

Bay Engineering Inc.
Engineers, Planners and Surveyors



October 25, 2023

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

Attention: Ms. Sterling Seay

**RE: VARIANCE REQUEST – EFFECT, INC. PROPERTY
3692 EIGHTH AVENUE, EDGEWATER, MD 21037
TAX MAP 60, GRID 10, PARCEL 29, LOT 98**

Ms. Seay:

On behalf of the applicants, we respectfully request a variance to Article 18-4-701 (Bulk Regulations) which states in part Minimum setbacks for principal structures: Corner side lot line – 20 feet. The lot is currently unimproved. This lot meets the definition of a buildable lot, subject to the approvals of the County. The site is served by the private water (well) and public sewer and is a corner lot adjacent to Hillside Avenue and 8th Avenue, both 40 FT. wide rights of way. The site is not located in the Critical Area with lot coverage codified by base zone limitations. The site is zoned R5 residential.

The applicant wishes to construct a new dwelling. The proposed construction would fit within the constraints of the building restriction lines per Code with the exception of the 20 FT. corner side setback. The variance to zoning setbacks is being requested to allow the new house 10 FT. outside of the bounds of the corner side yard setback. The proposed house size and footprint is similar to those existing houses in the neighborhood of Selby on the Bay.

An exhibit has been provided showing a representation of the aerial topographic view of the areas of Selby around the project site. Five dwellings have been noted that appear to encroach on the corner side setback. As Selby is an eclectic mix of dwellings of various ages and sizes, it appears the proposed variance request is not out of conformance with the overall development patterns of the neighborhood.

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

The subject property is 4,375 square feet in size, and it is zoned R5 and is unimproved. To construct a dwelling on this lot without relief from the setback the house width would be an unrealistically 16 FT. wide and out of character of surrounding dwellings in the neighborhood.

2661 Riva Road, Building 800, Annapolis, MD 21401
Phone (410) 897-9290 - Fax (410) 897-9295
www.BayEngineering.com

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. 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.

The variance request is the minimum to afford relief. The request is the minimum to allow for part of the proposed house to encumber 10 FT. of the 20 FT. corner side yard setback. Note that the side yard setback in this (R5) zone is 7 FT.

- i. This variance will not alter the essential character of the neighborhood. The new dwelling is proportional and consistent with houses in the surrounding neighborhood.
- ii. This variance will not impair the use of adjoining properties. The proposal will not impact neighbors and is in character with many other dwellings in the neighborhood.
- iii. Tree clearing is required and any mitigation necessary during the permit process will increase cover. It should be noted that tree clearing is taking place outside the Critical Area, and will clear less than 20,000 square feet of woodlands.
- 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.

As this proposal is for development of a new single family dwelling on an unimproved legal lot a grading permit will be necessary. 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 variance 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 to this request.

Should you have any questions concerning this proposal, please contact me at (410) 897-9290.

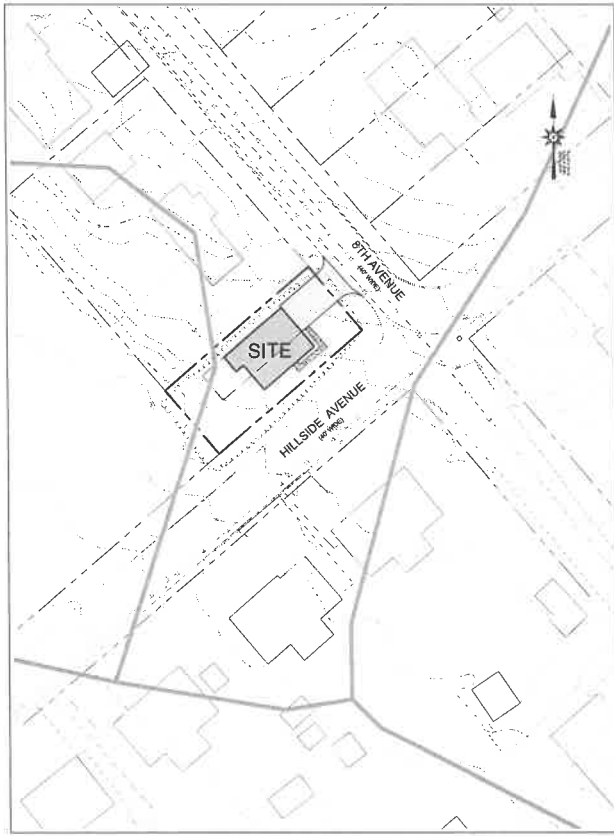
Sincerely,
Bay Engineering, Inc.

Jeffrey L. Slenker

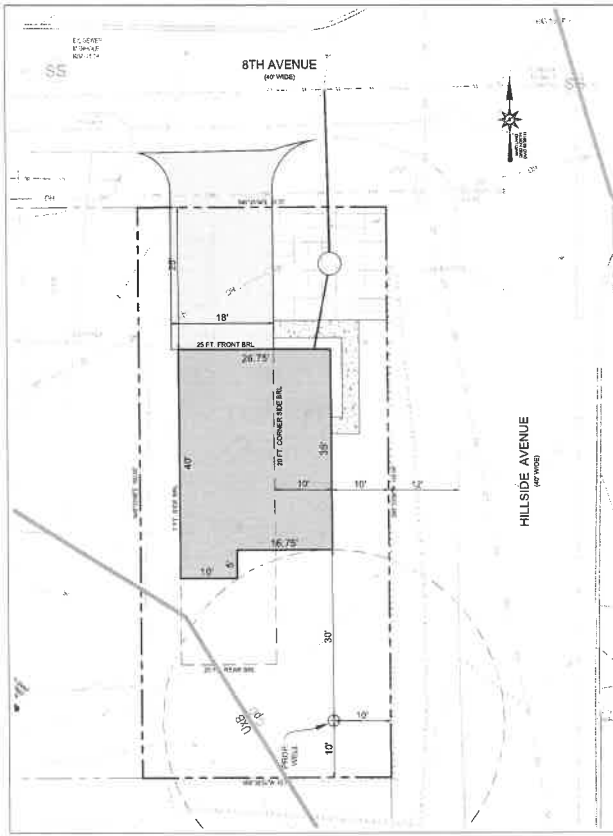
3692 Eighth Avenue
Edgewater, MD 21037

October 12, 2023
Page 2

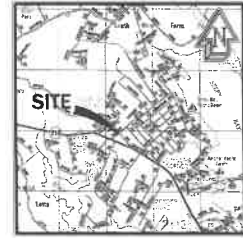
Jeffrey L. Slenker 10/12/23
Date



OVERALL LOCATION & EXISTING CONDITIONS MAP
SCALE: 1" = 30'



