#### SHEET INDEX SHEET NO. DESCRIPTION SITE DEVELOPMENT & SEDIMENT EROSION CONTROL PLAN SEDIMENT & EROSION CONTROL NOTES AND DETAILS STORMWATER MANAGEMENT NOTES AND DETAILS LANDSCAPE PLAN

## SITE DEVELOPMENT PLAN

# SUNSET PLAINS

## LOT 8

ZONED: R-20TAX MAP NO.:31 PARCEL NO.:478 GRID NO.:13 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

### SITE ANALYSIS DATA CHART

TOTAL AREA OF THIS SUBMISSION = 0.5935 AC.+ LIMIT OF DISTURBED AREA = 0.38 Ac. ± PRESENT ZONING DESIGNATION = R-20 (PER 10/06/2013 COMPREHENSIVE ZONING PLAN) PROPOSED USE: RESIDENTIAL PREVIOUS HOWARD COUNTY FILES: ECP-15-015; F-15-024; WP-15-059; WP-16-045

LEGEND

5POT ELEVATION

 $-\frac{875}{}$  EXISTING SEWER LINE

PROPOSED SEWER

---- 55F --- | SUPER SILT FENCE

---- SF ---- | SILT FENCE

~~~~

文章 EX. F.H.

EXISTING STORM DRAIN

EXISTING WATER LINE

PROPOSED WATER

EXISTING CABLE LINE EXISTING GAS LINE

EXISTING OVERHEAD WIRE PROPOSED PAVING/PATH

PROPOSED SIDEWALKS

LIMIT OF DISTURBANCE

EXISTING TREE LINE

PROPOSED TREE LINE

DRYWELL (M-5)-TYPICAL

SOIL LINES AND TYPES

BIO RETENTION FACILITY (F-6) OR (M-6) A5 NOTED

PROPOSED ROOF LEADER

CRITICAL ROOT ZONE

DENOTES 15%-24.9% SLOPES

¬√FOREST CONSERVATION EASEMENT (REFORESTATION) FOREST CONSERVATION EASEMENT FENCING

EXISTING WETLANDS & WETLAND BUFFER

DENOTES EXISTING TREES TO BE REMOVED

REVISION

DENOTES EXISTING TREES TO REMAIN

EXISTING CONTOUR 2' INTERVAL

EXISTING CONTOUR 10' INTERVAL

PROPOSED CONTOUR 10' INTERVAL

PROPOSED CONTOUR 2' INTERVAL

PROPOSED STORM DRAIN PIPE

DESCRIPTION

TOTAL AREA OF FLOODPLAIN LOCATED ON SITE = 0.00 AC TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.00 AC

TOTAL AREA OF WETLANDS = 0.00 AC.

TOTAL AREA OF STREAM = 0.00 AC. TOTAL AREA OF EXISTING FOREST = 0.00 AC TOTAL AREA OF FOREST TO BE RETAINED = 0.00 AC

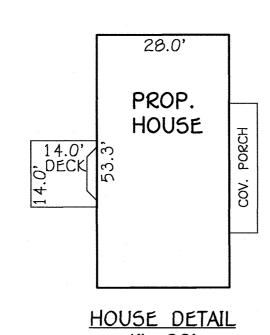
TOTAL GREEN OPEN AREA = 0.85 AC+ TOTAL IMPERVIOUS AREA = 0.20 AC±

TOTAL AREA OF ERODIBLE SOILS = 1.05 AC.±

| STORMWATER MANAGEMENT SUMMARY |                            |                            |                          |  |  |  |  |  |
|-------------------------------|----------------------------|----------------------------|--------------------------|--|--|--|--|--|
| AREA ID.                      | ESDV<br>REQUIRED<br>CU.FT. | ESDV<br>PROVIDED<br>CU.FT. | REMARK5                  |  |  |  |  |  |
| SITE                          | 705                        | <i>8</i> 56                | MICRO-BIORETENTION (M-6) |  |  |  |  |  |
| TOTAL                         | 705                        | <i>8</i> 56                |                          |  |  |  |  |  |

NOTE: SITE CONTAINS AN EXISTING HOUSE ON LOT 9 WHICH WAS NOT INCLUDED IN THESE COMPUTATIONS. COMPUTATIONS BASED ON LOD FOR NEW LOT 8. ALL NEW IMPERVIOUS SURFACES HAVE BEEN TREATED, THEREFORE NO ADDITIONAL TREATMENT IS REQUIRED.

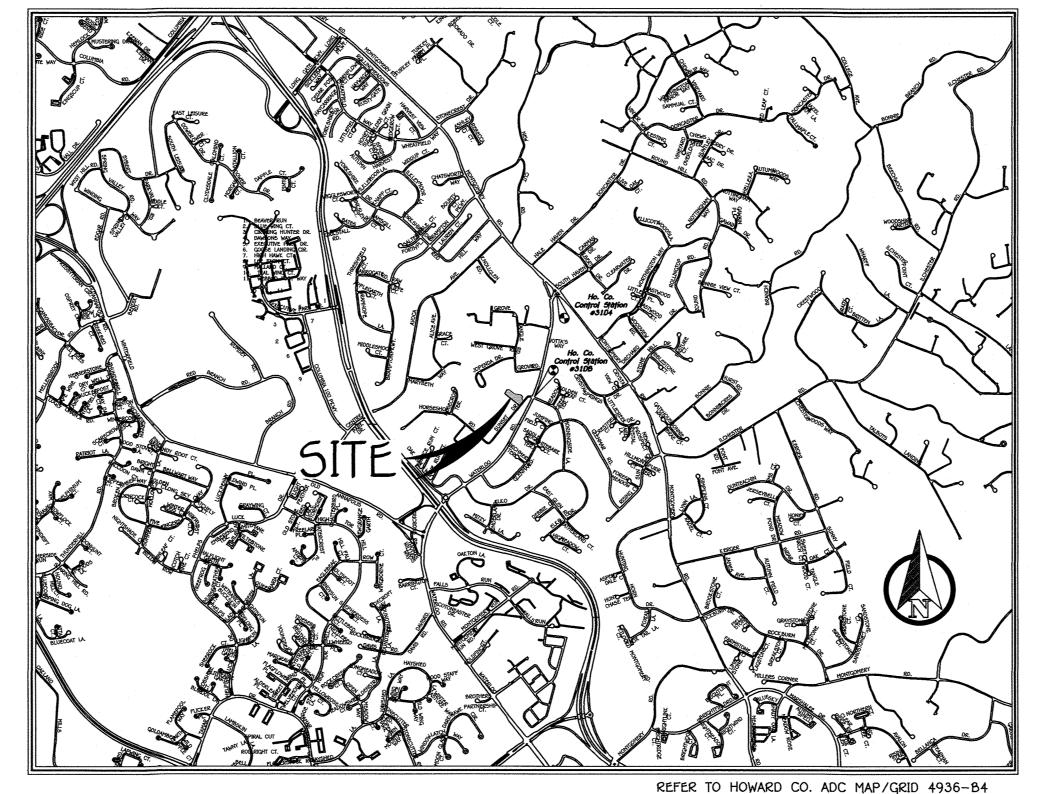
GROSS AREA = 1.05 ACRES LOD = 0.37 ACRES RCN = 70.1TARGET Pe = 1.6"



| 14.0'<br>OECK | 28.0'<br>PROP.<br>HOU5E | соу. Роксн |
|---------------|-------------------------|------------|
| <u> </u>      | 1"=20'                  |            |

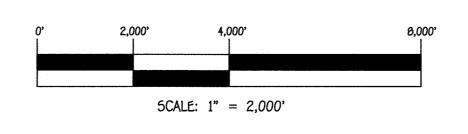
|         | STORMY                     | VATER MA                     | NAGEM                  | ENT PRACTICES BY LOT          |
|---------|----------------------------|------------------------------|------------------------|-------------------------------|
| LOT NO. | DRYWELL<br>(M-5)<br>NUMBER | MICRO-BIO<br>(M-6)<br>NUMBER | BIO<br>(F-6)<br>NUMBER | REMARKS                       |
| LOT Ø   | _                          | 1                            | 0                      | DRIVEWAY DRAINS TO BIO ON LOT |

|      | 50IL5 LEGEND                                                |       |          |
|------|-------------------------------------------------------------|-------|----------|
| 50IL | NAME                                                        | CLA55 | K FACTOR |
| UcB  | URBAN LAND - CHILLUM-BELTSVILLE COMPLEX, 0 to 5 % SLOPES    | С     | 0.43     |
| UsD  | URBAN LAND - SASSAFRAS-BELTSVILLE COMPLEX, 5 to 15 % SLOPES | D     | -        |



## 5CALE: 1" = 2,000"

| BENCHMARK INFORMATION                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B.M.# 31D4 - HOWARD COUNTY CONTROL STATION #31D4 - HORIZONTAL - NAD '83) N 571700.701 E 1,369,606.351 ELEVATION = 494.448 - VERTICAL - (NAVD '88)           |
| B.M.# 31DB - HOWARD COUNTY CONTROL STATION #31DB - HORIZONTAL - (NAD '83)<br>N 569583.630<br>E 1,369,155.134<br>ELEVATION = 492.343 - VERTICAL - (NAVD '88) |



ADDRESS CHART

LOT NUMBER STREET ADDRESS 8322 SUNSET DRIVE THE SUBJECT PROPERTY IS ZONED R-20 PER THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 30EC & 30EB WERE USED FOR THIS PROJECT. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC

HOWARD COUNTY MONUMENT NO. 31D4 E 1,369,606.351 ELEV. = 494.448

HOWARD COUNTY MONUMENT NO. 31DB N 569,583.630 E 1,369,155.134 ELEV. = 492.343 3. THIS SITE IS NOT ADJACENT TO A SCENIC ROAD.

