



August 14, 2023

Anne Arundel County  
Office of Planning & Zoning  
2664 Riva Road  
Annapolis, Maryland 21401

Attention: Ms. Sterling Seay

Re: VARIANCE REQUEST  
TAYLOR PROPERTY  
1828 MILVALE ROAD  
ANNAPOLIS, MD 21409

Dear Ms. Seay:

On behalf of the applicants, we respectfully request a variance to Article 17-8-201(a) which states in part that 15% slopes or greater in the LDA shall not be disturbed. A variance is also requested to 18-4-401 (b) which requires a 50' planted buffer shall be located and maintained between the principle structure and the crest of steep slopes. This lot meets the definition of a buildable lot, subject to the approvals of the County. The property is 53,655 square feet in area. The site is served by private well and septic. The site is located on Milvale Road, a 30' wide right of way. Access to the site is and will remain from Milvale Road. The site drains to the tidal waters of Mill Creek. The lot is waterfront. The site is located in the LDA (Limited Development Area) of the Chesapeake Bay Critical Area. The site is located in a Buffer Modification area and is not subject to an expanded buffer. The site contains some steep slopes but is surrounded on all sides by steep slopes. There is a 25' buffer noted to these slopes. The site is zoned RLD.

The applicant wishes to raze the existing house, pool and all other existing improvements, and construct a new dwelling in the same general area as the existing home. The new footprint will be slightly larger than the existing footprint. What is unusual about the existing development is that the house is built into the side of the hill, with a retaining wall around the front, and a concrete walkway between the house and this wall. This layout also includes a bridge to access the dwelling from the front. The new house will utilize this area for the new dwelling. The new design would allow for direct access to the front porch, without the need for a bridge. The existing house is approximately 76'x37'. The house was constructed in 1979.

The proposed structure is approximately 83'x44' with a two story covered porch constructed over a patio as well as replacing the pool, providing a detached garage, and keeping the dual driveways. A structured walkway will provide access from the garage level to the front porch. The slope disturbance is predominantly to the 25% or greater slopes between the dwelling and Milvale Road. As the house is built into this hill there is no reasonable way to even remove the proposed improvements without disturbing the slope. The slopes will be regraded, not only for the improvements and work area, but to ensure runoff does not flow into the dwelling. Currently the dwelling has water issues, and a review of the existing conditions plan will note that the water from the site and from Milvale Road currently flows directly into the face of the dwelling. The foundation of the dwelling is also sinking, the floors of the house are no longer level. And the pool is also sinking, as seen by the lines of tile in the pool not being parallel to the water surface. By regrading the slope near the garage, and on the south side of the dwelling, runoff can be safely conveyed around the dwelling and prevent runoff from interfacing with the dwelling. There is also currently a driveway within 50' of the top of the steep slope. The general location of this driveway will remain, but a new driveway will be installed. As the bulk of the development is located in or at the base of

the slope, the driveway would be located in the 50' buffer. The new driveway will reduce the amount of impervious above the crest of the slope by 140 square feet. A review of the site plan will show the disturbance is minimized, and only the area necessary to perform the work. The overall lot coverage in the LDA will be reduced by 206 square feet. The slope disturbance variances are unavoidable due to the location of the existing dwelling. No setback variances are required, and adjusting the location of the dwelling into the setbacks to reduce slope disturbance was examined, but found to be impractical based on the location of the 100' buffer, the septic and well.

The stormwater management shown is a concept. It is our understanding that I&P is reviewing how stormwater management is treated on sites such as this, which are encumbered by steep slopes and their buffer.

In regards to the prefile comments dated 7-25-23, the following information is offered. The slope buffer to the northern property line is the bottom of the slope. This was shown strictly for the Health Department, as their buffers for septic systems are both to the top and bottom of the slope. This buffer and all bottom of slope buffers have been removed from the variance plan. The LOD and grading along the southern property line has been reduced in order to protect the existing vegetation in that area. The underdrain discharge pipes from MB-1 and MB-2 have been disconnected in order to meet the intent of the ESDv. Soil borings have been performed at both of the micro-bioretenion facilities and the soil data analysis has been added to the plans. The height of the proposed house has been added to the plan.

This plan meets the intent of 18-16-305(a):

1. The subject property is 53,677 square feet in size, and it is zoned RLD. The property is served by septic and well. The site is encumbered by steep slopes, and the existing dwelling is constructed into these slopes. The house currently has water issues due to the existing drainage patterns. These reasons would require a variance, due to exceptional topographic conditions peculiar to this property. There exists non vegetated area at the crest of the slope.

2. The exceptional circumstances and practical difficulties in redeveloping the property have been noted in #1 above to a large degree. The house cannot be replaced without a variance. There is no realistic way to even reconstruct the dwelling in the same footprint without a variance. The slope disturbance is necessary to remove the dwelling, and to alleviate water flow issues into the dwelling.

This plan also meets the intent of 18-16-305(b) for critical area variances.

1. What is peculiar about and inherent to this lot is that the house is built into the slope. From the house to Milvale there exists an area of steep slopes, breaking the lot into two distinct areas on either side of the house. Due to this situation, the home has continuous water issues. The home from the roadside is also accessed by a bridge. This plan would provide a modern dwelling without the water and access issues.

2. A literal interpretation of COMAR would deny the owners use of the property enjoyed by others as the site has steep slopes and their buffers. The structure itself is located in steep slopes and their buffers. There is no possibility of constructing a modern dwelling without relief to the Code. For the owners to not be allowed to proceed would be a denial of rights commonly enjoyed by others.

The site is not in a bog area.

3. This project will not confer special privileges to the owner, as the structure is dated, and has water issues, and the house is proposed almost in the same development footprint. The site is typical of many properties on the Severn River and its tributaries, and the relief requested is minimal.

4. The request is not a result of actions of the owner. The steep slopes were there, and the owners have not started work prior to the issuance of any permits.

5. This project will not result in a denigration of forest or water quality as stormwater management will be provided as required by the Code, and any clearing must be mitigated for as per the Code. The amount of new lot coverage is being reduced. Stormwater management via micro-bioretenment will be provided as necessary at permit should the variance be granted. This would decrease runoff and erosion and on-site stormwater management will provide an overall benefit to the environment. Mitigation planting will be provided for any developed woodlands clearing.

6. This site is not in the bog buffer.

7. This plan meets the presumption, as the denial of this variance would deny the owners' rights of other owners in the County. The development is not detrimental to the environment as stormwater management and modern construction will make the project a benefit not a detriment to the area.

8. The applicant has tried alternative design. Through the process of determining the footprint and location of the new dwelling, it came to be that replacing it in roughly the same footprint would be the least impactful to the slopes and the environment.

This plan meets the requirements of 18-16-305(c), as the proposal is the minimum relief necessary. The development will not impair the use of adjoining properties, nor reduce forest cover in the LDA or RCA. The work performed will not be contrary to clearing and replacement practices and will not alter the character of the neighborhood or be detrimental to the public welfare.

1. The variance request is the minimum to afford relief. The request is the minimum to allow for construct a new dwelling with a more modern and environmentally friendly structure without the water issues that the house currently has.

2. i. This variance will not alter the essential character of the neighborhood. The new house is about the same footprint as the existing structure and will be located in basically the same development footprint.

ii. This variance will not impair the use of adjoining properties. The proposal will not impact neighbors. The new dwelling is mostly in the same development footprint as the existing dwelling.

iii. Any tree clearing will require mitigation, and will be provided at permit, most likely in excess of what is removed. This development will increase cover in the LDA or RCA.

iv. No work will be performed contrary to approved clearing practices, as a permit will be required, and this permit must meet those requirements.

v. The project will not be detrimental to the public welfare, as it is located on private property.

This plan proposes the minimum relief necessary. The development will not impair the use of adjoining properties, nor reduce forest cover in the LDA. The work performed will not be contrary to clearing and replacement practices and will not alter the character of the neighborhood or be detrimental to the public welfare.

As this proposal is for construction in the relative same development footprint, and disturbance has been minimized. A grading permit will be required, and stormwater management is shown on the plan. It appears that this request is consistent with other development in this area. Denial of this request would not allow the owner to enjoy property rights common to other properties in this area.

The enclosed plan represents the location of the proposed work. In closing, the variances requested are the minimum necessary to afford relief and is not based on conditions or circumstances that are a result of actions by the applicant. We thank for in advance for your consideration of this request.

If you have any questions, or if you require additional information, please feel free to contact me at 410-897-9290.

Sincerely,  
Bay Engineering, Inc.

