ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS

STANDARDS AND SPECIFICATIONS IF APPLICABLE THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK ON THESE

VERIZON TELEPHONE COMPANY: HOWARD COUNTY BUREAU OF UTILITIES: 410-954-8281 410-313-2366 AT&T CABLE LOCATION DIVISION: 1-800-393-355 B.G.&E. CO. CONTRACTOR SERVICES: _ 410-850-4620 B.G.&E. CO, UNDERGROUND DAMAGE CONTROL:

STATE HIGHWAY ADMINISTRATION: THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.

THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK. ANY DAMAGE TO PUBLIC RIGHT-OF-WAY, PAVING, OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.

THIS SITE DEVELOPMENT PLAN IS SUBJECT TO THE FOLLOWING DPZ FILES:
PS017, CONTRACT 2-W, CONTRACT 14-1381-D, WP-19-026, ECP-20-007.
THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A FIELD SURVEY BY VOGEL ENGINEERING + TIMMONS GROUP, DATED

04/19/19, AND SUPPLEMENTED BY HOWARD COUNTY GIS.
THE PROJECT BOUNDARY IS BASED ON A FIELD RUN BOUNDARY PERFORMED BY VOGEL ENGINEERING + TIMMONS GROUP, DATED

THE COORDINATES AND ELEVATIONS SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE GOORDINATE SYSTEM. HOWARD COUNTY CONTROL STATION 38DA AND 38GA WERE USED FOR THIS PROJECT.

EXISTING UTILITIES LOCATED FROM A FILED SURVEY BY VOGEL+TIMMONS GROUP, PERFORMED APRIL 10, 2019 AND SUPPLEMENTED WITH AS-BUILT DRAWINGS. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED

IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. 12. THE SUBJECT PROPERTY IS ZONED R-12 IN ACCORDANCE WITH THE ZONING REGULATIONS EFFECTIVE ON OCT. 06, 2013, AND IS SUBJECT TO SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE OCT. 07, 2007 PER COUNCIL BILL, 47-2007 & 48-2007. DEVELOPMENT OR CONSTRUCTION ON THIS PROPERTY MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, ALTERNATIVE COMPLIANCE PETITION

APPLICATION OR BUILDING/GRADING PERMIT APPLICATIONS. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.

- WATER FOR THIS PROJECT SHALL BE FROM AN EXTENSION OF CONTRACT NO. #2-W. - SEWER FOR THIS PROJECT SHALL BE FROM THE PROPOSED EXTENSION OF CONTRACT NO. #578-S.

- WATER AND SEWER SERVICE WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE, ALLOCATIONS WILL BE GRANTED AT TIME OF ISSUANCE OF BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.

DEVELOPMENT OR CONSTRUCTION OF THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN, ALTERNATIVE COMPLIANCE PETITION, OR BUILDING AND GRADING

THIS SITE IS NOT LOCATED IN A HISTORIC DISTRICT.

NO RARE, THREATENED OR ENDANGERED SPECIES OR THEIR HABITATS WERE OBSERVED ON THE PROPERTY.

NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAM(S) OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.

THERE ARE NO "FLOODPLAIN" AREAS LOCATED WITHIN THE DEVELOPMENT AREA.

THERE ARE NO STEEP SLOPES, 25% OR GREATER ON THIS SITE.

THE PROJECT SITE WAS EVALUATED FOR THE PRESENCE OF ENVIRONMENTAL FEATURES IN JULY 2019, AND A LETTER HAS BEEN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, DATED DECEMBER 18, 2019, MR. CANOLES NOTED THAT THE THE PROPERTY IS CURRENTLY DOMINATED BY OVERGROWN LAWN, SCATTERED LANDSCAPING AND ORNAMENTALS, AND A SINGLE SPECIMEN SIZED TREE, BUT NO FOREST OR ANY OTHER REGULATED ENVIRONMENTAL FEATURES WERE FOUND WITHIN THE LIMITS

OF THE DEVELOPMENT AREA FOR THIS PROJECT. THERE ARE O S.F. (0.00 AC.) AREA OF WETLANDS PRESENT WITHIN THE DEVELOPMENT AREA. NO WETLANDS OR THEIR BUFFERS WILL BE IMPACTED BY THE CONSTRUCTION OF THE SITE.

SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION, INCLUDING THE PROTECTION OF SPECIMEN TREES. IS NOT APPLICABLE TO THIS PROJECT UNDER SECTIONS SECTION 16.1202.(B)(IV), RESUBDIMISIONS THAT DO NOT CREATE ADDITIONAL LOTS.

22. A LANDSCAPE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL, FINANCIAL SURETY IN THE AMOUNT OF \$4,500.00 FOR THE REQUIRED 11 SHADE TREES (\$3,300.00) AND 8 EVERGREENS (\$1,200)

WILL BE PAID WITH THE DEVELOPERS ACREEMENT. THERE ARE 0 S.F. (0.00 AC.) AREA OF OPEN SPACE PRESENT. OPEN SPACE IS NOT REQUIRED FOR A MINOR SUBDIVISION. REFERENCE WP-19-026 APPROVED MARCH 07, 2019 TO WAIVE SECTION 16.147 OF THE HOWARD COUNTY

SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO NOT REQUIRE RIGHT OF WAY DEDICATION AND ALLOW A RECONFIGUATION CONDITIONS OF APPROVAL 1. AN ADJOINER DEED TO ADJUST/RECONFIGURE LOTS 13, 14 AND 15 (0.45 ACRES) STATED IN THIS REQUEST MUST BE RECORDED WITH THE HOWARD COUNTY LAND RECORDS WITHIN 120 DAYS OF THE DATE OF THIS ALTERNATIVE COMPLIANCE

PETITION APPROVAL (ON OR BEFORE JULY 5TH, 2019). THE DEED SHALL REFERENCE THIS ALTERNATIVE COMPLIANCE PETITION FILE NUMBER (WP-19-026). A COPY OF THE RECORDED DEED WITH AN EXHIBIT THAT DISPALYS THE RECONFIGURED LOTS MUST BE SUBMITTED TO THE DIVISION OF LAND DEVELOPMENT AFTER THE DEED IS RECORDED. APPROVAL OF THIS ALTERNATIVE COMPLIANCE PETITION IS FOR THE STATED 3 LOTS (LOTS 13, 14 AND 15) INCLUDED IN THIS PETITION. THIS APPROVAL DOES NOT GRANT THE PETITIONER/PROPERTY OWNER THE ABILITY TO CREATE ADDITIONAL LOTS.

3. EACH OF THE RECONFIGURED LOTS MUST REMAIN AT 6,600 SF AND MAY NOT BE REDUCED IN SIZE.

4. PRIOR TO THE APPLICATION FOR LAND DEVELOPEMENT, THE PETITIONER/PROPERTY OWNER MUST SUBMIT AN ENVIRONMENTAL CONCEPT PLAN TO DEMONSTRATE THAT STORMWATER MANAGEMENT PRACTICES ON THESE LOTS CAN COMPLY WITHTHE REGULATIONS AND TO IDENTIFY ALL ENVIRONMENTAL FEATURES ON THE SITE. A SITE DEVELOPMENT PLAN (SOP) WILL BE REQUIRED FOR THE DEVELOPMENT OF THE THREE LOTS, AS PART OF THAT 6. THE EXISTING HOUSE (6480 ANDERSON AVENUE) MUST BE REMOVED/DEMOLISHED PRIOR TO THE RECORDATION OF THE NEW ADJOINER DEED TRANSFER. PHOTOS OF HOUSE REMOVAL MUST BE SUBMITTED TO THIS DIVISION AS PROOF.

ANDERSON AVENUE IS CLASSIFIED AS A LOCAL ROAD. RAILROAD AVENUE IS AN UNPAYED PUBLIC RIGHT OF WAY. SITE ACCESS SHALL

F VIA PRIVATE DRIVEWAYS FROM ANDERSON AVENUE. 26. A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT. THIS PROJECT IS EXEMPT FROM AN ADEQUATE ROADS FACILITIES TEST STUDY, UNDER SECTION 16.1107(b)(iii), RESIDENTIAL RE-SUBDIVISIONS WHICH DO NOT INCREASE THE NUMBER OF HOUSING UNITS ALLOWED, AS IT IS A

RECONFIGURATION OF EXISTING, PREVIOUSLY RECORDED LOTS. O THE BEST OF THE OWNERS KNOWLEDGE. THERE ARE NO BURIAL CROUNDS, OR CEMETERIES, LOCATED WITHIN THE DEVELOPMENT AREA. THERE WAS AN EXISTING STRUCTURE, HO-786, THE ANDERSON POST OFFICE AND DWELLING, THAT WAS REVIEWED FOR ADVISORY COMMENTS BY THE HPC AT THE DECEMBER 6, 2018 HEARING, CASE # HPC-18-60. THIS EXISTING STRUCTURE IS LOCATED IN TH SOUTH-EAST CORNER OF THE PROJECT SITE, AND SHALL BE REMOVED/DEMOLISHED AS REQUIRED BY WP-19-026. NO OTHER HISTORIC STRUCTURES EXIST ON SITE.

STORMWATER MANAGEMENT FOR THE PROJECT SHALL BE PROVIDED BY MEANS OF RAIN GARDENS (M-7), RAIN BARRELS (M-1) AND CREDITS FOR ROOFTOP DISCONNECT, AT THE TIME OF INDIVIDUAL HOUSE CONSTRUCTION.
SEDIMENT AND EROSION CONTROLS WILL BE PROVIDED FOR THIS SITE BY ON LOT PERIMETER CONTROLS. THERE ARE 0.00 AC. OF HIGHLY ERODIBLE SOILS ON THIS SITE.

DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS

TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS: A) WIDTH- 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE). () SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING. (1-1/1/2" MIN.) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% CHANGE AND MINIMUM OF 45-FOOT TURNING RADIUS.) STRUCTURES (CULVERT/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING). DRAINAGE ELEMENTS-CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER

F) STRUCTURE CLEARANCES-MINIMUM 12 FEET.

G) MAINTENANCE — SUFFICIENT TO INSURE ALL WEATHER USE.
THIS PROJECT IS AN EXISTING, RECORDED SUBDIVISION. NO NEW LOTS ARE BEING CREATED, THEREFORE, THIS PROJECT IS AN EXISTING, RECORDED SUBDIVISION. NO NEW LOTS ARE BEING CREATED, THEREFORE, IT IS NOT SUBJECT TO MODERATE INCOME HOUSING UNITS.

DECLARATION OF COVENANTS SHALL BE RECORDED WITH THE SITE DEVELOPMENT PLAN AND SIMULANEOUSLY WITH THE PRIVATE STORMWATER DEVICES LOCATED ON THESE LOTS. ALL STORMWATER DEVICES SHALL BE PRIVATE. ALL STORMWATER DEVICES SHALL BE LOCATED WITHIN THE PRIVATE LOTS, AND OWNED AND MAINTAINED BY THE HOMEOWNER.

SHC ELEVATIONS SHOWN ARE LOCATED AT THE PROPERTY LINE.
IN ACCORDANCE WITH SECTION 128.0 PF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS, OR EXTERIOR NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS. PORCHES, OR DECKS, OPEN OR CLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.

BAY WINDOWS OR CHIMNEYS NOT MORE THAN 10 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACK; BODDCHES OR DECKS MAY PROJECT NOT MORE THAN 10 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACK; BODDCHES OR DECKS MAY PROJECT NOT MORE THAN 3 FFFT INTO THE FRONT OR REAR YARD SETBACKS. EXTERIOR BASEMENT

PORCHES OR DECKS MAY PROJECT NOT MORE THAN 3 FEET INTO THE FRONT OR REAR YARD SETBACKS. EXTERIOR BASEMENT

AREAWAYS/STAIRWAYS MAY NOT ENCROACH INTO ANY BRL.
THE 65dbg 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

38. A NOISE STUDY HAS BEEN PERFORMED BY VOGEL ENGINEERING + TIMMONS GROUP, DATED DECEMBER 17, 2019 UNDER SECTION 16.120(B)(5)(I) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY DESIGN MANUAL VOLUME III — ROADS AND BRIDGES SECTION 5.2.F. THIS STUDY WHICH IS BASED ON U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT PUBLICATION TITLED THE NOISE CUIDEBOOK. THE ORIGINAL RAILROAD DATA WAS PROVIDED BY MR. WAYNE MARTIN OF CSX (410-525-8285) AND ADDITIONAL CSX DATA DATED PROVIDED SEPTEMBER 13, 2019 HAS DETERMINED THAT NOISE MITIGATION IS REQUIRED FOR THIS SITE AND WILL BE MITIGATED BY NOISE WALLS WHICH WILL BE DESIGNED IN CONJUNCTION WITH THIS SITE DEVELOPEMENT PLAN. SURETY FOR THE PROPOSED NOISE WALL SHALL BE PAID WITH THE DEVELOPER'S AGREEMENT.