4. A SPEED AND NOISE STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP, DATED AUGUST, 2014. 5. LOT & WILL HAVE A SEPARATE DRIVEWAY TO SERVICE THE PROPERTY. THE DRIVEWAY SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING a) WIDTH- 12 FT. b) SURFACE- 6 INCHES OF COMPACTED CRUSHER STONE RUN BASE WITH 1.5

INCHES OF FINAL COURSE BITUMINOUS SURFACE. c). GEOMETRY- MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45 FOOT TURNING RADIUS. d). 6. NO HISTORIC ELEMENTS AND NO CEMETERIES ARE LOCATED ON-SITE BASED ON THE HOWARD COUNTY CEMETERY

INVENTORY MAP AND AN EXAMINATION OF THE HOWARD COUNTY CEMETERY INVENTORY MAP. DRIVEWAY (5) SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS

A. WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE) B. SURFACE - SIX (6") INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING C. GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45 FOOT TURNING RADIUS

D. STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING) E. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE

F. STRUCTURES CLEARANCES - MINIMUM 12 FEET G. MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.

GENERAL NOTES

8. A FIFLD REVIEW OF THE SITE HAS CONFIRMED THAT THERE ARE NO FOREST STANDS. NO STEEP SLOPES. NO 100 HUNDRED YEAR FLOODPLAINS STREAMS, WETLANDS, OR BUFFERS PRESENT ON-SITE, AS CERTIFIED BY ECO-SCIENCE PROFESSIONALS, INC., PREPARED AUGUST 4, 2014.

9 FOREST CONSERVATION HAS BEEN ADDRESSED WITH F-15-024; NO FORESTS EXISTS ON THE SITE. 10. LANDSCAPING FOR LOT 8 IS AS PROPOSED ON F-15-024 AND HAS BEEN PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A LANDSCAPE SURETY IN THE AMOUNT OF \$1,350 WILL BE PAID, BASED ON (2) SHADE TREES @ \$300/SHADE TREE AND (5) EVERGREEN TREES @ \$150/EVERGREEN TREES.

# 11. PER WP-16-045, NO SIDEWALK, CURB INSTALLATION, ROAD WIDENING, OR STREET TREES ARE REQUIRED. A FEE IN LIEU OF THE IMPROVEMENTS HAS BEEN PAID (WITH F-15-024). 12. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.

13. PUBLIC WATER AND SEWER SHALL BE UTILIZED WITHIN THIS DEVELOPMENT, AND THE ASSOCIATED CONTRACT NO.'S ARE 64-W AND 302-5 FOR PUBLIC WATER AND SEWER. PRIVATE WATER & SEWER HOUSE CONNECTIONS WILL BE PROVIDED TO SERVE LOT & THROUGH AN EASEMENT ON LOT 9. THIS EASEMENT IS HAS BEEN RECORDED UNDER

14. SOILS INFORMATION TAKEN FROM NRCS WEB SOIL SURVEY. 15. BOUNDARY OUTLINE BASED ON FIELD RUN SURVEY PERFORMED BY FISHER, COLLINS & CARTER, INC. DATED AUGUST,

16. TOPOGRAPHIC CONTOURS BASED ON FIELD RUN SURVEY BY FISHER, COLLINS AND CARTER INC. DATED AUGUST, 2014. , 17. STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MARYLAND DEPARTMENT OF ENVIRONMENT STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. WE ARE PROVIDING STORM WATER MANAGEMENT FOR THE HOUSE AND DRIVEWAY BY THE USE OF ONE (1) MICRO-BIORETENTION (M-6) FACILITY TO MEET AND EXCEED THE REQUIRED ESD VOLUME. THIS DESIGN REMAINS AS DESIGNED AND APPROVED BY F-15-024 18. B.R.L. DENOTES BUILDING RESTRICTION LINE.

19. A SOIL BORING WAS DONE WITHIN 50 FEET OF THE PROPOSED MICRO-BIORETENTION FACILITY (#B-1), WHICH DEMONSTRATED ADEQUATE PERCOLATION, AND A SOIL BORING REPORT BY FISHER, COLLINS, & CARTER INC IS

20. A COMMUNITY MEETING WAS CONDUCTED ON JUNE 23, 2014 FOR THE PURPOSE OF THE DEVELOPER TO PROVIDE INFORMATION TO THE COMMUNITY REGARDING THE PROPOSED RESIDENTIAL DEVELOPMENT AND TO ALLOW THE COMMUNITY TO ASK QUESTIONS AND TO MAKE COMMENTS, PER SECTION 16.120(d) OF THE SUBDIVISION

21. ALL LOT/PARCEL AREAS ARE MORE OR LESS.

22. DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID. 23. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN

24. ANY 5WM FACILITY LOCATED ON A LOT WILL BE OWNED AND MAINTAINED BY THE OWNER OF THAT PARTICULAR LOT. ALL ON LOT DEVICES WILL BE SUBJECT TO THE REQUIREMENTS AND RESTRICTIONS OF A RECORDED DECLARATION OF

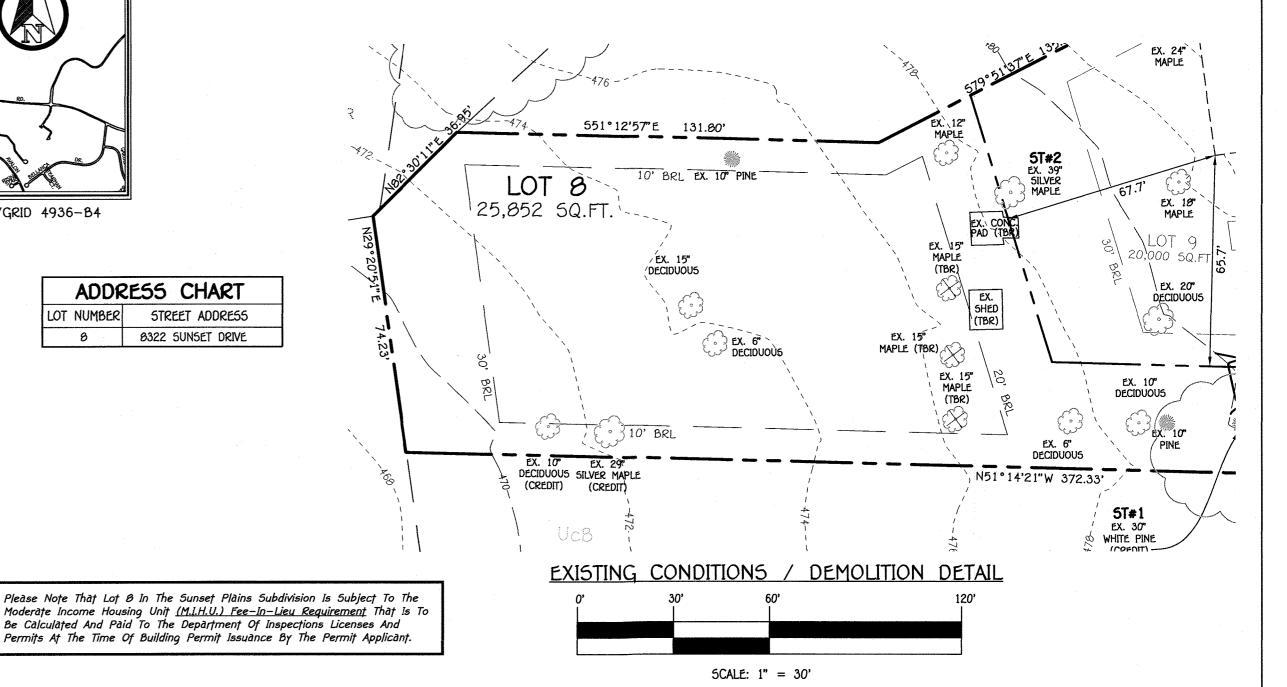
25. THIS SITE DEVELOPMENT PLAN IS SUBJECT TO WP-16-045 WHICH ON NOVEMBER 2, 2015 THE PLANNING DIRECTOR APPROVED A WAIVER TO SECTION 16.132(A)(2)(I), SECTION 16.134(A), SECTION 16.136 AND SECTION 16.1205(A)(7), APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:

A. COMPLY WITH ALL SRC AGENCY COMMENTS ON THE SUBMITTED FINAL PLANS (F-15-024) AND ENVIRONMENTAL CONCEPT PLANS (ECP-15-015). B. PROVIDE TWO (2) REPLACEMENT TREES OF 2 1/2" TO 3" CALIPER ON SITE IN PLACE OF THE REMOVED TREES

AS MITIGATION. THE MITIGATED PLANTINGS ARE TO BE PLACED ON THE PROPERTY TO ENHANCE THE LANDSCAPE C. COMPLIANCE WITH THE ATTACHED DED COMMENTS DATED OCTOBER 13, 2015 REQUIRING THE PAYMENT OF A

FEE-IN-LIEU FOR THE SIDEWALKS AND ROAD IMPROVEMENTS ALONG THE PROPERTY FRONTAGE.