INSET - PROPOSED CONDITIONS
SCALE: 1" = 10'



VICINITY MAP
SCALE: 1" = 2,000'
COPYRIGHT © THE MAP PEOPLE
PERMITTED USE NO. 08/10/20

GENERAL NOTES

- OWNER: EFFECT, INC. 1320 WINDLEY ROAD, SUITE 115-014 MIDDLEVALE, VA 22113 PHONE: 703.881.4008 EMAIL: jmh@effectinc.com
- ENGINEER: BAY ENGINEERING, INC. 281 RIVA ROAD, BUILDING 800 ANNAPOLIS, MD 21401 410.881.9296 C/O JEFFREY S. LUKER
- THE SITE ADDRESS IS 3892 EIGHTH AVENUE, EDGEWATER, MD 20917
- THE PROPERTY IS ZONED AS TAX MAP 90, ZONED 19, PARCEL 28, LOT 96. TOTAL AREA = 4,375 SQ. FT. OR 0.100 AC. (DEED REF: 30521 / 348)
- TAX ACCOUNT NO.: 91-747-07297975
- EXISTING BOUNDARY AND FEATURES SHOWN HEREON WERE TAKEN FROM DEEDS AND PLATS OF RECORD AUGMENTED WITH ANNE ARUNDEL COUNTY GIS DATA AND A FIELD TURN BOUNDARY AND TOPOGRAPHICAL SURVEY PERFORMED BY BAY ENGINEERING, INC. DATED APRIL, 2022.
- THIS PLAN WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT, WHICH MAY SHOW ADDITIONAL CONVEYANCES, EASEMENTS, COVENANTS, RIGHT OF WAY OR MORE STRINGENT BUILDING RESTRICTIONS NOT SHOWN HEREON.
- EXISTING ZONING OF THE SITE IS RESIDENTIAL DISTRICT. SETBACKS PRINCIPAL STRUCTURE: FRONT = 40' SIDE = 7' CORNER SIDE = 15' REAR = 30' SETBACKS ACCESSORY STRUCTURE: FRONT = 40' SIDE = 7' CORNER SIDE = 15' REAR = 7'
- THE SITE IS LOCATED WITHIN THE CATCHMENT BASIN OF AN AREA.
- PROPOSED SITE UTILITIES ARE PRIVATE WELL (PW), NO PUBLIC SERVICE - RURAL AND PUBLIC SEWER (S-S, EXISTING SERVICE - MAY VARY HEIGHTS).
- THE PROPERTY DESCRIBED HEREON IS LOCATED IN THE FLOOD HAZARD ZONE "C" AREA OUTRICE THE 0.2% ANNUAL CHANCE FLOOD AND AS INDICATED ON THE FIRM FLOOD INSURANCE RATE ZONING MAP SUBSEQUENT DATED FEBRUARY 11, 2015 FOR ANNE ARUNDEL COUNTY AND DISTRIBUTED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- THERE ARE NO STEEP SLOPES ON THE SITE.

SURVEY CONTROL NOTE

THE COORDINATES AND ELEVATIONS SHOWN HEREON ARE BASED ON RYN REAL TIME KINEMATIC OBSERVATIONS UTILIZING KEYNET GPS NETWORK. THE HORIZONTAL DATUM IS REFERENCED TO MARYLAND STATE PLANE NAD 83(95) AND THE VERTICAL DATUM IS REFERENCED TO NAVD 83.

LOT COVERAGE SUMMARY

DESCRIPTION	ASIA
EXISTING LOT AREA...	4,375 SQ. FT. OR 0.100 AC
ALLOWABLE COVERAGE (SFR)...	1,750 SQ. FT. OR 0.040 AC
EXISTING LOT COVERAGE...	0.00 SQ. FT. OR 0.000 AC
EXISTING WOODLANDS ON SITE...	3,947 SQ. FT. OR 0.091 AC
EXISTING WOODLANDS TO BE REMOVED...	0.00 SQ. FT. OR 0.000 AC
EXISTING WOODLANDS TO REMAIN...	3,947 SQ. FT. OR 0.091 AC
PROPOSED LOT COVERAGE...	1,560 SQ. FT. OR 0.035 AC
-PR HOUSE...	1,000 SQ. FT.
-PR DRIVEWAY...	400 SQ. FT.
-PR SIDEWALK...	100 SQ. FT.
TOTAL PROPOSED LOT COVERAGE...	1,560 SQ. FT. OR 0.035 AC
PROPOSED LIMIT OF DISTURBANCE...	4,375 SQ. FT. OR 0.100 AC

VARIANCE REQUEST

- 18-401: BULK REGULATIONS STATES IN PART THAT THE MINIMUM SETBACKS FOR PRINCIPLE STRUCTURES ARE 20' FOR FRONT SETBACKS, 7' FOR SIDE SETBACKS, 20' FOR CORNER SIDE SETBACKS, AND 30' FOR REAR SETBACKS.