*Mike Gillespie*

Mike Gillespie  
Designer  
cc: owner, File

**GENERAL NOTES**

- OWNER: BERNAHNE J. TAYLOR & JESSICA R. TAYLOR  
1318 PENNINGTON LANE  
ANNAPOLIS, MD 21408  
PHONE: (410) 291-2390  
EMAIL: bernahnetaylor@att.net
- ENGINEER: BAY ENGINEERING INC.  
2811 ROCK ROAD, SUITE 200  
ANNAPOLIS, MD 21403  
410-291-2390  
C/O MRS. CALLESPÉ
- THE PROPERTY IS KNOWN AS TAX MAP 46, GRID 10, PARCEL 174, LOT 13, TOTAL AREA = 53,877 SQ. FT. OR 1,232 AC. A. DEED REF: 37621 / 235
- EXISTING ZONING OF THE SITE IS RLD/LDA
- THE SITE ADDRESS IS: 1828 MILVALE ROAD, ANNAPOLIS, MD 21409
- TAX ACCOUNT NO.: 03-552-27819405
- THE SITE IS PARTIALLY LOCATED WITHIN THE CHEESAPEAKE BAY CRITICAL AREA LIMITED DEVELOPMENT AREA (LDA)
- PROPOSED UTILITIES ARE PRIVATE WATER (W.P.), PLUMBED SERVICE (P.S.) AND PRIVATE SEWER (S.P.) FUTURE SERVICE (F.S.)
- THE PROPERTY IS DESIGNATED AS LOCATED IN THE FLOOD HAZARD ZONE "F" ZONED OUTSIDE THE 1% ANNUAL CHANCE FLOOD (FIRM) AS delineated ON THE FIRM FLOOD INSURANCE MAP #240001R01 DATED FEBRUARY 18, 2015 FOR SAID COUNTY AND DISTRIBUTED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA).
- THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR TO ADEQUATELY PRIOR TO ANY CONSTRUCTION. ANY UTILITIES DAMAGED DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL CALL "MISS UTILITY" (1-800-252-3777) A MINIMUM OF 48 HOURS IN ADVANCE OF ANY EXCAVATION, BORING, PILE DRIVING AND/OR DRIVING FOR THE LOCATION OF GAS, ELECTRIC, WATER, SEWER, AND TELEPHONE LINES

**SURVEY CONTROL NOTE**

THE COORDINATES AND ELEVATIONS SHOWN HEREON ARE BASED ON RTN (REAL TIME KINEMATIC) OBSERVATIONS UTILIZING KINEMATIC GPS NETWORK. THE HORIZONTAL DATUM IS REFERENCED TO NAD 83 AND STATE PLANE NAD 83 (99) AND THE VERTICAL DATUM IS REFERENCED TO NAVD 83.

**EXISTING LOT COVERAGE SUMMARY**

DESCRIPTION	AREA
EXISTING LOT AREA	52,877 SQ. FT. OR 1,232 ACRES
EXISTING LOT COVERAGE	19,107 SQ. FT. OR 0.438 ACRES
ALLOWABLE COVERAGE ON SITE (10%)	5,288 SQ. FT. OR 0.120 ACRES
IMP. REDUCTION (14.10% @ 0.022/15)	7,450 SQ. FT. OR 0.171 ACRES
ALLOWABLE COVERAGE AFTER 10% REDUCTION	8,838 SQ. FT. OR 0.202 ACRES
EXISTING DEVELOPED WOODS	15,110 SQ. FT. OR 0.346 ACRES

NOTE: BREAKDOWN OF EXISTING LOT COVERAGE IS AS FOLLOWS:

- EX HOUSE = 2,780 SQ. FT. ±
- EX POOL = 1,388 SQ. FT. ±
- EX CONCRETE = 2,407 SQ. FT. ±
- EX DRIVEWAY = 1,802 SQ. FT. ±
- EX BRICK = 1,892

TOTAL = 10,269 SQ. FT. ±

**VARIANCE REQUEST NOTE**

VARIANCES ARE REQUESTED TO THE FOLLOWING SECTIONS OF THE ANNE ARUNDEL COUNTY CODE:

- § 17-8-201 DEVELOPMENT ON SLOPES OF 15% OR GREATER.
- (H) DEVELOPMENT IN THE LDA. DEVELOPMENT IN THE LIMITED DEVELOPMENT AREA (LDA) IN THE RESOURCE CONSERVATION AREA (RCA) MAY NOT OCCUR WITHIN SLOPES OF 15% OR GREATER UNLESS DEVELOPMENT WILL FACILITATE STABILIZATION OF THE SLOPE, IS TO ALLOW CONNECTION TO A PUBLIC UTILITY, OR IS TO PROVIDE DIRECT ACCESS TO THE BIOWALK. ALL DISTURBANCE SHALL BE LIMITED TO THE MINIMUM NECESSARY.

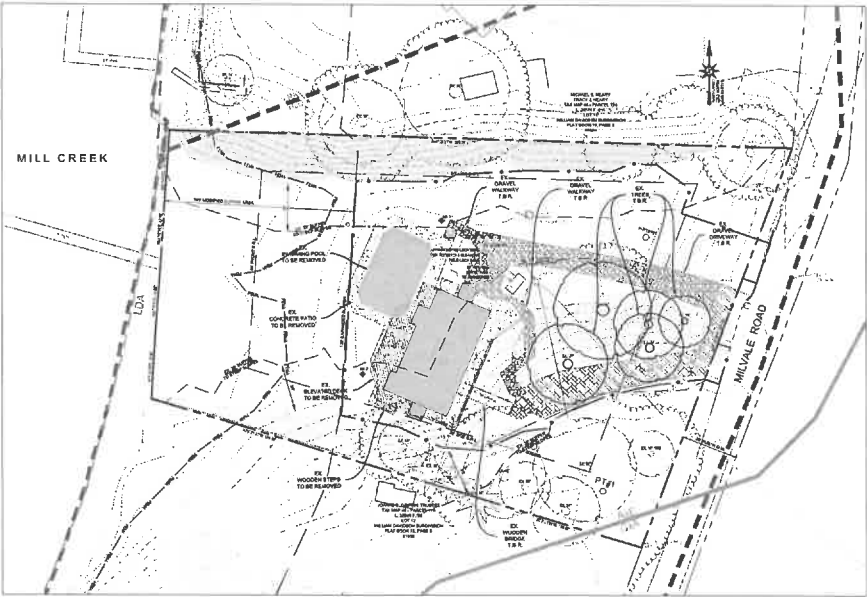
18-401 (B) RETRACTION FROM CERTAIN SLOPES. A BUFFER ZONE BUFFER AREA SHALL BE LOCATED AND MAINTAINED BETWEEN THE PRINCIPAL STRUCTURE AND THE CREST OF STEEP SLOPES.

**VARIANCE PLAN FOR THE TAYLOR PROPERTY**

1828 MILVALE ROAD, ANNAPOLIS, MD 21409  
TAX MAP 46, GRID 10, PARCEL 174, LOT 13  
DEED REFERENCE: 37621 / 235  
TAX ID#: 03-552-27819405 ZONED: RLD/LDA  
THIRD DISTRICT ANNE ARUNDEL COUNTY



VICINITY MAP  
SCALE 1" = 200'  
COPYRIGHT ACS THE MAP PEOPLE  
PERMITTED USE: NO 02619200



EXISTING CONDITIONS PLAN  
SCALE: 1" = 30'

**LEGEND**

- PROPERTY LINE / RIGHT-OF-WAY: - - - - -
- EXISTING CONTOUR: ————
- EXISTING WOODS: [Symbol]
- EXISTING FENCE: [Symbol]
- EXISTING UTILITY POLE W/ OHVD WIRE: [Symbol]
- EXISTING WATER: [Symbol]
- EXISTING SOILS DESIGNATION: [Symbol]
- EXISTING SPOT ELEVATION: [Symbol]
- PROPOSED LIMIT OF DISTURBANCE: [Symbol]
- SOIL BORING: [Symbol]

**SOILS TABLE**

SYMBOL	NAME	HYDROLOGIC SOIL TYPE	PERCENT COVERAGE	HYDRIC SOIL?
A1E	ANNAPOLIS FINE SANDY LOAM, 15 TO 25% SLOPES	"C"	99.5%	YES
CaA	CUMBERSTONE - MATTAPEX COMPLEX, 0 TO 2% SLOPES	"C/D"	0.5%	YES

**Revisions**

Rev. #	By	Date	Description

**Users**

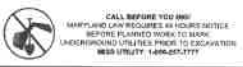
User No.	Exp./Insert Date

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Bay Engineering Inc.  
2811 Rock Road, Suite 200  
Annapolis, Maryland 21403  
410-291-2390  
www.bayengineering.com

Date: AUGUST, 2023  
Job Number: 17-021  
Scale: AS SHOWN  
Drawn By: J. M. ESPERANZA CALLESPÉ  
Approved By: T. MARTIN  
Project Reference: TAYLOR PROPERTY 1828 MILVALE

VARIANCE PLAN  
GRADING PERMIT PLANS  
FOR THE  
**TAYLOR PROPERTY**  
TAX MAP 46-552-27819405 DEED REF 37621 / 235  
ANNAPOLIS, MD 21409  
LOT 13 W/ 1/2 MILVALE ROAD  
THIRD DISTRICT ANNE ARUNDEL COUNTY ZONED RLD/LDA

PLOTTED: Aug 23, 2023 - 3:39pm



F:\21-4391 Taylor Property 1828 Milvala\Drawing Files\21-4391 Grading Permits Plans.dwg





**Bay Engineering Inc.**  
Engineers, Planners and Surveyors



August 14, 2023

Lori Byrne  
Environmental Review Specialist  
Department of Natural Resources  
Fish, Heritage and Wildlife Administration  
580 Taylor Avenue  
Annapolis, MD 21401

**RE: 1828 MILVALE ROAD  
ANNAPOLIS, MD 21409  
VARIANCE APPLICATION**

Dear Ms. Byrne,

The purpose of this correspondence is to request an environmental review statement on the enclosed project. Our clients, Benjamin and Jessica Taylor are submitting a variance application to Anne Arundel County, Maryland. The variance is being submitted for relief to Anne Arundel County Code, Article 17-8-201 which prohibits development in slopes greater than 15% in the critical area. The owner wishes to raze an existing dwelling and pool and construct a new dwelling, pool and detached garage and associated improvements. The site is in the LDA. The structure will be in approximately the same location. The Chesapeake Bay Critical Area Report is enclosed, as well as a cover letter to Anne Arundel County and associated plans.

