

**APPENDIX F –
CULTURAL RESOURCES**

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From: Stanley, Randall M. (WFF-2280) <randall.m.stanley@nasa.gov>
Sent: Friday, September 10, 2021 10:52 AM
To: Caitlin.Rogers@catawba.com
Cc: Miller, Shari A. (WFF-2500); Nate Overby
Subject: Section 106 Consultation for Wallops Island Northern Development at NASA WFF
Attachments: Catawba - NASA WIND_THPO Letter_10 September 2021_VCSFA.pdf

Good Morning Dr. Rogers,

NASA Wallops Flight Facility (WFF) is seeking to establish a new intermodal facility at Wallops Island, Virginia as part of the United States Maritime Administration (MARAD) M-95 "Marine Highway Project" designed to expand the use of America's navigable waters. As part of this project, an Environmental Analysis (EA) is being prepared. NASA contracted with AECOM Technical Services to fulfil Section 106 requirements of the National Historic Preservation Act of 1966 by conducting a Phase I marine archaeological survey for the proposed construction and operation of a Wallops Island Pier Area, and a Phase I terrestrial archaeological survey for proposed construction of a hangar, both located at the north end of Wallops Island in proximity to the Mid-Atlantic Regional Spaceport (MARS) Unmanned Aerial Systems (UAS) airstrip.

Please refer to the attached letter for more information on this project; I will be happy to send a hard copy of this letter upon request. However, please note that the 3 enclosure mentioned at the end of the letter consist of many pages, so I respectfully request that you access these documents using the link below:

<https://marsspaceport.sharepoint.us/:f:/g/Ekrveb4ilbZLrl2zIZap8ewBsUotRN5uYsExu7t2QPZzLA?e=Bh1RLF>

If you have any questions, please do not hesitate to contact me at the below.

Sincerely,

Randall M. Stanley
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National Aeronautics and Space Administration



Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337

Reply to Attn of: 228

September 10, 2021

Catawba Indian Nation
Attn: Dr. Caitlin Rogers
1536 Tom Stevens Road
Rock Hill, SC 29730

RE: Section 106 Consultation for Wallops Island Northern Development at NASA WFF

Dear Dr. Rogers:

NASA Wallops Flight Facility (WFF) is seeking to establish a new intermodal facility at Wallops Island as part of the United States Maritime Administration (MARAD) M-95 "Marine Highway Project" designed to expand the use of America's navigable waters (Figure 1). The proposed infrastructure developments would provide a port and operations area, including enhanced operational capabilities for the Virginia Commercial Spaceflight Authority (VCSFA), herein referred to as the Wallops Island Northern Development (WIND) project. VCSFA, through the Mid-Atlantic Regional Spaceport (MARS), owns and operates the existing Unmanned Aerial Systems (UAS) airstrip on the north end of Wallops Island.

NASA is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) tiered from the May 2019 *NASA WFF Site-Wide Programmatic Environmental Impact Statement (Final Site-wide PEIS)*, in which NASA evaluated the environmental consequences of constructing and operating new facilities and infrastructure at WFF.

As the federal landowner, NASA would grant the land use agreement for the Proposed Action and is the lead federal agency for this undertaking. MARAD is a cooperating agency on the EA since they may grant funds toward construction of the pier and port area. USACE is serving as a cooperating agency on the EA since they would be authorizing permits under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act due to the potential for dredging or placement of fill in waters of the U.S.

To this end, NASA has assumed the role of Lead Federal Agency for NHPA compliance and both MARAD and USACE are participating in NASA's Section 106 process. The effects of their actions are considered in all project documents, including this correspondence.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, NASA would like to initiate government-to-government consultation concerning the Undertaking to allow you and your designee the opportunity to identify any comments, concerns, and

suggestions you might have. As we move forward through this process, we welcome your participation and input.

Background

For over 70 years, WFF has flown thousands of research vehicles in the quest for information on the flight characteristics of airplanes, launch vehicles, and spacecraft, as well as to increase knowledge of the Earth's upper atmosphere and the near space environment. WFF supports aeronautical research, science technology, and education by providing NASA centers and other United States (U.S.) government agencies access to resources such as special use (i.e., restricted) airspace, research runways, and launch pads.

The VCSFA was created in 1995 by the General Assembly of the Commonwealth of Virginia to promote the development of the commercial space flight industry, economic development, aerospace research, and Science, Technology, Engineering, and Math (STEM) education throughout the Commonwealth. In 1997, the VCSFA entered into a Reimbursable Space Act Agreement with NASA, which permitted the use of land on Wallops Island for launch pads. VCSFA also applied for and was granted a Federal Aviation Administration (FAA) license for launches to orbital trajectories. This led to the establishment of MARS.

WFF regularly provides launch support for the commercial launch industry, either directly or through MARS. WFF facilitates a wide array of U.S. Department of Defense (DoD) research, development, and training missions, including target and missile launches, and aircraft development. The flight programs and projects supported by WFF range from small sounding rockets, unmanned scientific balloons and UAS, manned aircraft, and orbital tracking to next generation launch vehicle development, expendable launch vehicles, and small and medium classed orbital spacecraft. WFF conducts many of these programs from the Main Base research airport, the MARS UAS airstrip, and the Wallops Island launch range.

The goal of the MARAD Marine Highway Program is to expand the use of America's navigable waterways; to develop and increase marine highway service options; and to facilitate their further integration into the current U.S. surface transportation system, especially where water-based transport is the most efficient, effective, and sustainable option (<https://www.maritime.dot.gov/sites/marad.dot.gov/files/docs/grants-finances/marine-highways/3071/marine-highway-project-description-pages-1-27-2020.pdf>; page 36).

The M-95 Marine Highway Corridor includes the Atlantic Ocean coastal waters; Atlantic Intracoastal Waterway; and connecting commercial navigation channels, ports, and harbors spanning 15 states including Virginia. The proposed Wallops Island M-95 Intermodal Barge Service project has the potential to support the growth of existing operations at WFF, enhance STEM research opportunities, and spur high-tech/high-paying jobs in a predominantly rural area (<https://cms.marad.dot.gov/sites/marad.dot.gov/files/2021-05/Route%20Designation%20one-pagers%20May%202021.pdf>; page 25).

Construction of the MARS Port area would provide safe and secure barge access and berthing to offload large launch vehicle components and related equipment for MARS and NASA. Development of a port and operations area at the north end of Wallops Island to support the activities of NASA, WFF tenants, and MARS was evaluated at a programmatic level of detail in the 2019 *Final Site-wide PEIS*.

Description of the Undertaking

NASA initially considered seven alternatives for the Proposed Action along with the No Action Alternative. Five of the eight action alternatives for the proposed MARS Port were dismissed from further consideration because they failed to meet the Purpose and Need. These five alternative locations are outside of the secured boundaries of the MARS UAS Airfield, which would severely limit the use of the MARS Port based on security requirements of potential clients.

As part of the Undertaking, the MARS Port, including a 398-m (1,305-ft) fixed pier and turning basin would be constructed on (and within the vicinity of) the UAS airstrip located at the north end of Wallops Island. The MARS Port would provide a port and operations area along with associated capabilities for MARS, NASA WFF, and other customers. The MARS Port would also serve as a new intermodal facility as part of the MARAD M-95 Marine Highway Corridor. Infrastructure (new facilities and access road, runway, and utilities improvements) would likewise be constructed and installed as part of the Proposed Action. The Undertaking would also include the dredging of an existing channel for enhanced vessel approach purposes. The vessel approach channel, which interfaces with both the Chincoteague Inlet Federal Channel and the Bogues Bay connecting waterways, would initially be used by an assortment of shallow draft manned and unmanned vessels. A variety of additional infrastructure elements and facilities as described below would also be constructed to further support the MARS Port operations.

This Undertaking is the Proposed Action Alternative being analyzed in the EA, along with the No Action Alternative, and consists of the following specific actions (Figures 2-4):

- Channel and turning basin dredging;
- Construction of a new pier for barge access and berthing;
- Construction of a second hangar at the UAS airstrip;
- Installation of new potable and wastewater lines to the hangars (existing and proposed);
- Installation of new of airstrip lighting;
- Improvements/upgrades to the existing UAS Airstrip access road;
- Construction of a new pier access road (with utility bank) adjacent to the UAS Airstrip;
- Construction of a new vehicle parking lot;
- Widening of the existing access road culvert; and
- Construction of a new project support building.

Construction of the dredging and pier elements of the Undertaking would be carried out in three (3) separate phases:

- **Phase 1** would be construction of a 190-m (624-ft) long fixed pier, a 61-m (200-ft) radius turning basin (2.7 m [9 ft] deep below Mean Lower Low Water [MLLW]) and dredging of the vessel approach channel to a final depth of 1.5-m to 2.7-m (5-ft to 9-ft) below MLLW;
- **Phase 2** would be construction of a 206-m (676-ft) long extension of the fixed pier to a total length of 398 m (1,305 ft) and dredging of a 61-m (200-ft) radius turning basin to a final depth of 2.7 m (9 ft) below MLLW; and
- **Phase 3** of construction would be additional dredging to a final depth of 3.7 m (12 ft) below MLLW of the turning basin and the vessel approach channel, specifically the approximately 11,800 ft-long portion of channel from the Phase 2 turning basin to where it meets with the Chincoteague Inlet Federal Channel.

Although the Undertaking is anticipated to include all three phases of dredging and pier construction, there are two alternative implementations being considered. Under Alternative 1, only Phase 1 of the Undertaking would be implemented, while under Alternative 2, only Phases 1 and 2 would be implemented. The infrastructure and facilities would be constructed regardless of the phases of the dredging and piers construction ultimately implemented.

The elements of the Undertaking are described below in three main groupings: Channel Dredging, Port Components, and Other Infrastructure and Facilities.

Channel Dredging

The Undertaking would include the dredging of an existing channel for enhanced vessel approach purposes. A variety of shallow draft (0.6- to 1.2-m [2- to 4-ft]) manned and unmanned vessels would be serviced by the MARS Port. The major navigational service would be a tug and barge configuration of an approximately 45-m by 12-m (150-ft by 40-ft) deck barge propelled by a tugboat requiring approximately 2 m (8 ft) of draft. The vessel approach channel interfaces with both the Chincoteague Inlet Federal Channel and the Bogues Bay connecting waterways. Ultimately, the proposed channel would be approximately 3,900 m (12,800 ft) long, 30 m (100 ft) wide, and would have a final depth of 3.7 m (12 ft) below MLLW; the proposed width of the approach channel (30 m [100-ft]) is consistent with the dimensions of the Federal Channel.

There are five potential sites being evaluated for the placement of dredged material, which are discussed below (Figure 2). Further geotechnical investigation and associated physical and chemical laboratory analysis of sediment samples in the areas to be dredged would be required prior to dredging to determine the viability of the placement sites.

Option 1: Wallops Open Ocean Dredge Material Placement Area

This area is located just offshore of Wallops Island with a transportation distance of the dredged material of approximately 7 km (4 nautical miles). Open water placement options typically present the lowest cost dredging option and allows for the widest array of dredging equipment ranging from clamshell dredges to barge mounted excavators supplying dump barges or specially modified deck barges that are towed by tugboats to the dredged material placement site. Open water

placement locations are controlled by the USACE, and a permit would be required for the use of this site.

Option 2: Wallops Island Flood Protection/Upland Placement

This option involves the beneficial reuse of material for flood mitigation through upland placement in low lying areas on Wallops Island. Specifically, there are low lying areas in the vicinity of the culvert crossing the main access road to the UAS Airstrip. This option was evaluated based on having a cutter suction dredge pump the material into this area. This option would also require development of containment measures for the dredged material in the form of containment dikes and the channeling of the effluent and its return into Bogues Bay. This effluent is the water that is used in the dredging process to transport the dredged material in slurry form to the placement location. Other alternatives could include thin layer placement for marsh enhancement in marsh areas a similar distance to the dredging location or the use of geotubes or synthetic membranes for containing the dredged material.

Option 3: Greenbackville Dredged Material Containment Facility

The third dredged material placement option identified is the use of the upland Dredged Material Containment Facility (DMCF) owned and managed by the USACE. The USACE places material dredged from the upper reaches of the Chincoteague Channel into this DMCF. This option would require using a mechanical dredge to load the dredged material removed from the approach channel into barges. These barges would then be towed approximately 18 km (10 nautical miles) to the DMCF. A specialized hydraulic unloader would be required to discharge the dredged material from the transport barges and pump the material into the DMCF. The use of this option is unlikely as it currently does not have capacity for additional dredge spoil.

Option 4: Wallops Island Shoreline Protection Placement

This option would involve the beneficial reuse of clean, compatible sand from the dredged material to repair and protect areas of the shoreline within the Operations Range area on Wallops Island. The material would be placed along the seawall to protect the beach from tidal impacts or ocean overwash from coastal storms such as hurricanes and northeasters. This option would require using a mechanical dredge to load the dredged material removed from the approach channel into barges. These barges would then be towed approximately 11 km (6 nautical miles) to the shoreline. A specialized hydraulic unloader would be required to discharge the dredged material from the transport barges and pump the material onto the placement areas.

Option 5: Chincoteague National Wildlife Refuge Swan Cove Placement

This option would involve the beneficial reuse of the dredged material for the Swan Cove Pool Restoration Project located in the Chincoteague National Wildlife Refuge (NWR). If dredged material is determined to be compatible, it would be used by USFWS to create berms and enhance and/or restore currently degraded areas of the estuarine-salt marsh habitat that have been negatively impacted by an undersized culvert restricting sediment deposition and tidal flow.

Although USFWS would prefer material with a high proportion of sand, they will also accept dredge material containing high organic matter content. This option was evaluated based on having a cutter suction dredge pump the material to this area. Once pumped, USFWS would assume responsibility for sediment placement and securing appropriate permits.

