

**APPENDIX D –
FEDERAL CONSISTENCY DETERMINATION**

Federal Consistency Determination
Wallops Island Northern Development
National Aeronautics and Space Administration Wallops Flight Facility
Accomack County, Virginia

Introduction

The National Aeronautics and Space Administration (NASA) Wallops Flight Facility (WFF) and the Virginia Commercial Space Flight Authority (VCSFA, VA Space) propose to construct a pier for barge access and berthing and to dredge a vessel approach area connecting to the Chincoteague Inlet Federal Channel (**Figures 1 and 2**). Pursuant to Section 307 of the Coastal Zone Management Act (CZMA) of 1972, as amended, and 15 Code of Federal Regulations (CFR) Subpart C, NASA has prepared this Federal Consistency Determination (FCD) to analyze potential effects on Virginia's coastal zone resources from the proposed implementation of onshore and in-water infrastructure improvements on the north end of Wallops Island and adjacent waters (Proposed Action) at WFF in Accomack County, Virginia. Federal actions occurring at WFF that could have reasonably foreseeable effects on coastal zone resources, such as the Proposed Action, must be consistent to the maximum extent practicable with the Enforceable Policies of the Virginia Coastal Zone Management Program (VCP). This FCD represents an analysis of the Proposed Action in light of established VCP Enforceable Policies and Programs, which were recently updated as part of a program change that was approved by the National Oceanic and Atmospheric Administration (NOAA) on October 2, 2020.

NASA is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 to analyze the potential effects of the proposed action on the environment. The EA will be tiered from the May 2019 *NASA WFF Site-Wide Programmatic Environmental Impact Statement* (PEIS), in which NASA evaluated the environmental consequences of constructing and operating new facilities and infrastructure at WFF. The analysis presented herein is based on the more extensive analysis provided in the tiered EA. As the Lead Agency, NASA requested the cooperation of the Department of Transportation's Maritime Administration (MARAD) and the United States (U.S.) Army Corps of Engineers (USACE), Norfolk District in preparing the Wallops Island Northern Development (WIND) EA and this FCD, because they possess regulatory authority or specialized expertise pertaining to the Proposed Action. The EA and this FCD are being developed to fulfill each Federal agency's obligations under NEPA and the CZMA. NASA, as the WFF property owner and project proponent, is the lead agency and responsible for ensuring overall compliance with applicable environmental statutes, including NEPA and the CZMA.

Submission of this FCD reflects NASA's and VCSFA's commitment to comply to the maximum extent practicable with VCP Enforceable Policies and Programs. NASA has determined that the effects of the Proposed Action would be less than significant on land and water uses as well as natural resources of the Commonwealth of Virginia's coastal zone and is consistent to the maximum extent practicable with the enforceable policies of the VCP.

