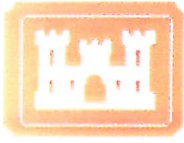


Jurisdictional Determination (JD) Information Checklist

U.S. Army Corps of Engineers
Baltimore District

This checklist is to assist applicants in submitting complete and proper information. This is not a comprehensive list, nor are all items mandatory for all projects. However, this list contains general information typically necessary for this office to confirm jurisdictional and/or wetland delineations as part of the permit process. Please consult with the Corps Regulatory Project Manager assigned to your project to determine the appropriate information for your project.

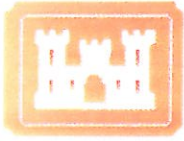
1. ☒ **Written request** for a wetland determination and/or delineation verification. This request should include written permission from the property owner or the owner's legal representative for Corps personnel to access the property.
2. ☒ **Name, address, and phone number** of the current property owner(s), applicant (if different), and agent, if applicable.
3. ☒ **Completed Approved Jurisdictional Determination Form(s)**. This form is available on the Corps website at:
http://www.usace.army.mil/CECW/Documents/cecwo/reg/cwa_guide/app_b_approved_jd_form.pdf
4. ☒ **Directions** to the site from the nearest interstate highway.
5. ☒ **Center coordinates of site** (latitude/longitude in degree decimal format). For linear projects, coordinates of each wetland and stream channel in the jurisdictional determination review area.
6. ☒ **Vicinity map** including the exact location of the proposed project. It should include the nearest intersection of two state highways, identifiable reference points, and concise directions to the site. A U.S. Geological Survey quadrangle map (at original 1:24,000 scale) and/or street atlas is preferred.
7. ☒ **Property boundaries or jurisdictional determination review area** (if different from property boundary) including bearing and distances of property line. On linear projects, start and terminus points are required along with bearings at any major directional change. The Corps evaluator will only determine jurisdiction for the review area(s) on the property that the proponent requests. Omission of other areas on the property does not constitute a "no jurisdiction" determination for those areas.
8. ☒ **Name of nearest waterbody**. If the stream is unnamed, identify the receiving waters (e.g., unnamed tributary to Cattail Creek).
9. ☒ **Site map** showing the following information:
 - a. ☒ **Scale** appropriate for evaluation (no greater than 1"=200'; 1"=50' or 1"=100' is preferred). On large or linear projects, multiple sheets of useful scale may be submitted provided an overview map is also provided;
 - b. ☒ **Location of all "potential" waters of the U.S.** including, but not limited to, streams (perennial, intermittent, ephemeral), wetlands, ponds, watercourses, and/or drainage ditches, etc.;
 - c. ☒ **Jurisdictional boundary line** (wetland/upland) staked or flagged in the field with corresponding flag number to points on map. Wetland boundaries shall be delineated in accordance with the 1987 Corps Wetland Delineation Manual. Show sampling points and transect(s) locations. Location of the Ordinary High Water (OHW), Mean High Water (MHW), and High Tide Line (HTL) should also be shown;
 - d. ☒ **Include** north arrow, title block with date, property name, drawing number/preparer, revision dates, roads and waterway names;
 - e. ☒ **Mapping grade (Differential Global Positioning System)**. Sub-meter (< 1m) accuracy GPS will be acceptable for preliminary field work only. DGPS will be acceptable final survey method provided horizontal positional accuracy is +/- 15 cm (0.5 feet). QA/QC documentation or certification by a Professional Land Surveyor is required for DGPS submissions. Physical survey of the site shall be to current standards and specifications.



Jurisdictional Determination (JD) Information Checklist

U.S. Army Corps of Engineers
Baltimore District

10. ☒ **Wetland Determination Data Forms for both upland and wetland points** (wetland points for each unique community type) along the delineated boundary. Data forms should be complete and legible. Specify the location of the data collected, the methodology used, and the rationale for the choice of methodology (i.e., routine, comprehensive, atypical, etc.). Blank wetland determination data forms are provided at <http://www.nab.usace.army.mil/Regulatory/JD/DataForm.pdf>
11. ☒ **Reference information** from as many of the following sources as are available (NOTE: all information should have source, data, and a scale):
- a. ☒ Aerial photographs (from multiple years where available) on sites greater than 5 acres;
 - b. ☒ National Wetland Inventory (NWI) and/or State Wetland maps;
 - c. ☒ Soil surveys from the most recent soil survey effort (data available from SSURGO or other source) including series descriptions. ;
 - d. ☒ FEMA 100-year floodplain boundary, and/or local FEMA approved Flood Plain studies;
 - e. ☒ USGS Quadrangle map;
 - f. ☒ Infrared aerial photography if available;
12. ☒ **Size of waters of the U.S.** (acreage of each wetland; linear feet and width of each stream) in the jurisdictional determination review area.
13. ☒ **Identify site safety** issues by checking with the Environmental Protection Agency (EPA), State (DEP in Pennsylvania or MDE in Maryland), or other local environmental protection information sources. Ensure site is free of contaminants that are considered hazardous and note any potential "Risk" areas on the site map.
- Nationwide EPA Overview: <http://www.epa.gov/reg3hwmd/>*
In MD: <http://www.mde.state.md.us/Programs/Land/Pages/Programs/landPrograms/index.aspx>
In PA: <http://www.depweb.state.pa.us/landrecwaste/cwp/view.asp>
14. ☒ **Site Access Permission verification.** On large or linear projects that cross multiple property boundaries, contact the individual property owners within 48 hours of the site visit to confirm permission for site access by all parties. Signed site access permission forms (or other USACE accepted notification forms) should be brought to the site visit along with a tracking log containing the most recent efforts to contact and verify site permissions with individual property owners. USACE employees are not allowed to access a site for jurisdiction verification unless explicit permission is granted by the property owner or his designee.
15. ☒ **Optional items** can be supplied that will assist in the Jurisdictional Determination review and subsequent permit evaluations:
- a. ☒ Note the general **climatological condition** of the site at the time of evaluation;
 - b. ☒ Onsite, ground level **photographs** from representative locations with photo index map identifying photograph location and direction;
 - c. ☒ **Cowardin Classification** of wetland areas.
 - d. ☒ **Current and historic land uses** (i.e., agricultural, industrial, residential, cropland, lawn, forested, etc.);
 - e. ☐ **Total acreage of wetlands** to be affected by the project (if known);
 - f. ☐ **Rate of average annual flow** in CFS for streams;
 - g. ☒ **General geologic and topographic conditions;**



Jurisdictional Determination (JD) Information Checklist

U.S. Army Corps of Engineers

Baltimore District

Pre-application Checklist

Note: While a pre-application meeting is not a required component of a Jurisdictional Determination, the Corps highly recommends using the JD field visit and JD review process as an opportune time to discuss possible impacts to regulated areas. Providing the Corps with as many of these items as is reasonably available generally will enhance the permit review process.

1. ☐ **Site development plans** (separate sheet(s); if available);
2. ☐ **Environmental Assessment** of aquatic resources on site;
3. ☐ **Adjacent property owner(s)** including names, addresses (mailbox number), and reference points (e.g. along the west side of Cattail Creek);
4. ☒ **Proposed and existing structures** clearly defined as such;
5. ☐ **Location, dimensions, and type** of sewage/septic system proposed;
6. ☐ **Dimensions of proposed structures** such as driveway, house, garage, and other;
7. ☐ **Structures** which are proposed in wetlands or other potential aquatic resources;
8. ☐ List of all **approvals and certifications** required and/or received from other Federal, Interstate, State, or local agencies for the development of the project site.

**JOINT FEDERAL/STATE APPLICATION FOR THE ALTERATION OF ANY FLOODPLAIN,
WATERWAY, TIDAL OR NONTIDAL WETLAND IN MARYLAND**

FOR AGENCY USE ONLY

Application Number _____	Date Determined Complete _____
Date Received by State _____	Date(s) Returned _____
Date Received by Corps _____	_____
Type of State permit needed _____	Date of Field Review _____
Type of Corps permit needed _____	Agency Performed Field Review _____

+++++

- Please submit 1 original and 4 copies of this form, required maps and plans to the Wetlands and Waterways Program as noted on the last page of this form.
- Any application which is not completed in full or is accompanied by poor quality drawings may be considered incomplete and result in a time delay to the applicant.

Please check one of the following:

RESUBMITTAL: _____ **APPLICATION AMENDMENT:** _____ **MODIFICATION TO AN EXISTING PERMIT:** _____
JURISDICTIONAL DETERMINATION ONLY _____ **X** **APPLYING FOR AUTHORIZATION** _____
PREVIOUSLY ASSIGNED NUMBER (RESUBMITTALS AND AMENDMENTS) _____
DATE June 6, 2013

1. APPLICANT INFORMATION:

APPLICANT NAME:

A. Name: Katharine Clark B. Daytime Telephone: 410-293-1027
C. Company: NSAA Environmental
D. Address: 183 Wainwright Road
E. City: Annapolis. State: MD Zip: 21402

AGENT/ENGINEER INFORMATION:

A. Name: _____ B. Telephone: _____
C. Company: _____
D. Address: _____
E. City: _____ State: _____ Zip: _____

ENVIRONMENTAL CONSULTANT:

A. Name: Mark Burchick B. Telephone: 410-267-0495
C. Company: Environmental Systems Analysis, Inc.
D. Address: 162 West Street
E. City: Annapolis State: MD Zip: 21401

CONTRACTOR (If known): _____

A. Name: _____ B. Telephone: _____
C. Company: _____
D. Address: _____
E. City: _____ State: _____ Zip: _____

PRINCIPAL CONTACT:

A. Name: Mark Burchick B. Telephone: 410-267-0495
C. Company: Environmental Systems Analysis, Inc.
D. Address: 162 West Street
E. City: Annapolis State: MD Zip: 21401

2. PROJECT DESCRIPTION

a. GIVE WRITTEN DESCRIPTION OF PROJECT:

Has any portion of the project been completed? _____ Yes _____ X No If yes, explain _____

b. ACTIVITY: Check all activities that are proposed in the wetland, waterway, floodplain, and nontidal wetland buffer as appropriate.

- A. _____ filling D. _____ Flooding or impounding F. _____ grading
B. _____ dredging Water G. _____ removing or destroying
C. _____ excavating E. _____ Draining vegetation
H. _____ building structures

Area for item(s) checked: Wetland -- _____ (sq. ft.) Buffer (Nontidal Wetland Only) -- _____ (sq. ft.)

Expanded Buffer (Nontidal Wetland Only) _____ -- _____ (sq. ft.)

Length of stream affected _____ (linear feet)

c. TYPE OF PROJECTS: Project Dimensions

For each activity, give overall length and width (in feet), in columns 1 and 2. For multiple activities, give total area of disturbance in square feet in column 3. For activities in tidal waters, give maximum distance channelward (in feet) in column 4. For dam or small ponds, give average depth (in feet) for the completed project in column 5. Give the volume of fill or dredged material in column 6.

	Length (Ft.) 1	Width (Ft.) 2	Area Sq. Ft. 3	Maximum/Average Channelward Encroachment 4	Pond Depth 5	Volume of fill/dredge material (cubic yards) below MHW or OHW 6
A. _____ Bulkhead*	_____	_____	_____	_____	_____	_____
B. _____ Revetment*	_____	_____	_____	_____	_____	_____
C. _____ Vegetative Stabilization	_____	_____	_____	_____	_____	_____
D. _____ Gabions	_____	_____	_____	_____	_____	_____
E. _____ Groins	_____	_____	_____	_____	_____	_____
F. _____ Jetties	_____	_____	_____	_____	_____	_____
G. _____ Boat Ramp	_____	_____	_____	_____	_____	_____
H. _____ Pier*	_____	_____	_____	_____	_____	_____
I. _____ Breakwater	_____	_____	_____	_____	_____	_____
J. _____ Repair & Maintenance	_____	_____	_____	_____	_____	_____
K. _____ Road Crossing	_____	_____	_____	_____	_____	_____
L. _____ Utility Line	_____	_____	_____	_____	_____	_____
M. _____ Outfall Construction	_____	_____	_____	_____	_____	_____
N. _____ Small Pond	_____	_____	_____	_____	_____	_____
O. _____ Dam	_____	_____	_____	_____	_____	_____
P. _____ Lot Fill	_____	_____	_____	_____	_____	_____
Q. _____ Building Structures	_____	_____	_____	_____	_____	_____
R. _____ Culvert	_____	_____	_____	_____	_____	_____
S. _____ Bridge	_____	_____	_____	_____	_____	_____
T. _____ Stream Channelization	_____	_____	_____	_____	_____	_____
U. _____ Parking Area	_____	_____	_____	_____	_____	_____
V. _____ Dredging*	_____	_____	_____	_____	_____	_____

W. 1. _____ New 2. _____ Maintenance 3. _____ Hydraulic 4. _____ Mechanical
X Other (explain) _____ Impacts are not yet determined

***** For projects indicated with an asterisk refer to the sample plans and checklists found in the January 1988 Joint Application booklet.

d. **PROJECT PURPOSE:** Give brief written description of the project purpose:

3. PROJECT LOCATION:

a. LOCATION INFORMATION:

A. County: Anne Arundel B. City: _____ C. Name of waterway or closest waterway Chesapeake Bay
D. State stream use class designation: Use II
E. Site Address or Location: Greenbury Point, Naval Station Annapolis, Greenbury Point Road

F. Directions from nearest intersection of two state roads: From U.S. Rt. 50, take exit 24 towards Annapolis (Rowe Boulevard, MD Rt. 70). Turn left onto Taylor Avenue (MD Rt. 435). Turn right onto Annapolis Street and continue onto the Naval Academy Bridge, across the Severn River. Make first right onto Baltimore Annapolis Boulevard. Follow road until it turns into Greenbury Point Rd. The review areas are to the east on Greenbury Point.

