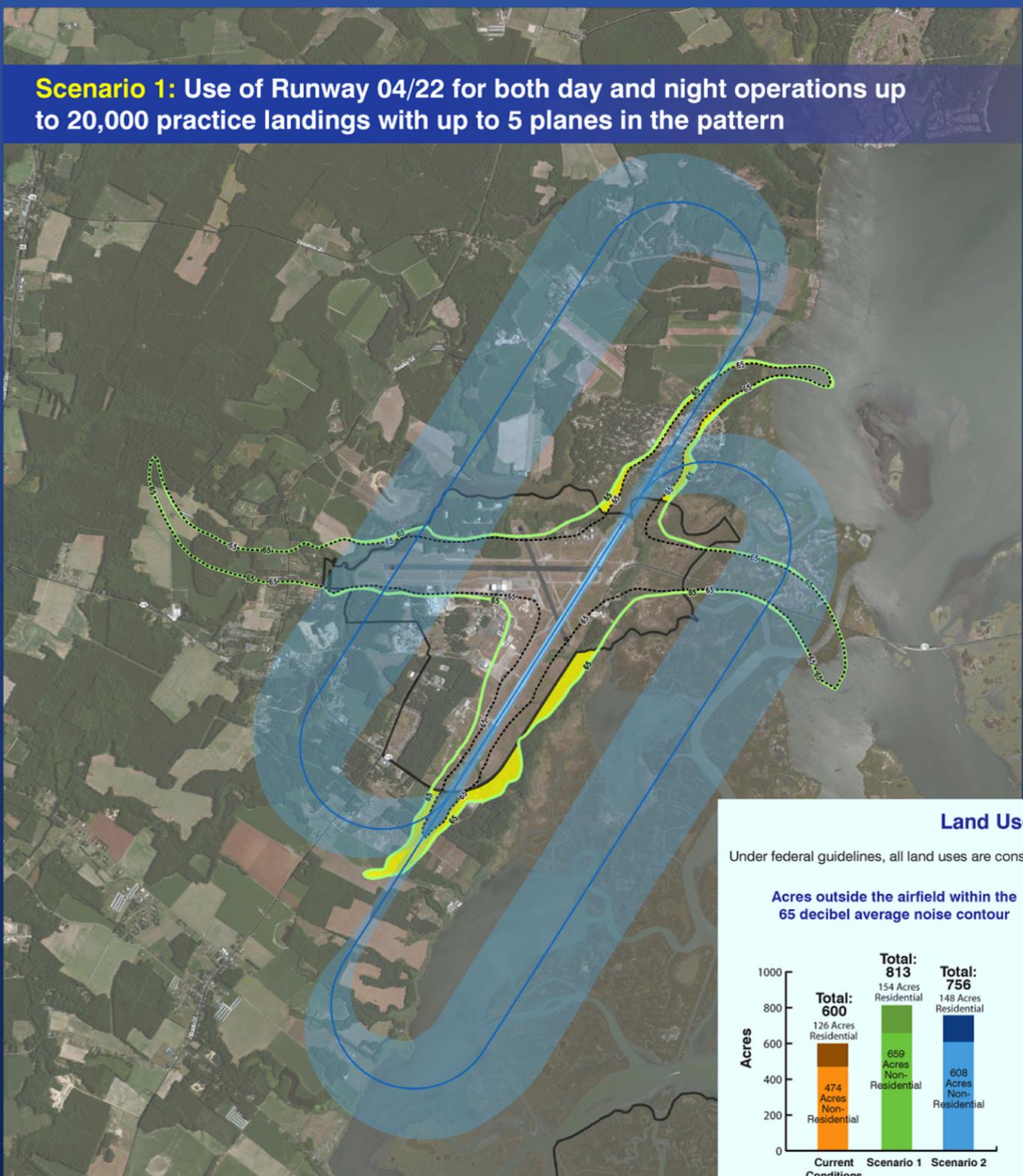
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Alternative 2: Noise Impacts at Wallops Flight Facility Main Base

Scenario 1: Use of Runway 04/22 for both day and night operations up to 20,000 practice landings with up to 5 planes in the pattern

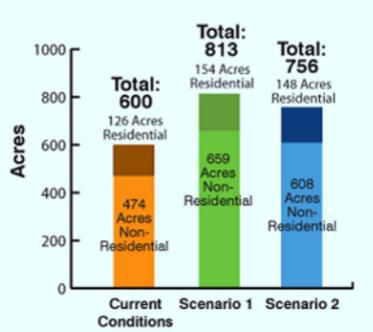
Scenario 2: Use of Runway 10/28 for both day and night operations up to 20,000 practice landings with up to 5 planes in the pattern



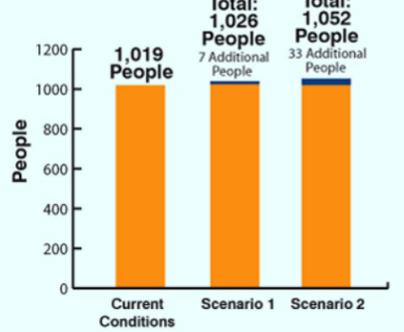
Land Use and Population

Under federal guidelines, all land uses are considered compatible with noise levels less than 65 decibels.

Acres outside the airfield within the 65 decibel average noise contour

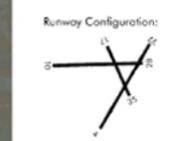


Estimated population within the 65 decibel average noise contour



Legend:

- Existing Noise Contour (dB DNL)
- Alternative 2, Scenario 1 Noise Contour (dB DNL)
- Alternative 2, Scenario 2 Noise Contour (dB DNL)
- Areas of Net Increase of Off-Airfield Land Exposed to 65 dB DNL Average Noise Contours
- FCLP Flight Tracks
- Runway Surface
- Active Runway
- Wallops Flight Facility Boundary
- Major Highway
- Local Street



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How the Navy Assesses Noise

What is Noise?

- Unwanted sound that interferes with normal activities.
- May diminish the quality of the environment.
- Response to noise depends on many factors.

The Draft EA includes a comprehensive noise study of airfield operations and the potential impacts of the alternatives considered in the EA, using the latest computer modeling and acoustical information.

Change in Perceived Loudness

- 1 dB Requires Close Attention to Notice
- 3 dB Barely Perceptible
- 5 dB Quite Noticeable
- 10 dB Dramatic... Twice or Half as Loud
- 20 dB Striking... Fourfold Change

Calculating Noise

Aircraft noise levels are calculated in decibels (dB) using two common measurements:

Day-Night Average Sound Level (DNL)

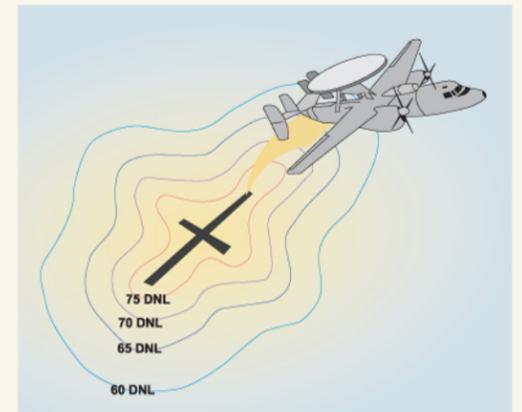
- The average sound level exposure, calculated in dB, over a 24-hour period.
- A 10 dB penalty is added to noise events occurring between 10 p.m. and 7 a.m.
- Used to determine long-term community response to environmental noise, particularly aircraft noise.
- Noise contours are depicted as lines that connect points of equal value.

Sound Exposure Level (SEL)

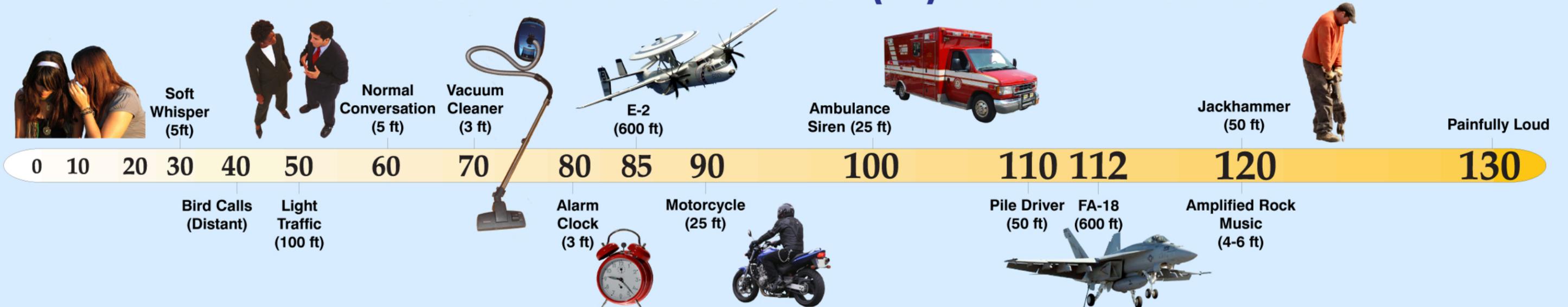
- Represents the total noise energy of a single event, such as a flyover, as if it occurred in one second.
- Combines the loudness and duration of the event.

Noise Modeling

- Computer modeling is used to assess noise.
- Input includes:
 - Aircraft type
 - Number of operations
 - Flight tracks
 - Altitude
 - Power settings
 - Aircraft speed
 - Terrain
 - Temperature
 - Relative humidity
 - Pre-flight engine performance tests
- Output is presented on maps in the form of noise contours.
- Noise modeling for the EA uses the best available data and models.



Common Sounds and Noise Levels - (dB) at a Given Distance



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Draft Findings

Environmental Resources Analyzed

- **Geology, Topography, and Soils**
 - Minor construction proposed with appropriate soil erosion controls.
- **Air Quality**
 - Additional emissions continue to meet standards.
- **Water Resources**
 - No construction in wetlands.
 - No impact on water quality.
- **Biological Resources**
 - No impact on birds, fish, marine mammals.
 - No effect on threatened and endangered species.
 - No critical habitat designated.
 - Coordinating with regulatory agencies.



| Emporia-Greenville | Wallops Flight Facility |
|-------------------------|-------------------------|
| Red-cockaded woodpecker | Sea turtles |
| Roanoke logperch | Atlantic sturgeon |
| American chaffseed | Shortnose sturgeon |
| Michaux's sumac | |



Other Resource Areas Analyzed

- **Aircraft Operations / Airspace**
 - Advanced communication of Navy schedule.
- **Infrastructure and Utilities**
 - Minor construction, including concrete pads and utility extension.



- **Visual Landscape**
 - Modifications consistent with existing airfield setting.
- **Waste Handling and Disposal**
 - At Wallops Flight Facility, materials to be handled under existing processes.
 - No requirements at Emporia-Greenville because there would not be any detachments.
- **Cultural Resources**
 - The Virginia State Historic Preservation Office has concurred with the Navy that there would be no significant impacts.
- **Socioeconomic**
 - Navy would pay for use of the airfield.
 - Minor initial construction projects.
 - Emporia-Greenville: Contract for local support services.
 - Wallops Flight Facility: Potential for contributions to local economy if flight crews stay in area.
- **Noise and Land Use**
 - See noise impact poster for details.

Safety

Safety is Always a Priority to the Navy



- Safety record of E-2 and C-2 aircraft is exemplary.
- Pilots undergo extensive training.



Summary of Draft Findings

The proposed action would not result in significant adverse direct, indirect, or cumulative environmental impacts at Emporia-Greenville or WFF Main Base.

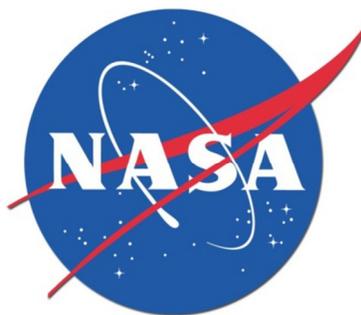
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E

**Annual Monitoring Report for the
Wildlife Hazard Assessment**

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ANNUAL MONITORING REPORT
For the
WILDLIFE HAZARD ASSESSMENT
For
NASA/Goddard Space Flight Center/Wallops Flight Facility
October 2011 – September 2012



Protecting People | Protecting Agriculture | Protecting Wildlife

United States Department of Agriculture
Animal and Plant Health Inspection Service
Wildlife Services

Brian Scharle, Wildlife Biologist
Grant Harter, Wildlife Specialist

December 17, 2012

Work performance per Cooperative Service Agreement No. 13-7251-2953-IA
Project was monitored by Scott Barras and David Allaben (State Director and Southeast
District Supervisor of Virginia, respectfully).

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EXECUTIVE SUMMARY

The United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services program (WS) initially conducted a 12-month wildlife hazard assessment (WHA) to identify wildlife hazards to aviation at Wallops Flight Facility (WFF) from February 2000 through February 2001. Since the initial WHA, a Monitoring Report has been conducted annually between October and September. Bird surveys were conducted twice per month in the aircraft operations area (AOA). Monthly night-time surveys of the AOA were also conducted to observe mammal use of this area. Data collected included species abundance, behavior, and habitat use. In addition, WS identified areas outside of the AOA that may attract hazardous wildlife species to WFF. Species observed were grouped into guilds (species that display similar behavioral characteristics) for analysis. Data collected during surveys were analyzed and compared with WFF's wildlife strike records, control efforts by WS personnel, and a wildlife hazard ranking list (Dolbeer and Wright 2009) to identify the species that are most hazardous to aviation at WFF.

Based on information collected during the Monitoring program, there were 6 guilds and one mammal group identified at WFF from October 2011 through September 2012 that presented the greatest threats to aviation. These included raptors (hawks, vultures, etc.), waterfowl (ducks and geese), gulls, wading birds (herons and egrets), blackbirds (grackles, cowbirds, etc.), starlings, and deer. Though blackbirds were the most abundant guild, raptors, particularly turkey vultures (*Cathartes aura*), waterfowl, particularly Snow Geese (*Chen caerulescens*) and Canada Geese (*Branta canadensis*), and gulls particularly Laughing Gulls (*Larus atricilla*) were the most hazardous due to their large size, flocking behavior, flight characteristics, availability of habitat at or near WFF, general abundance, and the increased likelihood of damage occurring from strikes with these species. Species of the raptor, waterfowl, and gull guilds were the most damaging struck guilds nationally to civilian aircraft between 1990 and 2010 (Dolbeer et al. 2012). There were 7 species observed from October 2011 through September 2012 that ranked as an extremely high hazard to aviation safety, 4 species that ranked as very high and another 9 that ranked as high (Table 4).

WS recommends a variety of methods to reduce or eliminate the threat of wildlife strikes from the species observed during this report. Habitat management can include: eliminating or excluding wildlife from areas of standing water; removing shrub cover in the AOA; reducing or excluding birds from perching/loafing areas; reducing abundance of prey species (such as small rodents) in the AOA; and ensuring that the perimeter fence is in good repair preventing mammals from entering the AOA. WS also recommends harassment methods such as pyrotechnics, propane cannons, sirens, and paintball guns to disperse birds from the AOA. Lethal control of hazardous species should be exercised when necessary utilizing firearms or traps to reinforce harassment methods. Permits for lethal control of species protected under Federal and State laws should be obtained and kept current from the U.S. Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF).

Additional recommendations include updating the airport's wildlife hazard management plan when needed, evaluating potential wildlife hazards when planning new construction or land use changes, monitoring off-site attractants and working with property owners to manage those hazards, and continuing an active wildlife hazard control program. It is recommended that WFF also continue to monitor wildlife abundance and habitat use in order to provide insight into wildlife use of the AOA and to gauge the effectiveness of control efforts.

1.0 INTRODUCTION

1.1 Purpose and Need for Action

As bird populations and aircraft operations increase, the potential threat of wildlife strikes will also increase. To manage this aviation threat, airport managers will need to consider wildlife management not only within their immediate control (the airfield), but also in the vicinity around the airport. It is estimated that wildlife-aircraft strikes have cost the United States civil aviation industry \$625 million per year, 98% of these strikes involving birds (Dolbeer and Wright 2009), while worldwide the total cost is over \$1.2 billion per year (Keirn et al. 2010). From 1998 through 2009, 219 people lost their lives, along with 212 aircraft destroyed worldwide as a result of both civil and military wildlife strikes. In January 2009, the wildlife/aircraft strike issue was dramatically illustrated when U.S. Airways Flight 1549 crash landed in New York's Hudson River after ingesting Canada Geese into both engines shortly after takeoff from LaGuardia Airport (Dolbeer 2009). This incident has been referred to in the media as "The Miracle on the Hudson" since all 155 passengers and crew survived despite the aircraft being a total loss. Less than two weeks prior to this incident, eight people were killed and one was seriously injured when a helicopter transporting workers to an offshore site in Louisiana struck a Red-tailed Hawk and crashed into a marsh (Wright 2011).

The Federal Aviation Administration (FAA) is responsible for setting and enforcing the Federal Aviation Regulations (FAR) and policies to enhance public safety. To ensure compliance with Code of Federal Regulations (CFR) 14 Part 139.337, the FAA requires certificated airports to conduct a wildlife hazard assessment (WHA), and if necessary, establish a wildlife hazard management plan (WHMP) when any of the following triggering events occur on or near an airport:

- (1) An air carrier aircraft experiences multiple wildlife strikes;
- (2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component;
- (3) An air carrier aircraft experiences an engine ingestion of wildlife; or

- (4) Wildlife of a size, or in numbers, capable of causing an event described above are observed to have access to any airport flight pattern or aircraft movement area.

Wallops Flight Facility

In November 1999, Wallops Flight Facility entered into a Cooperative Service Agreement (CSA) with the United States Department of Agriculture, Animal Plant Health Inspection Service, Wildlife Services Program to conduct deer removal operations and to conduct preliminary wildlife abundance surveys. In February 2000, a 12-month WHA was initiated. The purpose of this WHA was to develop long-term actions to manage wildlife on the airport and within its critical airspace. WFF also began implementing immediate wildlife control measures to mitigate both short and long-term threats to aviation. In November 2001, a WHMP was completed by WS for WFF (Appendix B). Since the completion of both the WHA and WHMP, WS has maintained a full-time presence at WFF to disperse and remove problem birds and mammals from the airfield environment.

1.2 Legal Authority of Wildlife Services

WS has a Memorandum of Understanding (MOU) with the FAA to resolve wildlife hazards to aviation, thus enhancing public safety. The MOU establishes that WS has the expertise and will provide technical and operational assistance to alleviate wildlife hazards at airports. WS may conduct a WHA to serve as a basis for the WHMP, but the responsibility of development, approval, and implementation of the WHMP remains with the airport manager.

The primary statutory authority by which WS operates is the Animal Damage Control Act of March 2, 1931, as amended (7 U.S.C. 426-426c; 46 Stat. 1468). WS has the authority to manage migratory bird damage as specified in the CFR. In addition, the Rural Development, Agriculture, and Related Agencies Appropriations Act of 1988 authorizes and directs the Secretary of Agriculture to cooperate with States, individuals, public and private agencies, organizations, and institutions in the control of nuisance mammals and birds deemed injurious to the public.

The MOU and legislation authorize WS to conduct initial on-site investigations, biological assessments (short-term studies), WHA, wildlife management activities, and assist airports in completing a WHMP.

1.3 Legal Status of Wildlife Species

Most species of wildlife are protected by one or more Federal, State, and/or local laws and regulations. As such, several agencies may be responsible for implementation of these regulations and specific permits may be required prior to taking action to reduce wildlife threats to aviation.

Federal laws passed by Congress to protect wildlife include (but are not limited to) the Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), and the Endangered Species Act (ESA). Federal wildlife laws are generally administered by the USFWS, which is the lead agency responsible for migratory birds protected under the MBTA, BGEPA, and ESA. The USFWS may issue depredation permits to take or harass

migratory birds when those species are causing damage to various resources or threaten human health and safety.

The Commonwealth of Virginia defers to the Federal depredation permit for take of non-game migratory bird species, though a separate permit is required to take mammals and game bird species managed by the VDGIF. As detailed in § 29.1-529 of the Code of Virginia, airport operators may obtain authorization from VDGIF to take wildlife (that are not federally protected) as necessary to protect aviation safety.

