		SHEET INDEX	
SHEET	NO.	DESCRIPTION	
1	.	TITLE SHEET	
2		EXISTING CONDITIONS & DEMOLITION PLAN	
3		SITE DEVELOPMENT PLAN	
4		EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	
5		LANDSCAPE PLAN	
6		FRONTAGE IMPROVEMENT DETAIL	

SITE DEVELOPMENT PLAN SINGH PROPERTY

SINGLE FAMILY UNIT 5514 WATERLOO ROAD

TAX MAP No. 31, GRID No. 19, PARCEL No. 487 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND ZONING: R-20

	LEGEND
SYMBOL	DESCRIPTION
508	EXISTING CONTOUR 2' INTERVAL
510	EXISTING CONTOUR 10' INTERVAL
s	EXISTING SEWER LINE
- W	EXISTING WATER LINE
OHE	EXISTING OVERHEAD ELECTRIC
-00	EXISTING IRON FENCE
	EXISTING TREELINE
	EXISTING MACADAM PAVING
	APPROX. AREA OF DEMOLITION

	ADD	RESS CHART
LOT	NUMBER	STREET ADDRESS
	1	5514 WATERLOO ROAD

SWM NARRATIVE

STORMWATER DESIGN MANUAL, VOLUMES I AND II (EFFECTIVE OCTOBER 2000, REVISED MAY 2009) WILL BE SATISFIED ON THIS PROJECT. THE GOAL OF CREATING HYDROLOGY SIMILAR TO THAT OF "WOODS IN GOOD CONDITION" WILL BE ACCOMPLISHED THROUGH THE USE OF THE PRACTICES CONTAINED WITHIN CHAPTER 5 OF SAID MANUAL

CONSISTS OF 0.34 ACRES. OF WHICH NO ACRES ARE ENCUMBERED WITH A PRESERVATION EASEMENT DEDICATED TO HOWARD COUNTY MARYLAND AGRICULTURAL LAND PRESERVATION PROGRAM. THE SITE IS RELATIVELY RECTANGULAR IN SHAPE. THE SUBDIVISION WILL UTILIZE PROPOSED PUBLIC WATER AND SEWER EXTENSIONS. THE WATER RUNOFF ON THE S DRAINS TO THE SOUTH. THE WEB SOILS SURVEY SHOWS SOILS ON THE OVERALL SITE CONSIST OF USD AND UCB.

I. NATURAL RESOURCE PROTECTION:

ENVIRONMENTALLY SENSITIVE AREAS DO NOT EXIST ON-SITE. AS SUCH, ENVIRONMENTAL WAIVERS

II. MAINTENANCE OF NATURAL FLOW PATTERNS:

IT IS THE INTENT OF THE PROPOSED DESIGN TO DISCHARGE RUNOFF SIMILAR TO THE CHARACTERISTICS AND DIRECTION OF THIS SITE PRIOR TO ANY OF THE PROPOSED IMPROVEMENTS. THE RUNOFF FROM LARGER STORMS WILL DISCHARGE AT THE SOUTHERN SIDE OF THE SITE AT THE SAME LOCATION WHERE EXISTING DISCHARGE CURRENTLY LEAVES THE PROPERTY.

III. REDUCTION OF IMPERVIOUS AREAS THROUGH BETTER SITE DESIGN,

ALTERNATIVE SURFACES AND NONSTRUCTURAL PRACTICES IMPERVIOUS AREA ON THIS SITE HAS BEEN MINIMIZED BY UTILIZING PERMEABLE PAVEMENT ON THE DRIVEWAY AND LOCATION OF THE PROPOSED HOUSE CLOSE TO THE FRONT SETBACK ...

IV. INTEGRATION OF EROSION AND SEDIMENT CONTROLS INTO

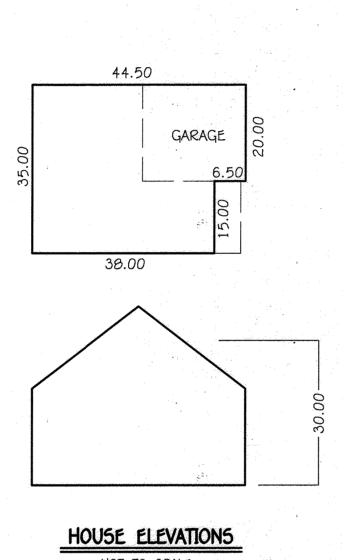
STORMWATER STRATEGY: IF REQUIRED, SEDIMENT TRAPPING WILL BE PLACED IN THE AREA OF DRY

V. IMPLEMENTATION OF ESD PLANNING TECHNIQUES AND PRACTICES

TO THE MAXIMUM EXTENT PRACTICABLE (MEP) THE FULL REQUIRED ESD VOLUME IS BEING PROVIDED FOR PROPOSED IMPROVEMENTS TO THE MAXIMUM EXTENT PRACTICABLE. M-5 DRYWELLS AND A-2 PERMEABLE PAVEMENT ARE PROPOSED FOR THIS SITE, AND N-2 NON-ROOFTOP IMPERVIOUS DISCONNECTION FOR FRONTAGE IMPROVEMENTS.

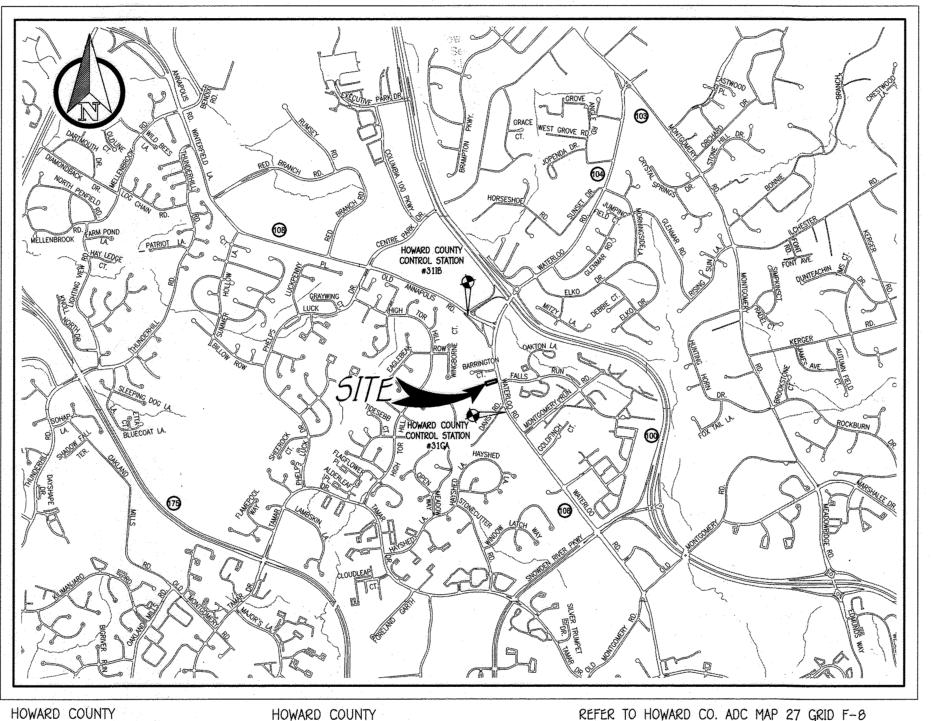
VI. FRONTAGE IMPROVEMENTS:

SIDEWALK AND CURB & GUTTER WILL BE PROVIDED ALONG THE PROPERTY'S FRONTAGE AND UP TO / CONNECTING TO EXISTING SIDEWALK AT BARRINGTON CT. STORMWATER MANAGEMENT WILL CONSIST OF NON-ROOFTOP DISCONNECTION, ALL