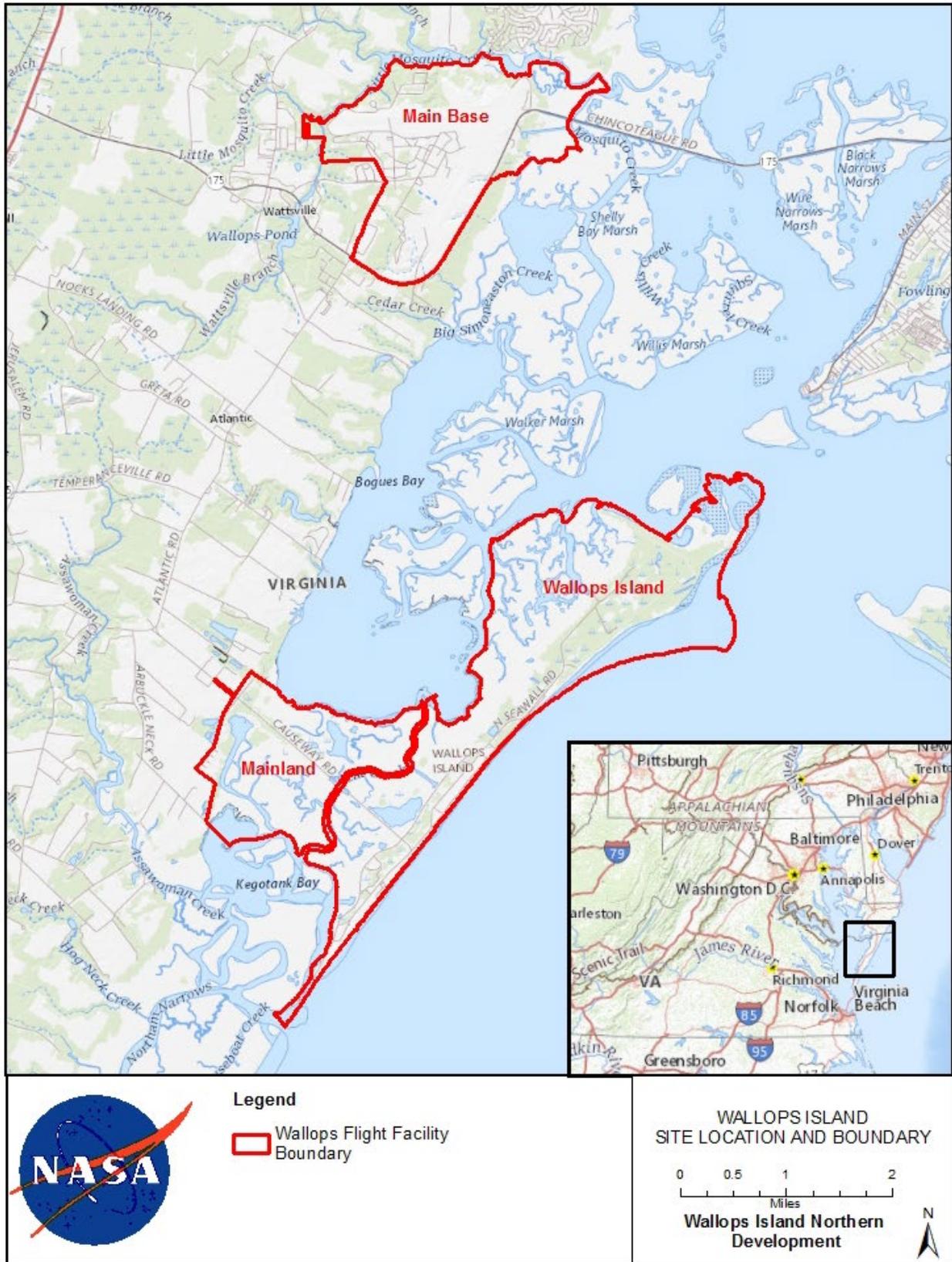


Figure 1. NASA WFF Location Map

Proposed Action

The Proposed Action would establish a new facility at Wallops Island as part of the MARAD M-95 “Marine Highway Project” designed to expand the use of America’s navigable waters. The proposed infrastructure developments included in the Proposed Action would provide a port and operations area, including enhanced operational capabilities for NASA and the Mid-Atlantic Regional Spaceport (MARS). As a tenant of WFF, VCSFA owns and operates MARS, which consists of launch pads on the south end of Wallops Island as well as the Unmanned Aerial Systems (UAS) Airstrip and the Payload Processing Facility (PPF) on the north end of Wallops Island. The location of WFF and Wallops Island is shown on **Figure 1**.

Components of the Proposed Action are shown on **Figures 2, 3, and 4**, and further described below. Additional information about the Proposed Action and its individual components is provided in the Draft EA, which is being made available for a 30-day public review and comment period concurrently with the Virginia Department of Environmental Quality’s (VDEQ) 60-day review of this FCD. The Draft EA is available on NASA WFF’s website at: <https://code200-external.gsfc.nasa.gov/250-WFF/WIND-EA>.

Proposed Action In-Water Components

The MARS Port, including a 398-meter (m) (1,305-foot [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 (**Figure 2**). The MARS Port would provide a port and operations area along with associated capabilities for VCSFA, NASA WFF, and other customers. The MARS Port would also serve as a new part of the MARAD M-95 Marine Highway Corridor. Infrastructure (new facilities and improvements to the existing access road, airstrip, and utilities) would likewise be constructed or installed as part of the Proposed Action.

A variety of shallow draft (0.6- to 1.2-m [2- to 4-ft]) manned and unmanned vessels would be serviced by the 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 Proposed Action would also include the dredging of a new and existing channel for enhanced vessel approach purposes (**Figure 3**). The new vessel approach channel (red line) would intersect with two Federal waterways, the Chincoteague Inlet Channel (orange line) and the Chincoteague Inlet to Bogues Bay connecting waters (blue line). Ultimately, the proposed channel would have a length of approximately 3,900 m (12,800 ft) and a final depth of 3.7 m (12 ft) below mean lower low water (MLLW). The proposed width of the approach channel (30.5-m [100-ft]) is consistent with the dimensions of the Chincoteague Inlet Federal Channel. Components of the Proposed Action are further described below.



