NORFOLK HARBOR NAVIGATION IMPROVEMENTS

ANCHORAGE F MODIFICATIONS

DRAFT LIMITED REEVALUATION REPORT AND SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

APPENDIX F

Cultural Resources Coordination

US Army Corps of Engineers

THE PORT OF VIRGINIA

PROGRAMMATIC AGREEMENT AMONG THE UNITED STATES ARMY CORPS OF ENGINEERS, THE VIRGINIA STATE HISTORIC PRESERVATION OFFICE, AND THE VIRGINIA PORT AUTHORITY REGARDING AUTHORITY REGARDING NORFOLK HARBOR CHANNELS DEEPENING, CITIES OF HAMPTON, NEWPORT NEWS, NORFOLK, PORTSMOUTH, AND VIRGINIA BEACH, VIRGINIA

1. WHEREAS, the U.S. Army Corps of Engineers, Norfolk District (hereinafter USACE) and the Virginia Port Authority (hereinafter VPA) have proposed to make channel modifications on a navigation project, previously authorized by the U.S. Congress, the Norfolk Harbor Channels Deepening project (hereinafter Project), to be partly financed with federal funds and subject to federal permitting; and

2. WHEREAS, the Project involves dredging river bottom materials, to deepen and widen navigation channels, and the subsequent disposal of the resulting dredged material; and

3. WHEREAS, the USACE and the VPA have consulted with the Department of Historic Resources (hereinafter DHR) which serves as the Virginia State Historic Preservation Office (hereinafter SHPO) pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108) (hereinafter Section 106); and

4. WHEREAS, the USACE, in consultation with the SHPO, has established the Project's direct Area of Potential Effects (hereinafter APE) as the areas where dredging will take place (Attachment A) and the indirect APE as the area within which there may be temporary visual and noise effects during construction; and

5. WHEREAS, the USACE, in consultation with the SHPO, has determined that the historic properties within the indirect APE will not be adversely affected by visual and noise effects of the project and dredged materials would be placed in areas previously established for that purpose where no historic properties would be affected; and

6. WHEREAS, archaeological surveys have been conducted within portions of the Project's direct APE, listed in Attachment A, and have not identified sites eligible for or listed in the National Register of Historic Places (NRHP) within the Project direct APE; and

7. WHEREAS the USACE, in consultation with the SHPO, has determined that the Project has the potential to cause adverse effects to unidentified submerged archaeological sites in areas not included in the surveys listed in Attachment A which may be eligible for listing in the NRHP; and

8. WHEREAS, the USACE and the VPA have consulted with the SHPO and the parties have agreed that after construction of the Project subsequent operations and maintenance undertakings associated with it would be considered separate undertakings with regard to Section 106; and

9. WHEREAS, 36 CFR § 800.14(b)(1)[ii] allows federal agencies to fulfill their obligations under Section 106 through the development and implementation of programmatic agreements when effects on historic properties cannot be determined prior to approval of an undertaking; and

10. WHEREAS, in accordance with 36 CFR § 800.14(b), the USACE has notified the Advisory Council on Historic Preservation (hereinafter ACHP) of its intention to develop this programmatic agreement (hereinafter Agreement) pursuant to 36 CFR § 800.14(b)(1)[ii] (letter dated May 31, 2016), and the ACHP has chosen not to participate in the consultation (letter dated July 25, 2016); and

11. WHEREAS, in accordance with 36 CFR § 800.14(b)(2)(i) the USACE has invited the Catawba Nation, the Delaware Nation, the Delaware Tribe, Narragansett Indian Tribe, the Pamunkey Tribe, and the Shinnecock Indian Nation to consult on and sign this Agreement as concurring parties and they have declined to participate or have not responded; and

12. WHEREAS, in accordance with 36 CFR § 800.2(c)(3) the USACE has invited the cities of Chesapeake, Hampton, Norfolk, Newport News, Portsmouth, and Virginia Beach to consult on and sign this Agreement as concurring parties and they have declined to participate or have not responded; and

12. WHEREAS, in accordance with 36 CFR § 800.2(c)(5) the USACE has invited the Naval History and Heritage Command to consult on and sign this Agreement as a concurring party and they have elected to participate; and

13. WHEREAS, in accordance with 36 CFR § 800.2(d) the USACE has solicited public comment on the Project through a public scoping meeting held September 24, 2016, at the Nauticus Museum in Norfolk, Virginia and no comments were received regarding historic properties; and

NOW, THEREFORE, the USACE**,** the VPA, and the SHPO **(**hereinafter signatories) agree that the undertakings shall be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS
The USACE shall ensure that the following measures are carried out:

I. ARCHAEOLOGICAL HISTORIC PROPERTIES

A. Avoidance of Known Archaeological Historic Properties

1. The USACE and the VPA shall ensure that the design of the Project includes no dredging or changes to navigation [redacted] Newport News coal piers). Two NRHP listed sites, the wreck of the [redacted] (44NN0072) and that of the [redacted] (44NN0073) lie at depths of 51 ft. and 56 ft., respectively in the [redacted]

B. Identification

1. The USACE shall complete efforts to identify archaeological sites eligible for listing on the NRHP within the APE for the Project in accordance with 36 CFR §

800.4(b). The USACE shall conduct these identification efforts pursuant to the requirements of Stipulations V.A and V.B of this Agreement. Pursuant to Stipulation II.B of this Agreement, the USACE shall provide the SHPO the opportunity to review and concur, and the other Consulting Parties the opportunity to review and comment on a report on its findings.

2. The USACE shall have further archaeological investigations undertaken at site 44NN0335, the wreck of an unidentified metal hulled vessel, to determine its NRHP eligibility if it is potentially affected by the Project construction or resulting changes in navigation. [redacted]

3. Prior to initiating dredging activities and in an effort to identify historic properties within the direct APE pursuant to 36 CFR § 800.4, the USACE shall have remote sensing surveys conducted in areas of the APE not included in previous surveys listed in Attachment A. These surveys shall employ methods equivalent or superior to those described in Attachment B. The USACE shall conduct any further investigations necessary to evaluate the NRHP-eligibility of any archaeological sites identified as a result of the activities described in Paragraph A.1 of this Stipulation. These evaluations shall be conducted in accordance with 36 CFR § 800.4(c), and pursuant to the requirements of Stipulations V and VI.A of this Agreement. Pursuant to Stipulation VI.B, The USACE shall provide the SHPO the opportunity to review and concur, and the other Consulting Parties the opportunity to review and comment on a report on its findings.

C. Assessment of Effects

If archaeological sites meeting the criteria for listing on the NRHP are identified as a result of the activities described in Paragraphs A.1 and A.2 of this Stipulation, the USACE shall assess the effects of the Project on these properties in a manner consistent with 36 CFR 800.5, and submit its findings to the SHPO for its review and concurrence, and to the other Consulting Parties for review and comment pursuant to Stipulation II.B.

D. Treatment of Archaeological Sites Determined Eligible for Listing on the NRHP

1. If the USACE, in consultation with the SHPO and the Consulting Parties, determines that an archaeological site eligible for listing on the NRHP will be adversely affected by the Project, the USACE in consultation with the SHPO, shall determine whether avoidance or minimization of the adverse effects is practicable. If the adverse effects cannot be practicably avoided, the USACE, in consultation with the SHPO and the other Consulting Parties, shall develop a treatment plan for the archaeological site. In a manner consistent with Stipulation II.B of this Agreement, the USACE shall provide the SHPO the opportunity to review and concur with, and the Consulting Parties the opportunity to review and comment on the treatment plan.

2. Any treatment plan the USACE develops for an archaeological property under the terms of this Stipulation shall be consistent with the requirements of Stipulation V.A of this Agreement and shall include, at a minimum:

(a) Information on the portion of the property where data recovery or controlled site burial, as appropriate, is to be carried out, and the context in which the property is eligible for the NRHP;
(b) The results of previous research relevant to the project;
(c) Research problems or questions to be addressed, with an explanation of their relevance and importance;
(d) The field and laboratory analysis methods to be used, with a justification of their cost-effectiveness and how they apply to this particular property and the research needs;
(e) The methods to be used in artifact, data, and other records management;
(f) Explicit provisions for disseminating in a timely manner the research findings to professional peers;
(g) Arrangements for presenting to the public the research findings, focusing particularly on the community or communities that may have interests in the results;
(h) The curation of recovered materials and records resulting from the data recovery in accordance with 36 CFR Part 79; and
(i) Procedures for evaluating and treating discoveries of unexpected remains during the course of the project, including necessary consultation with other parties.

3. The USACE shall ensure the treatment plan is implemented and that any agreed-upon data recovery field operations have been completed before ground-disturbing activities associated with the Project are initiated at or near the affected archaeological historic property. The USACE shall notify the SHPO once data recovery field operations have been completed so that a site visit may be scheduled, if the SHPO finds a visit appropriate. The proposed construction may proceed following this notification while the technical report is in preparation. The USACE shall ensure that the archaeological site form on file in the SHPO's Virginia Cultural Resource Information System (V-CRIS) is updated to reflect the implementation of the treatment plan for each affected site.

II. PREPARATION AND REVIEW OF DOCUMENTS

A. Technical Preparation

All archaeological studies, technical reports, and treatment plans prepared pursuant to this Agreement shall be consistent with the federal standards entitled *Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines* (48 FR 44716- 44742, September 29, 1983), the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia* (October 2011), and the ACHP's *Recommended Approach for Consultation on Recovery of Significant Information from Archaeological Sites* (1999), or subsequent revisions or replacements to these documents.

B. Review
The Signatories and Consulting Parties agree to provide comments to the USACE on all technical materials, findings, and other documentation arising from this Agreement within thirty (30) calendar days of receipt unless otherwise specified. If no comments are received from the SHPO, another Signatory, or a Consulting Party within the thirty (30) calendar-days review period, the USACE may assume that the non-responsive party has no comment. The USACE shall take into consideration all comments received in writing from the SHPO, other Signatories, and Consulting Parties within the thirty (30)-calendar-day review period.

C. Physical Documents
The USACE shall provide the SHPO three (3) copies two (2) hard copies on acid-free paper and one (1) in Adobe® Portable Document Format (.pdf) on compact disk of all final reports prepared pursuant to this Agreement. The USACE shall also provide any other Signatory or so requested by that party. Such requests must be received by the USACE in writing prior to the completion of construction of the Project.

III. CURATION STANDARDS

The USACE shall ensure that all original archaeological records (research notes, field records, maps, drawings, and photographic records) and all archaeological collections recovered from the USACE Project area produced as a result of implementing the Stipulations of this Agreement are provided to the SHPO for permanent curation. In exchange for its standard collections management fee as published in the *Virginia Department of Historic Resources State Collections Management Standards* (June 26, 2009), or subsequent revisions or replacements to that document, the SHPO agrees to maintain such records and collections in accordance with 36 CFR 79, *Curation of Federally Owned and Administered Archaeological Collections*.

IV. CHANGES IN PROJECT SCOPE

In the event of any changes to the Project scope that may alter the APE, the USACE shall consult with SHPO and the other consulting parties pursuant to 36 CFR § 800.2 through § 800.5.

V. STANDARDS

A. Research Standards
All work carried out pursuant to this Agreement shall meet the *Secretary of the Interior's Standards for Archaeology and Historic Preservation* (SOI's Standards: http://www.nps.gov/history/local-law/arch_stnds_9.htm).

B. Professional Standards
The USACE shall ensure that all work carried out pursuant to this Agreement shall be done by or under the direct supervision of marine archaeology professionals who meet the *Secretary of the Interior's Professional Qualifications Standards*. The USACE shall

ensure that consultants retained for services pursuant to this Agreement meet these standards.