G. Is your project located in the Chesapeake Bay Critical Area (generally within 1,000 feet of tidal waters or tidal wetlands)?:
X Yes _____ No

H. County Book Map Coordinates (Alexandria Drafting Co.); Excluding Garrett and Somerset Counties:
Map: 5417 Letter: H Number: 2-4 (to the nearest tenth)

I. FEMA Floodplain Map Panel Number (if known): 0252E

J. 1. 38.9852 °N latitude 2. 76.4528 °W longitude

b. ACTIVITY LOCATION: Check one or more of the following as appropriate for the type of wetland/waterway where you are proposing an activity:

A. _____ Tidal Waters	F. _____ 100-foot buffer (nontidal wetland wetland of special State concern)	H. _____ 100-year floodplain (outside stream channel)
B. _____ Tidal Wetlands	G. _____ In stream channel	I. _____ River, lake, pond
C. _____ Special Aquatic Site (e.g., mudflat, vegetated shallows)	1. _____ Tidal 2. _____ Nontidal	J. _____ Other (Explain) _____ _____
D. _____ Nontidal Wetland		
E. _____ 25-foot buffer (nontidal wetlands only)		

c. LAND USE:

A. Current Use of Parcel Is: 1. _____ Agriculture: Has SCS designated project site as a prior converted cropland?
_____ Yes _____ No 2. X Wooded 3. X Marsh/Swamp 4. _____ Developed
5. _____ Other _____

B. Present Zoning Is: 1. _____ Residential 2. _____ Commercial/Industrial 3. _____ Agriculture 4. _____ Marina 5. _____ Other

C. Project complies with current zoning _____ Yes _____ No

THE FOLLOWING INFORMATION IS REQUIRED BY THE STATE (blocks 4-7):

4. REDUCTION OF IMPACTS: Explain measures taken or considered to avoid or minimize wetland losses in F. Also check Items A-E if any of these apply to your project.

A. _____ Reduced the area of
disturbance B. _____ Reduced size/scope of
project C. _____ Relocated structures
D. _____ Redesigned project

E. _____ Other _____

F. Explanation Impacts are not yet determined

Describe reasons why impacts were not avoided or reduced in Q. Also check Items G-P that apply to your project.

- | | | |
|---|--|--------------------------------------|
| G. _____ Cost | K. _____ Parcel size | N. _____ Safety/public welfare issue |
| H. _____ Extensive wetlands on site | L. _____ Other regulatory requirement | O. _____ Inadequate zoning |
| I. _____ Engineering/design constraints | M. _____ Failure to accomplish project purpose | P. _____ Other _____ |
| J. _____ Other natural features | | _____ |
| Q. Description _____ | | _____ |

5. LETTER OF EXEMPTION: If you are applying for a letter of exemption for activities in nontidal wetlands and/or their buffers, explain why the project qualifies:

- | | |
|--|---|
| A. _____ No significant plant or wildlife value and wetland impact | B. _____ Repair existing structure/fill |
| 1. _____ Less than 5,000 square feet | C. _____ Mitigation Project |
| 2. _____ In an isolated nontidal wetland less than 1 acre in size | D. _____ Utility Line |
| E. Other (explain) _____ | 1. _____ Overhead |
| | 2. _____ Underground |
- F. _____ Check here if you are **not** applying for a letter of exemption.

IF YOU ARE APPLYING FOR A LETTER OF EXEMPTION, PROCEED TO BLOCK 11

6. ALTERNATIVE SITE ANALYSIS: Explain why other sites that were considered for this project were rejected in M. Also check any items in D-L if they apply to your project. **(If you are applying for a letter of exemption, do not complete this block):**

- | | | |
|-----------------|----------------------|--------------------------|
| A. _____ 1 site | B. _____ 2 - 4 sites | C. _____ 5 or more sites |
|-----------------|----------------------|--------------------------|
- Alternative sites were rejected/not considered for the following reason(s):
- | | | |
|--|---|----------------------|
| D. _____ Cost | H. _____ Greater wetlands impact | L. _____ Other _____ |
| E. _____ Lack of availability | I. _____ Water dependency | _____ |
| F. _____ Failure to meet project purpose | J. _____ Inadequate zoning | _____ |
| G. _____ Located outside general/market area | K. _____ Engineering/design constraints | _____ |
- M. Explanation: _____ Impacts are not yet determined

7. PUBLIC NEED: Describe the public need or benefits that the project will provide in F. Also check Items in A-E that apply to your project. **(If you are applying for a letter of exemption, do not complete this block):**

- | | | |
|----------------------|---|----------------------|
| A. _____ Economic | C. _____ Health/welfare | E. _____ Other _____ |
| B. _____ Safety | D. _____ Does not provide public benefits | _____ |
| F. Description _____ | | |

8. OTHER APPROVALS NEEDED/GRANTED:

A. Agency	B. Date Sought	C. Decision		D. Decision Date	E. Other Status
		1. Granted	2. Denied		
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

9. MITIGATION PLAN: Please provide the following information:

- a. Description of a monetary compensation proposal, if applicable (for **state requirements** only). Attach another sheet if necessary. _____

- b. Give a brief description of the proposed mitigation project. _____

- c. Describe why you selected your proposed mitigation site, including what other areas were considered and why they were rejected. _____

- d. Describe how the mitigation site will be protected in the future. _____

10. HAVE ADJACENT PROPERTY OWNERS BEEN NOTIFIED?:

A. _____ Yes B. X No

Provide names and mailing addresses below (Use separate sheet, if necessary):

- | | | |
|----------|----------|----------|
| a. _____ | b. _____ | c. _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |
| _____ | _____ | _____ |

11. HISTORIC PROPERTIES: Is your project located in the vicinity of historic properties? (For example: structures over 50 years old, archeological sites, shell mounds, Indian or Colonial artifacts). Provide any supplemental information in Section 13.

A. _____ Yes B. _____ No C. X Unknown

12. ADDITIONAL INFORMATION: Use this space for detailed responses to any of the previous items. Attach another sheet if necessary:

Check box if data is enclosed for any one or more of the following (see checklist for required information):

- | | | |
|---|---|---|
| A. ☐ Soil borings | D. ☐ Field surveys | G. ☐ Site plan |
| B. ☒ Wetland data sheets | E. ☐ Alternate site analysis | H. ☐ Avoidance and |
| C. ☒ Photographs | F. ☐ Market analysis | minimization analysis |
| I. ☒ Other (explain) <u>wetland delineation map</u> | | |
-
-

CERTIFICATION:

I hereby designate and authorize the agent named above to act on my behalf in the processing of this application and to furnish any information that is requested. I certify that the information on this form and on the attached plans and specifications is true and accurate to the best of my knowledge and belief. I understand that any of the agencies involved in authorizing the proposed works may request information in addition to that set forth herein as may be deemed appropriate in considering this proposal. I certify that all Waters of the United States have been identified and delineated on site, and that all jurisdictional wetlands have been delineated in accordance with the Federal Manual for Identifying and Delineating Jurisdictional Wetlands. I grant permission to the agencies responsible for authorization of this work, or their duly authorized representative, to enter the project site for inspection purposes during working hours. I will abide by the conditions of the permit or license if issued and will not begin work without the appropriate authorization. I also certify that the proposed works are consistent with Maryland's Coastal Zone Management Plan. I understand that none of the information contained in the application form is confidential and that I may request that additional required information be considered confidential under applicable laws. I further understand that failure of the landowner to sign the application will result in the application being deemed incomplete.

LANDOWNER MUST SIGN: _____ DATE: _____

WHERE TO MAIL APPLICATION

Maryland Department of the Environment
Water Management Administration
Regulatory Services Coordination Office
1800 Washington Boulevard, Suite 430
Baltimore, Maryland 21230
Telephone: (410) 537-3762
1-800-876-0200

BEFORE YOU MAIL... DON'T FORGET...

- **SIGN AND DATE THE APPLICATION. THE LANDOWNER MUST SIGN.**
- **FIVE (5) COPIES OF ALL DOCUMENTS (APPLICATION, PLANS, MAPS, REPORTS, ETC.) MUST BE RECEIVED TO BEGIN OUR REVIEW.**
- **INCLUDE FIVE COPIES OF A VICINITY MAP (LOCATION MAP) WITH THE PROJECT SITE PINPOINTED.**

**SAMPLE PLANS MAY BE OBTAINED BY PHONE (1-800-876-0200)
OR E-MAIL acunabaugh@mde.state.md.us.**

SUPPLEMENTARY INFORMATION TO BE INCLUDED ON PLANS, DRAWINGS, OR VICINITY MAPS

In addition to the information indicated on the previous pages, you should include the following on the 8 1/2 x 11 site plans and any blueprints you have submitted:

1. Delineation of any wetland buffers or expanded buffers, clearly marked and differentiated.
2. Location of mitigation area, if proposed on the same site as the project.

Note: If you are proposing a complex project you may wish to submit engineering blueprints of your project with the application form to expedite review.

Mitigation Location Map: If you are proposing that nontidal wetland mitigation be done at a different location than the proposed project, you should submit a map showing the location of the mitigation site in relation to the proposed nontidal wetland losses.

WETLAND DELINEATION

Wetlands should be identified according to methods described in the publication Federal Manual Identifying and Delineating Jurisdictional Wetlands. Copies of the manual may be obtained by calling the U. S. Government Printing Office at 202-783-3238 and requesting document #024-010-00-683-8 at a cost of \$7.50. Wetlands must be shown on all plans submitted with the application. All wetlands on site must be delineated and shown on the overall site plan. 8½ x 11 inch plans with topography showing relation of the wetlands and project impacts must be submitted. Copies of the wetland reports and data sheets used in making the determination be included with your application submittal.

Regulatory Agencies

Federal Permits

U.S. Army Corps of Engineers
Baltimore District
Attention: CENAB-OP-R
P. O. Box 1715
Baltimore, MD 21203-1715
Telephone: (410) 962-3670

State Authorizations

MD Dept. of the Environment
Water Management Administration
Tidal Wetlands Division
1800 Washington Blvd, Ste 430
Baltimore, MD 21230
Telephone: (410) 537-3837

Coastal Zone Consistency Statement

MD Dept. of the Environment
Water Management Administration
Wetlands and Waterways Program
1800 Washington Blvd, Ste 430
Baltimore, MD 21230
Telephone: (410) 537-3745

MD Dept. of the Environment
Water Management Administration
Nontidal Wetlands and Waterways
Division
1800 Washington Blvd, Ste 430
Baltimore, MD 21230
Telephone: (410) 537-3768

JURISDICTIONAL DETERMINATION APPLICATION

CARR CREEK WETLANDS

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Baltimore

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: MD County/parish/borough: Anne Arundel City:
Center coordinates of site (lat/long in degree decimal format): Lat. 38.9852° N, Long. 76.4528° W.
Universal Transverse Mercator:

Name of nearest waterbody: Carr Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Carr Creek

Name of watershed or Hydrologic Unit Code (HUC): West Chesapeake Bay Area 02-13-10

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): Dec. 26-27, 2012, Feb. 27, 2013, March 1, 2013

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☒ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- ☐ TNWs, including territorial seas
- ☒ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: 4.07 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): also based on Regional Supplement to the Corps of Engineers Wetland Delineation Manual- Atlantic and Gulf Coastal Plain Region.