Should you have any questions, please do not hesitate to call me at 410-897-9290.

Sincerely,

**Bay Engineering**

*Mike Gillespie*

Michael Gillespie  
Project Designer





# OFFICE OF PLANNING AND ZONING

## CONFIRMATION OF PRE-FILE MEETING

DATE OF COMMENTS 7/25/23

P&Z STAFF Joan Jenkins/ Kelly Krinetz

APPLICANT/REPRESENTATIVE Kehvanna Hayley EMAIL khaylev@bavengineering.com

SITE LOCATION 1828 Milvale Rd LOT SIZE 54,841 sf ZONING RLD

CA DESIGNATION LDA BMA X or BUFFER          APPLICATION TYPE VAR

Applicant is requesting a variance to 17-8-201(a) and 18-4-401(b), steep slopes and RLD 50' planted buffer to top of steep slopes.

### COMMENTS

#### Critical Area Team:

No objection to the variance request.

The site plan incorrectly shows a 25' buffer to the bottom of the steep slope. The buffer is only required to the top.

The following comments are for the overall development of the property:

The disturbance to the steep slope buffer along the northern property line would require modification approval. This disturbance should be removed.

The LOD and grading along the southern property line should be reduced in order to protect the existing vegetation in that area.

#### Engineering:

1- In order to meet the intent of ESDv, the overflow and/or underdrain from MB-2 must discharge directly and not be connected to MB-1 as currently shown.

2- Soil borings are required to confirm the siting and suitability of the chosen facilities.

#### Zoning:

1. Add the height of the house (in feet) to the site plan in the location of the house.
2. You may submit your variance application via LUN once the site plan has been corrected.

**Note: The Zoning Division is paperless. All applications should be submitted online through the Land Use Navigator. <https://www.aacounty.org/departments/planning-and-zoning/land-use-navigator/>**

### INFORMATION FOR THE APPLICANT

Section 18-16-201 (b) Pre-filing meeting required. Before filing an application for a variance, special exception, or to change a zoning district, to change or remove a critical area classification, or for a variance in the critical area or bog protection area, an applicant shall meet with the Office of Planning and Zoning to review a pre-file concept plan or an administrative site plan. For single lot properties, the owner shall prepare a simple site plan as a basis for determining what can be done under the provisions of this Code to avoid the need for a variance.

\*\*\* A preliminary plan checklist is required for development impacting environmentally sensitive areas and for all new single-family dwellings. A stormwater management plan that satisfies the requirements of the County Procedures Manual is required for development impacting environmentally sensitive areas OR disturbing 5,000 square feet or more. State mandates require a developer of land provide SWM to control new development runoff from the start of the development process.

Section 18-16-301 (c) Burden of Proof. The applicant has the burden of proof, including the burden of going forward with the production of evidence and the burden of persuasion, on all questions of fact. The burden of persuasion is by a preponderance of the evidence.

A variance to the requirements of the County's Critical Area Program may only be granted if the Administrative Hearing Officer makes affirmative findings that the applicant has addressed all the requirements outlined in Article 18-16-305. Comments made on this form are intended to provide guidance and are not intended to represent support or approval of the variance request.

CRITICAL AREA COMMISSION  
 CHESAPEAKE AND ATLANTIC COASTAL BAYS  
 1804 WEST STREET, SUITE 100  
 ANNAPOLIS, MD 21401

PROJECT NOTIFICATION APPLICATION

**GENERAL PROJECT INFORMATION**

Jurisdiction: AAPo

Date: 8-14-23

Tax Map #	Parcel #	Block #	Lot #	Section
<u>46</u>	<u>164</u>	<u>10</u>	<u>13</u>	<u>-</u>

Tax ID: 3-553-27819405

**FOR RESUBMITTAL ONLY**

Corrections

Redesign

No Change

Non-Critical Area

*\*Complete Only Page 1  
 General Project Information*

Project Name (site name, subdivision name, or other) Taylor Property

Project location/Address 1828 Milvale Rd

City Annapolis Zip 21409

Local case number \_\_\_\_\_

Applicant: Last name Taylor, Benjamin + Jessica First name \_\_\_\_\_

Company Owner

**Application Type (check all that apply):**

- |                           |                          |                   |                                     |
|---------------------------|--------------------------|-------------------|-------------------------------------|
| Building Permit           | <input type="checkbox"/> | Variance          | <input checked="" type="checkbox"/> |
| Buffer Management Plan    | <input type="checkbox"/> | Rezoning          | <input type="checkbox"/>            |
| Conditional Use           | <input type="checkbox"/> | Site Plan         | <input type="checkbox"/>            |
| Consistency Report        | <input type="checkbox"/> | Special Exception | <input type="checkbox"/>            |
| Disturbance > 5,000 sq ft | <input type="checkbox"/> | Subdivision       | <input type="checkbox"/>            |
| Grading Permit            | <input type="checkbox"/> | Other             | <input type="checkbox"/>            |

**Local Jurisdiction Contact Information:**

Last name \_\_\_\_\_ First name \_\_\_\_\_

Phone # \_\_\_\_\_ Response from Commission Required By \_\_\_\_\_

Fax # \_\_\_\_\_ Hearing date \_\_\_\_\_

**SPECIFIC PROJECT INFORMATION**

Describe Proposed use of project site:

Raze existing structure & Pool (construct new structure) & detached garage

Intra-Family Transfer   
 Grandfathered Lot

Growth Allocation   
 Buffer Exemption Area

**Project Type (check all that apply)**

Commercial   
 Consistency Report   
 Industrial   
 Institutional   
 Mixed Use   
 Other

Recreational   
 Redevelopment   
 Residential   
 Shore Erosion Control   
 Water-Dependent Facility

**SITE INVENTORY (Enter acres or square feet)**

	Acres	Sq Ft
IDA Area	0	0
LDA Area	1.232	53,655
RCA Area	0	0
Total Area	1.232	53,655

Total Disturbed Area 

Acres	0.587
Sq Ft	25,412

# of Lots Created 0

	Acres	Sq Ft		Acres	Sq Ft
Existing Forest/Woodland/Trees	0.349	15,120	Existing Lot Coverage	0.256	10,387
Created Forest/Woodland/Trees	TBD	TBD	New Lot Coverage	0.128	5,560
Removed Forest/Woodland/Trees	0.594	4,115	Removed Lot Coverage	0.236	10,302
	TBD	TBD	Total Lot Coverage	0.228	9,960

**VARIANCE INFORMATION (Check all that apply)**

	Acres	Sq Ft		Acres	Sq Ft
Buffer Disturbance	0	0	Buffer Forest Clearing	0	0
Non-Buffer Disturbance	0.587	25,412	Mitigation	TBD	TBD

**Variance Type**

Buffer   
 Forest Clearing   
 HPA Impact   
 Lot Coverage   
 Expanded Buffer   
 Nontidal Wetlands   
 Setback   
 Steep Slopes   
 Other

**Structure**

Acc. Structure Addition   
 Barn   
 Deck   
 Dwelling   
 Dwelling Addition   
 Garage   
 Gazebo   
 Patio   
 Pool   
 Shed   
 Other

***CRITICAL AREA  
REPORT***

**TAYLOR PROPERTY  
1828 MILVALE ROAD  
ANNAPOLIS, MD 21409**

**August 2023**

Prepared for:  
Benjamin & Jessica Taylor  
1828 Milvale Road  
Annapolis, MD 21409

Prepared by:  
Bay Engineering, Inc.  
2661 Riva Rd. Building 800  
Annapolis, MD 21401

## INTRODUCTION

This site is a 53,665 square foot property that is located 1828 Milvale Road in Annapolis, MD. The property is lot 13 of the Milvale William Davidson subdivision. The proposal is to raze an existing dwelling and construct a new dwelling. The property is completely inside the Chesapeake Bay Critical Area Boundary and is designated as Limited Development Area (LDA). The property is zoned RLD.