C. Documentation Standards
All technical reports prepared pursuant to this Agreement shall be consistent with Secretary of the Interior's *Standards and Guidelines for Archaeological Documentation* (48 FR 44734-37) and the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia* (2011), or any subsequent revisions or replacements of these documents.

VI. TREATMENT OF HUMAN REMAINS

A. Coordination
In the event human skeletal remains or burials are encountered during implementation of the Project, the USACE shall coordinate its compliance with Section 106 with other applicable federal, state, and local laws and reviews as appropriate.

B. Permits
Historic and prehistoric human remains from non-federal, non-tribal lands are subject to protection under Virginia's burial/unmarked grave/cemetery law(s) which require a permit from the Department of Historic Resources before remains are removed. As such, if human remains are discovered during construction, work in that portion of the project shall stop immediately. The remains shall be covered and/or protected in place in such a way that minimizes further exposure of and damage to the remains, and the USACE shall immediately consult with the SHPO. If the remains are found to be Native American, in accordance with applicable law, a treatment plan shall be developed by and SHPO in consultation with appropriate federally recognized Indian tribes. USACE shall ensure that any treatment and reburial plan is fully implemented. If the remains are not Native American, the appropriate local authority shall be consulted to determine final disposition of the remains. Avoidance and preservation in place is the preferred option for treating human remains.

C. Additional Procedures
Additional procedures regarding the treatment of human remains are detailed in Attachment C of this Agreement.

VII. SUNKEN MILITARY CRAFT

If at any point in the Project, USACE discovers or reasonably believes that a Department of Navy sunken military craft or part thereof will be disturbed or otherwise affected in the course of the Project, USACE will immediately notify the Naval History and Heritage Command (NHHC). USACE will provide the NHHC with a reasonable opportunity to accomplish the following:

A. In relation to Stipulation I.B(1), review and provide concurrence on the USACE identification of archaeological sites eligible for listing on the NRHP within the APE of the Project.

B. In relation to Stipulation I.B(3), review and provide concurrence on the evaluation of any such historic property, as opposed to review and comment on a report of the USACE findings.

C. In relation to Stipulation I.C, review and provide concurrence on the USACE assessment of effects of the Project, as opposed to review and comment on the USACE assessment.

D. In relation to Stipulation I.D(1), in consultation with the USACE and with the SHPO, determine whether avoidance or minimization of the adverse effects on an archaeological site eligible for listing on the NRHP that will be adversely affected by the Project is practicable.

E. In relation to Stipulation I.D(1), review and provide concurrence on the treatment plan for archaeological sites that will be impacted by practicably unavoidable adverse effects, as opposed to review and comment on the treatment plan.

F. The USACE further agrees to the following upon discovery or disturbance of Department of the Navy sunken military craft:

1. Any treatment plan developed pursuant to Stipulation I.D(2) for an archaeological property that is also a Department of the Navy sunken military craft will have to take into account the requirements otherwise imposed on permit applicants under 32 CFR § 767.6 (d).

2. In relation to Stipulation I.D(3), the USACE will notify the NHHC once recovery field operations have been completed so that a site-visit may be completed. One or more site visits may also be completed by the NHHC during recovery field operations.

3. In relation to Stipulation II.C, the USACE will provide the NHHC with all final reports prepared pursuant to this Agreement pertaining to Department of the Navy sunken military craft—two (2) copies on acid-free paper and one (1) copy in pdf format on archival compact disc.

4. In relation to Stipulation III, the USACE will transfer all original archaeological records (research notes, field records, maps, drawings, and photographic records) and all archaeological collections recovered and retained from Department of the Navy sunken military craft to the NHHC at the completion of the Project for curation.

5. The USACE and the VPA will fund the professional recovery, documentation, conservation, packaging, and transportation of the associated retained archaeological collections, as well as costs for certifying inert any associated ordnance in consultation with appropriate Department of Navy personnel. The NHHC will be afforded a determinative role should the USACE desire not to retain any part of an associated archaeological collection post-recovery and

documentation, and agrees to maintain such records and collections in accordance with 36 CFR § 79, Curation of Federally Owned and Administered Archaeological Collections.

6. In relation to Stipulation VI, the USACE will address the treatment of any human remains associated with Department of the Navy sunken military craft in consultation with the NHHC.

7. The aforementioned clauses supersede Attachment C with respect to Department of the Navy sunken military craft.

VIII. POST-REVIEW DISCOVERIES

If properties are discovered that may be historically significant or unanticipated effects on historic properties found subsequent to the completion of surveys under Stipulations I-II, the USACE shall implement the discovery plan included as Attachment C of this Agreement.

IX. COMMUNICATIONS

Electronic mail (email) may serve as the official correspondence method for all communications regarding this Agreement and its provisions. See Attachment D for a list of contacts and email addresses. Contact information in Attachment D may be updated as needed without an amendment to this Agreement. It is the responsibility of each party to the Agreement to immediately inform the USACE of any change in name, address, email address, or phone number of any point-of-contact. The USACE shall forward this information to all signatories and consulting parties by email.

X. MONITORING AND REPORTING

Each year on the anniversary of the execution of this Agreement until it expires or is terminated, the USACE shall provide all parties to this Agreement a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the USACE's efforts to carry out the terms of this Agreement. The reporting period shall be the fiscal year from October 1 to September 30.

XI. DISPUTE RESOLUTION

Should any party to this Agreement object in writing at any time to any actions proposed under this Agreement, or the manner in which the terms of this Agreement are implemented, the USACE shall consult with the objecting party to resolve the objection. If the USACE determines that such objection cannot be resolved, the USACE will:

A. Documentation
   Forward all documentation relevant to the dispute, including the USACE's proposed resolution, to the ACHP. The ACHP shall provide the USACE with its advice on the

resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the USACE shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and consulting parties, and provide them with a copy of this written response. The USACE shall then proceed according to its final decision.

B. Resolution
If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the USACE may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the USACE shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and consulting parties to the Agreement, and provide them and the ACHP with a copy of such written response.

C. Continuity
The USACE's responsibilities to carry out all other actions subject to the terms of this Agreement that are not the subject of the dispute remain unchanged.

XII. ANTI-DEFICIENCY ACT

The USACE's obligations under this Agreement are subject to the availability of appropriated funds, and the stipulations of this Agreement are subject to the provisions of the Anti-Deficiency Act. The USACE shall make reasonable and good faith efforts to secure the necessary funds to implement this Agreement in its entirety. If compliance with the Anti-Deficiency Act alters or impairs the USACE's ability to implement the stipulations of this agreement, the USACE shall consult in accordance with the amendment and termination procedures found at Stipulations XII and XIII of this Agreement.

XIII. AMENDMENTS

This Agreement may be amended when such an amendment is agreed to in writing by all signatories. The amendment shall be effective on the date a copy signed by all of the signatories is filed with the ACHP. Attachment E is a template for amendments.

XIV. TERMINATION

If any signatory to this Agreement determines that its terms are not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation XIII, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the Agreement upon written notification to the other signatories.

Once the Agreement is terminated, and prior to work continuing on the Project, the USACE must either (a) execute another Agreement pursuant to 36 CFR § 800.14 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7, the USACE shall notify the signatories as to the course of action it will pursue.

XV. DURATION

Subsequent to its execution, this Agreement shall expire if its terms are not carried out within ten (10) years from the date of the Congressional appropriation funding the Project. Six (6) months prior to such time, the USACE shall consult with the other signatories and consulting parties to reconsider the terms of the Agreement and amend it in accordance with Stipulation XIII above, if necessary.

XVI. EXECUTION OF THIS AGREEMENT

This Agreement may be executed in counterparts, with a separate page for each party. The USACE shall ensure that each party is provided with a copy of the fully executed Agreement.

Execution and submission of this Agreement, and implementation of its terms, evidence that the USACE has afforded the ACHP an opportunity to comment on the proposed undertaking and its effect on historic properties, and that the USACE has taken into account the effect of the undertaking on historic properties.

Attachment A – Previous Archaeological Surveys
Attachment B – Marine Archaeological Methods
Attachment C - Procedures for Post-Review Discoveries
Attachment D - Contact Information

SIGNATORY:

USACE, Norfolk District

By: _____ Date: 01 June 2017

Colonel Jason Kelly, *District Engineer*

SIGNATORY:

Virginia Department of Historic Resources

By: Julie D Langan Date: 6-7-17
Julie Langan, *State Historic Preservation Officer*

INVITED SIGNATORY:

Virginia Port Authority

By: _____ Date: 7/6/17

John F. Reinhart, *CEO and Executive Director*

CONCURRING PARTY:

Naval History & Heritage Command

By: _____ Date: 8 AUG 17
Samuel J. Cox, *Director*

ATTACHMENT A

Previous Archaeological Surveys and Area of Potential Effects

(Redacted)

ATTACHMENT B

MARINE ARCHAEOLOGICAL METHODS

Marine or underwater archaeological survey methods rely on electronic remote sensing. These technologies evolve rapidly. There are no marine archaeology standards for Virginia, and while some state have published standards in the past, they are likely to be out of date in terms of equipment standards. Excerpts from a publication developed for the Bureau of Ocean Energy Management gives an overview of marine archaeological methods in a somewhat recent (2012) time frame. Although focusing on deeper waters of the outer continental shelf than those areas with survey needs for this project, it presents a useful general overview of techniques. A more specific methodology, citing specific equipment, from a recent survey is excerpted from a 2016 survey by Tidewater Atlantic Research in the relatively shallow waters of the James River. From the review of these methodologies, contractors can propose appropriate methodologies for this project, and reviewers can evaluate the appropriateness of proposals and resulting survey reports.

TRC Environmental Corporation
2012 Inventory and Analysis of Archaeological Site Occurrence on the Atlantic Outer Continental Shelf. U.S. Department of the Interior, Bureau of Ocean Energy Management, New Orleans, LA. (pp. 147-151)

(The original chapter and section numbering has been retained, figures are not included and those references have been removed.)

10. RECOMMENDED FIELD SURVEY METHODS

10.1. INTRODUCTION

Early prehistoric archaeological resources are virtually invisible to remote sensing equipment available today. However, the association of Paleoindian and Archaic sites with relic landforms appears to be the key to locating and identifying areas of high potential. There have been few systematic surveys conducted specifically to locate submerged prehistoric sites in the Atlantic to date. A notable exception is Robinson et al.'s recent study in Nantucket Sound for an offshore wind power project (Robinson et al. 2004). Studies carried out elsewhere have illustrated the value of correlating potential site locations with submerged landscape features. The Sabine River study carried out by Pearson et al. (1986) over two decades ago and current research carried out by Faught (2003, 2004) off the Gulf coast of northern Florida provide the most convincing evidence of the value of that correlation. Likewise, a team from Parks Canada has explored the continental shelf in the Hecate Strait off British Columbia, where ancient human occupation sites may rest in as much as 150 m of water. The Canadian team has employed high-resolution multibeam sonar, remotely operated vehicles (ROVs), and manned submersibles to image the sea floor, and coring and grab methods to sample it (Carper 2007). In conducting surveys designed to identify relic landforms and prehistoric archaeological sites, acoustic instruments appear to be the most effective (Faught 2003; Hoyt et al. 1990; Research Planning et al. 2004).