NOT TO SCALE

DATE



GEODETIC SURVEY CONTROL NO. 31GA GEODETIC SURVEY CONTROL NO. 311B N 564,925.766 E 1,367,067.712 N 566,937.934 E 1,366,270.807 **ELEVATION: 526.108** ELEVATION: 511.69

> SCALE: 1" = 2,000"5CALE: 1" = 2,000"

	AREA ID	PARCEL	ADDRESS	AREA 5F.	% IMPERVIOUS	ESDV REQUIRED CuFt.	ESDV PROVIDED CuFt.	DISCONNECTION (N-2) Y/N, NUMBER
	N-2	487	5514 WATERLOO ROAD	1311	100%	n/a	104	Y-2
_								
ſ	STO	RMWAT	ER MANAC	EMENT	PRACTICE	5		

STORMWATER MANAGEMENT PRACTICES - FRONTAGE IMPROVEMENTS

		·	and the second s	1	F-2000
5T0	RMWATER I	MANAGEMENT P	RACTICES		
PARCEL	ADDRESS	PERMEABLE PAVEMENT (A-2) Y/N, NUMBER	DRY WELL M-5 (Y/N)		Af
487	5514 WATERLOO ROAD	Y-1	Y-2		

STORMWATER MANAGEMENT PRACTICES								
AREA ID	PARCEL	ADDRESS	DRAINAGE AREA SF.	% IMPERVIOUS	ESDV REQUIRED CuFt.	ESDV PROVIDED CuF†.	PERMEABLE PAVEMENT (A-2) Y/N, NUMBER	DRY WE M-5 (Y/N
M-5	487	5514 WATERLOO	1,600	100%	152	270		Y-2
A-2	401	ROAD	975	11%	N/A	153	Y-1	

O. TOTAL AREA OF ERODIBLE SOILS

SITE ANALYSIS DATA CHART A. TOTAL AREA OF THIS SUBMISSION = 0.416 AC. ±. AREA OF ROAD DEDICATION = 0.076 AC. ±. REMAINING BUILDABLE AREA = 0.34 AC.±. LIMIT OF DISTURBED AREA = 0.36 Ac. ± (SWM BASED ON LOD) PRESENT ZONING DESIGNATION = R-20 (PER 10/06/2013 COMPREHENSIVE ZONING PLAN) PROPOSED USE: RESIDENTIAL SINGLE FAMILY DETACHED PREVIOUS HOWARD COUNTY FILES: WP-07-087 AND ECP-22-004 TOTAL AREA OF FLOODPLAIN LOCATED ON-SITE = 0 AC TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0 AC+ TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0 AC. ± TOTAL AREA OF STREAM (INCLUDING BUFFER) = 0 AC. ±

TOTAL AREA OF EXISTING FOREST = 0.09 AC. TOTAL AREA OF FOREST TO BE RETAINED $= 0.00 \text{ AC} \pm$ TOTAL AREA OF LOTS / BUILDABLE PARCELS = 0.34 AC± TOTAL GREEN OPEN AREA (PERVIOUS) $= 0.18 \text{ AC} \pm$ = 0.08 AC \pm (WITHIN LOD, N. TOTAL IMPERVIOUS AREA EXCLUDES EXISTING IMPERVIOUS)

 $= 0 AC \pm$

GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-20 (PER 10/06/13 COMPREHENSIVE ZONING PLAN.) BOUNDARY IS BASED ON A FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER ON
- CONTOURS ARE BASED ON A TOPOGRAPHIC FIELD RUN SURVEY PERFORMED BY FISHER, COLLIN AND CARTER, ON OR ABOUT JANUARY, 2019. COORDINATES BASED ON NAD'83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD

STATIONS NO. 31GA AND NO. 31IB: HOWARD COUNTY MONUMENT NO. 31GA N 564,955.766

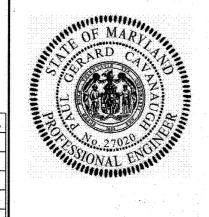
E 1,367,067.712 ELEV. 511.69'

- E 1.366,270,807 ELEV, 526,108'
- PERMEABLE PAVEMENT THAT WILL BE PRIVATELY OWNED AND MAINTAINED
- 5b. THIS PLAN PROPOSES THREE (3) NON-ROOFTOP IMPERVIOUS DISCONNECTION DEVICES, ALL OF WHICH WILL BE LOCATED WITHIN THE SHA RIGHT OF WAY TO TREAT THE PROPOSED SIDEWALK ALONG WATERLOO ROAD. THESE DISCONNECTIONS WILL BE OWNED AND MAINTAINED
- 8. A COMMUNITY INPUT MEETING WAS HELD ON JUNE 9TH AT MAYFIELD WOODS MIDDLE SCHOOL AT 6PM. THIS MEETING WAS FOR THE PURPOSE OF PROVIDING INFORMATION TO THE COMMUNITY
- OF THE HOWARD COUNTY SUBDIVISION REGULATIONS. SOILS SHOWN HEREON ARE BASED ON THE HOWARD COUNTY WEB SOILS PERIMETER LANDSCAPING HAS BEEN PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND LANDSCAPE MANUAL. FINANCIAL SURETY IN THE AMOUNT OF
- \$2,700.00 FOR 9 SHADE TREES (\$300 ed.) WILL BE PROVIDED AS PART OF THE DPW DEVELOPER'S AGREEMENT. WITH BUILDERS Grading Permit
- 12. DRIVEWAY SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
 - B) SURFACE SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45 FOOT
 - D) STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
 - F) STRUCTURE CLEARANCES MINIMUM 12 FEET
 - G) MAINTENANCE SUFFICIENT TO ENSURE ALL WEATHER USE
- H) ENTRANCE CONSTRUCTED PER HOWARD COUNTY STANDARD DETAIL R-6-01 13. PRIVATE ONSITE STORM WATER MANAGEMENT DEVICES WILL BE OWNED AND MAINTAINED BY PROPERTY
- OWNER, THE SHA DEVICES ALONG WATERLOO ROAD WILL BE OWNED AND MAINTAINED BY SHA.