2. Non-regulated waters/wetlands (check if applicable):³

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: .

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: Carr Creek.

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: Wetlands W-7, W-10, and W-11 abut Carr Creek and are subject to tidal influence. Wetlands W-4, W-6, W-8, and W-9 are palustrine and drain to Carr Creek.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: Pick List

Drainage area: square miles

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☐ Tributary flows through Pick List tributaries before entering TNW.

Project waters are Pick List river miles from TNW.

Project waters are Pick List river miles from RPW.

Project waters are Pick List aerial (straight) miles from TNW.

Project waters are Pick List aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: .

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: concrete trapezoidal channel.

Tributary properties with respect to top of bank (estimate):

Average width: feet

Average depth: feet

Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: stable.

Presence of run/riffle/pool complexes. Explain: none.

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime: seasonal variation, dominated by stormflow runoff.

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: intermittent stream channel.

Subsurface flow: **Pick List**. Explain findings: .

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

☐ Bed and banks	
☐ OHWM ⁶ (check all indicators that apply):	
☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	
☐ Discontinuous OHWM. ⁷ Explain: .	

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: .
 - ☐ Fish/spawn areas. Explain findings: .
 - ☐ Other environmentally-sensitive species. Explain findings: Drains to Wetlands of Special State Concern.
 - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: wetlands receive drainage from adjacent roof.

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: Wetlands are seasonally/temporarily flooded/saturated headwaters that drain to Non-TNW.

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: wetlands are directly up-gradient from Non-TNW.

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☐ Not directly abutting

☐ Discrete wetland hydrologic connection. Explain: .

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: forest.
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: .
 - ☐ Fish/spawn areas. Explain findings: .
 - ☐ Other environmentally-sensitive species. Explain findings: .
 - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- ☐ TNWs: linear feet width (ft), Or, acres.
- ☒ Wetlands adjacent to TNWs: 4.07 acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
- ☐ Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from “waters of the U.S.,” or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: existing conditions site plan with wetland delineation.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: 1: 24,000; Annapolis, MD.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA Soil Survey 2011.
☒ National wetlands inventory map(s). Cite name: National Wetlands Inventory.
☒ State/Local wetland inventory map(s): MD DNR Wetlands Inventory.
☐ FEMA/FIRM maps: MD.
☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): MD DNR, Infared, 1994; NAVFAC, 2008.
or ☒ Other (Name & Date): ground-level photos, 2012 and 2013.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

CHESAPEAKE BAY WETLANDS

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Baltimore

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: MD County/parish/borough: Anne Arundel City:
Center coordinates of site (lat/long in degree decimal format): Lat. 38.9852° N, Long. 76.4528° W.
Universal Transverse Mercator:

Name of nearest waterbody: Chesapeake Bay

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Chesapeake Bay

Name of watershed or Hydrologic Unit Code (HUC): West Chesapeake Bay Area 02-13-10

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): Dec. 26-27, 2012, Feb. 27, 2013, March 1, 2013

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☐ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- ☐ TNWs, including territorial seas
- ☒ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: 1.47 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): also based on Regional Supplement to the Corps of Engineers Wetland Delineation Manual- Atlantic and Gulf Coastal Plain Region.

2. Non-regulated waters/wetlands (check if applicable):³

- ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: **Two areas of potential wetlands are shown on the wetland delineation map, with data plots UPL-3 & UPL-4.**

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: **Chesapeake Bay**.

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: Wetlands W-2, W-3, and W-13 are palustrine and are adjacent to and drain to the Chesapeake Bay.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **square miles**

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: .

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: concrete trapezoidal channel.

Tributary properties with respect to top of bank (estimate):

Average width: feet

Average depth: feet

Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: stable.

Presence of run/riffle/pool complexes. Explain: none.

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime: seasonal variation, dominated by stormflow runoff.

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: intermittent stream channel.

Subsurface flow: **Pick List**. Explain findings: .

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

☐ Bed and banks	
☐ OHWM ⁶ (check all indicators that apply):	
☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	
☐ Discontinuous OHWM. ⁷ Explain: .	

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: .
 - ☐ Fish/spawn areas. Explain findings: .
 - ☐ Other environmentally-sensitive species. Explain findings: Drains to Wetlands of Special State Concern.
 - ☐ Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: wetlands receive drainage from adjacent roof.

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: Wetlands are seasonally/temporarily flooded/saturated headwaters that drain to Non-TNW.

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: wetlands are directly up-gradient from Non-TNW.

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☐ Not directly abutting

☐ Discrete wetland hydrologic connection. Explain: .

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: forest.
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: .
 - ☐ Fish/spawn areas. Explain findings: .
 - ☐ Other environmentally-sensitive species. Explain findings: .
 - ☐ Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- ☐ TNWs: linear feet width (ft), Or, acres.
- ☒ Wetlands adjacent to TNWs: 1.47 acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
- ☐ Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from “waters of the U.S.,” or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☒ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

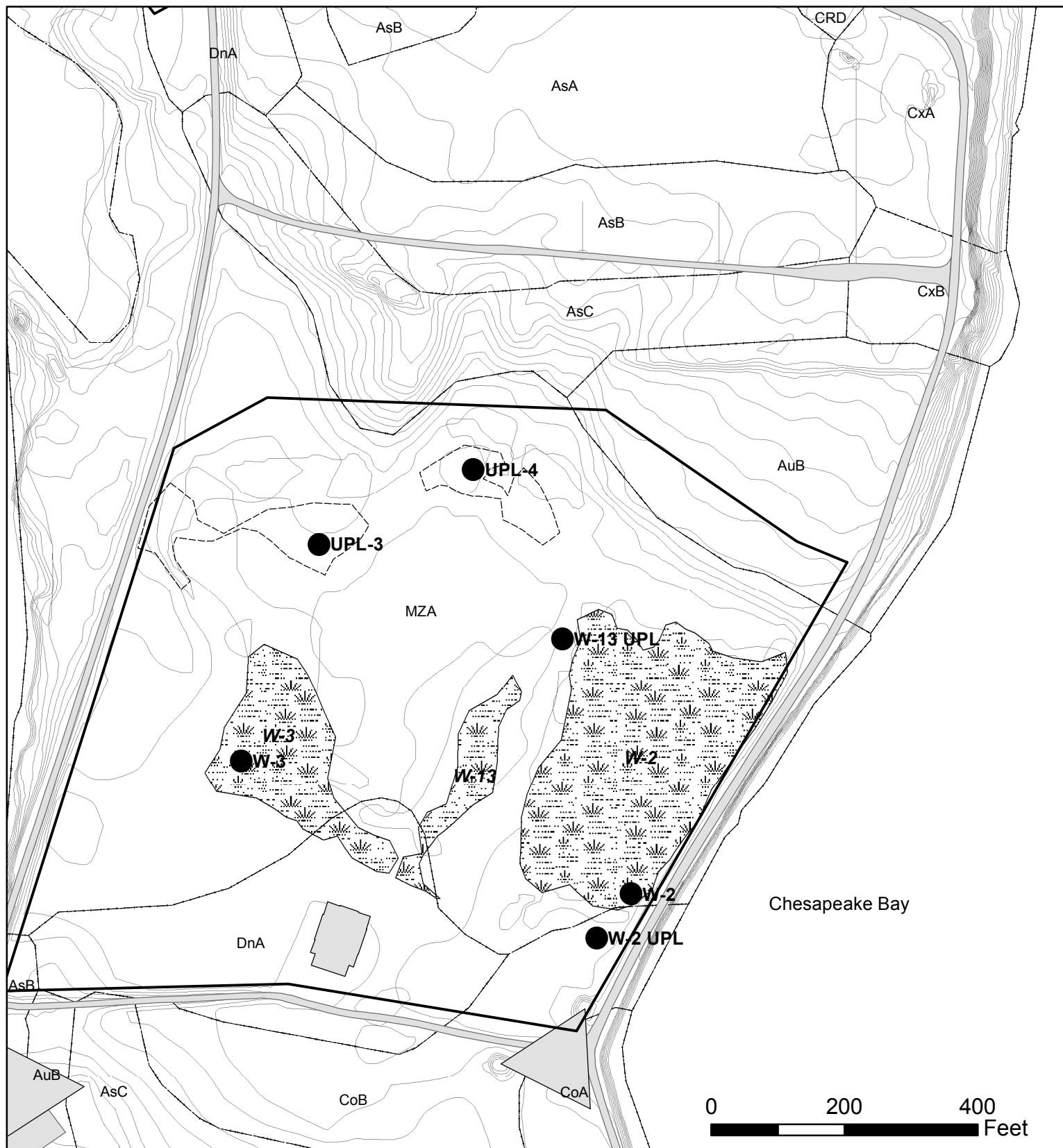
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: existing conditions site plan with wetland delineation.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: 1: 24,000; Annapolis, MD.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA Soil Survey 2011.
☒ National wetlands inventory map(s). Cite name: National Wetlands Inventory.
☒ State/Local wetland inventory map(s): MD DNR Wetlands Inventory.
☐ FEMA/FIRM maps: MD.
☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): MD DNR, Infared, 1994; NAVFAC, 2008.
or ☒ Other (Name & Date): ground-level photos, 2012 and 2013.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .



Legend	
	Study Areas
	Wetland Determination Data Plot
	Wetland
	Potential Wetland Boundary
	Infrastructure
	USDA Soil Boundary and Unit Name
	Topography: 1 Foot Contours



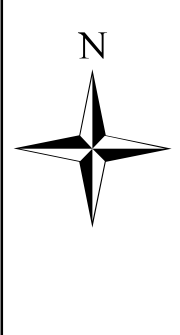
Prepared for/Applicant:
U.S. Navy
Naval Facilities Engineering Command
Washington, D.C.
Contract Number: N40080-12-D-0350
Delivery Order: 0010



Surveyed by:
Bay Engineering
190 Admiral Cochrane Drive
Annapolis, MD 21401
Phone: 410.897-9290



Prepared by:
Environmental Systems Analysis, Inc.
Natural Resources Management
Ecological Restoration
162 West Street
Annapolis, MD 21401
Phone: 410-267-0495



JD Map: Chesapeake Wetlands Greenbury Point, NSAA Anne Arundel County, MD
SCALE: 1" = 200'
DATE: 6.7.13
Filename: T:\NEWPROJ\2012\12-01 NAVFAC Wash\Delivery Order 0009 - Surveys for Wildlife and Habitat Improvement\JDMMap.mxd.
Sheet: 1 of 1

MILL CREEK WETLANDS

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Baltimore

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: MD County/parish/borough: Anne Arundel City:
Center coordinates of site (lat/long in degree decimal format): Lat. 38.9852° N, Long. 76.4528° W.
Universal Transverse Mercator:

Name of nearest waterbody: Mill Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Mill Creek

Name of watershed or Hydrologic Unit Code (HUC): West Chesapeake Bay Area 02-13-10

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): Dec. 26-27, 2012, Feb. 27, 2013, March 1, 2013

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☒ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- ☐ TNWs, including territorial seas
- ☒ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: 0.94 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): also based on Regional Supplement to the Corps of Engineers Wetland Delineation Manual- Atlantic and Gulf Coastal Plain Region.

2. Non-regulated waters/wetlands (check if applicable):³

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: .

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: **Mill Creek**.

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: Wetland W-5 is subject to tidal influence and is abutting/adjacent to Mill Creek.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **square miles**

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: .

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: concrete trapezoidal channel.

Tributary properties with respect to top of bank (estimate):

Average width: feet

Average depth: feet

Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: stable.

Presence of run/riffle/pool complexes. Explain: none.

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime: seasonal variation, dominated by stormflow runoff.

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: intermittent stream channel.

Subsurface flow: **Pick List**. Explain findings: .

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

☐ Bed and banks	
☐ OHWM ⁶ (check all indicators that apply):	
☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	
☐ Discontinuous OHWM. ⁷ Explain: .	

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: .
 - ☐ Fish/spawn areas. Explain findings: .
 - ☐ Other environmentally-sensitive species. Explain findings: Drains to Wetlands of Special State Concern.
 - ☐ Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: wetlands receive drainage from adjacent roof.