The three instruments that generate the most useful data are multibeam echo sounders, side scan sonar, and subbottom profilers. The side scan sonar and multibeam echo sounders generate high-resolution data that can be used to reconstruct and map surface geological features that reflect paleotopography. Used in conjunction with highly sophisticated terrain modeling programs, acoustic data from those instruments can be turned into highly detailed bottom surface maps that cover broad areas. Characteristics of the bottom surface can be associated with buried geomorphological features using high-resolution subbottom profilers. With sufficient data, sophisticated computer modeling programs can be used to develop three-dimensional, geo- referenced models of relic landforms that could be associated with areas that have prehistoric archaeological site potential. Using GIS software to store, analyze, and project the data, archaeologists and submerged cultural resource managers can identify high priority areas for research or protection. Areas of high potential where sea floor disturbances are proposed can then be surveyed using higher resolution geophysical techniques (like seismic reflection profiling studies), coring, and direct observation of the sea floor using remotely operated vehicles (ROV) or direct submersible investigation. Intensive studies of submerged cultural resources will be expensive, and developers may choose to avoid areas of high potential, rather than carry out costly investigations.

Each of the methods available to characterize the sea floor and identify areas of high potential for cultural resources are described below, along with methods for sampling and investigating such areas. There is also a brief discussion of planning considerations related to the cost and logistics of conducting such studies.

10.2. UNDERWATER SURVEY METHODS

10.2.1. Multibeam Bathymetry and Backscatter Intensity Data

One remote sensing method relevant to detecting areas of high sensitivity for prehistoric sites is high-resolution multibeam swath bathymetry (where the data set consists of both depth and backscatter/reflectivity information) to image surficial features on the sea floor. This method allows the identification of relict landscape features such as stream channels along which prehistoric sites would have been concentrated. Multibeam bathymetry and backscatter intensity data provide information on water depth, sea floor morphology, and sediment types. Multibeam systems are so-named because they consist of a group of sonar beams directed at and reflected back from the ocean floor, as opposed to earlier, single beam systems. Bathymetric data and sea floor composition are interpreted from the speed and intensity of the reflection of the acoustic signals, which are collected simultaneously and then processed. Multibeam systems collect data in a swath that typically extends beyond either side of the host vessel along the ship‘s track to a distance of five to seven times the depth. Ship tracks are designed to overlap and provide 150 percent coverage of the study area. These tracks are then combined to form a seamless image of the morphology of the ocean floor, as well as detailed bathymetric data. Because wider swaths are gathered in deeper water, surveys are much faster in greater depths.

Multibeam bathymetry and backscatter intensity data is the first information that should be collected during a survey for submerged cultural resources. The bathymetric data provides a detailed image of sea floor morphology, allowing identification of landforms and an

accurate assessment of depths within the study area. Backscatter data can provide generalized information on sea floor bottom types, based on the intensity of acoustic returns. When combined, these two data sets establish the basis for more detailed studies of the sea floor and underlying stratigraphy.

10.2.2. Side Scan Sonar

Side scan sonar is also an acoustic technique, but is focused on a detailed image of sea bed characteristics rather than bathymetry. This technique also can be used to identify shipwrecks, but in the context of prehistoric site survey, it can serve to characterize the sea floor with greater resolution than multibeam bathymetry. Side scan sonar is accomplished using a towfish that both sends and receives acoustic signals and reflections from the sea floor. As in multibeam surveys, side scan sonar surveys image swaths of the sea floor several times the water depth. Ship tracks are designed to overlap and provide 150 percent coverage of the study area, allowing production of maps showing sea floor characteristics. When combined with multibeam bathymetric data, a great deal of information on the morphology and composition of the sea floor is obtained. This information is critical to identifying geomorphological settings of high archaeological potential.

10.2.3. Seismic Reflection Profiling

Seismic profiling is a geophysical technique used to gather information about sea floor subsurface data. This technique also employs acoustic energy, but rather than receiving and processing returns strictly from the ocean floor, the signals are designed to penetrate subsurface sediments. Reflections from interfaces between layers of varying acoustic properties are recorded and used to create a seismic-stratigraphic profile of the material beneath the ocean floor. The depth of penetration into seafloor sediments is determined by the frequency of the acoustic signal and the sediment characteristics. Higher frequency (CHIRP) systems provide greater resolution, but less depth penetration, and provide excellent results in settings with fine-grained sediments. Lower frequency (Boomer) systems produce greater penetration of thick sediment sequences, but generally with less resolution.

Seismic reflection data is produced as a series of 2-dimensional profiles along the research vessel‘s tracks, unlike the 100 percent coverage that can be achieved with multibeam bathymetric studies and side scan sonar investigation. Thus, the spacing of seismic reflection profiles is important if the study area‘s stratigraphy is to be adequately investigated. Seismic reflection profiles are frequently collected using gridded cruise tracks (lines oriented at right angles), with the spacing between lines determined by the approximate size of landforms or buried features to be imaged. Data from multibeam bathymetric studies, as well as any previous work in the study area can be used to guide this decision. More closely spaced data collection, with a maximum lane spacing of 15 m, may be used to further refine interpretations in areas identified as having a high potential for cultural resources. Prominent acoustic reflections that occur throughout a study area can be selected in some processing systems and a surface of that reflector can be interpolated and the thickness of overlying sediment mapped.

The complementary properties of these two seismic reflection techniques indicate that both should be used in a survey for submerged prehistoric cultural resources. The higher frequency data will provide higher resolution data of near bottom stratigraphy, while the lower frequency technique will investigate more of the subsurface stratigraphic package. While most culturally sensitive areas may be concentrated in the upper portion of the subsurface sediments, it is difficult to understand the geologic history and setting of the study area without seeing as much of the section as possible. In addition, this information is routinely collected for engineering studies for offshore projects. With advance planning, survey for culturally sensitive areas can be accomplished at the same time geotechnical and engineering information is collected, reducing costs.

10.2.4. Vibracoring

Vibracoring may be required for the analysis of high potential geomorphic settings, to allow further analysis of the seabed subsurface geology. While it is highly unlikely that artifacts will be recovered by vibracoring, the sediments and faunal and floral remains obtained provide information about the physical setting and age of the area. A geotechnical program of vibracoring also can determine the presence or absence of paleosols likely associated with prehistoric occupation. This information can then be used to further assess a study area‘s cultural resource potential. Vibracores previously taken in portions of the Atlantic sea floor suggest that the top 1 m (and sometimes deeper) of sediments are recent and/or reworked (LaPorta et al. 1999; Schuldenrein et al. 2000). However, it is possible that intact former land surfaces that may contain prehistoric archaeological deposits are buried beneath the sea floor. If proposed seafloor impacts will disturb more than the top meter of sediment, it is recommended that vibracoring (or similar method of coring) be undertaken in areas of moderate to high potential for the presence of prehistoric sites. The goal of vibracoring would be to determine if there are intact Late Pleistocene and Holocene strata in areas slated for impact. Analysis of the vibracore samples would consist of lithostratigraphic evaluation, dating of any organic material, and identification of any pollen, macrofloral, and/or foraminiferal samples recovered. If intact strata are identified, then it is recommended that those areas be avoided. If avoidance is not possible, then more subsurface testing and/or monitoring to determine if prehistoric materials are present may be recommended.

10.2.1. Remotely Operated Vehicles (ROVs), Autonomous Underwater Vehicles (AUVs), Video Surveys and Submersibles

Ground-truthing of high sensitivity areas identified by remote sensing that lie within an area of proposed impact is typically done by vibracoring, although in cases where surficial deposits are suspected (e.g., around rock outcrops), then it may be accomplished by direct visualization by scuba divers or by ROVs, depending on the bottom conditions (e.g., depth, currents, visibility). These methods are also used to investigate areas once cultural resources have been identified at the seabed surface. ROVs act as the eyes, and sometimes hands, of the investigators. They are, however, limited to material exposed at the seafloor. The equipment is operated tethered from a vessel. A ROV will allow investigation of seabed conditions, visual analysis of features (like rock outcrops, shipwrecks, etc.), and inspection of exposed artifacts. Use of ROVs is restricted by water clarity. Fine-grained bottom sediments can create turbid conditions that greatly reduce visibility. AUVs are programmed to fly over

the bottom and can be equipped with cameras and a variety of geophysical sensors. In locations like the Gulf of Maine, with a large lobstering industry, lobster buoys may preclude use of AUVs.

Video surveys with a towed camera can provide detailed color images of the seabed capable of imaging artifacts and seafloor sediment. These surveys acquire a series of overlapping images along a transect of the seabed. Since it is difficult to know the precise position of the camera for every frame, transects are often short.

Submersible vehicles provide a way for scientists to make direct observations at the seafloor, and in some situations, collect samples. As with ROV's, water clarity can create visibility issues for studies employing submersibles. Submersible vehicles are expensive to build, maintain, and operate, so costs associated with this type of investigation are high.

10.2.2. Geophysical Survey Planning

Initial survey to identify high potential areas for submerged cultural resources requires some of the same information and employs many of the same techniques as those used by the offshore development applicant. Thus, the multibeam bathymetry and backscatter intensity data, side scan sonar, and high resolution (CHIRP) and deep penetration (Boomer) seismic reflection profiling, as well as precision mapping carried out for other aspects of project planning can also serve the needs of cultural resource assessment, with data collected simultaneously that will serve a variety of needs. Depending on the size of the research vessel and project budget, seismic reflection, multibeam and side scan sonar profiles can usually be collected simultaneously. Generally, multibeam data can be gathered at a higher vessel speed than the other techniques, and if such a system is leased, it is sometimes more cost effective to collect bathymetric data first and use it to plan seismic and side scan sonar lines. Interferometric side scan sonar methods additionally provide good quality side scan images and bathymetric data, especially in shallow water. More cultural resources, such as shipwrecks and areas of high prehistoric archaeological potential.

Even when investigations are carried out in cooperation with project engineers, the work should be performed under the supervision of a marine archaeologist, with marine archaeological staff on board the survey vessel for the duration of the survey to monitor data as it is acquired. This arrangement should allow the archaeologist to generate a preliminary real-time inventory of acoustic reflectors with moderate to high potential for representing archaeologically sensitive inundated paleosoils. Upon completion of the field investigation and post-processing and plotting of the survey data, acoustic reflectors identified by the field archaeologist as having moderate to high potential for representing archaeologically sensitive areas should be reevaluated by the archaeologist using the post-processed data in combination with core logs and photographs from any geotechnical coring/boring performed as part of the project. The results of these combined analyses should then be used to generate a final list of archaeologically sensitive areas recommended for avoidance or further investigation and National Register evaluation.

Specific guidelines for remote sensing surveys updating current BOEM protocols are provided in Research Planning, Inc. et al. (2004:35–39, 53). They recommend the use of

sub- meter differential global positioning systems for navigational accuracy, acoustic positioning systems that track towed sensor position, a track line spacing no greater than 30 m, and lines for anomaly definition spaced 10 m on either side of initial contact.

Following these updated guidelines is likely to result in the discovery of more archaeological sites (both prehistoric and historic period) than would have been identified under the old standards, thus possibly preventing future incidents of accidental site disturbance during construction.

10.3. SUMMARY

Investigation of the Douglass Beach Site (8FL17) in Florida state waters illustrates the types of analyses possible in the context of underwater prehistoric sites, analyses that are commonly employed at terrestrial sites (Murphy 1990). In addition to radiocarbon dating of organic materials recovered, sedimentary and geochemical analyses can be employed to understand taphonomy and identify the signatures of human occupation in sea floor sediments (to help refine expectations about evidence of archaeological deposits elsewhere), palynological analysis can be conducted to assist in environmental reconstruction, ethnobotanical and faunal analyses can be carried out on materials whose preservation state may be enhanced by submersion, and artifacts and their provenience can be analyzed as is done for terrestrial sites, although stratigraphic recovery is limited to approximate strata through propeller wash deflector modifications, and small samples obtained through coring. The information potential of submerged sites is comparable to those on land, and could be key to our understanding of the peopling of North America and coastal adaptations in the early millennia of human occupation. The Douglass Beach Site was preserved in a back barrier setting, where it was buried by overwash sediments during transgression, protecting it from high-energy shoreface erosion (Murphy 1990:52). Sites in comparable settings likely exist throughout the Atlantic OCS, and await discovery through the survey methods discussed here.