## EXISTING USE

The site is currently developed with a house, driveway pool and associated improvements. The property is served by septic and well. The property is waterfront. The site is in a buffer modification area. The site contains steep slopes, and drains to Nukk Creek, a tributary of the Severn River. The site is served by Milvale Road, a variable width public right of way.

## SURROUNDING LAND USE

The properties that abut the site are developed as single-family lots. The general area is developed as single-family lots. The site is bounded by a developed property to the north and south, Mill Creek to the west and Milvale Road to the east.

## SOILS

The U.S. Department of Agriculture Soil Survey defines the property to have a soil type of Ase – Annapolis fine sandy loam, 15-25% slopes (C Soils) and a small portion of CxA – Cumberstone-Mattapex complex, 0-2% slopes (C/D Soils)

## FLOODPLAIN

The property is located on the Federal Emergency Management Agency Map (FEMA), panel #24003C0189F Dated February 18, 2015 and lies within zone X, area of minimal flooding, and Zone AE Elevation 6.0’.

## NON-TIDAL WETLANDS

There appear to be no Non Tidal Wetlands on the site.

## TIDAL WETLANDS

There appear to be no Tidal Wetlands on this site.

## BODIES OF WATER

The site drains overland to Mill Creek.

## STEEP SLOPES

The site has steep slopes, which occur on throughout the site. The variance request is to disturb steep slopes. The disturbance to the steep slopes is the minimum necessary for the proposed work, and provide adequate drainage for the property.

## RARE AND ENDANGERED SPECIES

A review of Federal and/or State listed species of rare, threatened or endangered species of plants or animals has been requested via the enclosed letter to Lori Byrne of the Maryland Department of Natural Resources Fish, Heritage and Wildlife Administration.

## STORMWATER MANAGEMENT

Stormwater management will be provided as required during the permit process.

## FOREST COVER

The existing forest cover is limited to over story trees which occur through out the site. The understory is mostly lawn.

The following are typical trees of areas such as this site:

<u>Common Name</u>	<u>Scientific Name</u>
Black Locust	<i>Robinia pseudoacaia</i>
Eastern Sycamore	<i>Platanus occidentalis</i>
American Holly	<i>Ilex opaca</i>
Beech	<i>Fagus grandifolia</i>
White Poplar	<i>Populus alba</i>
Mountain Laurel	<i>Kalmia latifolia</i>

## WILDLIFE TYPICAL OF THIS AREA

<u>Common Name</u>	<u>Scientific Name</u>
Eastern Gray Squirrel	<i>Sciurus Carolinensis</i>
Blue Jay	<i>Cyanocitta Cristata</i>
Common Crow	<i>Corvus Brachythynchos</i>
Northern Cardinal	<i>Richmondena Cardinalis</i>

## **SITE CALCULATIONS**

1. Total Site area.....53,655 sq. ft.
2. Site area in Critical area.....53,655 sq. ft
3. Existing Lot Coverage .....10,302 sq. ft.
4. Proposed Impervious area ...9,960 sq. ft.
5. Total Impervious Coverage Allowed ..... 10,077 sq. ft.



Real Property Data Search ( )  
 Search Result for ANNE ARUNDEL COUNTY

[View Map](#)      [View GroundRent Redemption](#)      [View GroundRent Registration](#)

Special Tax Recapture: None  
 Account Identifier: District - 03 Subdivision - 552 Account Number - 27819405

**Owner Information**

Owner Name: TAYLOR BENJAMIN J      Use: RESIDENTIAL  
 TAYLOR JESSICA R      Principal Residence: YES  
 Mailing Address: 1828 MILVALE RD      Deed Reference: /37621/ 00235  
 ANNAPOLIS MD 21409-5923

**Location & Structure Information**

Premises Address: 1828 MILVALE RD      Legal Description: LT 13  
 ANNAPOLIS 21409-0000      1828 MILVALE RD  
 Waterfront      MILVALE WM DAVIDSON SUB

Map: Grid: Parcel: Neighborhood: Subdivision: Section: Block: Lot: Assessment Year: Plat No:  
 0046 0010 0174 3110050.02 552 13 2022 Plat Ref:

Town: None

Primary Structure Built Above Grade Living Area Finished Basement Area Property Land Area County Use  
 1979 2,136 SF 1292 SF 54,841 SF

StoriesBasementType ExteriorQualityFull/Half BathGarage Last Notice of Major Improvements  
 1 YES STANDARD UNITFRAME/5 2 full/ 1 half 1 Attached

**Value Information**

	Base Value	Value As of 01/01/2022	Phase-in Assessments	
			As of 07/01/2023	As of 07/01/2024
Land:	974,700	1,209,700		
Improvements	439,500	366,200		
Total:	1,414,200	1,575,900	1,522,000	1,575,900
Preferential Land:	0	0		

**Transfer Information**

Seller: MANGAN EDMUND L      Date: 09/28/2021      Price: \$2,000,000  
 Type: ARMS LENGTH IMPROVED      Deed1: /37621/ 00235      Deed2:  
 Seller: BAIN JR-TRUSTEE, EDWIN C      Date: 03/18/1997      Price: \$550,000  
 Type: ARMS LENGTH IMPROVED      Deed1: /07826/ 00122      Deed2:  
 Seller: BAIN, EDWIN C JR      Date: 10/06/1992      Price: \$0  
 Type: NON-ARMS LENGTH OTHER      Deed1: /05778/ 00677      Deed2:

**Exemption Information**

Partial Exempt Assessments: Class      07/01/2023      07/01/2024  
 County: 000      0.00  
 State: 000      0.00  
 Municipal: 000      0.00|0.00      0.00|0.00

Special Tax Recapture: None

**Homestead Application Information**

Homestead Application Status: Application received

**Homeowners' Tax Credit Application Information**

Homeowners' Tax Credit Application Status: No ApplicationDate:



1828 MIDVALE RD 21409 X



Show search results for 1828 M





1828 MILVALE RD, 21409

103

RLD Residential  
Low Density

1832

Rd Front  
Agitated

60 ft

Critical Areas: (1)

> Refine

Critical Areas: LDA - Limited Development Area



# National Flood Hazard Layer FIRMette



76°27'35"W 39°0'37"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- |                                    |   |
|------------------------------------|---|
| <b>SPECIAL FLOOD HAZARD AREAS</b>  | Without Base Flood Elevation (BFE)<br><i>Zone A, V, A99</i>   |
|                                    | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>  |
|                                    | Regulatory Floodway   |
| <b>OTHER AREAS OF FLOOD HAZARD</b> | 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
|                                    | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>   |
|                                    | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>   |
|                                    | Area with Flood Risk due to Levee <i>Zone D</i>   |
| <b>OTHER AREAS</b>                 | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>  |
|                                    | Effective LOMRs   |
|                                    | Area of Undetermined Flood Hazard <i>Zone X</i>   |
| <b>GENERAL STRUCTURES</b>          | Channel, Culvert, or Storm Sewer  |
|                                    | Levee, Dike, or Floodwall   |
| <b>OTHER FEATURES</b>              | <u>20.2</u> Cross Sections with 1% Annual Chance Water Surface Elevation  |
|                                    | <u>17.5</u> Coastal Transect  |
|                                    | Coastal Transect  |
|                                    | Base Flood Elevation Line (BFE)   |
|                                    | Limit of Study  |
|                                    | Jurisdiction Boundary   |
|                                    | Coastal Transect Baseline   |
|                                    | Profile Baseline  |
|                                    | Hydrographic Feature  |
| <b>MAP PANELS</b>                  | Digital Data Available  |
|                                    | No Digital Data Available   |
|                                    | Unmapped  |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