GEOTECHNICAL INVESTIGATIONS HAVE BEEN COMPLETED AS PART OF THE SITE DEVELOPMENT PLAN SUBMISSION. CERTIFIED TEST PITS HAVE BEEN PROVIDED TO VERIFY THAT GROUNDWATER AND ROCK ARE NOT PRESENT AT BIOSWALE AND MICRO—BIORETENTION LOCATIONS. OPEN TEST PITS WERE EXCAVATED, OBSERVED AND CERTIFIED BY VOGEL ENGINEERING + TIMMONS GROUP ON JULY 24, 2019. INFORMATION REGARDING THE FINDINGS IS LOCATED IN THE SWM REPORT.

A PRE-SUBMISSION COMMUNITY MEETING IS NOT REQUIRED FOR THE DEVELOPMENT OF EXISTING SUBDIVIDED LOTS. THE FOLLOWING STANDARDS (CONSTRUCTION AND TEMPORARY TRAFFIC CONTROL) ARE REQUIRED FOR THIS PROJECT:

A. MD-104.02-02 - SHOULDER WORK/2 LANE, 2 WAY - EQL/LESS THAN 40 MPH B. MD-104.02-10 - RIGHT LANE CLOSURE/2 LANE, 2 WAY - EQL/LESS THAN 40 MPH
- FOR ALL STANDARDS REFERRED TO ON THIS PLAN THE CONTRACTOR MUST GO TO THE BOOK OF STANDARDS WHICH WILL
HAVE THE MOST CURRENT VERSION. THE BOOK OF STANDARDS CAN BE ACCESSED AT:

HTTP://APPS.ROADS.MARYLAND.GOV/BUSINESSWITHSHA/BIZZSTDSPECS/DESMANUALSTDPUB/%% UPUBLICATIONSONLINE/OHD/BOOKSTD/INDEX.ASP
ALL ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF THE REFERENCED STANDARD AT
THE TIME OF CONSTRUCTION. REFER TO DETAILS ON SHEET 2 OF THIS PLAN SET. DECLARATION OF COVENANTS SHALL BE RECORDED WITH THE DEVELOPER AGREEMENT AND SIMULANEOUSLY WITH THE PRIVATE STORMWATER

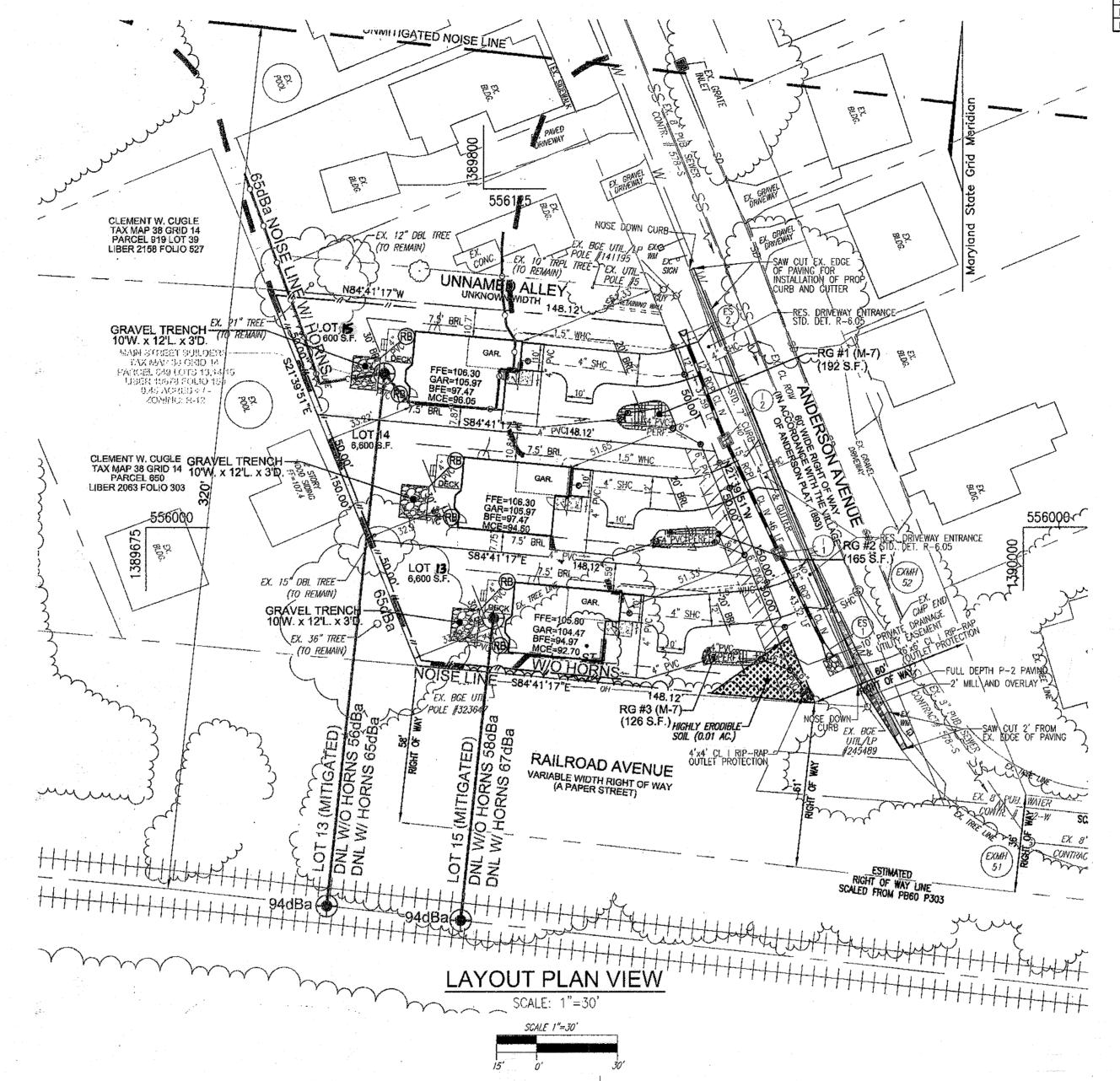
DEVICES LOCATED ON THESE LOTS. 43, TRASH COLLECTION SHALL BE PRIVATE. RESIDENTS WILL PLACE TRASH ON EDGE OF DRIVEWAY WITHIN 5' OF THE EXISTING ROADWAY EDGE

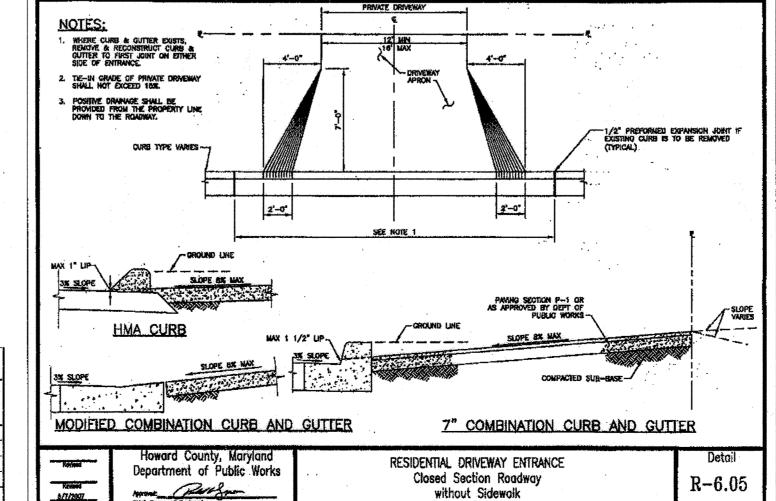
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

4/20/2022 Chad Edmondson CHILDING DIVISION 4/22/2022 CHIERSIGNISION OF LAND DEVELOPMENT 4/22/2022 Amy Glonan

STORMWATER MANAGEMENT INFORMATION CHART LOT/PARCEL FACILITY NAME MAINTENANCE PRACTICE TYPE (QUANTITY PUBLIC PRIVATE STREET ADRESS & NUMBER RESPONSIBILITY Owner M-1 RAIN BARRELS (2) / N-1 ROOFTOP DISCONNEC Owner 6480 ANDERSON AVE M-7 RAIN GARDEN 2A / RG-#2 Owner 6480 ANDERSON AVE. 2b 6480 ANDERSON AVE. 3A / RG#3 M-1 RAIN BARRELS (2) / N-1 ROOFTOP DISCONNEC Owner M-7 RAIN GARDEN Owner LOT 15 6476 ANDERSON AVE. 3B M-1 RAIN BARRELS (2) / N-1 ROOFTOP DISCONNECT

SITE DEVELOPMENT PLAN ANDERSON VILLAGE LOTS 13-15 LIBER 19678 / FOLIO 159

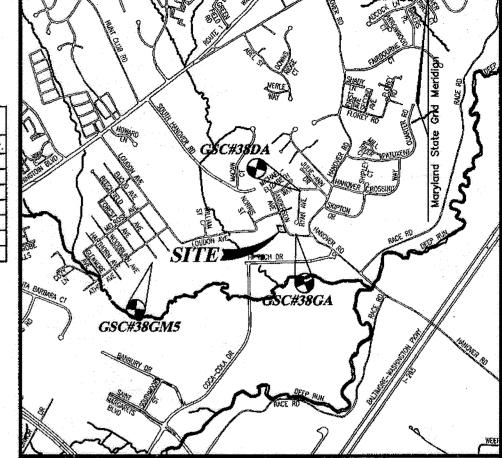




BENCHMARKS

HOWARD COUNTY BENCHMARK 38DA N 556,796.278 E 1,390,221.54 ELEV: 126.141 HOWARD COUNTY BENCHMARK 38GA N 555.897.300 E 1,390132.183 ELEV.: 80.862'

SHEET INDEX	
DESCRIPTION	SHEET NO.
COVER SHEET AND LAYOUT PLAN	1 OF 7
EXISTING CONDITIONS, DEMOLITION, EROSION AND SEDIMENT CONTROL PLAN	2 OF 7
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GRADING, EROSION AND SEDIMENT CONTROL NOTES AND DETAILS	4 OF 7
STORM DRAIN PROFILES, DRAINAGE AREA MAP AND SITE DETAILS	5 OF 7
ESDV STORMWATER MANAGMENT PLAN, DETAILS AND DRAINAGE AREA MAP	6 OF 7
LANDSCAPE PLAN AND SITE DETAILS	7 OF 7



SITE DATA

TAX MAP 38, BLOCK 14, PARCEL 649 1ST ELECTION DISTRICT PRESENT ZONING: R-12 RESIDENTIAL TOTAL AREA OF PROPERTY: 0.50 AC. (EX. LOTS 13, 14 & 15) DPZ REFERENCES: WP-19-026, ECP-20-007 DEED/PLAT REFERENCES: L.262/F.125 AND L.19678/F.159

AREA MANAGED BY ESDV: 22,488 S.F./0.52 AC. (THIS PLAN) *DEVELOPMENT AREA/LOD EXTENDS OUTSIDE LIMITS OF PARCEL USE OF PROPOSED STRUCTURES (THIS PLAN):

3 - SINGLE FAMILY DETACHED HOUSES *TOTAL BUILDING COVERAGE WITHIN THE DEVELOPMENT AREA: 2,988 SF (0.686 AC. OR 13.19%)

*PAVED AREA WITHIN THE DEVELOPMENT AREA: 2,805 SF (0.644 AC. OR 12.38%) LIMIT OF DISTURBED AREA (THIS PLAN): 22,488 S.F. / 0.5163 AC *WETLANDS ON SITE: 0.00 AC.