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: Wetlands are seasonally/temporarily flooded/saturated headwaters that drain to Non-TNW.

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: wetlands are directly up-gradient from Non-TNW.

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☐ Not directly abutting

☐ Discrete wetland hydrologic connection. Explain: .

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: forest.
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: .
 - ☐ Fish/spawn areas. Explain findings: .
 - ☐ Other environmentally-sensitive species. Explain findings: .
 - ☐ Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately () acres in total are being considered in the cumulative analysis.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from “waters of the U.S.,” or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: existing conditions site plan with wetland delineation.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: 1: 24,000; Annapolis, MD.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA Soil Survey 2011.
☒ National wetlands inventory map(s). Cite name: National Wetlands Inventory.
☒ State/Local wetland inventory map(s): MD DNR Wetlands Inventory.
☐ FEMA/FIRM maps: MD.
☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): MD DNR, Infared, 1994; NAVFAC, 2008.
or ☒ Other (Name & Date): ground-level photos, 2012 and 2013.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .



Legend	
	Study Areas
	Wetland Determination Data Plot
	Wetland
	Potential Wetland Boundary
	Infrastructure
	USDA Soil Boundary and Unit Name
	Topography: 1 Foot Contours



Prepared for/Applicant:
U.S. Navy
Naval Facilities Engineering Command
Washington, D.C.
Contract Number: N40080-12-D-0350
Delivery Order: 0010



Surveyed by:
Bay Engineering
190 Admiral Cochrane Drive
Annapolis, MD 21401
Phone: 410.897-9290



Prepared by:
**Environmental Systems
Analysis, Inc.**
Natural Resources
Management
Ecological Restoration
162 West Street
Annapolis, MD 21401
Phone: 410-267-0495



JD Map: Mill Creek Wetlands
Greenbury Point, NSAA
Anne Arundel County, MD

SCALE: 1" = 200'

DATE: 6.7.13

Filename: T:\NEWPROJ\2012\12-01
NAVAFAC Wash\Delivery Order 0009 -
Surveys for Wildlife and Habitat
Improvement\JDMMap.mxd.

Sheet: 1 of 1

SEVERN RIVER WETLANDS

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Baltimore

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: MD County/parish/borough: Anne Arundel City:
Center coordinates of site (lat/long in degree decimal format): Lat. 38.9852° N, Long. 76.4528° W.
Universal Transverse Mercator:

Name of nearest waterbody: Severn River

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Severn River

Name of watershed or Hydrologic Unit Code (HUC): West Chesapeake Bay Area 02-13-10

☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☒ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☐ Office (Desk) Determination. Date:

☒ Field Determination. Date(s): Dec. 26-27, 2012, Feb. 27, 2013, March 1, 2013

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

☒ Waters subject to the ebb and flow of the tide.

☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- ☐ TNWs, including territorial seas
- ☒ Wetlands adjacent to TNWs
- ☐ Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: 2.42 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): also based on Regional Supplement to the Corps of Engineers Wetland Delineation Manual- Atlantic and Gulf Coastal Plain Region.

2. Non-regulated waters/wetlands (check if applicable):³

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain: .

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: **Severn River**.

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: Wetland W-1 abuts the Severn River and is subject to tidal influence. Wetland W-12 is palustrine and is adjacent to and drains to the Severn River.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **square miles**

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW⁵: .

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: concrete trapezoidal channel.

Tributary properties with respect to top of bank (estimate):

Average width: feet

Average depth: feet

Average side slopes: **Pick List**.

Primary tributary substrate composition (check all that apply):

☐ Silts	☐ Sands	☐ Concrete
☐ Cobbles	☐ Gravel	☐ Muck
☐ Bedrock	☐ Vegetation. Type/% cover:	
☐ Other. Explain: .		

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: stable.

Presence of run/riffle/pool complexes. Explain: none.

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime: seasonal variation, dominated by stormflow runoff.

Other information on duration and volume: .

Surface flow is: **Pick List**. Characteristics: intermittent stream channel.

Subsurface flow: **Pick List**. Explain findings: .

☐ Dye (or other) test performed: .

Tributary has (check all that apply):

☐ Bed and banks	
☐ OHWM ⁶ (check all indicators that apply):	
☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	
☐ Discontinuous OHWM. ⁷ Explain: .	

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by:	☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects	☐ survey to available datum;
☐ fine shell or debris deposits (foreshore)	☐ physical markings;
☐ physical markings/characteristics	☐ vegetation lines/changes in vegetation types.
☐ tidal gauges	
☐ other (list):	

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: .

Identify specific pollutants, if known: .

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: .
 - ☐ Fish/spawn areas. Explain findings: .
 - ☐ Other environmentally-sensitive species. Explain findings: Drains to Wetlands of Special State Concern.
 - ☐ Aquatic/wildlife diversity. Explain findings: .

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: wetlands receive drainage from adjacent roof.

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: Wetlands are seasonally/temporarily flooded/saturated headwaters that drain to Non-TNW.

Surface flow is: **Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: wetlands are directly up-gradient from Non-TNW.

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting

☐ Not directly abutting

☐ Discrete wetland hydrologic connection. Explain: .

☐ Ecological connection. Explain: .

☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: forest.
- ☐ Habitat for:
 - ☐ Federally Listed species. Explain findings: .
 - ☐ Fish/spawn areas. Explain findings: .
 - ☐ Other environmentally-sensitive species. Explain findings: .
 - ☐ Aquatic/wildlife diversity. Explain findings: .

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately () acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:

- ☐ TNWs: linear feet width (ft), Or, acres.
- ☒ Wetlands adjacent to TNWs: 2.42 acres.

2. **RPWs that flow directly or indirectly into TNWs.**

- ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
- ☐ Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .
☐ Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from “waters of the U.S.,” or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

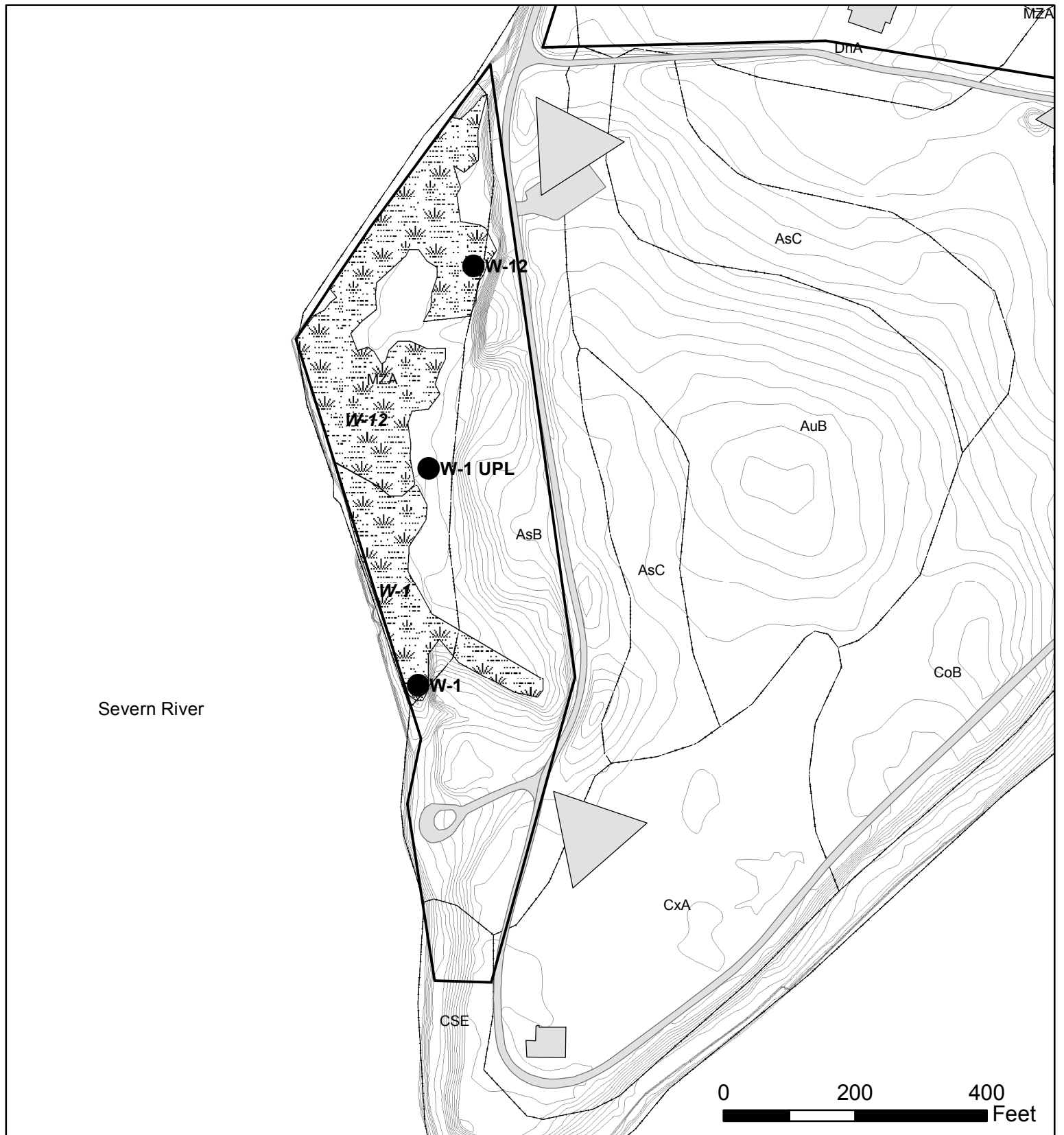
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: existing conditions site plan with wetland delineation.
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☐ U.S. Geological Survey Hydrologic Atlas: .
☐ USGS NHD data.
☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: 1: 24,000; Annapolis, MD.
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA Soil Survey 2011.
☒ National wetlands inventory map(s). Cite name: National Wetlands Inventory.
☒ State/Local wetland inventory map(s): MD DNR Wetlands Inventory.
☐ FEMA/FIRM maps: MD.
☐ 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): MD DNR, Infared, 1994; NAVFAC, 2008.
or ☒ Other (Name & Date): ground-level photos, 2012 and 2013.
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☐ Other information (please specify): .

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

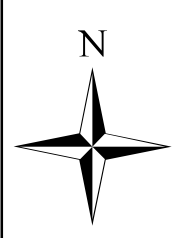


Legend	
	Study Areas
	Wetland Determination Data Plot
	Wetland
	Potential Wetland Boundary
	Infrastructure
	USDA Soil Boundary and Unit Name
	Topography: 1 Foot Contours


 Prepared for/Applicant:
 U.S. Navy
 Naval Facilities Engineering Command
 Annapolis, MD 21401
 Contract Number: N40080-12-D-0350
 Delivery Order: 0010


 Surveyed by:
 Bay Engineering
 190 Admiral Cochrane Drive
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 Phone: 410.897-9290


 Prepared by:
Environmental Systems Analysis, Inc.
 Natural Resources Management
 Ecological Restoration
 162 West Street
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JD Map: Severn River Wetlands Greenbury Point, NSAA Anne Arundel County, MD
SCALE: 1" = 200'
DATE: 6.7.13
Filename: T:\NEWPROJ\2012\12-01 NAVFAC Wash\Delivery Order 0009 - Surveys for Wildlife and Habitat Improvement\JDMMap.mxd.
Sheet: 1 of 1

AERIAL SITE PHOTO



MAPPING PROVIDED BY: NAVFAC
2008 AERIAL

Submitted to:



Naval Facilities Engineering Command
Washington DC

Prepared by:



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AERIAL SITE PHOTO

**GREENBURY POINT
NAVAL SUPPORT ACTIVITY ANNAPOLIS**

CONTRACT #N40080-12-D-0350, DO 09, TASK 6

SCALE: 1"=850'

DATE: JUNE 2013

ESA PROJECT NAME: Task 6 Greenbury Wetland
Delineation\Deliverables

SHEET: 1 of 1



NORTH

VICINITY MAP



MAPPING PROVIDED BY: ADC THE MAP PEOPLE, 2009 EDITION, ANNE ARUNDEL COUNTY, MARYLAND MAP 5295
MAP 5295 2-5; G-J

Submitted to:



Naval Facilities Engineering Command
Washington DC

Prepared by:



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VICINITY MAP

GREENBURY POINT NAVAL SUPPORT ACTIVITY ANNAPOLIS

CONTRACT #N40080-12-D-0350, DO 09, TASK 6

SCALE: 1"=2,000'

DATE: JUNE 2013

ESA PROJECT NAME: Task 6 Greenbury Wetland
Delineation/Deliverables

SHEET: 1 of 1



NORTH

MERLIN INFRARED AERIAL MAP



MAPPING PROVIDED BY: MERLIN - MARYLAND'S ENVIRONMENTAL RESOURCE AND LAND INFORMATION NETWORK
1994 1 METER PHOTOGRAPH

Submitted to:



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Washington DC

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Phone: 410-267-0495
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MERLIN INFRARED AERIAL MAP

**GREENBURY POINT
NAVAL SUPPORT ACTIVITY ANNAPOLIS**

CONTRACT #N40080-12-D-0350, DO 09, TASK 6

SCALE: 1:18,056

DATE: June 2013

ESA PROJECT NAME: Task 6 Greenbury Wetland
Delineation\Deliverables

SHEET: 1 of 1



NORTH

NATIONAL WETLAND INVENTORY MAP



MAPPING PROVIDED BY: U.S. FISH AND WILDLIFE SERVICE
AERIAL 1990'S

LEGEND

	FRESHWATER EMERGENT
	FRESHWATER FORESTED/SHRUB
	ESTUARINE AND MARINE DEEPWATER
	ESTUARINE AND MARINE
	FRESHWATER POND
	LAKE
	RIVERINE
	OTHER

THIS MAP IS FOR GENERAL REFERENCE ONLY. THE US FISH AND WILDLIFE SERVICE IS NOT RESPONSIBLE FOR THE ACCURACY OR CERRENTNESS OF THE BASE DATA SHOWN ON THIS MAP. ALL WETLANDS RELATED DATA SHOULD BE USED IN ACCORDANCE WITH THE LAYER METADATA FOUND ON THE WETLANDS MAPPER WEB SITE.