LEGEND

PROPERTY LINE / RIGHT-OF-WAY	---
ADJOINING PROPERTY LINE	---
BUILDING RESTRICTION LINE	---
EXISTING CONTOUR	---
EXISTING TREE LINE	---
EXISTING FENCE	---
EXISTING PUBLIC UTILITY EASIMENT	---
EXISTING OVERHEAD POWER LINE	---
EXISTING PUBLIC WATER LINE	---
EXISTING STORM DRAIN LINE	---
EXISTING BUILDING	---
PROPOSED SPOT ELEVATION	+ 9.00
PROPOSED CONTOUR LINE	---
PROPOSED BUILDING	---
PROPOSED DRIVEWAY	---

Revisions

Rev. #	By	Date	Description

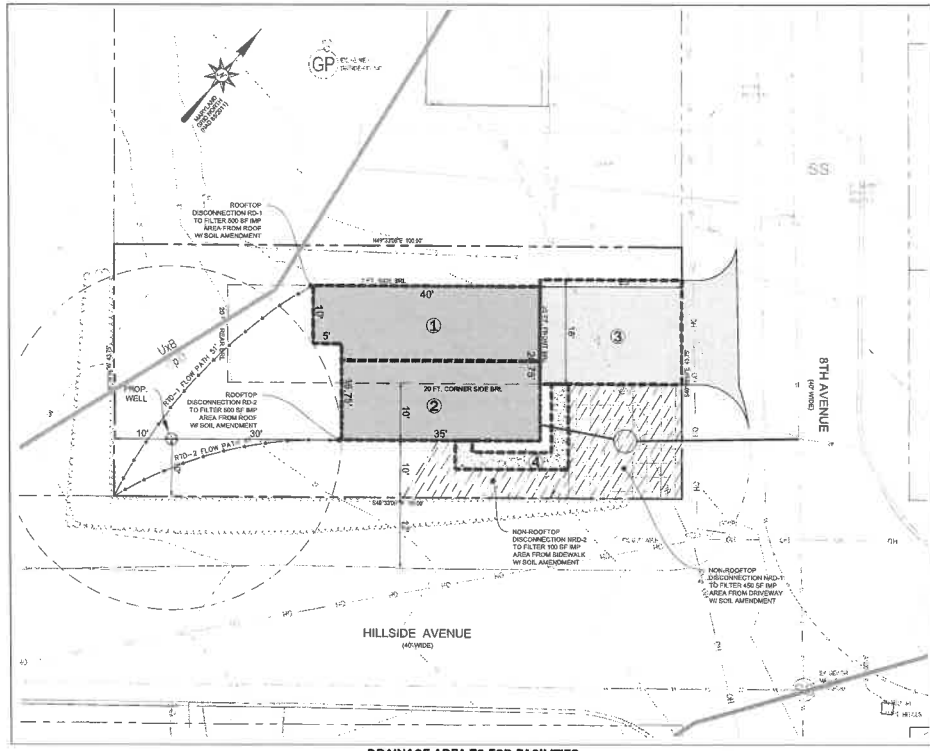


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Date: SEPTEMBER, 2023
Job Number: 23-0492
Scale: AS SHOWN
Drawn By: J. S. LUKER
Approved By: T. HATCH
Folier Reference: EFFECT INC. 2023-09-18

COVER SHEET
VARIANCE PLAN
FOR THE
EFFECT, INC. PROPERTY
3892 EIGHTH AVENUE, EDGEWATER, MD 21037
TAX MAP 90, LOT 96, LOT 98
TAX ID# 01-747-07297975 ZONED: R5
FIRST DISTRICT, ANNE ARUNDEL COUNTY



DRAINAGE AREA TO ESD FACILITIES
SCALE: 1" = 10'

Permit Number	GD001
Project Number	22-8461
Project Name	Effect, Inc. Property
Structure Address	3692 Eighth Avenue
Structure City	Edgewater
State	Maryland
Structure Zoning	21321
Total Drainage Area (Ac.)	Anne Arundel
ICN - Pre Construction	79
ICN - Post Construction	77
ICN - Woods	39
Total Number of BMP's	4
PE Impaired	1.0%
PE Addressed	10.4%
MD 8-1/8th HUC	0113131
USGS 12-Digit HUC	

ESD DRAINAGE AREA TABLE

DRAINAGE DESIGNATION	FACILITY	AREA (SF)	BMP (SP)
①	ROOFTOP DISCONNECT	500	500
②	ROOFTOP DISCONNECT	500	500
③	NON-ROOFTOP DISCONNECT	450	450
④	NON-ROOFTOP DISCONNECT	100	100

ROOFTOP DISCONNECTION - CONSTRUCTION CRITERIA & MAINTENANCE NOTES

- CONSTRUCTION CRITERIA:**
- THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION OF PROJECTS WITH PLANNED ROOFTOP DISCONNECTIONS:
- EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN VEGETATED AREAS RECEIVING DISCONNECTED RUNOFF.
 - SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTED, SCARPING THE SURFACE OR ROTOTILLING THE SOILS TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR LIGHT, CLAYEY SOILS.
 - THE PROPOSED INCORPORATION AREA SHALL BE DEEP TILLED TO A DEPTH OF 2 TO 3 FEET USING A TRACTOR AND SUB-SOILER WITH TWO DEEP SHANKS (GULVED METAL BARS) TO CREATE RIPS PERPENDICULAR TO THE DIRECTION OF FLOW. THIS DEEP-TILLING STEP MAY BE OMITTED WHEN BOLL AMENDMENT IS USED FOR FILTER STRIP WIDTHS OF 20 FEET OR LESS IN THE DIFFERENT DIRECTION OF FLOW. THE EXISTING SOILS SHALL BE IN BETTER CONDITION PRIOR TO INCORPORATING COMPOST. THE COMPOST LAYER SHALL BE PLACED ON SURFACE OF PROPOSED AMENDMENT AREA TO THE DEPTH SPECIFIED AND THEN INCORPORATED INTO THE SOILS USING A ROTOTILLER OR SIMILAR EQUIPMENT. CONDUCT SOIL TEST TO DETERMINE WHETHER ANY FURTHER NUTRITIONAL REQUIREMENTS, PH ADJUSTMENT, AND ORGANIC MATTER ADJUSTMENTS ARE NECESSARY FOR PLANT GROWTH.

