

NASA WALLOPS FLIGHT FACILITY



WFF is located in the northeastern portion of Accomack County, Virginia, on the Delmarva Peninsula. The facility is comprised of the Main Base, Wallops Mainland, and Wallops Island. Components of the Proposed Action would occur at all three main areas of WFF.

ENVELOPE CONCEPT AND NEPA TRIGGER

The Envelope Concept

The **envelope concept** is applied at WFF since missions at the facility are constantly evolving and, while the basic outline of a project may be known during the NEPA analysis, its details often have not been finalized. A range or “envelope” of activities has been identified for each type of operation conducted at WFF; the scenario with the greatest potential for environmental impacts is presented.

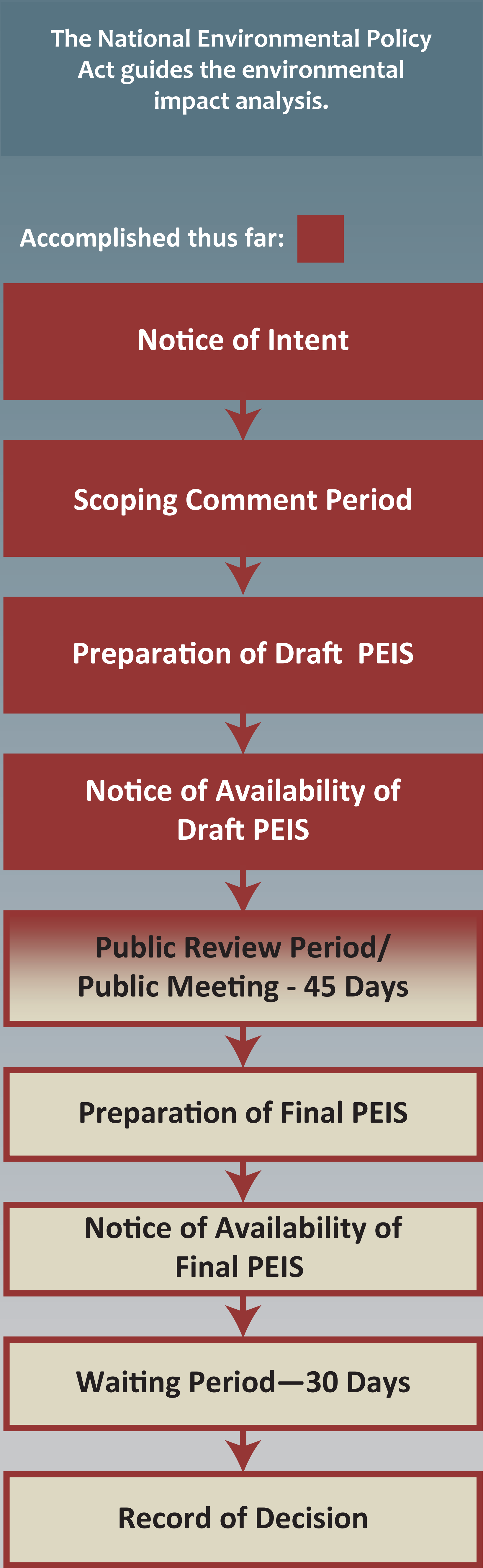
NEPA Trigger

The envelope concept facilitates the environmental analysis documentation process by providing a threshold below which, if not exceeded, further in-depth NEPA analysis is not needed.