- 18. LETTER OF FINDINGS DATED SEPTEMBER 2020 PREPARED BY ECO-SCIENCE PROFESSIONALS, INC.
- LOCATED WITHIN THE LIMITS OF THE FINAL PLAT. 19. WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS (
- 20. PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF
- BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME. DEVELOPMENT REGULATIONS AND THE 10/06/13 COMPREHENSIVE ZONING PLAN. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN
- 22. APPROVAL OF A SITE DEVELOPMENT PLAN IS REQUIRED FOR THE DEVELOPMENT OF ALL
- RESIDENTIAL LOTS WITHIN THIS SUBDIVISION PRIOR TO ISSUANCE OF ANY GRADING OR BUILDING PERMITS FOR NEW HOUSE CONSTRUCTION IN ACCORDANCE WITH SECTION 16.155 OF THE
- 23. NO HISTORIC STRUCTURES EXIST WITHIN THE LIMITS OF THIS PLAT SUBMISSION
- 25. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS
- OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE. 26. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING,
- THE START OF WORK.
- 27. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS
- PRIOR TO ANY EXCAVATION WORK BEING DONE. 28. 5HC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.
- 29. FOR DRIVEWAY ENTRANCE DETAILS REFER TO THE SHA BOOK OF STANDARDS FOR HIGHWAY AND
- INCIDENTAL STRUCTURES, CATEGORY 6, STD MD 630.01 (ALSO SHOWN ON PLANS) 30. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST
- CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN. 31. THERE ARE NO SPECIMEN TREES, WETLANDS, STREAMS OR THEIR BUFFERS LOCATED WITHIN THE BOUNDARY OF THIS SITE.
- 32. SOIL BORING INFORMATION WAS ACQUIRED AND IS SHOWN ON THE PLAN.
- 33. THE LOT IS AN IN-FILL DEVELOPMENT, AS ADJACENT LOTS ARE ALL DEVELOPED.
- 34. IN ACCORDANCE WITH SECTION 120 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED MAY
- PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK. 35. THIS SITE IS NOT ADJACENT TO A SCENIC ROAD (WATERLOO ROAD)
- 36. SITE HISTORY: WP-07-087 WAS DENIED. ECP-22-004 TECHNICALLY COMPLETE 12/13/21.
- 37. WP-22-113 WAS SUBMITTED TO ADDRESS SIDEWALK IMPROVEMENTS. THIS APPLICATION WAS WITHDRAWN FROM ACTIVE CONSIDERATION BY HOWARD COUNTY. AS IT WAS DETERMINED THAT AN ALTERNATIVE COMPLIANCE REQUEST IS NOT NECESSARY. RATHER, A FEE-IN-LIEU REQUEST FOR
- THE SIDEWALK IMPROVEMENTS HAS BEEN SUBMITTED, AND WAS DENIED ON JULY 13. 2022. 38. SHA ROADWAY CONSTRUCTION PLANS ASSOCIATED WITH THE FRONTAGE IMPROVEMENTS REQUIRED BY HOWARD COUNTY DPW WERE APPROVED ON MAY 10, 2023. THE PROJECT SHALL NOT BE CONSTRUCTED UNTIL THE SHA ACCESS PERMIT IS OBTAINED.
- 39. THIS RIGHT-OF-WAY WAS CONVEYED TO THE MARYLAND STATE HIGHWAY ADMINISTRATION (FORMERLY THE STATE ROADS COMMISSION) PER RECORD PLAT #12457 RECORDED JUNE 14
- 1954 AND CORROBORATED BY DEED SEPTEMBER 10 1954 PER LIBER 260 AND FOLIO 316. 40. THE 65dba NOISE LINE ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS, AND FUTURE RESIDENTS THAT AREAS BEYOND THIS THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPT OF HOUSING AND URBAN

	C (4)	
	FISHER, COLLINS & CARTE	R. INC
	CIVIL ENGINEERING CONSULTANTS & LAND	
8 8		A
	CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE	NATIONAL PIK
- 14	ELLICOTT CITY, MARYLAND 21042	
	(410) 461 - 2855	

1 Revise General Note 10 on sheet 1 & General Note lonsheet 6 9 13/23



PROFESSIONAL CERTIFICATION I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED UNDER MY SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24. Paul G. Cavanaugh 6/23/2023 PAUL G. CAVANAUGH

BUILDER/DEVELOPER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE

ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL 6/23/2023 Swinder Single

SIGNATURE OF DEVELOPER

PROJECT OWNER/DEVELOPER SURINDER SINGH 10610 WARBURTON CT 20053/465 ELLICOTT CITY, MD 410-350-6333

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 6/27/2023 Chief, Division of Intering Jopmen 6/26/2023 (HAD) Edmondson Chief, Development 70637754 1499 Division 6/28/2023 Lynda Eisenbern Director - Departmeners Programming and Zoning PARCEL NO. 5514 WATERLOO ROAD 487 N/A BLOCK NO. ZONE CENSUS TR. TAX/ZONE ELEC. DIST. R-20 N/A PREVIOUS HOWARD COUNTY FILES: ECP-22-031, WP-07-087, WP-22-108