MAINTENANCE CRITERIA:

MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT OF REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OF SHRUBS ALONG THE PERIMETER); IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

NON-ROOFTOP DISCONNECTION - CONSTRUCTION CRITERIA & MAINTENANCE NOTES

- CONSTRUCTION CRITERIA:**
- THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING THE CONSTRUCTION OF PROJECTS WITH PLANNED NON-ROOFTOP DISCONNECTIONS:
- EROSION AND SEDIMENT CONTROL: EROSION AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN AREAS DESIGNATED FOR NON-ROOFTOP DISCONNECTIONS.
 - SITE DISTURBANCE: CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTED, SCARPING THE SURFACE OR ROTOTILLING THE SOILS TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.
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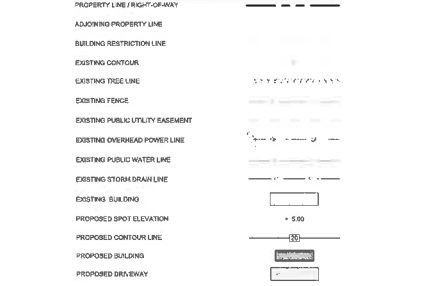
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SOILS TABLE

SYMBOL	NAME	HYDROLOGIC SOIL TYPE	PERCENT COVERAGE	HYDRIC SOIL	HIGHLY ERODIBLE SOIL
CGD	COLLETTON WEST URBAN LAND COMPLEX, 5-10% SLOPES	U ²	82.4%	NO	NO
UAD	UDORMENTS, LOAMY, S&F BFC SUBSTRAT-IA, 9-16% SLOPES	U ²	17.6%	NO	NO

LEGEND



Storm_ID	STRU_NAME	WDE BMP CLASS	WDE 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 ₁ (ac-ft)	Maintenance Responsibility	Comments
RD-1	E	NDRR	NEW - New Development	ONSITE	31	3.01	0.01	n/a	0	0.00	39.58	Owner		
RD-2	F	NDRR	NEW - New Development	ONSITE	31	3.01	0.01	n/a	0	0.00	39.58	Owner		
NRD-3	E	NDRR	NEW - New Development	ONSITE	31	3.01	0.01	n/a	0	0.00	35.69	Owner		
NRD-2	E	NDRR	NEW - New Development	ONSITE	31	3.00	0.01	n/a	0	0.00	73.41	Owner		

Revisions	Description	Date
Rev. #	By	Date



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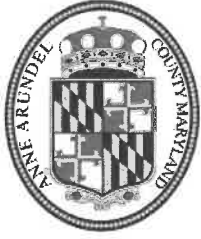
Noting: This document is an unreviewed professional product prepared by Bay Engineering Inc. in accordance with the requirements of any applicable laws and regulations. It is not intended to be used for any other purpose than that for which it was prepared and shall not be construed to be a contract or any part thereof.

Bay Engineering Inc.
Engineers, Planners and Surveyors
10000
Annapolis, Maryland 21401
410.287.2292
www.bayeng.com

Date: SEPTEMBER, 2023
Job Number: 22-8492
Scale: As Shown
Drawn By: J. SLODICK
Approved By: T. MARTIN
Foliar Reference: EFFECT INC. 3692 EIGHTH

STORMWATER MANAGEMENT PLAN
VARIANCE PLAN
FOR THE
EFFECT, INC. PROPERTY
3692 EIGHTH AVENUE, EDGEWATER, MD 21037
TAX MAP 05, L 10087 P. 06, PLOT 08
TAX ID# 01-74-0270975, ZONED-R5
FIRST DISTRICT, ANNE ARUNDEL COUNTY

Sheet No. **2 OF 2**



OFFICE OF PLANNING AND ZONING

CONFIRMATION OF PRE-FILE

PRE-FILE #: 2023-00052-P
DATE: 11/13/2023
OPZ STAFF: Joan A. Jenkins
I&P STAFF: Hala Flores

APPLICANT/REPRESENTATIVE: Kehyannah Hayley/Peter Chinoly

EMAIL: khayley@bayengineering.com/peter.chinoly@gmail.com

SITE LOCATION: 3692 Eight Ave, Edgewater

LOT SIZE: 4,378 sf

ZONING: R5 **CA DESIGNATION:** n/a **BMA:** **or BUFFER:** **APPLICATION TYPE:** Variance

Description:

The applicant is requesting a variance of 10 feet to the corner side setback requirement of 20 feet to construct a new dwelling. This is an undersized, R5 zoned lot, not in the critical area.

COMMENTS

I & P Engineering: The SWM design, as presented in this plan, relies on non-rooftop and rooftop disconnection. The variance plan needs to delineate clearly the rooftop disconnection areas so they can be perpetually protected and properly vegetated.

The proposed driveway appears to be within 50 feet of a public road intersection. However, it appears that the location of the driveway will not result in a stopping sight distance issue between the car backing out of the driveway and cars making a right or left off Hillside Avenue. A modification to DPW design manual is still needed to demonstrate this with car templates.

Determination: This office does not foresee engineering issues with this request.

Zoning Administration Section:

Site plan: Note the height of the proposed dwelling in both stories and feet in the location of the dwelling.