Port Components

Planned components of the port include construction of a new pier for barge access and berthing. The new pier would include an access trestle and combination dock/ramp to support the loading and unloading of barges and research vessels. The port facility would specifically include the following elements (Figure 3):

- The pier would be designed for an HS-20 traffic loading, which would accommodate access by emergency vehicles, a mobile crane and trailered loads/equipment. HS-20 is the term used by the American Association of State Highway and Transportation Officials and American Concrete Institute to describe normal moving traffic loading conditions up to 18-wheeler loading. This loading assumes a 7,300-kilogram (kg) (16,000-pound [lb]) wheel load and therefore a 14,500-kg (32,000-lb) axle load.
- The dock/ramp would be oriented to allow loading/unloading of barges and research vessels by a mobile crane. The anticipated crane specifications are based upon a 175-Ton Liebherr LTM 1150-1. A typical piece of equipment anticipated being offloaded at the dock would be a 4-m (13-ft) diameter by 18-m (60-ft) long tank. The ramp would allow for launching and recovery of smaller research vessels.
- The pier would be designed to support expansion and deepening of the channel/basin for larger vessels, if needed in the future. The design of the piling in the dock/ramp will consider the future expansion/deepening.
- The deck height (approximately 3.3 m [11 ft] above waterline) would be above the Flood Protection Elevation as a resiliency measure against predicted Sea-Level Rise (SLR) and surge associated with extreme storm events, as well as meeting future vessel deck requirements.
- The access trestle would be supported by piles designed to span over tidal marshes/wetlands. Pile bents would be spaced on approximate 6-m (20-ft) intervals. Precast components would be used to the extent possible for the trestle and dock segments. Battered piles (i.e., a pile driven at an angle) would be incorporated into the design to laterally strengthen the pier.

Other Infrastructure and Facilities

A variety of onshore facilities and infrastructure would be constructed or upgraded to support the port operations, which are briefly summarized below (Figure 4).

Second Hangar

A new, approximately 660-sq m (7,125-square ft) hangar would be constructed east of the existing UAS airstrip hangar. The new hangar would be a secure facility to support operations, store vehicles and equipment when not in use, accommodate vehicle maintenance as required and provide a small meeting area for client usage. A second, secure hangar would allow for use by MARS port/pier clients without hindering usage of the existing hangar for UAS Airfield operations. Existing electrical and communication utilities at the existing hangar would be extended to the new hangar.

Potable Water and Wastewater Lines to Hangars

Potable water would be supplied from the elevated north end tank (V-090). Potable water supply piping would be placed in existing conduit that runs along North Seawall Road and extends from Building V-067 to the existing hangar at the UAS Airstrip. New conduit would be extended from the existing hangar to the proposed hangar at the UAS Airstrip. Wastewater from the hangars would be conveyed to a proposed temporary holding tank where it would be periodically collected and pumped into the NASA wastewater system for treatment.

Airstrip Lighting

New airstrip lighting, meeting applicable FAA airfield standards, would be installed at the UAS airstrip. The lights would be located along the edges of the runway (one light every 61 m [200 ft]). Lights would only be turned on when required by an airfield operation (i.e., aircraft takeoffs or landings) and turned off when the operation is completed.

Airstrip Access Road Improvements (culvert widening)

A 40-m (130-ft) segment of the existing paved access road would be widened to 9 m (30 ft) to enlarge the culvert for the drainage channels to Cow Gut.

Vehicle Parking Lot

A new parking area with spaces for up to 30 vehicles would be constructed near the northwest intersection of the UAS airstrip access road and runway. This proposed parking lot would occupy approximately 0.75 acres of primarily forested uplands.

Runway Hardening for Port Access

A 30.5-m (100-ft) wide section of runway would be improved (reinforced) to accommodate heavy equipment and vehicles traversing the airfield between the proposed pier and the equipment parking/storage areas.

Access Road to Port

A new access road would be constructed along the north side of the existing UAS airstrip from the intersection with the access road to the new MARS Port pier area.

Project Support Building (i.e., North Island Operations Center)

A new, approximately 740-square meter (sq m) (8,000-square foot [sq ft]) building may be constructed at the general location of the existing Lifesaving Station on the southwest end of the access road to the UAS airstrip. The facility would serve as a new North Island Operations Center. Electrical, potable water, wastewater, and communications utilities would be extended to this facility from existing nearby infrastructure.

Area of Potential Effects and Identification of Historic Properties

Section 106 of the NHPA of 1966, as amended, and as implemented by 36 CFR Part 800, requires Federal agencies to consider the effects of their actions on historic properties before undertaking a project. A historic property is defined as any cultural resource that is included in, or eligible for inclusion in, the NRHP. The NRHP, administered by the NPS, is the official inventory of cultural resources that are significant in American history, prehistory, architecture, archaeology, engineering, and culture. The NRHP also includes National Historic Landmarks. In consideration of 36 CFR 800, Federal agencies are required to initiate consultation with the State Historic Preservation Office (SHPO) informing them of the planned action and requesting their submittal of any comments or concerns.

As described in the 2019 *Final Site-wide PEIS*, in accordance with Sections 106 and 110 of the NHPA, NASA developed a Programmatic Agreement (PA) with the Virginia SHPO and Advisory Council on Historic Preservation to outline how WFF will manage its cultural resources as an integral part of its operations and missions: *Programmatic Agreement Among the National Aeronautics and Space Administration, the Virginia State Historic Preservation Office, and the Advisory Council On Historic Preservation Regarding the Management of Facilities, Infrastructure, and Sites at the National Aeronautics and Space Administration's Wallops Flight Facility, Wallops Island, Accomack County, Virginia* (NASA 2014, 2016).

As part of this process, NASA identified parties who have an interest in, or knowledge of, cultural resources at WFF and included them in the development of the terms of the PA. The PA establishes the parameters for managing cultural resources at WFF including:

- Roles and responsibilities,
- Updates and requirements for the WFF Integrated Cultural Resources Management Plan,
- Activities not requiring review,
- Review process for potential impacts including professional qualifications, documentation, curation, etc.,
- Requirements for the treatment of the Wallops Beach Lifesaving Station,
- Resolution of adverse effects and disputes, and
- Emergency actions

Area of Potential Effects (APE)

The APE, as defined in 36 CFR Part 800.16(d), is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.”

For this undertaking, the APE has three components: the terrestrial archaeological APE, the marine archaeological APE, and the above-ground APE (Figure 5). NASA has defined the terrestrial archaeological Area of Potential Effects (APE) as the proposed limits of disturbance for the undertaking in upland areas. NASA has defined the marine archaeological APE as the proposed limits of disturbance for the undertaking in marine areas. Due to the low vertical profile of the project elements, NASA has defined the above-ground APE as a 0.8-kilometer (0.5-mile) radius buffer around the proposed limits of disturbance, both terrestrial and marine.

Figure 6 provides a Preliminary APE for the dredge spoil placement locations. Additional environmental and engineering evaluations are necessary to determine the preferred dredge spoil placement location for this undertaking. NASA will consult with DHR once the specific location has been identified.

Identification of Historic Properties

NASA used a combination of existing data review and Phase I archaeological surveys to identify historic properties within the APE. Figure 7 shows resources and previous investigations within the APE for the terrestrial and marine components of the project; Figure 8 shows the resources in the vicinity of the dredge placement options; and Figure 9 shows the locations of the three terrestrial and marine archaeological surveys performed in 2021 as part of identification and evaluation efforts.

The terrestrial elements of the undertaking are located within the boundary of Wallops Island Flight Facility Historic District (DHR ID 001-0027), which was determined Not Eligible for the NRHP on November 4, 2004. This includes seven contributing resources within the Preliminary APE for Dredge Spoil Option 4 (Wallops Island Shoreline Protection Placement) (DHR ID 001-0027-0238, -0239, -0240, -0241, -0242, -0244, and -0251). All seven have been determined Not Eligible for the NRHP. Two additional resources, DHR ID 001-0027-0100 and -0101, are within the APE for the proposed project support building (i.e., North Island Ops Center) and are discussed in more detail, below.

In 2003, NASA modeled all property within WFF’s boundaries for the potential of terrestrial archaeological resources, which is depicted in Appendix A of the PA, which is included as Appendix B in the 2015 *Integrated Cultural Resources Management Plan for Wallops Flight Facility* (2015 ICRMP).

Three archaeological surveys are within the broader above-ground APE: AC-039, AC-049, and AC-076. AC-039 represents the Phase I survey for the proposed DD(x) Wetlands Mitigation project, which documented 44AC0459, discussed in more detail, below. AC-049 is a terrestrial portion of the 2009 terrestrial and marine archaeological surveys conducted for the proposed shoreline restoration and infrastructure protection program. AC-076 represents the Phase I survey of a proposed wetland mitigation bank. None of these surveys intersect the terrestrial archaeological APE and none documented archaeological sites within the terrestrial or marine archaeological APE.

According to NASA's predictive model for prehistoric and historic archaeological sites in the 2015 ICRMP, a number of terrestrial portions of the undertaking along the UAS Airstrip site falls within the area of High archaeological potential, specifically the second hangar, the water and wastewater lines, the airstrip lighting, the runway hardening, and the access road to port. During the NEPA analysis for the construction and operation of the UAS Airstrip, NASA performed a Phase I archaeological survey, which included the proposed UAS Airstrip, two hangars, and the access roadway (Chris Espenshade and Kirstie Lockerman, 2009, *Cultural Resources Investigations of the Proposed Uninhabited Aerial Systems Airstrip, Wallops Flight Facility, Accomack County, Virginia*, New South Associates). The survey resulted in the documentation of 44AC0089, a terrestrial earthwork dating to the Revolutionary War and located approximately 60 m (200 ft) northeast of the APE near the UAS Airstrip. This survey encompassed all the aforementioned terrestrial portions of the undertaking except for the second hangar, the proposed location of which was not included in the 2009 survey.

NASA performed a Phase I archaeological survey of the proposed second hangar in 2021. The report of these investigations, *NASA Wallops Flight Facility Phase I Archaeological Survey for the Wallops Island North Development Project, Wallops Island Virginia* by Kathleen Furgerson and Kelsey Johnson, is enclosed with this letter. This Phase I survey did not document any archaeological resources. The rest of the terrestrial archaeological APE near the UAS Airstrip has been previously disturbed as a result of construction of the airstrip.

The remaining terrestrial portions of the undertaking in the vicinity of the existing UAS Airstrip, the airstrip access road improvements and the vehicle parking lot, area within an area of Low archaeological potential (2015 ICRMP). Both are in areas of poorly drained soil; the access road is located on a constructed berm.

The proposed project support building (i.e., North Island Ops Center) will be built in the former location of the Wallops Beach Lifesaving Station (DHR ID 001-0027-0100), which was determined eligible for the NRHP on November 4, 2004. NASA notified DHR of their intent to demolish the Wallops Beach Lifesaving Station in a letter dated February 29, 2016. As mitigation for the adverse effect, the resource was documented via HABS recordation and a documentary video produced (<https://vimeo.com/ursci/review/177622715/b2f6e500b2>), pursuant to the PA. DHR concurred that NASA met the requirements outlined in the PA and can proceed with demolition in an email dated March 3, 2020.

This location was subjected to archaeological monitoring conducted by Tetra Tech related to lead remediation activities on January 13, 2014. The remediation activities consisted of the removal of approximately 6 inches of soil within a 4,500 square foot area within a 20-foot radius buffer around the foundation of the Wallops Beach Lifesaving Station. The remediation excavations removed the A horizon and allowed the monitoring archaeologist to inspect the exposed subsoil for evidence of cultural features and artifacts. No cultural features or artifacts were revealed during the remediation activities (*Surface Soil Removal, Former Coast Guard Station [Building V-65], NASA Wallops Island, Wallops Island, Virginia, Archaeological Monitoring Field Summary* n.d.). It is not clear if the remediation activities removed additional soil after the conclusion of the archaeological monitoring. While this location is in an area of high archaeological potential (2015 ICRMP), this location has been disturbed by the lead remediation activities, which did not reveal any cultural features or artifacts. Based on the previous disturbance and lack of archaeological remains, no archaeological survey is recommended for this location.

The Wallops Beach Station Observation Tower (DHR ID 001-0027-0101), which is associated with the Wallops Beach Lifesaving Station, is also located adjacent to the proposed North Island Ops Center. The tower is not individually eligible for the NRHP but contributes to the eligibility of the Wallops Beach Lifesaving Station, which is slated for demolition. As the tower is not individually eligible, and as the historic property to which it contributed is slated for demolition and mitigation for this adverse effect has been implemented pursuant to the PA, NASA has determined that Wallops Beach Station Observation Tower is no longer an historic property.

Site 44AC0459 is located adjacent to the proposed North Island Ops Center, which is the former location of the Wallops Beach Lifesaving Station and Observation Tower (DHR ID 001-0027-0100). Site 44AC0459 yielded artifacts from the mid-eighteenth through twentieth century and is associated with the old Coast Guard Station trash disposal patterns and mid-to-late twentieth century NASA activities. According to V-CRIS, the site is unassessed for the NRHP. The site is located outside of the APE.

The marine portions of the undertaking, specifically the port improvements and the navigation channel, extend from the northwestern end of the UAS Airstrip and arc around the northeastern end of Wallops Island before intersecting with the Chincoteague Inlet Channel. The navigation channel already exists; some portions of the channel are not at the necessary depth and would require dredging, while other portions are already at the necessary depth and thus would not require any new dredging.