 26. BY LETTER DATED OCTOBER 13, 2015,
 2015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,
 3015,< APPROVED A WAIVER ALLOWING FIRST FLOOR GRAVITY SEWER SERVICE ONLY.



## FISHER, COLLINS & CARTER, INC. (410) 461 - 2855



DATE

## PROFESSIONAL CERTIFICATION

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/21.

OWNER DONALD J. & SARAH R. WISE 8401 GROVE ANGLE ROAD ELLICOTT CITY, MARYLAND 21043 443-986-4700

DEVELOPER PFAF BUILDERS, LLC. 412 RIDGE ROAD WESTMINSTER, MD 21157 ATTN: MR. BRIAN KNAUFF 410-875-6640

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 9/28/20 Department of Planning and Zoning 9-29-20 PROJECT PARCEL NOs. SUNSET PLAINS, LOT 8 CENSUS TR. PLAT NO. | BLOCK NO. ZONE TAX/ZONE | ELEC. DIST. R-20 PREVIOUS HOWARD COUNTY FILES: ECP-15-015, F-15-024, WP-15-069, WP-16-045

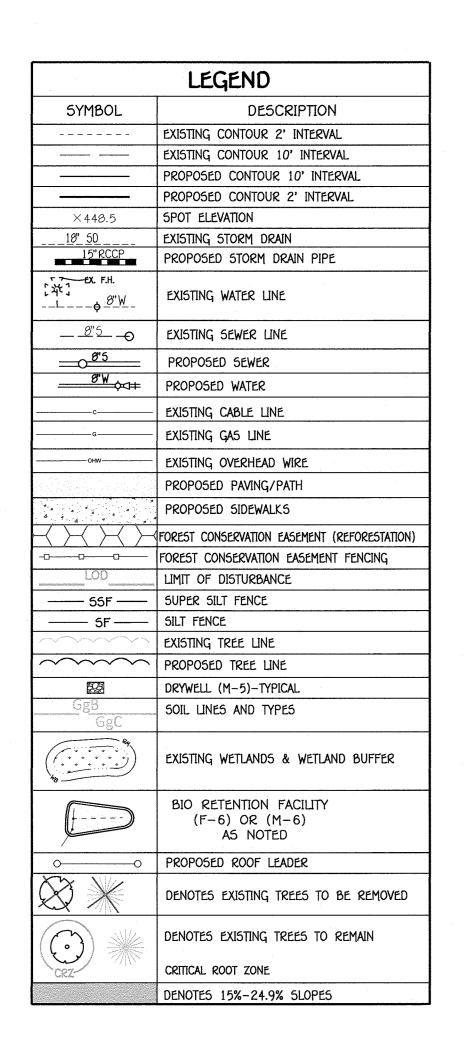
## TITLE SHEET

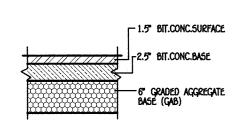
## SINGLE FAMILY HOUSE SUNSET PLAINS

(BEING A RESUBDIVISION OF LOT 3-A, AS SHOWN ON A PLAT ENTITLED "RESUBDIVISION-LOT 3 OF SUNSET PLAINS AND SUBDIVISION-VIRGIL L. LOUGH PROPERTY" AND RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND IN PLAT BOOK 10 AT FOLIO 87) ZONED: R-20

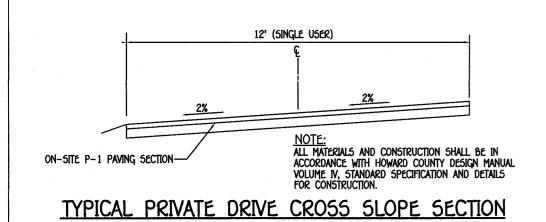
TAX MAP NO.: 31 PARCEL NO.: 478 GRID NO.: 13 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUGUST, 2020

5DP-20-070





P-1 DRIVEWAY PAVING SECTION
NOT TO SCALE



REVISION





DATE

PROFESSIONAL CERTIFICATE "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT." SIGNATURE OF LICENSED PROFESSIONAL FRANK JOHN MANALANSAN II

BUILDER/DEVELOPER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, FOR SEDIMENT AND EROSION CONTROL AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT, I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT

DEVELOPER OWNER PFAF BUILDERS, LLC. DONALD J. & SARAH R. WISE 8401 GROVE ANGLE ROAD

ELLICOTT CITY, MARYLAND 21043

443-986-4700

5CALE: 1" = 30"

412 RIDGE ROAD WESTMINSTER, MD 21157 ATTN: MR. BRIAN KNAUFF 410-875-6640

9/28/20 Date 9.23.20 Director Department of Planning and Zoning 9-29-20 PROJECT PHASE PARCEL NOs. 478 SUNSET PLAINS, LOT 8 PLAT NO. | BLOCK NO. CENSUS TR. ZONE TAX/ZONE | ELEC. DIST. R-20 PREVIOUS HOWARD COUNTY FILES: ECP-15-015, F-15-024, WP-15-069, WP-16-045

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

SITE DEVELOPMENT AND SEDIMENT EROSION CONTROL PLAN

### SINGLE FAMILY HOUSE SUNSET PLAINS

(BEING A RESUBDIVISION OF LOT 3-A, AS SHOWN ON A PLAT ENTITLED "RESUBDIVISION-LOT 3 OF SUNSET PLAINS AND SUBDIVISION-VIRGIL L. LOUGH PROPERTY" AND RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND IN PLAT BOOK 10 AT FOLIO 87) ZONED: R-20

TAX MAP NO.: 31 PARCEL NO.: 478 GRID NO.: 13 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUGUST, 2020 SHEET 2 OF 5

5DP-20-070

550° 23'37" E 46.53' EX. 15" PLAT BOOK # 10 PAGE &7 —PROP. 15' WATER, 5EWER, AND REVERTIBLE GRADING PROPERTY OF -LANDSCAPE PERIMETER #4 - 173 ROBERT AND DOROTHY KINSLER TAX MAP 31 FOLIO 52 LIBER 10590 FOLIO 413 EASEMENT FOR LOT 8 EXISTING PRIVATE 5
-- UTILITY EASEMENT (P.B. 10, F. 87) -UTILITY EASEMENT HOUSE FFE 403.59 BSE 474.8 MCE 480.0 PROP. 15' WATER, 5EWER, AND REVERTIBLE GRADING EASEMENT FOR LOT 8 EX. DRIVE 5' PRIVATE ACCESS EASEMENT FOR THE BENEFIT OF LOT 8 DECIDUOUS STRUCTURE DECIDUOUS SILVER MAPLE N51°14'21"W 372.33' (CREDIT) (CREDIT) EASEMENT FOR UTILITIES (P.B. 10, F. 87) BGE GREEN ZOINE PROPERTY OF PETER KOCHUNOV TAX MAP 31 PARCEL 452 LIBER 13361 FOLIO 305 -LANDSCAPE PERIMETER #2 - (372 LF -EX. 24" MULBERRY GEHANE MIKHALL SUNSET PLAINS PLAT # 6557 TAX MAP 31 PARCEL \$54 EX. STRUCTURE LIBER /13361 FOLIO 305 EX. WATER METER-EX. DRIVE EX. MAILBOXES EX. STRUCTURE

CONNER PROPERTY %AȚ BCCK # 10 PAGE 87

CONNER PROPERTY

EX. STRUCTURE

## SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2) A. SOIL PREPARATION TO THE CONTOUR OF THE SLOPE. B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

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 INSTRUCTION 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

C. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means. PERMANENT STABILIZATION A. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE: I. SOIL PH BETWEEN 6.0 AND 7.0.

II. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM). III. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE

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 5 INCHES. D. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST. E. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE 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

B. TOPSOILING

UNNECESSARY ON NEWLY DISTURBED AREAS.

. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION. 2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS. 3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH. B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE. . Areas having slopes steeper than 2:1 require special consideration and design. 5. Topsoil specifications: soil to be used as topsoil must meet the following criteria

A. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. 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 1 1/2 INCHES IN DIAMETER. B. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON

GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED. C. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

. 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

C. SOIL AMENDMENTS (FERTILIZER & LIME SPECIFICATIONS) 1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 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

i. 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.

#### DUST CONTROL

DEFINITION CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS. <u>PURPOSE</u>

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON AND OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

TEMPORARY METHODS . MULCHES — SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED

OR TACKED TO PREVENT BLOWING. 2. VEGETATIVE COVER – SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER 3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS 15 AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF THE SITE. CHISEL-TYPE

PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT. . Irrigation — this is generally done as an emergency treatment. Site is sprinkled with water until THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.