*WETLAND BUFFERS ON SITE: 0.00 AC. *STREAMS AND THEIR BUFFERS ON SITE: 0.00 AC. *AREA OF 100 YEAR FLOODPLAIN: 0.00 AC. *AREA OF EXISTING FOREST ON SITE: 0.00 AC. *AREA OF MDE STEEP SLOPES (20% OR GREATER): 0.00 SF / 0.00 AC

*AREA OF ERODIBLE SOILS: 1058 SF / 0.02 AC. *IMPERVIOUS AREA: 5,803 S.F. (0.1332 AC. OR 25.80% *GREEN/OPEN AREA: 16,685 S.F. (0.383 AC. OR 74.20%) NOTE *WITHIN LIMITS OF DEVELOPMENT AREA ONLY

SWM TEST PIT RESULTS:

TEST PITS WERE EXCAVATED, OBSERVED AND CERTIFIED BY VOGEL ENGINEERING + TIMMONS GROUP ON JULY 24, 2019

SPECIES

RED CEDAR

B-1: 8' DEEP, NO ROCK OF WATER ENCOUNTERED B-2: 9' DEEP. NO ROCK OR WATER ENCOUNTERED B-3: 8' DEEP, NO ROCK OR WATER ENCOUNTERED

ADDRESS CHART

SECTION/AREA

TAX/ZONE | ELECT. DIST.

N/A

SEWER CODE:

LOT NO.

BLOCK NO. ZONE

SUBDIVISION NAME

ANDERSON VILLAGE

DEED REF.

19678/F. 159

WATER CODE:

PERMIT INFORMATION CHART

38

STREET ADDRESS

484 ANDERSON AVE

6480 ANDERSON AVE

6476 ANDERSON AVE

PARCEL NUMBER

649

CENSUS TR.

VICINITY MAP

SCALE: 1"=2000' ADC MAP COORDINATES: MAP 35, GRID E-4

LEGEND EXISTING CONTOUR PROPOSED CONTOUR = = = = = = = = EXISTING CURB AND GUTTER PROPOSED CURB AND GUTTER EXISTING UTILITY POLE EXISTING OVERHEAD UTILITY LINE

EXISTING LIGHT POLE EXISTING MAILBOX EXISTING SIGN EXISTING SANITARY MANHOLE EXISTING SANITARY LINE

LOD

SPECIMEN TREE CHART

SIZE CRZ

40" 60"

EXISTING CLEANOUT EXISTING FIRE HYDRANT EXISTING WATER LINE PROPERTY LINE RIGHT-OF-WAY LINE

EXISTING TREELINE . PROPOSED TREELINE

LIMIT OF DISTURBANCE 1.5" WATER HOUSE CONNECTION 4" SEWER HOUSE CONNECTION STORM DRAIN INLET AND END SECTIO

> ROOF DRAIN / UNDER DRAIN RAIN GARDEN (M-7) PROPOSED RAIN BARREL PROPOSED NOISE WALL UNMITIGATED NOISE LINE

> > MITIGATED NOISE LINE (W/O HOR

MITIGATED NOISE LINE (W/ HORNS) EXISTING SPECIMEN TREE

CONDITION COMMENTS TO BE REMOVED

> OWNER/DEVELOPER MAIN STREET BUILDERS

> C/O JOSEPH SNODGRASS 5705 LANDING ROAD ELKRIDGE, MARYLAND 21075 (410) 796-2003

REVISE ADDRESS CHART AND LOT NUMBERS 5-26-22 DATE

SITE DEVELOPMENT PLAN COVER SHEET AND LAYOUT PLAN

ANDERSON VILLAGE LOTS 13-15 LIBER 19678 / FOLIO 159

ZONED: R-12 PARCEL 649 HOWARD COUNTY, MARYLAND TAX MAP 38 BLOCK 14 1ST ELECTION DISTRICT

VOGEL ENGINEERING

TIMMONS GROUP 3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com



OPERT H. VOGEL. PE No. 1699

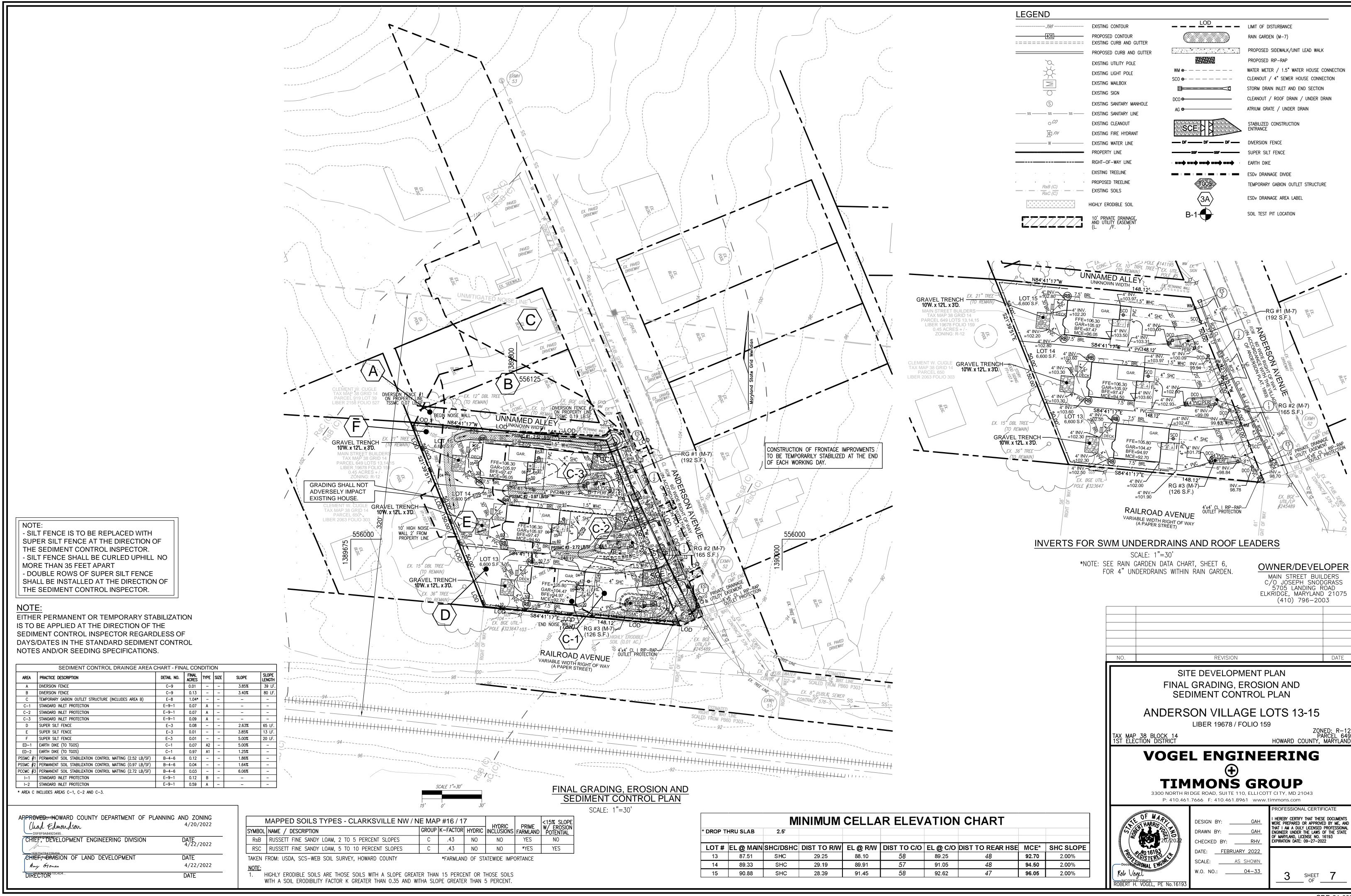
DESIGN BY: DRAWN BY: RHV CHECKED BY: OCTOBER 2021

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2022

SHEET



SDP-21-008



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: A. PRIOR TO THE START OF EARTH DISTURBANCE,

A. 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,
C. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER CRADING 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. 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.

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. STOCKPRES (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

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

TOTAL AREA OF SITE
AREA DISTURBED (DEVELOPMENT AREA)

0.52
0.14
0.38 AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED OFFSITE WASTE/BORROW AREA LOCATION

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 THE CONTRACTOR, MADE AVAILABLE UPON REQUEST, IS PART OF EVERY INSPECTION AND SHOULD INCLUDE:

* 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

CURRENT ACTIVITIES

* EVIDENCE 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 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.

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

DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SECUENCED 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 CID, NO MORE THAN 30 ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME.

TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE

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. 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

16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALE BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.

ESTIMATE ONLY; CONTRACTOR SHALL VERIFY QUANTITIES TO HIS OWN SATISFACTION.
TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL
INSPECTOR, WITH AN APPROVED AND ACTIVE GRADING PERMIT

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

<u>DEFINITION</u>
TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

<u>PURPOSE</u>
TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. 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 8. 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 PL AND COMPLETED, THEN TABLE 8.1 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

AND MUCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION 8-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON. TEMPORARY SEEDING SUMMARY HARDINESS ZONE (FROM FIGURE B.3): ZONE 66 FERTILIZER SEED MIXTURE (FROM TABLE B.1): LIME RATE (10-20-20) SPECIES RATE (LB/AC) 436 LB/AC 2 TONS/AC ANNUAL RYEGRASS OR EQUAL MAY 15 40 LB / AC 1/2 IN. 1(10 LB PER 1(90 LB PER AUG 1 TO OCT 15 1000 SF) 1000 SF)

FOXTAIL MILLET OR EQUAL 30 LB / AC PERMANENT SEEDING SUMMARY HARDINESS ZONE (FROM FIGURE B.3): ZONE 6 SEED MIXTURE (FROM TABLE 8.3): (10-20-20) APPLICATION N P₂ O₅ K₂ O SPECIES DATES RATE (LB/AC) T.F. 60 LB / AC MAR 1 TO COOL SEASON 45 LB/AC 90 LB/AC 90 LB/AC 2 TONS/AC 1/4-1/2 IN. (1 LB PER (2 LB PER (2 LB PER (90 LB PER K.B. 40 LB / AC AUG 15 TO OCT 15 1000 SF) 1000 SF) 1000 SF) 1000 SF)

APPROVED BY PLANNING BOARD OF HOWARD COUNTY

CHILE SIGNER DIVISION

CHIBEUSION OF LAND DEVELOPMENT

Chad Edmondson

Amy Glonan

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

B-4-5 STANDARDS AND SPECIFICATIONS FOR PERMANENT STABILIZATION

DEFINITION TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

PURPOSE TO USE LONG—LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

I. GENERAL USE
A. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE 8.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE 8.2. 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 LIREA FORM FERTILIZER (46-0-0) 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 ACRE) AT THE TIME Seeding Summary 2. Turfgrass Mixtures

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 SUMMARY IS TO BE PLACED SEEDING DATES IN THE PERMANENT SEEDING SUMMART. THE SUMMART TO DE PLACEU ON THE PLAN.

1. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION 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.

KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SU 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 1 PERCENT, SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE GLENDED.

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: 1½ TO 3 POUNDS PER 1000 SQUARE FEET

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 GUARANTEE 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

C. IDEAL TIMES OF SEEDING FOR TURF CRASS MIXTURES - WESTEM MD: MARCH 15 TO JUNE 1, AUGUST ITO OCTOBER 1 (HARDINESS ZONES: SB, 6A)

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER)

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 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% 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.

 GENERAL SPECIFICATIONS

 CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.

 SOD MUST BE MACHINE OUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS X INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TOM OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.

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 OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL. . SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS OD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

SOD INSTALLATION
A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOO.
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 SUPPAGE ON SLOPES, ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE. TO WATER THE SOO 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

3. SOD MAINTENANCE
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 WILLIAMS.
B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT. C. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 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.

> 8-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND

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.

THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN. 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. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.

ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.
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 OF THE PROPERTY OF THE PROPER BE MADE FOR DISCHARCING CONCENTRATED FLOW IN A NON-EROSIVE MANNER. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN

APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE USED TO INTERCEPT 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. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VECETATIVE 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 B-3 LAND GRADING.

Joseph E. Snodgrass, President

OWNER/DEVELOPER CERTIFICATION;

4/20/2022

4/22/2022

4/22/2022

DATE

R-4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION. PURPOSE TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH

CONDITIONS WHERE PRACTICE APPLIES WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

1. TEMPORARY STABILIZATION
A. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER 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.
2. PERMANENT STABILIZATION
A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE

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: . 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 SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO BE INCLUDED.