Watts, Gordon P

2016 Phase I Remote-Sensing Archaeological Survey of Three Proposed Overhead Transmission Line Corridors Crossing the James River From Gravel Neck in Surry County To Skiffes Creek in James City County, Virginia, Revised to Include: Variation Four Alignment Survey and Analysis in 2014 Remote-Sensing Survey of Fender Sites in 2016 Phase II Assessment of Buffer NS WN1 and Cluster EC EF Anomalies in 2016. Tidewater Atlantic Research, Inc., Washington, North Carolina (excerpts from pages 8-13)

(The original chapter and section numbering has been retained, figures are not included and those references have been removed.)

Remote-Sensing Research Methodology

To reliably identify submerged cultural resources, TAR conducted a systematic remote-sensing survey of each of the three proposed overhead transmission line corridors identified in the *Scope of Work (SOW)*. In order to fulfill the requirements stated in the *SOW*, TAR employed both magnetic and acoustic remote-sensing equipment. A combination of magnetic and acoustic remote-sensing equipment represent the state of the art in submerged cultural resource location technology and offers the most reliable and cost effective method of locating and identifying potentially significant targets. TAR personnel utilized the 25-foot vessel Tidewater *Surveyor* to conduct the survey in the central corridor segments and fender locations where the magnetometer, sidescan sonar and sub-bottom profiler could be deployed. A 20-foot Privateer was used to carry a bow-mounted magnetometer in the shallow corridor segments adjacent to the west and east shorelines. Data collection on each vessel was controlled using a differential global positioning system (DGPS). The DGPS produces the highly accurate coordinates necessary to support a sophisticated navigation program and assure reliable target location.

Magnetic Remote Sensing

To identify anomalies associated with submerged cultural resources in the survey area, an EG&G Geometrics G-881 marine cesium magnetometer was employed to collect magnetic data in the survey areas. The EG&G Geometrics G-882 magnetometer is capable of plus or minus 0.001 gamma resolution. The cesium magnetometer provides a scalar measurement of the earth's magnetic field intensity expressed in gammas. To produce the most comprehensive magnetic record, data were collected at 10 samples per second. Due to shallow water in the survey area, the magnetometer sensor was floated on the water surface at a speed of approximately three to four knots. Background noise level did not exceed a total of 1 gamma peak to peak. Magnetic data were monitored on a 100-gamma scale chart as they were recorded as a HYPACK * .RAW file on the navigation computer system.

Acoustic Remote Sensing

A KLEIN 3900 450/900 kHz high-resolution digital sidescan sonar was employed to collect acoustic data in the survey area. During the survey, the sidescan sonar transducer was deployed and maintained at approximately 5 feet below the water surface during data acquisition. Acoustic data was collected along transects spaced on 50-foot intervals to insure 200% coverage. Additional lanes were run in the vicinity of potentially significant targets to enhance target signature definition. Sonar range scales were selected to provide a minimum of 200% coverage of the survey area and high target signature definition. Sonar data was recorded and tied to the magnetic data by regular DGPS annotations.

Acoustic sub-bottom data were collected using an EDGETECH 3100P portable sub-bottom profile with an SB-216S tow vehicle. The SB-216S provides three frequency spectrums between 2 and 15 kHz with a pulse length of 20 msec. Penetration in coarse and calcareous sand is factory rated at 6 meters with from 2 to 10cm of vertical resolution. During the survey the sub- bottom transducer was deployed and maintained between 4 to 6 feet below the water surface unless shallow water dictated otherwise. To facilitate target identification, sub-bottom sonar records were electronically tied to DGPS coordinates. Sub-

bottom data was recorded as a digital file using EDGETECH's Discover software and DGPS provided record positioning.

Positioning System

The remote-sensing survey was run on a helm computer with a digitized navigation chart of the project area. A Trimble DGPS was used to control navigation and data collection in the survey area. The DGPS system has sub-meter accuracy and can be used to generate precise coordinates for the computer navigation system. The DGPS was operated in conjunction with an onboard laptop loaded with HYPACK navigation and data collection software. All magnetic and acoustic records were tied to positioning events generated by HYPACK and magnetic data was stored in the computer in conjunction with DGPS generated positioning coordinates.

Data Analysis

Analysis of the magnetic and acoustic data was carried out as it was generated to ensure reliable target identification and assessment. Using QUICKSURF contouring software, magnetic data generated during the survey was contour plotted at five-gamma intervals for analysis and accurate location of the material generating each magnetic anomaly. Magnetic targets were isolated and analyzed in accordance with intensity, duration, areal extent and signature characteristics. Sonar signatures associated with magnetic targets were analyzed on the basis of configuration, areal extent, target intensity and contrast with background, elevation and shadow image.

Data generated by the remote-sensing equipment was developed to support an assessment of each magnetic and acoustic signature. Analysis of each target signature included consideration of magnetic and sonar signature characteristics previously demonstrated to be reliable indicators of historically significant submerged cultural resources. Assessment of each target included recommendations for additional investigation to determine the exact nature of the cultural material generating the signature and its potential NRHP significance. Historical evidence was developed into a background and shipwreck inventory to facilitate identification of possible correlations with magnetic anomalies and acoustic targets. A magnetic contour map of each survey corridor segment and fender location was produced to aid in the analysis of each target. All targets were listed and described and a map produced that showed their location within the project area.

ATTACHMENT C
Procedures for Post Review Discoveries

PROCEDURES FOR POST REVIEW DISCOVERIES

Post Review Discoveries

The VPA and the USACE will ensure that construction documents contain the following provisions for the treatment of unanticipated discoveries:

"If previously unidentified historic properties or unanticipated effects to historic properties are discovered during contract activities, the contractor shall immediately halt all activity within a one hundred (100) foot radius of the discovery, notify the USACE Project Manager, the VPA Project Manager and the USACE Archaeologist of the discovery and implement interim measures to protect the discovery from looting and vandalism. Work in all other areas not the subject of the discovery may continue without interruption."

Immediately upon receipt of the notification from the construction contractor (see subparagraph immediately above), the USACE Archaeologist shall:

1. Inspect the construction site to determine the extent of the discovery and ensure that the Undertaking in that area has halted;

2. Clearly mark the area of the discovery;

3. Implement additional measures, as appropriate, to protect the discovery from looting and vandalism;

4. Determine the extent of the discovery and provide recommendations regarding its National Register of Historic Places (NRHP) eligibility and treatment; and

5. Notify the USACE Project Manager, the VPA Project Manager, the SHPO and other consulting parties of the discovery describing the measures that have been implemented to comply with this Stipulation.

Upon receipt of the information required in subparagraphs 1-5 above, the USACE and the VPA shall provide the SHPO and other consulting parties with an assessment of the NRHP eligibility of the discovery and the measures proposed to resolve adverse effects. In making the evaluation, the USACE and the VPA, in consultation with the SHPO, may assume the discovery to be eligible for the NRHP for the purposes of Section 106 pursuant to 36 CFR Part 800.13(c). The SHPO and other consulting parties shall respond to the USACE's and the VPA's assessment within forty-eight (48) hours of receipt**.**

The USACE and the VPA shall take into account the SHPO and other consulting parties' recommendations on eligibility and treatment of the discovery and shall provide the SHPO and other consulting parties with a report on the actions when implemented. The Undertaking may proceed in the area of the discovery, once the USACE and the VPA have determined that the actions undertaken to address the discovery pursuant to this Stipulation are complete.

Treatment of Human Remains

The USACE and the VPA shall make all reasonable efforts to avoid disturbing gravesites, including those containing Native American human remains and associated funerary objects. If human remains and/or associated funerary objects are encountered during the course of the Undertaking, the VPA and USACE

shall immediately halt the Undertaking in the area and contact the USACE Archaeologist and the appropriate city Police Department.

The USACE and the VPA shall treat all human remains in a manner consistent with the ACHP's Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects (February 23, 2007; http://www.achp.gov/docs/hrpolicy0207.pdf).

The USACE and the VPA shall make a good faith effort to ensure that the general public is excluded from viewing any Native American burial site or associated funerary objects. The consulting parties to this PA agree to release no photographs of any Native American burial site or associated funerary objects to the press or general public. The USACE shall notify the Delaware Nation, the Delaware Tribe of Indians, and other appropriate federally recognized Tribe(s) if their interest(s) have been established, when Native American burials, human skeletal remains, or funerary objects are encountered during the Undertaking. Following consultation by the USACE, the VPA, the SHPO and identified Tribes with cultural affiliation, the USACE and the VPA shall ensure that proper steps are taken regarding the remains. This could include the delivery of any Native American human skeletal remains and associated funerary objects recovered pursuant to this PA to the appropriate Tribe.

If the remains are determined to be historic and not Native American, USACE and the VPA shall consult with the SHPO and other appropriate consulting parties prior to any excavation by providing a treatment plan including the following information:

- The name of the property or archaeological site and specific location from which the recovery is proposed. If the recovery is from a known archaeological site, a state-issued site number must be included.
- Indication of whether a waiver of public notice is requested and why. If a waiver is not requested, a copy of the public notice to be published in a newspaper having general circulation in the Hampton Roads area for a minimum of four weeks prior to recovery.
- A copy of the curriculum vitae of the skeletal biologist who will perform the analysis of the remains.
- A statement that the treatment of human skeletal remains and associated artifacts will be respectful.
- An expected timetable for excavation, osteological analysis, preparation of final report, and final disposition of remains.
- A statement of the goals and objectives of the removal of human remains (to include both excavation and osteological analysis).
- If a disposition other than reburial is proposed, a statement of justification for that decision.

The USACE Archaeologist shall submit the draft treatment plan to the USACE, the VPA, the SHPO and appropriate consulting parties for review and comment. All comments received within thirty (30) calendar days shall be addressed in the final treatment plan. Upon receipt of final approval in writing from the USACE Archaeologist, the treatment plan shall be implemented prior to those Undertaking activities that could affect the burial(s).

The USACE Archaeologist shall notify the USACE Project Manager, the VPA Project Manager, and the SHPO, and the other consulting parties in writing once the fieldwork portion of the removal of human remains is complete. The Undertaking in the area may proceed following this notification while the technical report is in preparation. The USACE Archaeologist may approve implementation of Undertaking-related ground disturbing activities in the area of the discovery while the technical report is in preparation.

The USACE Archaeologist shall ensure that a draft report of the results of the recovery is prepared within one (1) year of the notification that archaeological fieldwork has been completed and submitted to the USACE, the VPA, the SHPO and the other consulting parties for review and comment. All comments received within thirty (30) calendar days of receipt shall be addressed in the final treatment plan. When the final report has been approved by the USACE Archaeologist, two (2) copies of the document, bound and on acid-free paper and one (1) electronic copy in Adobe® Portable Document Format (.pdf) shall be provided to the SHPO; and one (1) copy in an agreed upon format to each of the other consulting parties.

The USACE Archaeologist shall notify the USACE Project Manager, the VPA Project Manager, the SHPO and other appropriate consulting parties within fifteen (15) calendar days of final disposition of the human remains.