NASA conducted a Phase I marine archaeological survey in July 2020 and February 2021 for the marine portions of the undertaking, excluding the area of the proposed channel that do not require dredging. Review of nineteenth and early twentieth-century nautical charts and historic maps of the marine APE did not reveal the potential for significant shipwrecks or potentially submerged maritime industry resources. The marine archaeological survey used nonintrusive geophysical instruments including a side scan sonar, a marine magnetometer, and a single-beam sonar and documented 53 magnetic and 9 acoustic contacts. No potentially significant submerged

archaeological resources were identified within the marine APE. No additional archaeological investigations are recommended of any recorded anomalies from the survey. The report of these investigations, *Marine Archaeological Survey for the Wallops Island Northern Development Project, Wallops Flight Facility, Accomack County, Virginia* by Chris Cartellone and Jean B. Pelletier, is enclosed with this letter.

The five proposed dredge spoil placement locations are located in the vicinity of MARS Port; some are in marine locations (i.e., Option 1, Option 3) and some are in terrestrial or mixed terrestrial/marine locations (i.e., Option 2, Option 4, Option 5).

No known archaeological sites are located within the Wallops Island Open Ocean Placement (Option 1); according to V-CRIS, this location has not been subject to a Phase I archaeological survey. The exact location of the Wallops Island Flood Protection/Upland Placement (Option 2) is currently not known. Generally, though, the location is within an area of Low archaeological potential (2015 ICRMP). It is also within the boundary of DHR ID 001-0027, determined not eligible for the NRHP.

No known archaeological sites are located within the Greenbackville Dredged Material Containment Facility (Option 3); according to V-CRIS, this location has not been subject to a Phase I archaeological survey. Two above-ground resources are in the vicinity of Option 3. DHR ID 001-0028 is the Franklin City Railroad Station, and DHR ID 001-5053 is a house at 2937 Franklin City Road. Neither resource has been evaluated for NRHP eligibility.

The exact location of the Wallops Island Shoreline Protection Placement (Option 4) is not known, but it is generally along the shoreline of Wallops Island. It is in the vicinity of DHR ID 001-0027 and a number of contributing resources, all of which have been determined not eligible for the NRHP.

The Chincoteague National Wildlife Refuge Swan Cove Placement (Option 5) is in the vicinity of Little Toms Cove and Swan Cove Pool. Terrestrial portions of Option 5 are within previous archaeological survey AC-015, a 1988 archaeological reconnaissance of Chincoteague National Wildlife Refuge. A number of other previous archaeological surveys have been conducted immediately adjacent to or in the immediate vicinity of Option 5 (AC-007, AC-034, AC-083, AC-089, and AC-093). One previously recorded archaeological site, 44AC0412, is directly adjacent to Option 5 on the west side of Beach Road. The site is the remains of an early twentieth century life saving station and is unassessed for NRHP eligibility.

Determination of Effect

No archaeological historic properties are located within the APE. The Phase I archaeological survey of the proposed hangar and the Phase I marine archaeological survey did not identify any archaeological resources within the APE, and previously recorded sites 44AC0089 and 44AC0459 are located outside of the APE. No above-ground historic properties were identified within the APE.

NASA concludes that there would be “no historic properties affected” by the proposed undertaking. Your concurrence with this determination is respectfully requested.

It is understood that this determination excludes the dredge spoil placement locations. Additional environmental and engineering evaluations are necessary to determine the preferred dredge spoil placement location for this undertaking. NASA will consult with DHR once this location has been identified.

If you have any questions or require additional information, please contact me at Randall.M.Stanley@nasa.gov or (757) 824-1309.

Sincerely,

RANDALL
L
STANLEY

Digitally signed by: RANDALL STANLEY
DN: CN = RANDALL STANLEY C = US O
= U.S. Government OU = NASA, People
Date: 2021.09.10 10:38:12 -05'00'

Randall M. Stanley
Cultural Resources Manager

3 Enclosures

- Figures 1-9
- NASA Wallops Flight Facility, Phase I Archaeological Survey for the Wallops Island North Development Project, Wallops Island, Virginia by Kathleen Furgerson and Kelsey Johnson (2021)*
- Marine Archaeological Survey for the Wallops Island Northern Development Project, Wallops Flight Facility, Accomack County, Virginia by Chris Cartellone and Jean B. Pelletier (2021)*

cc:
250/Ms. S. Miller
VCSFA/Mr. N. Overby

From: Stanley, Randall M. (WFF-2280) <randall.m.stanley@nasa.gov>
Sent: Friday, September 10, 2021 10:52 AM
To: Jessica.Phillips@cied.org
Cc: Miller, Shari A. (WFF-2500); Nate Overby
Subject: Section 106 Consultation for Wallops Island Northern Development at NASA WFF
Attachments: Chickahominy - NASA WIND_THPO Letter_10 September 2021_VCSFA.pdf

Good Morning Ms. Phillips,

NASA Wallops Flight Facility (WFF) is seeking to establish a new intermodal facility at Wallops Island, Virginia as part of the United States Maritime Administration (MARAD) M-95 "Marine Highway Project" designed to expand the use of America's navigable waters. As part of this project, an Environmental Analysis (EA) is being prepared. NASA contracted with AECOM Technical Services to fulfil Section 106 requirements of the National Historic Preservation Act of 1966 by conducting a Phase I marine archaeological survey for the proposed construction and operation of a Wallops Island Pier Area, and a Phase I terrestrial archaeological survey for proposed construction of a hangar, both located at the north end of Wallops Island in proximity to the Mid-Atlantic Regional Spaceport (MARS) Unmanned Aerial Systems (UAS) airstrip.

Please refer to the attached letter for more information on this project. To access the 3 enclosures mentioned at the end of the letter, please use the link below:

<https://marsspaceport.sharepoint.us/:f:/g/Ekrveb4ilbZLrl2zIZap8ewBsUotRN5uYsExu7t2QPZzLA?e=Bh1RLF>

If you have any questions, please do not hesitate to contact me at the below.

Sincerely,

Randall M. Stanley
NASA / WFF FMB, Code 228
Building N-161, Room 132
Wallops Island, VA 23337

Direct: 757-824-1309
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National Aeronautics and Space Administration



Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337

Reply to Attn of: 228

September 10, 2021

Chickahominy Indians Eastern Division
Attn: Ms. Jessica Phillips
2895 Mount Pleasant Road
Providence Forge, VA 23140

RE: Section 106 Consultation for Wallops Island Northern Development at NASA WFF

Dear Ms. Phillips:

NASA Wallops Flight Facility (WFF) is seeking to establish a new intermodal facility at Wallops Island as part of the United States Maritime Administration (MARAD) M-95 "Marine Highway Project" designed to expand the use of America's navigable waters (Figure 1). The proposed infrastructure developments would provide a port and operations area, including enhanced operational capabilities for the Virginia Commercial Spaceflight Authority (VCSFA), herein referred to as the Wallops Island Northern Development (WIND) project. VCSFA, through the Mid-Atlantic Regional Spaceport (MARS), owns and operates the existing Unmanned Aerial Systems (UAS) airstrip on the north end of Wallops Island.

NASA is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) tiered from the May 2019 *NASA WFF Site-Wide Programmatic Environmental Impact Statement (Final Site-wide PEIS)*, in which NASA evaluated the environmental consequences of constructing and operating new facilities and infrastructure at WFF.

As the federal landowner, NASA would grant the land use agreement for the Proposed Action and is the lead federal agency for this undertaking. MARAD is a cooperating agency on the EA since they may grant funds toward construction of the pier and port area. USACE is serving as a cooperating agency on the EA since they would be authorizing permits under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act due to the potential for dredging or placement of fill in waters of the U.S.

To this end, NASA has assumed the role of Lead Federal Agency for NHPA compliance and both MARAD and USACE are participating in NASA's Section 106 process. The effects of their actions are considered in all project documents, including this correspondence.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, NASA would like to initiate government-to-government consultation concerning the Undertaking to allow you and your designee the opportunity to identify any comments, concerns, and

suggestions you might have. As we move forward through this process, we welcome your participation and input.

Background

For over 70 years, WFF has flown thousands of research vehicles in the quest for information on the flight characteristics of airplanes, launch vehicles, and spacecraft, as well as to increase knowledge of the Earth's upper atmosphere and the near space environment. WFF supports aeronautical research, science technology, and education by providing NASA centers and other United States (U.S.) government agencies access to resources such as special use (i.e., restricted) airspace, research runways, and launch pads.

The VCSFA was created in 1995 by the General Assembly of the Commonwealth of Virginia to promote the development of the commercial space flight industry, economic development, aerospace research, and Science, Technology, Engineering, and Math (STEM) education throughout the Commonwealth. In 1997, the VCSFA entered into a Reimbursable Space Act Agreement with NASA, which permitted the use of land on Wallops Island for launch pads. VCSFA also applied for and was granted a Federal Aviation Administration (FAA) license for launches to orbital trajectories. This led to the establishment of MARS.

WFF regularly provides launch support for the commercial launch industry, either directly or through MARS. WFF facilitates a wide array of U.S. Department of Defense (DoD) research, development, and training missions, including target and missile launches, and aircraft development. The flight programs and projects supported by WFF range from small sounding rockets, unmanned scientific balloons and UAS, manned aircraft, and orbital tracking to next generation launch vehicle development, expendable launch vehicles, and small and medium classed orbital spacecraft. WFF conducts many of these programs from the Main Base research airport, the MARS UAS airstrip, and the Wallops Island launch range.

The goal of the MARAD Marine Highway Program is to expand the use of America's navigable waterways; to develop and increase marine highway service options; and to facilitate their further integration into the current U.S. surface transportation system, especially where water-based transport is the most efficient, effective, and sustainable option (<https://www.maritime.dot.gov/sites/marad.dot.gov/files/docs/grants-finances/marine-highways/3071/marine-highway-project-description-pages-1-27-2020.pdf>; page 36).

The M-95 Marine Highway Corridor includes the Atlantic Ocean coastal waters; Atlantic Intracoastal Waterway; and connecting commercial navigation channels, ports, and harbors spanning 15 states including Virginia. The proposed Wallops Island M-95 Intermodal Barge Service project has the potential to support the growth of existing operations at WFF, enhance STEM research opportunities, and spur high-tech/high-paying jobs in a predominantly rural area (<https://cms.marad.dot.gov/sites/marad.dot.gov/files/2021-05/Route%20Designation%20one-pagers%20May%202021.pdf>; page 25).

Construction of the MARS Port area would provide safe and secure barge access and berthing to offload large launch vehicle components and related equipment for MARS and NASA. Development of a port and operations area at the north end of Wallops Island to support the activities of NASA, WFF tenants, and MARS was evaluated at a programmatic level of detail in the 2019 *Final Site-wide PEIS*.

Description of the Undertaking

NASA initially considered seven alternatives for the Proposed Action along with the No Action Alternative. Five of the eight action alternatives for the proposed MARS Port were dismissed from further consideration because they failed to meet the Purpose and Need. These five alternative locations are outside of the secured boundaries of the MARS UAS Airfield, which would severely limit the use of the MARS Port based on security requirements of potential clients.

As part of the Undertaking, the MARS Port, including a 398-m (1,305-ft) fixed pier and turning basin would be constructed on (and within the vicinity of) the UAS airstrip located at the north end of Wallops Island. The MARS Port would provide a port and operations area along with associated capabilities for MARS, NASA WFF, and other customers. The MARS Port would also serve as a new intermodal facility as part of the MARAD M-95 Marine Highway Corridor. Infrastructure (new facilities and access road, runway, and utilities improvements) would likewise be constructed and installed as part of the Proposed Action. The Undertaking would also include the dredging of an existing channel for enhanced vessel approach purposes. The vessel approach channel, which interfaces with both the Chincoteague Inlet Federal Channel and the Bogues Bay connecting waterways, would initially be used by an assortment of shallow draft manned and unmanned vessels. A variety of additional infrastructure elements and facilities as described below would also be constructed to further support the MARS Port operations.

This Undertaking is the Proposed Action Alternative being analyzed in the EA, along with the No Action Alternative, and consists of the following specific actions (Figures 2-4):

- Channel and turning basin dredging;
- Construction of a new pier for barge access and berthing;
- Construction of a second hangar at the UAS airstrip;
- Installation of new potable and wastewater lines to the hangars (existing and proposed);
- Installation of new of airstrip lighting;
- Improvements/upgrades to the existing UAS Airstrip access road;
- Construction of a new pier access road (with utility bank) adjacent to the UAS Airstrip;
- Construction of a new vehicle parking lot;
- Widening of the existing access road culvert; and
- Construction of a new project support building.

Construction of the dredging and pier elements of the Undertaking would be carried out in three (3) separate phases:

- **Phase 1** would be construction of a 190-m (624-ft) long fixed pier, a 61-m (200-ft) radius turning basin (2.7 m [9 ft] deep below Mean Lower Low Water [MLLW]) and dredging of the vessel approach channel to a final depth of 1.5-m to 2.7-m (5-ft to 9-ft) below MLLW;
- **Phase 2** would be construction of a 206-m (676-ft) long extension of the fixed pier to a total length of 398 m (1,305 ft) and dredging of a 61-m (200-ft) radius turning basin to a final depth of 2.7 m (9 ft) below MLLW; and
- **Phase 3** of construction would be additional dredging to a final depth of 3.7 m (12 ft) below MLLW of the turning basin and the vessel approach channel, specifically the approximately 11,800 ft-long portion of channel from the Phase 2 turning basin to where it meets with the Chincoteague Inlet Federal Channel.

Although the Undertaking is anticipated to include all three phases of dredging and pier construction, there are two alternative implementations being considered. Under Alternative 1, only Phase 1 of the Undertaking would be implemented, while under Alternative 2, only Phases 1 and 2 would be implemented. The infrastructure and facilities would be constructed regardless of the phases of the dredging and piers construction ultimately implemented.

The elements of the Undertaking are described below in three main groupings: Channel Dredging, Port Components, and Other Infrastructure and Facilities.