5. BARRIERS - SOLID BOARD FENCES SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALE DIKES AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CONTROLLING SOIL BLOWING. CURRENTS AND SOIL BLOWING. CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN 6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS . PERMENENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE. 2. TOPSOILING - COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.

3. STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

ACTIVE GRADING.

### STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, SOD INSTALLATION AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1). 3.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER

## TEMPORARY SEEDING NOTES (B-4-4)

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

PURPOSE TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. 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 8.1 FOR THE

APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN. 2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW

| HOLLI ALUNE AL          | TEMP                                     | ORARY SEEDII                |                   |                                  | (1 SEEDING (                     |
|-------------------------|------------------------------------------|-----------------------------|-------------------|----------------------------------|----------------------------------|
| Hardiness<br>Seed Mixtu | ZONE (FROM FIGURE<br>RE (FROM TABLE B.1) | B.3): <u>6b</u><br>):       | _                 | FERTILIZER RATE<br>(10-20-20)    | LIME RATE                        |
| 5PECIES                 | APPLICATION RATE (LB/AC)                 | SEEDING<br>DATES            | SEEDING<br>DEPTHS |                                  |                                  |
| COOL SE                 | ason grasses                             |                             |                   |                                  |                                  |
| BARLEY                  | 96                                       |                             | 1"                | 496 10 416                       | 0. TONE (10                      |
| OAT5                    | 72                                       | 3/01 - 5/15<br>8/01 - 10/15 | 1*                | 436 LB/AC<br>(10 LB/<br>1000 5F) | 2 TON5/AC<br>(90 LB/<br>1000 SF) |
| RYE                     | 112                                      | 0,01 10,15                  | 1"                | 1000 31)                         | 1000 31)                         |
| warm se                 | ason grasses                             |                             |                   |                                  |                                  |
| FOXTAIL MILLET          | 30                                       | 5/16 7/21                   | 0.5*              | 436 LB/AC<br>(10 LB/             | 2 TON5/AC                        |
| PEARL MILLET            | 20                                       | 5/16 - 7/31                 | 05"               | 1000 SF)                         | (90 LB/<br>1000 SF)              |

#### PEARL MILLET 20 0.5" 1000 5F) 1000 5F PERMANENT SEEDING NOTES (B-4-5) A. SEED MIXTURES

1. 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 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 QUIDE, 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) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO the soil amendments shown in the permanent seeding summary.

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 on the plan.

I. 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.

II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

IV. KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES; NOTWERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND Publication, agronomy memo \*77, "turfgrass cultivar recommendations for maryland" choose certified material. Certified material is the best 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 LINE C. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 58, 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 68) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 1 (HARDINESS ZONES: 7A, 7B)

D. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDBED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER THE RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.

E. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH ? TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED his is especially true when seedings are made late in the planting season, in abnormally dry OR HOT SEASONS, OR ON ADVERSE SITES.

#### PERMANENT SEEDING SUMMARY

|                                                                          |                     |                          | LECIMIENT                     | OLLDING           | 00111111                                    | • (                            |                                |                                  |  |
|--------------------------------------------------------------------------|---------------------|--------------------------|-------------------------------|-------------------|---------------------------------------------|--------------------------------|--------------------------------|----------------------------------|--|
| Hardiness zone (from figure 8.3): 6b<br>seed mixture (from table 8.3): 6 |                     |                          |                               |                   |                                             | FERTILIZER RATE (10-20-20)     |                                |                                  |  |
| NO.                                                                      | SPECIES             | APPLICATION RATE (LB/AC) | SEEDING<br>DATES              | SEEDING<br>DEPTHS | N                                           | P <sub>2</sub> O <sub>5</sub>  | K <sub>2</sub> 0               |                                  |  |
|                                                                          | COOL SEASON GRASSES |                          |                               |                   |                                             |                                |                                |                                  |  |
| 8                                                                        | TALL<br>FESCUE      | 100                      | MAR 1-MAY 15<br>AUG 1-OCT 15  | 1/4-1/2<br>IN.    | 45 LBS.<br>PER ACRE<br>(1.0 LB/<br>1000 SF) | 90 LB/AC<br>(2 LB/<br>1000 SF) | 90 LB/AC<br>(2 LB/<br>1000 SF) | 2 TONS/AC<br>(90 LB/<br>1000 SF) |  |
|                                                                          | WARM                | SEASON/COOL SEA          | ason grass MIX                |                   |                                             |                                |                                |                                  |  |
| 8                                                                        | tall<br>Fe5CUE      | 100                      | MAR 1-MAY 15<br>MAY 16-JUN 15 | 1/4-1/2<br>IN.    | 45 LBS.<br>PER ACRE<br>(1.0 LB/<br>1000 SF) | 90 LB/AC<br>(2 LB/<br>1000 5F) | 90 LB/AC<br>(2 LB/<br>1000 5F) | 2 TONS/AC<br>(90 LB/<br>1000 SF) |  |

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

1. GENERAL SPECIFICATIONS

A. CLASS OF TURFGRASS 500 MUST BE MARYLAND STATE CERTIFIED. 500 LABELS MUST BE MADE AVAILABLE TO THE B. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS TO 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF 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 OF WET) MAY

E. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED within this period must be approved by an agronomist or soil scientist prior to its installation. A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE

SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD. B. LAY THE FIRST ROW OF 500 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 500 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 500 WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS.

ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN 500 ROOTS AND THE UNDERLYING SOIL SURFACE. D. WATER THE 50D IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW 50D PAD AND 50IL SURFACE BELOW THE 50D ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING, AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

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 B. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT C. DO NOT MOW UNTIL THE 50D IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY

DATE

REVISION

THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS

#### STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING (B-4-3)

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

<u>PURPOSE</u> TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

1. SPECIFICATIONS

A ALL SEED MUST MEET THE REQUIREMENT OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE 8.4 RECARDING THE QUALITY OF SEED, SEED TACS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE. B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.

C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES, INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING, NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOK AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE. D. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEEDCONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF

PHYTO-TOXIC MATERIALS. A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS. I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES. II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN

B. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL . CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.

EACH DIRECTION. ROLL THE SEEDED AREA WITH WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. C. HYDROSEEDING, APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).

I. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P 0 (PHOSPHORUS),

200 POUNDS PER ACRE; K O (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. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING. III. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION. IV. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING 1. MULCH MATERIALS (IN ORDER OF PREFERENCE) A STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED. B. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO

UNIFORM FIBROUS PHYSICAL STATE I. WCFM 15 TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOT 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 ACTIATION 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. IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BY V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10

MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6

PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM. A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING. B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH 50 THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS

C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED TO A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

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 . 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 CALLONS OF WATER. III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS

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

## FOR STOCKPILE AREAS B-4-8

DEFINITION A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. <u>PURPOSE</u>

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 STOCK PILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE. CRITERIA

CUTTING, MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR 1. 1. 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.

4. 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 MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AN APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE

MUST BE USED TO INTERCEPT THE DISCHARGE. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD 8-4-4 TEMPORARY STABILIZATION. 8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

<u>MAINTENANCE</u> THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION 8-4 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, OR 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.

#### HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1655 AFTER THE FUTURE LOD AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD. A MINIMUM OF 40 HOUR NOTICE TO CID MUST BE GIVEN AT THE FOLLOWING STAGES: A. PRIOR TO THE START OF EARTH 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 GRADING UNIT, D. PRIOR TO THE REMOVAL OR MODIFICATION OF SEDIMENT CONTROL PRACTICES.

OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

OTHER DUILLING OF GRADING INDICATION OF GRADING AGENCY IS MADE. OTHER RELATED STATE AND FEDERAL PERMITS SHALL BE REFERENCED, TO ENSURE COORDINATION AND TO AVOID CONFLICTS WITH THIS PLAN

THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES,

concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (sec. 8–4–6).

i. All sediment control structures are to remain in place, and are to be maintained in operative condition until

2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO. 3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION IS REQUIRED WITHIN

AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1): AND SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED AREAS ON THE PROJECT SITE EXCEPT FOR THOSE AREAS UNDER ACTIVE GRADING. 4. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR TOPSOIL (SEC. B-4-2), PERMANENT SEEDING (SEC. B-4-5), TEMPORARY SEEDING (SEC. B-4-4) AND MULCHING (SEC. B-4-3). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES IF THE GROUND IS FROZEN. INCREMENTAL STABILIZATION (SEC. B-4-1) SPECIFICATIONS SHALL BE ENFORCED IN AREAS WITH >15' OF CUT AND/OR FILL. STOCKPILES (SEC. B-4-0) IN EXCESS OF 20 FT. MUST BE BENCHED WITH STABLE OUTLET. ALL

PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE CID. 6. SITE ANALYSIS: TOTAL AREA OF SITE: 0.59 ACRES AREA DISTURBED: 0.38 ACRES AREA TO BE ROOFED OR PAVED: 0.11 ACRES AREA TO BE VEGETATIVELY STABILIZED: 0.27 ACRES TOTAL CUT: TOTAL FILL: 210 CU. YD5. 225 CU. YD5.