TITLE SHEET

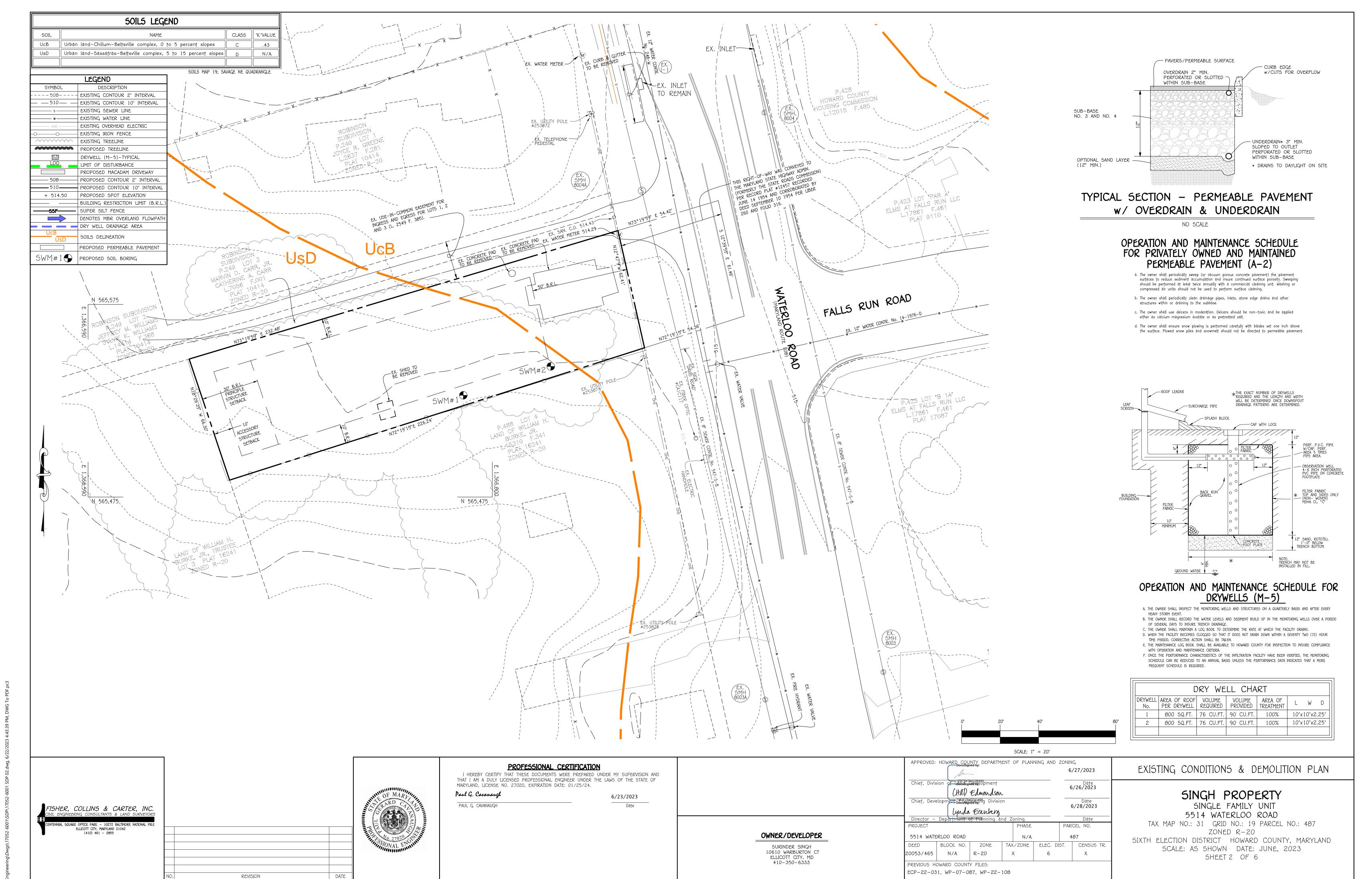
SINGH PROPERTY SINGLE FAMILY UNIT

5514 WATERLOO ROAD TAX MAP NO.: 31 GRID NO.: 19 PARCEL NO.: 487

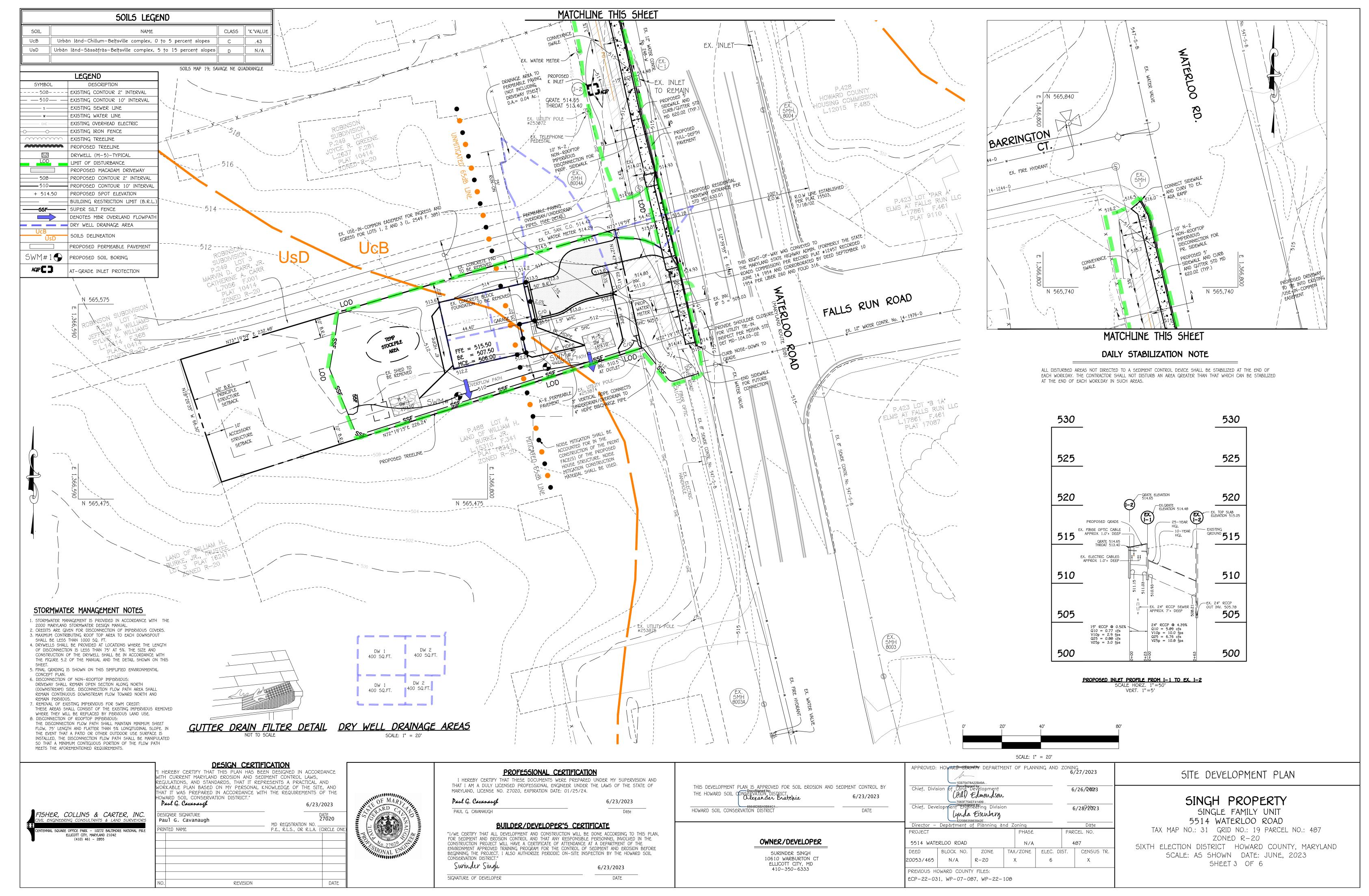
ZONED R-20 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: JUNE, 2023

SHEET 1 OF 6

5DP-22-031



5DP-22-031



:\2017\17052\Engineering\Dwgs\17052-6001\SDP\17052-6001 SDP 03 A.DWG, 6/22/2023 4:44:49 PM, DW

A. Soil Preparation

1. Temporary Stabilization a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:

i. Soil pH between 6.0 and 7.0. ii. Soluble salts less than 500 parts per million (ppm).

iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be

planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable. iv. Soil contains 1.5 percent minimum organic matter by weight.

v. Soil contains sufficient pore space to permit adequate root penetration

b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions. c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then

3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

scarified or otherwise loosened to a depth of 3 to 5 inches.

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test. e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the syrface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to

B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.

3. Topsoiling is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible

4. Areas having slopes steeper than 2:1 require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoi must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 inches in diameter. b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut

sedge, poison ivy, thistle, or others as specified.

c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil. 6. Topsoil Application

a. Erosion and sediment control practices must be maintained when applying topsoil.

Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.

c. Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses. 2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and

warranty of the producer. 3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseedir which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 90 to 100 percent will pass

4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.

5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

<u>Criteria</u>

The application of seed and mulch to establish vegetative cover

To protect disturbed soils from erosion during and at the end of construction

Conditions Where Practice Applies To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

1. Specifications a. All seed must meet the requirement of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.

b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws. c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as

cook as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with weighted roller to provide good seed to soil contact.

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must

are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseedina.

iii. Mix seed and fertilizer on site and seed immediately and without interruption.

ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.

c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the followina: nitrogen, 100 pounds per acre total of soluble nitrogen; P 0 (phosphorus), 200 pounds per acre; K 0 (potassium), 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons

iv. When hydroseeding do not incorporate seed into the soil. B. Mulching Mulch Materials (in order of preference)

F15HER, COLLIN5 & CARTER, INC.

ENGINEERING CONSULTANTS & LAND SURVEYORS

a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of

noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is desired. b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into uniform fibrous physical

DESIGN CERTIFICATION HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE

ITH CURRENT MARYLAND EROSION AND SEDIMENT CONTROL LAWS, REGULATIONS, AND STANDARDS, THAT IT REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." Paul G. Cavanaugh 6/23/2023

DESIGNER SIGNATURE
Paul G. Cavanaugh 27020 MD REGISTRATION NO. P.E., R.L.S., OR R.L.A. (CIRCLE ONE NTED NAME

REVISION

DATE

i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

WCFM, including dye, must contain no germination or growth inhibiting factors. iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the

iv. WCFM material must not contain elements or compounds at concentration levels that will by phyto—toxic. v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

a. Apply mulch to all seeded areas immediately after seeding.

b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre. c. Wood cellulose fiber used as mulch must be applied to a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard: . A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a

minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of

heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt binders is strictly prohibited. iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4-15 feet wide and 300 to 3,000 feet long.

iii. Synthetic binders such as Acrylic DLR (Agro—Tack), DCA—70, Petroset, Terra Tax II, Terra Tack AR or other approved

equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be

TEMPORARY SEEDING NOTES (B-4-4)

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Definition

Conditions Where Practice Applies Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

1. Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.