The Commonwealth of Virginia hosts a number of threatened and endangered (T&E) species that are granted protection under Federal and State regulations. Prior to conducting operational control work such as harassment, shooting, trapping, or habitat manipulation, the list of species of concern should be reviewed to ensure compliance with Federal and State regulations.

2.0 OBJECTIVES

The objectives of this monitoring report were to:

1. Provide updated information on wildlife species, numbers, locations, behavior, and habitat use in and around the airfield, with particular emphasis on species most hazardous to aircraft safety;
2. Provide updated information on the identity and location of features on and in the vicinity of the airport that attract wildlife;
3. Describe wildlife hazards to aviation safety at WFF; and
4. Provide WFF with management recommendations to reduce or eliminate wildlife hazards to aviation safety and serve as a basis for updating the current WHMP.

3.0 DESCRIPTION OF STUDY AREA



Figure 1. Google Earth® image of WFF airfield.

WFF is located on the Eastern Shore of Virginia and is owned and operated by the National Aeronautics and Space Administration (NASA). WFF primarily supports research aircraft (NASA and privately owned), United States military aircraft and specific general aviation operations. WFF has three runways, runway 4-22 is 8,700' long, runway 10-28 is 8,000' long and runway 17-35 is 5,000' long. During calendar year 2011, WFF conducted a total of 13,074 air movements.

WFF is a 1,800 acre facility located 41 feet above sea level bordered on the east by extensive tidal marsh, Chincoteague Bay and Wallops Island National Wildlife Refuge. Further east is the Town of Chincoteague and Chincoteague National Wildlife Refuge. To the north, WFF is bordered by Mosquito Creek, tidal marsh, mixed woodlands and agricultural fields and Trails End residential area. WFF borders the Marine Science Consortium to west along with other residential housing, mixed woodlands/agricultural fields, and the head of Mosquito Creek. To the south, WFF borders government housing, residential areas, the Town of Atlantic, and additional woodlands and agricultural fields. The Accomack County North Landfill is also located approximately 3 miles southwest of WFF. (Figure 1).

4.0 METHODS

Data collection began on October 1, 2011 and continued through September 30, 2012. Bird survey procedures were based on the North American Breeding Bird Survey methodology. Bird surveys were conducted twice per month for 12 months at 14 observation points in the AOA. Each survey consisted of 3 repetitions of the survey route per day (1/2 hour after sunrise, mid-day and 2 hours prior to dusk). Birds were observed for 3 minutes at each point, with approximately ¼ mile distance between points. At each observation point, the following data were recorded: weather, temperature, time, location, species, number observed, activity (behavior), habitat type, direction of flight, and comments on any other significant information (i.e., freshly mowed grass, approaching weather, etc...). A map overlain with a 1,000-foot grid system was used to record location. Bird species were located using the naked eye, binoculars, a spotting scope, or through identification of species vocalizations. Alpha species codes from the North American Bird Banding Manual were used to record birds observed during surveys.

In addition to bird surveys, 12 night-time mammal surveys were conducted in the AOA over the course of the study period. Beginning 1 hour after sunset, surveys were conducted by driving a designated route through the facility and AOA using spotlights and forward looking infra-red (FLIR) equipment to observe wildlife use of the AOA. Information recorded included: weather, temperature, time, location, species, number observed, activity, and habitat type.

Data were analyzed with descriptive statistics and frequency distributions per month using the Wildlife Hazard Management Information System (WHMIS) software developed by WS to determine trends in species abundance, habitat use, and behavior. For analysis purposes, common species were categorized into groups or guilds. Species were placed into their respective guilds based on similar behavioral characteristics, not taxonomic relationships (although guilds often parallel taxonomic lines). This approach was selected because behavioral attributes play a significant role in predisposing some species of wildlife to collisions with aircraft. In addition, wildlife management strategies are often selected based on their ability to exploit an animal's specific behavior(s), therefore species that exhibit similar behaviors and life history attributes generally require similar control methods.

5.0 RESULTS

5.1 Wildlife/Aircraft Strikes

Bird Strike Committee Canada (Transport Canada 1992) developed a wildlife strike definition that has since been adopted by the FAA, International Civil Aviation Organization (ICAO), Bird Strike Committee USA, Bird Strike Committee Europe, and the U.S. Air Force. Under this definition, a wildlife strike is considered to have occurred if:

1. A pilot reports a strike.
2. Aircraft maintenance personnel identify damage as having been caused by a bird or mammal strike.
3. Personnel on the ground report seeing an aircraft strike one or more birds or mammals.

4. Birds or mammal remains, in whole or part, are found on any airside pavement area or within 200 feet of a runway. The only exception would be if another reason for the bird's or mammal's death is identified.
5. An animal's presence on the airport had a significant negative effect on a flight (i.e., aborted takeoff, aborted landing, high-speed emergency stop, aircraft left pavement area to avoid collision with animal)

Since its inception in 1990, the number of reported strikes submitted to the National Wildlife Strike Database has increased five-fold. However, the number of damaging strikes reported has declined by 20 percent (Dolbeer 2009). This is a significant accomplishment that can be attributed to the wildlife mitigation program that many airports have employed over the years. Wildlife strike data provide valuable information on wildlife hazards at airports, including the species and number struck, seasonality, time of day, location at airport, and damage. Strikes reported at WFF over the period of August 1981 - October 2012 indicated that gull species (including unknown gulls), unknown birds, meadowlarks and swallows combined to account for 71% of all bird strikes (Table 1). Nationwide, these same birds accounted for 66% of all bird strikes from 1990 - 2010 (Dolbeer et al. 2012). Deer have accounted for 100% of all mammal strikes at WFF.

Wildlife strike reporting at WFF was inconsistent prior to 1999. Since WS began working with WFF, 100% of all known strikes have been reported. Wildlife strike data for WFF reported 76 wildlife strikes since 1991 (includes 1 strike reported in 1981; Table 1 and Figure 2). Six of these strikes were reported as causing damage in the amount of \$58,000 and resulted in one emergency landing. Gulls and white-tailed deer were responsible for all damaging strikes at WFF (Table 1). The largest group struck, laughing gulls, made up 24% (n=18) of reported strikes followed by unknown gulls (18%, n=14) (Table 1).

For FY 12, 3 non-damaging strikes were reported. The species identified in these strikes were a laughing gull, herring gull, and red-tailed hawk. The red-tailed hawk strike resulted in a precautionary landing by a US Navy Sikorsky MH60S helicopter that reported the strike during the approach phase of the flight.

To put the number of wildlife strikes into perspective in comparison to the number of flights at an airport; strikes are reported by the number of strikes per 100,000 air movements (AM). The index at WFF was changed to strikes per 1,000 AM since approximately only 10,000 AM are recorded a year on average. In 2011, WFF reported 0.15 wildlife strikes per 1,000 AM and from January – September 2012, was at 0.23 wildlife strikes per AM. WFF has a five-year mean (2007 - 2011) of 0.32 strikes per 1,000 AM (Table 2). Nationally, the five year average (2006 - 2010) of commercial air carrier aircraft reported 0.19 strikes per 1,000 AM while general aviation aircraft reported 0.03 strikes per 1,000 AM (Dolbeer et al. 2012). However, since 2001 WFF has not reported a damaging strike.

Pilots and airport personnel were strongly encouraged to complete and submit the FAA Strike Report Form (FAA 5200-7) each time a collision with wildlife occurred or the remains of a dead animal was found on or within 200 feet of the runway. WS or the Airport Manager was notified each time a strike was reported. The FAA has a system for reporting strikes via the internet at the following address: <http://wildlife-mitigation.tc.faa.gov/wildlife/default.aspx>. Strikes occurring at WFF were also reported

into the NASA Incident Reporting and Information System (IRIS) at the following internet address: https://nasa.ex3host.com/iris/eauth_nasa/login.asp. All wildlife remains found were retained until WS staff could positively identify them. Remains should be bagged, labeled and placed in the freezer labeled “USDA” in building A-1, room 101 and WS notified that remains were collected. If the remains are unidentifiable, the Smithsonian Institute (Division of Birds, NHBE-605 MRC 116, Washington, D.C. 20560) can provide positive identification.

Table 1. Guild composition comparison of wildlife strikes at WFF, 1991 – September 2012.

| Guild | Number of strikes | | Percent of total strikes | | Number of damaging strikes | | Percentage of damaging strikes | |
|---------------------|-------------------|----------|--------------------------|-------------|----------------------------|----------|--------------------------------|----------|
| | FY 91 – FY 12 | FY 12 | FY 91 – FY 12 | FY 12 | FY 91 – FY 12 | FY 12 | FY 91 – FY 12 | FY 12 |
| Birds | 73 | 3 | 96.1% | 100% | 3 | 0 | 50% | - |
| Laughing Gull | 18 | 1 | 23.6% | 33% | - | - | - | - |
| Unknown Gull | 14 | - | 18.4% | - | 2 | - | 33% | - |
| Unknown Bird | 10 | - | 13.2% | - | - | - | - | - |
| Eastern Meadowlark | 5 | - | 6.6% | - | - | - | - | - |
| Barn Swallow | 4 | - | 5.3% | - | - | - | - | - |
| European Starling | 3 | - | 3.9% | - | - | - | - | - |
| Herring Gull | 3 | 1 | 3.9% | 33% | - | - | - | - |
| Ring-billed Gull | 2 | - | 2.6% | - | 1 | - | 17% | - |
| American Kestrel | 2 | - | 2.6% | - | - | - | - | - |
| Red-tailed Hawk | 1 | 1 | 1.3% | 33% | - | - | - | - |
| Unknown Blackbird | 1 | - | 1.3% | - | - | - | - | - |
| Unknown Shorebird | 1 | - | 1.3% | - | - | - | - | - |
| Killdeer | 1 | - | 1.3% | - | - | - | - | - |
| Glossy Ibis | 1 | - | 1.3% | - | - | - | - | - |
| Lark | 1 | - | 1.3% | - | - | - | - | - |
| Savannah Sparrow | 1 | - | 1.3% | - | - | - | - | - |
| Grasshopper Sparrow | 1 | - | 1.3% | - | - | - | - | - |
| Tree Swallow | 1 | - | 1.3% | - | - | - | - | - |
| Turkey Vulture | 1 | - | 1.3% | - | - | - | - | - |
| Mourning Dove | 1 | - | 1.3% | - | - | - | - | - |
| American Coot | 1 | - | 1.3% | - | - | - | - | - |
| Mammals | 3 | 0 | 3.9% | - | 3 | 0 | 50% | - |
| White-tailed Deer | 3 | - | 3.9% | - | 3 | - | 50% | - |
| Total | 76 | 3 | 100% | - | 6 | 0 | 100% | - |

Table 2. Wildlife Strikes per 1,000 air movements (AM) at WFF, 1991- September 2012.

| Year | Aircraft Movements (AM) | # Strikes | Strikes per 1,000 AM | Damaging Strikes | Damaging Strikes per 1,000 AM | # of Strikes with NoEOF ¹ | Reported Cost |
|--------------|----------------------------|-----------|----------------------|------------------|-------------------------------|--------------------------------------|-----------------|
| 1991 | n/a | 2 | n/a | 1 | 0.00 | 1 | - |
| 1992 | n/a | 0 | 0.00 | 0 | 0.00 | 0 | - |
| 1993 | n/a | 4 | n/a | 1 | n/a | 3 | - |
| 1994 | 5,400 | 2 | 0.37 | 0 | 0.00 | 2 | - |
| 1995 | 6,700 | 3 | 0.45 | 1 | 0.15 | 2 | - |
| 1996 | 7,400 | 6 | 0.81 | 1 | 0.14 | 5 | - |
| 1997 | 7,900 | 3 | 0.38 | 0 | 0.00 | 3 | - |
| 1998 | 8,850 | 2 | 0.23 | 0 | 0.00 | 2 | - |
| 1999 | 10,600 | 7 | 0.66 | 1 | 0.09 | 6 | \$58,000 |
| 2000 | 13,300 | 7 | 0.53 | 0 | 0.00 | 7 | - |
| 2001 | 13,331 | 4 | 0.30 | 1 | 0.07 | 3 | - |
| 2002 | 10,658 | 2 | 0.19 | 0 | 0.00 | 2 | - |
| 2003 | 13,028 | 4 | 0.31 | 0 | 0.00 | 4 | - |
| 2004 | 11,372 | 1 | 0.09 | 0 | 0.00 | 1 | - |
| 2005 | 12,769 | 3 | 0.23 | 0 | 0.00 | 3 | - |
| 2006 | 13,255 | 5 | 0.38 | 0 | 0.00 | 5 | - |
| 2007 | 11,210 | 5 | 0.45 | 0 | 0.00 | 5 | - |
| 2008 | 11,802 | 6 | 0.51 | 0 | 0.00 | 6 | - |
| 2009 | 9,284 | 2 | 0.22 | 0 | 0.00 | 2 | - |
| 2010 | 10,134 | 3 | 0.30 | 0 | 0.00 | 3 | - |
| 2011 | 13,074 | 2 | 0.15 | 0 | 0.00 | 2 | - |
| 2012 | 12,909 ² | 3 | 0.23 | 0 | 0.00 | 2 | - |
| Total | 202,976³ | 76 | 0.37 | 6 | 0.03 | 69 | \$58,000 |

¹ NoEOF – no effect on flight

² AM for 2012 are from January 1 – September 30, 2012

³ Total AM do not include a full year for 2012

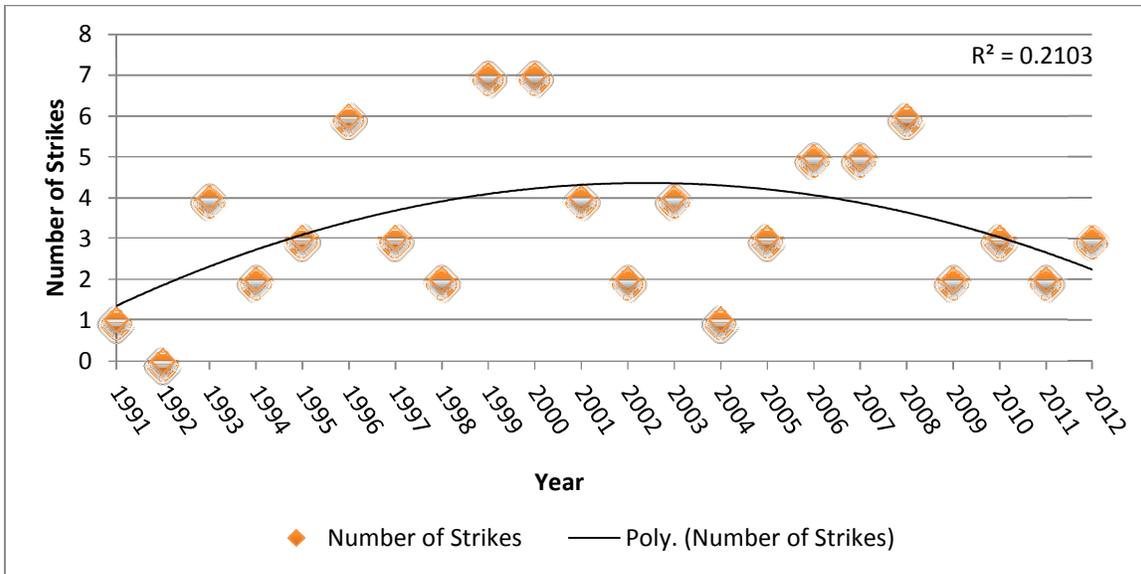


Figure 2. Reported number of wildlife strikes at WFF by year, 1991- September 2012.

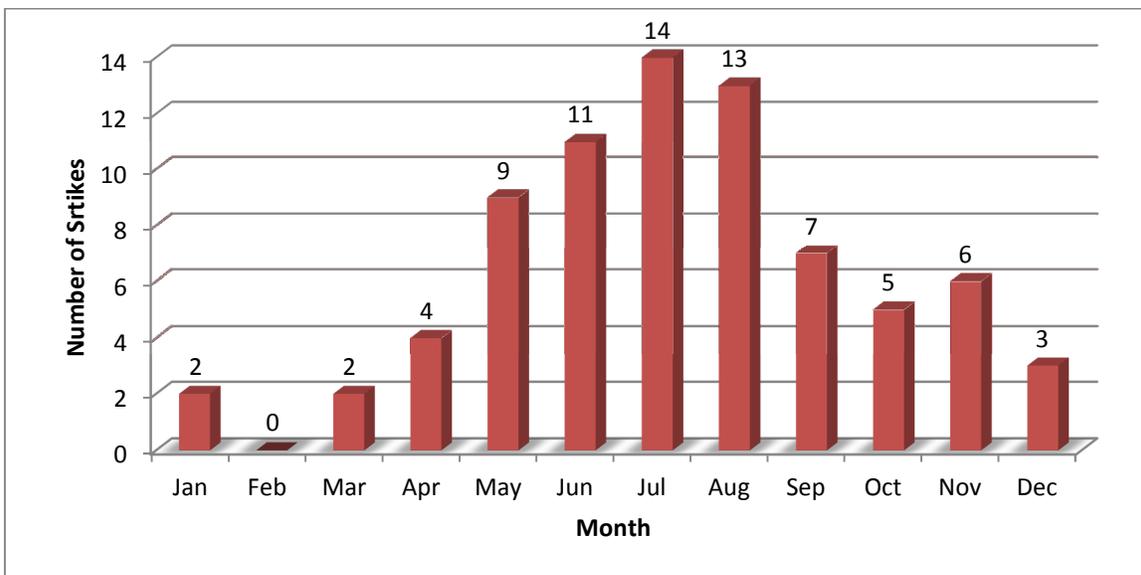


Figure 3. Number of strikes reported at WFF by month, 1991 – September 2012.

Figure 3 displays the total wildlife strikes reported by month from 1991 through September 2012. The figure follows the general bird activity for the Eastern Shore of Virginia. In general, as bird activity fluctuates throughout the year, the strike numbers correspond. In January and February bird activity is relatively low, when most migrants are wintering further south. Birds generally observed during this time are either non-migrant or may be northern birds that winter in Virginia. As the spring bird migration begins in March and April, the number of birds moving through the area increases exponentially. This pattern is also shown in the reported strikes. As the migration tapers off in late April, the Virginia breeding bird population remains active while they establish nest sites and begin incubation.

Large colonies of gulls, wading birds and various shorebirds are common breeders throughout the shore. However, every year during this same time, there are also non-breeding birds that remain active in the area. May through June, the adult pairs become more active feeding their young. The July spike occurs as the newly fledged sub-adult birds learn to fly. A majority of these strikes are likely juvenile or first-year birds. From August through early October, bird activity drops off slightly as birds increase feeding to build up fat reserves for the upcoming migration in September through early November. Late November through December, wintering waterfowl and mixed blackbird flocks are a majority of the remaining birds and they are active pursuing winter feeding grounds, open water and avoiding the pressures of hunting in the case of waterfowl.

5.2 Wildlife Surveys

Birds

From October 2011 through September 2012, WS recorded 91,763 bird observations at WFF during bird surveys. Eighty-two bird species representing 16 different guilds were observed throughout the study year (Appendix A). The 5 most abundant guilds were Blackbirds (n=61,567), Waterfowl (n=20,408), Gulls (n=2,856), Starlings (n=2,765) and Sparrows (n=870). The 10 most abundant species observed are listed below¹:

- 1.) Common Grackle (*Quiscalus quiscula*) =29,911
- 2.) Red-winged Blackbird (*Agelaius phoeniceus*) =25,681
- 3.) Snow Goose (*Chen caerulescens*) =19,605
- 4.) Brown-headed Cowbird (*Molothrus ater*) =5,950
- 5.) European Starling (*Sturnus vulgaris*) =2,765
- 6.) Laughing Gull (*Larus atricilla*) =2,181
- 7.) Eastern Meadowlark (*Sturnella neglecta*) =814
- 8.) Savannah Sparrow (*Passerculus sandwichensis*) =761
- 9.) Herring Gull (*Larus argentatus*) =415
- 10.) American Black Duck (*Anas rubripes*) =353

Birds were observed in 9 different habitat types during surveys at WFF. Birds were most commonly observed utilizing the marsh/wetland habitat which surrounds the vast majority of WFF and the runway/taxiway/ramp areas (Figure 4). Short grass, woodlands, structure, shrubs, long grass, asphalt/concrete, and gravel constituted the remaining habits, respectively.