IDENTIFICATION OF PLAN DEFICIENCIES

• USE III AND IIIP OCTOBER 1 - APRIL 30

OFFSITE WASTE/BORROW AREA LOCATION: N/A 7. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE. 8. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE CID. THE SITE AND A11 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 DATE INSPECTION TYPE (ROUTINE, PRE-STORM EVENT, DURING RAIN EVENT) NAME AND TITLE OF INSPECTOR · WEATHER INFORMATION (CURRENT CONDITIONS AS WELL AS TIME AND AMOUNT OF LAST RECORDED PRECIPITATION) BRIEF DESCRIPTION OF PROJECT'S STATUS (E.G., PERCENT COMPLETE) AND/OR CURRENT ACTIVITIES

 IDENTIFICATION OF SEDIMENT CONTROLS THAT REQUIRE MAINTENANCE IDENTIFICATION OF MISSING OR IMPROPERLY INSTALLED SEDIMENT CONTROLS COMPLIANCE STATUS REGARDING THE SEQUENCE OF CONSTRUCTION AND STABILIZATION REQUIREMENTS PHOTOGRAPHS

 MONITORING/SAMPLING MAINTENANCE AND/OR CORRECTIVE ACTION PERFORMED OTHER INSPECTION ITEMS AS REQUIRED BY THE GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES (NPDES, MDE). renches for the construction of utilities is limited to three pipe lengths or that which can and shall be BACK-FILLED AND STABILIZED BY THE END OF EACH WORKDAY, WHICHEVER IS SHORTER.

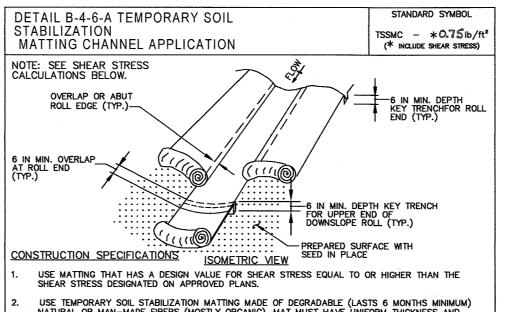
10. ANY MAJOR CHANGES OR REVISIONS TO THE PLAN OR SEQUENCE OF CONSTRUCTION MUST BE REVIEWED AND APPROVED BY

THE H5CD PRIOR TO PROCEEDING WITH CONSTRUCTION. MINOR REVISIONS MAY ALLOWED BY THE H5CD PER THE LIST OF H5CD-APPROVED FIELD CHANGES. DISTURBANCE SHALL NOT OCCUR OUTSIDE THE L.O.D. A PROJECT IS TO BE SEQUENCED SO THAT GRADING ACTIVITIES BEGIN ON ONE GRADING UNIT (MAXIMUM ACREAGE OF 20 AC. PER GRADING UNIT) AT A TIME. WORK MAY PROCEED TO A SUBSEQUENT GRADING UNIT WHEN AT LEAST 50 PERCENT OF THE DISTURBED AREA IN THE PRECEDING GRADING UNIT HAS BEEN STABILIZED AND APPROVED BY THE HSCD. UNLESS OTHERWISE SPECIFIED AND APPROVED BY THE HSCD, NO MORE THAN 30

ACRES CUMULATIVELY MAY BE DISTURBED AT A GIVEN TIME. 12. WASH WATER FROM ANY EQUIPMENT, VEHICLES, WHEELS, PAVEMENT, AND OTHER SOURCES MUST BE TREATED IN A SEDIMENT BASIN OR OTHER APPROVED WASHOUT STRUCTURE. 13. TOPSOIL SHALL BE STOCKPILED AND PRESERVED ON-SITE FOR REDISTRIBUTION ONTO FINAL GRADE. 14. ALL SILT FENCE AND SUPER SILT FENCE SHALL BE PLACED ON-THE-CONTOUR, AND BE IMBRICATED AT 25' MINIMUM

INTERVALS, WITH LOWER ENDS CURLED UPHILL BY 2' IN ELEVATION. 15. STREAM CHANNELS MUST NOT BE DISTURBED DURING THE FOLLOWING RESTRICTED TIME PERIODS (INCLUSIVE): . USE I AND IP MARCH 1 - JUNE 15

 USE IV MARCH 1 - MAY 31 16. A COPY OF THIS PLAN, THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND ASSOCIATED PERMITS SHALL BE ON-SITE AND AVAILABLE WHEN THE SITE IS ACTIVE.



USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN—MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON—LEACHING AND NON—TOXIC TO VECETATION AND SEED GERMINATION AND NON—INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL

SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPED 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 EROSION AND

UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTERLINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MAT SMOOTHLY AND FIRMLY ON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.

KEY-IN UPSTREAM END OF EACH MAT ROLL BY DIGGING A 6 INCH (MINIMUM) TRENCH AT THE UPSTREAM END OF THE MATTING, PLACING THE ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END. OVERLAP OR ABUT THE ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM

STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.

ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE STABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE

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

### SEQUENCE OF CONSTRUCTION

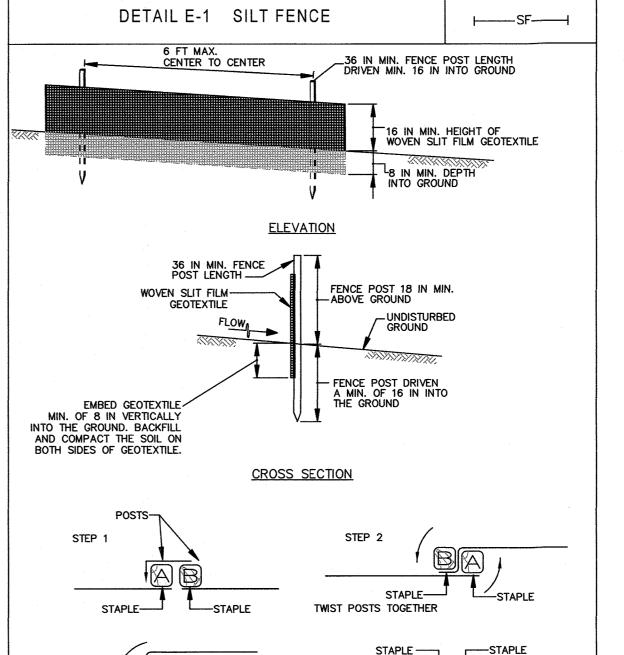
OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (14 DAYS) 2. NOTIFY "MISS UTILITY" AT LEAST 40 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/ INSPECTION AT 410-313-1330 AT LEAST 24 HOURS BEFORE STARTING WORK. 3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE. I. WITH PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, COMMENCE ROUGH GRADING SITE WITH INTERIM CONDITION BIO RETENTION FACILITY, IF REQUIRED. COMMENCE CONSTRUCTION BUILDING, ACCESS DRIVEWAYS, PARKING AREAS AND UTILITIES. 5. FINE GRADE SITE AND INSTALL PERMANENT SEEDING. 7. WITH PERMISSION FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR COMMENCE CONVERSION AND FINALIZE INSTALLATION BIO-RETENTION FACILITY M-6 (1)

NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE EACH RAINFALL AND ON A

8. ALL FINAL GRADES AND STABILIZATION SHOULD BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS.

WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND

WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES



STANDARD SYMBOL

#### CONSTRUCTION SPECIFICATIONS

STEP 3

USE WOOD POSTS  $1\frac{1}{4}$  X  $1\frac{1}{4}$   $\pm$   $\frac{1}{16}$  Inch (Minimum) square cut of sound quality hardwood. As an alternative to wooden post use standard "t" or "u" section steel posts weighing not

JOINING TWO ADJACENT SILT

FENCE SECTIONS (TOP VIEW)

CONFIGURATION | 😾

STAPLE----

---STAPLE

. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART. 3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND

PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE

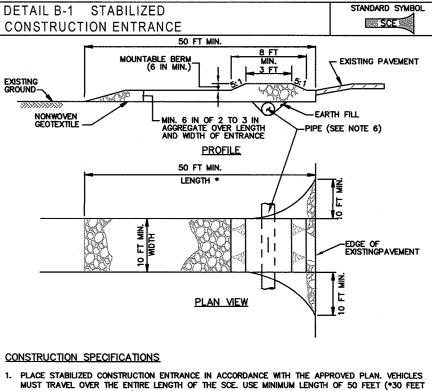
REQUIREMENTS IN SECTION H-1 MATERIALS. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.

45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS

WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL MARYLAND DEPARTMENT OF ENVIRONMENT U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION



CONSTRUCTION SPECIFICATIONS

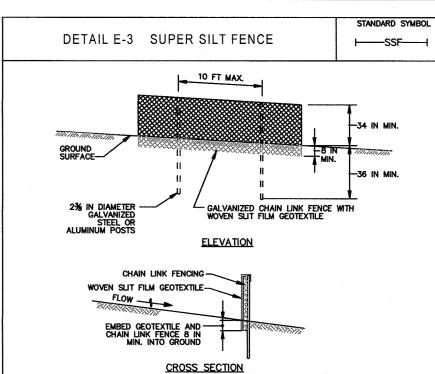
PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES
MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (\*30 FEET
FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE
EXISTING ROAD TO PROVIDE A TURNING RADIUS.

PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD 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 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.

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 FROSION AND SEDIMENT CONTROL



CONSTRUCTION SPECIFICATIONS 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

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.

WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.

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.

PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THA GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

FISHER, COLLINS & CARTER, INC VIL ENGINEERING CONSULTANTS & LAND SURVEYOR (410) 461 - 2855

SCALE: 1" = 30"



## PROFESSIONAL CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

8/27/20

Frank John Manalansan II

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

BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT IGNATURE OF XDEVELOPE



OWNER

DONALD J. & SARAH R. WISE

8401 GROVE ANGLE ROAD

ELLICOTT CITY, MARYLAND 21043

443-986-4700

DEVELOPER PFAF BUILDERS, LLC 412 RIDGE ROAD WESTMINSTER, MD 21157 ATTN: MR. BRIAN KNAUFF 410-875-6640

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 9/28/20 Chief, Division of Land Development Development Engineering Division Director - Department of Planning and Zoning 9-29-20 PROJECT PHASE PARCEL NOs. N/A 478 SUNSET PLAINS, LOT 8 PLAT NO. ZONE CENSUS TR. BLOCK NO. TAX/ZONE ELEC. DIST. R-20 602302 PREVIOUS HOWARD COUNTY FILES: ECP-15-015, F-15-024, WP-15-069, WP-16-045

## SEDIMENT EROSION CONTROL NOTES & DETAILS SINGLE FAMILY HOUSE

(BEING A RESUBDIVISION OF LOT 3-A, AS SHOWN ON A PLAT ENTITLED "RESUBDIVISION-LOT 3 OF SUNSET PLAINS AND SUBDIVISION-VIRGIL L. LOUGH PROPERTY" AND RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND IN PLAT BOOK 10 AT FOLIO 87) ZONED: R-20

TAX MAP NO.: 31 PARCEL NO.: 478 GRID NO.: 13 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUGUST, 2020 SHEET 3 OF 5

5DP-20-070

## Infiltration and Filter System Construction Specifications

Infiltration and filter systems either take advantage of existing permeable soils or create a permeable medium such as sand for WC), and Re v. In some instances where permeability is great, these facilities may be used for Qp as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorous and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide arteries for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide desthetic value and wildlife habitat making these facilities more desirable to the public.

#### Design Constraints:

> Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging. > Determine areas that will be saturated with water and water table depth so that

appropriate plants may be selected (hydrology will be similar to bioretention facilities, see figure A.5 and Table A.4 for planting material guidance). > Plants known to send down deep taproots should be avoided in systems where filter fabric is

used as part of facility design. > Test soil conditions to determine if soil amendments are necessary.

> Plants shall be located so that access is possible for structure maintenance. > Stabilize heavy flow areas with erosion control mats or sod.

#### > Temporarily divert flows from seeded areas until vegetation is established. > See Table A.5 for additional design considerations.

#### Bio-retention

#### Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should be less than 25% by volume [Environmental Quality Resources (EQR), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ETAB), 1993]. Soils should fall within the SM, ML, SC classifications or the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutsedge, and Canada Thistle or other noxious weeds as specified under COMAR 15.08.01.05.) should not be present in the soils. Placement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

| Parameter                     | Value                     |
|-------------------------------|---------------------------|
| pH range                      | 5.2 to 7.00               |
| Organic matter                | 1.5 to 4.0% (by weight)   |
| Magnesium                     | 35 lbs. per acre, minimum |
| Phosphorus (phosphate - P205) | 75 lbs. per acre, minimum |
| Potassium (potash -1(K2O)     | 85 lbs. per acre, minimum |
| Soluble salts                 | 500 ppm                   |
| Clay                          | 10 to 25 %                |
| Silt                          | 30 to 55 %                |
| Sand                          | 35 †o 60%                 |

#### Mulch Layer

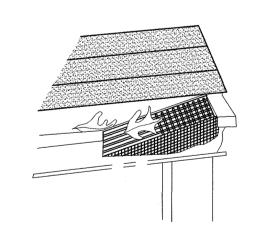
The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

Planting Guidance
Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.

The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by

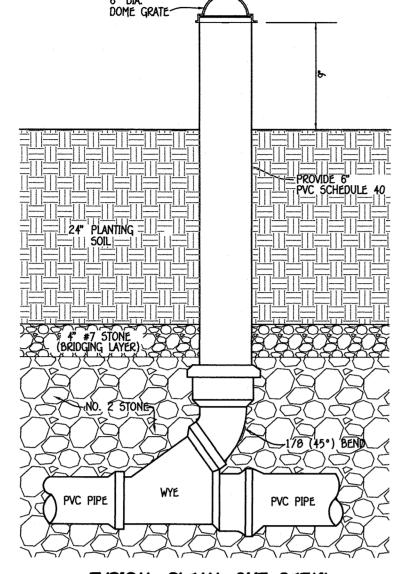
is the highest elevation and generally supports plants adapted to dryer conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principals described in Table A.5. The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Claytor and Schueler, 1997.



GUTTER DRAIN FILTER DETAIL

#### STORMWATER MANAGEMENT NOTES

- 1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
- 2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 500 SQ. FT. OR LESS. 3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH 4. FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.



TYPICAL CLEAN-OUT DETAIL

NO TO SCALE

Table B.4. Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration

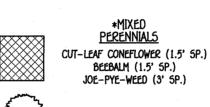
| Material                                       | Specification                                                                                          | Size                                         | Notes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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%                         |                                              | USDA soil types loamy sand or sandy loam; clay content <5%                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Organic Content                                | Min. 10% by dry weight<br>(ASTM D 2974)                                                                |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Mulch                                          | shredded hardwood                                                                                      |                                              | aged 6 months, minimum                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Pea gravel diaphragm                           | pea gravel: ASTM-D-440                                                                                 | No. 8 or No. 9<br>(1/8" †o 3/8")             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Curtain drain                                  | ornāmentāl stone: washed<br>cobbles                                                                    | stone: 2" to 5"                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Geotextile                                     |                                                                                                        | n/a                                          | PE Type 1 nonwoven                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Grāvel (underdrāins ānd<br>infiltrātion berms) | AASHTO M-43                                                                                            | No. 57 or No.