	SHEET INDEX
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2-3	EXISTING CONDITIONS AND DEMOLITION PLAN
4-5	SEDIMENT AND EROSION CONTROL PLAN - PHASE 1
6-7	SEDIMENT AND EROSION CONTROL PLAN - PHASE 2
8-9	SEDIMENT AND EROSION CONTROL NOTES AND DETAILS
10-11	LANDSCAPE PLAN
12	LANDSCAPE NOTES AND DETAILS
13	STORMWATER MANAGEMENT NOTES AND DETAILS
14	STORMWATER MANAGEMENT PLAN
15-16	STORMDRAIN DRAINAGE AREA MAP
17	STORM DRAIN PROFILES
18	MANNER HOUSE WAY ROADWAY SECTION AND DETAILS
19	MANNER HOUSE WAY ROADWAY PLAN AND PROFILES
20-21	FOREST CONSERVATION PLAN
22	FOREST CONSERVATION NOTES AND DETAILS
23	50IL BORING LOG5
24	SITE DISTANCE ANALYSIS

51	REET S	5IGN	CHART	
STREET NAME	5TATION	OFFSET	POSTED SIGN	5IGN CODE
MANNER HOUSE WAY	0+49	19' L	5TOP	R1-1
MANNER HOUSE WAY	7+17	0	NO PARKING	R7-1(1)
MANNER HOUSE WAY	6+88	24' R	RANGE OF ADDRESS	(NO CODE)
MANNER HOUSE WAY	2+69	16' R	NO PARKING	R7-1
MANNER HOUSE WAY	2+69	16' L	NO PARKING	R7-1
MANNER HOUSE WAY	4+41	17' R	NO PARKING	R7-1
MANNER HOUSE WAY	4+55	17' L	NO PARKING	R7-1

ST	reet i	JGHT	CHART
STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
	0+57	16' R	
	2+72	16' R	COLONIAL POST-TOP FIXTURE
MANNER HOUSE WAY	4+09	16' R	(LED-100) MOUNTED ON A
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5+47	16' R	14' BLACK FIBERGLASS POLE
	6+78	17' L	

SITE ANALYSIS DATA CHART

E. NET TRACT AREA = 6.13 AC.

F. DENSITY ALLOWED:

G. OPEN SPACE TABULATION:

-OPEN SPACE REQUIRED

-PARCEL 5 (FIRST PARCEL) =

-PART OF PARCEL 174 =

-PARCEL 5 (SECOND PARCEL)=

D. PROPOSED USE: SINGLE FAMILY DETACHED HOUSING

 $(0.13 \text{ Ac} - (0.0 \text{ Ac} + 0.0 \text{ Ac})) = 0.13 \text{ AC} \pm$

2 UNITS/ACRE \times 0.13 = 16 UNITS

DENSITY PROPOSED = 17 UNITS

NON-CREDITED = 0.155 Ac.

-RECREATION OPEN SPACE TABULATION

-TOTAL RECREATION SPACE PROVIDED:

GAZEBO 16' DIAMETER

N. TOTAL GREEN OPEN AREA = 6.16 Ac. ±

O. TOTAL IMPERVIOUS AREA = 1.97 Ac. ±

-PARKING SPACE REQUIRED

-TOTAL PARKING REQUIRED

-PARKING SPACES PROVIDED

FISHER. COLLINS & CARTER, INC.

NTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIK

ELLICOTT CITY, MARYLAND 21042

(17 UNITS X 2 SPACES/UNIT)

-OVERFLOW VISITOR PARKING REQUIRED

(17 UNITS x 0.3 SPACES/UNITS) =6 SPACES

LOT No. | STREET ADDRESS

M. TOTAL FOREST 0.8 Ac. ±

Q. PARKING TABULATION

ASPHALT PATHWAY @ 325 S.F. X 3

SURVEY WHICH DIFFERS FROM DEED ACREAGE.