Overall bird activity was classified into 6 categories: Foraging (actively pursuing food on the ground or in the air); flying locally (local short or random flights); flying passing (passing in a continuous path beyond the survey area); loafing/standing (staying in one area for a length of time without engaging in another activity); towering (soaring in a particular airspace for an extended time) and vocalizing (bird was heard but not seen). Flying past was

¹ Total abundance is derived by summing all bird observations throughout the study year. Therefore, the total number of bird observations includes individuals that may have been present in the AOA day after day and were recorded on multiple occasions.

the most commonly observed activity followed by loafing/standing, flying local, foraging, vocalizing, and towering (Figure 5).

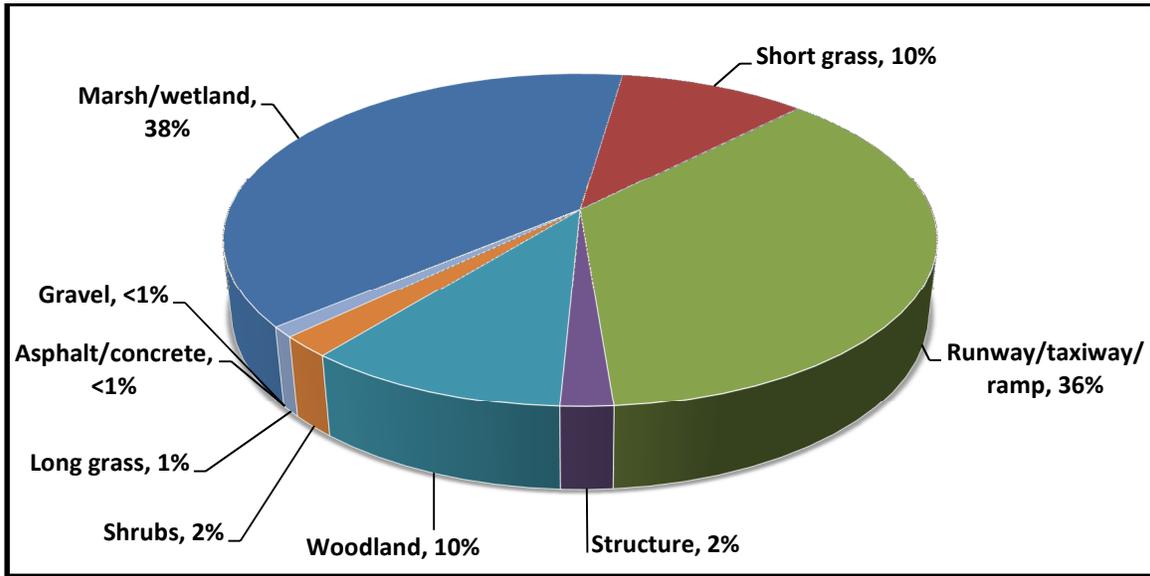


Figure 4. Habitat use by birds at WFF, October 2011 - September 2012.

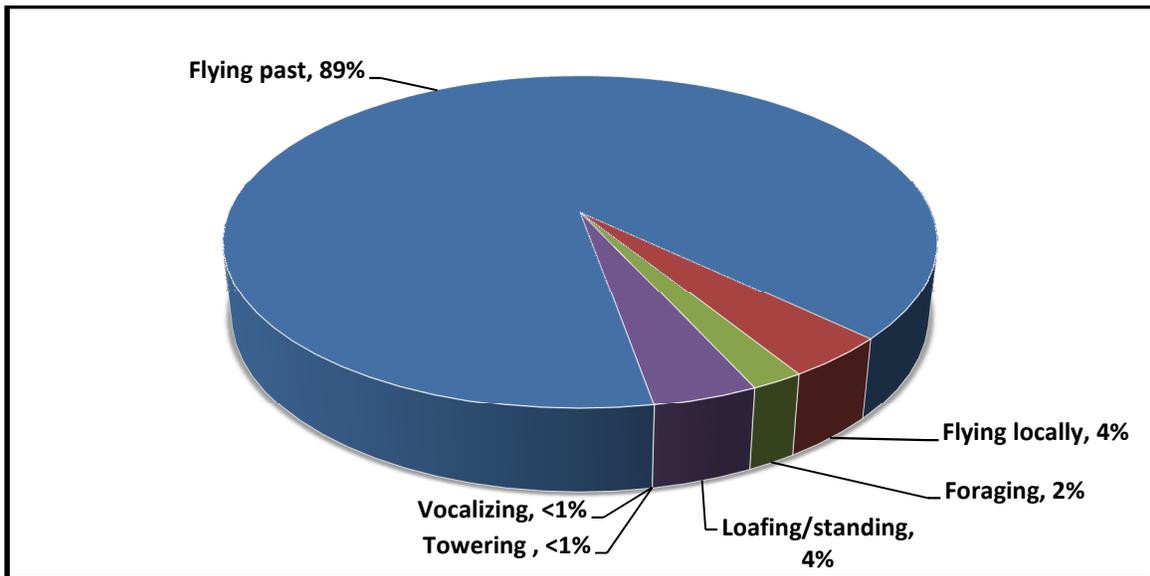


Figure 5. Bird activity at WFF, October 2011 - September 2012.

Mammals

WS completed 12 night surveys of the AOA. A total of 73 mammals were observed during night surveys throughout the study year, with Eastern cottontail (*Sylvilagus floridanus*, n=25) being the most frequently observed species (Table 3). A total of 9 different species were recorded and only 1 white-tailed deer (*Odocoileus virginianus*) was observed during

night surveys. Most mammal species were observed standing or running. The grass areas of the AOA and the woodland habitat adjacent to the AOA were the primary habitats where mammals were observed (Figure 6).

Table 3. Mammal habitat use at WFF, October 2011 - September 2012.

| Species | Habitat | | | | | | Total |
|--------------------------|-------------|------------|-----------|----------|------------------|----------|-----------|
| | Short Grass | Long Grass | Woodland | Shrubs | Asphalt/concrete | Taxiway | |
| Eastern Cottontail | 9 | 10 | 3 | 3 | 0 | 0 | 25 |
| Red Fox | 12 | 4 | 0 | 0 | 0 | 1 | 17 |
| Unknown Mammal | 4 | 3 | 3 | 1 | 1 | 0 | 12 |
| Raccoon | 4 | 0 | 4 | 0 | 0 | 0 | 8 |
| Feral Cat | 2 | 0 | 0 | 0 | 2 | 0 | 4 |
| Virginia Opossum | 0 | 1 | 2 | 0 | 0 | 0 | 3 |
| Unknown Bat | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Gray Fox | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Southern Flying Squirrel | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| White-tailed Deer | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Total | 32 | 18 | 14 | 4 | 4 | 1 | 73 |

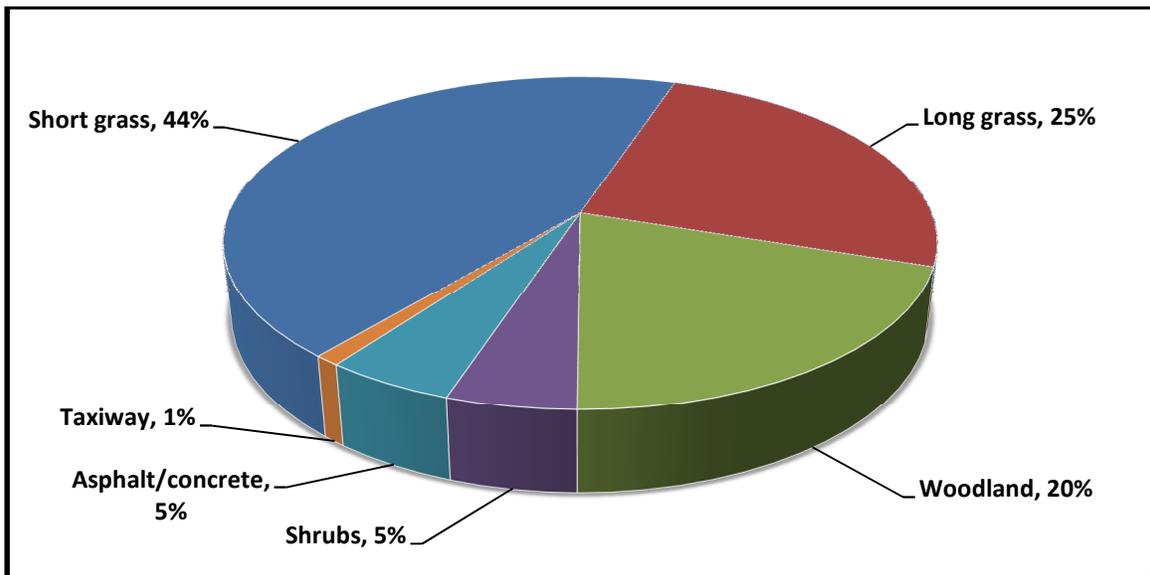


Figure 6. Habitat use by mammals at WFF, October 2011 – September 2012.

6.0 DISCUSSION

Although almost all wildlife species commonly found at airports can pose some hazard to aircraft safety, not all species are equally hazardous to aviation (Dolbeer and Wright 2009). For example, bird species such as Canada Geese are more likely to cause damage if struck by aircraft than species the size of a sparrow. Utilizing the FAA wildlife strike database, Dolbeer and Wright (2009) developed a ranking of 89 wildlife species (with 25 or more reported strikes) that pose the greatest threats to aircraft safety. The ranking was based on the percentage of strikes causing damage to aircraft from 1990 through 2007, and species were classified into 6 hazard severity levels ranging from extremely high (>40% of strikes causing damage) to very low (<1% of strikes causing damage). Combined with wildlife surveys conducted locally at an airport, this hazard ranking list can be used to prioritize management actions to species posing the greatest risk to aircraft safety (Dolbeer and Wright 2009).

Though there were 91 species observed between birds and mammals through the study year (Appendix A), for this discussion, emphasis will be placed on those guilds that pose the greatest threats to aviation safety at WFF. Dolbeer and Wright's (2009) hazard ranking list was compared with total species abundance from wildlife surveys conducted at WFF, records from the WFF wildlife strike database, and control efforts recorded by WS from October 2011 through September 2012. Using this information, guilds were ranked in order of the threat level that they pose to aviation safety at WFF from the most severe to the least severe. This comparison helps to show that the most abundant species at an airport (common grackles, in this case) are not necessarily always the most hazardous to aircraft safety due to abundance alone. The guilds identified as most hazardous to aircraft safety at WFF from October 2011 through September 2012 were Raptors, Waterfowl, Gulls, Wading Birds, Blackbirds and Starlings. Cervids (deer) were identified as the most hazardous mammal group. There were 7 species observed at WFF that rank as an extremely high hazard to aviation safety, 4 as very high, and 9 as a high hazard (Table 4). The following discussion and management recommendations will focus on the most hazardous guilds listed in Table 4. However, most if not all of the management recommendations (habitat modification, dispersal methods, etc.) will be effective for managing the majority of species observed at WFF.

Table 4. Mammal / Guild hazard ranking and total observations at WFF, October 2011 - September 2012.

| Mammal / Guild | Species | Hazard Level and percentage of strikes causing damage in the U.S. | Total observed at WFF during study period | Reported strikes at WFF 1981-2011 | Strikes at WFF causing damage 1981-2011 |
|-----------------|--------------------------|---|---|-----------------------------------|---|
| Cervids | White-tailed Deer | Extremely High (84%) | 1 | 3 | 3 |
| Raptors | Turkey Vulture | Extremely High (52%) | 341 | 1 | 0 |
| | Black Vulture | Extremely High (51%) | 25 | 0 | 0 |
| | Bald Eagle | Extremely High (45%) | 45 | 0 | 0 |
| | Osprey | Very High (22%) | 3 | 0 | 0 |
| | Great Horned Owl | High (18%) | 2 | 0 | 0 |
| | Red-tailed Hawk | High (17%) | 76 | 1 | 0 |
| | Northern Harrier | Low (2%) | 100 | 0 | 0 |
| | American Kestrel | Very Low (1%) | 47 | 2 | 0 |
| Waterfowl | Snow Goose | Extremely High (79%) | 19,605 | 0 | 0 |
| | Canada Goose | Extremely High (51%) | 268 | 0 | 0 |
| | Mallard | Very High (26%) | 8 | 0 | 0 |
| Cormorants | Double-crested Cormorant | Extremely High (41%) | 10 | 0 | 0 |
| Gallinaceous | Wild Turkey | Very High (32%) | 12 | 0 | 0 |
| Wading Birds | Great Blue Heron | Very High (22%) | 22 | 0 | 0 |
| | Great Egret | High (19%) | 135 | 0 | 0 |
| | Cattle Egret | High (11%) | 32 | 0 | 0 |
| Gulls | Herring Gull | High (12%) | 415 | 3 | 0 |
| | Great Black-backed Gull | High (11%) | 5 | 0 | 0 |
| | Ring-billed Gull | High (10%) | 255 | 2 | 1 |
| | Laughing Gull | Moderate (7%) | 2,181 | 18 | 0 |
| Blackbirds | Common Grackle | Moderate (9%) | 29,911 | 0 | 0 |
| | Red-winged Blackbird | Low (3%) | 25,681 | 0 | 0 |
| | Brown-headed Cowbird | Low (2%) | 5,950 | 0 | 0 |
| Starlings | European Starling | Moderate (4%) | 2,765 | 3 | 0 |
| Columbids | Rock Pigeon | High (12%) | 29 | 0 | 0 |
| | Mourning Dove | Moderate (4%) | 94 | 0 | 0 |
| Corvids | American Crow | High (10%) | 335 | 0 | 0 |
| Other Passerine | American Robin | Moderate (7%) | 139 | 0 | 0 |
| Other Mammal | Eastern Cottontail | Moderate (5%) | 25 | 0 | 0 |
| | Raccoon | Moderate (4%) | 8 | 0 | 0 |

6.1 Raptors

Raptors pose serious threats to aviation safety due to the large size of many species and their flight behaviors. Some raptors may soar high over the AOA (eagles, vultures), while others may fly slowly close to the ground while hunting (harriers). From 1990 through 2010, raptors have been involved in 1,011 damaging wildlife strikes in the United States, resulting in almost \$63 million in damages (Dolbeer et al. 2012). There are 4 reported strikes involving raptors on record for WFF, none causing damage (Table 1).

General Abundance

Raptors were the seventh most abundant guild observed at WFF from October 2011 through September 2012 with 647 observations. Six species observed in the raptor guild pose a high risk or greater to aviation safety, making raptors the most hazardous guild to aircraft safety at WFF (Table 4). Turkey Vultures were the most commonly observed species in the raptor guild, followed by Northern Harrier (*Circus cyaneus*), Red-tailed Hawks (*Buteo jamaicensis*), American Kestrels (*Falco sparverius*), Bald Eagles (*Haliaeetus leucocephalus*), and Black Vultures (*Coragyps atratus*). Four additional raptor species were recorded and had less than 10 observations each (Appendix A).

Beginning in October, raptor observations start to increase and peak through March (Figure 7). The peak is likely from northern birds migrating south to the WFF area to overwinter. As soon as the spring migration begins, the number of raptor observations drops considerably as migrants move out of the area and move to their breeding areas (April – September); however, raptors were observed year-round at WFF. Raptors were primarily observed towering or flying locally over woodland, short grass, marsh/wetland, and runway/taxiway/ramp habitats (Figure 8 & 9). Raptors were also commonly observed loafing/standing on structures throughout the area. Turkey and Black Vultures were most often observed towering over the woodland, marsh/wetland, and AOA. Northern Harriers were most often observed flying locally over the short grass areas of the AOA or loafing within them. Red-tailed Hawks were frequently observed loafing/standing on the edges of the woodlands and airfield structures. Red-tailed Hawks were also frequently seen towering and flying locally around woodlands and the AOA. The majority of American Kestrels were observed loafing on various structures within the AOA or flying locally in short grass habitat. Bald Eagles were mostly observed flying past or towering over marsh/wetland, short grass or runways/taxiways/ramps.

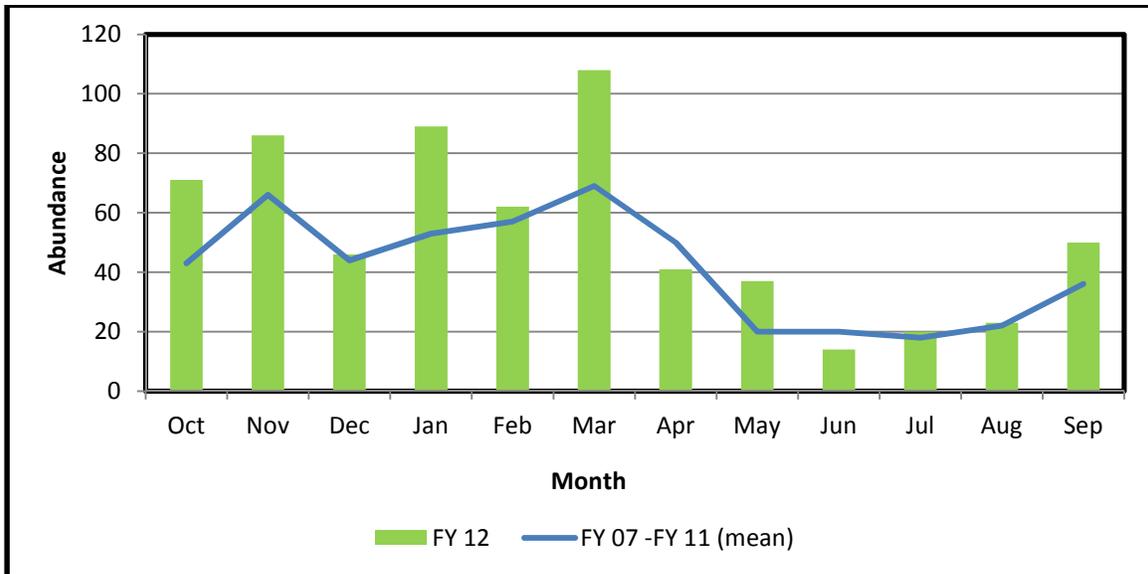


Figure 7. Raptor observations per month at WFF, October 2011 - September 2012.

Attractants

Raptors are attracted to the AOA at WFF by several features. Runways, taxiways, ramps, and paved surfaces provide excellent soaring and towering locations as raptors take advantage of the thermals these surfaces inherently provide. Raptors find abundant prey (e.g., voles, mice, rabbits, insects, etc.) in the open grass, shrub and woodland areas within the AOA. Trees, fence lines, airfield signage, towers/poles, and building structures also provide raptors with perfect perching sites to hunt prey and loaf.

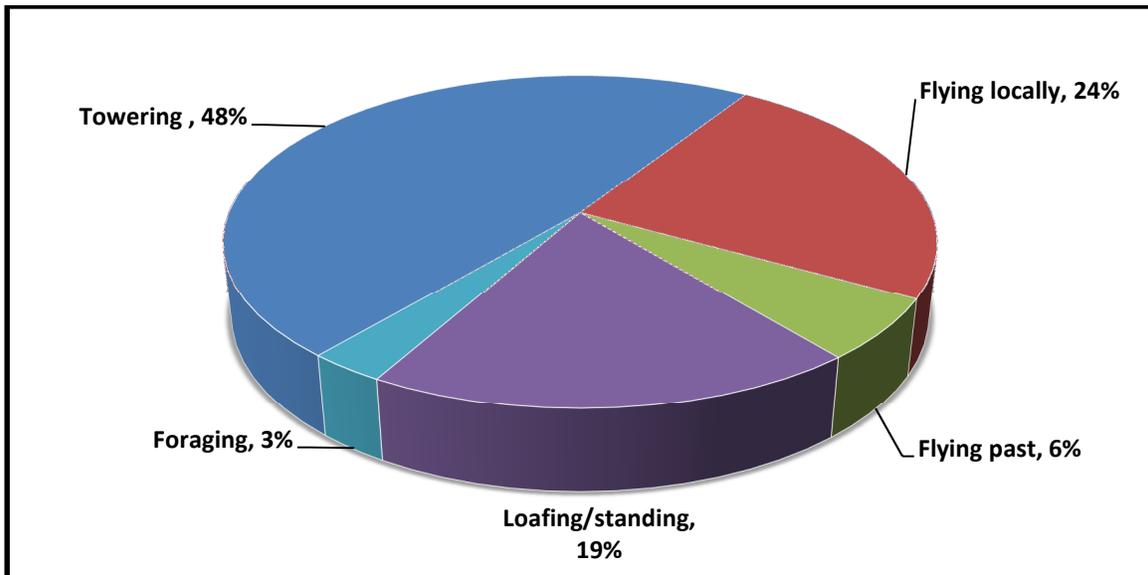


Figure 8. Raptor activity at WFF, October 2011 – September 2012.