Figure 2. Proposed Mars Port and Infrastructure Components

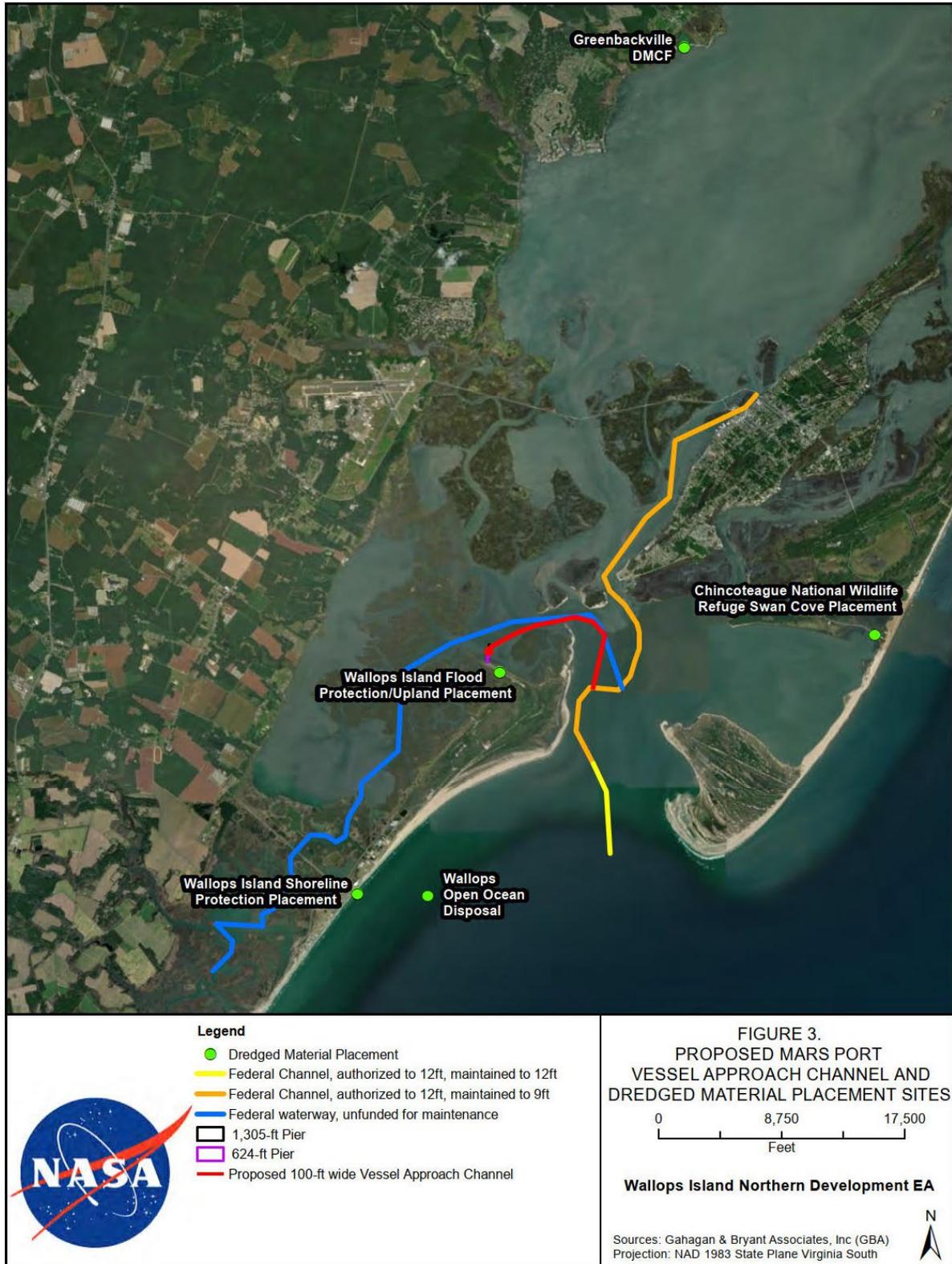


Figure 3. Proposed Mars Port Vessel Approach Channel and Dredged Material Placement Sites

Construction of the pier, dredging activities, and onshore facilities and infrastructure under the Proposed Action 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 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 (red outline on **Figure 4**);
- 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 (located at the end of the pier extension; shaded pink on **Figure 4**) 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 portion of the channel from the Phase 2 turning basin to where it meets with the Chincoteague Inlet Federal Channel (shaded blue on **Figure 4**).

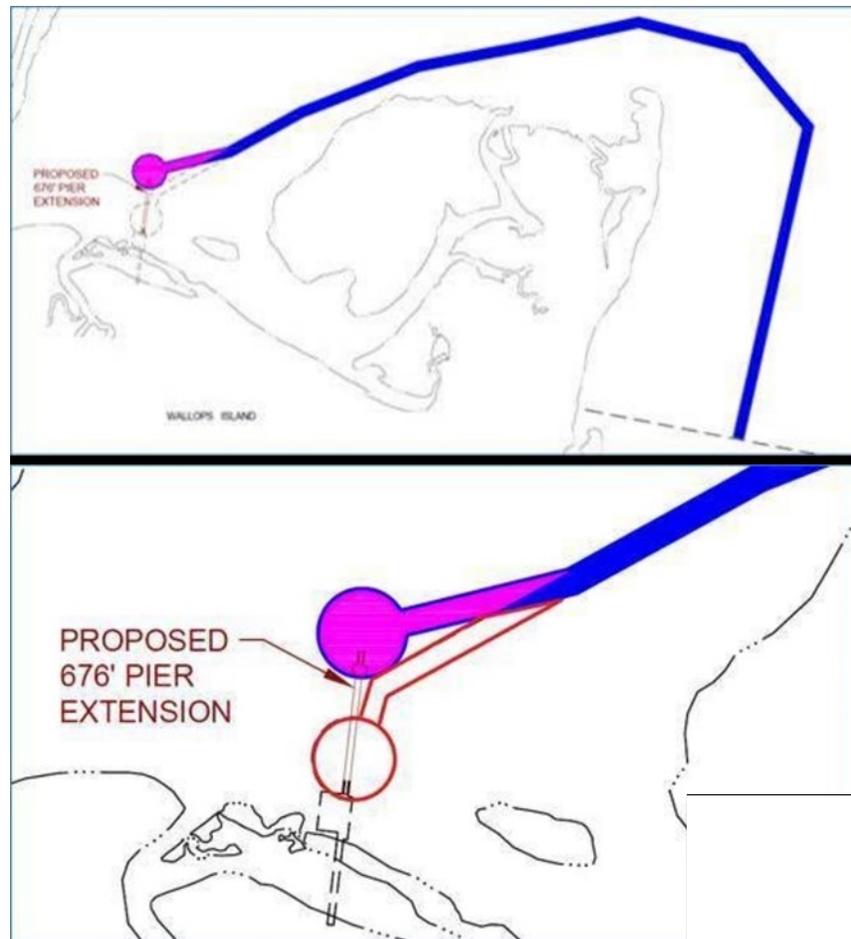


Figure 4. Diagram of Proposed Phased Construction

Estimated dredging volumes for the vessel approach channel and turning basin are provided in **Table 1**. The estimated timeframe for construction of the Proposed Action would have Phase 1 beginning in 2022 and being completed by 2024, with approximately 1 to 2 years between subsequent phases. Additional information about the proposed pier and other port components is provided in Chapter 2 of the Draft EA.

Five potential sites for the placement of dredged material are summarized in **Table 2** and shown on **Figure 3**. Further geotechnical investigation and associated physical and chemical laboratory analysis of sediment samples in the areas to be dredged is ongoing to determine the viability of the placement sites. The results of the geotechnical investigation and analysis is scheduled to be complete in 2021, prior to the dredged material placement. The analysis will also include an evaluation of suitability of reuse of the material for shoreline renourishment.