B. LIMIT OF DISTURBED AREA = Within property boundary= 6.09 Ac

C. PRESENT ZONING DESIGNATION = R-20; UTILIZING R-ED ZONING

+1 UNIT IMPORTED FROM BELMONT DUE TO USE OF R-ED ZONING

-RECREATION REQUIRED 300 Sq.Ft PER UNIT X 17 UNITS = 5,100 S.F

. PREVIOUS HOWARD COUNTY FILES: ECP-19-022; WP-19-047; 5P-19-001;

TOTAL AREA OF WETLANDS (INCLUDING BUFFER) LOCATED ON SITE = 0.28 AC. ±

= 68 SPACES

K. TOTAL AREA OF SLOPES IN EXCESS OF 15% = 0.04 AC± (0 AC. 25% OR

(TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA)

-TOTAL OPEN SPACE PROVIDED = 4.329 AC.+/-

= 4.171 Ac.

AMENITY CREDITS: (UP TO 50% OF REQ'D REC 0.5.)

H. BUILDING COVERAGE OF SITE: 50,422 sf 1.16 AC+ OR 14.3%

J. TOTAL AREA OF FLOODPLAIN LOCATED ON SITE 0.0 AC.

P. AREA OF ERODIBLE SOILS = 0.04 Ac. (EXCESS OF 15%)

(17 UNITS x 4 (2 CAR GARAGE + 2 SPACES IN DRIVE)

STREET ADDRESS CHART

5027 MANNER HOUSE WAY

5031 MANNER HOUSE WAY

5035 MANNER HOUSE WAY

5056 MANNER HOUSE WAY

5052 MANNER HOUSE WAY

5040 MANNER HOUSE WAY

5044 MANNER HOUSE WAY

5040 MANNER HOUSE WAY

5036 MANNER HOUSE WAY

5032 MANNER HOUSE WAY

5028 MANNER HOUSE WAY

5024 MANNER HOUSE WAY

5020 MANNER HOUSE WAY

5012 MANNER HOUSE WAY

5000 MANNER HOUSE WAY

5004 MANNER HOUSE WAY

5000 MANNER HOUSE WAY

2.28 AC.

0.52 AC

=8.13 AC.±

 $= 4.066 \text{ AC.} + /- (0.13 \text{ AC } \times 50\%)$

= 2.000 5.F

MAX CREDIT= 2,550 5.F.

TOTAL PROVIDED = 7.808 S.F

* NOTE THAT ACREAGE IS BASED ON A FIELD RUN MONUMENTED BOUNDARY

Offsite= 0.363 Ac.

Total = 6.45 Ac. ±

5	TORMWATER MA	NAGEMEN	IT PRACTICES	
LOT NO.	STREET ADDRESS	DRY WELLS M-5 (Y/N)	MICRO BIO-RETENTION M-6 (Y/N)	BIO-RETENTION F-6 (Y/N)
1	X	Y(3)	Y PROVIDED BY M-6(3)	
2	χ	Y(3)	Y PROVIDED BY M-6(3)	Y PROVIDED BY F-6(2)
3	Χ	Y(3)		Y PROVIDED BY F-6(1)
4	X	Y(2)		Y PROVIDED BY F-6(1)
5	X	Y(2)	·	Y PROVIDED BY F-6(1)
6	X	Y(2)		Y PROVIDED BY F-6(1)
7	X	Y(3)		Y PROVIDED BY F-6(1)
8	<u> </u>	Y(3)		Y PROVIDED BY F-6(1)
9	X	Y(2)		Y PROVIDED BY F-6(1)
10	X	Y(1)		Y PROVIDED BY F-6(4)
11	X X	Y(1)		Y PROVIDED BY F-6(4) Y PROVIDED BY F-6(4)
12	X	Y(1)		Y PROVIDED BY F-6(4) Y PROVIDED BY F-6(4)
14	<u>X</u>	Y(3)		Y PROVIDED BY F-6(2)
15	X	Y(3)		Y PROVIDED BY F-6(2)
16	X	Y(3)	· · · · · · · · · · · · · · · · · · ·	Y PROVIDED BY F-6(2)
17	X	Y(3)		Y PROVIDED BY F-6(2)

	LEGEND
SYMBOL	DESCRIPTION
$\langle \mathcal{H} \mathcal{H} \rangle$	FOREST CONSERVATION EASEMENT (REFORST.)
	PUBLIC S.W.M. EASEMENT
	PROP. PAVING
	MATCHINE