Channel Dredging

The Undertaking would include the dredging of an existing channel for enhanced vessel approach purposes. A variety of shallow draft (0.6- to 1.2-m [2- to 4-ft]) manned and unmanned vessels would be serviced by the MARS Port. The major navigational service would be a tug and barge configuration of an approximately 45-m by 12-m (150-ft by 40-ft) deck barge propelled by a tugboat requiring approximately 2 m (8 ft) of draft. The vessel approach channel interfaces with both the Chincoteague Inlet Federal Channel and the Bogues Bay connecting waterways. Ultimately, the proposed channel would be approximately 3,900 m (12,800 ft) long, 30 m (100 ft) wide, and would have a final depth of 3.7 m (12 ft) below MLLW; the proposed width of the approach channel (30 m [100-ft]) is consistent with the dimensions of the Federal Channel.

There are five potential sites being evaluated for the placement of dredged material, which are discussed below (Figure 2). Further geotechnical investigation and associated physical and chemical laboratory analysis of sediment samples in the areas to be dredged would be required prior to dredging to determine the viability of the placement sites.

Option 1: Wallops Open Ocean Dredge Material Placement Area

This area is located just offshore of Wallops Island with a transportation distance of the dredged material of approximately 7 km (4 nautical miles). Open water placement options typically present the lowest cost dredging option and allows for the widest array of dredging equipment ranging from clamshell dredges to barge mounted excavators supplying dump barges or specially modified deck barges that are towed by tugboats to the dredged material placement site. Open water

placement locations are controlled by the USACE, and a permit would be required for the use of this site.

Option 2: Wallops Island Flood Protection/Upland Placement

This option involves the beneficial reuse of material for flood mitigation through upland placement in low lying areas on Wallops Island. Specifically, there are low lying areas in the vicinity of the culvert crossing the main access road to the UAS Airstrip. This option was evaluated based on having a cutter suction dredge pump the material into this area. This option would also require development of containment measures for the dredged material in the form of containment dikes and the channeling of the effluent and its return into Bogues Bay. This effluent is the water that is used in the dredging process to transport the dredged material in slurry form to the placement location. Other alternatives could include thin layer placement for marsh enhancement in marsh areas a similar distance to the dredging location or the use of geotubes or synthetic membranes for containing the dredged material.

Option 3: Greenbackville Dredged Material Containment Facility

The third dredged material placement option identified is the use of the upland Dredged Material Containment Facility (DMCF) owned and managed by the USACE. The USACE places material dredged from the upper reaches of the Chincoteague Channel into this DMCF. This option would require using a mechanical dredge to load the dredged material removed from the approach channel into barges. These barges would then be towed approximately 18 km (10 nautical miles) to the DMCF. A specialized hydraulic unloader would be required to discharge the dredged material from the transport barges and pump the material into the DMCF. The use of this option is unlikely as it currently does not have capacity for additional dredge spoil.

Option 4: Wallops Island Shoreline Protection Placement

This option would involve the beneficial reuse of clean, compatible sand from the dredged material to repair and protect areas of the shoreline within the Operations Range area on Wallops Island. The material would be placed along the seawall to protect the beach from tidal impacts or ocean overwash from coastal storms such as hurricanes and northeasters. This option would require using a mechanical dredge to load the dredged material removed from the approach channel into barges. These barges would then be towed approximately 11 km (6 nautical miles) to the shoreline. A specialized hydraulic unloader would be required to discharge the dredged material from the transport barges and pump the material onto the placement areas.

Option 5: Chincoteague National Wildlife Refuge Swan Cove Placement

This option would involve the beneficial reuse of the dredged material for the Swan Cove Pool Restoration Project located in the Chincoteague National Wildlife Refuge (NWR). If dredged material is determined to be compatible, it would be used by USFWS to create berms and enhance and/or restore currently degraded areas of the estuarine-salt marsh habitat that have been negatively impacted by an undersized culvert restricting sediment deposition and tidal flow.

Although USFWS would prefer material with a high proportion of sand, they will also accept dredge material containing high organic matter content. This option was evaluated based on having a cutter suction dredge pump the material to this area. Once pumped, USFWS would assume responsibility for sediment placement and securing appropriate permits.

Port Components

Planned components of the port include construction of a new pier for barge access and berthing. The new pier would include an access trestle and combination dock/ramp to support the loading and unloading of barges and research vessels. The port facility would specifically include the following elements (Figure 3):

- The pier would be designed for an HS-20 traffic loading, which would accommodate access by emergency vehicles, a mobile crane and trailered loads/equipment. HS-20 is the term used by the American Association of State Highway and Transportation Officials and American Concrete Institute to describe normal moving traffic loading conditions up to 18-wheeler loading. This loading assumes a 7,300-kilogram (kg) (16,000-pound [lb]) wheel load and therefore a 14,500-kg (32,000-lb) axle load.
- The dock/ramp would be oriented to allow loading/unloading of barges and research vessels by a mobile crane. The anticipated crane specifications are based upon a 175-Ton Liebherr LTM 1150-1. A typical piece of equipment anticipated being offloaded at the dock would be a 4-m (13-ft) diameter by 18-m (60-ft) long tank. The ramp would allow for launching and recovery of smaller research vessels.
- The pier would be designed to support expansion and deepening of the channel/basin for larger vessels, if needed in the future. The design of the piling in the dock/ramp will consider the future expansion/deepening.
- The deck height (approximately 3.3 m [11 ft] above waterline) would be above the Flood Protection Elevation as a resiliency measure against predicted Sea-Level Rise (SLR) and surge associated with extreme storm events, as well as meeting future vessel deck requirements.
- The access trestle would be supported by piles designed to span over tidal marshes/wetlands. Pile bents would be spaced on approximate 6-m (20-ft) intervals. Precast components would be used to the extent possible for the trestle and dock segments. Battered piles (i.e., a pile driven at an angle) would be incorporated into the design to laterally strengthen the pier.

Other Infrastructure and Facilities

A variety of onshore facilities and infrastructure would be constructed or upgraded to support the port operations, which are briefly summarized below (Figure 4).

Second Hangar

A new, approximately 660-sq m (7,125-square ft) hangar would be constructed east of the existing UAS airstrip hangar. The new hangar would be a secure facility to support operations, store vehicles and equipment when not in use, accommodate vehicle maintenance as required and provide a small meeting area for client usage. A second, secure hangar would allow for use by MARS port/pier clients without hindering usage of the existing hangar for UAS Airfield operations. Existing electrical and communication utilities at the existing hangar would be extended to the new hangar.

Potable Water and Wastewater Lines to Hangars

Potable water would be supplied from the elevated north end tank (V-090). Potable water supply piping would be placed in existing conduit that runs along North Seawall Road and extends from Building V-067 to the existing hangar at the UAS Airstrip. New conduit would be extended from the existing hangar to the proposed hangar at the UAS Airstrip. Wastewater from the hangars would be conveyed to a proposed temporary holding tank where it would be periodically collected and pumped into the NASA wastewater system for treatment.

Airstrip Lighting

New airstrip lighting, meeting applicable FAA airfield standards, would be installed at the UAS airstrip. The lights would be located along the edges of the runway (one light every 61 m [200 ft]). Lights would only be turned on when required by an airfield operation (i.e., aircraft takeoffs or landings) and turned off when the operation is completed.

Airstrip Access Road Improvements (culvert widening)

A 40-m (130-ft) segment of the existing paved access road would be widened to 9 m (30 ft) to enlarge the culvert for the drainage channels to Cow Gut.

Vehicle Parking Lot

A new parking area with spaces for up to 30 vehicles would be constructed near the northwest intersection of the UAS airstrip access road and runway. This proposed parking lot would occupy approximately 0.75 acres of primarily forested uplands.

Runway Hardening for Port Access

A 30.5-m (100-ft) wide section of runway would be improved (reinforced) to accommodate heavy equipment and vehicles traversing the airfield between the proposed pier and the equipment parking/storage areas.

Access Road to Port

A new access road would be constructed along the north side of the existing UAS airstrip from the intersection with the access road to the new MARS Port pier area.

Project Support Building (i.e., North Island Operations Center)

A new, approximately 740-square meter (sq m) (8,000-square foot [sq ft]) building may be constructed at the general location of the existing Lifesaving Station on the southwest end of the access road to the UAS airstrip. The facility would serve as a new North Island Operations Center. Electrical, potable water, wastewater, and communications utilities would be extended to this facility from existing nearby infrastructure.

Area of Potential Effects and Identification of Historic Properties

Section 106 of the NHPA of 1966, as amended, and as implemented by 36 CFR Part 800, requires Federal agencies to consider the effects of their actions on historic properties before undertaking a project. A historic property is defined as any cultural resource that is included in, or eligible for inclusion in, the NRHP. The NRHP, administered by the NPS, is the official inventory of cultural resources that are significant in American history, prehistory, architecture, archaeology, engineering, and culture. The NRHP also includes National Historic Landmarks. In consideration of 36 CFR 800, Federal agencies are required to initiate consultation with the State Historic Preservation Office (SHPO) informing them of the planned action and requesting their submittal of any comments or concerns.

As described in the 2019 *Final Site-wide PEIS*, in accordance with Sections 106 and 110 of the NHPA, NASA developed a Programmatic Agreement (PA) with the Virginia SHPO and Advisory Council on Historic Preservation to outline how WFF will manage its cultural resources as an integral part of its operations and missions: *Programmatic Agreement Among the National Aeronautics and Space Administration, the Virginia State Historic Preservation Office, and the Advisory Council On Historic Preservation Regarding the Management of Facilities, Infrastructure, and Sites at the National Aeronautics and Space Administration's Wallops Flight Facility, Wallops Island, Accomack County, Virginia* (NASA 2014, 2016).

As part of this process, NASA identified parties who have an interest in, or knowledge of, cultural resources at WFF and included them in the development of the terms of the PA. The PA establishes the parameters for managing cultural resources at WFF including:

- Roles and responsibilities,
- Updates and requirements for the WFF Integrated Cultural Resources Management Plan,
- Activities not requiring review,
- Review process for potential impacts including professional qualifications, documentation, curation, etc.,
- Requirements for the treatment of the Wallops Beach Lifesaving Station,
- Resolution of adverse effects and disputes, and
- Emergency actions

Area of Potential Effects (APE)

The APE, as defined in 36 CFR Part 800.16(d), is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.”

For this undertaking, the APE has three components: the terrestrial archaeological APE, the marine archaeological APE, and the above-ground APE (Figure 5). NASA has defined the terrestrial archaeological Area of Potential Effects (APE) as the proposed limits of disturbance for the undertaking in upland areas. NASA has defined the marine archaeological APE as the proposed limits of disturbance for the undertaking in marine areas. Due to the low vertical profile of the project elements, NASA has defined the above-ground APE as a 0.8-kilometer (0.5-mile) radius buffer around the proposed limits of disturbance, both terrestrial and marine.

Figure 6 provides a Preliminary APE for the dredge spoil placement locations. Additional environmental and engineering evaluations are necessary to determine the preferred dredge spoil placement location for this undertaking. NASA will consult with DHR once the specific location has been identified.

Identification of Historic Properties

NASA used a combination of existing data review and Phase I archaeological surveys to identify historic properties within the APE. Figure 7 shows resources and previous investigations within the APE for the terrestrial and marine components of the project; Figure 8 shows the resources in the vicinity of the dredge placement options; and Figure 9 shows the locations of the three terrestrial and marine archaeological surveys performed in 2021 as part of identification and evaluation efforts.

The terrestrial elements of the undertaking are located within the boundary of Wallops Island Flight Facility Historic District (DHR ID 001-0027), which was determined Not Eligible for the NRHP on November 4, 2004. This includes seven contributing resources within the Preliminary APE for Dredge Spoil Option 4 (Wallops Island Shoreline Protection Placement) (DHR ID 001-0027-0238, -0239, -0240, -0241, -0242, -0244, and -0251). All seven have been determined Not Eligible for the NRHP. Two additional resources, DHR ID 001-0027-0100 and -0101, are within the APE for the proposed project support building (i.e., North Island Ops Center) and are discussed in more detail, below.

In 2003, NASA modeled all property within WFF’s boundaries for the potential of terrestrial archaeological resources, which is depicted in Appendix A of the PA, which is included as Appendix B in the 2015 *Integrated Cultural Resources Management Plan for Wallops Flight Facility* (2015 ICRMP).

Three archaeological surveys are within the broader above-ground APE: AC-039, AC-049, and AC-076. AC-039 represents the Phase I survey for the proposed DD(x) Wetlands Mitigation project, which documented 44AC0459, discussed in more detail, below. AC-049 is a terrestrial portion of the 2009 terrestrial and marine archaeological surveys conducted for the proposed shoreline restoration and infrastructure protection program. AC-076 represents the Phase I survey of a proposed wetland mitigation bank. None of these surveys intersect the terrestrial archaeological APE and none documented archaeological sites within the terrestrial or marine archaeological APE.

According to NASA's predictive model for prehistoric and historic archaeological sites in the 2015 ICRMP, a number of terrestrial portions of the undertaking along the UAS Airstrip site falls within the area of High archaeological potential, specifically the second hangar, the water and wastewater lines, the airstrip lighting, the runway hardening, and the access road to port. During the NEPA analysis for the construction and operation of the UAS Airstrip, NASA performed a Phase I archaeological survey, which included the proposed UAS Airstrip, two hangars, and the access roadway (Chris Espenshade and Kirstie Lockerman, 2009, *Cultural Resources Investigations of the Proposed Uninhabited Aerial Systems Airstrip, Wallops Flight Facility, Accomack County, Virginia*, New South Associates). The survey resulted in the documentation of 44AC0089, a terrestrial earthwork dating to the Revolutionary War and located approximately 60 m (200 ft) northeast of the APE near the UAS Airstrip. This survey encompassed all the aforementioned terrestrial portions of the undertaking except for the second hangar, the proposed location of which was not included in the 2009 survey.