2. For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.

3. When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.

		Temporary Seedin	g Summary		
	e (from Figure B. from Table B.1):	3):6b		Fertilizer Rate (10-20-20)	Lime Rațe
Species	Application Rate (lb/ac)	Seeding Da†es	Seeding Depths		
BARLEY	96	3/1 - 5/15,	1"	 436 b/ac	2 †ons/ac
OAT5	72	8/1 - 10/15	1"	(10 lb/ 1000 sf)	(90 lb/ 1000 sf)
RYE	112		1"		

PERMANENT SEEDING NOTES (B-4-5) A. Seed Mixtures

a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan. b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 — Critical Area Planting.

c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency. d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 1/2 pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The symmary is to be placed on the plan.

i. Kentucky Bluegrāss: Full Sun Mixture: For use in āreās thāt receive intensive mānāgement. Irrigātion required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

Select turfgrass varieties from those listed in the most current University of Maryland Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best quarantee of cultivar purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line

Ideal Times of Seeding for Turf Grass Mixtures Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a) Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b) Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a. 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1 1/2 inches in diameter The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty. e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when

seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

	Permanent Seeding Summary							
Hardiness Zone (from Figure B.3):6b Seed Mixture (from Table B.3):8						Fertilizer Rate (10-20-20)		
No.	Species	Application Rate (lb/ac)	Seeding Da†es	Seeding Dep†hs	N	P ₂ O ₅	K ₂ 0	
8	TALL FESCUE	100	Mar. 1-May 15 Aug. 1-Oct. 15	1/4-1/2 in.	45 lbs. per acre	90 lb/ac (2 lb/	90 lb/ac (2 lb/	(90 lb/
					(1.0 lb/ 1000 sf)	1000 sf)	1000 sf)	1000 sf)

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

a. Class of turforass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and

b. Sod must be machine cut at a uniform soil thickness to 34 inch, plus or minus 14 inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be

c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when

suspended vertically with a firm grasp on the upper 10 percent of the section. d. Sod must not be harvested or transplanted when moisture content (excessively dry of wet) may adversely affect its survival. e, Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation. 2 Sod Installation

a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod. b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and

that all joints are butted tight in order to prevent voids which would cause air drying of the roots. c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying

d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping, and irrigating for any piece of sod within eight hours.

a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting. b. After the first week, sod watering is required as necessary to maintain adequate moisture conten

c. Do not mow until the sod is firmly rooted. No more than ½ of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS

<u>Definition</u>

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

<u>Criteria</u> 1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan. 2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.

3. Runoff from the stockpile area must drain to a suitable sediment control practice. 4. Access the stockpile area from the upgrade side. 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner. 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge. 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.

8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:

Prior to the start of earth disturbance, b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,

Prior to the start of another phase of construction or opening of another grading unit. d. Prior to the removal or modification of sediment control practices

Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.

All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. and revisions thereto. 3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter

slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.

4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15' of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6). All sediment control structures are to remain in place, and are to be maintained in operative condition until permission for their removal has been obtained from the CID.

Total Area of Site: __ Area Disturbed: 0.36 Acres
Area to be roofed or paved: 0.00 Acres Area to be vegetatively stabilized: <u>0.24</u>

Offsite waste/borrow area location: N/A

Silt Fence:

Super Silt Fence:

material must be covered with impermeable sheeting.

Quantities provided are for the reviewing agency only. Contractor is responsible for performing construction take-offs. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by

he contractor, made available upon request, is part of every inspection and should include: Inspection date Inspection type (routine, pre-storm event, during rain event) Name and title of inspector

Weather information (current conditions as well as time and amount of last recorded precipitation) Brief description of project's status (e.g., percent complete) and/or current activities Fuldence of sediment discharges

Identification of plan deficiencies Identification of sediment controls that require maintenance Identification of missing or improperly installed sediment controls Compliance status regarding the sequence of construction and stabilization requirements

Photographs Monitoring/sampling Maintenance and/or corrective action performed Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter. 10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of H5CD-approved field changes.

Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.

Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure. psoil shall be stockpiled and preserved on-site for redistribution onto final grade. 14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25 minimum

intervals, with lower ends curled uphill by 2' in elevation. 15. Stream channels must not be disturbed during the following restricted time periods (inclusive): Use I and IP March 1 - June 15

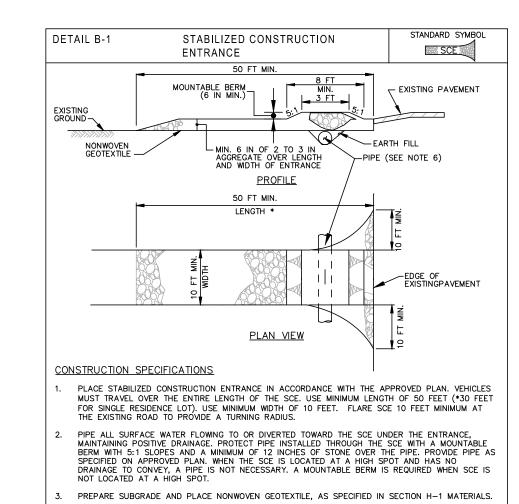
Use III and IIIP October 1 - April 30 Use IV March 1 – May 31 16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site

SWM SUMMARY:

	ESD _V PROV'D (cf)	ESD _V REQ'D (cf)	NOTES
Drywell 1	135 cf	76 cf	Refer to Drywell comps
Drywell 2	135 cf	76 cf	Refer to Drywell comps
Permeable pavement	153 cf	n/a	Refer to Permeable pavement comps
Non-Rooftop Imp Disconn - Sidewalk	77 cf	n/a	Refer to Non-Rooftop Imp
Non-Rooftop Imp Disconn - Driveway	27 cf	n/a	Refer to Non-Rooftop Imp Disconn comps
TOTAL SITE ESDV Provided	527 cf		Cpv, Rev provided (Re _v = 270 cf drywells)
TOTAL SITE ESDV Required		41 0 cf	Rev Req'd – 9 cf
TOTAL QUANTITY			ESD _v has been met and quantity is not required.

THE HOWARD SOIL CONSPRENTION DISTRICT.

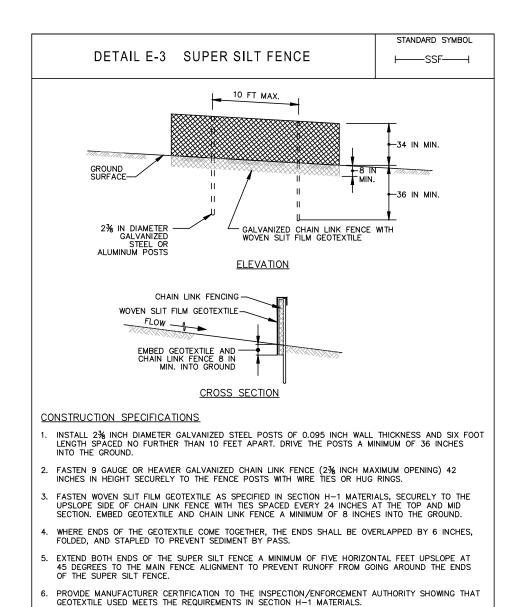
HOWARD SOIL CONSERVATION DISTRICT



MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAK MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT ADD STONE OR MA OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
URAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE

(WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.



SEQUENCE OF CONSTRUCTION OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. . NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-000-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION / INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK. 3. CLEAR AND GRUB AS NECESSARY FOR INSTALLATION OF PERIMETER CONTROLS 4. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE, AND SUPER SILT FENCE. 6. WITH PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BEGIN ROUGH GRADE

DRIVEWAY, ROUGH GRADE AROUND HOUSE SITE AND INSTALL TEMPORARY SEEDING, IF REQUIRED.