Submitted to:



Naval Facilities Engineering Command
Washington DC

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NATIONAL WETLAND INVENTORY MAP

GREENBURY POINT NAVAL SUPPORT ACTIVITY ANNAPOLIS

CONTRACT #N40080-12-D-0350, DO 09, TASK 6



NORTH

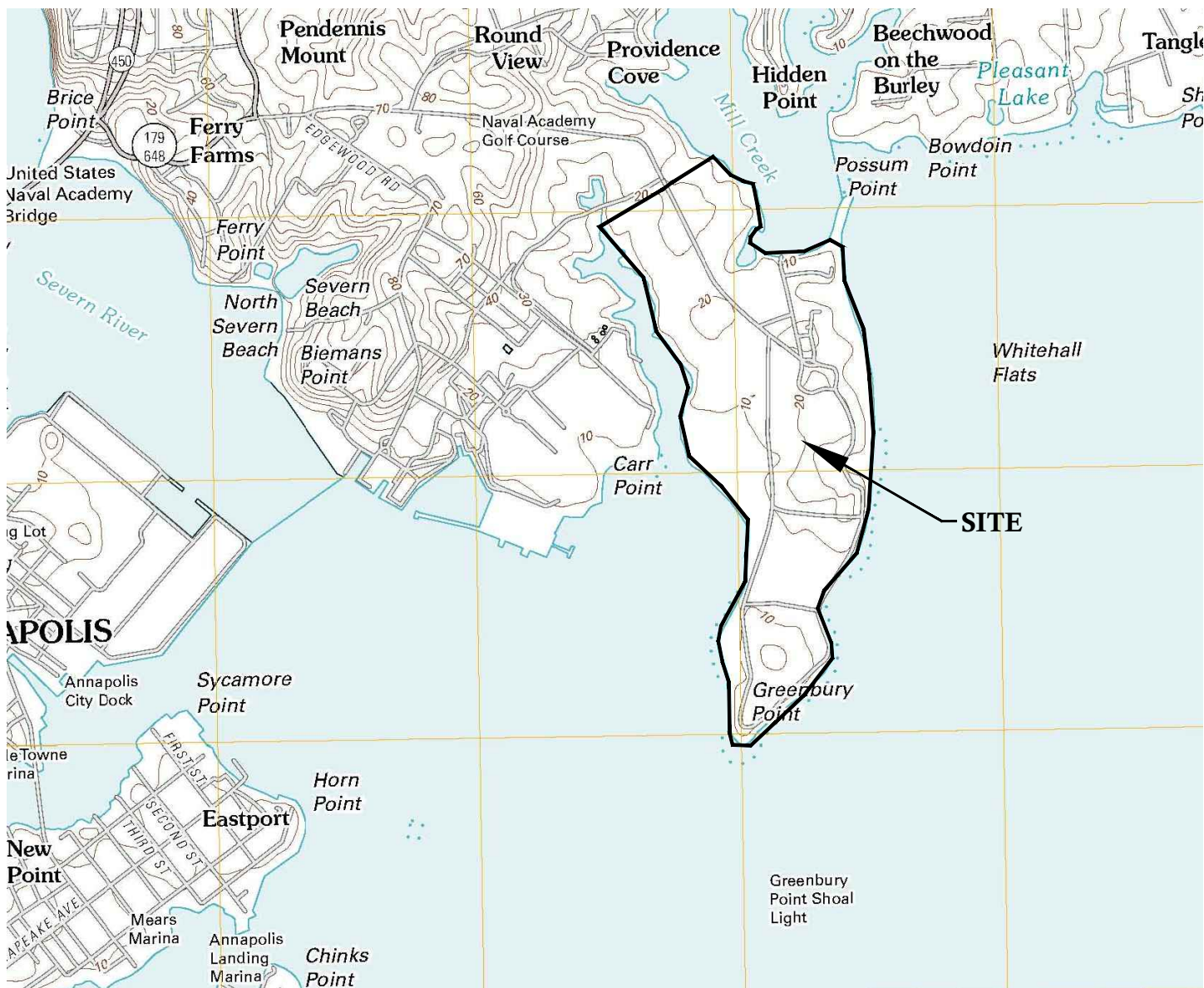
SCALE: AS SHOWN

DATE: JUNE 2013

ESA PROJECT NAME: Task 6 Greenbury Wetland
Delineation\Deliverables

SHEET: 1 of 1

USGS QUADRANGLE MAP



MAP PROVIDED BY: UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY, ANNAPOLIS QUADRANGLE 2011, MARYLAND 7.5 MINUTE SERIES

MAP PRODUCED BY THE UNITED STATES GEOLOGICAL SURVEY
NORTH AMERICAN DATUM OF 1983 (NAD83)
WORLD GEODETIC SYSTEM OF 1984 (WGS84). PROJECTION AND 1,000-METER GRID: UNIVERSAL
TRANSVERSE MERCATOR, ZONE 18S
10,000-FOOT TICKS MARYLAND COORDINATE SYSTEMS OF 1983

IMAGERY: NAIP, JULY 2009-AUGUST 2009
ROADS: 2006-2010 TELE ATLAS
NAMES: GNIS, 2010
HYDROGRAPHY: NATIONAL HYDROGRAPHY DATASET, 2009
CONTOURS: NATIONAL ELEVATION DATASET, 2007
BOUNDARIES: CENSUS, IBWC, IBC, USGS, 1972-2010

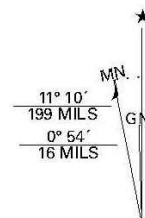
CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

THIS MAP WAS PRODUCED TO CONFORM WITH VERSION 0.5.10 OF THE USGS US TOPO PRODUCT
STANDARD. A METADATA FILE ASSOCIATED WITH THIS PRODUCT IS DRAFT VERSION 0.5.15

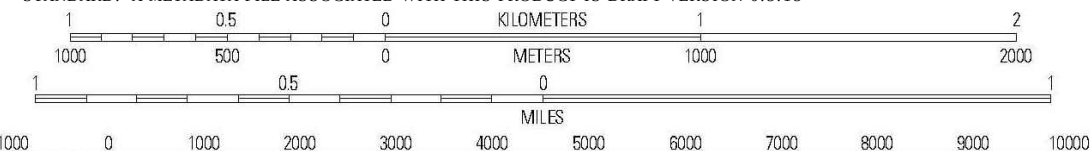
ROAD CLASSIFICATION

Interstate Route		State Route	
US Route		Local Road	
Ramp		4WD	
	Interstate Route		US Route
			State Route

U.S. National Grid
100,000-m Square ID
UJ
Grid Zone Designation
18S



UTM GRID AND 2011
MAGNETIC NORTH
DECLINATION AT
CENTER OF SHEET



Submitted to:



Naval Facilities Engineering Command
Washington DC

Prepared by:



**Environmental
Systems
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Natural Resources Management
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Annapolis, MD 21401
Phone: 410-267-0495
Facsimile: 410-267-0496

USGS QUADRANGLE MAP

GREENBURY POINT NAVAL SUPPORT ACTIVITY ANNAPOLIS

CONTRACT #N40080-12-D-0350, DO 09, TASK 6

SCALE: 1:24,000

DATE: JUNE 2013

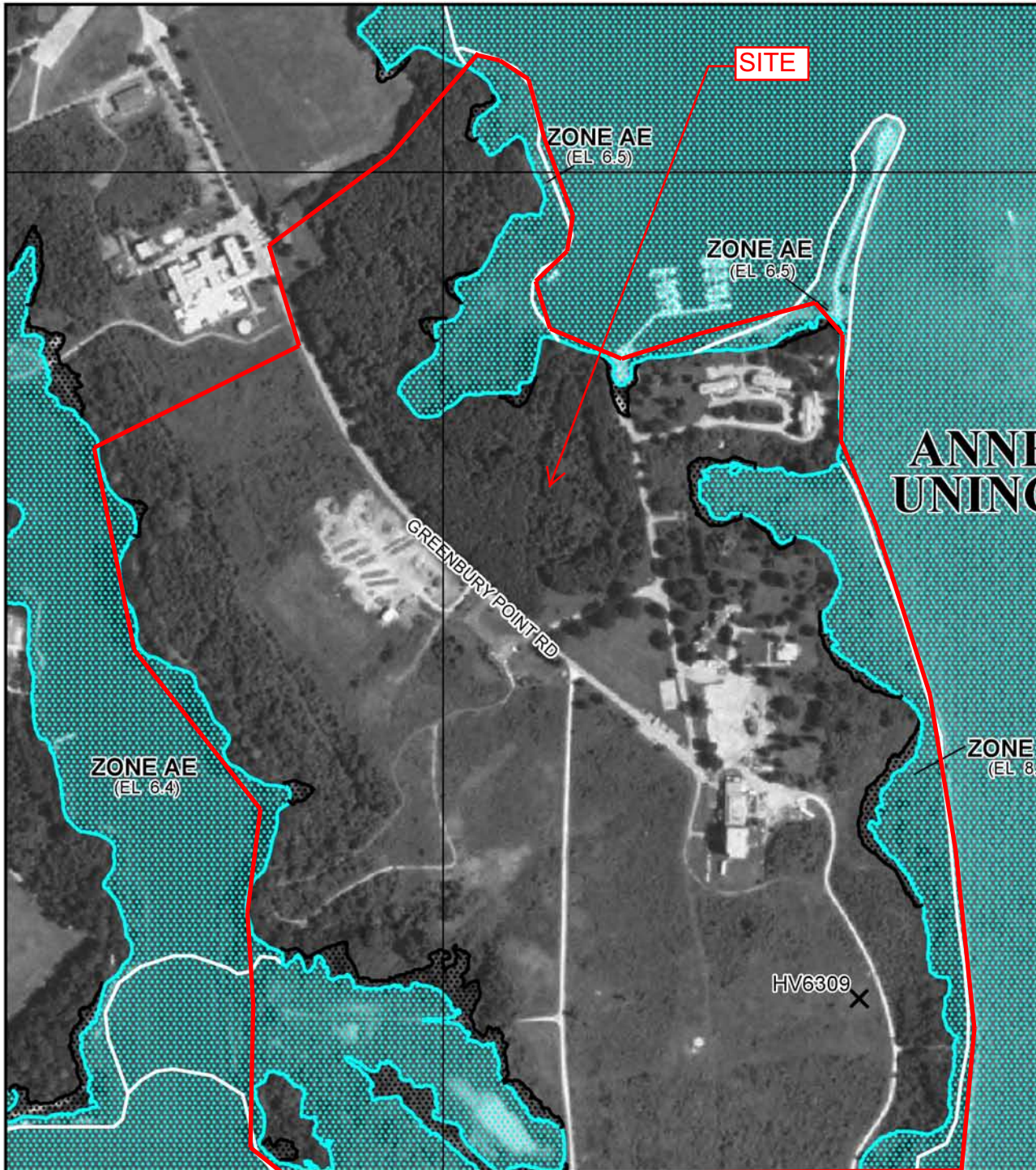
ESA PROJECT NAME: Task 6 Greenbury Wetland
Delineation/Deliverables