Table 1. Channel Dimensions and Estimated Dredging Volumes

	Phase 1	Phase 2	Phase 3
Channel depth	2.7 meters (m) (9 feet [ft]) deep below MLLW	2.7 m (9 ft) deep below MLLW	3.6 m (12 ft) deep below MLLW
Channel length	3,900 m (12,800 ft)	3,600 m (11,800 ft)	3,600 m (11,800 ft)
Channel dredging volume	11,500 cubic meters (m ³) (15,100 cubic yards [yd ³])	0	26,500 m ³ (34,600 yd ³)
Turning Basin dredging volume	31,000 m ³ (40,500 yd ³)	600 m ³ (800 yd ³)	2,500 m ³ (3,200 yd ³)
Total volume per phase	42,500 m ³ (55,600 yd ³)	600 m ³ (800 yd ³)	28,900 m ³ (37,800 yd ³)
Total Volume (Phases 1–3):			72,000 m³ (94,200 yd³)

yd³ = cubic yards

Table 2. Potential Dredged Material Placement Sites							
Option	Site	Description	Sail Distance from Basin ¹	Pipe Distance from Basin ²	Sail Distance from Channel	Pipeline Distance from Channel	Description
1	Wallops Open Ocean Dredge Material Placement Area	Open water placement site, closer than Lewis Creek or Norfolk Ocean disposal sites	9.8 km (6.1 mi)	--	7.1 km (4.4 mi)	--	This area is located just offshore of Wallops Island with a transportation distance of the dredged material of approximately 7 km (4 nautical mi). Open water placement options typically present the lowest cost dredging option and allow 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 USACE and a permit would be required for the use of this site.
2	Wallops Island Flood Protection/Upland Placement	Reuse of material for flood mitigation through upland placement at site identified by NASA	--	853.4 m (2,800 ft)	--	3,669.8 m (12,040 ft)	This option involves the beneficial reuse of material for flood mitigation through upland placement in low lying areas on Wallops Island. For example, 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 Bogue 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 areas a similar distance to the dredging location, or the use of geotubes, or synthetic membranes, for containing the dredged material.

Table 2. Potential Dredged Material Placement Sites							
Option	Site	Description	Sail Distance from Basin ¹	Pipe Distance from Basin ²	Sail Distance from Channel	Pipeline Distance from Channel	Description
3	Greenbackville Dredged Material Containment Facility (DMCF)	Upland DMCF run by USACE, requires both navigation of Chincoteague Channel and pumping on location	18.2 km (11.3 mi)	--	15.3 km (9.5 mi)	198.1 m (650 ft)	The third dredged material placement option identified is the use of the upland DMCF owned and managed by USACE. 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 mi) 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. This option would require USACE to verify that there is sufficient capacity at the placement site for the dredged materials and would not interfere with existing agreements at the site. This option may also require additional permits.
4	Wallops Island Shoreline Protection Placement	Reuse of material for shoreline protection and beach repair	12.1 km (7.5 mi)	--	11 km (6 mi)	--	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 Launch Range area on Wallops Island. If dredged material is determined to be compatible with the current shoreline sand, 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 Nor'easters. 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 mi) to the shoreline.

Table 2. Potential Dredged Material Placement Sites							
Option	Site	Description	Sail Distance from Basin ¹	Pipe Distance from Basin ²	Sail Distance from Channel	Pipeline Distance from Channel	Description
							A specialized hydraulic unloader would be required to discharge the dredged material from the transport barges and pump the material onto the placement areas.
5	Chincoteague National Wildlife Refuge Swan Cove Placement	Reuse of material for habitat restoration	-	9 km (5.6 mi)	-	6.9 km (4.3 mi)	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 the U.S. Fish and Wildlife Service (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 under sized 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 will assume responsibility for sediment placement and is in the process of securing appropriate permits.
<p>¹“Sail distance” corresponds to the length of the path via water required to reach the placement site from the centroid of dredging in the proposed turning basin or approach channel, in statute miles.</p> <p>²“Pipe distance” refers to the length of pipe required to reach the placement site from the centroid of dredging or from the anchorage for a vessel loaded with dredged material.</p>							

Proposed Action Onshore Components

Onshore facilities and infrastructure that would be constructed or upgraded under the Proposed Action are summarized in **Table 3**. Their proposed locations are shown on **Figure 2**. Proposed upgrades within the scope of this project apply only to existing roads and utilities. No expansion beyond the proposed MARS Port and onshore facilities are anticipated at this time. Any future proposed changes would be addressed in additional NEPA and CZMA documentation.

Facility or Element	Description
Project Support Building	A new, approximately 740-square meter (m ²) (8,000-square foot [ft ²]) building may be constructed on at the site of the former Wallops Employee Morale Association Recreational Facility (V-065) (Old Wallops Beach Lifeboat Station) on the southwest end of the access road to the UAS Airstrip. Once the existing facility is removed or demolished, the new facility may be constructed and would serve as a new North Island Operations Center. The new building would have a maximum height of 12-m (40-ft) to avoid interference with a nearby air surveillance radar.
Second Hangar	A new, approximately 660-m ² (7,125-ft ²) hangar would be constructed adjacent to the runway, 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. The new hangar would have a maximum height of 12-m (40-ft) to avoid interference with a nearby air surveillance radar. This proposed second, secure hangar would provide an additional area for MARS clients without hindering usage of the existing hangar for UAS Airfield operations.
Utility Infrastructure	Electricity, potable water, wastewater, and communications utilities may be extended to the Project Support Building from existing nearby infrastructure. Potable water would be supplied from the elevated north end tank (V-090), which has a 189,271-liter (50,000-gallon) capacity. 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 for electrical and communication utilities would be extended from the existing hangar to the proposed hangar at the UAS Airstrip. New utility conduit would also be installed along the new port access road to provide electrical and communication utilities to the pier. Wastewater from the hangars may be conveyed to a proposed temporary holding tank where it would be periodically collected and pumped into the NASA wastewater system for treatment.