BEGIN CONSTRUCTION BUILDING, DRIVEWAY, UTILITIES AND STORM WATER FEATURES. NOTE THAT ALL

REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL

2011

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

(2 DAYS)

(7 DAY5)

(7 DAYS)

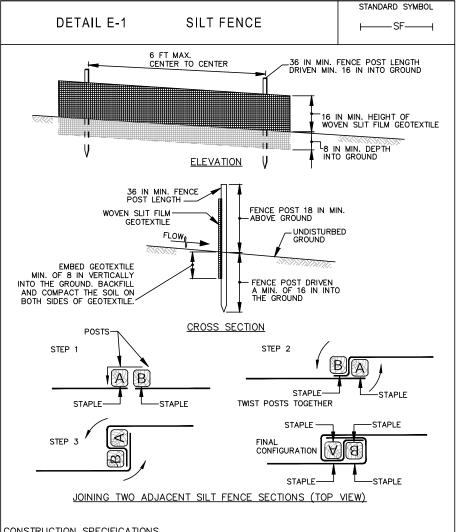
(8 MONTHS)

(3 DAY5)

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

CONTRIBUTING DRAINAGE AREAS SHALL BE STABILIZED PRIOR TO INSTALLATION OF DRYWELLS AND PERMEABLE PAVEMENT 6. FINE GRADE SITE AND INSTALL PERMANENT SEEDING. 8. ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED.

1) THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT CONTROLS AFTER EACH RAINFALL AND ON A DAILY BASIS.



CONSTRUCTION SPECIFICATIONS

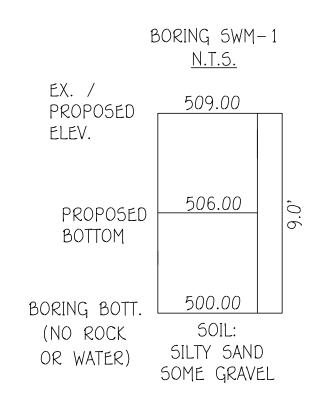
USE WOOD POSTS $1\frac{1}{4}$ X $1\frac{1}{4}$ \pm $\frac{1}{16}$ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.

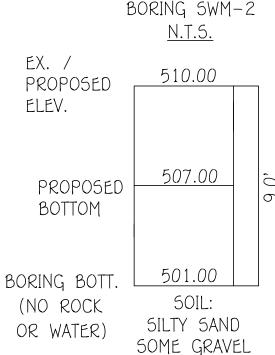
USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.

EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.

EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL 2011





EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

SINGH PROPERTY SINGLE FAMILY UNIT

5514 WATERLOO ROAD TAX MAP NO.: 31 GRID NO.: 19 PARCEL NO.: 487 ZONED R-20

SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: JUNE, 2023 SHEET 4 OF 6

IAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED UNDER MY SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24.

Paul G. Cavanaugh PAUL G. CAVANAUGH

BUILDER/DEVELOPER'S CERTIFICATE I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN. FOR SEDIMENT AND EROSION CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE

ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE

BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT. Swinder Single

SIGNATURE OF DEVELOPER

6/23/2023

6/23/2023

Date

OWNER/DEVELOPER SURINDER SINGH 10610 WARBURTON CT ELLICOTT CITY, MD 410-350-6333

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY

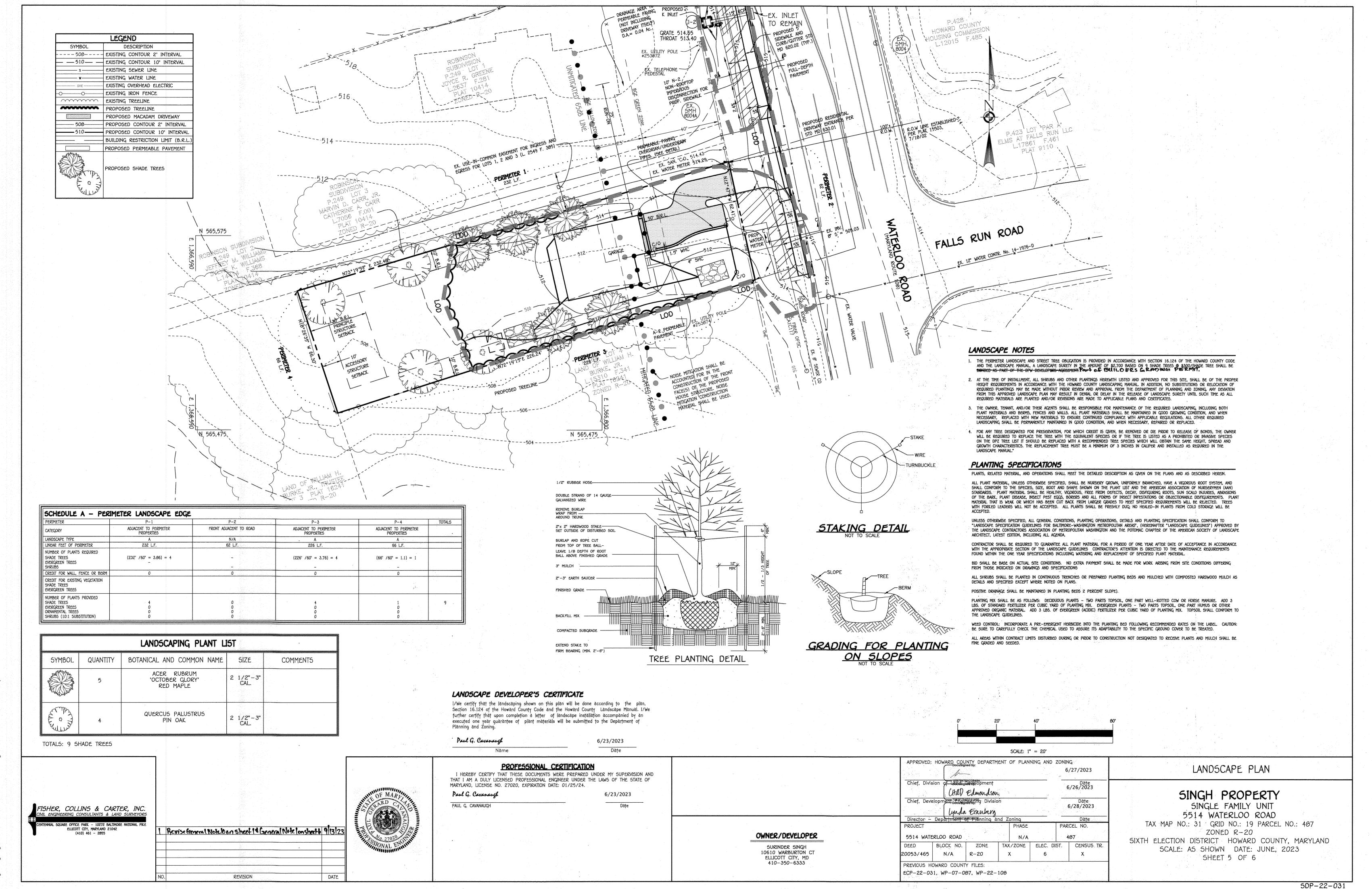
Olexander Bratchie

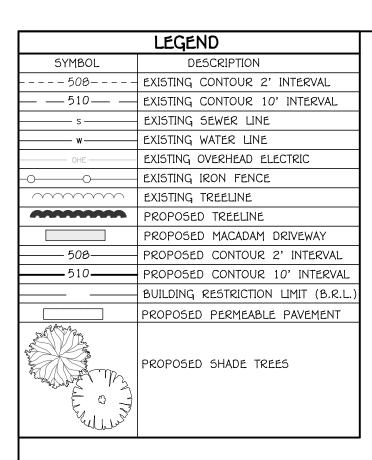
6/23/2023

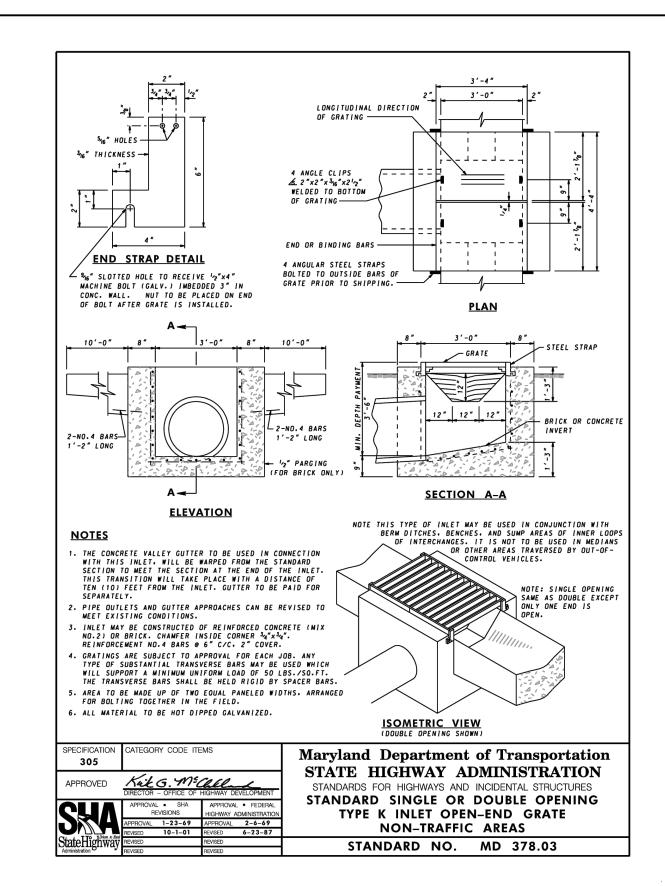
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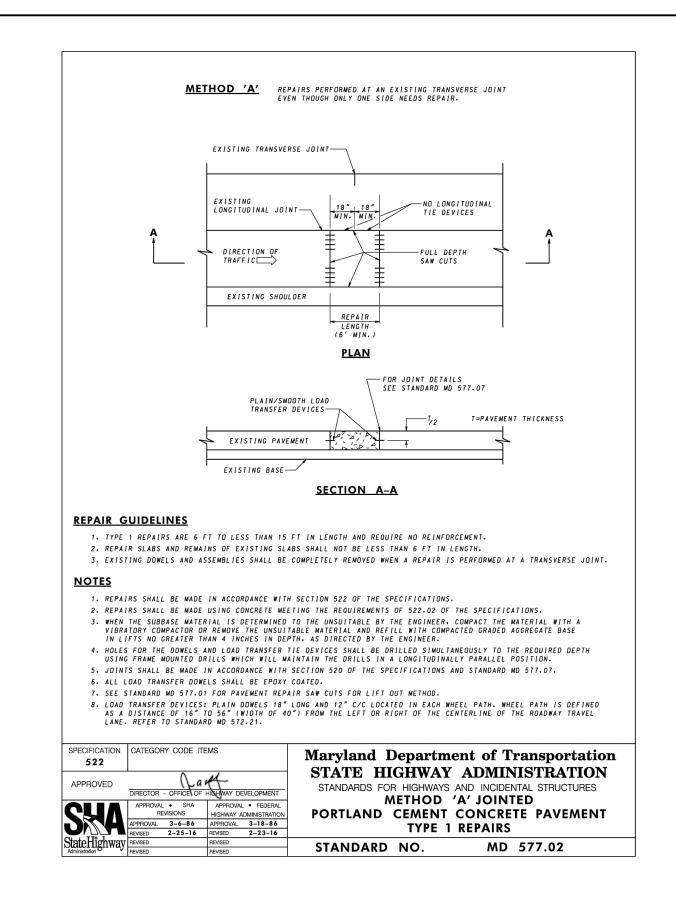
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 6/27/2023 Chief, Division of poorsigheave opment 6/26/2023 (Hd) Edmondson Chief, Development 7063F754FF41499 Division 6/28/2023 lunda Eisenberg Director - Departm4229\$635963\$42Enning and 2 PROJECT PHASE PARCEL NO. 5514 WATERLOO ROAD N/A 487 TAX/ZONE | ELEC. DIST. BLOCK NO. ZONE CENSUS TR 20053/465 N/A R-20 PREVIOUS HOWARD COUNTY FILES: ECP-22-031, WP-07-087, WP-22-108

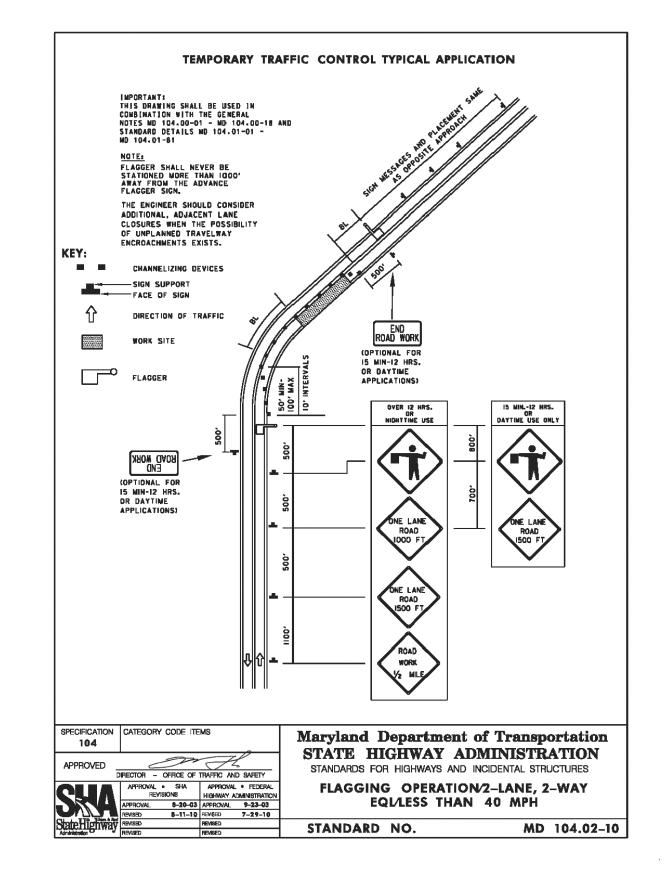
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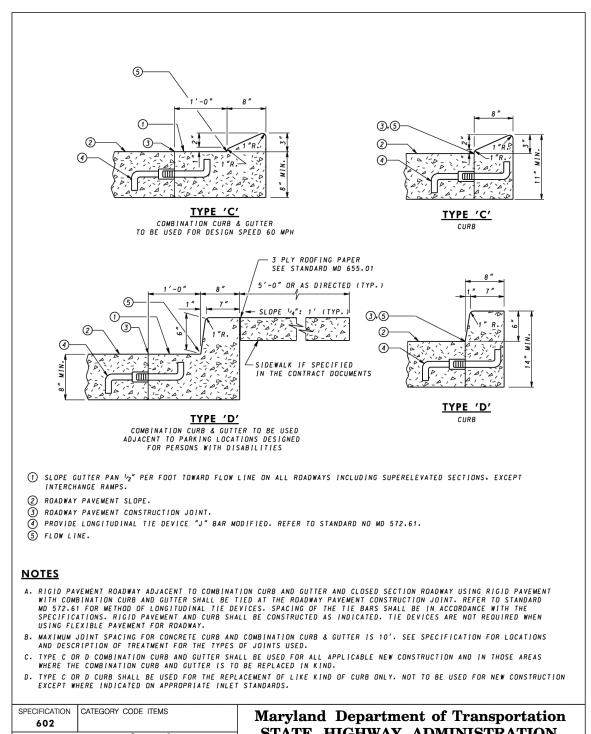