D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST. 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 SURFACE, 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 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

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 CONCEM 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—

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 SHAŁLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FLIRNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS. 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

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. TOPSOIL 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 15 INCHES IN DIAMETER. TRASH, OR OTHER MATERIALS LARGER THAN 1½ 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. 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.

B. 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)

I. 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 LISED FOR CHEMICAL ANALYSES. E USED FOR CHEMICAL ANALYSES.
FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR CCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR ERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE STE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCE 3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE UBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCEN FOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUNE TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.

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>DEFINITION</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

A. ALL SEED MUST MEET THE REQUIREMENTS 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 . 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 NOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTI USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.). 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.

. APPLICATION

A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING
TABLE 8.1, PERMANENT SEEDING TABLE 8.3, 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 A WEIGHTED ROLLER TO PROVIDE GOOD
SEED TO SOIL CONTACT SEED TO SOIL CONTACT.

B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.

I. 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 BE FIRM AFTER PLANTING.

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING

C. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K20 (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 ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. BO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

I. MULCHING

I. MULCH MATERIALS (IN ORDER OF PREFERENCE)

A. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, LYE, OAT, OR BARLEY AND REASONABLY
BRICHT 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 B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

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.

II. 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 GROWTH OF THE GRASS SEEDLINGS. INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE 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 HIGLDING CAPACITY OF 90 PERCENT MINIMUM.

IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

2. APPLICATION

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 AUCHDRING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.

C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT 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 WATER.

3. ANCHORING

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:

1. 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 WATER. III. SYNTHETIC BINDERS SUCH AS ACRYLIC DER (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 HEAVIER AT THE EDGES
WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS 'S STRICTLY PROHIBITED.

N. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET

DETAIL E-8 TEMPORARY GABION

OUTLET STRUCTURE

_TE-IN (SEE EARTH DIKE TRANSITION DETAIL ON 2 OF 2)

*One basket or multiple mattresses need to extend from the gabion/earth intersection (tie in) to a minimum 1 foot beyond the tie in,

ELEVATION

PLAN

WEIR CREST-

CHANNEL SOTTOM 9 IN

NONWOVEN ___

SECTION A-A

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

PLACE WOVEN MONOFILAMENT
GEOTEXTILE ON UPSTREAM FACE OF
GABION BASKET PRIOR TO BACKFILL. TOP GABION STRUCTURE—
FASTEN SECURELY WITH TIES SPACED
VERY 20 IN AT THE TOP AND WEIR CREST—
VERY 20 IN AT THE TOP AND

4/21/2022

DATE

4 TO 7 IN STONE --

STORAGE VOLUME— EXCAVATE IN ACCORDANCE WITH APPROVED PLANS

EMBEO WOVEN MONOFILAMENT -GEOTEXTILE 9 IN MIN. INTO GROUND

FIGRADE AT FRONT AND BACK FACE OF WAL

STANDARD SYMBOL DETAIL E-1 SILT FENCE -----SF-----CENTER TO CENTER 16 IN MIN. HEIGHT OF WOVEN SLIT FILM GEOTEXTILE ELEVATION FENCE POST 18 IN MIN. —ABOVE GROUND SISTEMBER EMBED GEOTEXTILE/ MIN. OF 8 IN VERTICALLY INTO THE GROUND, BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF GEOTEXTILE. CROSS SECTION STEP 2 STEP STAPLE.—J STAPLE-TWIST POSTS TOGETHER STAPLE ----- STAPLE FINAL CONFIGURATION W STEP 3 ' JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE JATURAL RESOURCES CONSERVATION SERVICES 2011

STANDARD SYMBOL PERMANENT SOIL STABILIZATION MATTING CHANNEL APPLICATION *(SEE PLAN FOR SHEER STRESS) KEY IN UPPER - ROLL END

SOMETRIC VIEW CONSTRUCTION NOTES . USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS. 2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE NAT MUST BE NON-LEACHING AND NON-TOXIC TO VECETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN, IF PERSENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY SODDED OR SEWN ON 2 INCH CENTERS ALONG CONSTITUTIONAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL. . SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WERE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE TO 1 % INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. """ SHAPED STAPLES MUST HAVE A MINIMUM B INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.

. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS, PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSIGN AND SEDIMENT CONTROL PLAN.

. Unroll matting in direction of water flow, centering the first roll on the channel center line. Work from center of channel outward when placing rolls, lay matting smoothly and firmly upon the seeded surface. Avoid stretching the matting. . OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS, OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE MEXT DOWNSTREAM MAT KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.

STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.

2011

STANDARD SYMBOL

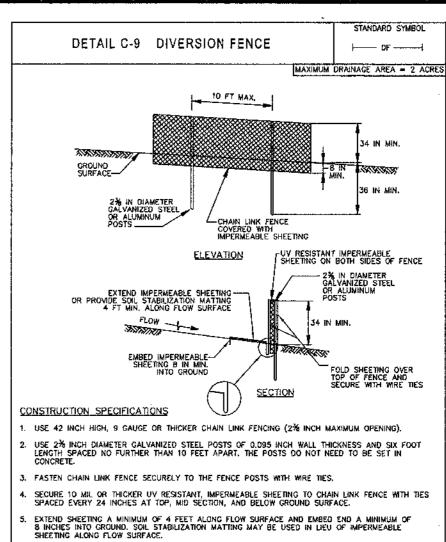
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TGQS

MAXIMUM DRAINAGE AREA - 1/2 ACRE

LESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION, MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

PLAN VIEW PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN, VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADRUS. 2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED YOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE, PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE, PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT. . Prepare subgrade and place nonwoven geotextile, as specified in section H=1 materials PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 8 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE. 5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE 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

PROFILE

50 FT MIN.

LENGTH *

DETAIL B-1 STABILIZED CONSTRUCTION

ENTRANCE

2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

-EARTH FILI

-PIPE (SEE NOTE 6)

MIN.

A SCE

EXISTING PAVEMENT

FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE CROWND. . WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL, FENCE.

EXTEND BOTH ENDS OF THE SUPER 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 THE SUPER SILT FENCE. FROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL FROSION AND SEDIMENT CONTROL 2011

CROSS SECTION

INSTALL 2% INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART, DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.

DETAIL E-3 SUPER SILT FENCE

CHAIN LINK FENCING -

WOVEN SLIT FILM GEOTEXTILE-FLOW

EMBED GEOTEXTILE AND -CHAIN LINK FENCE 8 IN MIN. INTO GROUND

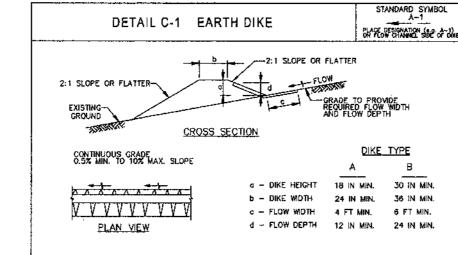
CONSTRUCTION NOTES

-----SSF------

-- JE IN MIN.

GALVANIZED CHAIN LINK FENCE WITH WOVEN SUIT FILM GEOTEXTILE

STANDARD SYMBOL DETAIL E-9-1 STANDARD INLET PROTECTION FENCE POSTS -2 IN x 4 IN FRAMING -TOP ELEVATION -16 IN MIN. -NOTCH ELEVATION 18 IN ... NAILING STRIP 12 IN LINK FENCE (TYP.) WOVEN SLIT FILM GEOTEXTILE 18 IN INTO GROUND -TYPE A TYPE B ISOMETRIC VIEW EDGE OF ROADWAY OR TOP-OF EARTH DIKE EXCAVATE, BACKFILL AND COMPACT EARTH (TYP.) SECTION FOR TYPE A AND B



FLOW CHANNEL STABILIZATION

DESIGN CERTIFICATION:

3.7.2022

SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.) A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD. A-3/B-3 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION NOTES REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHQUEE. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.

COMPACT FILL CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.

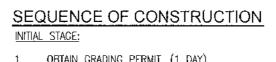
STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION, STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION 2011

"I/WE CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION, OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS APPROVED EROSION AND SEDIMENT CONTROL PLAN, INCLUDING INSPECTING AND MAINTAINING CONTROLS, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) APPROVED TRAINING PROGRAM FOR THE CONTROL ON EROSION AND SEDIMENT PRIOR TO BEGINNING THE PROJECT. I CERTIFY RIGHT—OF—ENTRY FOR PERIODIC ON—SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE." "! HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH 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." DESIGNER'S SIGNATURE Rob Voge REGISTRATION NO. 16193 (P.E.), R.L.S., OR R.L.A. (circle one)

2011 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. -DocuSigned by: Olexander Bratchie

HOWARD S.C.D.



OBTAIN GRADING PERMIT. (1 DAY) DEVELOPER / CONTRACTOR SHALL REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT AUTHORITY PRIOR TO BEGINNING CONSTRUCTION. (1 DAY) NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK. (1 DAY)

STAKEOUT LIMITS OF DISTURBANCE. (3 DAYS) INSTALL STABILIZED CONSTRUCTION ENTRANCE, AS SHOWN HEREON. (1 DAY)
CLEAR AND GRUB ONSITE AREA FOR THE INSTALLATION OF PERIMETER CONTROLS. (1 DAY)
INSTALL PERIMETER SUPER SILT FENCE, TEMPORARY GABION OUTLET STRUCTURES, DIVERSION FENCE AND EARTH DIKES AS SHOWN HEREON OR AS DIRECTED BY SEDIMENT CONTROL INSPECTOR. (1 WEEK) UPON COMPLETION OF ABOVE, AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CLEAR & GRUB SITE AND COMPLETE DEMOLITION ITEMS AS SHOWN ON SHEET 2. (3 DAYS) THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT

AND EROSION CONTROLS SHOWN HEREON AFTER EACH RAINFALL AND ON A DAILY BASIS (1 DAY) INTERMEDIATE STAGE: 10. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, ROUGH GRADE SITE, BRING BUILDING PADS AND DRIVEWAYS TO SUBGRADE AND GRADE SWALES. IMMEDIATELY STABILIZE WITH TEMPORARY

SEED AND MULCH AND PERMANENT SOIL STABILIZATION MATTING. (1 WEEK)
COMPLETE THE INSTALLATION OF THE WATER HOUSE CONNECTIONS AND SEWER HOUSE CONNECTIONS.
-ONLY THAT PORTION OF WATER AND SEWER WORK THAT CAN BE COMPLETED, BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY MAY BE EXCAVATED. (DAILY)
INSTALL STORM DRAIN STRUCTURES, DRIVEWAY CULVERTS AND OUTFALL FOR SWM UNDERDRAINS

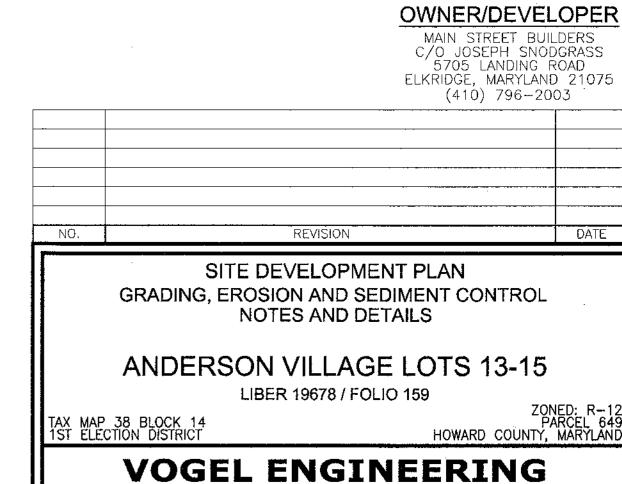
CONTSTRUCT ROAD FRONTAGE IMPORYMENTS INCLUDING SAW, CUT, MILL AND OVERLAY OF PAVEMENT, REMOVAL OF PAVEMENT, INSTALLATION OF FULL DEPTH PAVEMENT, AND INSTALLATION OF DRIVEWAY APRONS. PROVIDED TEMPORARY STABILIZATION AT THE END OF EACH WORK DAY. (2 WEEKS) INSTALL STONE SUBBASE AND BASE COURSE PAVING FOR DRIVEWAY (2 DAYS) BEGIN CONSTRUCTION OF BUILDINGS. (3 MONTHS)

PERIMETER DEVICES, SUPER SILT FENCE, EARTH DIKE, TREE PROTECTION FENCE, ETC SHALL BE INSPECTED AND REPAIRED AS REQUIRED ON A DAILY BASIS.