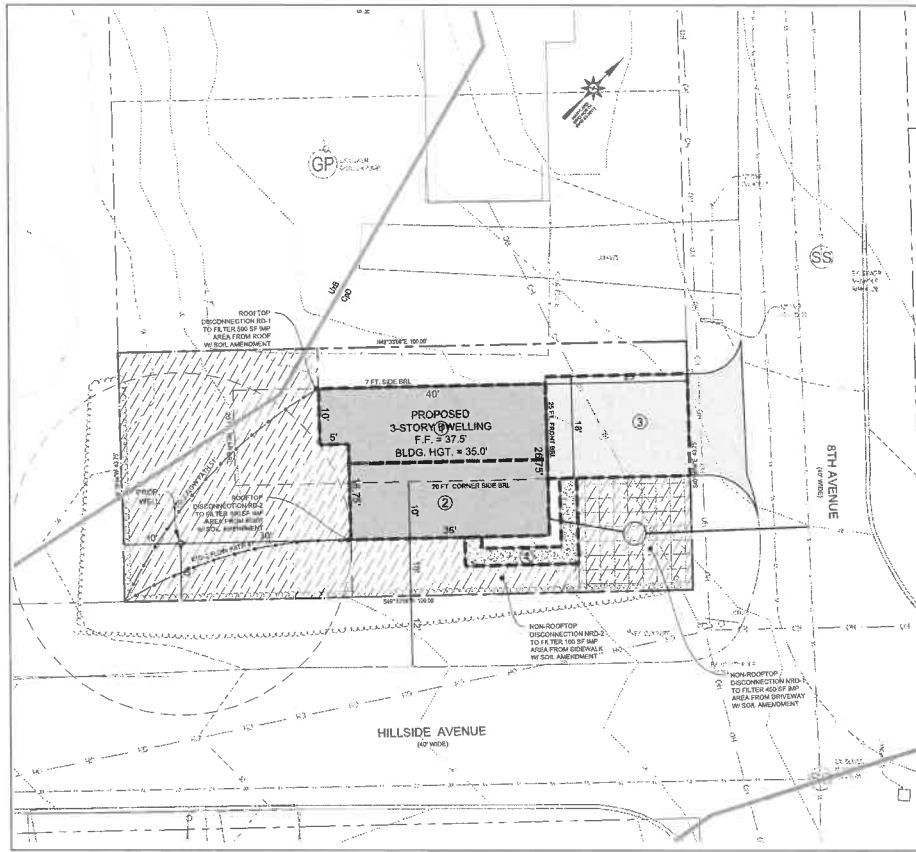
Re: lot coverage. The lot coverage limitation is a structure coverage maximum imposed by the R5 zoning district. The driveway and sidewalk do not count towards structure coverage. This is not in the critical area therefore there is no lot coverage maximum.

The applicants are reminded that, in order for the Administrative Hearing Officer to grant approval of the variances, the proposal must meet ALL of the Critical Area variance standards provided under Section 18-16-305, which includes the requirement that the variance must be the minimum necessary to afford relief.

The Letter of Explanation for your variance submission should demonstrate that you meet all of those standards.

INFORMATION FOR THE APPLICANT

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.



DRAINAGE AREA TO ESD FACILITIES
SCALE: 1" = 10'

Permit Number	02001
Project Number	23-2492
Project Name	Effect, Inc.
Structure Address	3692 Eighth Avenue
Structure Class	Edg/warehouse
State	Maryland
Structure Zil	22031
Total Drainage Area (Ac.)	0.100
RCH - Pre Construction	77
RCH - Post Construction	77
RCH - Woods	44
Total Number of BMP's	4
PE Required	1.00
PE Addressed	0.71
MD S-21 HUC	02131100
USGS 12-D HUC	

ESD DRAINAGE AREA TABLE

DRAINAGE DESIGNATION	FACILITY	AREA (SF)	IMP. (SF)
①	ROOFTOP DISCONNECTION (RD-1)	500	500
②	ROOFTOP DISCONNECTION (RD-2)	500	500
③	NONROOFTOP DISCONNECTION (NRD-1)	450	450
④	NONROOFTOP DISCONNECTION (NRD-2)	100	100

Storm_ID	STRU_NAME	MODE BMP CLASS	MODE 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)	W _{0.01} (ac-ft)	Maintenance Responsibility	Comments
RD-1		E	NDNR	NEWD - New Development	ONSITE	31	0.01	0.01	n/a	N451772	E1448015	39.38	Owner	
RD-2		E	NDNR	NEWD - New Development	ONSITE	31	0.01	0.01	n/a	N451760	E1448045	39.58	Owner	
NRD-1		E	NDNR	NEWD - New Development	ONSITE	31	0.00	0.00	n/a	N451780	E1448045	0.00	Owner	
NRD-2		E	NDNR	NEWD - New Development	ONSITE	31	0.01	0.01	n/a	N451772	E1448070	35.63	Owner	

NON-ROOFTOP DISCONNECTION - CONSTRUCTION CRITERIA & MAINTENANCE NOTES

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ROOFTOP DISCONNECTION - CONSTRUCTION CRITERIA & MAINTENANCE NOTES

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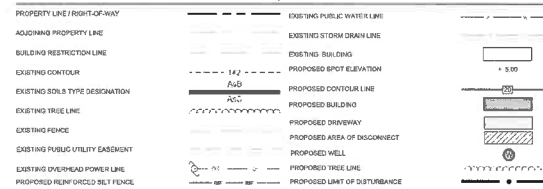
- EROSION AND SEDIMENT CONTROL, BROKEN AND SEDIMENT CONTROL PRACTICES (E.G., SEDIMENT TRAPS) SHALL NOT BE LOCATED IN AREAS RECEIVING DISCONNECTED RUNOFF.
- SITE DISTURBANCE, CONSTRUCTION VEHICLES AND EQUIPMENT SHOULD AVOID AREAS RECEIVING DISCONNECTED RUNOFF TO MINIMIZE DISTURBANCE AND COMPACTION. SHOULD AREAS RECEIVING DISCONNECTED RUNOFF BECOME COMPACTED, SCARPING THE SURFACE OR ROTOTILLING THE SOILS TO A DEPTH OF FOUR TO SIX INCHES SHALL BE PERFORMED TO ENSURE PERMEABILITY. ADDITIONALLY, AMENDMENTS MAY BE NEEDED FOR TIGHT, CLAYEY SOILS.
- THE PROPOSED INCORPORATION AREA SHALL BE DEEPLY TILLED TO A DEPTH OF 2 TO 3 FEET USING A TRACTOR AND SUBSOILER WITH TWO DEEP BEAVING CURVED METAL BARNS TO CREATE SIPS PERPENDICULAR TO THE DIRECTION OF FLOW. THIS DEEP-TILLING STEP MAY BE OMITTED WHEN SOIL AMENDMENT IS USED FOR FILTER STRIP WIDTHS OF 20 FEET OR LESS IN THE DIRECTION OF FLOW. THE EXISTING SOILS SHALL BE IN DRY CONDITION PRIOR TO INCORPORATING COMPOST. THE COMPOST LAYER SHALL BE PLACED ON SURFACE OF PROPOSED AMENDMENT AREA TO THE DEPTH SPECIFIED AND THEN INCORPORATED INTO THE SOIL USING A ROTOTILLER OR SIMILAR EQUIPMENT. CONDUCT SOIL TEST TO DETERMINE WHETHER ANY FURTHER NUTRITIONAL REQUIREMENTS, PH ADJUSTMENT, AND ORGANIC MATTER ADJUSTMENTS ARE NECESSARY FOR PLANT GROWTH.