	REVISIONS	
NO.	DESCRIPTION	DATE
Approv	ed: Department Of Planning And Zoning	
Chief,	Division Of Land Development	Date
- Al	I level	9.4.20
Chief,	Development Engineering Division	Date
Approv	ed: Howard County Department Of Public	Works
	Hand	8/21/2020

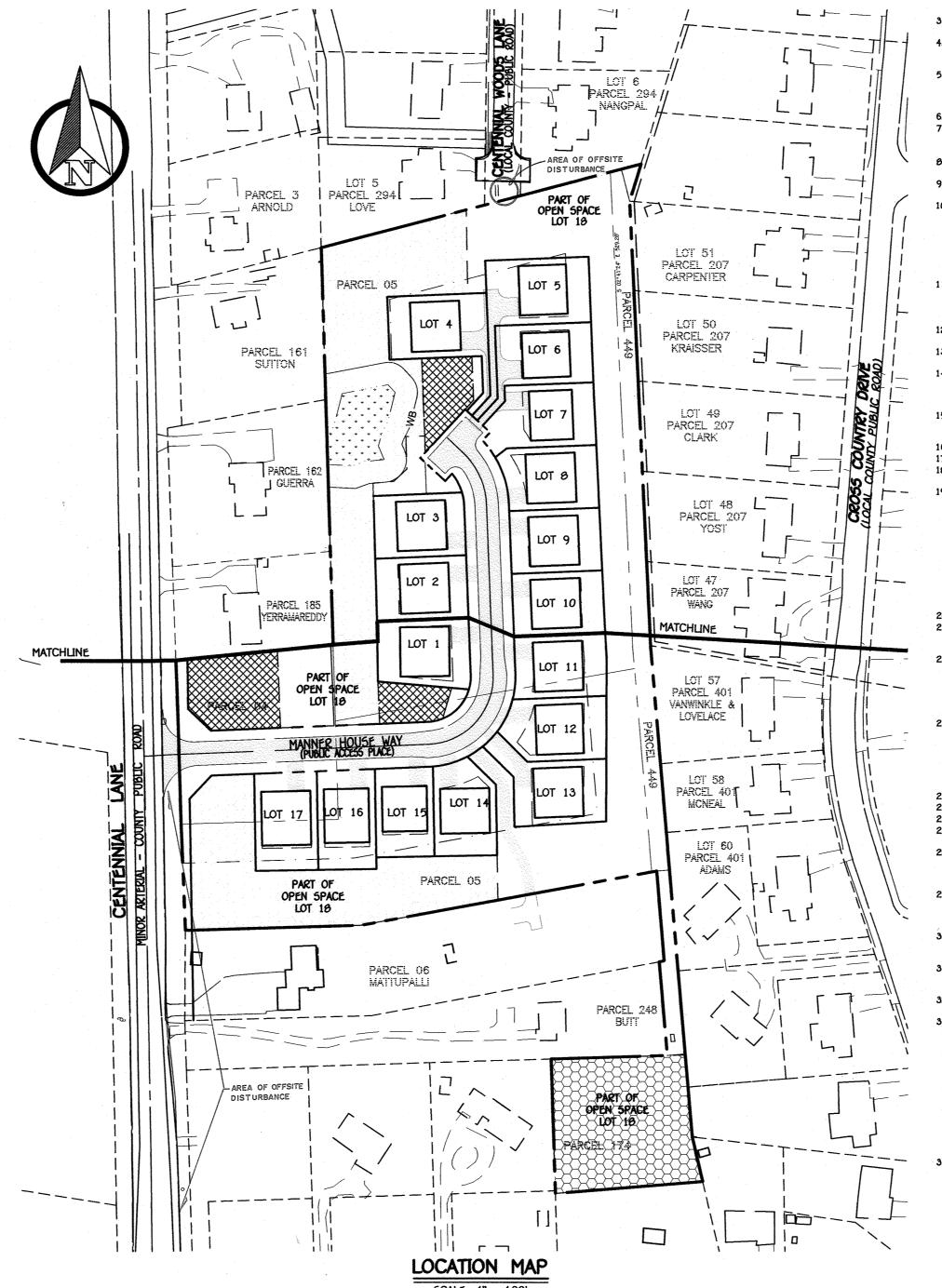
FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLANS CENTENNIAL RESERVE