Baseline and Proposed Envelopes		
Activity	Baseline (No Action)	Change (Proposed Actions)
Institutional Support Projects		
Construction and Demolition	Existing construction design projects analyzed in previous NEPA documentation.	All new construction, demolition, and RBR projects proposed including Causeway Bridge replacement, development of North Wallops Island Deep-water Port and Operations Area, and Launch Pad 0-C and Launch Pier 0-D.
Routine/Recurring Activities		
Fabrications	Existing fabrication processes/existing facilities.	No change.
Maintenance and Improvements	Existing maintenance and improvement activities.	Maintenance dredging.
Payload Processing Facilities	Existing payload processing activities.	No change.
Transportation Infrastructure	Existing transportation infrastructure.	Causeway Bridge replacement; maintenance dredging; North Wallops Island Deep-water Port and Operations Area.
Utility Infrastructure	Existing utility infrastructure.	No change.
Safety and Security	Existing WFF fire prevention and protection programs.	No change.
Storage	Existing storage activities.	Hybrid fuels; greater capacity for liquid fuel for LFIC LV.
Operational Missions and Activities		
Scientific Research Programs and Education Programs	Existing payload envelopes established for radio frequencies, lasers, radioactive materials, biological agents, and chemical releases.	No change.
Airfield	Existing FAA designated airspace and runways.	No change.
Main Base Piloted and Unmanned Aircraft	Approximately 61,000 annual airfield operations.	No change in annual operations.
North Wallops Island UAS Operations	1,040 sorties per year. Limited night operations. The Viking 300 is the noise envelope; the Viking 400 is the vehicle size envelope.	• Increase to 3,900 sorties per year. • Increase in night operations. • Vehicle size is limited to runway allowance. • Addition of rotorcraft and vertical take-off and landing craft.
Orbital Rockets	18 orbital rocket launches per year (6 from Launch Pad 0-A; 12 from Pad 0-B). Antares is the envelope liquid-fueled LV to be launched from Launch Pad 0-A; Athena III is the envelope solid-fueled LV to be launched from Pad 0-B.	• 18 orbital rocket launches per year distributed among launch pads 0-A, 0-B, 0-C and Launch Pier 0-D. • LFIC is the envelope liquid-fueled LV to be launched; and landed (RTLS); limit of 6 LFIC LV launches/RTLS landings per year • SFHC is the envelope solid-fueled LV to be launched. Limit of 12 SFHC LV launches per year. • Horizontal launch and landing from Main Base Runway 04/22. • Commercial human spaceflight.
Sounding Rockets / Suborbital Rockets	60 launches per year. The four-stage Black Brant XII is the envelope sounding rocket. Includes 5 launches per year of Minotaur III, the envelope suborbital vehicle.	No change.
Drone Targets and Missiles	30 drone target flights per year. The AQM-37 is the envelope drone target.	No change.
Fuel Types	Existing solid and liquid fuels evaluated in previous NEPA documentation.	Hybrid fuels; larger quantities of liquid fuels.
Static Fire Testing	Occurs at Launch Pad 0-A, Pad 2, and F-010. Propellant throughput governed by the 2010 MARS Regional Spaceport Air State Operating Permit and the 2010 Wallops Island State Operating Permit. The maximum amount of propellant from combined open-burns and static fire testing events is 30 metric tons (33.5 tons) for double-base fuel and 35 metric tons (38.3 tons) for composite fuel per year.	No change.
OB Area	The maximum amount of propellant from combined open-burns and static fire testing events is 30 metric tons (33.5 tons) for double-base fuel and 35 metric tons (38.3 tons) for composite fuel per year.	No change.
Projectile Testing	Testing cannot exceed 20 test missions per year. Powder and/or electromagnetically-propelled projectiles via electromagnetic railgun (EMRG) cannot exceed 250 combined firings per year.	Addition of Directed Energy.
Payloads	Multiple envelopes established in previous NEPA documentation.	No change in existing payloads.
Tracking and Data Systems	Data and tracking systems established in previous NEPA documentation.	Addition of Sonic Detection and Ranging.
Balloons	Balloons cannot be larger than 1,000,000 m³ (40,000,000 ft³); payloads cannot weigh more than 4,000 kgs (8,000 lbs) per flight. Meteorological balloons launched cannot exceed 886 per year.	No change.
AUVs/ASVs	The Theseus, International Submarine Engineering Limited’s AUV is the envelope vehicle.	No change.

For both institutional support and operational components, use of an environmental checklist is the procedure by which a proposed project is reviewed to see if that project triggers additional NEPA analysis or falls within the envelope.