16. AS BUILDING NEARS COMPLETION, INSTALL STORMWATER MANAGEMENT FACILITIES, INCLUDING RAIN GARDENS, GRAVEL TRENCHES, RAIN BARRELS AND ASSOCIATED ROOF DRAINS AND UNDERDRAINS. FACILITIES SHALL BE PROTECTED FROM RECEIVING SEDIMENT LADEN WATER UNTIL SITE IS FULLY STABILIZED BY INSTALLATION OF INLET PROTECTION AND SILT FENCE AROUND PERIMETER OF FACILITIES. (2 WEEKS) INSTALL SIDEWALK AND SURFACE PAYING. (3 DAYS)
WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, COMPLETE ANY REMAINING FINE GRADING IN ACCORDANCE WITH STORMWATER MANAGEMENT CRITERIA, ADD TOPSOIL PER THE SPECIFICATIONS SHOWN HEREON, AND STABILIZE DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW MULCH

1 WEEK) AFTER PERMISSION HAS BEEN CIVEN BY SEDIMENT CONTROL INSPECTOR, REMOVE ANY REMAINING PERIMETER E/S CONTROLS AND STABILIZE THESE DISTURBED AREAS WITH PERMANENT SEEDING MIXTURE AND STRAW

ANY CHANGES OR REVISIONS TO THE SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY THE PLAN APPROVAL AUTHORITY PRIOR TO PROCEEDING WITH CONSTRUCTION



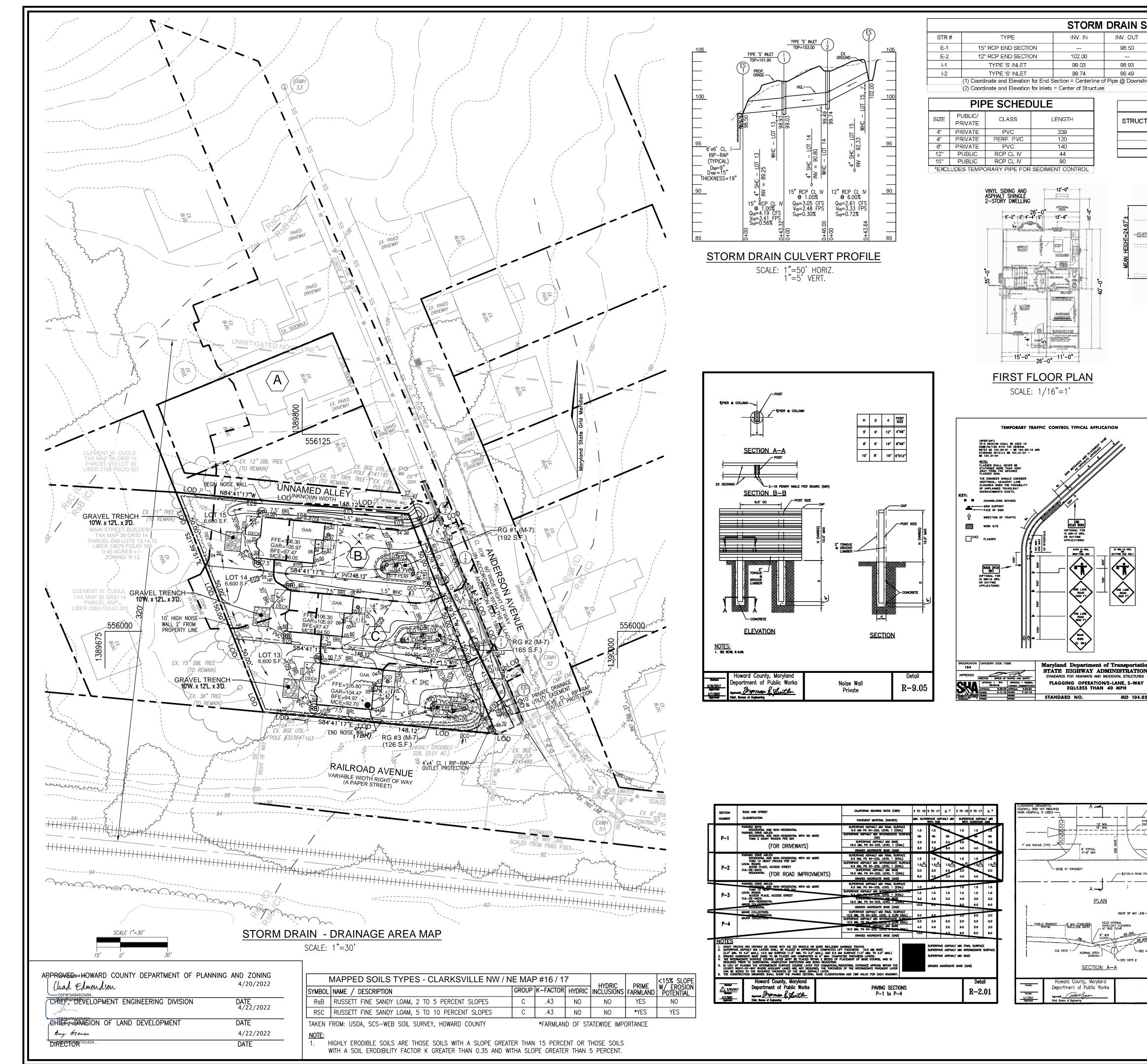
TIMMONS GROUP

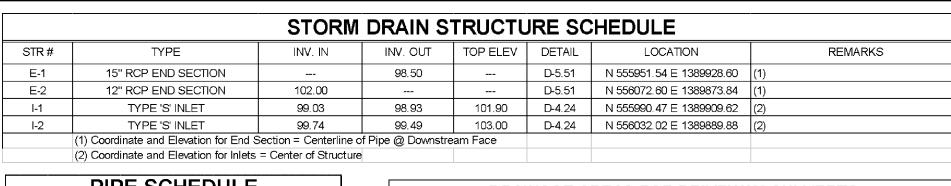
3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043



GAH RHV AS SHOWN 04-33

P: 410.461.7666 F: 410.461.8961 www.timmons.com WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2022 SHEET

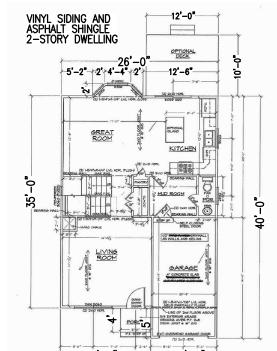




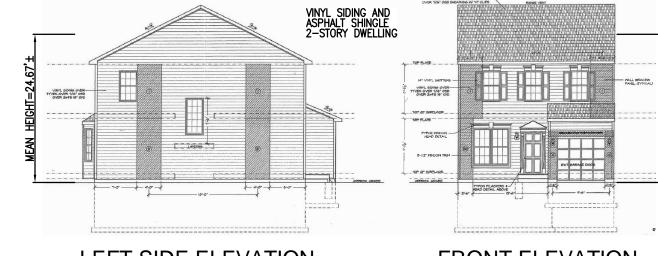
	PIPE SCHEDULE						
SIZE	PUBLIC/ PRIVATE	CLASS	LENGTH				
4"	PRIVATE	PVC	339				
4"	PRIVATE	PERF. PVC	120				
6"	PRIVATE	PVC	140				
12"	PUBLIC	RCP CL IV	44				
15"	PUBLIC	RCP CL IV	90				
*EXCL	*EXCLUDES TEMPORARY PIPE FOR SEDIMENT CONTROL						

SIZE	PRIVATE	CLASS	LENGTH		
4"	PRIVATE	PVC	339		
4"	PRIVATE	PERF. PVC	120		
6"	PRIVATE	PVC	140		
12"	PUBLIC	RCP CL IV	44		
15"	PUBLIC	RCP CL IV	90		
*EXCLUDES TEMPORARY PIPE FOR SEDIMENT CONTROL					

DRAINAGE AREAS FOR DRIVEWAY CULVERTS						
STRUCTURE / AREA NO.	AREA (AC.)	C FACTOR	IMPERVIOUS %	REMARKS		
ES-2 / A	0.71	0.4329	36.25	TO I-2		
I-2 / B	0.12	0.4472	38.38	TO I-1		
I-1 / C	0.59	0.2439	8.05	TO ES-1		

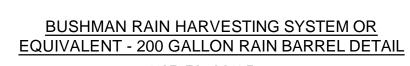


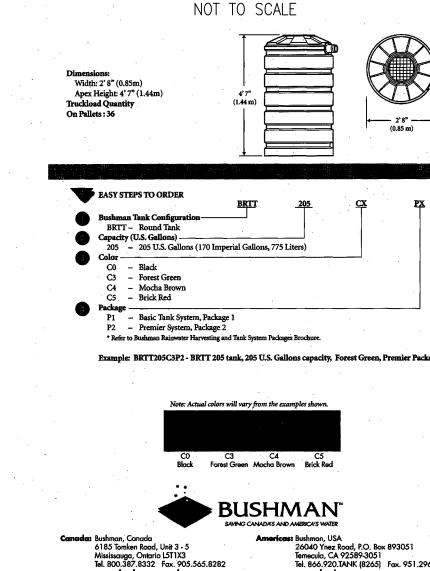
DAYTIME USE ONLY



LEFT SIDE ELEVATION SCALE: 1/16"=1'

FRONT ELEVATION SCALE: 1/16"=1'





OPERATION AND MAINTENTANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RAINWATER HARVESTING (M-1)

LEGEND

EXISTING CONTOUR

PROPOSED CURB AND GUTTER

EXISTING SANITARY MANHOLE

EXISTING SANITARY LINE EXISTING CLEANOUT

EXISTING FIRE HYDRANT EXISTING WATER LINE

PROPERTY LINE

EXISTING TREELINE

PROPOSED TREELINE EXISTING SOILS

HIGHLY ERODIBLE SOIL

RAIN GARDEN (M-7)

PROPOSED RIP-RAP

& SANITARY CLEANOUT STORM DRAIN INLET AND END SECTIO

ESDv DRAINAGE DIVIDE

SOIL TEST PIT LOCATION

10' PRIVATE DRAINAGE, AND UTILITY EASEMENT

(410) 796-2003

ATRIUM GRATE

PROPOSED UNIT LEAD WALK

1.5" WATER HOUSE CONNECTION & WATER METER

4" SEWER HOUSE CONNECTION

ROOF DRAIN / UNDER DRAIN & DRAINAGE CLEANOUT

ESDv DRAINAGE AREA LABEL

RIGHT-OF-WAY LINE

LIMIT OF DISTURBANCE

@- - - - - - - -

EXISTING UTILITY POLE

EXISTING LIGHT POLE EXISTING MAILBOX EXISTING SIGN

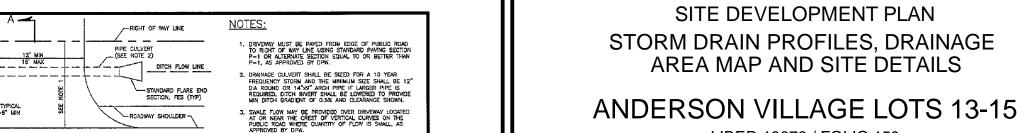
PROPOSED CONTOUR

A. THE OWNER SHALL EMPTY BARRELS ON A MONTHLY BASIS AND CLEAN BARREL WITH A HOSE.

B. THE OWNER SHALL VERIFY INTEGRITY OF LEAF SCREENS, GUTTERS, DOWNSPOUTS, SPIGOTS, AND MOSQUITO SCREENS AND CLEAN AND REMOVE ANY DEBRIS.

THE OWNER SHALL RELACE DAMAGED COMPONENTS AS MEEDED. THE OWNER SHALL ALLOW THE BARREL TO DRAIN BY BOTTOM SPIGOT DURING THE WINTER SEASON.





4. TIE-IN GRADE OF PRIVATE DRIVEWAY SHALL NOT EXCEED 152

SEE TYPICAL SECTIONS FOR LAYOUT AND GRADING OF DITCH AND PIPE CULVERT.