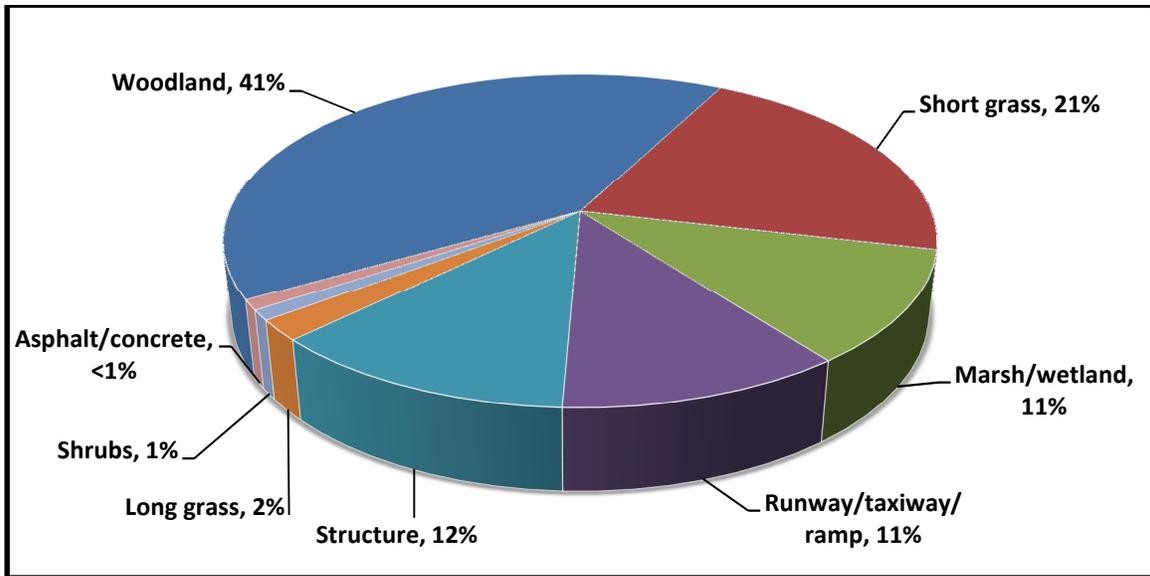


Figure 9. Raptor habitat use at WFF, October 2011 - September 2012.

Management Recommendations

To reduce the likelihood of aircraft strikes involving raptors, Blackwell and Wright (2006) suggested that management efforts in the AOA should be directed towards the availability of food and alteration of habitats used by raptors. The reduction of food sources such as rodents and carrion in the AOA is critical to controlling foraging by Red-tailed Hawks and vultures (Blackwell and Wright 2006). Reducing the number of small mammals in the AOA may be accomplished by a variety of methods, including trapping, shooting, and the use of rodenticides. Any animal carcasses found in or around the AOA should be removed and disposed of promptly to avoid attracting vultures.

Research has shown that small mammals use unmanaged areas of tall vegetation far more than disturbed areas (Barras and Seamans 2002, Blackwell and Wright 2006, Washburn and Seamans 2007), so more frequent mowing can help to reduce small mammal abundance at airports (Barras and Seamans 2002), thereby reducing the availability of food for raptors. When possible, reducing the availability of locations where raptors may perch, roost, loaf, or nest is recommended. As such, WFF should consider the removal of trees, shrubs and other perch sites in the AOA (such as old utility poles and old unused airfield signage). Anti-perching devices, such as porcupine wire, should also be considered for installation on top of all necessary airfield signage to prevent raptor perching.

Raptor species should be harassed from the AOA whenever present using methods such as vehicles, horns, propane cannons and pyrotechnics. Vultures commonly soar high above the AOA, making them difficult to disperse using 15mm pyrotechnics, given their limited range. Devices with much greater range (such as CAPA rounds or 12-gauge cracker shells) may be more useful for dispersing vultures. Lethal removal of some raptors may be necessary for persistent individuals, and as such the airport's depredation permit must be kept current to allow take of raptors. Lethal removal may include methods such as shooting or trapping. All vultures entering or departing roost sites may exhibit towering behavior

that can be hazardous to aircraft. Vulture roosts in close proximity to the airport, especially in the approach areas, should be identified and dispersed.

Though recently removed from the federal endangered species list, Bald Eagles are protected under the Bald and Golden Eagle Protection Act and are considered a state threatened species. A permit is required to simply harass eagles from the AOA. Eagle observations by WS personnel are becoming more frequent in the area around WFF in recent years. Since 2000, Bald Eagle strikes have been increasing nationwide; in Virginia alone, 9 eagle strikes have been reported. WFF currently holds an Eagle Depredation Permit that allows for harassment of eagles.

An active Bald Eagle nest was located east of WFF on USFWS Wallops Island National Wildlife Refuge property. The nest was located on the western edge of the woodland by Rt. 175 and ~1,300 feet east from the centerline of runway 4. Due to the close proximity of the nest to the airfield, the extremely high hazard ranking of Bald Eagles, and the increased presence of eagles within the AOA, WS recommends actions are taken to reduce this hazard by preventing future nesting at this location. WS can assist WFF with coordinating through the USFWS and VA Department of Game and Inland Fisheries to acquire necessary permits to remove the nest or nest tree outside the nesting season. After nest removal, harassment with pyrotechnics is used to discourage the adult eagles from rebuilding a nest in the same area. Surveys would also be conducted within 1 mile of WFF to monitor for any new eagle nesting activities.

6.2 Waterfowl

Waterfowl can be particularly hazardous to aircraft due to their large body size and flocking behavior. In particular, Canada Geese have been responsible for some of the more serious wildlife strikes. In addition to the more recent “Miracle on the Hudson” event (see Section 1.1), 24 airmen were killed in 1995 when an Air Force AWACS aircraft crashed at Elmendorf Air Force Base in Alaska after striking a flock of Canada Geese (Wright 2011). From 1990 through 2010, waterfowl have been responsible for the greatest number of damaging strikes in the United States (n=1,595) resulting in over \$150 million in losses (Dolbeer et al. 2012). There are no reported strikes involving waterfowl at WFF.

General Abundance

Waterfowl were the second most abundant guild observed at WFF from October 2011 through September 2012 with 20,408 observations, and ranked as the third most hazardous guild to aircraft safety at WFF. However, it should be noted that 19,575 of the total waterfowl observations were recorded in a single survey as Snow Geese flying past the AOA. Three species of waterfowl observed at WFF were listed as either an extremely high or very high risk to aviation safety (Table 4). Snow Geese were the most observed species in the waterfowl guild, followed by American Black Ducks, Canada Geese, Green-winged Teal (*Anas crecca*), Hooded Mergansers (*Lophodytes cucullatus*), and 5 other species with less than 50 individuals of each observed (Appendix A).

Waterfowl abundance begins to increase in late October/early November and remains relatively high through April (Figure 10). This increase represents birds migrating south and overwintering in the coastal marsh and wetland systems throughout the Eastern

Shore. As the spring migration starts in April, most waterfowl species in the area migrate north to their breeding grounds. Waterfowl were most often observed flying past the AOA, woodland and marsh/wetland habitats (Figures 11 & 12). Observations of waterfowl loafing/standing or foraging in marsh/wetland habitats were also common. Both Snow and Canada Geese were primarily observed flying past around sunrise and sunset often at altitudes that were conducive to strikes. Observations of loafing Canada Geese were also often seen in the marsh/wetland habitat in the approach path to runway 35. American Black Ducks, Green-winged Teal and Hooded Mergansers were primarily observed foraging or loafing/standing in marsh/wetland habitat.

Snow Geese and Canada Geese should be considered a serious wildlife threat to aviation safety at WFF. Nationally, both Snow and Canada Geese are ranked as an extremely high hazard to aviation safety. Seventy-nine percent of strikes with Snow Geese result in damage, whereas 51% of Canada Goose strikes resulted in damage from 1990 through 2007 (Dolbeer and Wright 2009 and Table 4). By comparison, Mallards are ranked as a very high hazard to aviation safety, but the damaging strike rate for Mallards is about half that of Canada Geese (Dolbeer and Wright 2009).

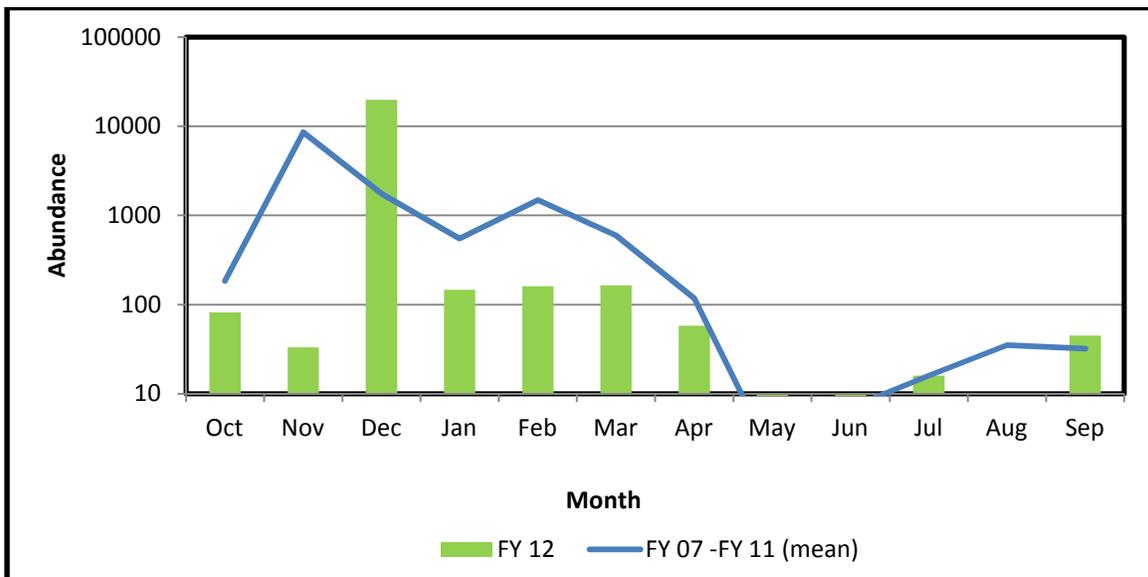


Figure 10. Waterfowl observations per month at WFF, October 2011 - September 2012.

Attractants

Waterfowl are attracted to WFF and the surrounding area by several habitat features. WFF is bordered on the east and north by extensive tidal marsh habitat. To the west, the tidal marshes narrow and continue along the airport border as a tidal creek. The vast amounts of open water and marsh habitat surrounding WFF provides prime feeding, loafing, roosting, and nesting habitat for waterfowl. The upland areas beyond the marsh/wetland habitat to the north, west and south predominantly consists of agricultural lands that provide ample feeding locations as well. To the east lies the Town of Chincoteague. Beyond that, the Chincoteague National Wildlife Refuge is located on Assateague Island and operated by the

USFWS and managed to promote habitat for migrating waterfowl. Despite the vastly attractive habitat surrounding WFF, waterfowl are rarely observed using habitat within the AOA.

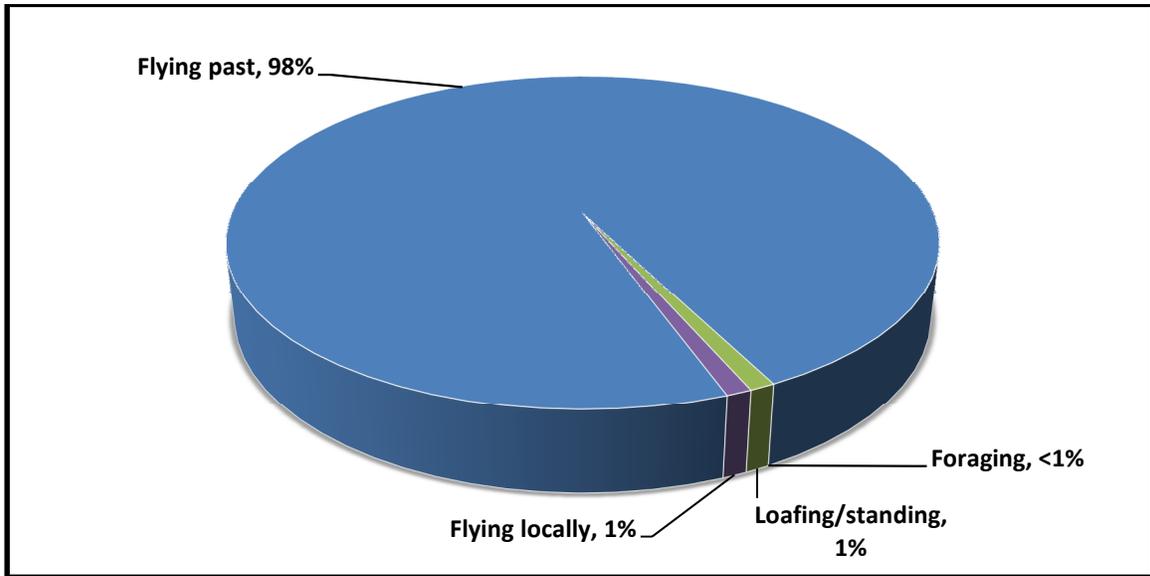


Figure 11. Waterfowl activity at WFF, October 2011 – September 2012.

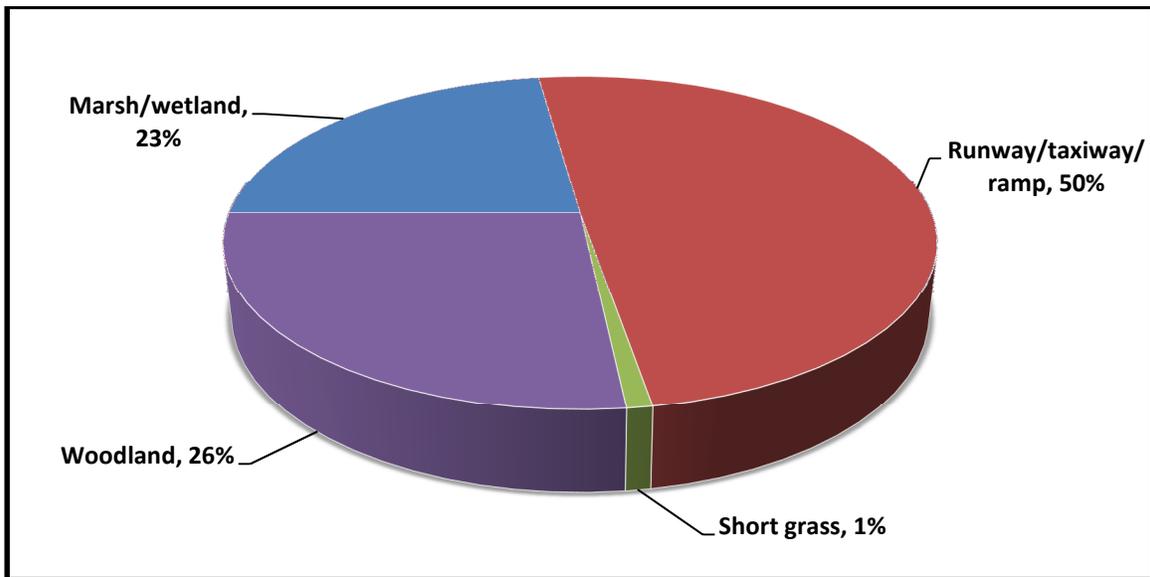


Figure 12. Waterfowl habitat use at WFF, October 2011 - September 2012.

Management Recommendations

Habitat management can be an important component of managing for Canada Geese. Generally, it is recommended that airports maintain grass at an intermediate height in the AOA (between 6 and 10 inches). It has long been thought that tall vegetation management in the AOA would deter Canada Geese since they often prefer to forage in areas of short grass, though there is limited scientific data on how Canada Geese react to tall vegetation

management and studies have often produced conflicting results (Seamans et al. 2007, Barras and Seamans 2002, Washburn et al. 2007). Though more research is needed, studies suggests that a promising method of reducing Canada Goose use of airfields is to use an endophyte-infected variety of tall fescue when re-seeding areas of an airport disturbed by construction or renovation (Washburn et al. 2007). Research suggests that when consumed by wildlife, tall fescue produces a variety of adverse effects (taste aversion, physical distress) and is generally avoided (Washburn et al. 2007). When re-seeding areas of the airport, WFF (and contractors utilized by the airport) should consider planting tall fescue and avoid grass mixtures containing millet, ryegrass, and other palatable grasses so as not to provide a preferred food source for geese. Keeping the airfield ditches properly drained and not maintaining any open water habitat has helped to keep the AOA un-attractive to waterfowl.

WFF should maintain a “zero tolerance” (disperse or lethally remove) policy towards waterfowl in and adjacent to the AOA, especially Canada and Snow Geese. Waterfowl species should continue to be aggressively harassed to disperse them from the area. Harassment methods may include the use of pyrotechnics, propane cannons, horns, sirens, paintball guns, and/or chasing with vehicles/boats. WFF should maintain its current migratory bird depredation permit from the USFWS to allow lethal take of waterfowl species that do not respond to harassment. Canada Geese may also be taken under the Control Order at Airports and Military Airfields (50 CFR §21.49), which allows take of Canada Geese on airport properties and other properties within a 3-mile radius of the airfield (with permission of the landowner) from April 1 to September 15.

Communication between Air Traffic Control Tower Operators and WS with updated bird watch conditions and locations of waterfowl flying past, especially in the timeframe around sunrise and sunset, can help to inform aircraft of potential threats in the area until the flock has left the airspace. Modifying aircraft arrivals and departures to avoid timeframes of known increased waterfowl movements will also help in reducing the threat.

In order to further reduce threats from Canada Geese, WFF has expanded control efforts beyond the AOA to the Wallops Island facility that provides attractive sources of food and cover. Resident Canada Geese (non-migratory) are aggressively managed throughout the year there in accordance with the Wallops Island Resident Canada Goose Plan submitted by WS to WFF. WS has also been actively working with outside cooperators to control resident Canada Geese in the Town of Chincoteague and on the Chincoteague National Wildlife Refuge. WFF should actively seek other areas within the 3 mile critical zone of the airport where Canada Geese may pose a threat to aviation safety. A study conducted in New York by Seamans et al. (2009) indicated that resident Canada Geese remained within 3 miles (5 km) of their primary feeding and loafing areas around JFK International Airport, and this trend seems to be reflected in the areas around WFF. The WS program in NY reported that goose numbers at Rikers Island decreased annually after removal efforts from 2004 through 2007, and subsequently goose strikes at nearby LaGuardia Airport decreased by 80% (Seamans et al. 2009).

6.3 Gulls

From 1990 through 2010, gulls were the most frequently struck bird group in the United States (for strikes when the species was identified), with 15% of the 8,345 reported gull strikes resulting in damage (Dolbeer et al. 2012). Gulls are hazardous because of their large body size, flight characteristics, foraging and loafing behaviors, and their tendency to form large flocks. There are 37 reported strikes involving gulls at WFF (including strikes with unknown gull species), 3 resulted in damage and gulls have accounted for half (49%) of all reported strikes at WFF (Table 1).

General Abundance

Gulls were the third most abundant guild observed at WFF from October 2011 – September 2012 with 2,856 observations (Appendix A). All four species of gulls observed at WFF are listed as a hazard risk to aviation safety with 3 species listed as high and 1 moderate (Table 4). Laughing Gulls were the most observed species of gull followed by Herring Gulls, Ring-billed Gulls (*Larus delawarensis*) and Great Black-backed Gulls (*Larus marinus*).