ATTACHMENT D

Contact Information

CONTACT INFORMATION

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Naval History & Heritage Command

Robert S. Neyland, PhD
Branch Head
Naval History & Heritage Command
Underwater Archaeology Branch
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Office: (202) 685-0897
Robert.Neyland@navy.mil

AMENDMENT TO
PROGRAMMATIC AGREEMENT AMONG THE
UNITED STATES ARMY CORPS OF
ENGINEERS, THE VIRGINIA STATE HISTORIC
PRESERVATION OFFICE, AND THE
VIRGINIA PORT AUTHORITY REGARDING
NORFOLK
HARBOR CHANNELS DEEPENING, CITIES OF
HAMPTON, NEWPORT NEWS,
NORFOLK, PORTSMOUTH, AND VIRGINIA BEACH,
VIRGINIA

1. WHEREAS, the Agreement was executed in July 2017;

2. WHEREAS, new information on the location of USS Cumberland (site number 44NN0073, eligible for the National Register of Historic Places) shipwreck within the Newport News Federal Navigation Channel makes it possible to dredge a nearby shoal on the edge of the channel with no effect to USS Cumberland;

3. WHEREAS, the Naval History and Heritage Command (NHHC) has jurisdiction over sunken military craft including USS Cumberland, have been consulted on the proposed Agreement amendment and is a concurring party to the amendment;

4. WHEREAS, USACE will send a copy of this executed amendment to the Advisory Council on Historic Preservation who did not participate in the development of the Agreement;

5. NOW, THEREFORE, in accordance with Stipulation XIII: Amendments of the Agreement, the USACE, State Historic Preservation Officer (SHPO), and VPA agree to amend the Agreement as follows:

A. Amend Stipulation IA. Avoidance of Known Archaeological Historic Properties so it reads as follows:

1. The wreck of historic property [redacted](44NN0072) [redacted]. [redacted](44NN0073) [redacted]. USACE and the VPA will ensure no dredging will occur upriver of [redacted]

[redacted] The federal navigation channel is naturally deeper than the depth needed in the foreseeable future [redacted] as shown in Attachment E.

2. To enable dredging of a shoal while avoiding effects to [redacted] (44NN0073), USACE and the VPA commit to implementing the avoidance plan included as Attachment F to this amendment. Shoaling may reoccur in the same location as the new dredging would remove as shown in Attachment E. Over the duration of the Agreement, USACE and VPA will implement the avoidance plan in Attachment F for future maintenance dredging as needed in the same location of shoaling as shown in Attachment E. USACE will notify Signatories and NHHC whenever dredging of the shoal [redacted] is proposed during the term of the Agreement.

B. Amend Stipulation XIII: Amendments as follows:

1. This Agreement may be amended when such an amendment is agreed to in writing by all Signatories. The amendment shall be effective on the date a copy signed by all of the Signatories is filed with the ACHP.

C. Amend Stipulation XV: Duration as follows:

1. Subsequent to its execution, this Agreement shall expire if its terms are not carried out within fifteen (15) years from the date of the execution of this amendment by the Agreement Signatories or 2040. Six (6) months prior to such time, the USACE shall consult with the other Signatories and consulting parties to reconsider the terms of the Agreement and amend it in accordance with Stipulation XIII above, if necessary.

SIGNATORY

USACE, NORFOLK DISTRICT

BY: _____ Digitally signed by AVICHAL.SONNY.BIMAL.103073 2339 Date: 2025.02.18 19:30:30 -08'00' DATE: _____

Sonny B. Avichal
Colonel, U.S. Army
Commanding

SIGNATORY

VIRGINIA DEPARTMENT OF HISTORIC RESOURCES

BY: Julie V. Langan DATE: **3/10/2025**

Julie Langan, *Director Department of Historic Resources and State Historic Preservation Officer*

INVITED SIGNATORY

VIRGINIA PORT AUTHORITY

BY: _____ DATE: 2/26/25

Stephen Edwards, *CEO and Executive Officer*

CONCURRING PARTY

NAVAL HISTORY AND HERITAGE COMMAND

BY: _____ DATE: 12 MAR 25

Samuel J. Cox, *Director*

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-10**11**

February 28, 2024

SUBJECT: Norfolk Harbor Channel Deepening (DHR # 2016-0523); Anchorage F Limited Re-evaluation Report, Section 106 Compliance

Mr. Jonathon Connolly, Archaeologist
Division of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Dear Mr. Connolly:

The US Army Corps of Engineers (USACE) with non-federal sponsor the Virginia Port Authority (VPA), plan to enlarge and deepen Anchorage F in Norfolk Harbor for the referenced project. In accordance with Stipulation V: Changes in Project Scope of the project Programmatic Agreement (PA) executed in June 2017, we are consulting with you, VPA and the Naval History and Heritage Command (NHHC) on our preliminary area of potential effects (APE), previous surveys and known cultural resources in the APE, and plans to identify historic properties for the undertaking. These parties are also a signatory and concurring party to the PA, respectively. In addition, we are notifying potentially interested tribal governments.

Anchorage F is not deep or wide enough to accommodate vessels currently calling and anticipated to call at the port. Anchorage F is currently authorized at -51 ft Mean Lower Low Water (MLLW) and approximately 3,620 feet in diameter (see attached figure). The Norfolk Harbor federal navigation channels are currently being deepened to -55 ft MLLW. The proposed change could deepen Anchorage F up to -55 ft MLLW and widen it up to 3,840 ft diameter in the vicinity of the existing anchorage.

The direct APE as defined by 36 CFR 800.16(d) encompasses all options evaluated within the usable space of the proposed anchorage diameter, plus an area to daylight the slopes to the existing river bottom and a 100 ft buffer, and improvements to any approaches (see attached map). This area would consist of 1,139 acres. Per the pre-amble of the PA, the State Historic Preservation Officer (SHPO) has agreed the undertaking would not have adverse visual or noise effects to historic properties, if present, therefore, USACE has not defined an indirect visual APE and will not conduct a detailed visual effects assessment on historic properties.

The direct APE has been partially previously surveyed for cultural resources. Table 1 summarizes those surveys and the attached figure shows those locations.

TABLE 1: Previous Phase I Archaeological Surveys in the APE

DHR Survey #	Surveyor & Year	Results
NR -058	Tidewater Atlantic Research 1996	B2-02 anomaly recommended for further investigation. Subsequent diver investigation with probing to 8 ft failed to find a source for the reading. As target must be deeper than 8 ft below the proposed depth for Anchorage F at the time, no further work was recommended unless deeper dredging is proposed.
CS-055	Louis Berger Group 1999	No resources in the current APE.
HT-121	Thompson Maritime Consulting 2015	No resources in the current APE.
HT-137	Thompson Maritime Consulting, LLC 2018	No resources in the current APE.
	Tidewater Atlantic Research 2020	No resources in the current APE.

Below provides the report references for the above surveys with all on file at the DHR.

1. DHR Report Number NR-058. 1996. *Underwater Archaeological Survey of Hampton Roads Channels, Norfolk Harbor, Virginia.* Tidewater Atlantic Research, Washington, North Carolina authored by Gordon Watts.
2. DHR Report Number CS-055. 1999. *Draft Cultural Resources Survey Hampton Roads Crossing Study Candidate Build Alternatives 1, 9 and 2.* Authors Sara, Timothy, Stuart Dixon, Eric Griffits, Phillip Pendleton, and J. Cox.
3. DHR Report Number HT-121. 2015. *Remote Sensing and Phase I Archaeological Survey for the Intended Pathway Adjacent to the East Side of the Hampton*

Roads Bridge-Tunnel. Thompson Maritime Consulting. Authored by Matthew Thompson.

4. 2020: *Submerged Cultural Resource Remote-Sensing Survey Norfolk Harbor Navigation Improvement Channels Norfolk, Virginia* and *Appendices A-ZZ.* Norfolk Harbor Channels Vol. 1 Part 2, April 2020 by Tidewater Atlantic Research, Washington, North Carolina. Authored by Gordon Watts.

Department of Historic Resources (DHR) provided review comments and concurrence to recommendations for the more recent report on December 22, 2020.

Previously documented archaeological surveys have not identified any resources within the direct APE; two known historic sites encompass the APE (see attached map).

USACE with the assistance of the VPA as the non-federal sponsor will ensure submerged archaeological survey shall be conducted in the APE in accordance with measures in Stipulation IB. Archaeological Historic Properties and Attachment B of the PA. All work will be conducted in accordance with the *Secretary of the Interior's Standards and Guidelines for Archaeology* (48 FR 44716- 44742, September 29, 1983), and the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia* (October 2011, revised 2017) by persons who meet the *Secretary of the Interior's Professional Qualifications*.

The PA indicates dredged material would be disposed of in facilities approved for that use. Dredged material that is suitable for other beneficial uses could be recovered from Anchorage F with multiple beneficial uses yet to be identified. As such, USACE proposes that Section 106 compliance for any beneficial use of Anchorage F dredge would be completed separately from the consultation for enlargement of Anchorage F.

A virtual public meeting was held on February 7, 2024 and no comments on cultural resources were received. The LRR will have additional opportunities for public involvement. The project website is at https://www.nao.usace.army.mil/Missions/Civil-Works/Anchorage-F/.

Thank you in advance for your review. Please contact me at (757) 630-9074 or susan.g.miller@usace.army.mil if you need additional information or assistance.

Sincerely,

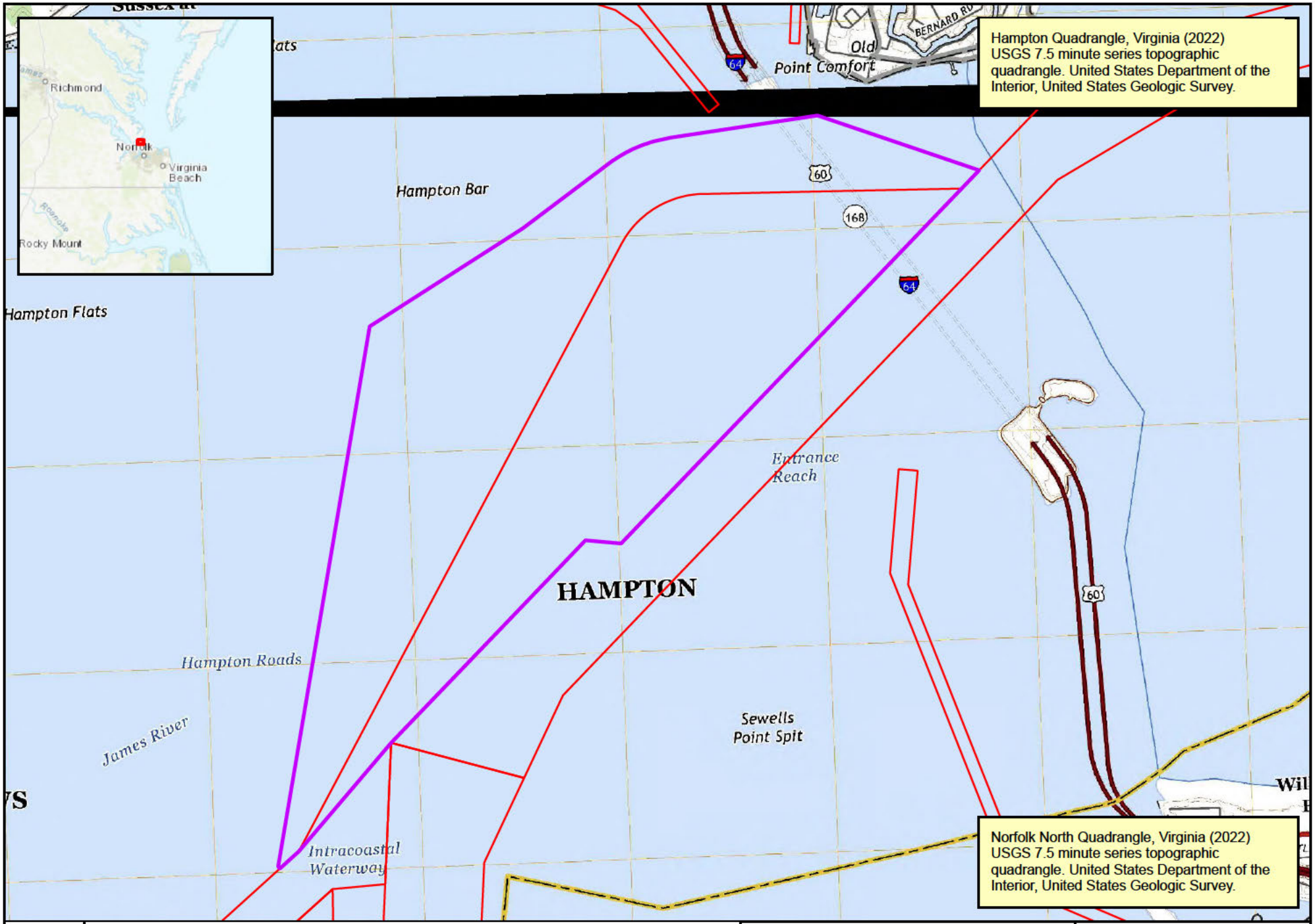
MILLER.SUSAN.GLENETTE.1364984355

Digitally signed by MILLER.SUSAN.GLENETTE.1364984355
Date: 2024.02.28 10:35:12 -05'00'