SHEET: 1 of 1



NORTH

FEMA MAP



MAP SCALE 1" = 500'

50 0 500 1000
FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0252E

FIRM

FLOOD INSURANCE RATE MAP

ANNE ARUNDEL COUNTY,
MARYLAND
AND INCORPORATED AREAS

PANEL 252 OF 395

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ANNE ARUNDEL COUNTY	240008	0252	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

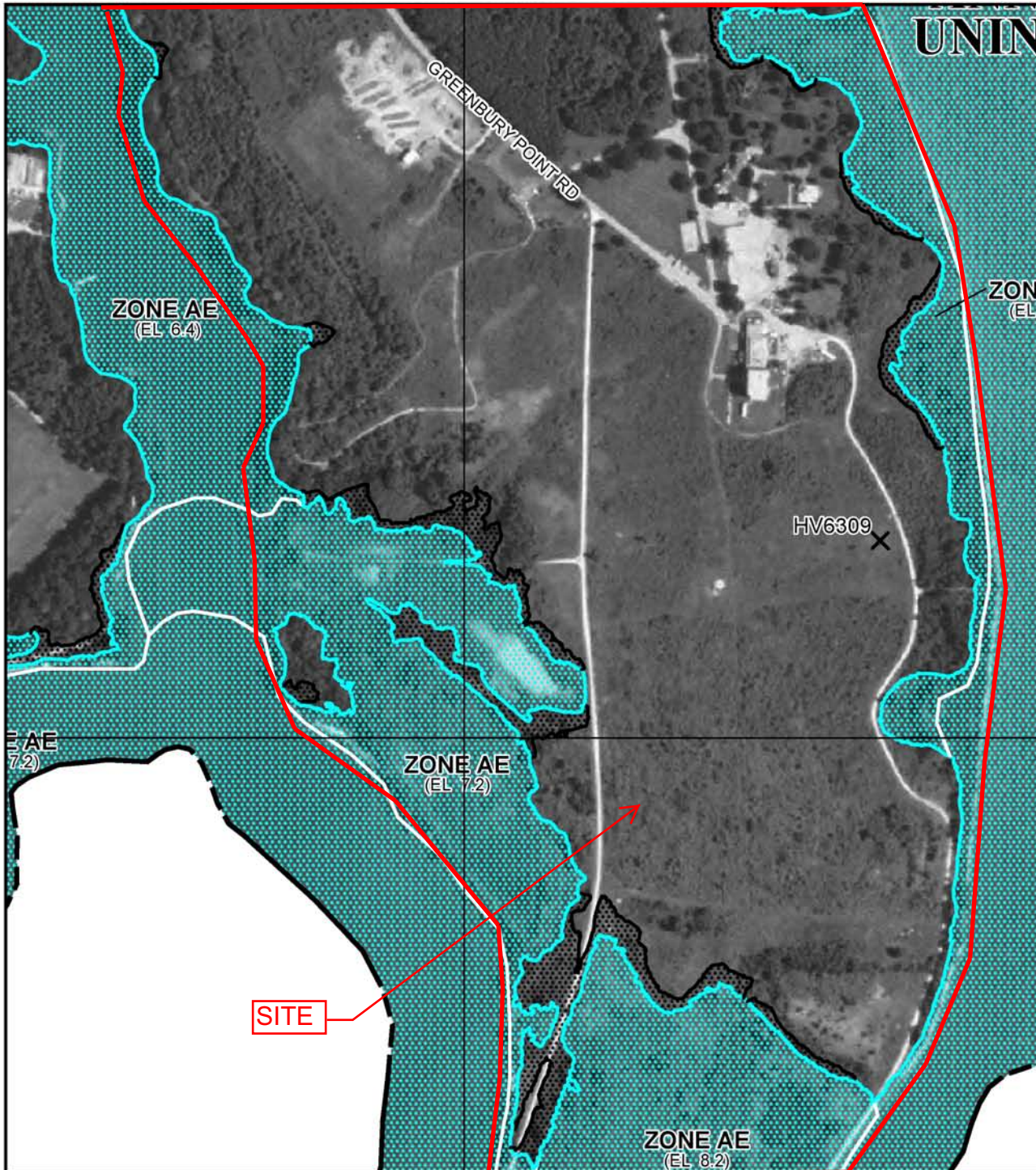


MAP NUMBER
24003C0252E

EFFECTIVE DATE
OCTOBER 16, 2012

Federal Emergency Management Agency

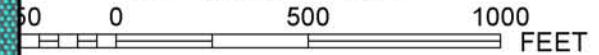
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



UNIN



MAP SCALE 1" = 500'



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0252E

FIRM FLOOD INSURANCE RATE MAP

**ANNE ARUNDEL COUNTY,
MARYLAND
AND INCORPORATED AREAS**

PANEL 252 OF 395

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ANNE ARUNDEL COUNTY	240008	0252	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

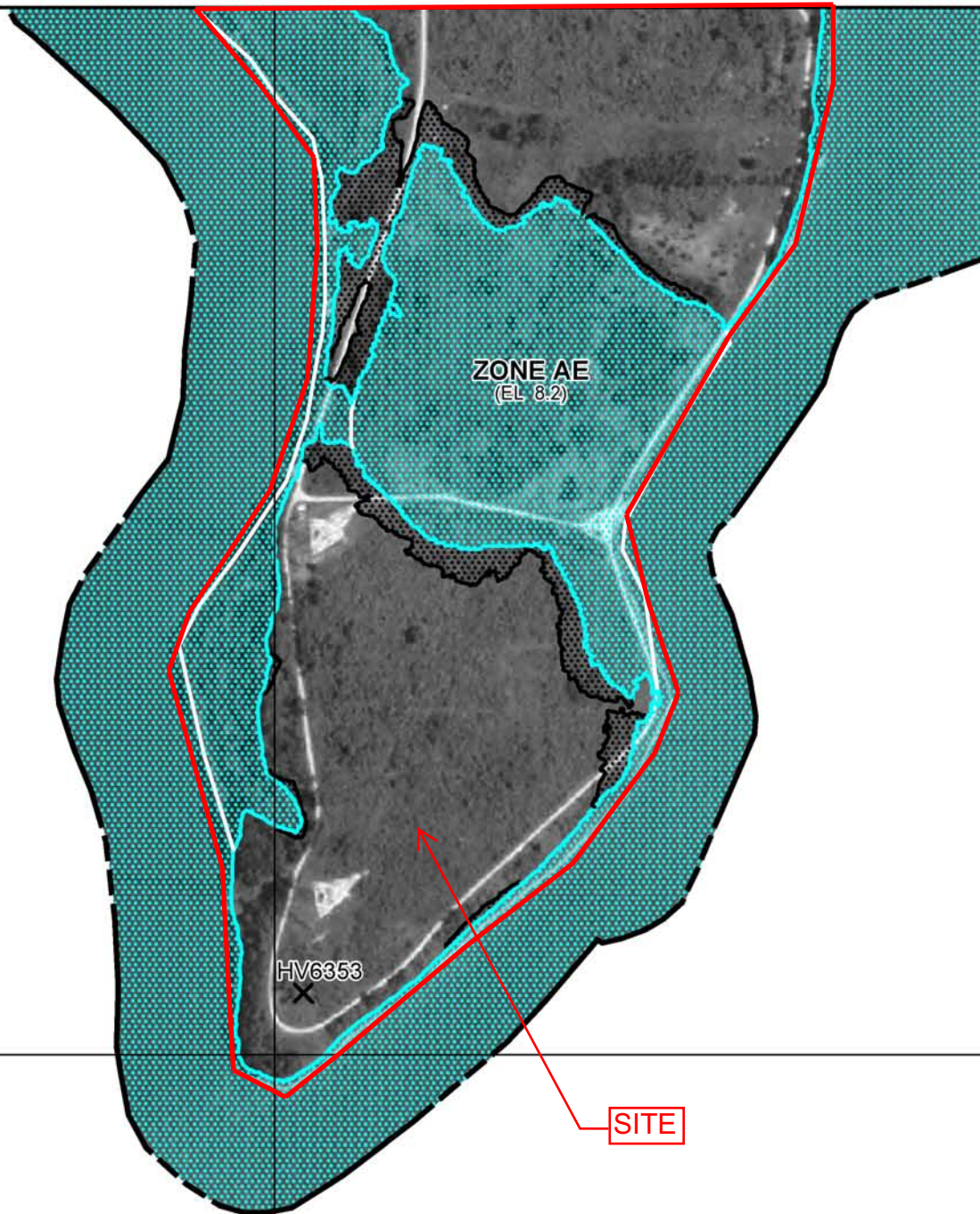


**MAP NUMBER
24003C0252E**

**EFFECTIVE DATE
OCTOBER 16, 2012**

Federal Emergency Management Agency

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MAP SCALE 1" = 500'

50 0 500 1000
FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0252E

FIRM

FLOOD INSURANCE RATE MAP

ANNE ARUNDEL COUNTY,
MARYLAND
AND INCORPORATED AREAS

PANEL 252 OF 395

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ANNE ARUNDEL COUNTY	240008	0252	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
24003C0252E

EFFECTIVE DATE
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Federal Emergency Management Agency

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MD DNR WETLAND INVENTORY MAP



MAPPING PROVIDED BY: MERLIN - MARYLAND'S ENVIRONMENTAL RESOURCE AND LAND INFORMATION NETWORK
HI RESOLUTION IMAGERY 2010-2011

LEGEND

- RIVERINE
- ESTUARINE
- LACUSTRINE
- MARINE
- PALUSTRINE
- RIVERINE

SCALE: 0 1 km
0.5 mi

Submitted to:



Naval Facilities Engineering Command
Washington DC

Prepared by:



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MD DNR WETLAND MAPPING

GREENBURY POINT NAVAL SUPPORT ACTIVITY ANNAPOLIS

CONTRACT #N40080-12-D-0350, DO 09, TASK 6

SCALE: AS SHOWN

DATE: JUNE 2013

ESA PROJECT NAME: Task 6 Greenbury Wetland
Delineation\Deliverables

SHEET: 1 of 1



WETLAND DELINEATION REPORT

**WETLAND DELINEATION
GREENBURY POINT,
NAVAL SUPPORT ACTIVITY ANNAPOLIS**



DRAFT REPORT

June 2013

Prepared for:



U.S. Navy
Naval Facilities Engineering Command
Washington, DC
Contract Number: N40080-12-D-0350
Delivery Order: 0009, Task 6

Prepared by:



Environmental Systems Analysis, Inc.
Annapolis, MD 21401



Geo-Marine, Inc.
Hampton, VA 23666

Table of Contents

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2.0	DELINEATION METHODS	3
2.1	Hydrology.....	4
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APPENDICES

APPENDIX A –	Site Vicinity Map
APPENDIX B –	Summary of Wetlands Determination Data Plots and Wetland Determination Data Forms
APPENDIX C –	Photographs
APPENDIX D –	Wetland Delineation Map

Glossary and Acronym/Abbreviation Definitions

C- Carbon

COE – United States Army Corps of Engineers

E2—Estuarine Tidal Wetlands, intertidal-substrate is exposed and flooded by tides

EPA – United States Environmental Protection Agency

ESA – Environmental Systems Analysis, Inc.

FAC – Facultative plant status. Plant has similar likelihood (33-67% of the time) of occurring in wetlands or non-wetlands.

FACU – Facultative upland plant status. Plant sometimes occur (1-33% of the time) in wetlands.

FACW – Facultative wetland plant status. Plant usually occurs (67-99% of the time) in wetlands.

Fe – Iron

GIS – Geographic Information System

JD – Jurisdictional Determination

MDE – Maryland Department of the Environment

Mn – Manganese

NAVFAC – Naval Facilities Engineering Command

OHWM – Ordinary High Water Mark

OBL – Obligate wetland plant status

PEM – Palustrine Emergent--herbaceous nontidal wetlands

PFO – Palustrine Forested nontidal wetlands

POW – Palustrine Open Water

PSS – Palustrine Scrub-Shrub wetlands

RPW – Relatively Permanent Waters

S – Sulfur

SWM – Stormwater Management

TM—Tidal Marsh is subject to tidal influence, substrate is exposed and flooded by tides

TNW – Traditionally Navigable Waters

UPL – Obligate upland. Plant rarely occurs (less than 1% of the time) in wetlands.