Table 3. Onshore Proposed Action Components	
Facility or Element	Description
Airstrip Lighting	New airstrip lighting meeting applicable Federal Aviation Administration (FAA) airfield standards may be installed at the UAS Airstrip. The lights would be located along the edge of the runway (one white light every 61 m [200 ft]). Lights would only be turned on when required by an airfield operation (i.e., night-time aircraft takeoffs or landings) and turned off when the operation is completed.
Airstrip Access Road Improvements (culvert widening)	The existing access road at the culvert crossing is not wide enough for two-way traffic or to accept trailered loads from the proposed MARS Port. This creates a pinch point and safety/operational hazard. A 40-m (130-ft) segment of the existing paved access road would be widened from 4.5 m (15 ft) to approximately 9 m (30 ft), which would widen the culvert crossing for the drainage channels to Cow Gut. Although the culvert will be longer, the diameter of the culvert will remain the same.
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. Use of permeable material for the parking lot surface may be a design consideration.
Runway Hardening for Port Access	A 30.5-m (100-ft) wide section of runway would be 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 asphalt 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.

Summary of Proposed Action Construction Activities

Construction of the Proposed Action would involve: (1) construction of the pier components that would make up the MARS Port; (2) dredging of the vessel approach channel, turning basin, and placement of dredged material; and (3) construction or improvement of the proposed onshore facilities and infrastructure.

The estimated timeframe for construction of the Proposed Action would have Phase 1 beginning in 2022 and being completed by 2024, with approximately 1 to 2 years between subsequent phases. It is assumed that construction of all proposed onshore project components and infrastructure would be completed during Phase 1 (although the North Island Operations Center may be constructed at a later date). With two crews (10 persons each), working 5 days per week (10-hour days), construction of the 190-m (624-ft) long pier under Phase 1 would take approximately 12 months to complete and construction of the 206-m (676-ft) long pier extension under Phase 2 (for a total pier length 398 m [1,305 ft]) would take approximately 9.5 months to complete.

Phase 1 dredging activities (turning basin and channel) would take approximately 30 days to complete; Phase 2 dredging (turning basin) would take approximately 7 days, and Phase 3 dredging (turning basin and channel) would take 30 days. Work would be performed 24 hours a day, seven days a week with two crews each working 12-hour shifts.

Typical equipment used during construction would include crane barges, material barges, tugboat, vibratory pile hammer, diesel impact hammer, concrete truck, concrete pump truck, concrete vibrator, generator, welding machines, cutting torches, and various small tools.

Summary of Proposed Action Operational Activities

VCSFA/MARS currently has a facilities team that mows grass once per week, monitors for eagles twice per week during nesting season, periodically removes tree and weed growth, and inspects the infiltration trench and fencing around the Revolutionary War Earthworks. During summer months, a mosquito fogging service truck sprays the Airfield once every 2 weeks. The pier structure would also require quarterly structural inspections.

Potential facility usage associated with the MARS Port is provided in **Table 4**.

Table 4. Potential MARS Port Operations/Facility Usage				
Potential Facility Usage	Vessel Type	Quantity Assumptions	Total Barge / Vessel Trips	Phase Associated with Usage
Medium Class ELV 1st Stage (Core) and 2nd stage	Shallow Draft Deck Barge & Inland Pushboat	3 launches per year; Each comes w/ ~4-6 truckloads of parts and equipment plus 2 heavy haulers	3	1
Venture Class ELV	Shallow Draft Deck Barge & Inland Pushboat	Potential for 12 launches per year; 3 trucks per launch	12	1
Venture Class 2 ELV	Shallow Draft Deck Barge & Inland Pushboat	9 launches per year; 1 truck per stage, 3-5 trucks for equipment	9	1
Venture Class Heavy ELV	Deck Barge & 1000-1200 HP Tugboat	3 launches per year, 3 first stage cores per launch w/ 1 truck each plus 3-5 trucks for equipment	3	2
Minotaur Class	Deck Barge & 1000-1200 HP Tugboat	4 launches per year, 3 stage/cores per launch w/ 1 truck each; 3-5 additional trucks for equipment	4	2
Recovery Effort	Shallow Draft Deck Barge & Inland Pushboat	1 per Venture Class ELV launch	12	1

Table 4. Potential MARS Port Operations/Facility Usage				
Potential Facility Usage	Vessel Type	Quantity Assumptions	Total Barge / Vessel Trips	Phase Associated with Usage
Autonomous Surface Vehicle (ASV)	Trailerred Vessel	1 deployment per month; each deployment has 5-10 vehicles included	12	1
Autonomous Underwater Vehicle (AUV)	Trailerred Vessel	1 deployment every other month; each deployment has 5-10 vehicles included	6	1
Miscellaneous Usage	Shallow draft vessel	1 deployment every other month	6	2
Research Usage	Small Research Vessel	1 deployment every 4 months; each deployment has 5-10 vehicles included	3	2
Other Government Research & Testing	Trailerred Vessel	1 deployment every other month	12	2
Other Site-wide PEIS Construction/Expansion	Deck Barge & Ocean Tug	2 large/oversized deliveries per year	1	2
Commodity Delivery	Deck Barge & Ocean Tug	16 total barges	16	3
Total Barge / Vessel Trips			99	

Alternatives

NASA is considering three alternatives for implementation of the Proposed Action: the Proposed Action Alternative, which would implement Phases 1, 2, and 3 as described above; Alternative 1, which would consist of the implementation of Phase 1 only; and Alternative 2, which would consist of the implementation of Phases 1 and 2 only. Alternatives 1 and 2 would include the construction and operation of the onshore components described in **Table 3**, although the North Island Operations Center may be constructed at a later date.

The Proposed Action Alternative represents the most extensive set of potential effects on Virginia coastal zone resources and, as such, is the Alternative analyzed in detail in this FCD. The extent, duration, and intensity of potential effects from either Alternative 1 or Alternative 2 would be less relative to the Proposed Action Alternative due to their reduced scope of activities. Therefore, potential effects from the implementation of either Alternative 1 or Alternative 2 would not exceed those of the Proposed Action Alternative and are not addressed in the analysis presented in this FCD.