Gulls were present throughout most of the year, with the largest concentrations observed from May through late August (Figure 13). The increase in gull numbers is largely attributed to the arrival of Laughing Gulls from their southerly wintering grounds. A second and much smaller peak in observations during January is from observations of Ring-billed Gulls that are typically observed in the area of WFF between November and January (Figure 13). Herring and Great Black-backed Gulls are found in the WFF area year-round. Overall, gulls were most commonly observed flying past the AOA, marsh/wetland, and woodland habitats that surround WFF (Figure 14 & 15). Laughing Gulls were commonly observed flying past the AOA or flying locally within the marsh/wetland habitats. Laughing Gulls were observed flying past the AOA area on a fairly consistent basis with movements increasing around sunrise and sunset and traveling both east and west. Herring Gulls were observed year-round and were also most commonly observed flying past the AOA or loafing in marsh/wetland habitat. Ring-billed Gulls were observed mainly during the winter months and most often observed loafing or flying locally over marsh/wetland habitat. Great Black-backed Gulls were infrequently observed and less than a half dozen observations were recorded. Throughout the year, but particularly during the summer months, gulls were frequently observed on runways, taxiways and ramps during and after periods of inclement weather, especially when rain, wind and/ or fog were present.

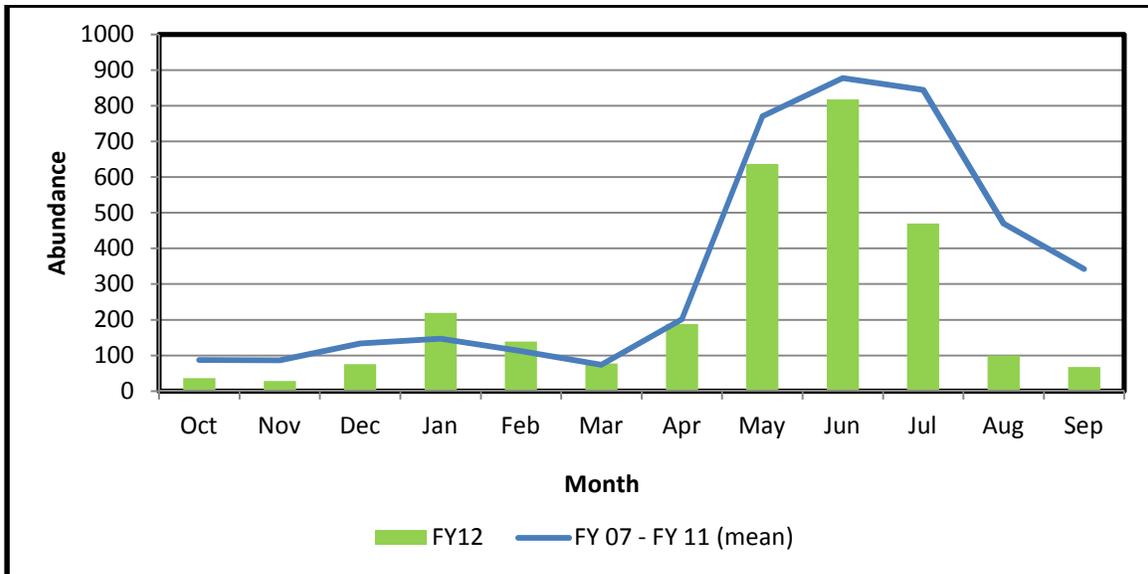


Figure 13. Gull observations per month at WFF, October 2011 - September 2012.

Attractants

The major attractant for gulls at WFF is the marsh/wetland habitat surrounding WFF. Tidal marshes/wetlands provide ample foraging, loafing and nesting habitat for gulls. Laughing Gulls have traditionally used the extensive marshes east of WFF as a breeding location and can be seen by the thousands in this area during the summer months. These colonies will also include other nesting gulls, such as Herring and Great Black-backed, but in far less numbers than those of Laughing Gulls. Normally, these colonies are closer to Chincoteague Island than WFF, but movements from this area to inland areas typically involve gulls crossing WFF airspace. Another significant attractant, especially for Laughing Gulls, were various beetle and insect hatches in the shrub, woodland and agricultural areas just outside the AOA during June and July. These hatches can be extremely variable in regards to location and intensity, but gulls were frequently observed aerial foraging for insects above these habitats when hatches occurred. Terrestrial invertebrates, particularly beetles, are an important food for Laughing Gulls during the summer months (Bernhardt et al. 2010). Heavy soaking rains that saturate the soil force earthworms out of the ground and onto the paved surfaces of the AOA providing an additional food source for gulls. Areas of temporary standing water, usually on hard or paved surfaces after a rain event, provide gulls with a source of fresh water in an area consisting predominantly of salt water. These areas of temporary standing water are most attractive to gulls during the driest and hottest months of the year. Many of the gulls observed transiting the airfield from the nesting colony are also likely headed to the Accomack County North Landfill, where during the summer months, hundreds of gulls can be observed loafing and foraging throughout the landfill.

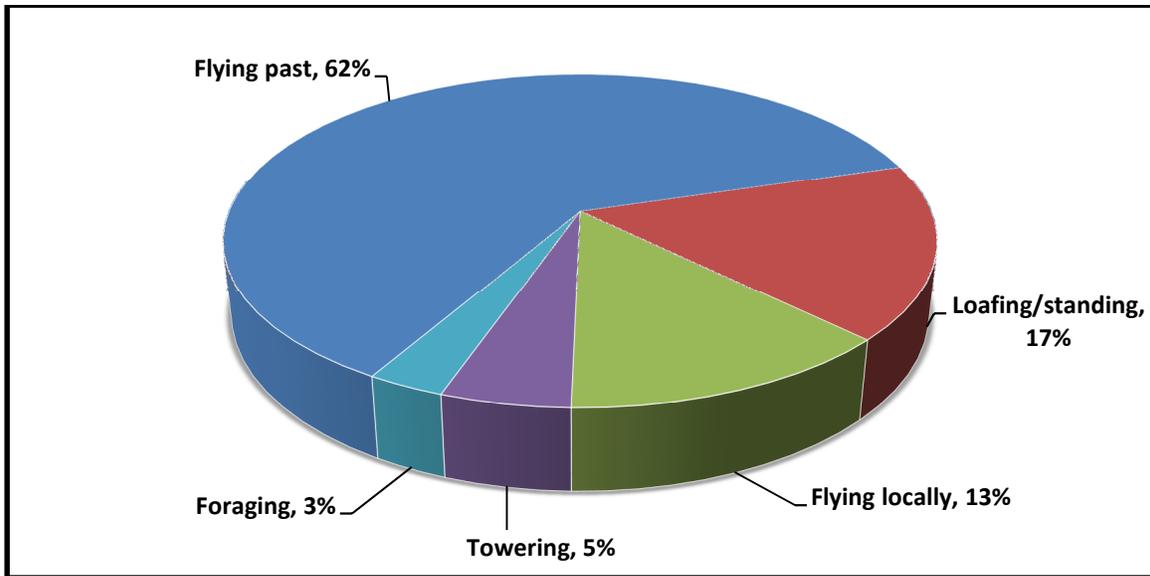


Figure 14. Gull activity at WFF, October 2011 – September 2012.

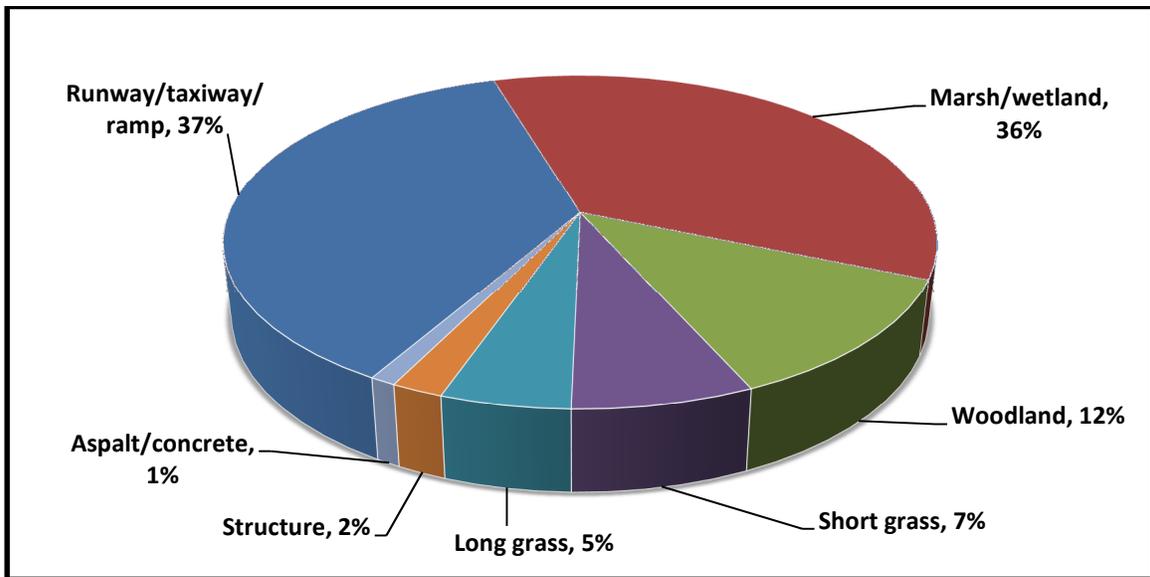


Figure 15. Gull habitat use at WFF, October 2011 - September 2012.

Management Recommendations

Gull harassment with pyrotechnics, propane cannons, vehicles, horns and sirens, followed up with lethal reinforcement, is the most effective and efficient way to reduce the extremely high abundance of gulls at WFF or flying over the AOA. Shooting not only reinforces harassment and removes individuals from the AOA, but it also helps to alter the flight paths of surviving gulls (Dolbeer et al. 2003). WFF should maintain its current migratory bird depredation permit from the USFWS to allow lethal take of gull species that do not respond to harassment. Frequent wildlife sweeps during flight operations and throughout inclement weather are necessary to keep the AOA free of gulls. Laughing Gulls foraging for beetles in

June and July require short periods of constant harassment supplemented by lethal control. If aggressive dispersal of Laughing Gulls during beetle hatches is not possible, the application of a beetle pesticide, such as Merit®, to the beetle larvae in the infected area during spring or fall can be effective in preventing these hatches. Hatch locations within the airfield can be unpredictable and vary from year to year, making insecticide application difficult however.

Areas of temporary standing water should be removed or altered so that standing water drains within 48 hours of a rain event (Cleary and Dolbeer 2005). Airfield drainage at WFF is adequate and does not allow for the accumulation of standing water; however there are multiple areas within the AOA on hard surfaces that do hold water for over 48 hours of a rain event (details provided in recommendations - habitat modification and exclusion). These areas should be corrected so that low spots are filled and areas where un-level asphalt/concrete meet are repaired, reducing pooling of temporary standing water. Earthworms forced onto AOA surface by saturated soils should be swept up and removed to reduce foraging gulls.

6.4 Wading Birds

Wading birds pose a high threat to aviation safety due to the large size of many species, their slower flight behaviors and flocking tendencies. From 1990 through 2010, wading birds have been involved in 151 damaging wildlife strikes in the United States, resulting in almost \$11 million in damages (Dolbeer et al. 2012). There is 1 reported non-damaging strike involving wading birds on record for WFF (Table 1).

General Abundance

Wading birds were the eighth most abundant guild observed at WFF from October 2011 – September 2012 with 518 observations (Appendix A). One species of wading bird observed at WFF is listed as a very high hazard risk to aviation safety and another 2 are listed as high (Table 4). Glossy Ibis (*Plegadis falcinellus*) were the most commonly observed species followed by Great Egret (*Ardea alba*), Cattle Egret (*Bubulcus ibis*), Great Blue Heron (*Ardea herodias*) and Snowy Egret (*Egretta thula*) (Appendix A).

The majority of wading bird observations occurred in the WFF area between April and October as species migrate back from southerly wintering areas (Figure 16). Observations are common throughout the summer and typically peak August through early October as they spend an increased amount of time foraging in preparation for their fall migration south. Individuals of all species were primarily observed utilizing the marsh/wetland habitat that surrounds the AOA and were commonly observed foraging, flying past, or flying locally within this habitat (Figure 17 & 18).

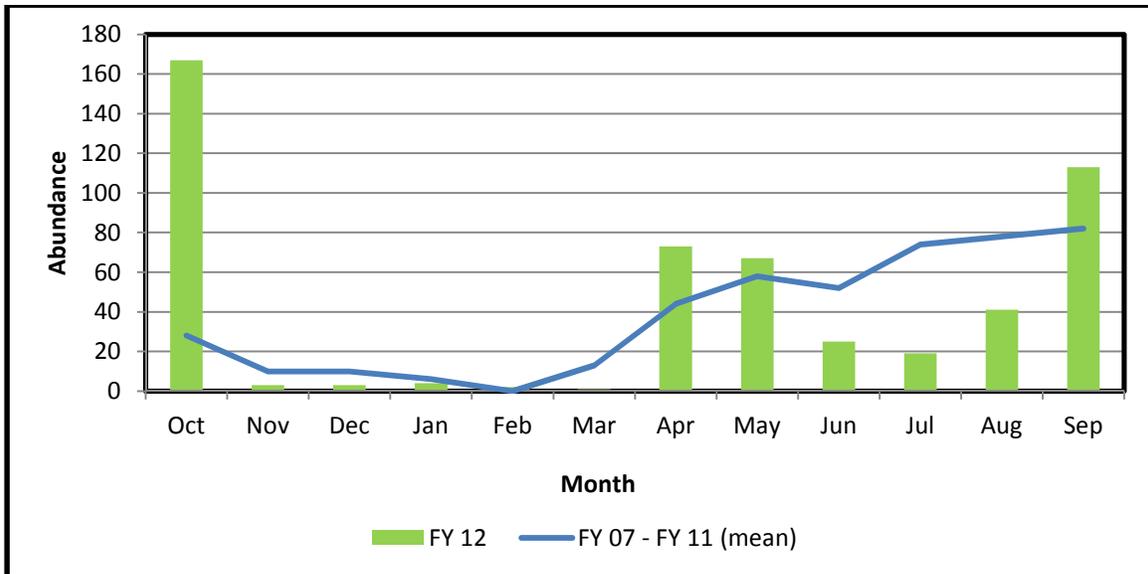


Figure 16. Wading bird observations per month at WFF, October 2011 – September 2012.

Attractants

The major attractant for wading birds at WFF is the marsh/wetland habitat surrounding WFF. Tidal marshes/wetlands provide perfect foraging habitat for wading birds. The many small, shallow ponds within the marsh/wetland habitat concentrate forage (fish, invertebrates, etc..) providing easy foraging opportunities, especially after an extreme high tide as forage becomes trapped in these ponds after the tide recedes. Low tidal events also concentrate forage and observations of wading birds tended to increase during a lower tidal stage.

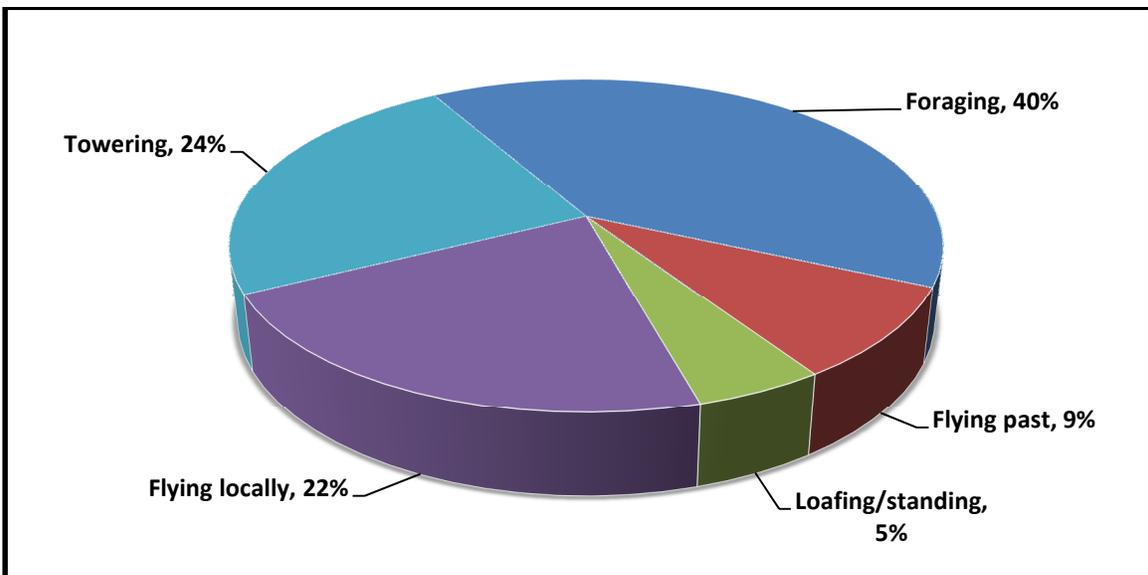


Figure 17. Wading bird activity at WFF, October 2011 – September 2012.

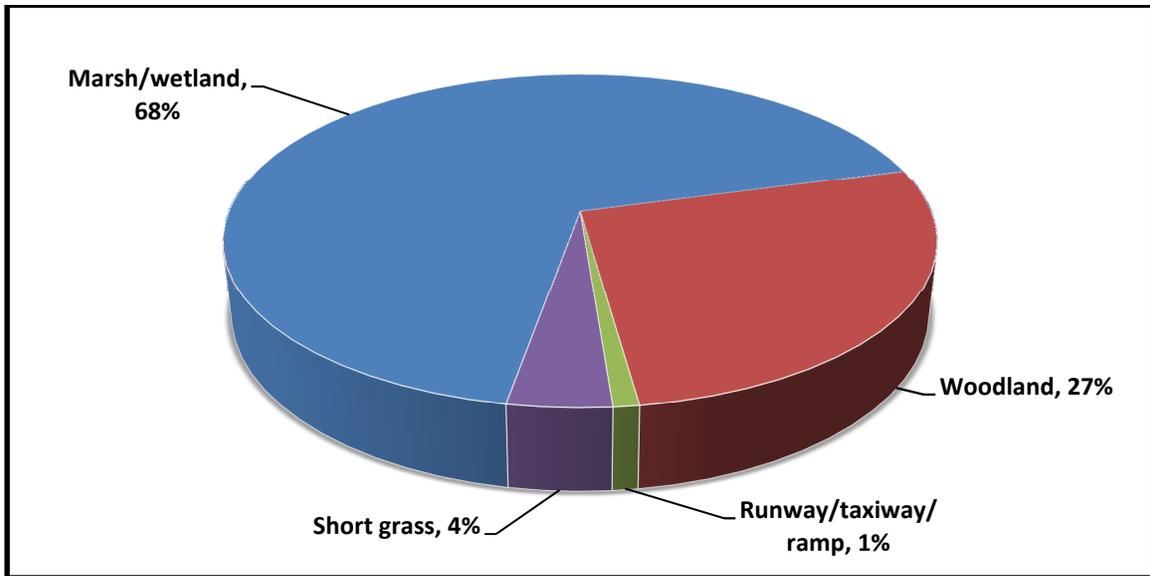


Figure 18. Wading bird habitat use at WFF, October 2011 – September 2012.

Management Recommendations

Harassment with pyrotechnics is the most effective and efficient way to reduce the abundance of wading birds in the marsh/wetland habitat surrounding WFF. On rare occasions, wading birds were observed foraging for injured or disoriented rodents behind active grass mowing equipment and harassment typically dispersed them easily. Keeping the airfield ditches properly drained and not maintaining any open water habitat has helped to keep the AOA un-attractive to wading birds.

6.5 Blackbirds

Generally, blackbirds present a moderate to low risk to aviation safety because of their small size. However, their tendency to flock together presents an increased risk factor despite their small size. Blackbirds often form large, dense flocks of mixed species that can sometimes number in the millions. From 1990 through 2010, blackbirds have been involved in 1,694 wildlife strikes in the United States, resulting in damage only 6% of the time at a cost of a little over \$1 million in damages (Dolbeer et al. 2012). There has been 1 reported strike at WFF involving an unknown blackbird (Table 1).