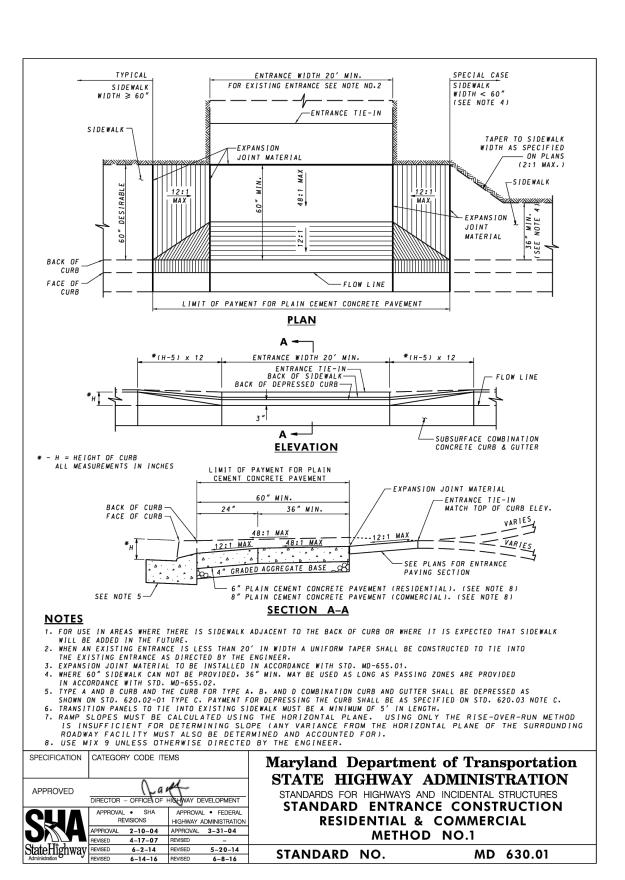




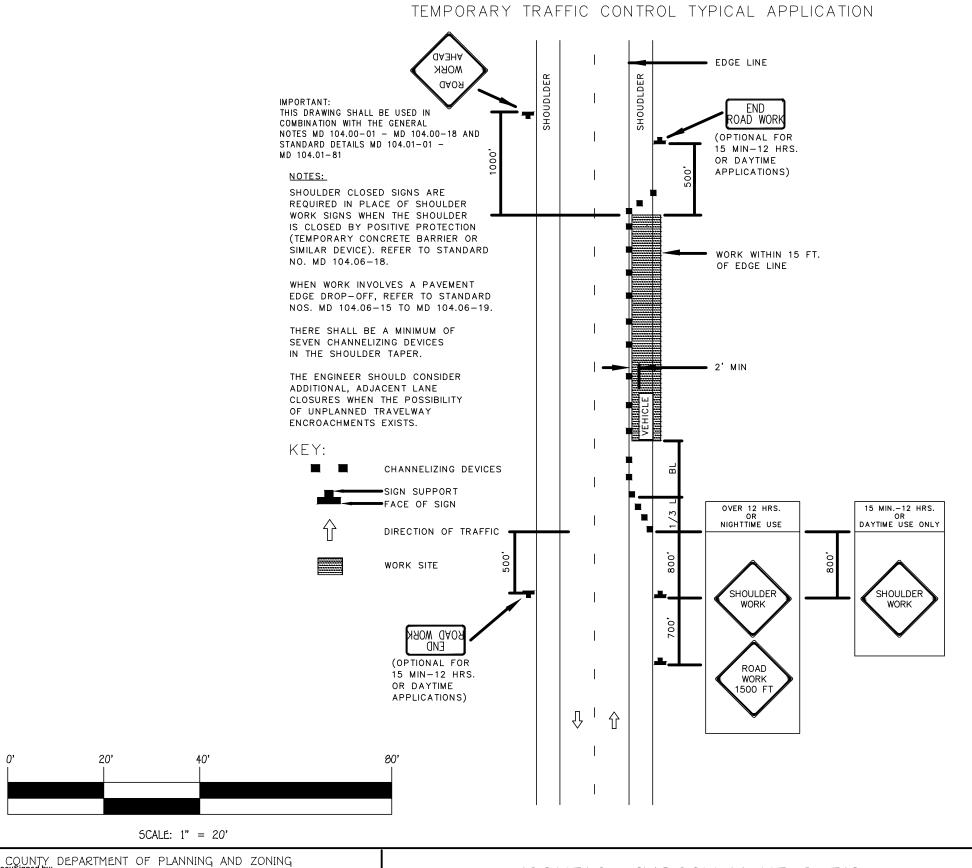


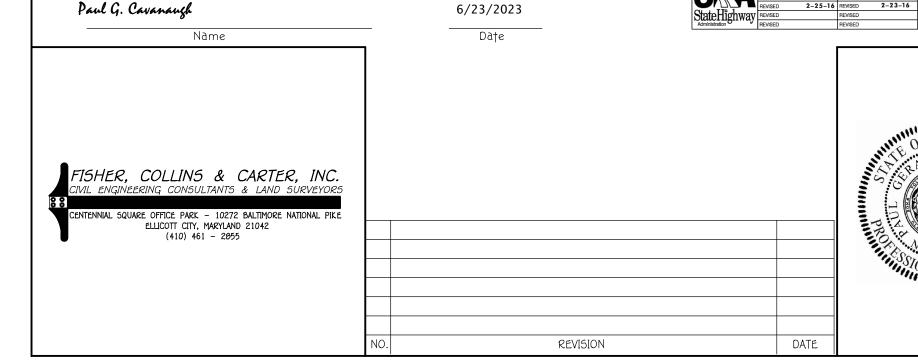
DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT

APPROVED



ELLICOTT CITY, MD 410-350-6333





LANDSCAPE DEVELOPER'S CERTIFICATE

Planning and Zoning.

I/We certify that the landscaping shown on this plan will be done according to the plan,

further certify that upon completion a letter of landscape installation accompanied by an

executed one year guarantee of plant materials will be submitted to the Department of

Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We

STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD TYPES C AND D
CONCRETE CURB AND COMBINATION
CONCRETE CURB & GUTTER

STANDARD NO. MD 620.02-01

2 0F 2

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED UNDER MY SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 27020, EXPIRATION DATE: 01/25/24.

PAUL G. CAVANAUGH

Date

OWNER/DEVELOPER

SURINDER SINGH
10610 WARBURTON CT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 6/27/2023 6/26/2023 CHAD Edmondson Chief, Development 7063 F 754 F 4 1499 Division 6/28/2023 lynda Eisenberg Director - Departma 29 PB 635 963 974 PEnning PROJECT PARCEL NO. 5514 WATERLOO ROAD 487 N/A BLOCK NO. TAX/ZONE | ELEC. DIST. CENSUS TR ZONE 20053/465 N/A R-20 PREVIOUS HOWARD COUNTY FILES: ECP-22-031, WP-07-087, WP-22-108

FRONTAGE IMPROVEMENT DETAIL

SINGH PROPERTY

5INGLE FAMILY UNIT

5514 WATERLOO ROAD

R NO : 31 CRID NO : 19 PARCEL NO

TAX MAP NO.: 31 GRID NO.: 19 PARCEL NO.: 487

ZONED R-20

SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: JUNE, 2023 SHEET 6 OF 6