Enforceable Policies

The Commonwealth of Virginia has developed and implemented a federally approved VCP encompassing twelve enforceable policies, which were updated as part of a program change approved by NOAA on October 2, 2020. The VCP is administered by VDEQ and consists of a network of state agencies and local governments that regulate Virginia's coastal zone lands and resources. **Table 5** summarizes the Proposed Action Alternative's applicability to or consistency with these enforceable policies. The full text of the enforceable policies is provided in the Virginia Federal Consistency Manual prepared by the VDEQ Office of Environmental Impact Review dated October 2020.

Enforceable policies that NASA has determined are not applicable to the Proposed Action Alternative are not addressed further in this FCD. A summary analysis of the Proposed Action Alternative's consistency with the applicable Enforceable Policies follows **Table 5**. This analysis is based on the more detailed analyses presented in the Draft EA for the Proposed Action Alternative.

Table 5. VCP Enforceable Policies Applicability to or Consistency with the Proposed Action		
Enforceable Policy	Applicability or Consistency¹	Rationale if Not Applicable (N/A)
I. Tidal and Non-Tidal Wetlands	Consistent	--
II. Subaqueous Lands	Consistent	--
III. Dunes and Beaches	Consistent	--
IV. Chesapeake Bay Preservation Areas	N/A	The Proposed Action Alternative would not be implemented within or have the potential to affect lands designated as Chesapeake or Atlantic Protection Areas in Accomack County.
V. Marine Fisheries	Consistent	--
VI. Wildlife and Inland Fisheries	Consistent	--
VII. Plant Pests and Noxious Weeds	Consistent	--
VIII. Commonwealth Lands	N/A	The Proposed Action Alternative would not be implemented within or have the potential to affect Commonwealth Lands owned, operated, or otherwise under the jurisdiction of Virginia Department Wildlife Resources (VDWR) and/or Virginia Department of Conservation and Recreation (VDCR).
IX. Point Source Air Pollution	Consistent	--

Table 5. VCP Enforceable Policies Applicability to or Consistency with the Proposed Action		
Enforceable Policy	Applicability or Consistency¹	Rationale if Not Applicable (N/A)
X. Point Source Water Pollution	N/A	The Proposed Action Alternative would not involve the establishment or modification of a new or existing point source discharge, respectively, to Virginia waters or asphalt paving within a Volatile Organic Compounds (VOC) Emission Control Area.
XI. Nonpoint Source Water Pollution	Consistent	--
XII. Shoreline Sanitation	Consistent	--
¹ “Consistent” indicates consistent, to the maximum extent practicable, with the Enforceable Policy.		

I. Tidal Wetlands and Non-Tidal Wetlands

Consistent to the Maximum Extent Practicable? YES

Analysis

The Proposed Action Alternative would impact a total of 0.95 hectare (ha) (2.33 acres) of tidal wetlands from the construction of inland support infrastructure including the proposed vehicle parking lot, culvert improvements, port access road, and the approach pier. Of the 0.95 ha (2.33 acres), approximately 0.24 ha (0.59 acres) would be permanently impacted from permanent removal of the affected wetland area, while the remaining 0.71 ha (1.74 acres) would be temporarily impacted from activities such as rutting, soil compaction, vegetation damage from the placement and removal of matting, along with equipment movement and use during construction activities. The Proposed Action Alternative would have no effects on non-tidal wetlands because none are located in the Project Area.

Prior to beginning construction, NASA, VCSFA, and their contractors would obtain applicable permits required under the Clean Water Act (CWA) from USACE, Virginia Marine Resources Commission (VMRC), VDEQ, and/or the Accomack County Wetlands Board. NASA and VCSFA would comply with the monitoring, avoidance, and mitigation requirements specified by these permits. In addition, NASA and VCSFA would restore temporarily impacted tidal wetlands (vegetated and un-vegetated) to pre-construction condition and revegetate to the extent feasible. Consistent with the CWA mitigation final rule, NASA and VCSFA would compensate for permanent impacts to wetlands through wetland mitigation credit purchase, wetland creation, wetland restoration, wetland enhancement, and/or acquisition of wetland credits through an in-lieu fee fund such as the Virginia Aquatic Resources Trust Fund. Additional best management practices (BMPs) would be implemented to reduce impacts on tidal wetlands, which are described further in the Draft EA.

Adherence to the requirements of applicable permitting, BMPs, and restoration and mitigation measures would minimize short-term and long-term effects on tidal wetlands from implementation of the Proposed Action Alternative. Therefore, the Proposed Action Alternative is consistent to the maximum extent practicable with this enforceable policy.

II. Subaqueous Lands

Consistent to the Maximum Extent Practicable? YES

Analysis

The subaqueous bottom of surrounding tidal waters, specifically the Ballast Narrows and Chincoteague Inlet, would be disturbed during proposed construction activities. Construction of the fixed pier and pier extension would require in-water work that would disturb underlying sediment and impact the subaqueous bottom. Dredging activities for the turning basin and vessel access channel would also impact the subaqueous bottom by removing up to approximately 72,000 cubic meters (m³) (94,200 cubic yards [yd³]) of dredge material under the Proposed Action Alternative. Operation of the Proposed Action Alternative is not likely to affect or disturb subaqueous lands, except for periodic maintenance dredging activities of the turning basin and access channel.

Disturbance of the subaqueous bottom during both construction and operation maintenance activities may result in sediment suspension and increased turbidity within Ballast Narrows and Chincoteague Inlet. Any effects on the subaqueous bottom would be temporary, and the extent, intensity, and duration would vary throughout the phases of the Proposed Action Alternative. None of the Proposed Action Alternative activities involving disturbance of the subaqueous bottom would permanently disturb shellfish beds or affect their continued viability. It is anticipated that the temporarily disturbed subaqueous bottom areas would return to pre-construction conditions through normal tide cycles and the settling of silt and sediment. Contractors would implement mitigation measures as necessary during construction to avoid and/or minimize impacts, and would incorporate and adhere to applicable BMPs, such as the use of sediment curtains, to minimize effects from subaqueous bottom disturbance. NASA would also obtain and adhere to the requirements of applicable permits issued by the VMRC.