General Abundance

From October 2011 through September 2012, blackbirds were the most abundant guild observed at WFF with 61,567 observations (Appendix A). However, 94% of blackbird observations (n=58,125) were made during 4 surveys. Three of the four species of blackbirds observed received a hazard rating as a risk to aviation safety, 1 moderate and 2 low (Table 4). Common Grackles were the most observed species of blackbird followed by Red-winged Blackbirds, Brown-headed Cowbirds and Boat-tailed Grackles (*Quiscalus major*) (Appendix A).

Blackbirds are present year-round in the WFF area with seasonal changes in the species observed and overall abundance. Blackbird observations spike between November and

January and typically remain constant the remainder of the year at lower abundances (Figure 19). Ninety-seven percent of the blackbird observations were of species flying past the AOA and grassy areas or the surrounding marsh/wetland and woodland habitats (Figure 20 and Figure 21). Mixed flocks of blackbird species, numbering in the tens of thousands at times, are frequently observed during the peak of blackbird abundance. These mixed flocks are often observed flying past WFF while traveling between roosting and foraging locations off site. This movement is commonly observed around sunrise and sunset and at times can take up to 45 minutes for flocks to completely cross WFF airspace. Blackbirds were also routinely observed loafing/standing in shrub habitat or on structures. Red-winged Blackbirds were most often observed flying past the AOA or utilizing the shrub habitat on the AOA for nesting. Common Grackles were primarily observed flying past the AOA. Brown-headed Cowbirds too were most frequently observed flying past the AOA, but were also commonly observed in late summer and early fall loafing and foraging in the short grass areas outside the AOA.

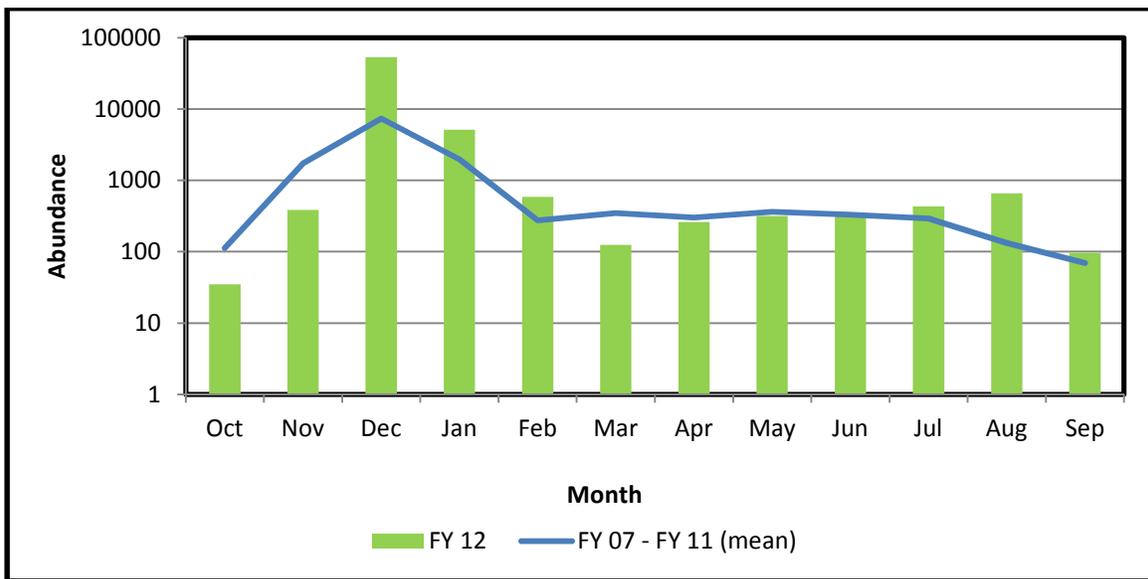


Figure 19. Blackbird observations per month at WFF, October 2011 - September 2012.

Attractants

Blackbirds are drawn to the short grass areas around WFF, particularly the areas of grass outside the AOA. Shorter grass heights around the buildings and structures outside the AOA provide better foraging habitat for blackbirds than the grass management areas inside the AOA, which are kept at a longer height. Shorter grass is easier for blackbirds to search and forage in and also provides an abundance of insects, seeds, and worms. The woody shrub habitat, interspersed with common reed (phragmites, *Phragmites australis*), found in the AOA drainage ditches provides excellent cover for nesting blackbirds. Shrub and woodland habitats also provide foraging opportunities as well as roosting cover.

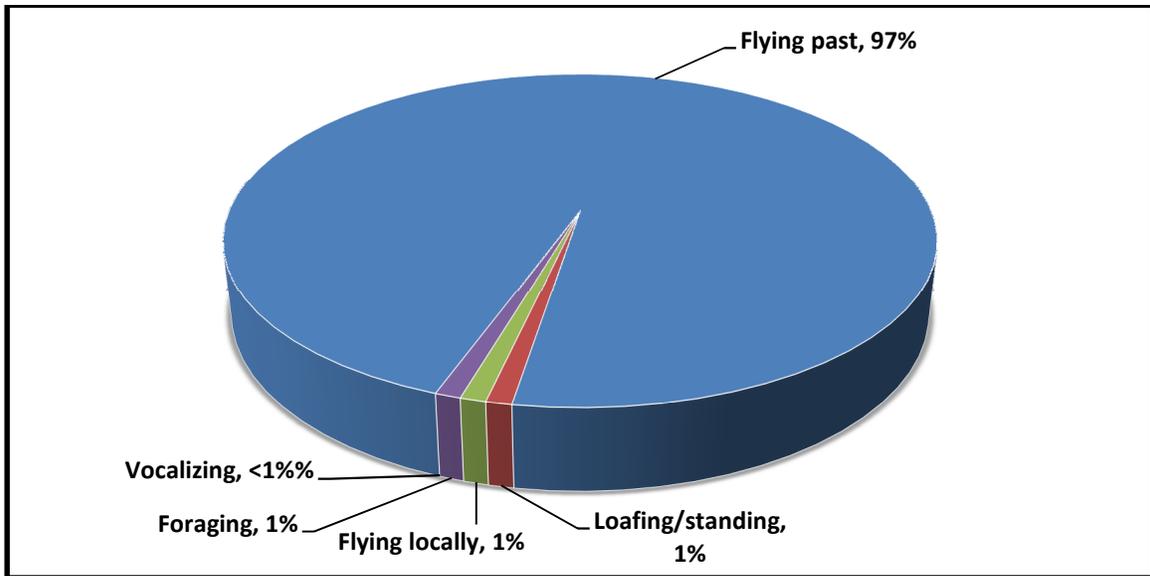


Figure 20. Blackbird activity at WFF, October 2011 – September 2012.

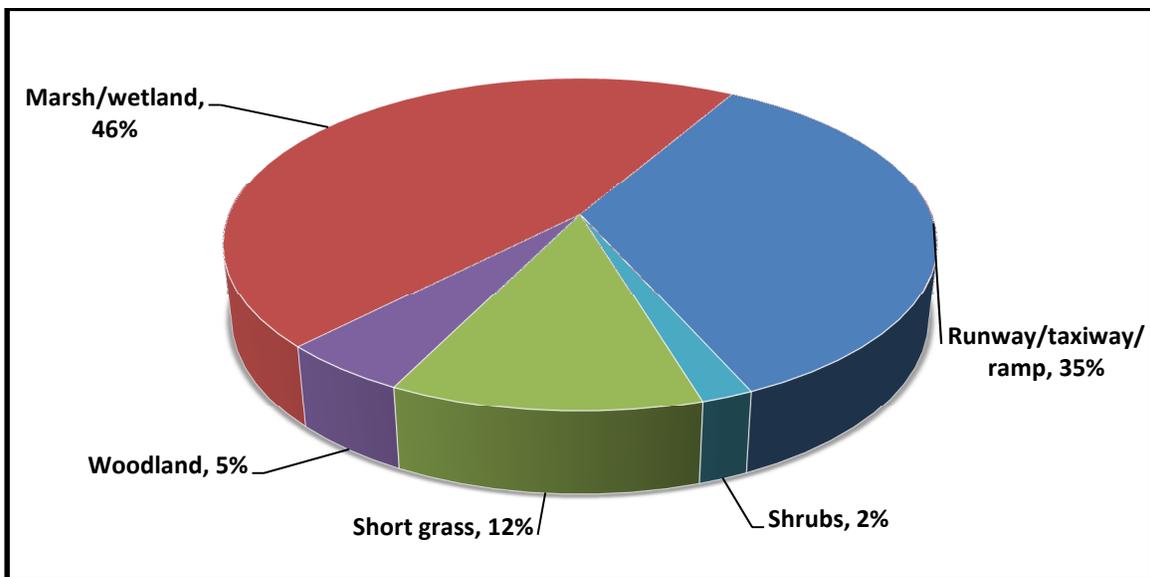


Figure 21. Blackbird habitat use at WFF, October 2011 - September 2012.

Management Recommendations

Removal of all shrub and phragmites habitat inside the AOA will eliminate nesting and roosting cover for blackbirds. Phragmites is treated once a year by WS in August with an herbicide treatment designed to kill the plant. Prescribed burning is followed up in winter after the herbicide treatment to remove the dead growth serving as wildlife cover. Phragmites is an extremely difficult plant to remove and can take several years of herbicide and prescribed burning treatments to completely remove. The woody shrubs inside the airfield ditches should be hydro-axed and cut down at least once every 2 years to prevent the woody vegetation from reaching a suitable height for nesting and providing cover.

Prescribed burning every year should also help to keep the vegetation growing in the areas of the ditch that cannot be mowed at an early successional stage. Although not aesthetically pleasing, allowing grass heights around the buildings and structures outside the AOA to grow longer (6-10") can help to deter flocks of foraging blackbirds.

Communication between Air Traffic Control Tower Operators and WS with updated bird watch conditions and locations of blackbirds flying past, especially in the timeframe around sunrise and sunset during peak abundance, can help to inform aircraft of potential threats in the area until the flock has left the airspace. Modifying aircraft arrivals and departures to avoid timeframes of known increased blackbird movements will also help in reducing the threat.

Harassment using pyrotechnics, propane cannons, sirens, horns, lights, and vehicles should be used whenever flocks of blackbirds are posing a risk to aviation safety. Shooting will also help to reinforce harassment techniques. No permit is required to lethally remove blackbirds under 50 CFR 21.43 - depredation order for blackbirds, cowbirds, grackles, crows and magpies '...when concentrated in such numbers and manner as to constitute a health hazard or other nuisance' (i.e., aviation safety) (Control of Depredating or Otherwise Injurious Birds 1989). The use of decoy traps baited with seed can also be effective at removing localized populations of blackbirds. Toxicants such as DRC-1339 (WS use only) are effective at removing large populations of blackbirds. DRC-1339 is a slow acting avicide that is lethal to blackbirds that ingest the treated bait. The lethal effects of DRC-1339 take 1-3 days to begin so birds would most likely perish off site. Avitrol® is a toxicant added to bait that is designed to frighten and disperse blackbirds. Birds that ingest Avitrol® exhibit seizure-like conditions and emit alarm/distress calls that frighten the flock. Depending on the dose, lethal effects of the toxicant will occur within a few hours.

6.6 Starlings

Similar to blackbirds, starlings present a moderate risk to aviation safety because of their small size. However, their tendency to flock together presents an increased risk factor despite their small size. Starlings also have a very high body density (Seamans et al. 1995), which can lead to increased damage from strikes with starlings despite their small size. From 1990 through 2010, starlings have been involved in 101 damaging wildlife strikes in the United States, resulting in over \$4 million in damages (Dolbeer et al. 2012). There have been 3 non-damaging strikes reported at WFF involving starlings (Table 1).

General Abundance

From October 2011 through September 2012, starlings were the fourth most abundant guild observed at WFF with 2,765 observations (Appendix A). The European Starling was the only species of this guild to be observed at WFF and was ranked as a moderate hazard to aviation safety (Table 4). Starlings were observed year-round at varying levels of abundance. Starling abundance begins to increase late July/early August through December and again briefly in March (Figure 22). The first peak starting in July and August is likely from adult and juvenile starlings flocking together as the nesting season winds down and they increase feeding in preparation for fall and winter. Although starlings do not typically migrate, some portions of a local population are known to migrate several hundred miles (Johnson and Glahn 1994). Starling flocks will also join blackbird communal roosts for

protection and warmth during the winter months. The second population spike in March is most likely starlings dispersing throughout WFF as they begin establishing territories in preparation for nesting in late March/early April. As nesting activities increase, observations decrease and individuals spend more time attending to the needs of the nest. Starlings spend a majority of their time around the short grass and structure areas of WFF loafing, foraging, and flying locally (Figure 23 & 24).

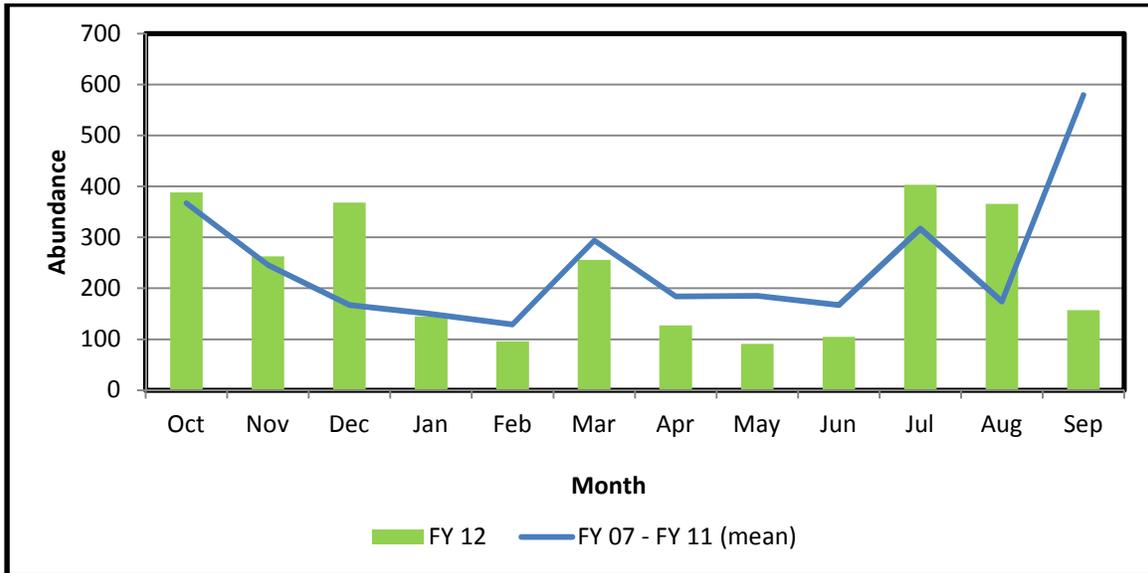


Figure 22. Starling observations per month at WFF, October 2011 - September 2012.

Attractants

Starlings are attracted to the short grass areas for foraging as seeds, earthworms, and insects are abundant and easily accessible. Like blackbirds, shorter grass heights around the buildings and structures outside the AOA provide better foraging habitat for starlings than the grass management areas inside the AOA, which are kept at a longer height. Starlings are cavity nesters and find ample nesting locations in the cavities or small openings in hangars, buildings, satellite dishes and equipment. The different structures around WFF also serve as loafing locations.

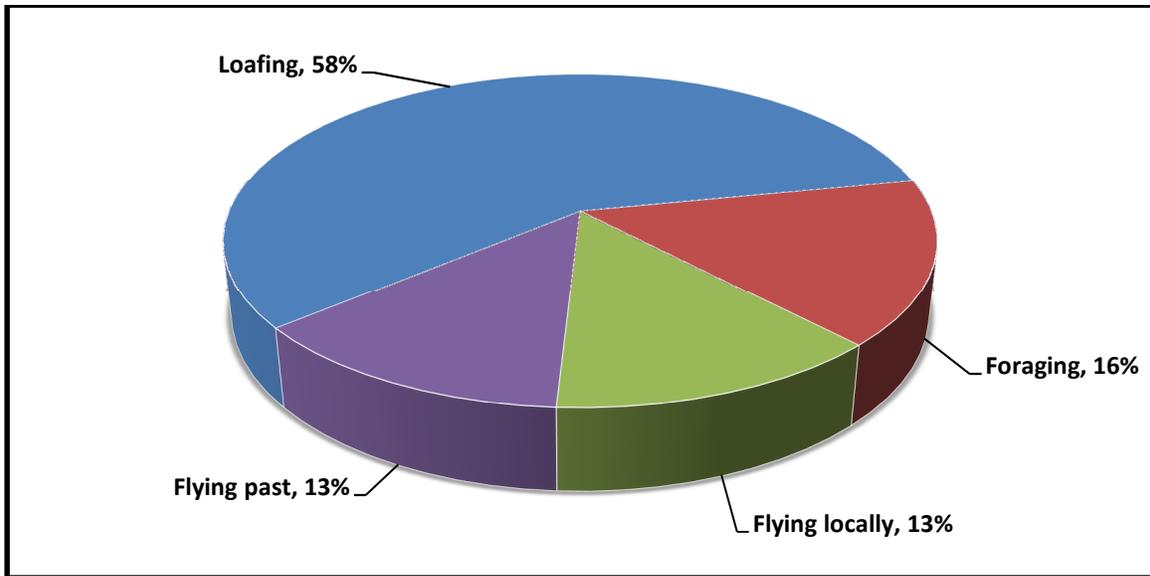


Figure 23. Starling activity at WFF, October 2011 – September 2012.

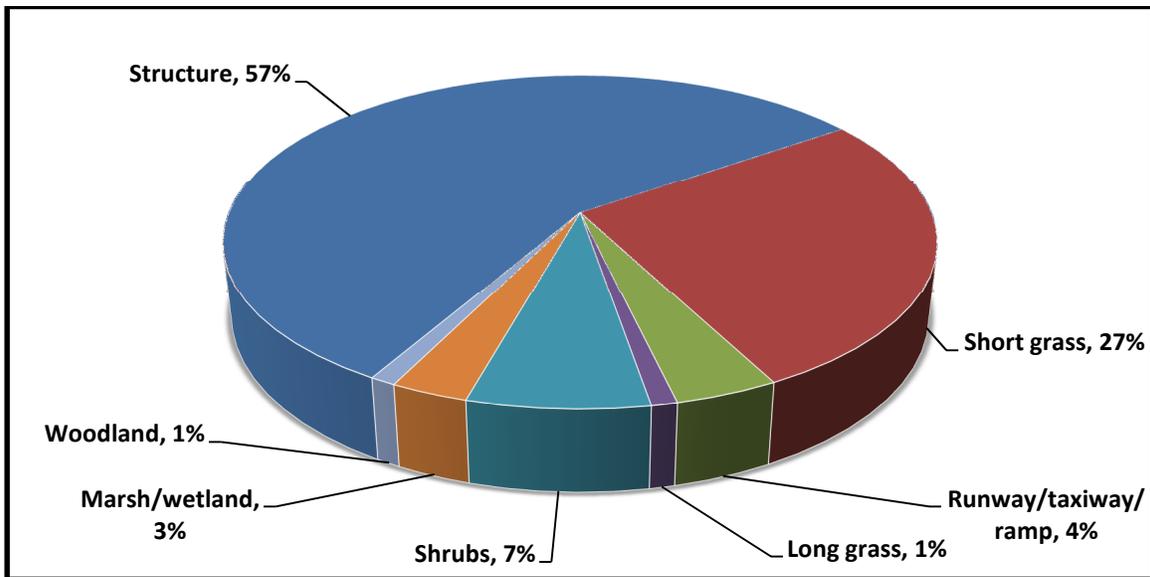


Figure 24. Starling habitat use at WFF, October 2011 - September 2012.

Management Recommendations

Harassment using pyrotechnics, propane cannons, sirens, horns, lights, and vehicles should be used whenever flocks of starlings are posing a hazard to aviation safety. Shooting with nontoxic shot will also help to reinforce harassment techniques. No permit is required to lethally remove starlings because they are not protected by the MBTA and are listed as a state nuisance species. The use of decoy traps baited with seed can also be effective at removing localized populations of starlings. Nest box traps are effective at removing starlings during the breeding season. Exclusion of nesting starlings can be difficult, but

cavities should be excluded as much as possible to reduce nesting at WFF. Toxicants mentioned in section 6.5 can also be used to control starlings.