ALTERNATIVE ORNAMENTAL HEADWALL DETAIL

R-6.06

RESIDENTIAL DRIVEWAY ENTRANCE

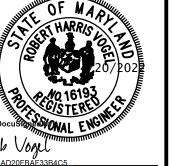
Open Section Roadway

LIBER 19678 / FOLIO 159

ZONED: R-12 PARCEL 649 HOWARD COUNTY, MARYLAND TAX MAP 38 BLOCK 14 1ST ELECTION DISTRICT **VOGEL ENGINEERING**

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com



	PROFESSIONAL CERTIFICATE
DESIGN BY:GAH_	I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND
DRAWN BY:GAH_	THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE
CHECKED BY:RHV_	OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09—27—2022
DATE: <u>FEBRUARY 2022</u>	
SCALE: AS SHOWN	
W.O. NO.: <u>04–33</u>	5 SHEET 7
	OF /

SHEET 7

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION. RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

1. MATERIAL SPECIFICATIONS THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1.

2. FILTERING MEDIA OR PLANTING SOIL

THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES. NO OTHER MATERIALS OR SUBSTANCES SHALL BE MIXED OR DUMPED WITHIN THE MICRO-BIORETENTION PRACTICE THAT MAY BE HARMFUL TO PLANT GROWTH, OR PROVE A HINDRANCE TO THE PLANTING OR MAINTENANCE OPERATIONS. THE PLANTING SOIL SHALL BE FREE OF BERMUDA GRASS. QUACKGRASS, JOHNSON GRASS, OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.05. THE PLANTING SOIL SHALL BE TESTED

- * SOIL COMPONENT LOAMY SAND OR SANDY LOAM (USDA SOIL TEXTURAL CLASSIFICATION). * ORGANIC CONTEN - MINIMUM 10% BY DRY WEIGHT (ASTM D 2974). IN GENERAL, THIS CAN BE MET WITH A MIXTURE OF LOAMY SAND (60%-65%) AND COMPOST (35% TO 40%) OR SANDY LOAM (30%), COARSE SAND (30%), AND COMPOST (40%).
- * CLAY CONTENT MEDIA SHALL HAVE A CLAY CONTENT OF LESS THAN 5%. * PH RANGE - SHOULD BE BETWEEN 5.5 - 7.0. AMENDMENTS (E.G., LIME, IRON SULFATE PLUS SULFUR) MAY BE MIXED IN TO THE SOIL TO INCREASE OR DECREASE PH.

THERE SHALL BE AT LEAST ONE SOIL TEST PER PROJECT. EACH TEST SHALL CONSIST OF BOTH THE STANDARD SOIL TEST FOR PH, AND ADDITIONAL TESTS OF ORGANIC MATTER, AND SOLUBLE SALTS. A TEXTURAL ANALYSIS IS REQUIRED FROM THE SITE STOCKPILED TOPSOIL. IF TOPSOIL IS IMPORTED, THEN A TEXTURE ANALYSIS SHALL BE PERFORMED FOR EACH LOCATION WHERE THE TOPSOIL WAS EXCAVATED.

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE. EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IE PRACTICES ARE EXCAVATED USING LOADER. THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES. USE OF EQUIPMENT WITH NARROW TRACKS OR NARROW TIRES, RUBBER TIRES WITH LARGE LUGS, OR HIGH-PRESSURE TIRES WILL CAUSE EXCESSIVE COMPACTION RESULTING IN REDUCED INFILTRATION RATES AND IS NOT ACCEPTABLE. COMPACTION WILL SIGNIFICANTLY CONTRIBUTE TO DESIGN FAILURE.

COMPACTION CAN BE ALLEVIATED AT THE BASE OF THE BIORETENTION FACILITY BY USING A PRIMARY TILLING OPERATION SUCH AS CHISEL PLOW, RIPPER, OR SUBSOILER. THESE TILLING OPERATIONS ARE TO REFRACTURE THE SOIL PROFILE THROUGH THE 12 INCH COMPACTION ZONE. SUBSTITUTE METHODS MUST BE APPROVED BY THE ENGINEER. ROTOTILLERS TYPICALLY DO NOT TILL DEEP ENOUGH TO REDUCE THE EFFECTS OF

ROTOTILL 2 TO 3 INCHES OF SAND INTO THE BASE OF THE BIORETENION FACILITY BEFORE BACKFILLING THE OPTIONAL SAND LAYER. PUMP ANY PONDED WATER BEFORE PREPARING (ROTOTILLING) BASE. WHEN BACKFILLING THE TOPSOIL OVER THE SAND LAYER, FIRST PLACE 3 TO 4 INCHES OF TOPSOIL OVER THE SAND, THEN ROTOTILL THE SAND/TOPSOIL TO CREATE A GRADATION ZONE. BACKFILL THE REMAINDER OF THE TOPSOIL TO FINAL GRADE, WHEN BACKFILLING THE BIORETENTION FACILITY, PLACE SOIL IN LIFTS 12" TO 18". DO NOT USE HEAVY EQUIPMENT WITHIN THE BIORETENTION BASIN. HEAVY EQUIPMENT CAN BE USED AROUND THE PERIMETER OF THE BASIN TO SUPPLY SOILS AND SAND. GRADE BIORETENTION MATERIALS WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A, SECTION A.2.3.

MULCH SHOULD BE PLACED IN SURROUNDING TO A UNIFORM THICKNESS OF 2" TO 3". SHREDDED OR CHIPPED HARDWOOD MULCH IS THE ONLY ACCEPTED MULCH. PINE MULCH AND WOOD CHIPS WILL FLOAT AND MOVE TO THE PERIMETER OF THE BIORETENTION AREA. DURING A STORM EVENT AND ARE NOT ACCEPTABLE. SHREDDED MULCH MUST BE WELL AGED (6 TO 12 MONTHS) FOR ACCEPTANCE. ROOTSTOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO 1/8TH OF THE BALL IS ABOVE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHALL BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT DURING THE ENTIRE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. TREES SHALL BE BRACED USING 2" BY 2" STAKES ONLY AS NECESSARY AND FOR THE FIRST GROWING SEASON ONLY. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER PLANTING SPECIFICATIONS. THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE BIORETENTION STRUCTURE IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH ARE USED TO AMEND THE SOIL. ROTOTILL UREA FERTILIZER AT A RATE OF 2 POUNDS

COMPOST IS A BETTER ORGANIC MATERIAL SOURCE, IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS.

6. UNDERDRAINS UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA:

- * PIPE SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTMF 758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED. 4" RIGID PIPE (E.G., PVC OF HDPE). * PERFORATIONS - IF PERFORATED PIPE IS USED, PERFORATIONS SHOULD BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW, PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4x4) GALVANIZED HARDWARE CLOTH. * GRAVEL - THE GRAVEL LAYER (NO. 57 STONE PREFERRED) SHALL BE AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN.
- * THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE. * A RIGID, NON-PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,0000 SQUARE FEET) TO PROVIDE A CLEAN-OUT PORT AND MONITOR PERFORMANCE OF THE FILTER. * A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT

MIGRATION OF FINES IN TO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS

THIS MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. OBSERVATION WELLS AND/OR

CLEAN-OUT PIPES MUST BE PROVIDED (ONE MINIMUM PER EVERY 1000 SQUARE FEET OF SURFACE AREA).

THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

Material	Specification	ention, Rain Gardens &	Notes
Plantings	see Appendix A, Table A.4	n/a	plantings are site-specific
Planting soil [2' to 4' deep]	loamy sand (60 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (40%)	n/a	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		1949, 21
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pea gravel diaphragm	pea gravel: ASTM-D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curtain drain	ornamental stone: washed cobbles	stone: 2" to 5"	
Geotextile		n/a	PE Type 1 nonwoven
Gravel (underdrains and infiltration berms)	AASHTO M-43	NO. 57 OR NO. 6 AGGREGATE (3/8" to 3/4")	
Underdrain piping	F 758, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with %-inch galvanized hardware cloth
Poured in place concrete (if required)	MSHA Mix No. 3; f', = 3500 psi @ 28 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60	n/a	on-site testing of poured-in-place concrete required: 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved State or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Marylan-design to include meeting ACI Code 350.R/89; vertical loading (H-10 or H-20); allowable horizontal loading (based on soil pressures); and snalysis of potential cracking
Sand	AASHTO-M-6 or ASTM-C-33	0.02" to 0.04"	Sand substitutions such as Diabase and Graystone (AASHTO) #10 are not acceptable. No calcium carbonated or dolomitic san substitutions are acceptable. No "rock dust" can be used for sand

ENVIRONMENTAL SITE DESIGN NARRATIVE

IN ACCORDANCE WITH CHECKLIST ITEM III.K.

I. THE PROJECT SITE IS LOCATED IN HANOVER, MARYLAND AT THE NW CORNER OF THE INTERSECTION OF ANDERSON AVENUE AND RAILROAD AVENUE (A PAPER STREET). THE CONTIGUOUS PARCEL AREA IS 0.50 AC. AND THE ACCESS TO THESE LOTS WILL BE PROVIDED BY INDIVIDUAL PRIVATE DRIVEWAYS TO ANDERSON AVENUE. THE TOTAL DEVELOPMENT AREA FOR THE PROJECT IS 0.52 AC. THE PROJECT SITE WAS EVALUATED FOR THE PRESENCE OF ENVIRONMENTAL FEATURES AND A LETTER HAS BEEN PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. C/O MR. JOHN CANOLES, DATED JULY 31, 2019. MR. CANOLES NOTED THAT THE PROPERTY IS CURRENTLY DOMINATED BY OVERGROWN LAWN, SCATTERED LANDSCAPING AND ORNAMENTALS, AND A SINGLE SPECIMEN SIZED TREE, BUT NO FOREST OR ANY OTHER REGULATED ENVIRONMENTAL FEATURES WERE FOUND WITHIN THE LIMITS OF THE DEVELOPMENT AREA FOR THIS PROJECT THE TOPOGRAPHY DOES NOT RESULT IN ANY MDE STEEP SLOPES OVER 20% WITHIN THIS DEVELOPMENT AREA. ACCORDING TO CURRENT DFIRM APPROVED BY FEMA AND HOWARD COUNTY, THERE IS NO 100YR FLOODPLAIN LOCATED WITHIN THE PROPERTY BOUNDARY. THE NATURAL RESOURCES WILL REMAIN UNDISTURBED, PROTECTED AND ENHANCED TO THE MAXIMUM EXTENT PRACTICABLE. THE SITE'S TOPOGRAPHY NATURALLY SLOPES FROM THE NORTHWEST TO THE SOUTHEAST, AND THEN ALONG ANDERSON AVENUE TO THE DEEP RUN BRANCH OF THE PATAPSCO RIVER. THE SITE HAS BEEN DESIGNED TO MAINTAIN THESE NATURAL FLOW PATTERNS.

2. MICRO-SCALE PRACTICES, TO INCLUDE THREE (3) RAINGARDENS (M-7) FACILITY AND SIX (6) RAIN BARRELS (M-1) ARE MOST APPROPRIATE FOR THE SITE. CREDITS FOR ROOFTOP DISCONNECT WILL ALSO BE UTILIZED. THE OVERFLOW FOR THE PROPOSED MICRO-BIORETENTION (M-6) WILL DISCHARGE BY A DOMED RISER AND OUTFALL PIPE ALONG ANDERSON AVENUE TO THE DEEP RUN BRANCH OF THE PATAPSCO RIVER. THE SITE HAS BEEN DESIGNED TO MAINTAIN THESE NATURAL FLOW PATTERNS. THE SITE HAS BEEN GRADED SO THAT UNDISTURBED UPLAND AREAS ARE DIVERTED BY SWALE AROUND NEW IMPERVIOUS AREAS WHEREVER POSSIBLE

3. SEDIMENT CONTROL FOR THIS SPECIFIC SITE PLAN WILL BE PROVIDED THROUGH THE USE OF PERIMETER CONTROLS (PRIMARILY SILT FENCE AND/OR SUPER SILT FENCE AND CLEAR WATER DIVERSION FENCE, EARTH DIKE AND TEMPORARY GABION OUTLET STRUCTURE). SEDIMENT CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT REQUIREMENTS AND SHALL BE APPROVED BY THE HOWARD SOIL CONSERVATION DISTRICT.