Due to the temporary nature of potential effects on the subaqueous bottom, and through adherence to applicable compliance measures, the Proposed Action Alternative is consistent to the maximum extent practicable with this enforceable policy.

III. Dunes and Beaches

Consistent to the Maximum Extent Practicable? YES

Analysis

No sand dunes or beaches are present within the Project Area and would not be affected by proposed construction or operation activities associated with the Proposed Action Alternative. Depending on which placement site is selected, dredge material could be placed along the sandy

shoreline in the southern portion of Wallops Island to serve as beach replenishment material and to protect the beach from tidal impacts (Placement Option 4: Wallops Island Shoreline Protection Placement). Such placement of dredge materials would physically alter the beach, but only clean and compatible dredged sand would be used to repair the shoreline and would likely have a beneficial effect on beach function and stability. Additional analysis of the dredge material would be performed before selecting a location for placement.

Should dredge material be used for Wallops Island Shoreline Protection, this action would benefit the beach area by restoring and repairing it. Therefore, the Proposed Action Alternative would be consistent to the maximum extent practicable with this enforceable policy.

V. Marine Fisheries

Consistent to the Maximum Extent Practicable? YES

Analysis

Construction of the Proposed Action Alternative would involve in-water work and dredging in Ballast Narrows and Chincoteague Inlet, and during operation, marine vessels would routinely use the surrounding waters and new access channel. Both construction and operation have the potential to affect commercial and recreational marine fisheries by disturbing fish populations and interfering with local fishing and harvesting activities. Various commercial fishing entities are located north of Wallops Island, and likely fish in the waters adjacent to the Project Site, along with recreational fishermen.

The Proposed Action Alternative would have temporary effects on marine fisheries, as in-water construction and dredging activities could disturb fish habitat, disturb or displace individuals, and/or involve temporary closures of waters adjacent to Wallops Island to minimize safety risks to transiting private or commercial vessels in the area. In the long term, vessel traffic associated with port operations may also disturb or displace fish populations, and could alter fishery activity, such as changing where fishing occurs or temporarily closing waters adjacent to Wallops Island to transiting private and commercial vessels to minimize safety risks and avoid vessel conflict. To address these potential effects, NASA and VCSFA would obtain the appropriate permits from VMRC, USACE, and Accomack County that would include measures to avoid adverse effects on aquaculture and ensure that long-term viability of oyster beds would not be affected by dredging activities. Bottom disturbances or disruptions from vessel use of the channel may affect individuals, but would not affect entire species or populations, or permanently degrade habitat. Implementation of the Proposed Action Alternative would not result in an increase in fishing and would have no potential to lead to overfishing.

The Proposed Action Alternative would not permanently impact fisheries management or conservation and, therefore, is consistent to the maximum extent practicable with this enforceable policy.

VI. Wildlife and Inland Fisheries

Consistent to the Maximum Extent Practicable? YES

Analysis

Construction of the Proposed Action Alternative would have minor, short-term effects on terrestrial wildlife, resulting primarily from the removal of habitat as well as disturbance and displacement by construction activities, including associated noise, light, and increased human activity. Mobile or faster-moving species would be anticipated to avoid the Project Area and relocate into areas offering similar habitat in or near the Project Area that would remain undisturbed by project activities. Slower-moving or less-mobile species may be inadvertently injured or destroyed by construction equipment and vehicles, resulting in adverse impacts; however, the number of individuals injured or destroyed during construction activities would be anticipated to remain small. Operation of the Proposed Action Alternative would involve increased vehicle traffic and human activity associated with the proposed MARS Port, which would have the potential to disturb terrestrial wildlife in nearby areas. Generally, common wildlife species displaced by the proposed facilities would be expected to relocate to other areas in and around the Project Area offering similar habitat conditions.

Similarly, aquatic species would experience minor, short-term effects resulting from proposed in-water construction work. Periodic dredging and pier/port construction, including in-water pile driving, is anticipated to cause mobile species to avoid the area due to the increase in human and vessel activity and noise. Less-mobile species (e.g., benthic organisms) could be inadvertently destroyed by pile driving and/or dredging. In the long-term, increased human and vessel activity, as a result of the Proposed Action Alternative, would likely cause mobile aquatic species to avoid the area. There would be an increased potential for vessel strikes that could result in mortality or injury corresponding to the increased vessel traffic. However, increased vessel traffic would be small in the context of existing vessel traffic in the area. Periodic maintenance dredging of the channels would also have the potential to affect aquatic species, particularly benthic organisms.

Overall, effects on wildlife would primarily occur from habitat disturbance, and mobile wildlife would likely relocate to suitable habitat areas in or near the Project Area that would remain undisturbed by project activities. Effects on wildlife from the Proposed Action Alternative would occur at the individual level and would not prevent or delay the continued propagation of any population, community, or species.

The Project Area provides potential habitat for 18 federally or state-listed species and one species that is a candidate for federal listing. Construction and operation activities associated with the Proposed Action Alternative would not involve the intentional disturbance, harassment, or “take” of any listed species, nor would activities occur in areas of Wallops Island offering suitable nesting or breeding habitat for listed birds, sea turtles, or fish. The effects of the Proposed Action Alternative on listed species are evaluated in detail in concurrence letters submitted to the USFWS

and NOAA Fisheries as part of the informal consultation process in accordance with Section 7 of the Endangered Species Act.

The Proposed Action Alternative would not involve administration of any drug to wildlife, nor does it include any actions related to predatory or undesirable species, or species designated as a nonindigenous aquatic nuisance.

For these reasons, the Proposed Action Alternative is consistent to the maximum extent practicable with this enforceable policy.