MAINTENANCE CRITERIA:
MAINTENANCE OF AREAS RECEIVING DISCONNECTED RUNOFF IS GENERALLY NO DIFFERENT THAN THAT OF REQUIRED FOR OTHER LAWN OR LANDSCAPED AREAS. THE AREAS RECEIVING RUNOFF SHOULD BE PROTECTED FROM FUTURE COMPACTION (E.G., BY PLANTING TREES OF SHRUBS ALONG THE PERIMETER). IN COMMERCIAL AREAS, FOOT TRAFFIC SHOULD BE DISCOURAGED AS WELL.

SOILS TABLE

SYMBOL	NAME	HYDROLOGIC SOIL TYPE	PERCENT COVERAGE	HYDRC SOIL	HIGHLY ERODABLE SOIL
C10	COLLINGTON WEST URBAN LAND COMPLEX, 4-5% SLOPES	"u"	82.4%	NO	NO
U18	UDORFHEYS LOAMY, SUDIC SUBSTRATUM 0-5% SLOPES	"u"	17.6%	NO	NO

LEGEND



Revision	Description	Date	By	Check

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Date: OCTOBER, 2023
Job Number: 23-2492
Scale: AS SHOWN
Drawn By: J. BLEWIKER
Approved By: T. MARTIN
Folder Reference: EFFECT INC 3692 EIGHTH

STORMWATER MANAGEMENT PLAN
VARIANCE PLAN
FOR THE
EFFECT, INC. PROPERTY
3692 EIGHTH AVENUE, EDGEWATER, MD 21037
L. BERRY, P.E., REG. NO. 03, 03/08
TAX ID# 01-747070703 ZONED R3
FIRST DISTRICT, ANNE ARUNDEL COUNTY

Bay Engineering, Inc.

Engineers, Planners and Surveyors



STORMWATER MANAGEMENT REPORT

FOR

EFFECT, INC.

3692 Eighth Avenue
Edgewater, MD 21037
Tax Map 60, Grid 10, Parcel 29, Lot 98
Tax ID: #01-747-07270975
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: September 28, 2023
Revised: _____

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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_v), Recharge (Re_v), and Channel Protection (Cp_v). 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 6392 Eighth Avenue, Edgewater, MD 21037. It is located on Tax Map 60, Grid 10, Parcel 29, Lot 98 and contains 0.100 acres ± (4,375 square feet). The site is currently zoned R5. The site is not located in the Chesapeake Bay Critical Area. The limit of the proposed area to be disturbed is approximately 0.100 acres ± 4,375 square feet.

Existing Conditions

The site is currently undeveloped. The site is accessed from Eighth Avenue. The site consists primarily of wooded area. Slopes on site within the limit of disturbance are primarily between 0% and 10%. The predominant soil types are CpD (Collington-Wist-Urban Land Complex), 5-15% slopes, hydrologic soil group "A" and UxB (Udorthents, loamy, sulfidic substratum), 5-15% slopes, hydrologic soil group "C". Slopes on site outside of the limit of disturbance are primarily between 0% and 10%. The predominant soil types are CpD (Collington-Wist-Urban Land Complex), 5-15% slopes, hydrologic soil group "A" and UxB (Udorthents, loamy, sulfidic substratum), 5-15% slopes, hydrologic soil group "C".

Existing topography dictates a drainage pattern generally towards the southeastern 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 public sewer connection 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 rooftop disconnection and shown on the Stormwater Management plan (page 5 of 6). Runoff from the driveway and sidewalk will be addressed with non-rooftop disconnection.

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 two (2) rooftop disconnections (N1) and two (2) non-rooftop disconnections (N-2) 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 two (2) rooftop disconnections (N1) and two (2) non-rooftop disconnections (N-2).

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 two (2) rooftop disconnections (N1) and two (2) non-rooftop disconnections (N-2).

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 two (2) rooftop disconnections (N1) and two (2) non-rooftop disconnections (N-2).

Channel Protection Requirements (CP_v)

The site has been analyzed for Channel Protection obligations based on the proposed developments and grading. Channel Protection volume (CP_v) obligations will be met on this site by the successful implementation of ESD practices, specifically, via two (2) rooftop disconnections (N1) and two (2) non-rooftop disconnections (N-2).

Overbank Flood Protection Volume Requirements (Op₁₀)

Overbank flood protection obligations will be met on this site by the successful implementation of ESD practices, specifically, via two (2) rooftop disconnections (N1) and two (2) non-rooftop disconnections (N-2).

Extreme Flood Volume Requirements (Q_r)

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 northwestern property line towards the southeastern 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: Effect, Inc.
 Job No.: 22-8492
 County: Anne Arundel
 By: J. Slenker Date: 09/28/23
 Check: XXX Date: XX/XX/XX

Site Data

Existing Conditions

Site Area 0.10 ACRES OR 4,375 SF
 Limit of Disturbance 0.10 ACRES OR 4,375 SF

Design Area used for ESD computations is Limit of Disturbance

Soils Types

HSG 'A' 0.08 ACRES OR 3,605 SF
 HSG 'B' 0.00 ACRES OR 0 SF
 HSG 'C' 0.02 ACRES OR 770 SF
 HSG 'D' 0.00 ACRES OR 0 SF

82.4% of design area
0.0% of design area
17.6% of design area
0.0% of design area

Impervious Cover

Buildings 0.00 ACRES OR 0 SF
 Paving 0.00 ACRES OR 0 SF
 TOTAL 0.00 ACRES OR 0 SF

0.0% of design area

Proposed Conditions

Impervious Cover

Buildings 0.00 ACRES OR 0 SF
 Drives 0.00 ACRES OR 0 SF
 Paving 0.00 ACRES OR 0 SF
 Alternative Surfaces* 0.00 ACRES OR 0 SF
 TOTAL 0.00 ACRES OR 0 SF

0.0% of design area

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

Determine Target ESD_v (Total Site)