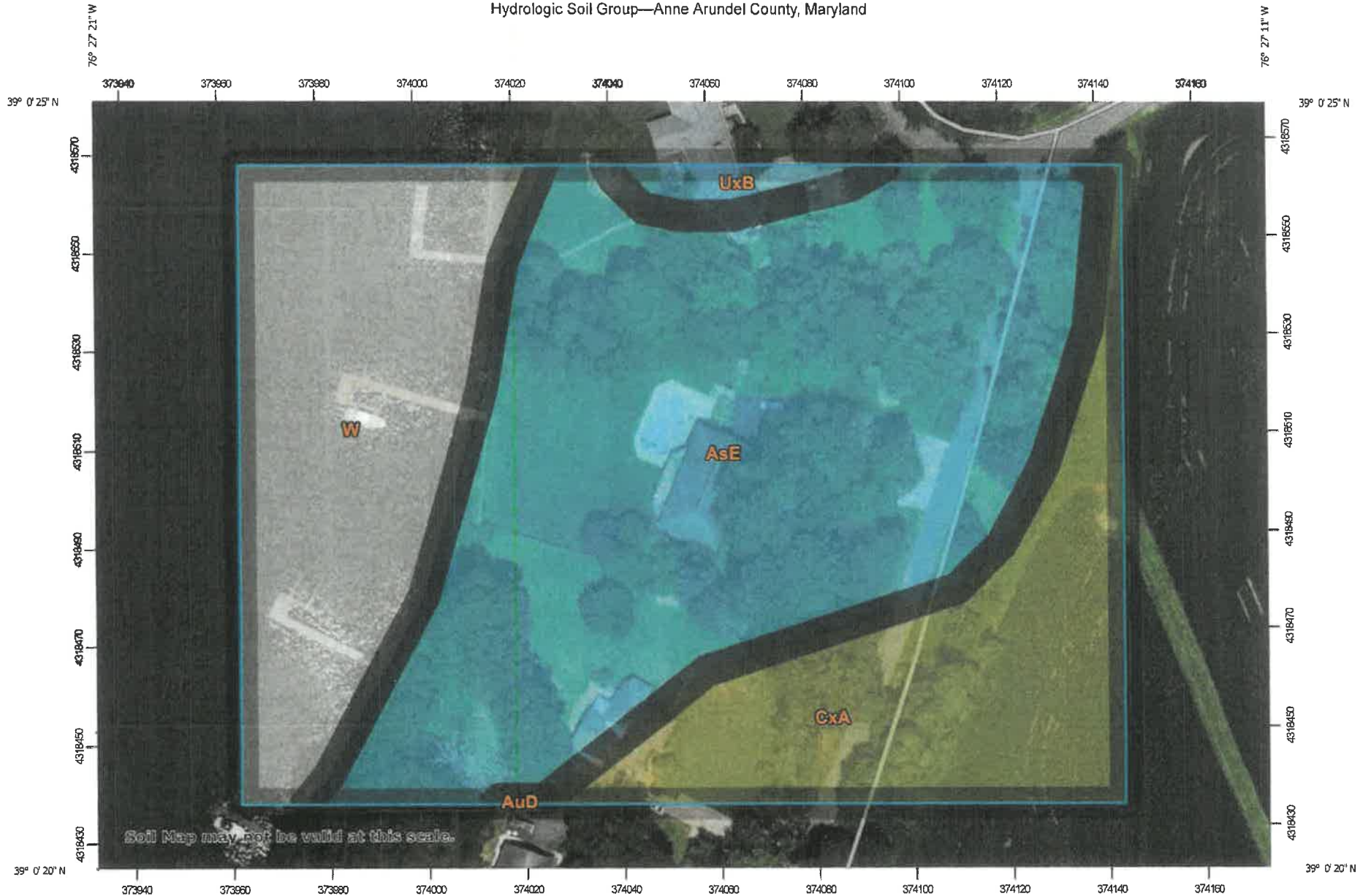
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **8/8/2023 at 11:26 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

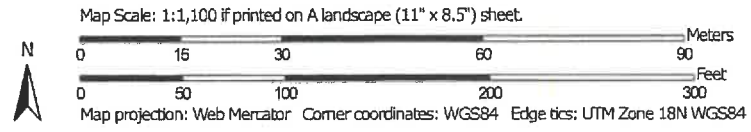
0 250 500 1 000 1 500 2 000 Feet 1:6,000

76°26'58"W 39°0'9"N

































Hydrologic Soil Group—Anne Arundel County, Maryland



Soil Map may not be valid at this scale.



### MAP LEGEND

- Area of Interest (AOI)**
  -  Area of Interest (AOI)
- Soils**
  - Soil Rating Polygons**
    -  A
    -  A/D
    -  B
    -  B/D
    -  C
    -  C/D
    -  D
    -  Not rated or not available
  - Soil Rating Lines**
    -  A
    -  A/D
    -  B
    -  B/D
    -  C
    -  C/D
    -  D
    -  Not rated or not available
  - Soil Rating Points**
    -  A
    -  A/D
    -  B
    -  B/D
- Water Features**
  -  C
  -  C/D
  -  D
  -  Not rated or not available
  -  Streams and Canals
- Transportation**
  -  Rails
  -  Interstate Highways
  -  US Routes
  -  Major Roads
  -  Local Roads
- Background**
  -  Aerial Photography

### MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Anne Arundel County, Maryland  
 Survey Area Data: Version 21, Sep 14, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 20, 2022—Aug 13, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AsE	Annapolis fine sandy loam, 15 to 25 percent slopes	C	3.2	54.4%
AuD	Annapolis-Urban land complex, 5 to 15 percent slopes	C	0.0	0.0%
CxA	Cumberstone-Mattapex complex, 0 to 2 percent slopes	C/D	1.2	20.8%
UxB	Udorthents, loamy, sulfidic substratum, 0 to 5 percent slopes	C	0.1	1.8%
W	Water		1.3	23.0%
<b>Totals for Area of Interest</b>			<b>5.8</b>	<b>100.0%</b>

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

**Group A.** Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

**Group B.** Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

**Group C.** Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

**Group D.** Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

# Bay Engineering, Inc.

Engineers, Planners and Surveyors



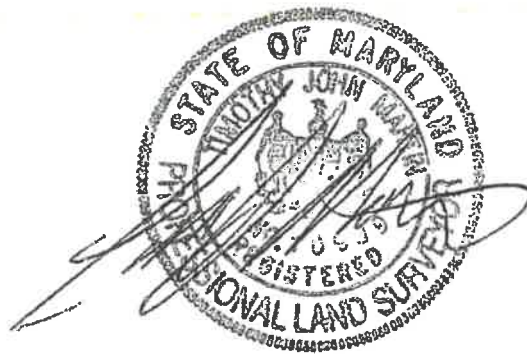
## STORMWATER MANAGEMENT REPORT

FOR THE

## TAYLOR PROPERTY

1828 Milvale Road  
Annapolis, MD 21409  
Tax Map 46, Grid 10, Parcel 174, Lot 13  
Tax ID: #03-552-27819405  
Building Permit #G0201 \_\_\_\_\_

I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Land Surveyor under the laws of the State of Maryland.



Provided by:  
Bay Engineering, Inc.  
2661 Riva Road, Building 800  
Annapolis, MD 21401

Date: August 18, 2023  
Revised: \_\_\_\_\_

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Developed Conditions.....	page 3
<b>C. Stormwater Management Concept Design</b> .....	page 3
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Recharge Volume Requirements (Re <sub>v</sub> ).....	page 4
Channel Protection Storage Volume Requirements (Cp <sub>v</sub> ).....	page 4
Overbank Flood Protection Volume Requirements (Qp <sub>10</sub> ).....	page 5
Extreme Flood Protection Volume Requirements (Q <sub>f</sub> ).....	page 5
<b>E. Environmental Site Design (ESD)</b> .....	page 5
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## **I. Narrative**

### **A. Introduction**

This report contains an analysis that outlines the stormwater management obligations for this site. We evaluated management obligations, using Environmental Site Design (ESD), for Water Quality (WQ<sub>v</sub>), Recharge (Re<sub>v</sub>), and Channel Protection (Cp<sub>v</sub>). For each of the requirements, we offer an assessment regarding the need for management, as well as the type of practice if management is required.

### **B. General Site Information**

The site is known as 1828 Milvale Road, Annapolis, MD 21409. It is located on Tax Map 46, Grid 10, Parcel 174, Lot 13 and contains 1.232 acres ± (53,677 square feet). The site is currently zoned RLD. The site is located in the LDA – (Limited Development Area) of the Chesapeake Bay Critical Area. The limit of the proposed area to be disturbed is approximately 0.575 acres ± 25,090 square feet.

#### **Existing Conditions**

The site is currently developed with a house and driveway. The site is accessed from Milvale Road. The site consists primarily of open grass area. Slopes on site within the limit of disturbance are primarily between 0% and 25%. The predominant soil types are AsE (Annapolis Sandy Loam, 15 to 25% slopes, hydrologic soil group “C. Slopes on site outside of the limit of disturbance are primarily between 0% and 25%. The predominant soil type is AsE (Annapolis Sandy Loam, 15 to 25% slopes, hydrologic soil group “C” and CxA (Cumberstone-Mattapex Complex, 0 to 2% slopes, hydrologic soil group “C/D”).

Existing topography dictates a drainage pattern generally towards the western property line. The conveyance is stable and should not be affected by development on site.

#### **Developed Conditions**

A new house and driveway will be constructed. A new well and septic system will be tied into the proposed house.

The site has been designed to provide the least amount of environmental impacts. Due to ESD utilizing, non-rooftop disconnection and a micro-bioretenion area. A smaller quantity of water will reach the outfall points at the property lines. Flow paths have been maintained and the time of concentration increased. The runoff from the entirety of the new house roof surfaces will be collected by downspouts and will flow to the stormwater devise and shown on the Stromwater Management plan (page 5 of 6). Runoff from the new parking pad will be addressed with non-rooftop disconnection. Roof top runoff will be directed to the proposed micro-bioretenion.

### **C. Stormwater Management Design**

The Stormwater Management concept for this project was designed to meet the requirements of the Stormwater Management Act of 2007.

This stormwater management plan was developed with all treatment options in mind. The total ESD volume required will be achieved utilizing only micro-scale practices from Chapter 5 of the Maryland Stormwater Design Manual. The impervious areas will be treated via four (4) non-rooftop disconnects (N-2) and two (2) micro-bioretentions (M-6) with the locations shown on the Stormwater Management Plan (page 5 of 6).