NASA performed a Phase I archaeological survey of the proposed second hangar in 2021. The report of these investigations, *NASA Wallops Flight Facility Phase I Archaeological Survey for the Wallops Island North Development Project, Wallops Island Virginia* by Kathleen Furgerson and Kelsey Johnson, is enclosed with this letter. This Phase I survey did not document any archaeological resources. The rest of the terrestrial archaeological APE near the UAS Airstrip has been previously disturbed as a result of construction of the airstrip.

The remaining terrestrial portions of the undertaking in the vicinity of the existing UAS Airstrip, the airstrip access road improvements and the vehicle parking lot, area within an area of Low archaeological potential (2015 ICRMP). Both are in areas of poorly drained soil; the access road is located on a constructed berm.

The proposed project support building (i.e., North Island Ops Center) will be built in the former location of the Wallops Beach Lifesaving Station (DHR ID 001-0027-0100), which was determined eligible for the NRHP on November 4, 2004. NASA notified DHR of their intent to demolish the Wallops Beach Lifesaving Station in a letter dated February 29, 2016. As mitigation for the adverse effect, the resource was documented via HABS recordation and a documentary video produced (<https://vimeo.com/ursci/review/177622715/b2f6e500b2>), pursuant to the PA. DHR concurred that NASA met the requirements outlined in the PA and can proceed with demolition in an email dated March 3, 2020.

This location was subjected to archaeological monitoring conducted by Tetra Tech related to lead remediation activities on January 13, 2014. The remediation activities consisted of the removal of approximately 6 inches of soil within a 4,500 square foot area within a 20-foot radius buffer around the foundation of the Wallops Beach Lifesaving Station. The remediation excavations removed the A horizon and allowed the monitoring archaeologist to inspect the exposed subsoil for evidence of cultural features and artifacts. No cultural features or artifacts were revealed during the remediation activities (*Surface Soil Removal, Former Coast Guard Station [Building V-65], NASA Wallops Island, Wallops Island, Virginia, Archaeological Monitoring Field Summary* n.d.). It is not clear if the remediation activities removed additional soil after the conclusion of the archaeological monitoring. While this location is in an area of high archaeological potential (2015 ICRMP), this location has been disturbed by the lead remediation activities, which did not reveal any cultural features or artifacts. Based on the previous disturbance and lack of archaeological remains, no archaeological survey is recommended for this location.

The Wallops Beach Station Observation Tower (DHR ID 001-0027-0101), which is associated with the Wallops Beach Lifesaving Station, is also located adjacent to the proposed North Island Ops Center. The tower is not individually eligible for the NRHP but contributes to the eligibility of the Wallops Beach Lifesaving Station, which is slated for demolition. As the tower is not individually eligible, and as the historic property to which it contributed is slated for demolition and mitigation for this adverse effect has been implemented pursuant to the PA, NASA has determined that Wallops Beach Station Observation Tower is no longer an historic property.

Site 44AC0459 is located adjacent to the proposed North Island Ops Center, which is the former location of the Wallops Beach Lifesaving Station and Observation Tower (DHR ID 001-0027-0100). Site 44AC0459 yielded artifacts from the mid-eighteenth through twentieth century and is associated with the old Coast Guard Station trash disposal patterns and mid-to-late twentieth century NASA activities. According to V-CRIS, the site is unassessed for the NRHP. The site is located outside of the APE.

The marine portions of the undertaking, specifically the port improvements and the navigation channel, extend from the northwestern end of the UAS Airstrip and arc around the northeastern end of Wallops Island before intersecting with the Chincoteague Inlet Channel. The navigation channel already exists; some portions of the channel are not at the necessary depth and would require dredging, while other portions are already at the necessary depth and thus would not require any new dredging.

NASA conducted a Phase I marine archaeological survey in July 2020 and February 2021 for the marine portions of the undertaking, excluding the area of the proposed channel that do not require dredging. Review of nineteenth and early twentieth-century nautical charts and historic maps of the marine APE did not reveal the potential for significant shipwrecks or potentially submerged maritime industry resources. The marine archaeological survey used nonintrusive geophysical instruments including a side scan sonar, a marine magnetometer, and a single-beam sonar and documented 53 magnetic and 9 acoustic contacts. No potentially significant submerged

archaeological resources were identified within the marine APE. No additional archaeological investigations are recommended of any recorded anomalies from the survey. The report of these investigations, *Marine Archaeological Survey for the Wallops Island Northern Development Project, Wallops Flight Facility, Accomack County, Virginia* by Chris Cartellone and Jean B. Pelletier, is enclosed with this letter.

The five proposed dredge spoil placement locations are located in the vicinity of MARS Port; some are in marine locations (i.e., Option 1, Option 3) and some are in terrestrial or mixed terrestrial/marine locations (i.e., Option 2, Option 4, Option 5).

No known archaeological sites are located within the Wallops Island Open Ocean Placement (Option 1); according to V-CRIS, this location has not been subject to a Phase I archaeological survey. The exact location of the Wallops Island Flood Protection/Upland Placement (Option 2) is currently not known. Generally, though, the location is within an area of Low archaeological potential (2015 ICRMP). It is also within the boundary of DHR ID 001-0027, determined not eligible for the NRHP.

No known archaeological sites are located within the Greenbackville Dredged Material Containment Facility (Option 3); according to V-CRIS, this location has not been subject to a Phase I archaeological survey. Two above-ground resources are in the vicinity of Option 3. DHR ID 001-0028 is the Franklin City Railroad Station, and DHR ID 001-5053 is a house at 2937 Franklin City Road. Neither resource has been evaluated for NRHP eligibility.

The exact location of the Wallops Island Shoreline Protection Placement (Option 4) is not known, but it is generally along the shoreline of Wallops Island. It is in the vicinity of DHR ID 001-0027 and a number of contributing resources, all of which have been determined not eligible for the NRHP.

The Chincoteague National Wildlife Refuge Swan Cove Placement (Option 5) is in the vicinity of Little Toms Cove and Swan Cove Pool. Terrestrial portions of Option 5 are within previous archaeological survey AC-015, a 1988 archaeological reconnaissance of Chincoteague National Wildlife Refuge. A number of other previous archaeological surveys have been conducted immediately adjacent to or in the immediate vicinity of Option 5 (AC-007, AC-034, AC-083, AC-089, and AC-093). One previously recorded archaeological site, 44AC0412, is directly adjacent to Option 5 on the west side of Beach Road. The site is the remains of an early twentieth century life saving station and is unassessed for NRHP eligibility.

Determination of Effect

No archaeological historic properties are located within the APE. The Phase I archaeological survey of the proposed hangar and the Phase I marine archaeological survey did not identify any archaeological resources within the APE, and previously recorded sites 44AC0089 and 44AC0459 are located outside of the APE. No above-ground historic properties were identified within the APE.

NASA concludes that there would be “no historic properties affected” by the proposed undertaking. Your concurrence with this determination is respectfully requested.

It is understood that this determination excludes the dredge spoil placement locations. Additional environmental and engineering evaluations are necessary to determine the preferred dredge spoil placement location for this undertaking. NASA will consult with DHR once this location has been identified.

If you have any questions or require additional information, please contact me at Randall.M.Stanley@nasa.gov or (757) 824-1309.

Sincerely,

RANDAL
L
STANLEY

Digitally signed by: RANDALL STANLEY
DN: CN = RANDALL STANLEY C = US O
= U.S. Government OU = NASA, People
Date: 2021.09.10 10:49:09 -05'00'

Randall M. Stanley
Cultural Resources Manager

3 Enclosures

- Figures 1-9
- NASA Wallops Flight Facility, Phase I Archaeological Survey for the Wallops Island North Development Project, Wallops Island, Virginia by Kathleen Furgerson and Kelsey Johnson (2021)*
- Marine Archaeological Survey for the Wallops Island Northern Development Project, Wallops Flight Facility, Accomack County, Virginia by Chris Cartellone and Jean B. Pelletier (2021)*

cc:
250/Ms. S. Miller
VCSFA/Mr. N. Overby

From: Stanley, Randall M. (WFF-2280) <randall.m.stanley@nasa.gov>
Sent: Friday, September 10, 2021 10:52 AM
To: debra.hansen@pamunkey.org
Cc: Miller, Shari A. (WFF-2500); Nate Overby
Subject: Section 106 Consultation for Wallops Island Northern Development at NASA WFF
Attachments: Pamunkey - NASA WIND_THPO Letter_10 September 2021_VCSFA.pdf

Good Morning Ms. Hansen,

NASA Wallops Flight Facility (WFF) is seeking to establish a new intermodal facility at Wallops Island, Virginia as part of the United States Maritime Administration (MARAD) M-95 "Marine Highway Project" designed to expand the use of America's navigable waters. As part of this project, an Environmental Analysis (EA) is being prepared. NASA contracted with AECOM Technical Services to fulfil Section 106 requirements of the National Historic Preservation Act of 1966 by conducting a Phase I marine archaeological survey for the proposed construction and operation of a Wallops Island Pier Area, and a Phase I terrestrial archaeological survey for proposed construction of a hangar, both located at the north end of Wallops Island in proximity to the Mid-Atlantic Regional Spaceport (MARS) Unmanned Aerial Systems (UAS) airstrip.

Please refer to the attached letter for more information on this project. To access the 3 enclosures mentioned at the end of the letter, please use the link below:

<https://marsspaceport.sharepoint.us/:f:/g/Ekrveb4ilbZLrl2zIZap8ewBsUotRN5uYsExu7t2QPZzLA?e=Bh1RLF>

If you have any questions, please do not hesitate to contact me at the below.

Sincerely,

Randall M. Stanley
NASA / WFF FMB, Code 228
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Wallops Island, VA 23337

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National Aeronautics and Space Administration



Goddard Space Flight Center

Wallops Flight Facility
Wallops Island, VA 23337

Reply to Attn of: 228

September 10, 2021

Pamunkey Indian Nation
Attn: Ms. Debra Hansen
1054 Pocahontas Trail
King William, VA 23086

RE: Section 106 Consultation for Wallops Island Northern Development at NASA WFF

Dear Ms. Hansen:

NASA Wallops Flight Facility (WFF) is seeking to establish a new intermodal facility at Wallops Island as part of the United States Maritime Administration (MARAD) M-95 "Marine Highway Project" designed to expand the use of America's navigable waters (Figure 1). The proposed infrastructure developments would provide a port and operations area, including enhanced operational capabilities for the Virginia Commercial Spaceflight Authority (VCSFA), herein referred to as the Wallops Island Northern Development (WIND) project. VCSFA, through the Mid-Atlantic Regional Spaceport (MARS), owns and operates the existing Unmanned Aerial Systems (UAS) airstrip on the north end of Wallops Island.

NASA is preparing an Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) tiered from the May 2019 *NASA WFF Site-Wide Programmatic Environmental Impact Statement (Final Site-wide PEIS)*, in which NASA evaluated the environmental consequences of constructing and operating new facilities and infrastructure at WFF.

As the federal landowner, NASA would grant the land use agreement for the Proposed Action and is the lead federal agency for this undertaking. MARAD is a cooperating agency on the EA since they may grant funds toward construction of the pier and port area. USACE is serving as a cooperating agency on the EA since they would be authorizing permits under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act due to the potential for dredging or placement of fill in waters of the U.S.

To this end, NASA has assumed the role of Lead Federal Agency for NHPA compliance and both MARAD and USACE are participating in NASA's Section 106 process. The effects of their actions are considered in all project documents, including this correspondence.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, NASA would like to initiate government-to-government consultation concerning the Undertaking to allow you and your designee the opportunity to identify any comments, concerns, and

suggestions you might have. As we move forward through this process, we welcome your participation and input.

Background

For over 70 years, WFF has flown thousands of research vehicles in the quest for information on the flight characteristics of airplanes, launch vehicles, and spacecraft, as well as to increase knowledge of the Earth's upper atmosphere and the near space environment. WFF supports aeronautical research, science technology, and education by providing NASA centers and other United States (U.S.) government agencies access to resources such as special use (i.e., restricted) airspace, research runways, and launch pads.

The VCSFA was created in 1995 by the General Assembly of the Commonwealth of Virginia to promote the development of the commercial space flight industry, economic development, aerospace research, and Science, Technology, Engineering, and Math (STEM) education throughout the Commonwealth. In 1997, the VCSFA entered into a Reimbursable Space Act Agreement with NASA, which permitted the use of land on Wallops Island for launch pads. VCSFA also applied for and was granted a Federal Aviation Administration (FAA) license for launches to orbital trajectories. This led to the establishment of MARS.

WFF regularly provides launch support for the commercial launch industry, either directly or through MARS. WFF facilitates a wide array of U.S. Department of Defense (DoD) research, development, and training missions, including target and missile launches, and aircraft development. The flight programs and projects supported by WFF range from small sounding rockets, unmanned scientific balloons and UAS, manned aircraft, and orbital tracking to next generation launch vehicle development, expendable launch vehicles, and small and medium classed orbital spacecraft. WFF conducts many of these programs from the Main Base research airport, the MARS UAS airstrip, and the Wallops Island launch range.

The goal of the MARAD Marine Highway Program is to expand the use of America's navigable waterways; to develop and increase marine highway service options; and to facilitate their further integration into the current U.S. surface transportation system, especially where water-based transport is the most efficient, effective, and sustainable option (<https://www.maritime.dot.gov/sites/marad.dot.gov/files/docs/grants-finances/marine-highways/3071/marine-highway-project-description-pages-1-27-2020.pdf>; page 36).

The M-95 Marine Highway Corridor includes the Atlantic Ocean coastal waters; Atlantic Intracoastal Waterway; and connecting commercial navigation channels, ports, and harbors spanning 15 states including Virginia. The proposed Wallops Island M-95 Intermodal Barge Service project has the potential to support the growth of existing operations at WFF, enhance STEM research opportunities, and spur high-tech/high-paying jobs in a predominantly rural area (<https://cms.marad.dot.gov/sites/marad.dot.gov/files/2021-05/Route%20Designation%20one-pagers%20May%202021.pdf>; page 25).