Susan G. Miller, M.A., R.P.A.
District Archaeologist/Tribal Liaison

Attachments

Cc:
Andrew Sinclair, Virginia Port Authority



US Army Corps of Engineers
Norfolk District

Norfolk Harbor

Area of Potential Effect

Federal Navigation Channel

Area of Potential Effect

0 1,000 2,000 Feet

Map: Anchorage_F_Expansion
Developed By: K White
Date of Map: 2/15/2024

COMMONWEALTH of VIRGINIA

Department of Historic Resources

Travis A. Voyles
Secretary of Natural and Historic Resources

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April 3, 2024

Ms. Susan Miller
U.S. Army Corps of Engineers
803 Front Street
Norfolk, Virginia 23510

RE: *Norfolk Harbor Channel Deepening*
City of Norfolk, Virginia
DHR File No. 2016-0523

Dear Ms. Miller:

The Virginia Department of Historic Resources (DHR) has received your letter initiating the Section 106 consultation process in compliance with the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108) and its implementing regulations (36 CFR § 800).

The initiation letter indicates that the Army Corps of Engineers (Corps) is consulting on the delineation of the project area of potential effect (APE), previous surveys and known cultural resources in the APE, and plans to identify historic properties for the undertaking. It is DHR's understanding that submerged archaeological survey shall be conducted in the APE in accordance with measures in Stipulation IB. Archaeological Historic Properties and Attachment B of the project Programmatic Agreement (PA) executed in June 2017.

DHR ***concurs*** with the Corps delineation of the APE and supports the Corps proposed efforts to inventory the APE by way of conducting a submerged archaeological survey. DHR looks forward to reviewing the resulting report.

If you have any questions regarding our comments, please contact me at 804-482-8089 or via email, jonathan.connolly@dhr.virginia.gov.

Sincerely,

Jonathan D. Connolly
Jonathan D. Connolly, Project Review Archaeologist
Review and Compliance Division

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DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-10**11**

February 28, 2024

SUBJECT: Norfolk Harbor Channel Deepening (DHR # 2016-0523); Anchorage F Limited Re-evaluation Report, Section 106 Compliance

Ms. Katelyn Lucas, Phd. Candidate
Tribal Historic Preservation Officer
Delaware Nation
P.O. Box 825
Anadarko, OK 73005

Dear Ms. Lucas:

The US Army Corps of Engineers (USACE) with non-federal sponsor the Virginia Port Authority (VPA), plan to enlarge and deepen Anchorage F in Norfolk Harbor for the referenced project. We consulted the Delaware Nation on the overall Norfolk Harbor Deepening project in 2017 and signed a Section 106 Programmatic Agreement (PA) the same year that the Nation did not participate in. As seven years have elapsed since then, we are inviting the Nation to participate as a consulting party in the Section 106 compliance process for Anchorage F. Please find below for your review and comment definition of our preliminary area of potential effects (APE), previous surveys and known cultural resources in the APE and plans to identify historic properties for the undertaking. We are concurrently consulting with the State Historic Preservation Officer (SHPO), VPA and the Naval History and Heritage Command as signatories and concurring parties to the *Programmatic Agreement Among the United States Army Corps of Engineers, The Virginia State Historic Preservation Office, and the Virginia Port Authority Regarding Norfolk Harbor Channels Deepening, Cities Of Hampton, Newport News, Norfolk, Portsmouth, And Virginia Beach, Virginia*.

Anchorage F is not deep or wide enough to accommodate vessels currently calling and anticipated to call at the port. Anchorage F is currently authorized at -51 ft Mean Lower Low Water (MLLW) and approximately 3,620 feet in diameter (see attached figure). The Norfolk Harbor federal navigation channels are currently being deepened to -55 ft MLLW. The proposed change could deepen Anchorage F up to -55 ft MLLW and widen it up to 3,840 ft diameter in the vicinity of the existing anchorage.

The direct APE as defined by 36 CFR 800.16(d) encompasses all options evaluated within the usable space of the proposed anchorage diameter, plus an area to daylight

the slopes to the existing river bottom and a 100 ft buffer, and improvements to any approaches (see attached map). This area would consist of 1,139 acres. Per the preamble of the PA, the SHPO has agreed the undertaking would not have adverse visual or noise effects to historic properties, if present, therefore, USACE has not defined an indirect visual APE and will not conduct a detailed visual effects assessment on historic properties.

The direct APE has been partially previously surveyed for cultural resources. Table 1 summarizes those surveys and the attached figure shows those locations.

TABLE 1: Previous Phase I Archaeological Surveys in the APE

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Below provides the report references for the above surveys with all on file at the DHR.

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Department of Historic Resources (DHR) provided review comments and concurrence to recommendations for the more recent report on December 22, 2020.

Previously documented archaeological surveys have not identified any resources within the direct APE; whereas two known historic sites encompass the APE (see attached map). [redacted]

USACE with the assistance of the VPA as the non-federal sponsor will ensure submerged archaeological survey shall be conducted in the APE in accordance with measures in Stipulation IB. Archaeological Historic Properties and Attachment B of the PA. All work will be conducted in accordance with the *Secretary of the Interior's Standards and Guidelines for Archaeology* (48 FR 44716- 44742, September 29, 1983), and the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia* (October 2011, revised 2017) by persons who meet the *Secretary of the Interior's Professional Qualifications*.

The PA indicates dredged material would be disposed of in facilities approved for that use. Dredged material that is suitable for other beneficial uses could be recovered

from Anchorage F with multiple beneficial uses yet to be identified. As such, USACE proposes that Section 106 compliance for any beneficial use of Anchorage F dredge would be completed separately from the consultation for enlargement of Anchorage F.

A virtual public meeting was held on February 7, 2024 and no comments on cultural resources were received. The LRR will have additional opportunities for public involvement. The project website is at https://www.nao.usace.army.mil/Missions/Civil-Works/Anchorage-F/.

Thank you in advance for your review and comments. We would appreciate your comments by March 29, 2024. Please contact me at (757) 630-9074 or susan.g.miller@usace.army.mil if you need additional information or assistance.

Sincerely,

MILLER.SUSAN.GLENETTE.1364984355

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Date: 2024.02.28 10:08:53 -05'00'

Susan G. Miller, M.A., R.P.A.
District Archaeologist/Tribal Liaison

Attachments

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-10**11**

February 28, 2024

SUBJECT: Norfolk Harbor Channel Deepening (DHR # 2016-0523); Anchorage F Limited Re-evaluation Report, Section 106 Compliance

Chief Keith F. Anderson
Environmental Project Director
Nansemond Indian Nation
1001 Pembroke Lane
Suffolk, VA 23434

Dear Chief Anderson:

The US Army Corps of Engineers (USACE) with non-federal sponsor the Virginia Port Authority (VPA), plan to enlarge and deepen Anchorage F in Norfolk Harbor for the referenced project. We consulted the Nation on the overall Norfolk Harbor Deepening project in 2017 and signed a Section 106 Programmatic Agreement (PA) the same year that the Nation did not participate in. As seven years have elapsed since then, we are inviting the Nation to participate as a consulting party in the Section 106 compliance process for Anchorage F. Please find below for your review and comment the definition of our preliminary area of potential effects (APE), previous surveys and known cultural resources in the APE, and plans to identify historic properties for the undertaking. We are concurrently consulting with the State Historic Preservation Officer (SHPO), VPA and the Naval History and Heritage Command as signatories and concurring parties to the *Programmatic Agreement Among The United States Army Corps Of Engineers, The Virginia State Historic Preservation Office, and the Virginia Port Authority Regarding Norfolk Harbor Channels Deepening, Cities Of Hampton, Newport News, Norfolk, Portsmouth, and Virginia Beach, Virginia*.

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The direct APE as defined by 36 CFR 800.16(d) encompasses all options evaluated within the usable space of the proposed anchorage diameter, plus an area to daylight

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The direct APE has been partially previously surveyed for cultural resources. Table 1 summarizes those surveys and the attached figure shows those locations.

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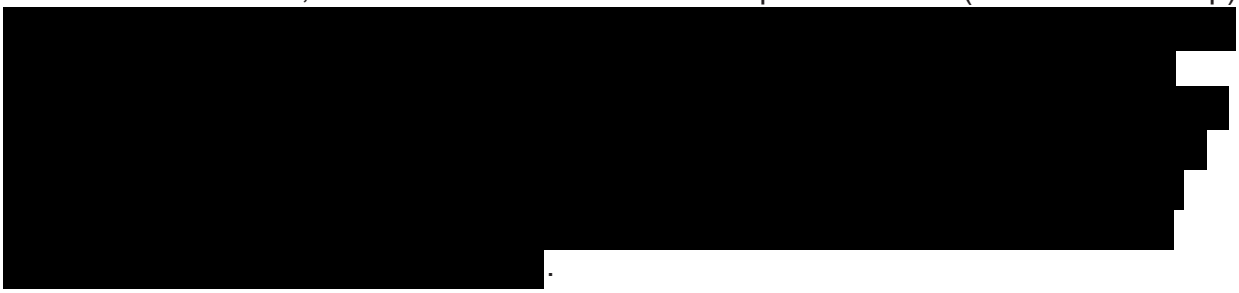

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USACE with the assistance of the VPA as the non-federal sponsor will ensure submerged archaeological survey shall be conducted in the APE in accordance with measures in Stipulation IB. Archaeological Historic Properties and Attachment B of the PA. All work will be conducted in accordance with the *Secretary of the Interior's Standards and Guidelines for Archaeology* (48 FR 44716- 44742, September 29, 1983), and the SHPO's *Guidelines for Conducting Historic Resources Survey in Virginia* (October 2011, revised 2017) by persons who meet the *Secretary of the Interior's Professional Qualifications*.

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A virtual public meeting was held on February 7, 2024 and no comments on cultural resources were received. The LRR will have additional opportunities for public involvement. The project website is at https://www.nao.usace.army.mil/Missions/Civil-Works/Anchorage-F/.

Thank you in advance for your review and comments. We would appreciate your comments by March 29, 2024. Please contact me at (757) 630-9074 or susan.g.miller@usace.army.mil if you need additional information or assistance.