VII. Plant Pests and Noxious Weeds

Consistent to the Maximum Extent Practicable? YES

Analysis

Under the Proposed Action Alternative, all temporarily disturbed areas that would not be developed or otherwise built on would be replanted with native vegetation in accordance with NASA WFF and USFWS Wallops National Wildlife Refuge vegetation management policies or maintained in a permeable condition. In accordance with the 2014 *WFF Wallops Island Phragmites Control Plan*, all tracked equipment involved in earth work would be inspected and cleaned to remove any rhizomes and seeds prior to arrival on the construction site. If proposed earth work requiring tracked equipment would occur in an area where *Phragmites* is known to occur, this portion of earthwork would be conducted last, or the equipment would be cleaned prior to use on another portion of the Project Area. Measures designed to prevent the spread of *Phragmites* would also prevent the spread of plant pests and noxious weeds (e.g., mowing of small infestations and restricting construction equipment from areas prone to invasion).

The Proposed Action Alternative would not involve violation of any quarantine established by the Board of Agriculture and Consumer Services or the Commissioner of Agriculture and Consumer Services, nor would it involve the importation of any infested regulated articles that could endanger public health.

Therefore, the Proposed Action Alternative would be consistent to the maximum extent practicable with this enforceable policy.

IX. Point Source Air Pollution

Consistent to the Maximum Extent Practicable? YES

Analysis

Construction activities associated with the Proposed Action Alternative would temporarily generate increased emissions from construction equipment, workers' commuting vehicles, and fugitive dust. Short-term effects on air quality would be minimized by using BMPs such as wetting exposed soils to minimize fugitive dust, minimizing idling equipment and vehicles, and maintaining construction vehicle and equipment exhaust systems in optimal condition. The construction contractor would adhere to applicable air pollution control regulations and BMPs to

minimize air pollution emissions during asphalt paving operations. In the long-term, the Proposed Action Alternative would lead to a reduction in air emissions by removing potentially hazardous and less efficient transportation operations off of roadways.

The location of the Proposed Action Alternative is not within a VOC Emissions Control Area and the area is in attainment for all criteria pollutants regulated by the Clean Air Act. As such, short-term and long-term emissions from the Proposed Action Alternative would have no potential to substantially degrade or change the area's attainment status.

The Proposed Action Alternative would not involve open burning, the establishment of new stationary sources of pollutant emissions, or the construction, reconstruction, relocation, or modification of regulated stationary sources.

For these reasons, the Proposed Action Alternative would be consistent to the maximum extent practicable with this enforceable policy.

XI. Nonpoint Source Water Pollution

Consistent to the Maximum Extent Practicable? YES

Analysis

The Proposed Action Alternative would involve more than 929 m² (10,000 ft²) of land disturbance. The construction contractor would be required to prepare and implement an Erosion and Sediment Control Plan (ESCP) in accordance with the Virginia Erosion and Sediment Control Regulations (9 VAC 25-840-40). Because the Proposed Action would disturb more than 0.4 ha (1 acre), the construction contractor would also obtain coverage under Virginia's General Permit for Discharges of Stormwater from Construction Activities (Construction General Permit [CGP]) in accordance with Virginia Water Quality Standards (9 VAC 25-260-50). Coverage under the CGP would require the construction contractor to prepare and adhere to a site-specific Stormwater Pollution Prevention Plan (SWPPP). Adherence to the requirements of the CGP and the ESCP would manage the quantity and quality of stormwater discharged from land-disturbing activities associated with the Proposed Action and would minimize adverse effects on water quality in receiving water bodies. NASA would review construction and development plans involving land disturbance and would conduct periodic inspections and any necessary enforcement in accordance with the terms of the ESCP, CGP, and SWPPP. In addition, in accordance with Section 438 of the Energy Independence and Security Act of 2007, Low Impact Development measures would be incorporated to the maximum extent feasible to manage and minimize stormwater runoff on-site. Following the completion of construction activities, disturbed areas of the Project Area not built on or otherwise developed would be returned to their pre-development hydrology, to the maximum extent technically feasible. The Proposed Action would not establish new nonpoint sources of water pollution. As such, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

XII. Shoreline Sanitation

Consistent to the Maximum Extent Practicable? N/A

Analysis

Wastewater generated at the proposed onshore facilities may either be conveyed to existing sanitary sewer infrastructure on Wallops Island, or to a temporary holding tank where it would be periodically collected and pumped for treatment into the existing NASA wastewater system. Sewage generated by the Proposed Action at these onshore facilities would ultimately be treated at WFF's existing wastewater treatment plant on the Main Base to meet applicable regulatory criteria prior to discharge. Temporary facilities used during construction may also be used in the short-term; however, these facilities would not be connected to the existing sanitary sewer infrastructure. Any wastewater and sewage generated from construction facilities would likely be collected and transported for treatment off-site. The Proposed Action would neither involve the installation of new septic tanks nor the modification or alternation of existing septic tanks, as none are located on or in the vicinity of the Project Area. Therefore, the Proposed Action would be consistent to the maximum extent practicable with this enforceable policy.

Certification

Based on the analysis presented above, and the more detailed analysis presented in the Draft EA, NASA has determined that the Proposed Action described herein would be consistent with the Enforceable Policies of the VCP. Pursuant to 15 CFR Section 930.41, the VCP has 60 days from the receipt of this document in which to concur with or object to this Consistency Determination, or to request an extension under 15 CFR section 930.41(b). Virginia's concurrence will be presumed if its response is not received by NASA on the 60th day from receipt of this determination. The Commonwealth's response should be sent to:

Shari A. Miller
Center NEPA Manager & Environmental Planning Lead
NASA GSFC Wallops Flight Facility
Wallops Island, VA 23337
(757) 824-2327
Shari.A.Miller@nasa.gov