6.7 Deer

White-tailed deer present an extremely high risk to aviation safety with 84% of all strikes causing damage (Table 4). Nationally from 1990 – 2010, there have been 874 damaging strikes with white-tailed deer resulting in \$30 million in damage (Dolbeer et al. 2011). There are 3 reported strikes with white-tailed deer at WFF; all 3 reported damage and occurred before WFF began working with WS and prior to the completion of the perimeter fence (Table 1). WFF operates under a “zero tolerance” policy towards deer on the airfield as recommended by the FAA and WS (Dolbeer et al. 2011). Deer densities were estimated at nearly 26 deer/mi² when WS initially began deer removals at WFF in 1999. An inadequate and incomplete perimeter fence, abundant food, unlimited cover (woodlands, shrubs and phragmites) and lack of hunting pressure on the AOA and adjacent properties at the time contributed to the large number of deer observed at WFF. Since that time, WFF and WS have made considerable efforts to correct the deficiencies that allowed deer to exist within the AOA. Habitat management was implemented to reduce cover and food sources, but most importantly the perimeter fencing was completed to include the entire Main Base at WFF. Crawl spaces and washouts were also repaired to prevent deer from crawling under the fence. Through enforcement of the zero tolerance policy, WS was able to reduce the deer population within the AOA by 100%.

Although a complete perimeter fence exists, deer are still able to gain access to the airfield on occasion either through the front gate or through areas of fence that have been damaged before repairs are made. During FY 12, 1 white-tailed deer was located within the perimeter fence and removed. Deer observed within the perimeter fence will continue to be removed immediately, or as soon as safely possible, when observed by WS. Because of the extremely high risk posed by deer within the AOA, WS encourages all WFF employees to report any deer observed within the perimeter fence. Removed deer were either donated to Hunters for the Hungry to feed needy families on the Eastern Shore or donated to willing WFF employees.

6.8 Other Guilds

Appendix A lists all guilds and species observed at WFF during wildlife surveys from October 2011 through September 2012. For all other guilds observed during wildlife surveys, many of the management recommendations listed for raptors, waterfowl, gulls, wading birds, blackbirds, starlings and deer are applicable for reducing threats to aviation safety. Many species utilize the same habitats, so management for one species will likely affect another. As discussed earlier in this section, habitat management, exclusion and harassment/lethal removal are the three most important components for reducing the threat of wildlife strikes at WFF. Habitat and water management will likely have the greatest impact for most bird species, while maintaining the perimeter fence will be most effective in reducing the presence of deer and other mammals from entering the AOA.

6.9 Threatened and Endangered Species

Three species of birds observed at WFF between October 2011 and September 2012 are listed as either endangered, threatened or of special concern by the Commonwealth of

Virginia or the USFWS. Bald Eagles are classified as state threatened and a federal species of concern. Upland Sandpipers (*Bartramia longicauda*) and Peregrine Falcons (*Falco peregrines*) were not recorded during surveys but were observed on the AOA during wildlife dispersal operations by WS and are both classified as state threatened.

7.0 CONTROL ACTIVITIES

In addition to conducting the annual monitoring report for the wildlife hazard assessment, WS also provided direct control services to WFF from October 2011 through September 2012. Table 5 lists species that were dispersed or removed to protect aviation safety at WFF by WS.

Table 5. Species dispersed or removed by WS at WFF, October 2011 – September 2012.

| Species | # Dispersed | # Removed |
|-----------------------|-------------|-----------|
| Snow Goose | 10,595 | 0 |
| Common Grackle | 5,474 | 42 |
| Red-winged Blackbird | 2,653 | 38 |
| Laughing Gull | 2,377 | 66 |
| Brown-headed Cowbirds | 1,415 | 113 |
| Turkey Vultures | 1,393 | 7 |
| European Starlings | 1,189 | 191 |
| Herring Gull | 919 | 10 |
| Canada Goose | 392 | 15 |
| Red-tailed Hawk | 154 | 5 |
| Ring-billed Gull | 140 | 8 |
| American Crow | 90 | 7 |
| Fish Crow | 86 | 1 |
| Black-bellied Plover | 82 | 0 |
| Sanderling | 69 | 0 |
| Northern Harrier | 66 | 9 |
| Tree Swallow | 64 | 3 |
| Black Vulture | 63 | 0 |
| Bald Eagle | 53 | 0 |
| Glossy Ibis | 52 | 0 |
| Barn Swallow | 49 | 2 |
| Mourning Dove | 40 | 18 |
| Rock Pigeon | 27 | 4 |
| American Kestrel | 23 | 4 |
| Horned Lark | 22 | 2 |
| Wild Turkey | 19 | 0 |
| White Ibis | 15 | 0 |

Table 5 (cont.). Species dispersed or removed by WS at WFF, October 2010 – September 2011.

| Species | # Dispersed | # Removed |
|--------------------------|--------------------|------------------|
| Willet | 15 | 3 |
| Great Egret | 6 | 0 |
| Osprey | 5 | 0 |
| Cattle Egret | 3 | 5 |
| Great Blue Heron | 2 | 2 |
| Killdeer | 2 | 3 |
| Double-crested Cormorant | 1 | 0 |
| Great Black-backed Gull | 1 | 1 |
| Raccoon | 0 | 23 |
| Red Fox | 0 | 17 |
| Virginia Opossum | 0 | 13 |
| Cottontail Rabbit | 0 | 12 |
| Eastern Meadowlark | 0 | 2 |
| Gray Fox | 0 | 2 |
| White-tailed Deer | 0 | 1 |
| Tree Swallow | 0 | 1 |
| House Sparrow | 0 | 1 |
| Woodchuck | 0 | 1 |
| Eastern Gray Squirrel | 0 | 1 |
| Feral Cat* | 0 | 5* |
| TOTALS | 27,556 | 633 |

* Live captured and transferred to the Accomack County Animal Control Facility

8.0 RECOMMENDATIONS

In addition to placing an emphasis on the management of the species discussed in Section 6, WS recommends that the following actions are implemented at WFF to improve wildlife hazard management and further reduce the threat of wildlife/aircraft strikes:

1) Continue to Update the Airport Wildlife Hazard Management Plan Based on the Annual Monitoring Report

WFF's current WHMP was developed after the initial WHA was completed in 2001 and is incorporated into the WFF Airport Facility and Operations Handbook. The plan provides the framework for the airport to address wildlife hazards and was most recently updated in 2011. It is recommended that the plan be updated, as needed, to reflect the information contained in this report.

2) Continue to Monitor Wildlife Populations and Habitat Use Patterns in the AOA

The intent of this report has been to document general occurrence, land-use patterns, and population characteristics of wildlife at WFF. It must be realized that wildlife abundance and use patterns on airfields are affected by a host of variables that are rarely the same from year-to-year. Hence, conclusions based on wildlife populations and patterns during this study are only meant to be a guide and may or may not be consistent in subsequent years. Survey routes and methods were established in a manner that facilitates continued monitoring. Data from this study, and years previous, provide a baseline for comparison in subsequent years and WFF should continue to monitor wildlife populations through monthly surveys.

3) Continue an Active Wildlife Hazard Control Program

This program should be continued with at least one person dedicating their entire time to implementing wildlife control measures, particularly during periods of increased bird and mammal activity. WS has been designated to head the wildlife hazard management program at WFF and will continue to do so as long as WFF desires and funding permits. During instances when WS is not available, the WHMP designates the WFF Fire and Rescue personnel and the Airport Manager as the responsible parties for dispersing hazardous wildlife, as needed.

4) Maintain Necessary Permits to Control Wildlife

As stated previously, federal and state permits are necessary for lethal take of migratory bird species and state-managed species such as deer and turkeys. In addition, a federal permit is needed before Bald Eagles may be harassed from the AOA. WFF currently holds a Federal Migratory Bird Depredation Permit, a Federal Eagle Depredation Permit, and a State Official Kill Permit. WS strongly recommends that these permits be maintained and updated to include new species or increased take of existing species as the need arises. WS will assist WFF with all permit application, renewal, and reporting processes.

5) Continue to Track and Record Wildlife Strikes

Wildlife strikes with aircraft at WFF should continue to be recorded for reasons mentioned in Section 5.1. Strikes reported at WFF should be entered in to the FAA Wildlife Strike Database and the NASA Incident Reporting and Information System. A copy of the strike report should also be filed with WS and the Aviation Safety Office. The more information that can be obtained from these strikes, the more we will know about the wildlife present, and the more that can be done to alleviate the attraction that draws them there. Wildlife species exhibit vastly different behaviors and hazards, so knowledge of the species involved is essential for development of an effective strike abatement program. The data collected from known strikes also helps the aviation industry to develop more resistant and robust aircraft components.

6) Continue Training of Airport Personnel in Wildlife Hazard Management

NASA Procedural Requirement 7900.3C requires that each center conduct a training program by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard

management plan. In August 2012, WS biologists provided 3 training workshops to employees at WFF. Training topics included NASA regulations, policies, and procedures; the wildlife hazard management plan, wildlife strike reporting; wildlife attractants; species identification; safety; and wildlife management tools and techniques. It is recommended that WFF continue to train employees in wildlife hazard management techniques, especially in the safe use and storage of pyrotechnics and in wildlife identification.

7) Continue to Utilize the Airport Runway Check Report

WFF Fire and Rescue personnel currently use the airport runway check report in the Wallops Institutional Information Management System to record all instances of bird dispersals, carcass removal, and other wildlife activity in the AOA. It is recommended that personnel continue to keep accurate records of wildlife activity. WS recommends that the inspection report include information such as the number of birds involved, cover type, and location on the airfield. This information can be useful in determining trends and prioritizing management objectives.

8) Maintain Sufficient Control Supplies in all Response Vehicles

WS recommends that airport employees who are responsible for wildlife hazard management are provided with adequate equipment needed to disperse wildlife. WFF currently supplies the Airport Manager/Wildlife Program Manager and Fire and Rescue personnel with pyrotechnics and launchers, propane cannons, and vehicles equipped with sirens and lights.

9) Continue the Quarterly Aviation Safety Meetings

The quarterly aviation safety meeting provides WS an opportunity to update senior management of current wildlife hazard issues regarding aviation safety in and around the AOA. These meetings also provide WS an opportunity to hear from, and discuss any issues the Aviation Office or senior management may have regarding wildlife hazards.

10) Evaluate Potential Wildlife Hazards When Planning New Construction or Land Use Changes

WFF is constantly undergoing expansion and improvement projects. It is critical to consider wildlife attractants during these planning phases. Several aspects to consider will be the planting of new vegetation, which may provide food and cover to wildlife, and the creation of water bodies or drainage basins that provide fresh water. WFF should contact WS biologists for review of airport plans that may include these features. In addition, adjacent off-site projects need to be considered as potential wildlife attractant hazards and dealt with accordingly.

11) Continue to Seek Cooperation from Adjacent Property Owners

As discussed in Section 6, wildlife on properties near the airport pose serious threats to aviation safety at WFF. WS recommends that WFF continues to identify areas within 3 miles of the airport that may provide roosting and/or foraging habitat for birds that utilize the airspace at WFF and work with these stakeholders to manage these aviation threats

through education and access for management. WS has an agreement to harass Turkey and Black Vultures from communication towers located on Verizon Communication property off Atlantic road near Navy housing and a Special Use Permit from the USFWS to harass/remove Turkey and Black Vultures from the Wallops Island National Wildlife Refuge located east of the AOA on state route 175.

Future challenges will be to develop a management plan for the increasing Bald Eagle population in and around WFF's critical zone. To reduce the potential conflict with birds and planes, a proactive plan will need to be established and implemented. WFF should continuously work with adjoining landowners, State and Federal agencies with jurisdiction over eagle management to prevent eagles from nesting in the vicinity of the airport. Previous eagle strikes on multiple occasions at several of Virginia's airports confirm the documented strike threat this species presents, especially when their nest are in close proximity of an airport.

12) Habitat Modification and Exclusion

As discussed in Section 6, habitat modification and exclusion are two of the most important components of a wildlife hazard management plan. Grass management is seasonal, and frequency of mowing can vary during the growing season. Currently, funding for airfield maintenance has limited WFF ground maintenance personnel's ability to maintain grass in the AOA at the recommended height (6 to 10 inches). Funding allows for 3 airfield mowing's a year. In order to keep grass at recommended heights, additional funding sources for AOA grass maintenance should be sought to allow for 4 – 5 mowing's a year.

Woody vegetation growing in drainage ditches should be removed and these areas maintained to prevent the creation of thick, shrub-like habitat that can provide cover for deer, small mammals and nesting blackbirds. Vegetation buildup also impedes drainage and can cause flooding during heavy rain events and can also slow water drainage creating standing water. Phragmites growth at WFF should also continue to be managed through herbicide applications by WS. Vegetation growth in these areas can also be kept at an early successional stage through coordination with the WFF Fire and Rescue Department to conduct prescribed burning on an annual basis. Areas where shrubs were removed during FY12 included: 1) approach to runway 10, 2) adjacent to the hot pad at runway 17, 3) middle of airfield along echo taxiway, 4) two drainage ditches east of runway 4/22, 5) south of N-159 Hanger and 6) the drainage ditch south of runway 4 along the south perimeter fence is in the process of being cut during the writing of this report.

Since all species are attracted to water, areas of standing water should also be eliminated where possible. Low lying areas should be filled or graded to improve drainage. Uneven paved surfaces that retain rain water should be repaired or have a drainage system installed. These areas include: 1) northwest most corner of runway 10; 2) abandon taxiway north of runway 10/28 across from D-1 hanger; 3) area around base of A-1 (Tower) and taxiway alpha/runway 17/35 intersection; 4) east end of abandon taxiway at intersection with taxiway echo; 5) intersection of runway 10/28 & runway 4/22; 6) concrete in front of B-129 (Fire Dept.); 7) intersection of runway 4/22 & runway 17/35; and 8) taxiway echo and N-159 ramp.

The entire perimeter fence should be inspected frequently for any areas that allow deer and mammals to enter the AOA. Any gaps discovered in or under the fence should be repaired immediately using bars, wire, or sections of fence to patch the area. Security personnel are strongly encouraged to report to WS, any deer observed entering the facility through the front gate. The section of Perimeter fence bordering NOAA is currently inadequate and should be upgraded to a new 10-foot chain-link fence topped with 3-strands of barbed-wire pointing outward from the facility. The fence should also be installed with a concrete footer or buried fence apron to prevent wildlife from digging and/or passing under.

Monitoring the nesting activity in buildings and hangars within the airport property should be conducted and any nests that are found removed. Birds that have young in the nest are bolder in their feeding habits and will increase the number of forays onto the airfield to feed their young. Exclusion generally provides the most cost-effective long-term measure for reducing nesting activity in buildings especially with starlings that often return to the same nesting areas again and again. Once they have selected a site and have begun construction of the nest, starlings can be very difficult to exclude because of their persistent behavior. Though not as abundant or persistent as starlings: pigeons, swallows, and House Sparrows will frequently nest in buildings on and around WFF and may present nuisance, health, and safety hazards. Trapping will also be conducted on an annual basis to remove individual birds before nests can be established.

Enforcement of the proper use of dumpsters should continue. WFF has made great strides to clean up and enforce the proper use of dumpsters, though occasionally lids are left open. Latches have been installed on the lids to ensure they do not blow open in high winds and signs are posted near dumpsters enforcing this request. Proper dumpster management keeps mammals and scavenging birds from feeding in the dumpsters and it also reduces FOD hazards on the AOA. WFF has also made great strides in eliminating feral cat feeding stations that used to exist throughout the facility. WS will monitor for any new feeding stations or feral cat activity and follow the appropriate steps as detailed in the Feral Cat Management Plan for WFF.

9.0 SUMMARY

Based on data collected during the Annual Monitoring Report, records from the wildlife strike database, and control efforts by WS personnel, several species were identified that threaten aircraft safety at WFF. The guilds that are of most concern to aircraft safety include raptors, waterfowl, gulls, wading birds, blackbirds and starlings. Several management strategies may be implemented to reduce wildlife hazards at WFF, including habitat modification, exclusion, harassment, and lethal removal of hazardous wildlife species. WS recommends that WFF continues to take a hands-on approach to wildlife hazard management through continued monitoring and aggressive management, utilizing the information contained in this report to further reduce wildlife hazards and provide a safe environment for the flying public and aircraft operations.

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11.0 APPENDIX A. Abundance of Bird Species and Guilds Observed at WFF, October 2011 – September 2012.

| Guild and Species | Total Abundance | Percent of Total | Max. Abundance in a Single Survey | Mean Abundance per Survey¹ | Frequency of Occurrence |
|--------------------------|------------------------|-------------------------|--|--|--------------------------------|
| Blackbirds | 61,567 | 67% | 44,050 | 1,099 | 78% |
| Common Grackle | 29,911 | 48% | 29,911 | 1,031 | 41% |
| Red-winged Blackbird | 25,681 | 42% | 25,681 | 546 | 65% |
| Brown-headed Cowbird | 5,950 | 9% | 5,950 | 496 | 17% |
| Boat-tailed Grackle | 25 | <1% | 25 | 25 | 1% |
| Waterfowl | 20,408 | 22% | 19,605 | 464 | 63% |
| Snow Goose | 19,605 | 96% | 19,605 | 9,802 | 3% |
| American Black Duck | 353 | 2% | 60 | 14 | 35% |
| Canada Goose | 268 | 1% | 40 | 12 | 32% |
| Green-winged Teal | 65 | <1% | 30 | 22 | 4% |
| Hooded Merganser | 62 | <1% | 18 | 7 | 13% |
| Ruddy Duck | 38 | <1% | 38 | 38 | 1% |
| Mallard | 8 | <1% | 2 | 2 | 7% |
| Bufflehead | 5 | <1% | 3 | 3 | 3% |
| Wood Duck | 2 | <1% | 2 | 2 | 1% |
| American Wigeon | 2 | <1% | 2 | 2 | 1% |
| Gulls | 2,856 | 3% | 318 | 47 | 85% |
| Laughing Gull | 2,181 | 76% | 311 | 56 | 54% |
| Herring Gull | 415 | 15% | 51 | 10 | 57% |
| Ring-billed Gull | 255 | 9% | 76 | 23 | 15% |
| Great Black-backed Gull | 5 | <1% | 4 | 3 | 3% |
| Starlings | 2,765 | 3% | 243 | 42 | 92% |
| European Starling | 2,765 | 100% | 243 | 42 | 92% |
| Sparrows | 870 | 1% | 31 | 12 | 99% |
| Savannah Sparrow | 761 | 87% | 31 | 11 | 93% |
| Grasshopper Sparrow | 101 | 12% | 10 | 6 | 24% |
| Unidentified Sparrow | 5 | <1% | 5 | 5 | 1% |
| House Sparrow | 3 | <1% | 3 | 3 | 1% |
| Meadowlarks | 814 | 1% | 43 | 12 | 94% |
| Eastern Meadowlark | 814 | 100% | 43 | 12 | 94% |
| Raptors | 647 | 1% | 36 | 10 | 93% |
| Turkey Vulture | 342 | 53% | 27 | 9 | 54% |
| Northern Harrier | 100 | 15% | 7 | 3 | 49% |
| Red-tailed Hawk | 77 | 12% | 6 | 2 | 63% |

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October 2011 – September 2012.