ENVIRONMENTAL IMPACT ANALYSIS PROCESS



ENVIRONMENTAL IMPACT STATEMENT

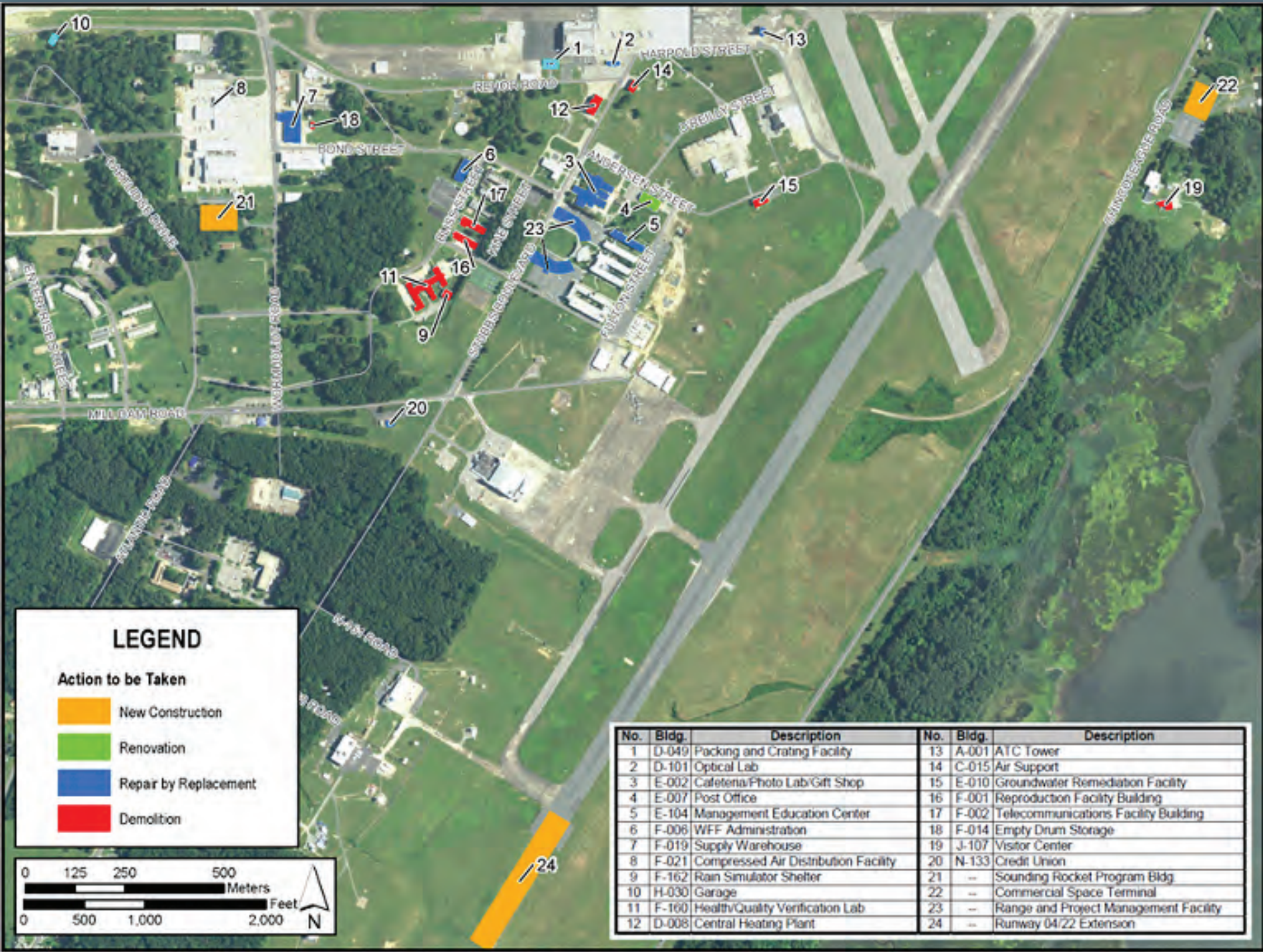
The NASA WFF Site-wide PEIS analyzed the potential effects of the proposed action alternatives on the following resources:

- Noise**
- Air Quality**
- Hazardous Materials/Toxic Substances/Hazardous Waste*
- Health and Safety*
- Water Resources**
- Land Use*
- Land Resources*
- Vegetation*
- Terrestrial Wildlife**
- Special-Status Species**
- Marine Mammals and Fish**
- Airspace Management*
- Transportation*
- Infrastructure and Utilities*
- Socioeconomics*
- Environmental Justice*
- Visual Resources and Recreation*
- Cultural Resources*

The measureable effects of past, present, and reasonable foreseeable future actions were analyzed on the resources in bold. The NASA WFF Site-wide PEIS includes a detailed wetlands cumulative effects analysis.

Your involvement and input are essential to the environmental impact analysis process.

INSTITUTIONAL SUPPORT PROJECTS WFF



Main Base Construction, Demolition, and RBR Locations – WFF projects

A **Commercial Space Terminal** may be located on the east side of the WFF airfield. The terminal may include lodging, dining areas, and training facilities such as pools, classroom space, mission specific training equipment, and other required facilities.