Sincerely,

MILLER.SUSAN.GLENETTE.1364984355

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Date: 2024.02.28 09:29:11 -05'00'

Susan G. Miller, M.A., R.P.A.
District Archaeologist/Tribal Liaison

Attachments

Cc:
Cameron Bruce, Environmental Program Coordinator, Nansemond Indian Nation
Tim Emery, Tribal Administrator, Nansemond Indian Nation
Ellen Chapman, Cultural Heritage Partners
Marion Werkheiser, Cultural Heritage Partners
Elizabeth Horton, Cultural Heritage Partners

DEPARTMENT OF THE ARMY
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February 28, 2024

SUBJECT: Norfolk Harbor Channel Deepening (DHR # 2016-0523); Anchorage F Limited Re-evaluation Report, Section 106 Compliance

Ms. Shaleigh R. Howells
Cultural Resource Director & Museum Director
Pamunkey Indian Tribal Resource Office
1054 Pocahontas Trail
King William, VA 23086

Dear Ms. Howells:

The US Army Corps of Engineers (USACE) with non-federal sponsor the Virginia Port Authority (VPA), plan to enlarge and deepen Anchorage F in Norfolk Harbor for the referenced project. We consulted the Pamunkey Indian Tribe on the overall Norfolk Harbor Deepening project in 2017 and signed a Section 106 Programmatic Agreement (PA) the same year that the Tribe did not participate in. As seven years have elapsed since then, we are inviting the Tribe to participate as a consulting party in the Section 106 compliance process for Anchorage F. Please find below for your review and comment definition of our preliminary area of potential effects (APE), previous surveys and known cultural resources in the APE and plans to identify historic properties for the undertaking. We are concurrently consulting with the State Historic Preservation Officer (SHPO), VPA and the Naval History and Heritage Command as signatories and concurring parties to the *Programmatic Agreement Among the United States Army Corps o f Engineers, The Virginia State Historic Preservation Office, and the Virginia Port Authority Regarding Norfolk Harbor Channels Deepening, Cities Of Hampton, Newport News, Norfolk, Portsmouth, And Virginia Beach, Virginia*.

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Thank you in advance for your review and comments. We would appreciate your comments by March 29, 2024. Please contact me at (757) 630-9074 or susan.g.miller@usace.army.mil if you need additional information or assistance.

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MILLER.SUSAN.GLENETTE.1364984355

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Date: 2024.02.28 09:44:43 -05'00'

Susan G. Miller, M.A., R.P.A.
District Archaeologist/Tribal Liaison

Attachments

Cc:
Chief Robert Gray, Pamunkey Indian Tribe
Kendall Stevens, Tribal Preservation Officer, Pamunkey Indian Tribe

DEPARTMENT OF THE ARMY
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February 28, 2024

SUBJECT: Norfolk Harbor Channel Deepening (DHR # 2016-0523); Anchorage F Limited Re-evaluation Report, Section 106 Compliance

Mr. Bradley J. Kreuger, Archaeologist
Underwater Archaeology Branch
Naval History and Heritage Command
805 Kidder Breese St, SE
Washington, DC 20374-060

Dear Mr. Kreuger:

The US Army Corps of Engineers (USACE) with non-federal sponsor the Virginia Port Authority (VPA), plan to enlarge and deepen Anchorage F in Norfolk Harbor for the referenced project. In accordance with Stipulation V: Changes in Project Scope of the project Programmatic Agreement (PA) executed in June 2017, we are consulting with you, SHPO and VPA on our preliminary area of potential effects (APE), previous surveys and known cultural resources in the APE, and plans to identify historic properties for the undertaking. These parties are also a signatory and concurring party to the PA, respectively. In addition, we are notifying potentially interested tribal governments.

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Sincerely,

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Date: 2024.02.28 10:26:52 -05'00'

Susan G. Miller, M.A., R.P.A.
District Archaeologist/Tribal Liaison

Attachments

From: Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA)
To: Miller, Susan G CIV USARMY CENAO (USA)
Subject: RE: USACE Anchorage F Expansion Section 106 Initiation
Date: Thursday, March 7, 2024 10:43:16 AM

Good morning, Susan:

Thank you again for the Section 106 initiation letter dated February 28, 2024, and supplemental materials for the Anchorage F Limited Re-evaluation Report. As you know, the Naval History and Heritage Command (NHHC) preserves, protects, and manages the U.S. Navy's worldwide collection of sunken military craft as archaeological sites for scientific research, interpretation, and public education. These sites are afforded protection from unauthorized disturbance under the Sunken Military Craft Act of 2004, as amended.

As stated in your letter and during the February 5, 2024, interagency kick-off meeting, the project proposes the enlargement and deepening of Anchorage F in Norfolk Harbor. This project is one component of the larger Norfolk Harbor and Channels Deepening Project. The anchorage, which is currently designed and maintained as a 50-foot deep by 3,000-foot diameter circle for free-swinging bow anchoring, has been deemed insufficiently large and deep enough to accommodate vessel traffic. In 2018, the project received authorization to enlarge and deepen the anchorage to 51 feet and increase the diameter to 3,620 feet. During the planning effort for this modification, the USACE Norfolk District, Virginia Port Authority, and Virginia Department of Historic Resources (State Historic Preservation Office) entered into a Section 106 Programmatic Agreement (PA) in 2017 to ensure the avoidance and identification of archaeological historic properties within the project area. NHHC signed the PA as a concurring party. The current proposal seeks to further expand the anchorage by deepening it to 55 feet deep and widening it up to 3,840 feet in diameter, which requires further Section 106 consultation per the provisions of the PA (Stipulation IV).

We reviewed the project materials and concur with the proposed Area of Potential Effect (APE) for this undertaking, as the boundary appears to sufficiently account for the increase in size of the anchorage. [redacted] As mentioned in your letter and depicted in the supplemental materials, the area also features prominently in Civil War history, as it served as the site for two prominent naval engagements: the Battle of Sewell's Point (May 1961) and the Battle of the Ironclads (March 1962). Given this history [redacted], we are pleased to learn the project is adhering to the provisions of the executed PA and will conduct the necessary underwater archaeological survey to identify potential historic properties (Stipulation I.B). We very much look forward to receiving and reviewing the forthcoming archaeological survey report once it is available.

For your awareness, NHHC published its own "Methods and Guidelines for Conducting Underwater Archaeological Fieldwork" in 2019, available online at the following address: https://www.history.navy.mil/research/underwater-archaeology/sites-and-projects/Guidelines.html. These guidelines are meant to provide a framework for developing and executing research plans for

underwater archaeological field projects, conservation and curation of collected artifacts and data, report generation, and dissemination of the results of research. Please feel free to share or reference this guidance for future projects involving underwater archaeological survey.

As resource identification efforts get underway, should any questions arise regarding sunken military craft or underwater archaeology, please do not hesitate to reach out.

Thank you for initiating Section 106 and the opportunity to comment. We look forward to consulting with you on this project.

Best,
Brad

--
Bradley A. Krueger, MA, RPA
Archaeologist

Underwater Archaeology Branch
Naval History and Heritage Command
805 Kidder Breese St, SE
Washington, DC 20374-5060
Tel: (202) 685-1206
Email: bradley.a.krueger.civ@us.navy.mil
http://www.history.navy.mil/research/underwater-archaeology.html

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From: Miller, Susan G CIV USARMY CENAO (USA) <Susan.G.Miller@usace.army.mil>
Sent: Monday, March 4, 2024 11:40 AM
To: Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA) <bradley.a.krueger.civ@us.navy.mil>
Subject: RE: USACE Anchorage F Expansion Section 106 Initiation

Definitely something wrong, as I am getting emails verifying it was sent.

Not that many files, I will just email them to you attached.

Thanks for your patience!

From: Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA) <bradley.a.krueger.civ@us.navy.mil>
Sent: Monday, March 4, 2024 11:23 AM
To: Miller, Susan G CIV USARMY CENAO (USA) <Susan.G.Miller@usace.army.mil>
Subject: RE: USACE Anchorage F Expansion Section 106 Initiation

Hi, Susan:

Thank you. I still haven't received the files, so I'm curious if everything with DoD SAFE uploaded/sent correctly. If it would be helpful, I can request a drop-off in DoD SAFE, but that may not be necessary.

Please keep me posted and let me know if there's anything I can do on my end.

Best,
Brad

--
Bradley A. Krueger, MA, RPA
Archaeologist

Underwater Archaeology Branch
Naval History and Heritage Command
805 Kidder Breese St, SE
Washington, DC 20374-5060
Tel: (202) 685-1206
Email: bradley.a.krueger.civ@us.navy.mil
http://www.history.navy.mil/research/underwater-archaeology.html

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From: Miller, Susan G CIV USARMY CENAO (USA) <Susan.G.Miller@usace.army.mil>
Sent: Monday, March 4, 2024 8:34 AM
To: Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA) <bradley.a.krueger.civ@us.navy.mil>
Subject: RE: USACE Anchorage F Expansion Section 106 Initiation

Good morning Brad, just dropped them off and sent to you now. Please let me know if you don't receive them.

Thanks,

Susan

From: Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA) <bradley.a.krueger.civ@us.navy.mil>
Sent: Monday, March 4, 2024 7:36 AM
To: Miller, Susan G CIV USARMY CENAO (USA) <Susan.G.Miller@usace.army.mil>
Subject: RE: USACE Anchorage F Expansion Section 106 Initiation

Hi, Susan:

Just following up, as I don't recall seeing a DoD SAFE message come through. Hopefully I did not miss it, but if I did, could you please resend the link?

Thank you.

Best,
Brad

--

Bradley A. Krueger, MA, RPA
Archaeologist

Underwater Archaeology Branch
Naval History and Heritage Command
805 Kidder Breese St, SE
Washington, DC 20374-5060
Tel: (202) 685-1206
Email: bradley.a.krueger.civ@us.navy.mil
http://www.history.navy.mil/research/underwater-archaeology.html

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From: Miller, Susan G CIV USARMY CENAO (USA) <Susan.G.Miller@usace.army.mil>
Sent: Wednesday, February 28, 2024 11:49 AM
To: Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA) <bradley.a.krueger.civ@us.navy.mil>
Subject: RE: USACE Anchorage F Expansion Section 106 Initiation

Sorry Brad, I knew there was something but didn't recall it being zip files. Will set up DODSafe shortly.

From: Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA) <bradley.a.krueger.civ@us.navy.mil>
Sent: Wednesday, February 28, 2024 11:42 AM
To: Miller, Susan G CIV USARMY CENAO (USA) <Susan.G.Miller@usace.army.mil>
Subject: Re: USACE Anchorage F Expansion Section 106 Initiation

Good morning, Susan:

Thank you for your message.

I successfully received the USACE Anchorage F Section 106 initiation letter. Unfortunately, however, our email server rejected the other supporting documents (zip files never come through). Would it be possible to send these to me via DoD SAFE?

Once received, we will review these materials and provide a response by March 29, 2024.

Thank you for your help!

Best,
Brad

--

Bradley A. Krueger, MA, RPA

Archaeologist

Underwater Archaeology Branch
Naval History and Heritage Command
805 Kidder Breese St, SE

Washington, DC 20374-5060
Tel: (202) 685-1206

Email: bradley.a.krueger.civ@us.navy.mil

http://www.history.navy.mil/research/underwater-archaeology.html

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From: Miller, Susan G CIV USARMY CENAO (USA) <Susan.G.Miller@usace.army.mil>
Sent: Wednesday, February 28, 2024 11:12 AM
To: Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA) <bradley.a.krueger.civ@us.navy.mil>
Cc: Martin, Zachary P (Zach) CIV (USA) <Zachary.Martin@usace.army.mil>
Subject: USACE Anchorage F Expansion Section 106 Initiation

Some parts of this message were removed because they violated your mail server's policies.

Anchorage F LRR Attach 2016-0523.zip was removed from the message because it violates your mail server's policy.