Erosion and sediment control has been integrated into the stormwater management strategy by using non-structural and micro-scale treatment techniques and limiting grading and disturbance which produce sediment and erosion.

### **D. Unified Stormwater Sizing Criteria**

#### **Methodology**

In accordance with the 2007 Maryland Stormwater Design Manual, Volumes I & II, the site was designed implementing Environmental Site Design (ESD) to the maximum extent practicable (MEP). As a minimum, ESD shall be used to address both Recharge ( $Re_v$ ) and Water Quality ( $WQ_v$ ) requirements. Channel Protection ( $Cp_v$ ) obligations are met when ESD practices are designed according to the Runoff Curve Number Method where developed conditions return the site to an RCN of "woods in good condition". ESD techniques utilized are via four (4) non-rooftop disconnects (N-2) and two (2) micro-bioretentions (M-6).

#### **Water Quality Requirements ( $WQ_v$ )**

The site has been analyzed for Water Quality obligations based on the proposed development. Water quality volume ( $WQ_v$ ) obligations will be met on this site by the successful implementation of ESD practices, specifically, via four (4) non-rooftop disconnects (N-2) and two (2) micro-bioretentions (M-6).

#### **Recharge Requirements ( $Re_v$ )**

The site has been analyzed for Recharge Volume obligations based on the proposed development. Recharge Volume ( $RE_v$ ) obligations will be met on this site by the successful implementation of ESD practices, specifically, via four (4) non-rooftop disconnects (N-2) and two (2) micro-bioretentions (M-6).

### Channel Protection Requirements (Cp<sub>v</sub>)

The site has been analyzed for Channel Protection obligations based on the proposed developments and grading. Channel Protection volume (CP<sub>v</sub>) obligations will be met on this site by the successful implementation of ESD practices, specifically, via four (4) non-rooftop disconnects (N-2) and two (2) micro-biorententions (M-6).

### Overbank Flood Protection Volume Requirements (Op<sub>10</sub>)

Overbank flood protection obligations will be met on this site by the successful implementation of ESD practices, specifically, via four (4) non-rooftop disconnects (N-2) and two (2) micro-biorententions (M-6).

### Extreme Flood Volume Requirements (Q<sub>f</sub>)

No downstream flooding or erosion should occur as a result of this development.

### E. Environmental Site Design (ESD)

Title 4, Subtitle 201.1(B) of the “Stormwater Management Act of 2007” defines ESD as using micro-scale practices, non-structural techniques, and better site planning to mimic natural hydrologic runoff characteristics and minimize the impact of land development on water resources.

ESD was implemented in this project to the maximum extent practicable (MEP) to mimic “woods in good condition.” In addition, the proposed development minimizes disturbance to existing environmental features. The site was analyzed based on the proposed impervious coverage and each impervious feature was analyzed to meet the ESD Sizing Criteria. Computations can be found in Section II.

### F. Outfall Statement

The site sheet flows from a high point at the southeast corner of the property towards the western property line. The conveyance is stable, and should not be affected by this development due to minimization of impervious coverage, and due to storm water management provided on site.

**Stormwater Management Requirements**

Project: Taylor Property  
 Job No.: 21-8291  
 County: Anne Arundel  
 By: J. Slenker Date: 10/18/22  
 Check: XXX Date: 03/13/23

**Site Data**

Existing Conditions

Site Area 1.23 ACRES OR 53,677 SF  
 Limit of Disturbance 0.58 ACRES OR 25,090 SF

Design Area used for ESD computations is **Limit of Disturbance**

Soils Types

HSG 'A' 0.00 ACRES OR 0 SF  
 HSG 'B' 0.00 ACRES OR 0 SF  
 HSG 'C' 0.58 ACRES OR 25,090 SF  
 HSG 'D' 0.00 ACRES OR 0 SF

0.0% of design area  
0.0% of design area  
100.0% of design area  
0.0% of design area

Impervious Cover

Buildings 0.05 ACRES OR 2,160 SF  
 Paving 0.18 ACRES OR 7,947 SF  
**TOTAL** 0.23 ACRES OR 10,107 SF

40.3% of design area

Proposed Conditions

Impervious Cover

Buildings 0.10 ACRES OR 4,390 SF  
 Drives 0.02 ACRES OR 980 SF  
 Paving 0.01 ACRES OR 302 SF  
 Alternative Surfaces\* 0.00 ACRES OR 0 SF  
**TOTAL** 0.13 ACRES OR 5,672 SF

22.6% of design area

\* Alternative Surfaces include Permeable Pavers (A-2 ESD Device)

**Determine Target ESD<sub>v</sub> (Total Site)**

**Target RCN for "Woods in Good Condition"**

HSG	Area (SF)	% Site	RCN
A	0	0%	38
B	0	0%	55
C	25,090	100%	70
D	0	0%	77

$RCN_{woods} =$  70

**Compute Percent Imperviousness, I (Total Site)**

$I = \text{Impervious Area} / \text{Site Area}$

Existing Impervious Area= 10,107 SF  
 Proposed Impervious Area= 5,672 SF

$I =$  40.3% of site  
 $I =$  22.6% of site

**Based on % Site Development Category is :**

Redevelopment



**Stormwater Management Requirements**

Project: Taylor Property  
 Job No.: 21-8291  
 County: Anne Arundel  
 By: J. Slenker Date: 10/18/22  
 Check: XXX Date: 03/13/23

**Determine Target ESD<sub>v</sub>**

**Percent Imperviousness**

$I = \text{Impervious Area} / \text{Site Area}$   
 $I = \boxed{22.6\%}$

Where:  
 Site Area = 25,090 ft<sup>2</sup>

**Dimensionless Runoff Coefficient**

$R_v = 0.05 + 0.009(I)$   
 $R_v = \boxed{0.253}$

Where:  
 $I = 22.6\%$

**Target Pe**

Using Table 5.3 with the Percent Imperviousness and Soil Type above, determine the Target Pe.

HSG	Area (ft <sup>2</sup> )	% SITE	Pe (in)
A	0	0.00%	1.6
B	0	0.00%	1.6
C	25,090	100.00%	1.2
D	0	0.00%	1.2

Where:  
 $I = \boxed{25.0}\%$

$P_e = \boxed{1.20}$  in.(s)

**Target ESD<sub>v</sub>**

$$ESD_v = \frac{(P_e)(R_v)(A)}{12}$$
  
 $ESD_v = \boxed{635.93}$  ft<sup>3</sup>

Where:  
 $A = 25,090$  ft<sup>2</sup>

**ESD<sub>v</sub> Runoff Depth**

$$Q_c = (P_e)(R_v)$$
  
 $ESD \text{ Runoff Depth, } Q_e \text{ (in): } \boxed{0.304}$

Where:  
 $P_e = 1.20$  in.

**Water Quality Volume**

$$WQ_v = \frac{(P_e)(R_v)(A)}{12}$$
  
 $WQ_v = \boxed{529.94}$  ft<sup>3</sup>

Where:  
 $P_e = 1.00$  in.

**Required Recharge Volume**

$$Re_v = \frac{(S)(R_v)(A)}{12}$$
  
 $Re_v = 0.0016$  ac-ft or  $68.89$  cf

$S = \text{HSG \% of site} = 0.13$   
 \*S Factors from MDE 2001 Manual

HSG	Recharge Factor
A	0.38
B	0.26
C	0.13
D	0.06

\*\*\* ONE SET OF TABLES NEEDED FOR EACH SITE DRAINAGE AREA\*\*\*

Permit Number	G0201
Project Number	21-8291
Project Name	Taylor Property
Structure Address	1828 Milvale Road
Structure City	Annapolis
State	Maryland
Structure Zip	21409
Total Drainage Area (Ac.)	1.231
RCN - Pre Construction	81
RCN - Post Construction	80
RCN - Woods	70
Total Number of BMP's	6
PE Required	1.20
PE Addressed	1.85
MD 8-Digit HUC	02131102
USGS 12-Digit HUC	

<https://data.maryland.gov/Energy-and-Environment/Maryland-s-8-Digit-Sub-Watersheds/e919-vuxg>

Storm_ID	STRU_NAME	MDE BMP CLASS	MDE BMP TYPE	CONSTRUCTION PURPOSE	ON or OFF SITE	LAND USE	DEVICE DRAINAGE AREA (acres)	IMPERVIOUS AREA DRAINING TO DEVICE (acres)	IMPERVIOUS ACRES RESTORED (acres)	MD NORTH COORD (NAD83-FT)	MD EAST COORD (NAD83-FT)	WQ <sub>v</sub> (ac-ft)
	NRD-1	E	NDNR	NEWD - New Development	ONSITE	11	0.02	0.02	n/a	N488398	E1467445	79.17
	NRD-2	E	NDNR	NEWD - New Development	ONSITE	11	0.02	0.02	n/a	N488470	E1467470	79.17
	NRD-3	E	NDNR	NEWD - New Development	ONSITE	11	0.02	0.02	n/a	N488482	E1457390	79.17
	NRD-4	E	NDNR	NEWD - New Development	ONSITE	11	0.02	0.02	n/a	N488450	E1467300	65.15
	MB-1	E	MMBR	NEWD - New Development	ONSITE	11	0.07	0.06	n/a	N488481	E1467350	360.00
	MB-2	E	MMBR	NEWD - New Development	ONSITE	11	0.06	0.04	n/a	N488382	E1467295	320.000