<br>Aggregāte<br>(3/8" to 3/4") |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Underdräin piping                              | F 750, Type P5 20 or<br>AASHTO M-270                                                                   | 4" to 6" rigid schedule<br>40 PVC or 5DR35   | Slotted or perforated pipe; 3/8" pert. © 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes. Perforated pipe shall be wrapped with 1/4 inch galvanized hardware cloth                                                                                                                                                                                                                                                                         |
| Poured in place concrete (if required)         | MSHA Mix No. 3; f = 3500 psi at 20 days, normal weight, air-entrained; reinforcing to meet ASTM-615-60 | n.ā                                          | on-site testing of poured-in-place concrete required: 20 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 Maryland — design to include meeting ACI Code 350.R/89; vertical loading [H-10 or H-20]; allowable horizontal loading (based on soil pressures); and analysis 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 sand substitutions are acceptable. No "rock dust" can be used for sand.                                                                                                                                                                                                                                                                                                 |

|                        |        | MICA   | 20-1   | BIOR   | ETEN   | NTIO   | N      | -      |        |
|------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| BIORETENTION<br>FILTER | Α      | В      | С      | D      | £      | F      | G      | Н      | I      |
| 1                      | 473.00 | 473.00 | 472.00 | 471.83 | 469.83 | 469.58 | 469.25 | 469.04 | 469.08 |

#### OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION AREAS (M-6)

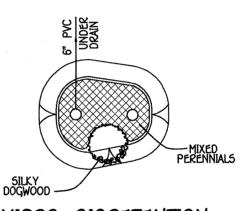
- . ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- 2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDER BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- 3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- 4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS. WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

| MICRO-BIORETENTION PLANT MATERIAL |                     |                                    |  |  |  |  |  |
|-----------------------------------|---------------------|------------------------------------|--|--|--|--|--|
| MICRO-BIO 1<br>QUANTITY           | NAME                | MAXIMUM SPACING (FT.)              |  |  |  |  |  |
| 50                                | MIXED<br>PERENNIALS | 1.5 TO 3.0 FT.                     |  |  |  |  |  |
| 1                                 | 5ILKY<br>DOGWOOD    | PLANT AWAY FROM<br>INFLOW LOCATION |  |  |  |  |  |



SILKY DOGWOOD

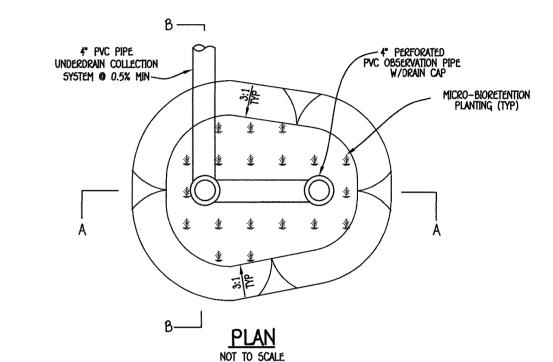
\* SEE PLANT MATERIAL CHARTS
FOR QUANTITIES AND SPACING
AT LEAST 50% OF THE SURFACE
AREA OF THE MICRO-BIORETENTIO

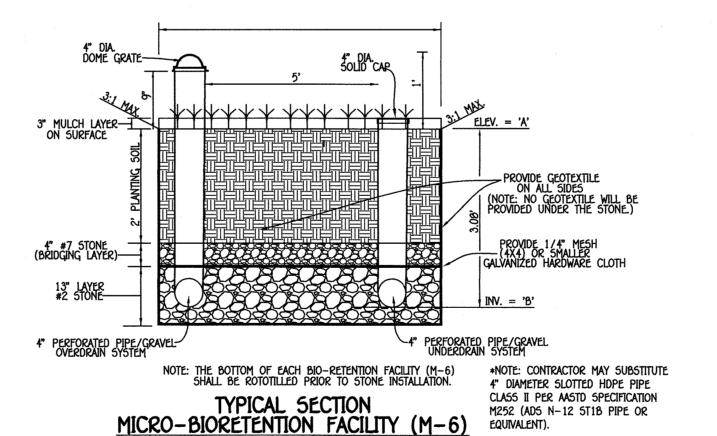


MICRO-BIORETENTION PLANTING DETAIL

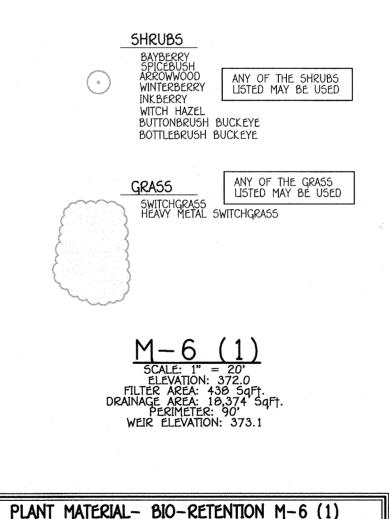
TY EASEMENT

10, F. 87)





NO NOT SCALE

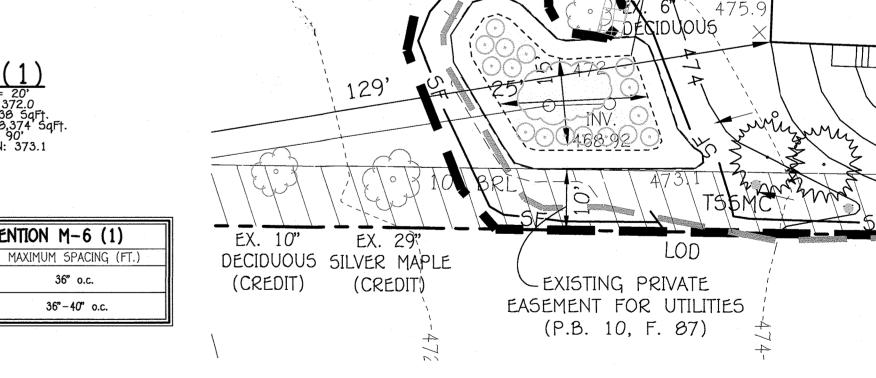


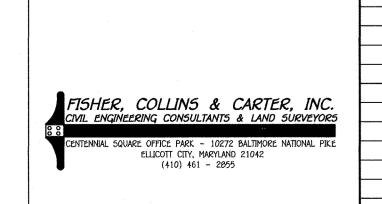
NAME

GRASSES

**SHRUBS** 

37 (110 sq.ff.)







DATE

REVISION

## PROFESSIONAL CERTIFICATION

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/21.

OWNER DONALD J. & SARAH R. WISE 8401 GROVE ANGLE ROAD ELLICOTT CITY, MARYLAND 21043 443-986-4700

DEVELOPER PFAF BUILDERS, LLC. 412 RIDGE ROAD WESTMINSTER, MD 21157 ATTN: MR. BRIAN KNAUFF 410-875-6640

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 9/28/20 9.23.20 Sh. Gra 9-29-20 Director - Department of Planning and Zoning PROJECT PARCEL NOs. PHASE 478 N/A SUNSET PLAINS, LOT 8 CENSUS TR. PLAT NO. | BLOCK NO. | ZONE TAX/ZONE | ELEC. DIST. 6557 R-20 602302 PREVIOUS HOWARD COUNTY FILES: ECP-15-015, F-15-024, WP-15-069, WP-16-045

## STORMWATER MANAGEMENT NOTES & DETAILS

#### SINGLE FAMILY HOUSE SUNSET PLAINS

(BEING A RESUBDIVISION OF LOT 3-A, AS SHOWN ON A PLAT ENTITLED "RESUBDIVISION-LOT 3 OF SUNSET PLAINS AND SUBDIVISION-VIRGIL L. LOUGH PROPERTY" AND RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND IN PLAT BOOK 10 AT FOLIO 87) ZONED: R-20

TAX MAP NO.: 31 PARCEL NO.: 478 GRID NO.: 13 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUGUST, 2020 SHEET 4 OF 5

5DP-20-070

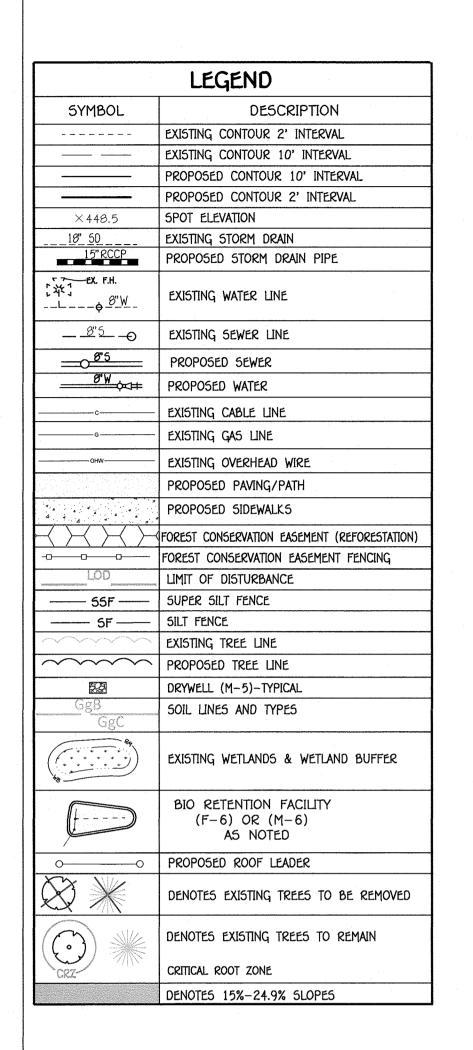
FFE 483.5

BSE 474.8

MCE 480.C

NO GRAVITY SEL

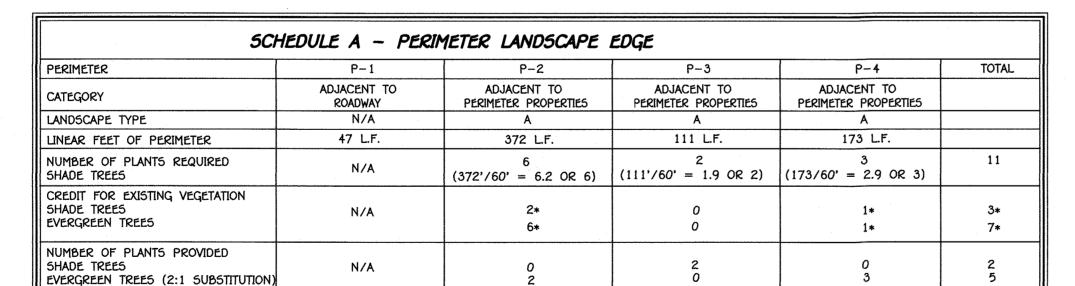
SERVICE FOR B



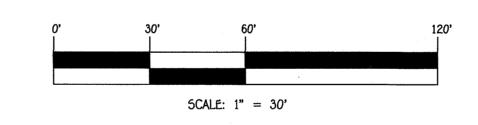
|                    | LANDSCAPING PLANT LIST                                           |                                                       |                                    |  |  |  |  |  |  |  |
|--------------------|------------------------------------------------------------------|-------------------------------------------------------|------------------------------------|--|--|--|--|--|--|--|
| QTY. KEY NAME SIZE |                                                                  |                                                       |                                    |  |  |  |  |  |  |  |
| 2                  | $\bigcirc$                                                       | QUERCUS PALUSTRIS<br>(PIN OAK)                        | 2.5"-3" CAL.<br>FULL CROWN,<br>B&B |  |  |  |  |  |  |  |
| 2                  | 3 . F                                                            | ILEX 'NELLIE R. STEVENS'<br>(NELLIE R. STEVENS HOLLY) | 5' - 6' HT.<br>8&B                 |  |  |  |  |  |  |  |
| 3                  | 3 THUJA PLICATA 5' - 6' HT. (GIANT ARBORVITAE 'GREEN GIANT') B&B |                                                       |                                    |  |  |  |  |  |  |  |
| TOTAL              | .: 2 SHADE                                                       | TREE, 5 EVERGREENS                                    |                                    |  |  |  |  |  |  |  |

TOOLET CONCERNATION NOOVENEST

|   | FOREST CONSERVATION WORKSHEET VERSION 1.0                  |      |
|---|------------------------------------------------------------|------|
|   | A. TOTAL TRACT AREA                                        | 0.59 |
|   | B. AREA WITHIN 100 YEAR FLOODPLAIN                         | 0    |