Target RCN for "Woods in Good Condition"

HSG	Area (SF)	% Site	RCN
A	3,605	82%	38
B	0	0%	55
C	770	18%	70
D	0	0%	77

RCN_{WOODS} = 44

Compute Percent Imperviousness, I (Total Site)

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

Existing Impervious Area= 0 SF
 Proposed Impervious Area= 0 SF

I = 0.0% of site
 I = 0.0% of site

Based on % Site Development Category is :

New Development

Stormwater Management Requirements

Project: Effect, Inc.
 Job No.: 22-8492
 County: Anne Arundel
 By: J. Slenker Date: 09/28/23
 Check: XXX Date: XX/XX/XX

Determine Target ESD_v

Percent Imperviousness

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

$I = \underline{\hspace{2cm} 0.0 \% \hspace{2cm}}$

Where:

Site Area = 4,375 ft²

Dimensionless Runoff Coefficient

$R_v = 0.05 + 0.009(I)$

$R_v = \underline{\hspace{2cm} 0.050 \hspace{2cm}}$

Where:

$I = \underline{\hspace{2cm} 0.0 \% \hspace{2cm}}$

Target P_e

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

HSG	Area (ft ²)	% SITE	P _e (in)
A	3,605	82.40%	1.0
B	0	0.00%	1.0
C	770	17.60%	1.0
D	0	0.00%	1.0

Where:

$I = \underline{\hspace{2cm} 0.0 \% \hspace{2cm}}$

$P_e = \underline{\hspace{2cm} 1.00 \text{ in. (s)} \hspace{2cm}}$

Target ESD_v

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

$ESD_v = \underline{\hspace{2cm} 18.23 \text{ ft}^3 \hspace{2cm}}$

Where:

$A = \underline{\hspace{2cm} 4,375 \text{ ft}^2 \hspace{2cm}}$

ESD_v Runoff Depth

$Q_e = (P_e)(R_v)$

ESD Runoff Depth, Q_e (in): 0.050

Where:

Pe = 1.00 in.

Water Quality Volume

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

$WQ_v = \underline{\hspace{2cm} 3.65 \text{ ft}^3 \hspace{2cm}}$

Where:

Pe = 0.20 in.

Required Recharge Volume

$$Re_v = \frac{(S)(R_v)(A)}{12}$$

Rev = 0.0001 ac-ft or 6.13 cf

S = HSG % of site = 0.336

*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	22-8492
Project Name	Effect, Inc. Property
Structure Address	3692 Eighth Avenue
Structure City	Edgewater
State	Maryland
Structure Zip	21037
Total Drainage Area (Ac.)	Anne Arundel
RCN - Pre Construction	70
RCN - Post Construction	77
RCN - Woods	44
Total Number of BMP's	4
PE Required	1.00
PE Addressed	10.43
MO 8-Digit HUC	02131102
USGS 12-Digit HUC	

<https://data.maryland.gov/Energy-and-Environment/Maryland-8-Digit-Sub-Watersheds/e996-vvss>

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)	WQv (ac-ft)	Maintenance Responsibility	Comments
	RD-1	E	NDRR	NEWD - New Development	ONSITE	11	0.01	0.01	n/a	0	0.00	39.58	Owner	
	RD-2	E	NDRR	NEWD - New Development	ONSITE	11	0.01	0.01	n/a	0	0.00	39.58	Owner	
	NRD-1	E	NDNR	NEWD - New Development	ONSITE	11	0.01	0.01	n/a	0	0.00	35.63	Owner	
	NRD-2	E	NDNR	NEWD - New Development	ONSITE	11	0.00	0.02	n/a	0	0.00	75.42	Owner	

8

STORMWATER MANAGEMENT STRUCTURE SUMMARY TABLE									
Effect, Inc. Property					Project No.:		Subdiv. No.:		
Bay Eng 22-8492			Design By: J. Slenker		Date: 9/28/2023		Tax Map/Grid/Parcel: 0060/0010/0029		
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	Rooftop Disconnect	RD-1	N1		0.011	106.88	39.58	39.58	1.00
	Rooftop Disconnect	RD-2	N1		0.011	106.88	39.58	39.58	1.00
	Non-Rooftop Disconnection	NRD-1	N2		0.010	96.19	35.63	35.63	1.00
	Non-Rooftop Disconnection	NRD-2	N2		0.002	203.63	75.42	75.42	1.00
Total					0.011	513.56	190.21	190.21	
ESD, Required							18.23		

Total Site P_e Provided:

Where:

SWM Provided for:

New Development Conditions

$P_e = 10.43$ in.

$$ESD_v = 190.21 \text{ ft}^3$$

$$R_v = 0.05$$

$$A \text{ (LOD Area)} = 4,375 \text{ ft}^2$$

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

b

Environmental Site Design

N-1

Disconnection of Rooftop Runoff

Drainage Area:

House - Right

Device Name:

RD-1

Concept Design:

Contributing Drainage Area= 500 ft² 0.011 ac.
 Maximum Drainage Area = 500 ft²
 Impervious Coverage = 500 ft² 0.011 ac.
 Percent Impervious (I)= 100 %
 R_v = 0.05 + 0.009(I) = 0.950

ESDv Provided:

Disconnection Length= 51 ft. (Per Table 5.6 (page 5.59)
 Pe Provided = 1.0 in. MD State SWM Manual

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

ESDv= 39.58 ft³

Table 5.6 ESD Sizing Factors for Rooftop Disconnection

	Disconnection Flow Path Length (ft.)				
Western Shore	15	30	45	60	75
Eastern Shore	12	24	36	48	60
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= 106.88 ft³

N-1	Disconnection of Rooftop Runoff	
Drainage Area:	House - Left	Device Name: RD-2

Concept Design:

Contributing Drainage Area= 500 ft² 0.011 ac.
 Maximum Drainage Area = 500 ft²
 Impervious Coverage = 500 ft² 0.011 ac.
 Percent Impervious (I)= 100 %
 R_v = 0.05 + 0.009(I) = 0.950

ESDv Provided:

Disconnection Length= 41 ft. (Per Table 5.6 (page 5.59)
 Pe Provided = 1.0 in. MD State SWM Manual