4. AS STATED IN #2 ABOVE, STORMWATER MANAGEMENT FOR THE PROJECT SHALL BE MET THROUGH THE USE OF THREE (3) RAINGARDENS (M-7) FACILITY AND SIX (6) RAIN BARRELS (M-1). CREDITS FOR ROOFTOP DISCONNECT WILL ALSO BE UTILIZED. THESE FACILITIES WILL BE PRIVATELY OWNED

THE RESULTS OF THE ENVIRONMENTAL SITE DESIGN FOR THIS PROJECT WILL REFLECT "WOODS IN GOOD CONDITION".

TARGET PE = 1.60" TARGET ESDV = 867 CUFT

PROVIDED PE = 1.60" PROVIDED = 869 CUFT

7. NO DESIGN MANUAL WAIVERS ARE ANTICIPATED TO FULFILL THIS SWM CONCEPT.

APPROVEDE HOWARD COUNTY DEPARTMENT OF PLANNING CLUAD ELMONDSON	NG AND ZONING 4/20/2022	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE, /2022	

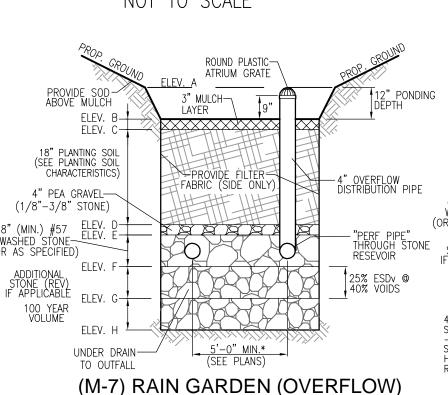
CHIEF, DEVELOPMENT ENGINEERING DIVISION 1EB75478A22B49A	DATE 4/22/2022
CHIEF, GONVISION OF LAND DEVELOPMENT	DATE 4/22/2022
DIRECTOR	DATE



OPERATION & MAINTENANCE SCHEDULE FOR RAIN GARDENS 1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OF WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD TYPICAL SPILLWAY PROFILE MATERIAL AND PRUNING. 2. SCHEDULE OF PLANT INSPECTION WILL BE TWIST A NOT TO SCALE YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DECEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL EROSION MATTING DEFICIENT STAKES AND WIRES. TO BOTTOM OF 3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE SLOPE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER

TYPICAL SPILLWAY SECTION

WEIR 1'



HEAVY STORM EVENTS. 4" CAPPED/SOLID RIGID

PVC OR HDPE OBSERVATION

/ CLEAN OUT PIPE

1 PER 1,000 SF

OF SURFACE AREA ROUND PLASTIC 3" MULCH LAYER \ ATRIUM GRATE 18" PLANTING SOI (SEE PLANTING SOI —— 6" SOLID PVC OUTFALL STAND PIPE CHARACTERISTICS 4" PEA GRAVEL-(1/8"-3/8" STONE)UNDERDRAIN OUTFALL 100 YEAR VOLUME ROTOTILL AND SAND AUGMENTATION IN BOTTOM TO PREVENT COMPACTION 4" SLOTTED RIGID PVC OR PERFORATED

(M-7) RAIN GARDEN (UNDERDRAIN)

ONCE EVERY 2 TO 3 YEARS.

4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED WITH A MINIMUM OF ONCE PER MONTH AND AFTER

ESDV COMPUTATIONS ANDERSON VILLAGE LOTS 13-15 SITE DEVELOPABLE AREA Designed by: TARGET Pe: SITE IMPERVIOUS: 26.58 PERCENT Checked by: 0.2892 SITE ESDV REQUIRED: Rv=0.05+0.009X V min=1.0" rainfall (1.0x0.95xA)/12 Vmax= 1yr rainfall=2.6 (2.6x0.95xA)/12volume i volume ivolume**iprovided***: (AC) AREA Required Provided Provided RG-#1 192 SF MBR @ 1.0 PONDING LOT 15 0.67 ADDITIONAL STONE (ESDv) Rev Recharge ADDITIONAL STONE (100 year) 2.00 RAINBARREL LOT 15 156 SF MBR @ 1.0 PONDING LOT 14 0.67 ADDITIONAL STONE (ESDv) Rev Recharge 0.83 ADDITIONAL STONE (100 year) 2.00 x RAINBARREL LOT 14 Gravel Trench (100 Yr) 9'W x 10'L x 3'D x MICROSCALE MICRO-BIO RETENTION (M-6) RG-#3 126 SF MBR @ 1.0 PONDING LOT 13 ADDITIONAL STONE (ESDv) 0.67 Rev Recharge ADDITIONAL STONE (100 Year) LOT 13 Gravel Trench (100 Yr) 9'W x 10'L x 3'D x 0.24

NOTE: SEE SHEET 5 FOR RAIN BARREL DETAIL

MICRO-BIORETENTION / RAIN GARDEN DATA CHART Top of Bottom of Bottom of Bottom of Depth of Bottom of Invert of 4" Depth of Bottom of Depth of Stone Grate | Mulch | Mulch | Plant Mix | Pea Gravel | Stone (Esdv) | Stone (ESDv) | Underdrain | Stone (Rev) | Stone (Rev) | Stone Depth (ft.) Elevation ELEV. B ELEV. C ELEV. D Area Dimensions (100 Year) Facility ELEV. E ELEV. F ELEV. G (100 Year) (S.F.) (ft.) (at midpoint) ELEV. A ELEV. H 2.00 96.76 99.59 100.09 0.83 98.76 102.75 | 101.25 | 100.92 1.33 13' x 20' 101.75 100.25 99.92 1.33 98.59 99.09 0.83 97.76 2.00 95.76 RG-#2 1.00 7' x 25' 100.00 99.67 98.34 98.84

PROPOSED CONTOUR RAIN GARDEN (M-7) EXISTING CURB AND GUTTER ======== PROPOSED CURB AND GUTTER PROPOSED SIDEWALK/UNIT LEAD WALK EXISTING UTILITY POLE PROPOSED RIP-RAP EXISTING LIGHT POLE 1.5" WATER HOUSE CONNECTION EXISTING MAILBOX 4" SEWER HOUSE CONNECTION EXISTING SIGN STORM DRAIN INLET AND END SECTION EXISTING SANITARY MANHOLE ROOF DRAIN / UNDER DRAIN EXISTING SANITARY LINE PROPOSED TREELINE EXISTING CLEANOUT RsB(C)EXISTING SOILS RsC (C) Sta FH EXISTING FIRE HYDRANT EXISTING WATER LINE HIGHLY ERODIBLE SOIL Property line ESDv DRAINAGE DIVIDE RIGHT-OF-WAY LINE _____ ESDv DRAINAGE AREA LABEL EXISTING TREELINE OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY SOIL TEST PIT LOCATION OWNED AND MAINTAINED STORMWATER INFILTRATION TRENCHES 1. THE MONITORING WELLS AND STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT. 2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE -4" SOLID PVC 3. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS. 4. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN THE xxx HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN. -OBSERVATION WELL/ 5. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO CLEANOUT CAP FLUSH
W/ PROPOSED GRADE INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA. SURCHARGE PIPF 6. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY HAVE BEEN VERIFIED, __SPLASH_BLOCK / —PROP., GRADE THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED. -observation well/ cleanout TO 3" DIA. CLEAN STONE ASTM D448 SEE DETAILS THIS SHEET. -4" PERFORATED PVC INSIDE TRENCH AREA ONLY -CLEANOUT TRENCH MUST BE 10' MIN. 1/2" CALVANIZED — GROUND FROM BUILDING FOUNDATION. STEEL BOLT W/ NUT WATER 2. ALL PIPES SHOULD BE 4" SCHED 40 PVC. ESDv DRAINAGE AREA SUMMARY TABLE DA ESDV MINIMUM MAXIMUM VOLUME AREA SF PERV AREA IMP AREA RECHARGE RECHARGE 100 YEAR 100 YEAR | VOLUME | VOLUME | PROVIDED | VOL. REQ. VOL. PROV. 64 *TOTAL ESDV REQUIRED FOR SITE = **TOTAL Rev REQUIRED FOR SITE= *** TOTAL 100 YEAR VOLUME REQUIRED = 1500 CF - ESDv PROVIDED. **ENVIRONMENTAL SITE DESIGN PRACTICE** AREA FACILITY PERMEABLE ADD UNDER ROOFTOP RAIN BIO DRY GREEN MICRO BIO/ ADD UNDER Recharge ESDV GRAVEL ADDITIONAL 100 YEAR NUMBER PAVEMENT PERM. PAVE DISCONNECT BARREL SWALE WELLS ROOF RAIN GARDEN RAIN GARDEN Volume (Rev.) VOLUME TRENCH STONE (MBR.) VOLUME 1 (A&B) 4267 RG#1 0 0 8 54 0 0 0 255 0 **2 (A&B)** 3700 RG-#2 0 0 16 54 0 0 0 224 ESD_VREQUIRED TOTAL 100 YEAR PROVIDED: 717 TOTAL STORAGE PROVIDED: 1574 MAPPED SOILS TYPES - CLARKSVILLE NW / NE MAP #16 / 17 <15% SLOPE GROUP K-FACTOR HYDRIC INCLUSIONS FARMLAND POTENTIAL SYMBOL NAME / DESCRIPTION NO NO YES RUSSETT FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES .43 NO *YES RSC | RUSSETT FINE SANDY LOAM, 5 TO 10 PERCENT SLOPES .43 NO NO YES *FARMLAND OF STATEWIDE IMPORTANCE TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY

LEGEND

EXISTING CONTOUR

LIMIT OF DISTURBANCE

HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITHA SLOPE GREATER THAN 5 PERCENT.

> OWNER/DEVELOPER TEST PIT DATA MAIN STREET BUILDERS NO. | DEPTH | DESCRIPTION C/O JOSEPH SNODGRASS 5705 LANDING ROAD GOOD - NO ROCK OR WATER ENCOUNTERED B-2 9' GOOD - NO ROCK OR WATER ENCOUNTERED ELKRIDGE, MARYLAND 21075 B-3 8' GOOD - NO ROCK OR WATER ENCOUNTERED (410) 796-2003

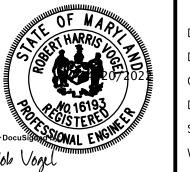
> > SITE DEVELOPMENT PLAN ESDV STORMWATER MANAGEMENT PLAN, DETAILS AND DRAINAGE AREA MAP