| I | C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION               |      |
| Ì | D. NET TRACT AREA                                          | 0.59 |
| ١ | LAND USE CATEGORY: (from table 3.2.1, page40, Manual)      |      |
| l | ARA MDR IDA HDR MPD CIA                                    |      |
| I | X                                                          |      |
| İ | INFORMATION FOR CALCULATIONS:                              |      |
| I | E. AFFORESTATION THRESHOLD                                 | 0.09 |
| I | F. FOREST CONSERVATION THRESHOLD 0.20% x D =               | 0.12 |
| I | EXISTING FOREST COVER:                                     |      |
| ļ | G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)            | 0.00 |
| ۱ | H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD            |      |
| l | I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD             | 0.00 |
| ı | BREAK EVEN POINT:                                          |      |
| I | J. BREAK-EVEN POINT                                        | 0.00 |
| I | K. CLEARING PERMITTED WITHOUT MITIGATION                   | 0.00 |
|   | PROPOSED FOREST CLEARING:                                  |      |
|   | L. TOTAL AREA OF FOREST TO BE CLEARED                      | 0.00 |
|   | M. TOTAL AREA OF FOREST TO BE RETAINED                     | 0.00 |
| I | PLANTING REQUIREMENTS:                                     |      |
| ١ | N REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD  | 0.00 |
| I | P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD | 0.00 |
| I | Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD       | 0.00 |
|   | R TOTAL REFORESTATION REQUIRED                             | 0.00 |
| ۱ | 5. TOTAL AFFORESTATION REQUIRED                            | 0.09 |
|   | T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED=         | 0.09 |
| Į |                                                            |      |



\* NOTE: CREDIT TAKEN FOR EXISTING TREES: ALONG PERIMETER 2 CREDIT IS BEING TAKEN FOR AN EXISTING 28" MAPLE, 10" DECIDUOUS TREE, 6", 15", 18", 28", & 30" PINE TREES, AND 15" HOLLY. ALONG PERIMETER 4, CREDIT IS BEING TAKEN FOR AN EXISTING 10" PINE TREE AND 12" MAPLE.



LANDSCAPE DEVELOPER'S CERTIFICATE

CONNER PROPERTY <del>PL</del>AT BOOK # 10 PAGE 87

-CONNER PROPERTY

PLAT BOOK # 10 PAGE 87

EX. 39" SILVER MAPLE

EX. 6" \

N51°14'21"W 372.33'

- LANDSCAPE PERIMETER #2 - (372 LF-

HOUSE FFE 483.59

85E 474.8 MCE 480.0

-prop. 15' water,

REVERTIBLE GRADING EASEMENT FOR LOT 8

EX. 18" MAPLE

20,000 SQ.FT

EX. 20" DECIDUOUS

DECIDUOUS

5T#1

ex. 30° WHITE PINE MAILBOXES

SUNSE!

EX. STRUCTURE

PRÓPERIY OF

GEHANE MIKHAIL\

TAX MAP 31 PARCEL \$54

LIBER /13361 FOLIO 305

EX. DRIVE

STRUCTURE

EX. STRUCTURE

550°23'37"E 46.53'

EXISTING PRIVATE 5' - UTILITY EASEMENT

(P.B. 10, F. 87) —

5' PRIVATE ACCESS

EASEMENT FOR THE BENEFIT OF LOT 8

EX. STRUCTURE

EX. STRUCTURE

EX. DRIVE

EX. WALL

BGE GREEN ZON

EX. 24" MULBERRY

EX. WATER METER-

ex. Drive

PROP. 15' WATER,

SEWER, AND

REVERTIBLE GRADING

EASEMENT FOR LOT 8

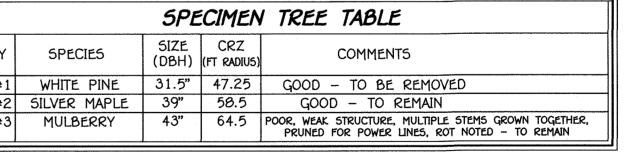
EX. HOUSE TO REMAIN

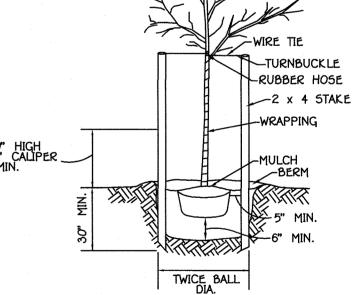
O' BRI DECIDUOUS

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

| 8-24-20  |
|----------|
| <br>DATE |
|          |

|      |              | 5PE           | CIMEN              | I IREE IABLE                                                                                       |
|------|--------------|---------------|--------------------|----------------------------------------------------------------------------------------------------|
| KEY  | SPECIE5      | SIZE<br>(DBH) | CRZ<br>(FT RADIU5) | COMMENTS                                                                                           |
| 5T#1 | WHITE PINE   | 31.5"         | 47.25              | GOOD - TO BE REMOVED                                                                               |
| 5T#2 | SILVER MAPLE | 39"           | 58.5               | GOOD - TO REMAIN                                                                                   |
| 5T#3 | MULBERRY     | 43"           | 64.5               | POOR, WEAK STRUCTURE, MULTIPLE STEMS GROWN TOGETHER, PRUNED FOR POWER LINES, ROT NOTED - TO REMAIN |





STAKING DETAIL

GRADING FOR PLANTING
ON SLOPES

-TURNBUCKLE

NOTE: REMOVE BURLAP FROM TOP 1/3 OF BALL

FISHER, COLLINS & CARTER, INC. (410) 461 - 2855



DATE

REVISION

PROPERTY OF

ROBERT AND DOROTHY KINSLER

TAX MAP 31 FOLIO 52

LIBER 10590 FOLIO 413

SUNSET PLAINS

PLAT # 6557

## PROFESSIONAL CERTIFICATION

∠LANDSCAPE PERIMETER #4 - 173 LF

EXISTING PRIVATE EASEMENT FOR UTILITIES (P.B. 10, F. 87)

PROPERTY OF

PETER KOCHUNOV TAX MAP 31 PARCEL 452

LIBER 13361 FOLIO 305

-EXISTING PRIVATE

UTILITY EASEMENT

(P.B. 10, F. 87)

DECIDUOUS SILVER MAPLE

(CREDIT) (CREDIT)

EX. STRUCTURE

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/21.

|  |                                                                                             |                                                                                   | Chief, Development Engineering Di                                         |             |              |      |           |
|--|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------|--------------|------|-----------|
|  |                                                                                             |                                                                                   | PROJECT                                                                   | AINS, LOT Ø | ,            |      | Ρ         |
|  | DONALD J. & SARAH R. WISE  8401 GROVE ANGLE ROAD ELLICOTT CITY, MARYLAND 21043 443-986-4700 | DEVELOPER PFAF BUILDERS, LLC.                                                     | PLAT NO. 6557                                                             | BLOCK NO.   | ZONE<br>R-20 | TAX. | /Z(<br>31 |
|  |                                                                                             | 412 RIDGE ROAD<br>WESTMINSTER, MD 21157<br>ATTN: MR. BRIAN KNAUFF<br>410-875-6640 | PREVIOUS HOWARD COUNTY FILES:<br>ECP-15-015, F-15-024, WP-15-069, WP-16-0 |             |              |      |           |

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING 9/20/20 9.23.20 Department of Planning and Zoning 9-29-20 PROJECT PHASE PARCEL NOs. 478 SUNSET PLAINS, LOT 8 CENSUS TR. PLAT NO. | BLOCK NO. ZONE TAX/ZONE | ELEC. DIST. R-20 602302 PREVIOUS HOWARD COUNTY FILES:

LANDSCAPE PLAN

SINGLE FAMILY HOUSE SUNSET PLAINS

(BEING A RESUBDIVISION OF LOT 3-A, AS SHOWN ON A PLAT ENTITLED "RESUBDIVISION-LOT 3 OF SUNSET PLAINS AND SUBDIVISION-VIRGIL L. LOUGH PROPERTY" AND RECORDED AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND IN PLAT BOOK 10 AT FOLIO 87) ZONED: R-20

TAX MAP NO.: 31 PARCEL NO.: 478 GRID NO.: 13 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: AUGUST, 2020 SHEET 5 OF 5

5DP-20-070