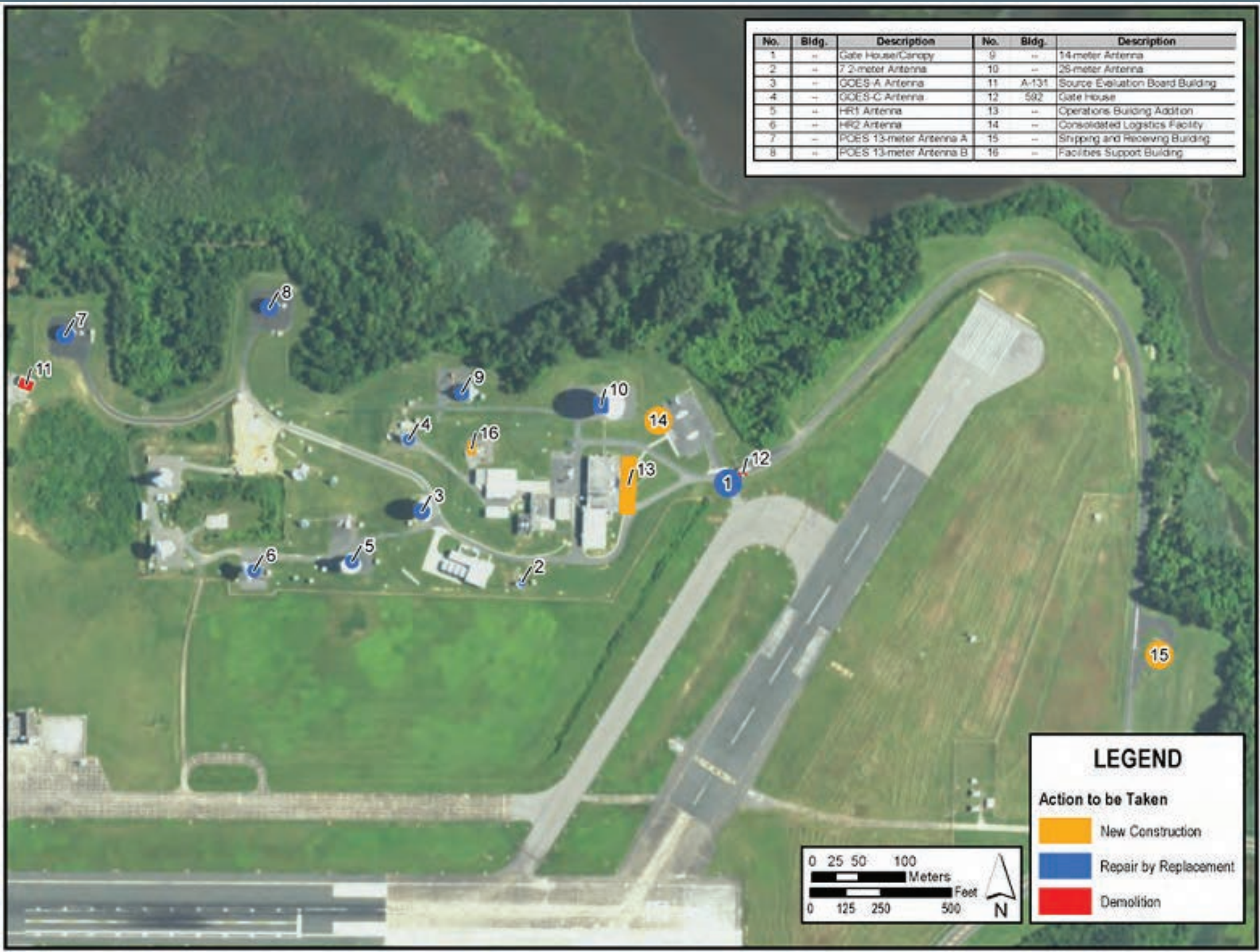
Runway 04/22 would be lengthened to add an additional 1,250 ft to the runway surface. This extension would accommodate horizontal launch and landing vehicles at the Main Base.



Causeway Bridge
The 1960’s era bridge is at the end of its design life. A new causeway bridge would be constructed parallel to the existing structure prior to its removal.

The entire barge route between the Main Base and Wallops Island boat basins would be dredged to remove long-term sedimentation of the non-Federal channel. The route would be dredged to the depth needed to support barge transfer of cargo too large for overland transport.