US—Unconsolidated Shore wetlands, may be palustrine or estuarine

USDA NRCS – United States Department of Agriculture Natural Resources Conservation Service

USDA SCS – United States Department of Agriculture Soil Conservation Service

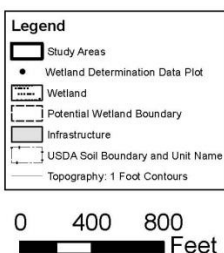
USFWS – United States Fish and Wildlife Service

1.0 INTRODUCTION

Environmental Systems Analysis, Inc. (ESA) performed a wetland/waters delineation at five distinct locations on Greenbury Point, within the Naval Support Activity Annapolis (NSAA). The work was performed through *Contract #N40080-12-D-0350, Delivery Order 0009, Task 6* and involved identifying and delineating wetlands within five priority area polygons, which total approximately 60 acres. The Berm, located near the open water area west of Tower Road, has been deliberately excluded from this delineation because it is a separate project undergoing emergency repairs.

This report documents wetland/waters delineation criteria, the methods used to delineate wetlands and waters, and existing conditions found on site. It does not address the specific issues that would result from impacts to wetlands/waters. Please refer to Figure 1 below for the specific locations of each delineated area.

Wetland Delineation, Greenbury Point
Draft Report, June 2013



Prepared for/Applicant:
 U.S. Navy
 Naval Facilities Engineering Command
 Washington, D.C.
 Contract Number: N40080-12-D-0350
 Delivery Order: 0010



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JD Map:
 Carr Creek Wetlands
 Greenbury Point, NSAA
 Anne Arundel County, MD

DATE: 6.7.13

Filename: T:\NEWPROJ\2012\12-01
 NAVFAC Wash\Delivery Order 0009 -
 Surveys for Wildlife and Habitat
 Improvement\UDMap.mxd

Sheet: 1 of 1

2.0 DELINEATION METHODS

Within the identified study area, the wetland delineation consisted of identifying the vegetation, soils (in undisturbed areas), and hydrology of possible wetland and waters areas, and marking the wetland/waters boundaries with labeled pink and black striped flagging or pink pin flags. ESA placed flagging approximately 15 to 50 feet apart. ESA established wetland determination data plots throughout the study area to document specific conditions within wetlands and uplands, and to provide justification for delineation. The delineation occurred on December 26 and 27, 2012, and February 27 and March 1, 2013 during the leaf-off season and during a period of normal precipitation.

Wetlands and waters are included within the definition of 'waters of the United States' in the federal Clean Water Act. 'Waters' generally refers to non-vegetated water bodies, such as ponds, rivers, and streams. The identification of waters is based upon methodologies in the *U.S. Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook*, 2007, and various regulatory guidance letters. Swales and erosional features (e.g., gullies, small washes characterized by low volume, infrequent, and short duration flow) are generally not waters because they are not "relatively permanent, standing or flowing bodies of water." In addition, ditches (including roadside ditches) excavated wholly in, and draining only uplands, and do not carry a relatively permanent flow of water, are generally not waters of the United States. Even when these swales or ditches are not jurisdictional waters, they need to be noted as conveyance paths on wetland delineation maps when acting as a surface hydrologic connection between two regulated wetlands.

The primary field indicator for a water body to be considered "waters of the United States" is an ordinary high water mark (OHWM) defined as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (U.S. Army Corps of Engineers, 2005).

Wetlands are defined by the U.S. Army Corps of Engineers (COE) and the U.S. Environmental Protection Agency (EPA) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." The identification of wetlands was based upon the routine method as described in the 1987 *Corps of Engineers Wetlands Delineation Manual* (referred to hereafter as the Manual) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region*, Version 2.0, 2010. According to the Manual, an area is identified as a

wetland if it meets all three wetlands parameters: hydric soils, hydrophytic vegetation, and wetlands hydrology. If one of the parameters has been disturbed, the delineation must be made on the basis of the other two parameters, and the investigator's best professional judgment. The three wetlands parameters, hydrology, vegetation, and soils, are described below.

2.1 Hydrology

Indicators of wetland hydrology provide evidence that the site has a continuing wetland hydrologic regime, and if hydric soils and hydrophytic vegetation are present that they are not relics of a past hydrologic regime. Wetland hydrology indicators confirm that an episode of inundation or soil saturation occurred recently, but may provide little additional information about the timing, duration, or frequency of such events. Hydrology indicators are often the most transitory of wetland indicators.

Primary indicators of wetlands hydrology include, but are not limited to, presence of surface water, saturation, water marks (typically on tree trunks), sediment deposits, drift deposits, algal mats, inundation visible on aerial imagery taken during the growing season, gray or black water stained leaves, aquatic fauna (such as fish), hydrogen-sulfide odor, oxidized rhizospheres on living roots in soil, and presence of reduced iron in soil. One primary indicator is needed to determine that wetland hydrology is present. Wetland hydrology is present if two or more secondary indicators are met: surface soil cracks, sparsely vegetated concave surface, drainage patterns, moss trim lines (typically on tree trunks), crayfish burrows, saturation visible on an aerial photo taken during the growing season, geomorphic position, and passing the FAC-Neutral Test.

2.2 Vegetation

The prevalent vegetation found in wetlands consists of those plants adapted to saturated soil conditions. *The National Wetland Plant List* (Lichvar, 2012) provides an indicator status for many of the plant species found in Maryland. These categories define the likelihood of a particular species occurring in a wetland. The ratings are explained as follows:

- **OBL** (Obligate Wetland): Plants that occur almost always (more than 99% of the time) in wetlands.
- **FACW** (Facultative Wetland): Plants that occur usually (67-99% of the time) in wetlands.
- **FAC** (Facultative): Plants with a similar likelihood (33-67% of the time) of occurring in wetlands or non-wetlands.
- **FACU** (Facultative Upland): Plants that occur sometimes (1-33% of the time) in wetlands.

- **UPL** (Obligate Upland): Plants that occur rarely (less than 1% of the time) in wetlands.

The two major hydrophytic vegetation indicators are the dominance test and the prevalence index. For the dominance test, if more than 50% of the dominant vegetation is rated OBL, FACW, or FAC, the sample area contains hydrophytic vegetation. The prevalence index is a weighted average based on abundance and wetland indicator status of all plant species in the sampling plot. If the index is less than or equal to 3.0, the sample area contains hydrophytic vegetation. However, for the prevalence index indicator to apply, indicators of hydric soil and wetland hydrology must also be present, unless disturbed.

2.3 Soils

Hydric soils are defined as “soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part” (USDA SCS, 1994). This definition indicates that the development of anaerobic conditions and not the presence of water per se, is the critical factor in hydric soil development. Hydric soil field indicators are used to determine whether a soil meets this definition. Most hydric soil indicators are the result of the chemical reduction of manganese (Mn), iron (Fe), or sulfur (S), or the accumulation of organic carbon (C), under anaerobic conditions (Vepraskas and Sprecher, 1997). The field indicators are grouped into categories for All Soils, Sandy Soils, and Loamy and Clayey Soils, and are described in *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils* (USDA NRCS, 2010).

Many of the field indicators of hydric soils are found within 6 inches of the soil surface. Common field indicators of hydric soils found at the wetland/upland boundary are Depleted Matrix, Sandy Redox, Dark Surface, Piedmont Floodplain Soils and Loamy Gleyed Matrix. Soil color is often an important characteristic used to determine whether a soil meets a field indicator of hydric soils. Hydric soils are often gleyed (neutral grey to bluish-green), grayish (low chroma), or they are grey with bright (often red/orange) concentrations. *Munsell® Soil Color Charts, Year 2009 Revised Washable Edition* was used to determine soil color.

3.0 GENERAL SITE CONDITIONS

The study area is four discrete locations at Greenbury Point within the Naval Support Activity Annapolis, in Annapolis, Maryland, Anne Arundel County. Greenbury Point is an approximately 231-acre peninsula located across the Severn River (north and east) from the U.S. Naval Academy and downtown Annapolis. The site is located within the western coastal plain of Maryland within the Atlantic Coastal Plain physiographic province. Greenbury Point is bordered by the following tidal waters: Carr Creek to the west, Severn River to the south, Chesapeake Bay to the east, and Mill Creek to the northeast. A vicinity map of the site is provided in

Appendix A. The topography of the study area is flat with low relief, with the exception of moderate to steep slopes along portions of the shorelines. The highest point is slightly over 22 feet above mean sea level.

Greenbury Point consists primarily of undeveloped land which was formerly the site of a radio transmitter facility. The majority of the towers were removed in 1999; three towers remain on the site. The undeveloped land consists of pedestrian trails, forest, fields, and wetlands. Developed areas include Mill Creek Marina, Construction Battalion Unit 403, Bachelor Enlisted Quarters, Married Enlisted Quarters, the Nature Center, and the composting facility.

The average precipitation in Anne Arundel County for July through February is 27.1 inches. The July 2012 through February 2013 precipitation for Annapolis was 27.24 inches (*Weather Underground* Annapolis, MD). This precipitation data indicates that the delineation work was performed during a period of normal precipitation. In addition, the delineation was performed during the non-growing season, when water levels are generally higher. This suggests that hydrology indicators used for the delineation work were observed under typical to wet conditions.

The following sources of information were consulted in conjunction with the on-site survey maps: color aerial photos, DNR wetland maps, and NRCS Soil Survey for Anne Arundel County. ESA used the soil survey to focus on hydric soils, poorly drained soils, and soils with seasonally high water tables.

4.0 RESULTS

ESA identified thirteen wetlands within the study area and classified them based on the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979). The wetland determination data plots and a summary table of the plots are in Appendix B. Photographs of the wetlands are in Appendix C.

Bay Engineering performed field-location survey of the wetland/waters boundary flagging. The surveyed points were used to draw the wetland boundaries. ESA quality-control checked these boundaries and laid them onto a base map to create the delineation map. The wetland delineation map includes the limits of the study area, wetland boundaries and the wetland data plot locations, which is in Appendix D.

The NRCS Web Soil Survey (Soil Survey Staff, 2011) identifies the soil of eleven of the thirteen delineated wetlands as *Mispillion and Transquaking Soils* (MZA), with 0 to 1 percent slopes. These soils at these wetlands can be tidally flooded and usually occur on floodplains, mud flats, tidal flats and tidal marshes. These soils are very poorly drained, frequently flooded, are saline,

and have a depth to water table of about 0 to 10 inches. These soils generally consist of organic material over silty estuarine sediments, mucky peat, and/or silt loam. According to the NRCS, the remaining two wetlands (identified as W-10 and W-11) occur on *Collington Wist & Westphalia* (CSE) soils with 15 to 25 percent slopes. In actuality, these two wetlands are tidal marshes in the bench of steep slopes, which is consistent with MZA soils.

Wetlands W-1 and W-12

Wetland W-1 is a tidal marsh located at the southern limit of Greenbury Point. ESA classified it as E2US3—estuarine intertidal, unconsolidated shore of mud. It is located south of Helix Road and west of West Road and is landward of a breeched seawall adjacent to the Severn River. It contains unvegetated areas and hydrophytic vegetation, primarily *Phragmites australis australis* (common reed, FACW). Wetland hydrology indicators include surface water, saturation, drift deposits, and water-stained leaves. The soil is sandy and meets the hydric soil indicator *dark surface*, a sandy soils hydric soils indicator. The color of the first 4 inches of soil is 10YR 2/1, which is a layer 4 inches thick, starting within the upper 6 inches of the soil surface, with a matrix value of 3 or less and a chroma of 1 or less. At least 70 percent of the visible soil particles must be covered, coated, or similarly masked with organic material. The matrix color of the layer immediately below the dark layer must have the same colors as those described above, or any color that has a chroma of 2 or less, which is 7.5YR 4/1 for this data plot. Directly to the north of Wetland W-1 is Wetland W-12, which is a palustrine emergent/forested wetland, broad-leaved deciduous, temporarily flooded (PEM/FO1A). It is also landward of a breeched seawall along the Severn River, but wetland W-12 is not affected by the tide cycle. It is dominated by hydrophytic vegetation, primarily *Phragmites australis australis* and *Baccharis halimifolia* (groundsel, FAC). Hydrology indicators include water marks, drift deposits, drainage patterns, and geomorphic position. Soil is sandy and hydric due to *dark surface*. The soil profile is the same as that for Wetland W-1.