STORMWATER MANAGEMENT STRUCTURE SUMMARY TABLE										
Project Name: Taylor Property					Project No.:		Subdiv. No.:			
Bay Eng. No.: 21-8291			Design By: J. Slenker		Date: 8/14/2023		Tax Map/Grid/Parcel: 0046/0010/164			
Overall DA	Practice	Structure No.	Type	Location		Drainage Area Treated (acres)	Maximum Volume for 1-Yr 24-Hr. Storm (Cu. Ft.)	Water Quality Volume (Cu. Ft.)	Actual Device Volume (Cu. Ft.)	Pe Provided (In.)
1	Micro-Bioretentation	MB-1	M-6	N488481	E1467350	0.074	569.55	360.00	360.00	1.71
	Micro-Bioretentation	MB-2	M-6	N488382	E1467295	0.055	391.50	320.00	320.00	2.21
	Non-Rooftop Disconnection	RD-1	N-2	N488398	E1467445	0.023	213.75	79.17	79.17	1.00
	Non-Rooftop Disconnection	RD-2	N-2	N488470	E1467470	0.023	213.75	79.17	79.17	1.00
	Non-Rooftop Disconnection	RD-3	N-2	N488482	E1457390	0.023	213.75	79.17	79.17	1.00
	Non-Rooftop Disconnection	RD-3	N-2	N488450	E1467300	0.019	175.92	65.15	65.15	1.00
<b>Total</b>						0.217	1,778.22	982.65	982.65	
<b>ESD<sub>v</sub> Required</b>								635.93		

Total Site P<sub>e</sub> Provided:

Where:

SWM Provided for:

New Development Conditions

P<sub>e</sub> = 1.85 in.

$$ESD_v = 982.65 \text{ ft}^3$$

$$R_v = 0.25$$

$$A \text{ (LOD Area)} = 25,090 \text{ ft}^2$$

\*Note: These values taken from the Stormwater Management Requirements sheet of these computations.

Environmental Site Design

N-2

Disconnection of Non-Rooftop Runoff

Drainage Area: Driveway Device Name: NRD-1

**Concept Design:**

Contributing Drainage Area= 1000 ft<sup>2</sup> 0.023 ac.  
 Maximum Drainage Area = 1000 ft<sup>2</sup>  
 Impervious Coverage = 1000 ft<sup>2</sup> 0.023 ac.  
 Percent Impervious (I)= 100 %  
 R<sub>v</sub> = 0.05 + 0.009(I) = 0.95

**ESDv Provided:**

Pervious Length= 0 ft. Max. Contributing Pervious length = 150-ft  
 Contributing Imp. Length = 12 ft. Max. Contributing Imp. Length = 75-ft.  
 Impervious Ratio= 1:1  
 Pervious Ratio = 0.5:1 (Per Table 5.7 (page 5.62)  
 Pe Provided = 1.0 in. MD State SWM Manual  
 Required Length = 12

$$ESD_v = \frac{(P_E)(A)(R_v)}{12}$$

ESDv= 79.17 ft<sup>3</sup>

Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection

Ratio of Disconnection Length to Contributing Length					
Impervious Ratio	0.2:1	0.4:1	0.6:1	0.8:1	1:1
Pervious Ratio	0.1:1	0.2:1	0.3:1	0.4:1	0.5:1
Pe (in.)=	0.2	0.4	0.6	0.8	1.0

**Maximum ESDv Allowed:**

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_v = \frac{(2.7)(A)(R_v)}{12}$$

Max. ESDv= 213.75 ft<sup>3</sup>

Environmental Site Design

N-2

Disconnection of Non-Rooftop Runoff

Drainage Area: Driveway Device Name: NRD-2

**Concept Design:**

Contributing Drainage Area= 1000 ft<sup>2</sup> 0.023 ac.  
 Maximum Drainage Area = 1000 ft<sup>2</sup>  
 Impervious Coverage = 1000 ft<sup>2</sup> 0.023 ac.  
 Percent Impervious (I)= 100 %  
 R<sub>v</sub> = 0.05 + 0.009(I) = 0.95

**ESDv Provided:**

Pervious Length= 0 ft. Max. Contributing Pervious length = 150-ft  
 Contributing Imp. Length = 12 ft. Max. Contributing Imp. Length = 75-ft.  
 Impervious Ratio= 1:1  
 Pervious Ratio = 0.5:1 (Per Table 5.7 (page 5.62)  
 Pe Provided = 1.0 in. MD State SWM Manual  
 Required Length = 12

$$ESD_v = \frac{(P_E)(A)(R_v)}{12}$$

ESDv= 79.17 ft<sup>3</sup>

Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection

Ratio of Disconnection Length to Contributing Length					
Impervious Ratio	0.2:1	0.4:1	0.6:1	0.8:1	1:1
Pervious Ratio	0.1:1	0.2:1	0.3:1	0.4:1	0.5:1
Pe (in.)=	0.2	0.4	0.6	0.8	1.0

**Maximum ESDv Allowed:**

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_v = \frac{(2.7)(A)(R_v)}{12}$$

Max. ESDv= 213.75 ft<sup>3</sup>

**Environmental Site Design**

N-2

**Disconnection of Non-Rooftop Runoff**

Drainage Area:

Driveway

Device Name:

NRD-3

**Concept Design:**

Contributing Drainage Area=	1000	ft <sup>2</sup>	0.023	ac.
Maximum Drainage Area =	1000	ft <sup>2</sup>		
Impervious Coverage =	1000	ft <sup>2</sup>	0.023	ac.
Percent Impervious (I)=	100	%		
R <sub>v</sub> = 0.05 + 0.009(I) =	0.95			

**ESDv Provided:**

Pervious Length=	0	ft.	Max. Contributing Pervious length = 150-ft
Contributing Imp. Length =	12	ft.	Max. Contributing Imp. Length = 75-ft.
Impervious Ratio=	1:1		
Pervious Ratio =	0.5:1		(Per Table 5.7 (page 5.62)
Pe Provided =	1.0	in.	MD State SWM Manual
Required Length =	12		

$$ESD_v = \frac{(P_E)(A)(R_v)}{12}$$

ESDv= 79.17 ft<sup>3</sup>

**Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection**

	Ratio of Disconnection Length to Contributing Length				
Impervious Ratio	0.2:1	0.4:1	0.6:1	0.8:1	1:1
Pervious Ratio	0.1:1	0.2:1	0.3:1	0.4:1	0.5:1
Pe (in.)=	0.2	0.4	0.6	0.8	1.0

**Maximum ESDv Allowed:**

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_v = \frac{(2.7)(A)(R_v)}{12}$$

Max. ESDv= 213.75 ft<sup>3</sup>

**Environmental Site Design**

N-2

**Disconnection of Non-Rooftop Runoff**

Drainage Area:

**Swimming Pool**

Device Name:

**NRD-4**

**Concept Design:**

Contributing Drainage Area=	823	ft <sup>2</sup>	0.019	ac.
Maximum Drainage Area =	1000	ft <sup>2</sup>		
Impervious Coverage =	823	ft <sup>2</sup>	0.019	ac.
Percent Impervious (I)=	100	%		
R <sub>v</sub> = 0.05 + 0.009(I) =	0.95			

**ESDv Provided:**

Pervious Length=	0	ft.	Max. Contributing Pervious length = 150-ft
Contributing Imp. Length =	12	ft.	Max. Contributing Imp. Length = 75-ft.
Impervious Ratio=	1:1		
Pervious Ratio =	0.5:1		(Per Table 5.7 (page 5.62)
Pe Provided =	1.0	in.	MD State SWM Manual
Required Length =	12		

$$ESD_v = \frac{(P_e)(A)(R_v)}{12}$$

**ESDv= 65.15 ft<sup>3</sup>**

**Table 5.7 ESD Sizing Factors for Non-Rooftop Disconnection**

	Ratio of Disconnection Length to Contributing Length				
Impervious Ratio	0.2:1	0.4:1	0.6:1	0.8:1	1:1
Pervious Ratio	0.1:1	0.2:1	0.3:1	0.4:1	0.5:1
Pe (in.)=	0.2	0.4	0.6	0.8	1.0

**Maximum ESDv Allowed:**

1-year runoff (Max. Pe) = 2.7 in.

$$ESD_v = \frac{(2.7)(A)(R_v)}{12}$$

**Max. ESDv= 175.92 ft<sup>3</sup>**

**Environmental Site Design**

<b>M-6</b>	<b>Micro-Bioretenion</b>	
<b>Drainage Area:</b>	<b>House Left</b>	<b>Device Name:</b> <b>MB-1</b>

**Concept Design:**

Contributing Drainage Area=	3233 ft <sup>2</sup>	0.07 acres
Impervious Coverage =	2633 ft <sup>2</sup>	0.06 acres
Percent Impervious (I)=	81.44139 %	
R <sub>v</sub> = 0.05 + 0.009(I) =	0.782972	

**ESD<sub>v</sub> Required**

ESD <sub>v,Req.</sub> = (P <sub>E</sub> x R <sub>v</sub> x A) / 12 =	253 CF
Pe Required =	1.20 in.
75% of ESDV,Req. =	189.8513 CF

**ESD<sub>v</sub> Provided**

Media Depth, df =	5.50 FT.
Mulch =	2 in.
Planting Soil =	48 in.
Pea Gravel=	4 in.
Gravel =	12 in.
Surface Area, Af =	90 SF
Surface Area Required =	65 <i>2% of Drainage Area</i>
Planting Media Porosity, n =	0.4
Ponding Depth, D =	1.00 FT.