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

ESDv= 39.58 ft³

Table 5.6 ESD Sizing Factors for Rooftop Disconnection

	Disconnection Flow Path Length (ft.)				
Western Shore	15	30	45	60	75
Eastern Shore	12	24	36	48	60
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= 106.88 ft³

Environmental Site Design

N-2

Disconnection of Non-Rooftop Runoff

Drainage Area: Driveway Device Name: NRD-1

Concept Design:

Contributing Drainage Area= 450 ft² 0.010 ac.
 Maximum Drainage Area = 1000 ft²
 Impervious Coverage = 450 ft² 0.010 ac.
 Percent Impervious (I)= 100 %
 R_v = 0.05 + 0.009(I) = 0.95

ESDv Provided:

Pervious Length= 40 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 = 32

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

ESDv= 35.63 ft³

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= 96.19 ft³

Environmental Site Design

N-2

Disconnection of Non-Rooftop Runoff

Drainage Area: Sidewalk Device Name: NRD-2

Concept Design:

Contributing Drainage Area=	100	ft ²	0.002	ac.
Maximum Drainage Area =	100	ft ²		
Impervious Coverage =	1000	ft ²	0.023	ac.
Percent Impervious (I)=	1000	%		
R _v = 0.05 + 0.009(I) =	9.05			

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= 75.42 ft³

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

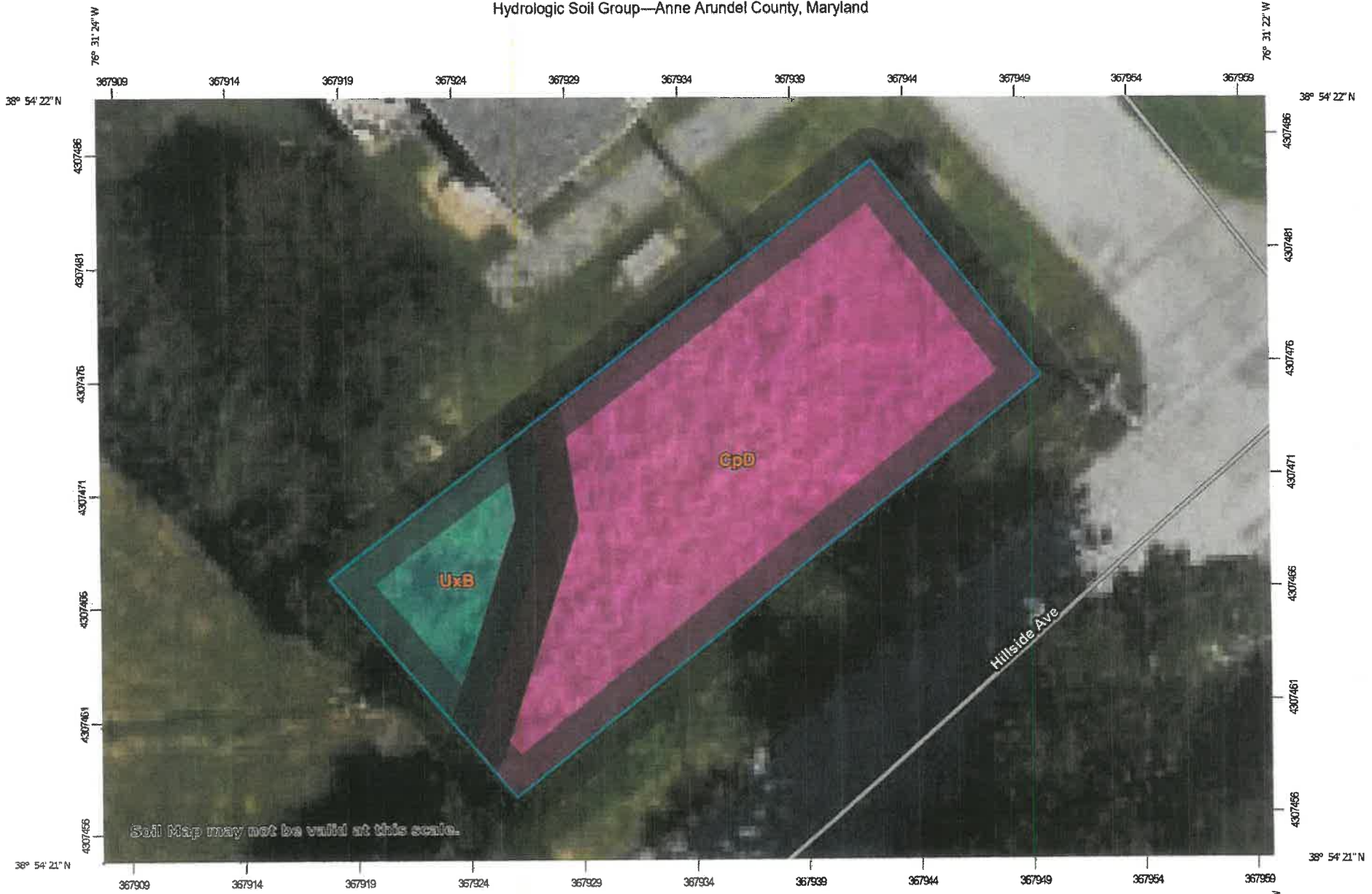
Maximum ESDv Allowed:

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

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

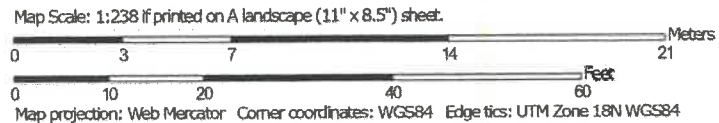
Max. ESDv= 203.63 ft³

Hydrologic Soil Group—Anne Arundel County, Maryland



Soil Map may not be valid at this scale.

h1



Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CpD	Collington-Wist-Urban land complex, 5 to 15 percent slopes	A	0.1	82.4%
UxB	Udorthents, loamy, sulfidic substratum, 0 to 5 percent slopes	C	0.0	17.6%
Totals for Area of Interest			0.1	100.0%

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.