Main Base Construction, Demolition, and RBR Locations – NOAA Projects



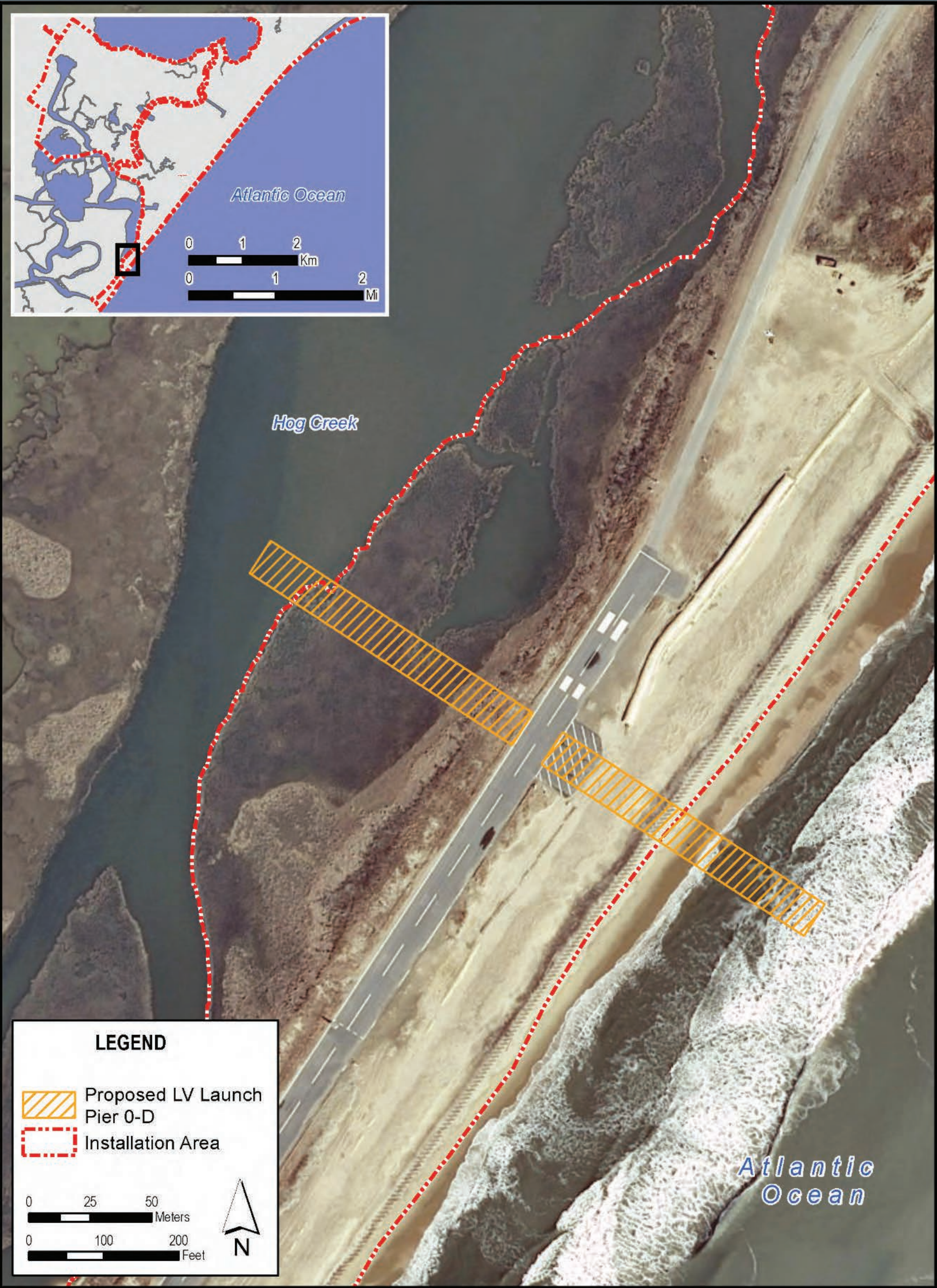
Refer to Site-wide PEIS Section 2.5.1 for the complete list and descriptions of institutional support projects proposed at WFF

INSTITUTIONAL SUPPORT PROJECTS MARS



Launch Vehicle Pad 0-C (Notional)