Upland data plot W-1 UPL is in the adjacent upland, which is dominated by hydrophytic vegetation, primarily *Morella cerifera* (wax myrtle, FACW), *Spartina patens* (salt meadow hay, FACW), and *Panicum virgatum* (switchgrass, FAC), as well as *Pinus virginiana* (Virginia pine, UPL). Soil is sandy and meets the hydric soil indicator, *sandy redox*. The color of the first 8 inches is 10YR 4/2, with 40 percent redox features with a color of 2.5YR 3/1, which is a layer starting within 6 inches of the soil surface that is at least 4 inches thick and has a matrix with 60 percent or more chroma of 2 or less with 2 percent or more redox concentrations. Although the upland has hydrophytic vegetation and hydric soil, wetland hydrology is not present. Therefore the area was determined to be upland.

Wetlands W-2, W-3 and W-13

ESA classified Wetland W-2 as PEM/FO1A. Hydrophytic vegetation dominate - *Diospyros virginiana* (persimmon, FAC), *Scirpus cyperinus* (wool-grass, FACW), and salt meadow hay.

Hydrology indicators include high water table, saturation, oxidized rhizospheres along living roots, and geomorphic position. The soil meets hydric soil indicator *depleted matrix*. The color of the first 3 inches of soil is 10YR 4/2, with 10 percent redox features with a color of 7.5YR 4/6. This is a layer that has a depleted matrix with 60 percent of more chroma of 2 or less that has a minimum thickness of 2 inches if the 2 inches is entirely within the upper 6 inches of the soil. The matrix value of 4 and chroma of 2, with 2 percent or more redox features meets the criteria for a depleted matrix. However, the soil may be disturbed, possibly due to the placement of fill in this area. ESA classified Wetland W-3 as: PEM5A, palustrine emergent, with *Phragmites australis australis*, and temporarily flooded. Hydrophytic vegetation dominates – *Phragmites australis australis* and groundsel. Hydrology indicators include oxidized rhizospheres along living roots, drainage patterns, and geomorphic position. The soil is hydric due to *depleted matrix*. The first three inches of soil is 10YR 4/2, with 5 percent redox features with a color of 10YR 6/8. Wetland W-13 is similar to W-3, but is classified as PEM1B, palustrine emergent, persistent, saturated. It contains less *Phragmites australis* and is slightly less wet than Wetland W-3.

ESA documented data plots W-13 UPL and W-2 UPL in the adjacent uplands. Dominate vegetation includes persimmon, *Smilax rotundifolia* (greenbriar, FAC), *Setaria italica* (foxtail millet, FACU), *Juncus effusus* (soft rush, FACW), wool-grass, and *Phragmites australis*. Although hydrophytic plants dominate the sites, hydrology indicators and hydric soils are not present. At plot W-13 UPL the soils are 10YR 3/3 and 10YR 5/6. At plot W-2 UPL, the soils are primarily 10YR 4/4 and 10YR 5/6, with a top layer that is less than 2 inches thick of color 10YR 3/2 with redox concentrations. This layer is too thin to meet a hydric soil indicator.

Flagged Upland Areas Adjacent to Wetlands W-2, W-3 and W-13

ESA documented and flagged two upland areas identified as UPL-3 and UPL-4. Both uplands are in depressional areas with wetland vegetation, and visually give the impression of wetlands. However, hydric soil was not present in either area. Soil in UPL-3 is 10YR 4/4 and soil in UPL-4 is 10YR 4/3, based on multiple samples in each area. Both areas do not have primary indicators of wetland hydrology, but each have two secondary indicators--drainage patterns and geomorphic position, which meets the criteria for wetland hydrology. Both areas are dominated by hydrophytic vegetation—UPL-3 is dominated by *Phragmites australis* and UPL-4 is dominated by wool-grass.

Wetlands W-4, W-6, and W-9

Located to east of a culvert under West Road, ESA identified Wetland W-4 and classified it as PEM5A. Hydrophytic vegetation dominates – persimmon (*Diospyros virginiana*), *Phragmites australis*, and *Rubus occidentalis* (black raspberry, UPL). Hydrology indicators are saturation, drift deposits, drainage patterns, and geomorphic position. The soil is hydric and meets the hydric soil indicator *depleted matrix*. The first 8 inches of soil is 10YR 4/2 with 5 percent of

redox features of color 7.5YR 6/8. On the west side of the same culvert is Wetland W-9, classified as PEM/OW5A (palustrine emergent/open water, with *Phragmites australis*, temporarily flooded). Hydrophytic vegetation dominate—primarily *Phragmites australis*, with persimmon, *Salix nigra* (black willow, FACW), *Acer rubrum* (red maple, FAC), *Rubus allegheniensis* (Allegheny blackberry, UPL), and *Persicaria perfoliata* (mile-a-minute, FAC). Hydrology indicators include surface water, saturation, water marks, drainage patterns, and geomorphic position. The soil meets the indicator *depleted matrix*. At a depth of 3 to 10 inches the soil color is 10YR 4/1 with 5 percent of redox features of color 5YR 5/8. The wetland is very densely vegetated, but has an inner section of open water. The wetland is bound to the north by a gravel road that acts as a berm, separating the wetland from Wetland W-6, located to the north of Wetland W-9. ESA classified Wetland W-6 as PEM/OW5A. *Phragmites australis* dominates, with smaller amounts of mile-a-minute and red maple present. Hydrology indicators include surface water, saturation, water marks, oxidized rhizospheres, drainage patterns, and geomorphic position. Soil meets the indicator *redox dark surface*. The first 9 inches of soil is 10YR 3/2 with 5 percent of redox features of color 5YR 5/8.

Nearby, ESA documented upland data plot UPL-2. It has only one secondary hydrology indicator, geomorphic position, which is not sufficient to indicate wetland hydrology. *Phragmites australis* and Allegheny blackberry dominate and the plots does not meet the dominance test criteria for hydrophytic vegetation indicators. The soil is not hydric with colors of 10YR 3/3, 2.5YR 4/3, and 10YR 5/6.

Wetlands W-7 and W-8

Wetland W-7 is tidal marsh along the shoreline of Carr Creek. ESA classified it as E2EM5, estuarine intertidal emergent, with *Phragmites australis*. Hydrophytic vegetation, primarily *Phragmites australis*, dominate and hydrology indicators include high water table, saturation, water marks, drift deposits, and geomorphic position. The soil is sandy and hydric. It meets the criteria of *dark surface* indicator. The first 4 inches of soil is 10YR 2/1 and the layer immediately below is 7.5YR 4/1. ESA classified Wetland W-8 as PEM/FO1A. It drains into Carr Creek, via a berm opening. It is not tidally flooded. Hydrophytic vegetation, primarily *Phragmites australis*, dominates with smaller amounts of persimmon and *Quercus palustris* (pin oak, FACW). Hydrology indicators are high water table, saturation, water marks, drift deposits, water-stained leaves, drainage patterns, and geomorphic position. Soils are hydric and meet the *depleted matrix* indicator. The first 3 inches of soil is 10YR 4/2 with 5 percent of redox features of color 10YR 5/6.

Wetlands W-10 and W-11

Wetlands W-10 and W-11 are tidal marshes along Carr Creek. Wetland W-10 is in two sections, W-10A and W-10B, and ESA classified them as E2EM5. Hydrology indicators include surface water, saturation, water marks, drift deposits, water-stained leaves, drainage patterns, and

geomorphic position. Hydrophytic vegetation dominates, consisting only of *Phragmites australis*. Soils meet the criteria of *redox dark surface* indicator. The first 10 inches of soil is 2.5Y 3/2 with 5 percent redox features of color 5YR 5/8. Wetland W-11 is classified as E2US3 and is devoid of *Phragmites australis*. Instead, its dominant vegetation consists of *Spartina alterniflora* (tall cordgrass, OBL) and *Typha angustifolia* (narrow-leaved cattail, OBL), which meets the criteria for hydrophytic vegetation indicators. Driftwood-like debris covers the ground and appears to inhibit vegetative growth. Hydrology indicators include surface water, saturation, water marks, drift deposits, water-stained leaves, drainage patterns, and geomorphic position. Soils are hydric due to *redox dark surface*. The first 10 inches of soil is 2.5YR 3/2 with 5 percent redox features of color 5YR 5/8.

Nearby, ESA documented upland data plot W-11 UPL. No wetland hydrology indicators were documented, and the soil was not hydric with colors of 10YR 3/3 and 10YR 5/4 with no redox features. The dominant plants in the plot are primarily upland species-- *Prunus avium* (sweet cherry, UPL) and *Rubus phoenicolasius* (wineberry, UPL).

Wetland W-5

Wetland W-5 is a tidal marsh in a cove of Mill Creek, near a marina. ESA classified it as E2EM5. Hydrology indicators include surface water, saturation, water marks, drift deposits, water-stained leaves, hydrogen sulfide odor, oxidized rhizospheres, drainage patterns, and geomorphic position. Hydrophytic vegetation, primarily *Phragmites australis*, with lesser amounts of *Lonicera japonica* (Japanese honeysuckle, FAC), *Rosa multiflora* (multiflora rose, FACU), and wineberry dominate. Soils are hydric and meet the criteria of *depleted below dark surface* indicator. The soil has a layer with a depleted matrix that has 60 percent or more of a chroma of 2 or less (10YR 3/2), starting within 12 inches of the soil surface, having a minimum thickness of 6 inches. The loamy layer above this layer has a matrix value of 3 or less and chroma of 2 or less (10YR 2/1).

Nearby, ESA documented upland data plot UPL-1. The plot does not have wetland hydrology indicators or hydric soil—soil colors are 10YR 3/3 and 10YR 4/4. The dominant plants are primarily upland and FACU species-- *Morus rubra* (red mulberry, FACU), wineberry, *Muhlenbergia* sp. (mulhly grass), *Celastrus orbiculatus* (bittersweet, FACU), Japanese honeysuckle, and *Vitis labrusca* (grape vine, FAC). The data plot is within a previously delineated wetland, but the area currently exhibits no wetland indicators.

5.0 CONCLUSION

There are approximately 8.9 acres of wetlands present in the designated study areas on Greenbury Point. Wetland types include tidal and non-tidal with emergent or forested vegetation, or open water. Wetlands provide groundwater recharge, flood storage, pollution control, erosion and sediment control, and wildlife habitat and aesthetic values. All jurisdictional wetlands and waters are subject to federal protection according to the Clean Water Act. Therefore, ESA recommends that wetland impacts be avoided to the maximum extent possible.

5.1 Wetland Jurisdiction and Permitting Process

Wetland and waters jurisdiction can be determined only by the COE. The COE regulates lakes, rivers, streams (including intermittent and perennial), mudflats, sandflats, wetlands, sloughs, potholes (i.e. Delmarva bays), wet meadows, playa lakes and natural ponds. The COE also regulates impoundment (ponds), but not certain types of stormwater management facilities. The COE does not regulate conveyance paths that only flow in response to direct precipitation or isolated wetlands.

A formal Jurisdictional Determination (JD) of the subject property can be obtained from the COE prior to commencing land planning. All jurisdictional wetlands and waters are subject to federal protection according to the Clean Water Act, and may not be disturbed without authorization by the COE. The delineation findings described herein are based on best professional judgment based on guidance provided by the agencies. However, until the wetlands/waters boundaries are confirmed by the agencies through a JD and/or the permitting process, the delineation performed by ESA should only be used for preliminary planning purposes.

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APPENDIX A

Site Vicinity Map



MAPPING PROVIDED BY: ADC THE MAP PEOPLE, 2009 EDITION, ANNE ARUNDEL COUNTY, MARYLAND MAP 5295
MAP 5295 2-5; G-J

Submitted to:



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Washington DC

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VICINITY MAP

GREENBURY POINT NAVAL SUPPORT ACTIVITY ANNAPOLIS

CONTRACT #N40080-12-D-0350, DO 09, TASK 6

SCALE: 1"=2,000'

DATE: JUNE 2013

ESA PROJECT NAME: Task 6 Greenbury Wetland
Delineation/Deliverables

SHEET: 1 of 1



NORTH