| Guild and Species | Total Abundance | Percent Total | Max. Abundance in a Single Survey | Mean Abundance per Survey¹ | Frequency of Occurrence |
|----------------------------|------------------------|----------------------|--|--|--------------------------------|
| American Kestrel | 48 | 7% | 3 | 2 | 43% |
| Bald Eagle | 45 | 7% | 4 | 2 | 38% |
| Black Vulture | 26 | 4% | 10 | 4 | 10% |
| Merlin | 3 | <1% | 1 | 1 | 4% |
| Osprey | 3 | <1% | 1 | 1 | 4% |
| Great Horned Owl | 2 | <1% | 1 | 1 | 3% |
| Cooper's Hawk | 1 | <1% | 1 | 1 | 1% |
| Wading Birds | 518 | <1% | 120 | 11 | 65% |
| Glossy Ibis | 250 | 48% | 60 | 14 | 25% |
| Great Egret | 159 | 31% | 135 | 6 | 30% |
| Cattle Egret | 46 | 9% | 30 | 11 | 4% |
| Snowy Egret | 36 | 7% | 10 | 6 | 6% |
| Great Blue Heron | 27 | 5% | 8 | 2 | 18% |
| Other Passerines | 441 | <1% | 49 | 9 | 65% |
| Horned Lark | 159 | 36% | 21 | 6 | 35% |
| American Robin | 152 | 34% | 40 | 9 | 22% |
| Eastern Bluebird | 45 | 10% | 12 | 4 | 15% |
| Northern Mockingbird | 30 | 7% | 5 | 2 | 25% |
| Northern Cardinal | 11 | 2% | 3 | 2 | 10% |
| American Goldfinch | 10 | 2% | 4 | 3 | 6% |
| Cedar Waxwing | 8 | 2% | 8 | 8 | 1% |
| Blue Grosbeak | 8 | 2% | 2 | 1 | 8% |
| Eastern Kingbird | 6 | 1% | 2 | 2 | 6% |
| Dark-eyed Junco | 3 | 1% | 3 | 3 | 1% |
| Bobolink | 3 | 1% | 3 | 3 | 1% |
| Indigo Bunting | 2 | <1% | 1 | 1 | 3% |
| Pileated Woodpecker | 2 | <1% | 1 | 1 | 3% |
| House Finch | 1 | <1% | 1 | 1 | 1% |
| Red-bellied Woodpecker | 1 | <1% | 1 | 1 | 1% |
| Corvids | 406 | <1% | 29 | 7 | 83% |
| American Crow | 335 | 83% | 17 | 6 | 82% |
| Fish Crow | 49 | 12% | 23 | 5 | 14% |
| Blue Jay | 22 | 5% | 5 | 2 | 15% |
| Swallows and Swifts | 236 | <1% | 30 | 8 | 39% |
| Barn Swallow | 202 | 86% | 30 | 8 | 35% |
| Tree Swallow | 34 | 14% | 14 | 9 | 6% |
| Columbids | 123 | <1% | 23 | 6 | 30% |

| Guild and Species | Total Abundance | Percent Total | Max. Abundance in a Single Survey | Mean Abundance per Survey¹ | Frequency of Occurrence |
|-----------------------------|------------------------|----------------------|--|--|--------------------------------|
| Mourning Dove | 94 | 76% | 23 | 7 | 19% |
| Rock Dove | 29 | 24% | 8 | 4 | 10% |
| Shorebirds | 52 | <1% | 12 | 3 | 22% |
| Willet | 19 | 37% | 4 | 2 | 7% |
| Killdeer | 17 | 33% | 4 | 8 | 1% |
| Black-bellied Plover | 16 | 30% | 8 | 2 | 6% |
| Terns | 33 | <1% | 5 | 2 | 24% |
| Common Tern | 33 | 100% | 5 | 2 | 22% |
| Gallinaceous Birds | 15 | <1% | 12 | 5 | 4% |
| Wild Turkey | 12 | 80% | 12 | 12 | 1% |
| Northern Bobwhite | 3 | 20% | 2 | 2 | 3% |
| Other Non-Passerines | 12 | <1% | 3 | 2 | 10% |
| Double-crested Cormorant | 10 | 83% | 3 | 1 | 10% |
| Belted Kingfisher | 2 | 17% | 2 | 2 | 1% |
| TOTAL | 91,763 | | 44,074 | 1,274 | |

| Mammal Species | Total Abundance | Percent Total | Max. Abundance in a Single Survey | Mean Abundance per Survey* | Frequency of Occurrence |
|-------------------------|------------------------|----------------------|--|-----------------------------------|--------------------------------|
| Eastern Cottontail | 25 | 34% | 13 | 3 | 66% |
| Red Fox | 17 | 23% | 4 | 2 | 75% |
| Unknown Mammal | 12 | 16% | 2 | 1 | 75% |
| Raccoon | 8 | 11% | 3 | 1 | 50% |
| Feral Cat | 4 | 6% | 1 | 1 | 33% |
| Virginia Opossum | 3 | 4% | 1 | 1 | 25% |
| Unknown Bat | 1 | 1.5% | 1 | 1 | 8% |
| Gray Fox | 1 | 1.5% | 1 | 1 | 8% |
| Unknown Flying Squirrel | 1 | 1.5% | 1 | 1 | 8% |
| White-tailed Deer | 1 | 1.5% | 1 | 1 | 8% |
| TOTAL | 73 | | 18 | 6 | |

¹ Mean calculated using only surveys in which species observed.

APPENDIX B: Wildlife Hazard Management Plan

WILDLIFE HAZARD MANAGEMENT PLAN OF WFF NASA/GODDARD SPACE FLIGHT CENTER/WALLOPS FLIGHT FACILITY

WILDLIFE HAZARD MANAGEMENT PLAN Updated July 21, 2011

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I. PURPOSE

The purpose of this Wildlife Hazard Management Plan is to document the wildlife hazard management activities that will be implemented at NASA/GSFC/Wallops Flight Facility (WFF) and the responsibilities of all personnel involved in its implementation. This program is designed to reduce the threat to aviation safety from wildlife within the Aircraft Operations Area (AOA) and approach paths. This plan has been written following the completion of the Wildlife Hazard Assessment conducted by the United States Department of Agriculture, Wildlife Services, and shall become effective immediately.

II. BACKGROUND

WFF lies at the center of the Atlantic flyway, a major migration corridor for migratory birds. The various types of habitat found at WFF and its surrounding area supports various species of birds and mammals (white-tailed deer, red fox) that pose as hazards for operating aircraft. For the past several years, a notable increase in deer and bird activity on and near the WFF airfield has occurred which significantly increases the likelihood of bird/mammal strikes. The increase in probability of bird strikes is sufficient to classify the WFF airport vicinity as a bird strike hazard area. Therefore, an active program to reduce bird and mammal activity within the WFF AOA is an essential and necessary requirement for contributing to the recently enhanced safety policy of the overall NASA agency.

In August 1999 the WFF Range and Mission Management Office was charged with developing a Deer Control Program for WFF. During the development of this program, a significant bird strike occurred involving the NASA/WFF P-3 aircraft that sustained \$58,000 in damage and the program was subsequently expanded to cover bird activity. In September/October 1999, WFF unsuccessfully attempted to contract for services to remove the deer from the airfield and assess the bird activity/hazards. WFF subsequently contacted the United States Department of Agriculture (USDA) / Animal and Plant Health Inspection Service (APHIS) / Wildlife Services (WS) for assistance in assessing and controlling the wildlife within the AOA. USDA/APHIS/WS personnel responded to our request and have been assisting with reducing wildlife threats to aircraft at WFF since November 1999.

III. RESPONSIBILITIES

- A. Airport Manager: The Airport Manager is responsible for the overall implementation of this Wildlife Hazard Management Plan and for ensuring coordination between all supporting organizations and individuals. The Airport Manager is also responsible for making sure that the AOA is maintained in such a manner that is as unattractive to wildlife as possible. The Airport Manager, while conducting daily inspections of the WFF airfield, shall disperse hazardous wildlife species that pose a risk to aviation safety through the use of pyrotechnics. The Airport Manager shall also notify WS personnel or Wallops Fire Department (WFD) personnel whenever hazardous wildlife species to aviation are observed at WFF and harassment measures are needed. The Airport Manager shall also inform WS personnel of upcoming airfield projects and other aircraft flights where WS support is required in a timely manner to allow for the proper preparations and scheduling. Lastly, the Airport Manager is also responsible for signing all renewals/applications for all required state and federal permits to conduct wildlife management work at WFF.
- B. Wallops Control Tower (Control Tower Operators (CTO)): The CTOs are responsible for carrying out program procedures as they apply to the tower. As a minimum, the CTOs are responsible for alerting the onsite WS representative, Wallops Fire Department (WFD) personnel or the Airport Manager when wildlife on the airfield presents a possible threat to aircraft during their normal duty hours. The CTOs shall exercise the authority to deny takeoff or landing clearance if a clear and present wildlife threat to aviation safety is observed. This authority shall not override an emergency situation. The CTOs shall also take note of any out of the ordinary wildlife event or new wildlife attractants observed on the airfield and notify WS personnel promptly. Lastly, the CTO's shall advise WS personnel of any bird-

aircraft strike that occurs at WFF so the incident can be investigated and the proper paperwork filed.

- C. Wallops Fire Department: WFD will disperse wildlife away from runway areas when their presence poses a threat to aviation safety and the WS representative is not available. WFD shall also alert pilots when they are aware of wildlife that may pose a serious threat to aviation safety while under UNICOM operations. WFD shall also keep accurate records of any deer, fox, or other major wildlife hazard to aircraft during their daily runway safety checks. In addition, accurate records of any aircraft/wildlife interaction (near miss, strike, aborted takeoff etc.) shall be maintained, if one occurs; the information should be forwarded to the Airport Manager and WS representative. The WFD shall also receive bird dispersal and pyrotechnic training from WS personnel once a year.
- After receiving training WFD, personnel are responsible for using pyrotechnics to disperse hazardous wildlife away from the AOA when observed or directed to by the CTO, especially when the WS representative is not available. WFD personnel shall also conduct periodic inspections of all crash vehicles to ensure they are properly equipped with the necessary pyrotechnic equipment. If more pyrotechnics, caps etc. are needed WS personnel should be notified. Lastly, the WFD is responsible for investigating and recording wildlife strikes that occur when the WS representative is not available and forward the information to WS personnel when completed. If the species involved in a strike is not identifiable, WFD personnel should keep any remains for identification by the WS representative.
- D. Aviation Safety Officer: The Aviation Safety Officer (ASO) at WFF is responsible for advising senior management on aviation safety matters including the Wildlife Hazard Management Plan/Program. The ASO shall also include wildlife hazard information in the quarterly Aviation Safety Meetings held at WFF. Lastly, the ASO shall keep some type of file on all bird-aircraft strikes that occur at WFF which should include bird strike forms that are forwarded from WS personnel.
- E. USDA\APHIS\WS Personnel: WS personnel are responsible for conducting bi-monthly bird surveys and monthly mammal surveys at WFF to monitor the wildlife populations at the facility and to identify hazardous species to aircraft. WS shall also perform daily site inspections, noting any deficiencies at WFF or attractants that increase the wildlife threat to aviation. WS personnel will provide CTOs with bird watch conditions based on bird activity observed during inspections. These conditions can be adjusted as changes in bird activity are observed. WS personnel shall use pyrotechnics and other hazing methods to disperse wildlife that pose a threat to aviation safety when observed or advised of by the CTO, Airport Manager, or WFD. WS personnel will, if deemed necessary, remove birds and/or mammals that pose a threat to aviation safety or human health and safety by lethal means under appropriate permits. The WS representative is responsible for developing monthly reports on WS activities at WFF and any new findings or concerns regarding aircraft safety and wildlife. WS will also provide an Annual Monitoring Update Report for the Wildlife Hazard Assessment at the end of each FY. WS personnel are also responsible for completing the required paperwork for renewing WFF's migratory bird depredation permits with the U.S. Fish and Wildlife Service as well as WFF's state kill permit from VDGIF and forwarding them to the Airport Manager for signature. WS will investigate and report all wildlife strikes. Strikes will be entered in the FAA wildlife strike database, NASA's Incident Reporting Information System (IRIS), and a copy of the report will be forwarded to the Aviation Safety Office at Wallops. A copy of the strike report will also be kept on file by WS. The WS representative shall also conduct bi-yearly inspections of the propane cannons on the airfield to ensure they are functioning properly, and have sufficient fuel for operation.
- F. Facilities Management: The Facilities Management Branch (FMB) is responsible for assisting the Airport Manager in modifying the airport environment to reduce its attractiveness to wildlife.
- G. Wildlife Program Manager: The Wildlife Program Manager is the primary interface between NASA and WS personnel involved with this WHMP. The program coordinator is responsible for

managing funding for WS activities and for monitoring WS operations/actions when required. The program coordinator is also responsible for authorizing WS to precede with any proposed mammal/bird removal operations that may be required.

- H. Environmental Office: The Environmental Office shall be contacted and involved in the planning stage of any proposed action under this plan to ensure environmental compliance.
- I. WFF Security: WFF Security shall ensure that all wildlife management activities are conducted safely and without incident or interference. WFF Security shall also watch for deer entering WFF through the main gate and inform the Airport Manager and WS personnel so the appropriate actions can be implemented. WFF Security should also monitor daily for any gates left open or breaches in the security fence (due to fallen trees or washout) and immediately secure them since these pose as entrances to the facility for both humans and wildlife, particularly deer.
- J. WFF Ground Maintenance: WFF Ground Maintenance shall be responsible for assisting the Airport Manager and WS representative in ensuring that the airfield is as unattractive to wildlife as possible. WFF Ground Maintenance shall also be responsible for maintaining the grass height in the AOA between 7 to 14 inches to reduce its attractiveness to wildlife.
- K. WFF Facilities Maintenance: WFF Facilities Maintenance is responsible for assisting in (if requested by management) “wildlife-proofing” WFF within their area of expertise (i.e. eliminating crawl spaces under fencing, removing fallen trees from fence and repairs, assisting in reducing standing water areas, etc.).

IV. WILDLIFE MANAGEMENT PROCEDURES

A. Deer and Other Mammal Assessment and Control Measures

1. Deer and Other Mammal Assessment

One spotlight survey will be conducted by WS personnel each month to estimate deer and other mammal populations within the AOA. During these surveys all mammals seen will be recorded. Information that will be recorded includes; species observed, number, map location, sex (if identifiable), behavior, cover type, and distance from the observer’s path. The data will be used as a guideline to determine if removal actions against particular species are warranted. Also, daily runway surveys conducted by WFD personnel will be used to supplement the spotlight survey data.

2. Deer Control Measures

Several measures are employed to control deer populations within the AOA at WFF. These control measures consist of perimeter fencing, habitat modification, and removal. Each of these measures is discussed below.

a. Fencing

Approximately 99% of the WFF Main Base property, which completely contains the airfield, is fenced. The fence currently in place is made up mostly of an 8-foot high chain-linked fencing material. The fence is also installed with 3 strands of barbed wire angled at a 45 degree angle outbound of the facility.

While the fence does not prevent all deer from entering the Main Base, it does serve as a major deterrent. A complete inspection of the fence line will be

performed periodically to ensure it is properly maintained. All potential access points such as gaps under the fence, or fallen trees are removed and the fence repaired as required. Also, any area found to have inadequate fencing (i.e. low fence, intersections with adjacent properties/boundaries, absence of barbed wire) that permit easy access to WFF for deer will be repaired/ replaced as budget priorities permit.

Any deficiencies in the perimeter fence will be noted by the WS personnel and will be documented in future reports. These reports will also contain recommendations to help make the fence as effective as possible to exclude medium to large mammals from WFF.

b. Habitat Modification

As part of the interagency agreement with WS, recommendations have been made to modify the habitat within the AOA to make it less attractive to deer and other mammals by removing or altering vital food, cover, and shelter. Habitat modification will include tasks such as tree/brush removal, grass maintenance, controlled burns, herbicide applications, and/or vegetation introductions. Recommendations for habitat modifications were part of the final report submitted to WFF by WS upon completion of their Wildlife Hazard Assessment.

c. Deer Removal

The WS personnel assisting WFF are very experienced with deer management practices. While there are several options available, the most effective and humane method recommended by WS is the removal of deer via sharpshooting. When the need to remove deer is identified, WS personnel will conduct nighttime deer removal operations using WS approved sharpshooting techniques. As part of the interagency agreement, WS has submitted a safety plan that discusses these activities. WFF has also performed an independent risk analysis, which indicates that the risks associated with these operations are acceptable.

As part of the overall wildlife management program and to ensure aircraft safety, it is imperative that every effort possible be made to ensure that all deer inside the AOA are removed and if possible donated to charity. WFF and WS will continue to coordinate deer removal activities with local charity organizations such as Hunters for the Hungry and the Eastern Shore Food Bank. All deer removed from WFF under this program will be donated to charity unless it is determined that an animal is unfit for human consumption. These animals will be disposed of according to standard WS practices.

d. Other Mammals of Concern

There are other mammals (red fox, feral cat, raccoon) of concern at WFF that are also hazards to aircraft and human health and safety. These shall be removed as needed from the AOA through a variety of methods as needed and according to the severity of the problem/incident. These methods may include live trapping, food removal (as noted in the WFF Feral Cat Policy), snaring, foot-hold traps, body grip traps, den removal, shooting, and spotlight/sharpshooting.

3. Expected Results

The results expected through this program are to lower the deer population within the AOA to zero. It is also expected that the monitoring and maintenance programs being implemented will maintain this population as close to zero as possible. Wright et. al. (1998) and Cleary and Dolbeer (1999) state that deer should be treated with “zero tolerance” within the AOA of any airport due to the high threat they pose to human health and safety. National statistics over the past nine years show that of all mammal-aircraft strikes, deer comprise 67% of the strikes and result in damage 81% of the time (Cleary and Dolbeer 1999).

Also, the other mammal species that pose threats to aircraft and human safety will be maintained at low densities, especially within the boundaries of the AOA.

B. Bird Assessment and Control Measures

1. Bird Activity Assessment

WS personnel will conduct 2 bird surveys each month at WFF. Each survey is broken down into three parts, a morning, noon, and afternoon study. For each part, WS personnel will drive a prescribed route around WFF to various fixed observation points. Once at an observation point the observer will remain for five minutes to document every bird seen or heard. The species and quantity of each bird is recorded as well as a map location, time, its behavior, cover type, and direction of flight. Also while the observer is driving between observation points any bird encountered is also recorded in the same manner.

2. Bird Control Measures

a. Pyrotechnics

WS personnel will patrol the airfield at WFF daily. When a threat to aircraft is observed the use of pyrotechnics will be immediately implemented. Bird bangers, screamers, cracker shells, and CAPA rounds will be discharged in a direction to disperse the problem species away from the flight path of any possible arriving or departing aircraft. Once the threat is no longer a problem, the species, location, number, cover type, behavior, number of pyrotechnics fired, and direction of dispersal is recorded.

b. Propane Cannons

Propane cannons, originally purchased for deer dispersal, are on site at WFF. These will also be used (if needed) in different areas of the airfield where high bird activity is noticed.

c. Removal Options

1. Shooting

When the use of pyrotechnics alone loses the ability to disperse birds effectively, the use of lethal force will be used to reinforce their intention (i.e. harassment). Birds become habituated to pyrotechnics after some time when there is no negative consequence enacted upon them. Therefore, the occasional taking of harassment habituated birds, especially in the presence of others, will reinforce and enhance the effectiveness of the pyrotechnics. Prior to beginning removal by shooting, all necessary permits will be obtained.

2. Trapping

Small flocking birds such as pigeons, blackbirds, and starlings can be managed by using decoy traps. A decoy trap is a cage trap that uses one-way doors with live birds (decoys) inside as well as food and water. The birds enter the trap to feed and to be with the other birds and then cannot exit the trap. The trapped birds are then humanely euthanized. All necessary permits will be in place before any decoy trapping is conducted.

3. Expected Results

Data collected from the surveys will be used to identify seasonal trends in bird numbers, possible attractants for bird activity, preferred areas of bird use, and local bird population estimates. This information will be used to help focus efforts by species, season, time of day, weather, attractants, etc.

d. Habitat Modification

As part of the interagency agreement with WS, recommendations have been made to modify the habitat within the AOA to make it less attractive to birds by removing or altering vital food, cover, and shelter. Habitat modification will include tasks such as tree/brush removal, grass maintenance, controlled burns, herbicide applications, and/or vegetation introductions. Recommendations for habitat modifications were part of the final report submitted to WFF by WS upon completion of their Wildlife Hazard Assessment.

e. Bird Watch Condition Codes

The following condition codes have been established for communicating bird activity to CTO. Location(s) of bird activity should also be given with the bird watch condition codes.

1. Bird Watch Condition: Severe

Bird activity on or immediately above the active runway or other specific location represents a high potential for strikes.

2. Bird Watch Condition: Moderate

Bird activity near the active runway or other specific location represents an increased potential for strikes.

3. Bird Watch Condition: Low

Bird activity on and around the airfield represents a low potential for a strike.

C. Emergency Situations

1. At any time an imminent threat to aircraft or human safety is observed that amounts to the need for immediate action, lethal removal may be used if other options are not applicable at that time.

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