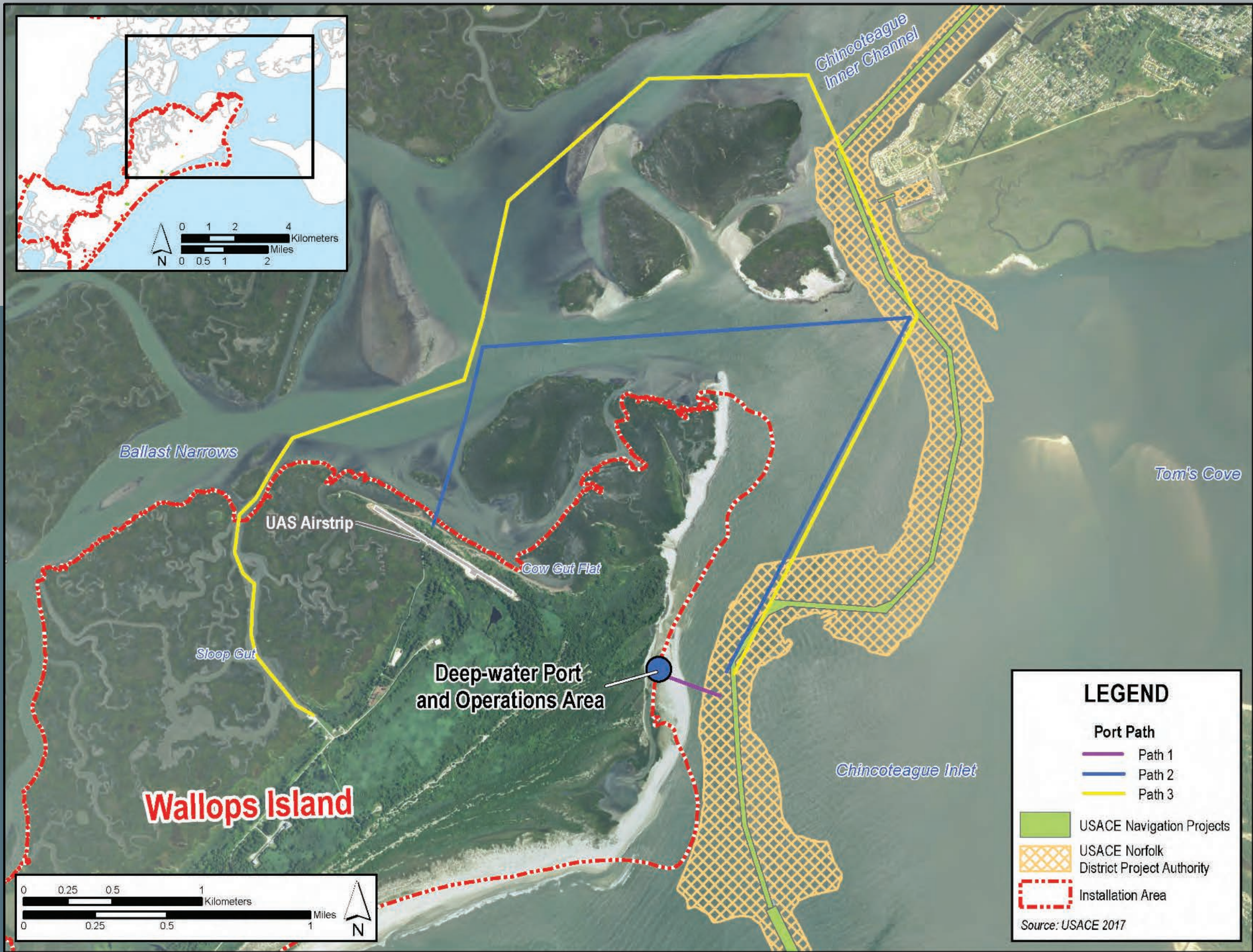
Launch activity on Wallops Island is anticipated to increase. A new launch vehicle launch pad is being considered at the south end of Wallops Island to support the preparation of concurrent launch activities.



Launch Vehicle Pier 0-D (Notional)

To provide additional launch capability, a launch vehicle launch pier is being introduced for consideration.

Two notional locations are presented. An LV launch pad at either location would include a pile-supported pad access ramp, launch pad, and deluge system/flame deflector over water.



North Wallops Island Deep-water Port and Operations Area

A deep-water port and operations area is being considered for the north end of Wallops Island. This project would support barge access and berthing for offloading large launch vehicle components and related equipment. Three notional pathways are being considered.

Refer to Site-wide PEIS Section 2.5.1 for the complete list and descriptions of institutional support projects proposed at WFF