Construction of the MARS Port area would provide safe and secure barge access and berthing to offload large launch vehicle components and related equipment for MARS and NASA. Development of a port and operations area at the north end of Wallops Island to support the activities of NASA, WFF tenants, and MARS was evaluated at a programmatic level of detail in the 2019 *Final Site-wide PEIS*.

Description of the Undertaking

NASA initially considered seven alternatives for the Proposed Action along with the No Action Alternative. Five of the eight action alternatives for the proposed MARS Port were dismissed from further consideration because they failed to meet the Purpose and Need. These five alternative locations are outside of the secured boundaries of the MARS UAS Airfield, which would severely limit the use of the MARS Port based on security requirements of potential clients.

As part of the Undertaking, the MARS Port, including a 398-m (1,305-ft) fixed pier and turning basin would be constructed on (and within the vicinity of) the UAS airstrip located at the north end of Wallops Island. The MARS Port would provide a port and operations area along with associated capabilities for MARS, NASA WFF, and other customers. The MARS Port would also serve as a new intermodal facility as part of the MARAD M-95 Marine Highway Corridor. Infrastructure (new facilities and access road, runway, and utilities improvements) would likewise be constructed and installed as part of the Proposed Action. The Undertaking would also include the dredging of an existing channel for enhanced vessel approach purposes. The vessel approach channel, which interfaces with both the Chincoteague Inlet Federal Channel and the Bogues Bay connecting waterways, would initially be used by an assortment of shallow draft manned and unmanned vessels. A variety of additional infrastructure elements and facilities as described below would also be constructed to further support the MARS Port operations.

This Undertaking is the Proposed Action Alternative being analyzed in the EA, along with the No Action Alternative, and consists of the following specific actions (Figures 2-4):

- Channel and turning basin dredging;
- Construction of a new pier for barge access and berthing;
- Construction of a second hangar at the UAS airstrip;
- Installation of new potable and wastewater lines to the hangars (existing and proposed);
- Installation of new of airstrip lighting;
- Improvements/upgrades to the existing UAS Airstrip access road;
- Construction of a new pier access road (with utility bank) adjacent to the UAS Airstrip;
- Construction of a new vehicle parking lot;
- Widening of the existing access road culvert; and
- Construction of a new project support building.

Construction of the dredging and pier elements of the Undertaking would be carried out in three (3) separate phases:

- **Phase 1** would be construction of a 190-m (624-ft) long fixed pier, a 61-m (200-ft) radius turning basin (2.7 m [9 ft] deep below Mean Lower Low Water [MLLW]) and dredging of the vessel approach channel to a final depth of 1.5-m to 2.7-m (5-ft to 9-ft) below MLLW;
- **Phase 2** would be construction of a 206-m (676-ft) long extension of the fixed pier to a total length of 398 m (1,305 ft) and dredging of a 61-m (200-ft) radius turning basin to a final depth of 2.7 m (9 ft) below MLLW; and
- **Phase 3** of construction would be additional dredging to a final depth of 3.7 m (12 ft) below MLLW of the turning basin and the vessel approach channel, specifically the approximately 11,800 ft-long portion of channel from the Phase 2 turning basin to where it meets with the Chincoteague Inlet Federal Channel.

Although the Undertaking is anticipated to include all three phases of dredging and pier construction, there are two alternative implementations being considered. Under Alternative 1, only Phase 1 of the Undertaking would be implemented, while under Alternative 2, only Phases 1 and 2 would be implemented. The infrastructure and facilities would be constructed regardless of the phases of the dredging and piers construction ultimately implemented.

The elements of the Undertaking are described below in three main groupings: Channel Dredging, Port Components, and Other Infrastructure and Facilities.

Channel Dredging

The Undertaking would include the dredging of an existing channel for enhanced vessel approach purposes. A variety of shallow draft (0.6- to 1.2-m [2- to 4-ft]) manned and unmanned vessels would be serviced by the MARS Port. The major navigational service would be a tug and barge configuration of an approximately 45-m by 12-m (150-ft by 40-ft) deck barge propelled by a tugboat requiring approximately 2 m (8 ft) of draft. The vessel approach channel interfaces with both the Chincoteague Inlet Federal Channel and the Bogues Bay connecting waterways. Ultimately, the proposed channel would be approximately 3,900 m (12,800 ft) long, 30 m (100 ft) wide, and would have a final depth of 3.7 m (12 ft) below MLLW; the proposed width of the approach channel (30 m [100-ft]) is consistent with the dimensions of the Federal Channel.

There are five potential sites being evaluated for the placement of dredged material, which are discussed below (Figure 2). Further geotechnical investigation and associated physical and chemical laboratory analysis of sediment samples in the areas to be dredged would be required prior to dredging to determine the viability of the placement sites.

Option 1: Wallops Open Ocean Dredge Material Placement Area

This area is located just offshore of Wallops Island with a transportation distance of the dredged material of approximately 7 km (4 nautical miles). Open water placement options typically present the lowest cost dredging option and allows for the widest array of dredging equipment ranging from clamshell dredges to barge mounted excavators supplying dump barges or specially modified deck barges that are towed by tugboats to the dredged material placement site. Open water

placement locations are controlled by the USACE, and a permit would be required for the use of this site.

Option 2: Wallops Island Flood Protection/Upland Placement

This option involves the beneficial reuse of material for flood mitigation through upland placement in low lying areas on Wallops Island. Specifically, there are low lying areas in the vicinity of the culvert crossing the main access road to the UAS Airstrip. This option was evaluated based on having a cutter suction dredge pump the material into this area. This option would also require development of containment measures for the dredged material in the form of containment dikes and the channeling of the effluent and its return into Bogues Bay. This effluent is the water that is used in the dredging process to transport the dredged material in slurry form to the placement location. Other alternatives could include thin layer placement for marsh enhancement in marsh areas a similar distance to the dredging location or the use of geotubes or synthetic membranes for containing the dredged material.

Option 3: Greenbackville Dredged Material Containment Facility

The third dredged material placement option identified is the use of the upland Dredged Material Containment Facility (DMCF) owned and managed by the USACE. The USACE places material dredged from the upper reaches of the Chincoteague Channel into this DMCF. This option would require using a mechanical dredge to load the dredged material removed from the approach channel into barges. These barges would then be towed approximately 18 km (10 nautical miles) to the DMCF. A specialized hydraulic unloader would be required to discharge the dredged material from the transport barges and pump the material into the DMCF. The use of this option is unlikely as it currently does not have capacity for additional dredge spoil.

Option 4: Wallops Island Shoreline Protection Placement

This option would involve the beneficial reuse of clean, compatible sand from the dredged material to repair and protect areas of the shoreline within the Operations Range area on Wallops Island. The material would be placed along the seawall to protect the beach from tidal impacts or ocean overwash from coastal storms such as hurricanes and northeasters. This option would require using a mechanical dredge to load the dredged material removed from the approach channel into barges. These barges would then be towed approximately 11 km (6 nautical miles) to the shoreline. A specialized hydraulic unloader would be required to discharge the dredged material from the transport barges and pump the material onto the placement areas.

Option 5: Chincoteague National Wildlife Refuge Swan Cove Placement

This option would involve the beneficial reuse of the dredged material for the Swan Cove Pool Restoration Project located in the Chincoteague National Wildlife Refuge (NWR). If dredged material is determined to be compatible, it would be used by USFWS to create berms and enhance and/or restore currently degraded areas of the estuarine-salt marsh habitat that have been negatively impacted by an undersized culvert restricting sediment deposition and tidal flow.

Although USFWS would prefer material with a high proportion of sand, they will also accept dredge material containing high organic matter content. This option was evaluated based on having a cutter suction dredge pump the material to this area. Once pumped, USFWS would assume responsibility for sediment placement and securing appropriate permits.

Port Components

Planned components of the port include construction of a new pier for barge access and berthing. The new pier would include an access trestle and combination dock/ramp to support the loading and unloading of barges and research vessels. The port facility would specifically include the following elements (Figure 3):

- The pier would be designed for an HS-20 traffic loading, which would accommodate access by emergency vehicles, a mobile crane and trailered loads/equipment. HS-20 is the term used by the American Association of State Highway and Transportation Officials and American Concrete Institute to describe normal moving traffic loading conditions up to 18-wheeler loading. This loading assumes a 7,300-kilogram (kg) (16,000-pound [lb]) wheel load and therefore a 14,500-kg (32,000-lb) axle load.
- The dock/ramp would be oriented to allow loading/unloading of barges and research vessels by a mobile crane. The anticipated crane specifications are based upon a 175-Ton Liebherr LTM 1150-1. A typical piece of equipment anticipated being offloaded at the dock would be a 4-m (13-ft) diameter by 18-m (60-ft) long tank. The ramp would allow for launching and recovery of smaller research vessels.
- The pier would be designed to support expansion and deepening of the channel/basin for larger vessels, if needed in the future. The design of the piling in the dock/ramp will consider the future expansion/deepening.
- The deck height (approximately 3.3 m [11 ft] above waterline) would be above the Flood Protection Elevation as a resiliency measure against predicted Sea-Level Rise (SLR) and surge associated with extreme storm events, as well as meeting future vessel deck requirements.
- The access trestle would be supported by piles designed to span over tidal marshes/wetlands. Pile bents would be spaced on approximate 6-m (20-ft) intervals. Precast components would be used to the extent possible for the trestle and dock segments. Battered piles (i.e., a pile driven at an angle) would be incorporated into the design to laterally strengthen the pier.

Other Infrastructure and Facilities

A variety of onshore facilities and infrastructure would be constructed or upgraded to support the port operations, which are briefly summarized below (Figure 4).

Second Hangar

A new, approximately 660-sq m (7,125-square ft) hangar would be constructed east of the existing UAS airstrip hangar. The new hangar would be a secure facility to support operations, store vehicles and equipment when not in use, accommodate vehicle maintenance as required and provide a small meeting area for client usage. A second, secure hangar would allow for use by MARS port/pier clients without hindering usage of the existing hangar for UAS Airfield operations. Existing electrical and communication utilities at the existing hangar would be extended to the new hangar.

Potable Water and Wastewater Lines to Hangars

Potable water would be supplied from the elevated north end tank (V-090). Potable water supply piping would be placed in existing conduit that runs along North Seawall Road and extends from Building V-067 to the existing hangar at the UAS Airstrip. New conduit would be extended from the existing hangar to the proposed hangar at the UAS Airstrip. Wastewater from the hangars would be conveyed to a proposed temporary holding tank where it would be periodically collected and pumped into the NASA wastewater system for treatment.

Airstrip Lighting

New airstrip lighting, meeting applicable FAA airfield standards, would be installed at the UAS airstrip. The lights would be located along the edges of the runway (one light every 61 m [200 ft]). Lights would only be turned on when required by an airfield operation (i.e., aircraft takeoffs or landings) and turned off when the operation is completed.

Airstrip Access Road Improvements (culvert widening)

A 40-m (130-ft) segment of the existing paved access road would be widened to 9 m (30 ft) to enlarge the culvert for the drainage channels to Cow Gut.

Vehicle Parking Lot

A new parking area with spaces for up to 30 vehicles would be constructed near the northwest intersection of the UAS airstrip access road and runway. This proposed parking lot would occupy approximately 0.75 acres of primarily forested uplands.

Runway Hardening for Port Access

A 30.5-m (100-ft) wide section of runway would be improved (reinforced) to accommodate heavy equipment and vehicles traversing the airfield between the proposed pier and the equipment parking/storage areas.

Access Road to Port

A new access road would be constructed along the north side of the existing UAS airstrip from the intersection with the access road to the new MARS Port pier area.

Project Support Building (i.e., North Island Operations Center)

A new, approximately 740-square meter (sq m) (8,000-square foot [sq ft]) building may be constructed at the general location of the existing Lifesaving Station on the southwest end of the access road to the UAS airstrip. The facility would serve as a new North Island Operations Center. Electrical, potable water, wastewater, and communications utilities would be extended to this facility from existing nearby infrastructure.

Area of Potential Effects and Identification of Historic Properties

Section 106 of the NHPA of 1966, as amended, and as implemented by 36 CFR Part 800, requires Federal agencies to consider the effects of their actions on historic properties before undertaking a project. A historic property is defined as any cultural resource that is included in, or eligible for inclusion in, the NRHP. The NRHP, administered by the NPS, is the official inventory of cultural resources that are significant in American history, prehistory, architecture, archaeology, engineering, and culture. The NRHP also includes National Historic Landmarks. In consideration of 36 CFR 800, Federal agencies are required to initiate consultation with the State Historic Preservation Office (SHPO) informing them of the planned action and requesting their submittal of any comments or concerns.

As described in the 2019 *Final Site-wide PEIS*, in accordance with Sections 106 and 110 of the NHPA, NASA developed a Programmatic Agreement (PA) with the Virginia SHPO and Advisory Council on Historic Preservation to outline how WFF will manage its cultural resources as an integral part of its operations and missions: *Programmatic Agreement Among the National Aeronautics and Space Administration, the Virginia State Historic Preservation Office, and the Advisory Council On Historic Preservation Regarding the Management of Facilities, Infrastructure, and Sites at the National Aeronautics and Space Administration's Wallops Flight Facility, Wallops Island, Accomack County, Virginia* (NASA 2014, 2016).

As part of this process, NASA identified parties who have an interest in, or knowledge of, cultural resources at WFF and included them in the development of the terms of the PA. The PA establishes the parameters for managing cultural resources at WFF including:

- Roles and responsibilities,
- Updates and requirements for the WFF Integrated Cultural Resources Management Plan,
- Activities not requiring review,
- Review process for potential impacts including professional qualifications, documentation, curation, etc.,
- Requirements for the treatment of the Wallops Beach Lifesaving Station,
- Resolution of adverse effects and disputes, and
- Emergency actions

Area of Potential Effects (APE)

The APE, as defined in 36 CFR Part 800.16(d), is “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.”