<i>Ponding Storage</i>						
WSE	Δ WSE (FT)	Surface Area (SF)	Avg. Surface Area (SF)	Total Volume (CF)	Net Storage (CF)	Total Storage (CF)
7.00	0.00	90.00	0.00	0.00	0.00	0.00
7.50	0.50	90.00	90.00	45.00	45.00	45.00
8.00	0.50	90.00	90.00	45.00	45.00	90.00

Total Storage Volume Provided = **90.00** CF

Depth of Enhanced Filter = **24.00** in.

**Total Combine Storage:**

Ponding Storage =	90.00 cf	
Media Storage =	198.00 cf	(n x Af x Media depth (df) ) = Media Storage
Enhanced Filter =	72.00 cf	
<b>ESDv provided =</b>	<b>360.00 cf</b>	<b>Pe Prov. = 1.71 in.</b>

**Maximum ESD<sub>v</sub> Allowed:**

1-year runoff (Max. Pe) = 2.7 in.

PE? 0.417569

$$ESD_v = \frac{(2.7)(A)(R_v)}{12}$$

**Max. ESDv= 569.55 ft<sup>3</sup>**



**Environmental Site Design**

M-6

Micro-Bioretenention

Drainage Area: House Right Device Name: MB-2

**Concept Design:**

Contributing Drainage Area= 2400 ft<sup>2</sup> 0.06 acres  
 Impervious Coverage = 1800 ft<sup>2</sup> 0.04 acres  
 Percent Impervious (I)= 75 %  
 $R_v = 0.05 + 0.009(I) = 0.725$

**ESD<sub>v</sub> Required**

$ESD_{v,Req.} = (P_E \times R_v \times A) / 12 =$  0 CF  
 Pe Required = 0.00 in.  
 75% of ESDV,Req. = 0 CF

**ESD<sub>v</sub> Provided**

Media Depth, df = 5.50 FT.  
 Mulch = 2 in.  
 Planting Soil = 48 in.  
 Pea Gravel= 4 in.  
 Gravel = 12 in.  
 Surface Area, Af = 80 SF  
 Surface Area Required = 48 % of Drainage Area  
 Planting Media Porosity, n = 0.4  
 Ponding Depth, D = 1.00 FT.

<i>Ponding Storage</i>						
WSE	Δ WSE (FT)	Surface Area (SF)	Avg. Surface Area (SF)	Total Volume (CF)	Net Storage (CF)	Total Storage (CF)
7.00	0.00	80.00	0.00	0.00	0.00	0.00
7.50	0.50	80.00	80.00	40.00	40.00	40.00
8.00	0.50	80.00	80.00	40.00	40.00	80.00

Total Storage Volume Provided = 80.00 CF

Depth of Enhanced Filter = 24.00 in.

**Total Combine Storage:**

Ponding Storage = 80.00 cf  
 Media Storage = 176.00 cf (n x Af x Media depth (df)) = Media Storage  
 Enhanced Filter = 64.00 cf  
ESDv provided = 320.00 cf Pe Prov. = 2.21 in.

**Maximum ESD<sub>v</sub> Allowed:**

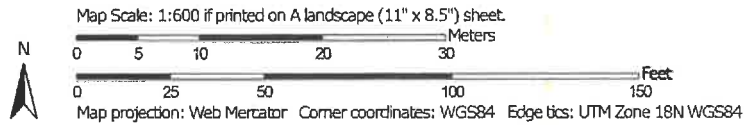
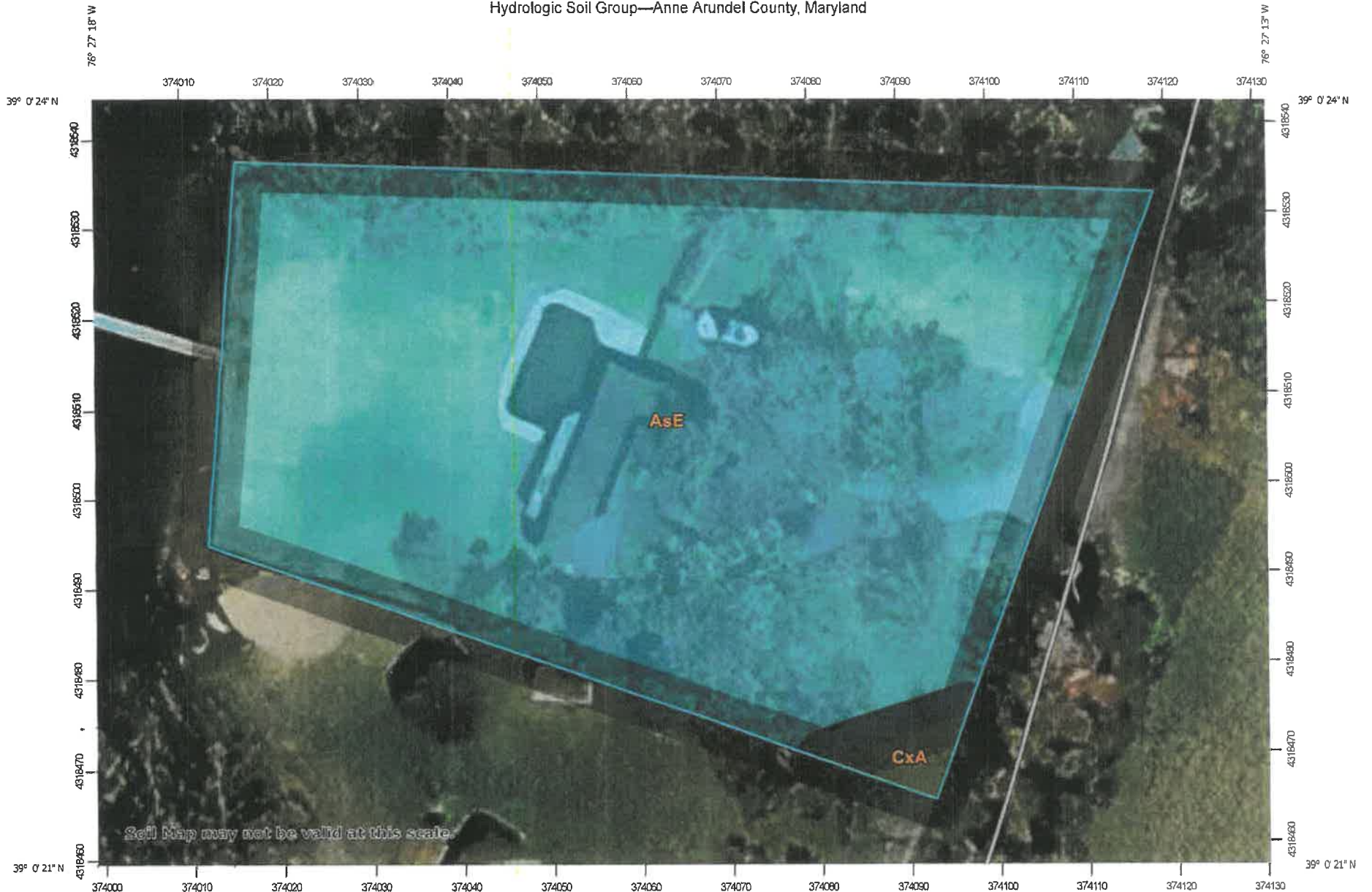
1-year runoff (Max. Pe) = 2.7 in.

PE? 0.5

$$ESD_v = \frac{(2.7)(A)(R_v)}{12}$$

Max. ESDv= 391.50 ft<sup>3</sup>

Hydrologic Soil Group—Anne Arundel County, Maryland



16



## Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AsE	Annapolis fine sandy loam, 15 to 25 percent slopes	C	1.3	98.7%
CxA	Cumberstone-Mattapex complex, 0 to 2 percent slopes	C/D	0.0	1.3%
<b>Totals for Area of Interest</b>			<b>1.3</b>	<b>100.0%</b>

### Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.