ANDERSON VILLAGE LOTS 13-15

LIBER 19678 / FOLIO 159 X MAP 38 BLOCK 14 ST ELECTION DISTRICT

VOGEL ENGINEERING



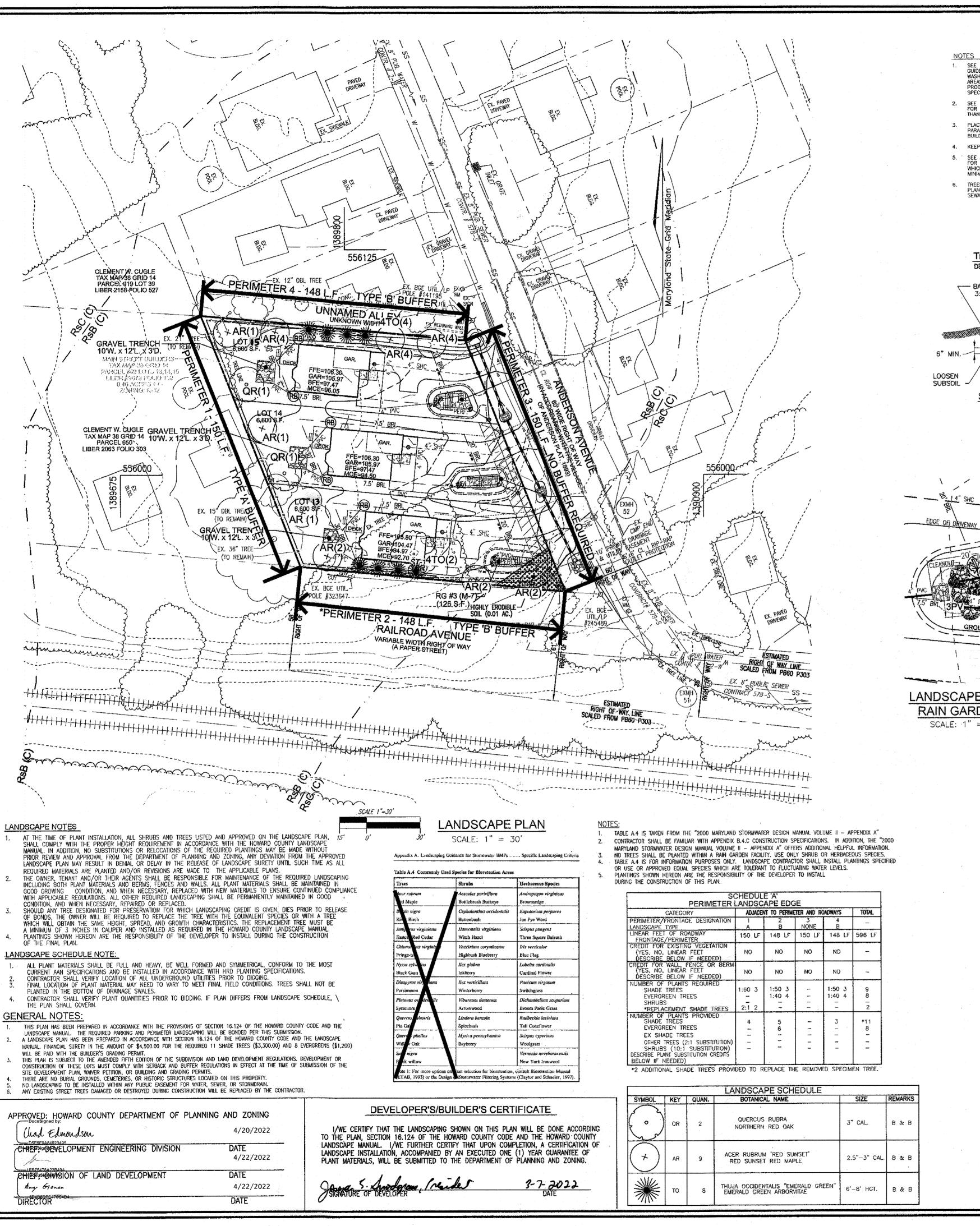


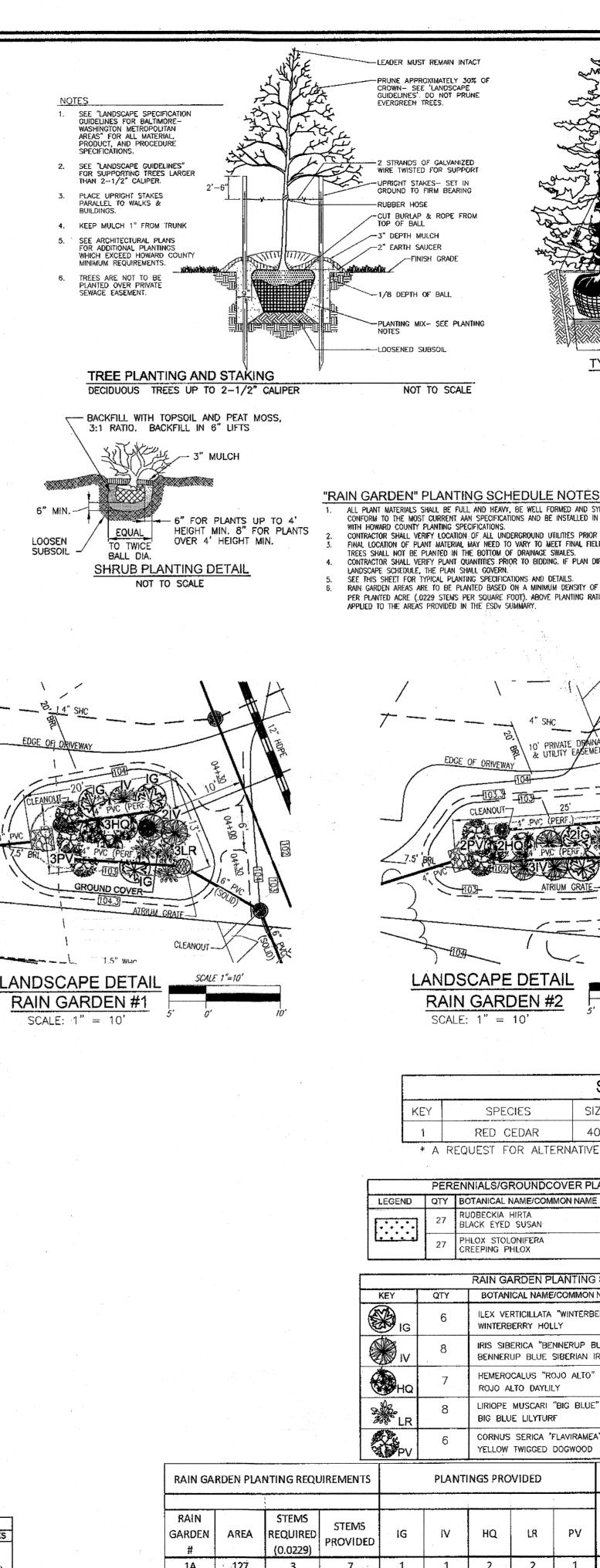
RÖBERT H. VOĞEL, PE No.1619

DESIGN BY: DRAWN BY: GAH CHECKED BY: RHV DATE: FEBRUARY 2022 SCALE: W.O. NO.: 04-33

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, ANI THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2022 __ SHEET ___**7**

HOWARD COUNTY, MARYLAND







LEADER MUST REMAIN INTACT

CROWN- SEE 'LANDSCAPE GUIDELINES'. DO NOT PRUNE EVERGREEN TREES.

CUT BURLAP & ROPE FROM TOP OF BALL

FINISH GRADE

-PLANTING MIX- SEE PLANTING

NOT TO SCALE

ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HOWARD COUNTY PLANTING SPECIFICATIONS.

CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGI

REES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.

SEE THIS SHEET FOR TYPICAL PLANTING SPECIFICATIONS AND DETAILS.

APPLIED TO THE AREAS PROVIDED IN THE ESDY SUMMARY

INAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS.

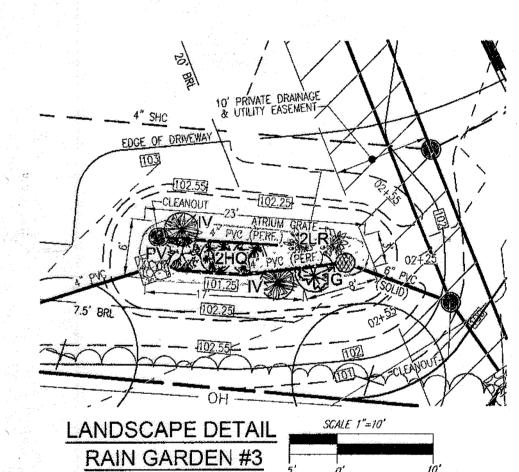
CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

RAIN GARDEN AREAS ARE TO BE PLANTED BASED ON A MINIMUM DENSITY OF 1000 STEMS PER PLANTED ACRE (.0229 STEMS PER SQUARE FOOT). ABOVE PLANTING RATIOS ARE TO BE

-LOOSENED SUBSOIL

-3" DEPTH MULCH

-2" EARTH SAUCER



LEGEND

EXISTING CONTOUR

PROPOSED CONTOUR

PROPOSED EDGE OF PAVING

EXISTING SANITARY MANHOLE

EXISTING SANITARY LINE

EXISTING FIRE HYDRANT

EXISTING CLEANOUT

EXISTING WATER LINE

RIGHT-OF-WAY LINE

EX. 25' BGE YELLOW ZONE

EX. 20' BGE GREEN ZONE

PROPOSED CONCRETE/SIDEWALI

PROPERTY LINE

SOILS BOUNDARY

PROPOSED TREES

UNDERDRAIN/ CLEANOUT

RAIN GARDEN (M-7)

STREET LIGHT

--- x ---- EXISTING FENCE

. EXISTING TREELINE

PROPOSED TREELINE

EXISTING UTILITY POLE

EXISTING LIGHT POLE

EXISTING MAILBOX EXISTING SIGN

- PRUNE AS DIRECTED

- RUBBER HOSE - WIRE GUYS

PLANT SAUCER

- BACKFILL MATERIAL COMPACTED BACKFILL MATERIAL 6" MIN.

TYPICAL EVERGREEN TREE

PLANTING DETAIL

NOT TO SCALE

- REMOVE BURLAP FROM TOP

-REQUIRED PERIMETER

LS SCHEDULE

LABEL KE'

1/3 OF BALL 2"X4"X3" WOOD STAKES

- TURNBUCKLES

	SPECIMEN TREE CHART						
KEY	SPECIES	SIZE	CRZ		CONDITION	COMMENTS	
1	RED CEDAR	40"	60"		GOOD	TO BE REMOVED	
* A	REQUEST FOR ALTERN	ATIVE C	OMPLIANC	CE WILL B	E SUBMITTED AT SDP STAGE	E, IF REQUIRED.	

OWNER/DEVELOPER
MAIN STREET BUILDERS C/O JOSEPH SNODGRASS
5705 LANDING ROAD
ELKRIDGE, MARYLAND 21075 (410) 796-2003

LEGEND	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMAR	KS
	27	RUDBECKIA HIRTA BLACK EYED SUSAN	4" POT	12"-15" O.C. F BOTTOM OF MB VARIETIES IN A	R, MIX ALL
النسنا	27	PHLOX STOLONIFERA CREEPING PHLOX	1 QT.		RN THROUGHOUT, IPS OF NO LESS S PER CLUMP
		RAIN GARDEN PLANTING S	CHEDU	E	
KEY	QTY	BOTANICAL NAME/COMMON N	AME	SIZE	REMARKS
	6	ILEX VERTICILLATA "WINTERBER	RY"	1 GALLON	18" O.C.

PERENNIALS/GROUNDCOVER PLANTING SCHEDULE

		TAME OF INTEREST OF ITO	9 L L	
KEY	QTY	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
⊗ IG	6	ILEX VERTICILLATA "WINTERBERRY" WINTERBERRY HOLLY	1 GALLON	18" O.C.
₩ IV	8	IRIS SIBERICA "BENNERUP BLUE" BENNERUP BLUE SIBERIAN IRIS	1 GALLON	18" O.C.
На	7	HEMEROCALUS "ROJO ALTO" ROJO ALTO DAYLILY	1 GALLON	30" O.C.
LR	8	LIRIOPE MUSCARI "BIG BLUE" BIG BLUE LILYTURF	4' HT	18" O.C.
PV	6	CORNUS SERICA 'FLAVIRAMEA" YELLOW TWIGGED DOGWOOD	18"-21" HT	18″ O.C.

										PROVIDED		
RAIN GARDEN #	AREA	STEMS REQUIRED (0.0229)	STEMS PROVIDED	IG	IV .	HQ	LR	PV	REQUIRED	RH	PS	тота
1A	127	3	7	1	1	2	2	1	4	9	9	18
18	124	3	9	.1	1	3	3	1	4	18	18	36
2A	254	6	16	2	2	5	5	2	8	36	36	72
2B	208	5 .	13	2	2	3	4	2	7	36	36	72
TOTALS:	713	17	45	6	6	13	14	6	23	99	99	198

MINIMUM DENSITY OF 0.07 STEMS PER SQUARE FOOT. PLANT ON A MINIMUM DENSITY OF 1000 STEMS PER IN GROUPS OF NO LESS THAN 9 PLANTS PER CLUMP. PLANTED ACRE (0.0229 STEMS PER SQUARE FOOT).

REVISE ADDRESS CHART AND LOT NUMBERS

SITE DEVELOPMENT PLAN

SITE AND MICRO-BIORETENTION LANDSCAPING NOTES, SCHEDULES AND DETAILS

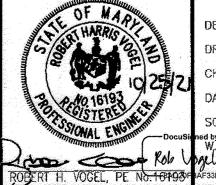
ANDERSON VILLAGE LOTS 13-15 LIBER 19678 / FOLIO 159 ZONED: R-12 PARCEL 649 HOWARD COUNTY, MARYLAND

TAX MAP 38 BLOCK 14 1ST ELECTION DISTRICT

VOGEL ENGINEERING

TIMMONS GROUP

3300 NORTH RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043 P: 410.461.7666 F: 410.461.8961 www.timmons.com



DESIGN BY:	GAH
DRAWN BY:	<u>GAH</u>
CHECKED BY:	RHY
DATE:C	CTOBER 2021
SCALE:	AS SHOWN
ned by: W,O. NO.:	04-33
gel	

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND

THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2022

SHEET

5-26-21