For this undertaking, the APE has three components: the terrestrial archaeological APE, the marine archaeological APE, and the above-ground APE (Figure 5). NASA has defined the terrestrial archaeological Area of Potential Effects (APE) as the proposed limits of disturbance for the undertaking in upland areas. NASA has defined the marine archaeological APE as the proposed limits of disturbance for the undertaking in marine areas. Due to the low vertical profile of the project elements, NASA has defined the above-ground APE as a 0.8-kilometer (0.5-mile) radius buffer around the proposed limits of disturbance, both terrestrial and marine.

Figure 6 provides a Preliminary APE for the dredge spoil placement locations. Additional environmental and engineering evaluations are necessary to determine the preferred dredge spoil placement location for this undertaking. NASA will consult with DHR once the specific location has been identified.

Identification of Historic Properties

NASA used a combination of existing data review and Phase I archaeological surveys to identify historic properties within the APE. Figure 7 shows resources and previous investigations within the APE for the terrestrial and marine components of the project; Figure 8 shows the resources in the vicinity of the dredge placement options; and Figure 9 shows the locations of the three terrestrial and marine archaeological surveys performed in 2021 as part of identification and evaluation efforts.

The terrestrial elements of the undertaking are located within the boundary of Wallops Island Flight Facility Historic District (DHR ID 001-0027), which was determined Not Eligible for the NRHP on November 4, 2004. This includes seven contributing resources within the Preliminary APE for Dredge Spoil Option 4 (Wallops Island Shoreline Protection Placement) (DHR ID 001-0027-0238, -0239, -0240, -0241, -0242, -0244, and -0251). All seven have been determined Not Eligible for the NRHP. Two additional resources, DHR ID 001-0027-0100 and -0101, are within the APE for the proposed project support building (i.e., North Island Ops Center) and are discussed in more detail, below.

In 2003, NASA modeled all property within WFF’s boundaries for the potential of terrestrial archaeological resources, which is depicted in Appendix A of the PA, which is included as Appendix B in the 2015 *Integrated Cultural Resources Management Plan for Wallops Flight Facility* (2015 ICRMP).

Three archaeological surveys are within the broader above-ground APE: AC-039, AC-049, and AC-076. AC-039 represents the Phase I survey for the proposed DD(x) Wetlands Mitigation project, which documented 44AC0459, discussed in more detail, below. AC-049 is a terrestrial portion of the 2009 terrestrial and marine archaeological surveys conducted for the proposed shoreline restoration and infrastructure protection program. AC-076 represents the Phase I survey of a proposed wetland mitigation bank. None of these surveys intersect the terrestrial archaeological APE and none documented archaeological sites within the terrestrial or marine archaeological APE.

According to NASA's predictive model for prehistoric and historic archaeological sites in the 2015 ICRMP, a number of terrestrial portions of the undertaking along the UAS Airstrip site falls within the area of High archaeological potential, specifically the second hangar, the water and wastewater lines, the airstrip lighting, the runway hardening, and the access road to port. During the NEPA analysis for the construction and operation of the UAS Airstrip, NASA performed a Phase I archaeological survey, which included the proposed UAS Airstrip, two hangars, and the access roadway (Chris Espenshade and Kirstie Lockerman, 2009, *Cultural Resources Investigations of the Proposed Uninhabited Aerial Systems Airstrip, Wallops Flight Facility, Accomack County, Virginia*, New South Associates). The survey resulted in the documentation of 44AC0089, a terrestrial earthwork dating to the Revolutionary War and located approximately 60 m (200 ft) northeast of the APE near the UAS Airstrip. This survey encompassed all the aforementioned terrestrial portions of the undertaking except for the second hangar, the proposed location of which was not included in the 2009 survey.

NASA performed a Phase I archaeological survey of the proposed second hangar in 2021. The report of these investigations, *NASA Wallops Flight Facility Phase I Archaeological Survey for the Wallops Island North Development Project, Wallops Island Virginia* by Kathleen Furgerson and Kelsey Johnson, is enclosed with this letter. This Phase I survey did not document any archaeological resources. The rest of the terrestrial archaeological APE near the UAS Airstrip has been previously disturbed as a result of construction of the airstrip.

The remaining terrestrial portions of the undertaking in the vicinity of the existing UAS Airstrip, the airstrip access road improvements and the vehicle parking lot, area within an area of Low archaeological potential (2015 ICRMP). Both are in areas of poorly drained soil; the access road is located on a constructed berm.

The proposed project support building (i.e., North Island Ops Center) will be built in the former location of the Wallops Beach Lifesaving Station (DHR ID 001-0027-0100), which was determined eligible for the NRHP on November 4, 2004. NASA notified DHR of their intent to demolish the Wallops Beach Lifesaving Station in a letter dated February 29, 2016. As mitigation for the adverse effect, the resource was documented via HABS recordation and a documentary video produced (<https://vimeo.com/ursci/review/177622715/b2f6e500b2>), pursuant to the PA. DHR concurred that NASA met the requirements outlined in the PA and can proceed with demolition in an email dated March 3, 2020.

This location was subjected to archaeological monitoring conducted by Tetra Tech related to lead remediation activities on January 13, 2014. The remediation activities consisted of the removal of approximately 6 inches of soil within a 4,500 square foot area within a 20-foot radius buffer around the foundation of the Wallops Beach Lifesaving Station. The remediation excavations removed the A horizon and allowed the monitoring archaeologist to inspect the exposed subsoil for evidence of cultural features and artifacts. No cultural features or artifacts were revealed during the remediation activities (*Surface Soil Removal, Former Coast Guard Station [Building V-65], NASA Wallops Island, Wallops Island, Virginia, Archaeological Monitoring Field Summary* n.d.). It is not clear if the remediation activities removed additional soil after the conclusion of the archaeological monitoring. While this location is in an area of high archaeological potential (2015 ICRMP), this location has been disturbed by the lead remediation activities, which did not reveal any cultural features or artifacts. Based on the previous disturbance and lack of archaeological remains, no archaeological survey is recommended for this location.

The Wallops Beach Station Observation Tower (DHR ID 001-0027-0101), which is associated with the Wallops Beach Lifesaving Station, is also located adjacent to the proposed North Island Ops Center. The tower is not individually eligible for the NRHP but contributes to the eligibility of the Wallops Beach Lifesaving Station, which is slated for demolition. As the tower is not individually eligible, and as the historic property to which it contributed is slated for demolition and mitigation for this adverse effect has been implemented pursuant to the PA, NASA has determined that Wallops Beach Station Observation Tower is no longer an historic property.

Site 44AC0459 is located adjacent to the proposed North Island Ops Center, which is the former location of the Wallops Beach Lifesaving Station and Observation Tower (DHR ID 001-0027-0100). Site 44AC0459 yielded artifacts from the mid-eighteenth through twentieth century and is associated with the old Coast Guard Station trash disposal patterns and mid-to-late twentieth century NASA activities. According to V-CRIS, the site is unassessed for the NRHP. The site is located outside of the APE.

The marine portions of the undertaking, specifically the port improvements and the navigation channel, extend from the northwestern end of the UAS Airstrip and arc around the northeastern end of Wallops Island before intersecting with the Chincoteague Inlet Channel. The navigation channel already exists; some portions of the channel are not at the necessary depth and would require dredging, while other portions are already at the necessary depth and thus would not require any new dredging.

NASA conducted a Phase I marine archaeological survey in July 2020 and February 2021 for the marine portions of the undertaking, excluding the area of the proposed channel that do not require dredging. Review of nineteenth and early twentieth-century nautical charts and historic maps of the marine APE did not reveal the potential for significant shipwrecks or potentially submerged maritime industry resources. The marine archaeological survey used nonintrusive geophysical instruments including a side scan sonar, a marine magnetometer, and a single-beam sonar and documented 53 magnetic and 9 acoustic contacts. No potentially significant submerged

archaeological resources were identified within the marine APE. No additional archaeological investigations are recommended of any recorded anomalies from the survey. The report of these investigations, *Marine Archaeological Survey for the Wallops Island Northern Development Project, Wallops Flight Facility, Accomack County, Virginia* by Chris Cartellone and Jean B. Pelletier, is enclosed with this letter.

The five proposed dredge spoil placement locations are located in the vicinity of MARS Port; some are in marine locations (i.e., Option 1, Option 3) and some are in terrestrial or mixed terrestrial/marine locations (i.e., Option 2, Option 4, Option 5).

No known archaeological sites are located within the Wallops Island Open Ocean Placement (Option 1); according to V-CRIS, this location has not been subject to a Phase I archaeological survey. The exact location of the Wallops Island Flood Protection/Upland Placement (Option 2) is currently not known. Generally, though, the location is within an area of Low archaeological potential (2015 ICRMP). It is also within the boundary of DHR ID 001-0027, determined not eligible for the NRHP.

No known archaeological sites are located within the Greenbackville Dredged Material Containment Facility (Option 3); according to V-CRIS, this location has not been subject to a Phase I archaeological survey. Two above-ground resources are in the vicinity of Option 3. DHR ID 001-0028 is the Franklin City Railroad Station, and DHR ID 001-5053 is a house at 2937 Franklin City Road. Neither resource has been evaluated for NRHP eligibility.

The exact location of the Wallops Island Shoreline Protection Placement (Option 4) is not known, but it is generally along the shoreline of Wallops Island. It is in the vicinity of DHR ID 001-0027 and a number of contributing resources, all of which have been determined not eligible for the NRHP.

The Chincoteague National Wildlife Refuge Swan Cove Placement (Option 5) is in the vicinity of Little Toms Cove and Swan Cove Pool. Terrestrial portions of Option 5 are within previous archaeological survey AC-015, a 1988 archaeological reconnaissance of Chincoteague National Wildlife Refuge. A number of other previous archaeological surveys have been conducted immediately adjacent to or in the immediate vicinity of Option 5 (AC-007, AC-034, AC-083, AC-089, and AC-093). One previously recorded archaeological site, 44AC0412, is directly adjacent to Option 5 on the west side of Beach Road. The site is the remains of an early twentieth century life saving station and is unassessed for NRHP eligibility.

Determination of Effect

No archaeological historic properties are located within the APE. The Phase I archaeological survey of the proposed hangar and the Phase I marine archaeological survey did not identify any archaeological resources within the APE, and previously recorded sites 44AC0089 and 44AC0459 are located outside of the APE. No above-ground historic properties were identified within the APE.

NASA concludes that there would be “no historic properties affected” by the proposed undertaking. Your concurrence with this determination is respectfully requested.

It is understood that this determination excludes the dredge spoil placement locations. Additional environmental and engineering evaluations are necessary to determine the preferred dredge spoil placement location for this undertaking. NASA will consult with DHR once this location has been identified.

If you have any questions or require additional information, please contact me at Randall.M.Stanley@nasa.gov or (757) 824-1309.

Sincerely,

RANDALL
L
STANLEY

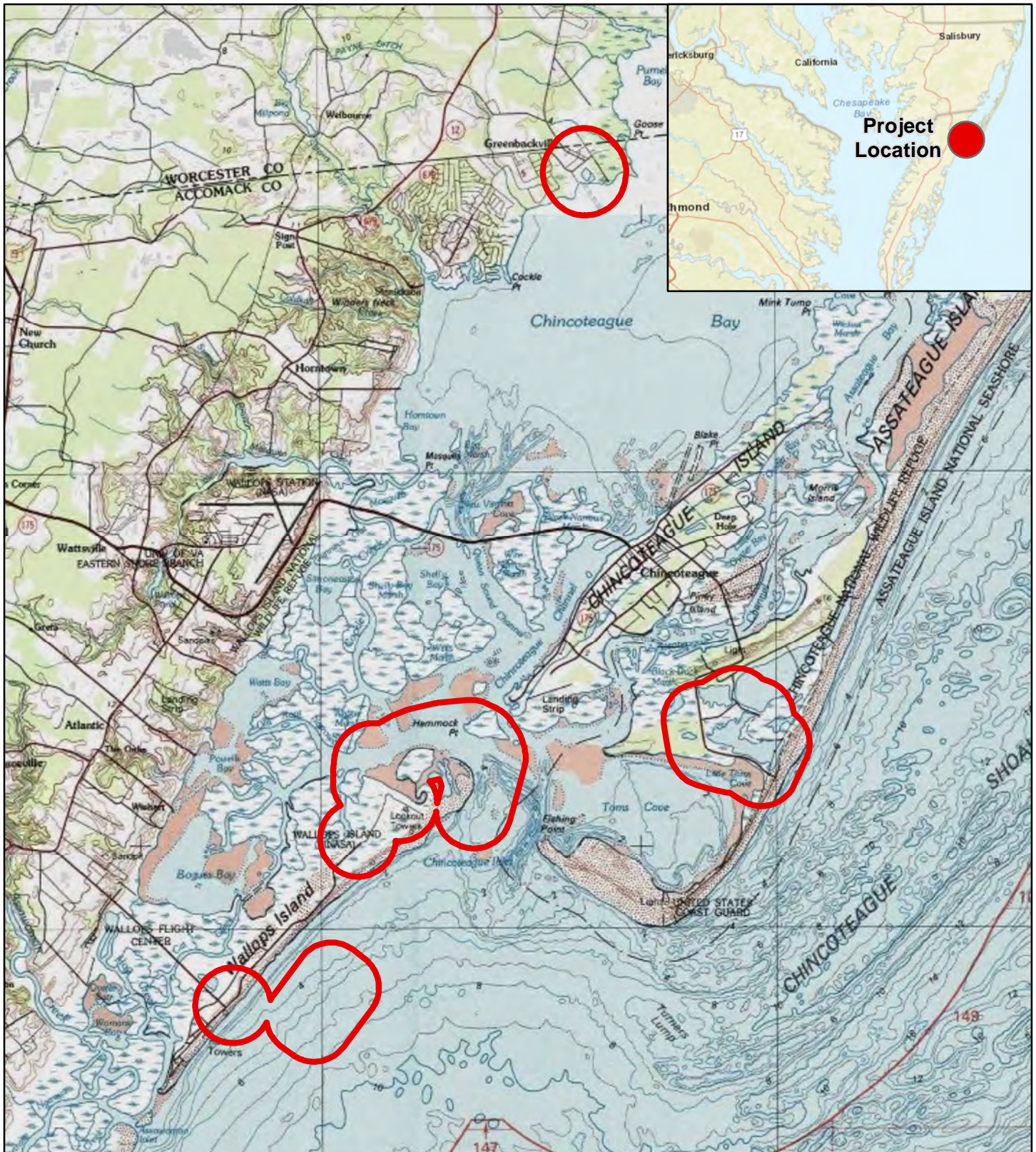
Digitally signed by: RANDALL STANLEY
DN: CN = RANDALL STANLEY C = US O
= U.S. Government OU = NASA, People
Date: 2021.09.10 10:44:26 -05'00'