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-10**11**

March 24, 2025

SUBJECT: Norfolk Harbor Channel Deepening (DHR # 2016-0523); Anchorage F Section 106 Compliance: Survey Report and Diver Investigation Research Design

Ms. Samantha Henderson, Archaeologist
Division of Review and Compliance
Virginia Department of Historic Resources
2801 Kensington Avenue
Richmond, VA 23221

Dear Ms. Henderson:

As you are aware, the US Army Corps of Engineers (USACE) with non-federal sponsor the Virginia Port Authority (VPA), plan to enlarge and deepen Anchorage F in Norfolk Harbor for the referenced project. Per the *Programmatic Agreement Among the United States Army Corps of Engineers, the Virginia State Historic Preservation Office, and the Virginia Port Authority Regarding Norfolk Harbor Channels Deepening, Cities of Hampton, Newport News, Norfolk, Portsmouth, and Virginia Beach, Virginia*, as amended, USACE is consulting with you on the results of the Phase I archaeological survey results and the proposed diver investigation plan. We are also concurrently consulting with VPA and the Naval History and Heritage Command. We invited the Delaware Nation, Nansemond Indian Nation, and the Pamunkey Indian Tribe on February 28, 2024 to be consulting parties in the Section 106 process for this undertaking, but no one responded.

VPA contracted with Tidewater Atlantic Research (TAR) to complete a Phase I submerged archaeological survey of the Anchorage F area of potential effects (APE) per Stipulation IB and Attachment B of the Agreement. The survey of approximately 1,139 acres was completed in 2024, and the consultant submitted a copy of their report *Submerged Cultural Resource Remote-Sensing Survey Anchorage F Survey Area, Hampton Roads* (Watts Jr., 2024) to your office in December 2024. The remote sensing survey consisted of using magnetometer, high resolution sidescan sonar, and sub-bottom profiler methods. Out of the 243 magnetic detections and 29 sonar detections, five areas of potential cultural remains were identified (see Table A below and attached figure). All five locations were recommended for avoidance, or further investigation if avoidance is not feasible.

[redacted]

USACE has done a preliminary engineering analysis that indicates only the [redacted] area can be avoided by adjusting the design of the approach to the proposed Anchorage F. Therefore, we propose to conduct diver investigation on the other four anomalies/targets to determine their basic nature and potential National Register of Historic Places eligibility, if possible. Please find attached for your review and comment a diver investigation research plan produced by SEARCH, LLC, on behalf of VPA titled *Research Design Dive Plan: Underwater Investigation of Norfolk Harbor - Anchorage F, Hampton Roads, Virginia*.

Thank you in advance for your review. Please contact me at (757) 630-9074 or susan.g.miller@usace.army.mil if you need additional information or assistance.

Sincerely,

MILLER.SUSAN.GLENETTE.1364984355

Digitally signed by MILLER.SUSAN.GLENETTE.1364984355
Date: 2025.03.28 08:32:48 -04'00'

Susan G. Miller, M.A., R.P.A.
District Archaeologist/Tribal Liaison

Attachments
Cc:
Andrew Sinclair, Virginia Port Authority
Zach Martin, USACE NAO EAS

COMMONWEALTH of VIRGINIA

Department of Historic Resources

2801 Kensington Avenue, Richmond, Virginia 23221

Stefanie K. Taillon
Secretary of Natural and Historic Resources

Julie V. Langan
Director

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

April 24, 2025

Ms. Susan Miller
U.S. Army Corps of Engineers
803 Front Street
Norfolk, Virginia 22510

Re: Norfolk Harbor Channel Deepening Anchorage F
Norfolk, Virginia
DHR File No. 2016-0523

Dear Ms. Miller:

The Department of Historic Resources (DHR) has received for our review and comment the report entitled *Submerged Cultural Resources Remote-Sensing Survey; Anchorage R Survey Area, Hampton Roads, Virginia* prepared by Tidewater Atlantic Research, Inc. The report was prepared in support of the Norfolk Harbor Channel Deepening Project (DHR File No. 2016-0523). Our comments are provided to the U.S Army Corps of Engineers (Corps) as assistance in meeting its responsibilities under Section 106 of the National Historic Preservation Act and the Programmatic Agreement executed in June 2017 for this undertaking.

The investigations and two (2) volume report plus appendices meet applicable standards and guidelines and DHR accepts the report as a reasonable and good faith effort to identify historic properties. The remote sensing survey identified five "buffer areas" within Anchorage F that contained magnetic anomalies consistent with possible historic vessel remains. [redacted] The consultant recommends avoidance of these buffer areas and DHR concurs.

DHR understands that the Corps has designed the proposed dredging operation to [redacted] DHR has received a research design for diver investigations of these areas and the associated magnetic anomalies prepared by SEARCH. Based on the information provided, DHR supports the proposed diver investigations and methodology outlined in the research design.

Thank you for your consideration of historic resources. Please contact me at samantha.henderson@dhr.virginia.gov or (804) 482-6088 if you have any questions or if we may provide any further assistance.

Sincerely,

Samantha Henderson, Director
Review and Compliance Division

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

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

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5357 Main Street
PO Box 519
Stephens City, VA 22655
Tel: (540) 868-7029
Fax: (540) 868-7033

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-10**11**

March 24, 2025

SUBJECT: Norfolk Harbor Channel Deepening (DHR # 2016-0523); Anchorage F Section 106 Compliance: Survey Report and Diver Investigation Research Design

Mr. Bradley J. Kreuger, Archaeologist
Underwater Archaeology Branch
Naval History and Heritage Command
805 Kidder Breese St, SE
Washington, DC 20374-060

Dear Mr. Kreuger:

As you are aware, the US Army Corps of Engineers (USACE) with non-federal sponsor the Virginia Port Authority (VPA), plan to enlarge and deepen Anchorage F in Norfolk Harbor for the referenced project. Per the *Programmatic Agreement Among the United States Army Corps of Engineers, the Virginia State Historic Preservation Office, and the Virginia Port Authority Regarding Norfolk Harbor Channels Deepening, Cities of Hampton, Newport News, Norfolk, Portsmouth, and Virginia Beach, Virginia*, as amended, USACE is consulting with you on the results of the Phase I archaeological survey results and the proposed diver investigation plan. We are also concurrently consulting with VPA and the Naval History and Heritage Command. We invited the Delaware Nation, Nansemond Indian Nation, and the Pamunkey Indian Tribe on February 28, 2024 to be consulting parties in the Section 106 process for this undertaking, but no one responded.

VPA contracted with Tidewater Atlantic Research (TAR) to complete a Phase I submerged archaeological survey of the Anchorage F area of potential effects (APE) per Stipulation IB and Attachment B of the Agreement. The survey of approximately 1,139 acres was completed in 2024 resulting in their report entitled *Submerged Cultural Resource Remote-Sensing Survey Anchorage F Survey Area, Hampton Roads* (Watts Jr., 2024). The report has been uploaded to DoDSAFE for your review. The remote sensing survey consisted of using magnetometer, high resolution sidescan sonar, and sub-bottom profiler methods. Out of the 243 magnetic detections and 29 sonar detections, five areas of potential cultural remains were identified (see Table A below and attached figure). All five locations were recommended for avoidance, or further investigation if avoidance is not feasible.

[redacted]

USACE has done a preliminary engineering analysis that indicates only the [redacted] area can be avoided by adjusting the design of the approach to the proposed Anchorage F. Therefore, we propose to conduct diver investigation on the other four anomalies/targets to determine their basic nature and potential National Register of Historic Places eligibility, if possible. Please find attached for your review and comment a diver investigation research plan produced by SEARCH, LLC, on behalf of VPA titled *Research Design Dive Plan: Underwater Investigation of Norfolk Harbor - Anchorage F, Hampton Roads, Virginia*.

Thank you in advance for your review. I would appreciate your response by April 14, 2025. Feel free to upload a marked up copy of the report or diving plan on DoDSAFE for me if you have comments. Please contact me at (757) 630-9074 or susan.g.miller@usace.army.mil if you need additional information or assistance.

Sincerely,

MILLER.SUSAN.GLENETTE.1364984355

Digitally signed by MILLER.SUSAN.GLENETTE.1364984355
Date: 2025.03.24 16:01:57 -04'00'

Susan G. Miller, M.A., R.P.A.
District Archaeologist/Tribal Liaison

Attachments
Cc:
Andrew Sinclair, Virginia Port Authority
Zach Martin, USACE NAO EAS

From:	Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA)
To:	Miller, Susan G CIV USARMY CENAO (USA)
Cc:	Martin, Zachary P (Zach) CIV (USA); Andrew Sinclair; Roberts, Victor L Jr CIV USARMY CENAO (USA)
Subject:	RE: Norfolk Harbor Deepening Anchorage F Phase I Report and Diver Investigation Plan Review
Date:	Thursday, April 10, 2025 10:58:46 AM

Good morning, Sue:

Thank you again for providing NHHC with a copy of the Phase I archaeological report and research design dive plan for the USACE Anchorage F Project in Hampton Roads, Virginia. These documents were reviewed for information pertaining to the Department of the Navy's sunken military craft.

As you know, NHHC manages the Navy's worldwide collection of sunken military craft as archaeological sites for scientific research, interpretation, and public education. While there are no known Navy sunken military craft believed to exist within the project's area of potential effect (APE), the area has a rich naval history that increases the potential for such resources to exist.

The 2024 Phase I archaeological report appears complete and well researched. That report proposes avoidance or additional investigation of five remote sensing targets within the project's APE that could represent submerged cultural resources:

As stated in the consultation letter dated 24 March 2025, USACE is able to avoid the [redacted] by adjusting the design of the approach to Anchorage F, so no further investigation is warranted for this target. The remaining four targets are planned to be investigated by divers for identification purposes and to assess their eligibility for inclusion in the National Register of Historic Places.

The corresponding research design dive plan is also well thought out and presented. The plan proposes using a combination of high-resolution remote sensing and diver investigations to assess each of the four targets. We have no objections to the proposed methodologies and only have one comment as it relates to the remote sensing survey. While the plan proposes 25-foot line spacing, NHHC recommends that the survey lanes allows for 100% overlap (i.e., 200% coverage) of the survey areas, while ensuring nadir overlap with the side-scan sonar. This approach will ensure there are no gaps in the collected data. The closely-spaced survey lines should achieve this metric, but since the research design did not specifically mention overlap or coverage, we thought it best to share this comment.

Please let us know if there are any questions or if additional discussions are warranted.

We appreciate the opportunity to review and comment. Thank you.

Best,
Brad

--
Bradley A. Krueger, MA, RPA
Archaeologist

Underwater Archaeology Branch
Naval History and Heritage Command
805 Kidder Breese St, SE
Washington, DC 20374-5060
Tel: (202) 685-1206
Email: bradley.a.krueger.civ@us.navy.mil
http://www.history.navy.mil/research/underwater-archaeology.html

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From: Krueger, Bradley A CIV USN NHHC WASHINGTON DC (USA)
Sent: Monday, April 7, 2025 7:54 AM
To: Miller, Susan G CIV USARMY CENAO (USA) <Susan.G.Miller@usace.army.mil>
Cc: Martin, Zachary P (Zach) CIV (USA) <Zachary.Martin@usace.army.mil>; Andrew Sinclair <asinclair@PortofVirginia.com>; Roberts, Victor L Jr CIV USARMY CENAO (USA) <Victor.L.Roberts2@usace.army.mil>
Subject: RE: Norfolk Harbor Deepening Anchorage F Phase I Report and Diver Investigation Plan Review

Hi, Sue:

Thank you for your message and sharing the archaeological reports related to Anchorage F (received). We will review and follow up with comments and aim to do so on or before April 14.

Thanks again.

Best,
-B

--
Bradley A. Krueger, MA, RPA
Archaeologist

Underwater Archaeology Branch
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