Randall M. Stanley
Cultural Resources Manager

3 Enclosures

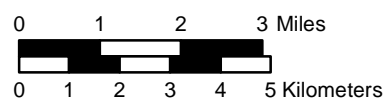
- Figures 1-9
- NASA Wallops Flight Facility, Phase I Archaeological Survey for the Wallops Island North Development Project, Wallops Island, Virginia by Kathleen Furgerson and Kelsey Johnson (2021)*
- Marine Archaeological Survey for the Wallops Island Northern Development Project, Wallops Flight Facility, Accomack County, Virginia by Chris Cartellone and Jean B. Pelletier (2021)*

cc:
250/Ms. S. Miller
VCSFA/Mr. N. Overby



Legend

Project APE



AECOM

12420 Milestone Center Dr.
Germantown, MD 20876

Project Location

Source: Esri 2021

Project No.
60662622

Prepared by
KAF

Date
07/23/21

Figure 1



Legend

■ Dredge Spoil Option



0 1 2 Miles
0 1 2 3 Kilometers

AECOM

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Germantown, MD 20876

Dredge Option Components

Source: Esri 2021

Project No.
60662622

Prepared by
KAF

Date
07/23/21

Figure 2



Legend

- | | |
|-------------------------------------------------------------------|----------------------------------------------------------------|
| — Phase I Pier | — Federal Channel |
| — Phase II Pier | — Existing Fiber Optic Cable |
| — Phase I Eastern Toes | |
| — Phase II and III Basin Toes | |
| — West Alternate Toes | |



0 500 1,000 Feet
0 100 200 300 Meters

AECOM

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Germantown, MD 20876

Marine Project Components

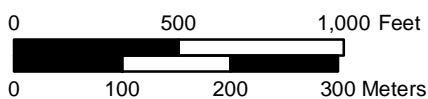
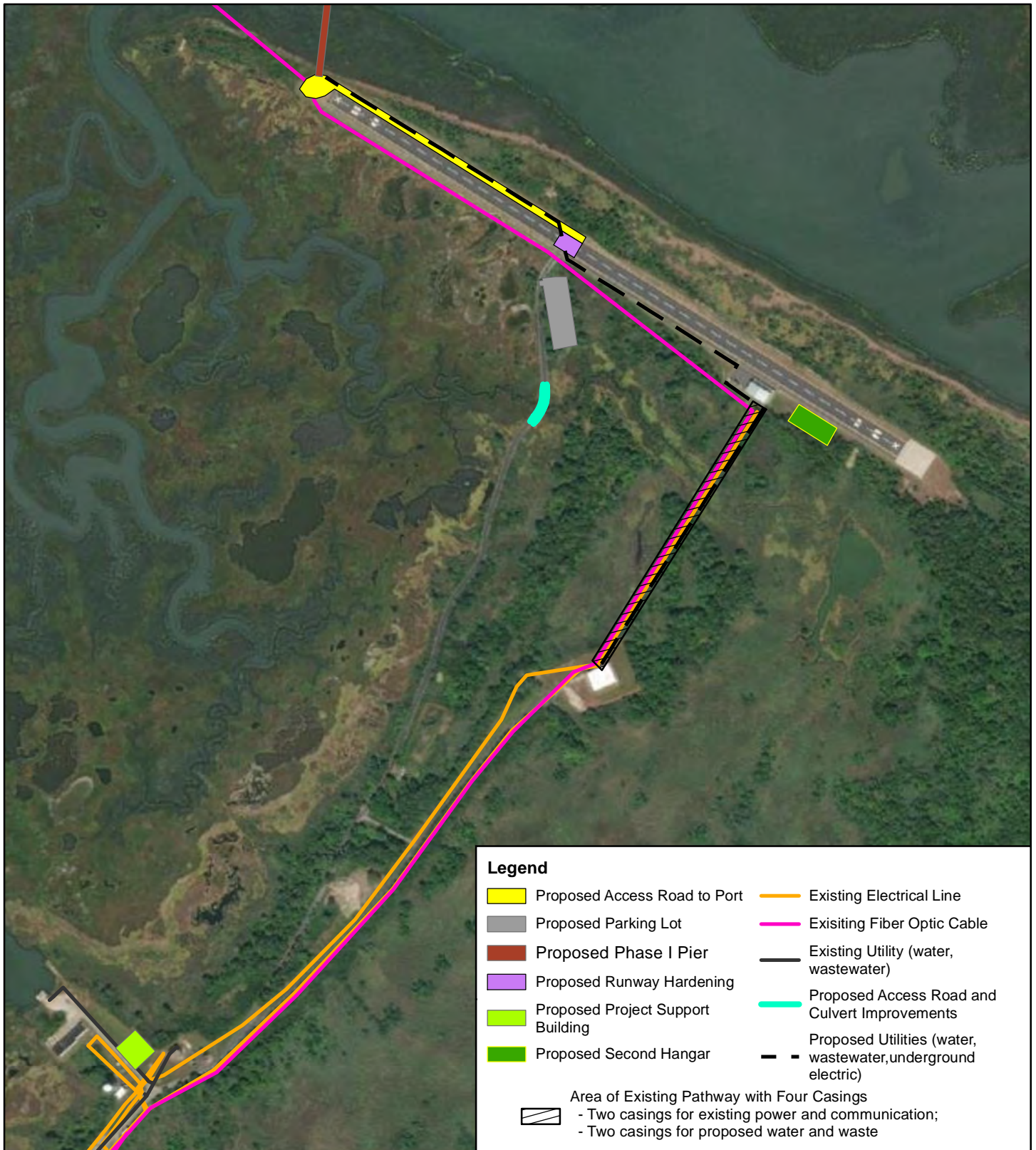
Source: Esri 2021

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Figure 3



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Terrestrial Components

Source: Esri 2021

Project No.
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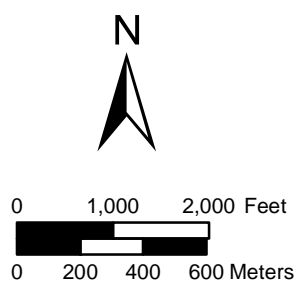
Date
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Figure 4



Legend

- Marine Archaeology APE
- Terrestrial Archaeology APE
- Above-Ground APE



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Area of Potential Effects

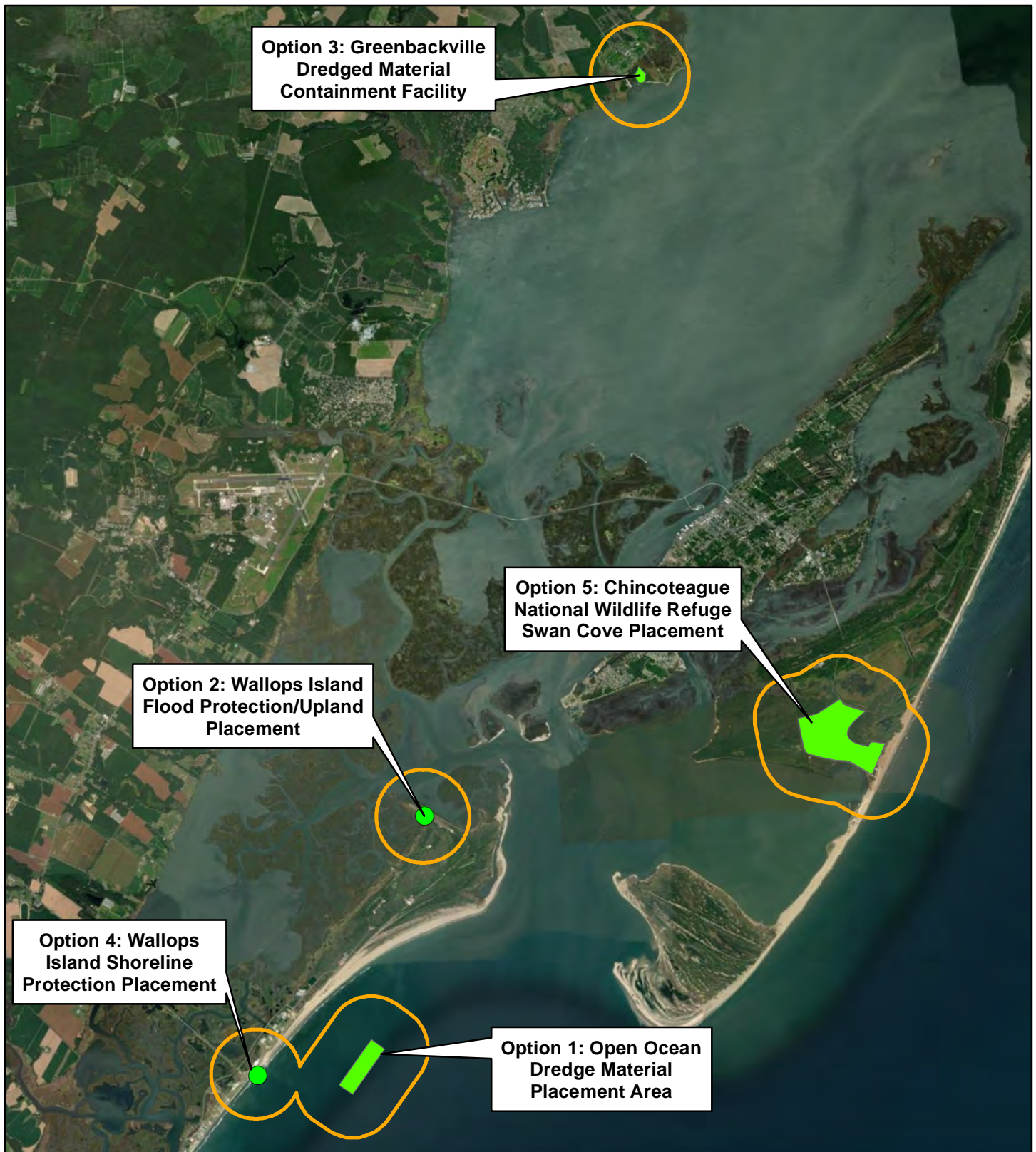
Source: Esri 2021

Project No.
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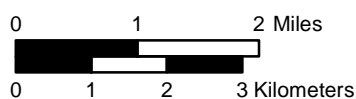
Date
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Figure 5



Legend

- Dredge Spoil Option Archaeology APE
- Dredge Spoil Option Above-Ground APE



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Preliminary Area of Potential Effects Dredge Spoil Options

Source: Esri 2021

Project No.
60662622

Prepared by
KAF

Date
07/23/21

Figure 6



Legend

- | | |
|-----------------------------|-------------------------------------|
| Above-Ground APE | Architectural Resource (Individual) |
| Marine Archaeology APE | Architectural Resource (District) |
| Terrestrial Archaeology APE | Unidentified Wreck |
| Phase I Survey | |
| Archaeology Site | |



0 1,000 2,000 Feet
0 200 400 600 Meters

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Germantown, MD 20876

Previous Cultural Resources Investigations

Source: Esri 2021; V-CRIS 2021

Project No.
60662622

Prepared by
KAF

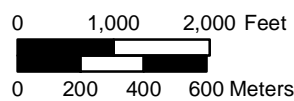
Date
07/23/21

Figure 7



Legend

- Current Above-Ground APE
- Current Marine Archaeology APE
- Current Terrestrial Archaeology APE
- Marine Phase I Survey - 2020
- Marine Phase I Survey - 2021
- Terrestrial Phase I Survey - 2021



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Current Cultural Resources Investigations

Source: Esri 2021

Project No.
60662622

Prepared by
KAF

Date
07/23/21

Figure 9



COMMONWEALTH of VIRGINIA

Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Ann Jennings
Secretary of Natural and
Historic Resources

Julie V. Langan
Director

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

MEMORANDUM

DATE: 15 October 2021 **DHR File #** 2021-4540

TO: Mr. Randall Stanley
NASA

FROM: Marc E. Holma, Architectural Historian (804) 482-6090
Review and Compliance Division

PROJECT: NASA Wallops Flight Facility (WFF) – Wallops Island Northern Development (WIND), Accomack County

☒ This project will have an effect on historic resources. Based on the information provided, the effect will not be adverse.

☐ This project will have an adverse effect on historic properties. Further consultation with DHR is needed under Section 106 of the NHPA.

☐ Additional information is needed before we will be able to determine the effect of the project on historic resources. **Please see below.**

☐ No further identification efforts are warranted. No historic properties will be affected by the project. Should unidentified historic properties be discovered during implementation of the project, please notify DHR.

☐ We have previously reviewed this project. Attached is a copy of our correspondence.

☐ Other (Please see comments below)

COMMENTS:

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