LOTS 1 THRU 17; OPEN SPACE LOT 18

ZONING: R-20 (RESIDENTIAL: SINGLE DISTRICT)

TAX MAP No. 30 GRID No. 01 PARCEL Nos. 04, 05, 174, and 449

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND



- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE. . THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF
- INGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410)-313-1000 AT LEAST FIVE (5) WORKING DAY 3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST EXCAVATION WORK BEING DONE. . THE SUBJECT PROPERTY IS ZONED R-20 (PER 10/06/13 COMPREHENSIVE ZONING PLAN.) AND BEING
- DEVELOPMENT REGULATIONS AND THE 2013 ZONING REGULATIONS. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A SITE DEVELOPMENT PLAN.
- DPZ FILE Nos.: ECP-19-022; WP-19-047; 5P-19-001 AND PB CASE No. 444 . PROPERTY DEED REFERENCES: LIBER 19032, FOLIO 00115 (CENTENNIAL RESERVE, LLC., PARCEL 5);
- . Topography information shown is taken from a field run topographic survey performed o ABOUT AUGUST, 2018 BY FISHER, COLLINS & CARTER, INC. BOUNDARY INFORMATION IS BASED ON A SURVEY PERFORMED ON OR ABOUT
- STATIONS NOs. 0023 AND NO. 30AB:
- E 1,349,751.273 ELEV. 479.248 E 1.349.547.846 ELEV. 361.90
- a. PUBLIC SEWER FRONTAGE PROVIDED BY CONTRACT No. 1471 b. PUBLIC WATER SERVICE PROVIDED BY CONTRACT No. 163-W
- 12. THE EXISTING WELL AND SEPTIC SYSTEM MUST BE PROPERLY ABANDONED WITH DOCUMENTATION SENT TO THE HEALTH DEPARTMENT PRIOR TO SIGNATURE OF THE FINAL RECORD PLAT.
- 13. THE TRAFFIC STUDY DATED SEPTEMBER 26, 2010 FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC
- 4. STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MARYLAN DEPARTMENT OF ENVIRONMENT STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. WE ARE PROVIDING STORM WATER MANAGEMENT BY THE USE OF 30 (M-5) DRYWELLS AND 4 (M-6)
- MICRO-BIORETENTION FACILITIES TO MEET AND EXCEED THE REQUIRED ESD VOLUME. 15. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDE
- ECO-SCIENCE PROFESSIONALS INC. AND APPROVED ON JUNE 25, 2019 DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE
 - 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.
 - d. STRUCTURES (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H 25 LOADING) e. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1
- f. STRUCTURE CLEARANCES MINIMUM 12 FEET Q. MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.

MERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:

- 20. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON SEPTEMBER 17, 2018 FOR THIS PROJECT. 21. THERE ARE NO STREAMS OR THEIR BUFFERS. 100 YEAR FLOODPLAIN, OR STEEP SLOPES WITH A CONTIGUOUS AREA GREATER THAN 20,000 SQUARE FEET LOCATED ON THIS PROPERTY. WETLANDS AND THEIR BUFFERS DO
- 22. FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT WILL BE FULFILLED BY ON-SITE REFORESTATION AND RETENTION. -Please note that per approval of section 16.1205(a)(7) 17 specimen trees exist on-site, one -SPECIMEN TREE (ST#15) WILL BE REMOVED AND MITIGATED BY PLANTING TWO NATIVE TREES OF 2.5" CALIPE WITHIN THE FOREST CONSERVATION FASEMENT. (SEE LANDSCAPE SHEET 10 FOR LOCATION AND LANDSCAPE DETAIL SHEET 12 FOR TYPE AND SIZE) (See General Note 58)
- 23. THE FOREST CONSERVATION EASEMENT AREAS WITHIN THIS SUBDIVISION HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION act. No clearing, grading or construction is permitted within the forest conservation easement HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION ARI ALLOWED. THE FOREST CONSERVATION ACT REQUIREMENTS FOR CENTENNIAL RESERVE SUBDIVISION WILL BE MET THROUGH THE ON-SITE REFORESTATION OF 2.2 ACRES IN COMBINED FCE#1, FCE#2, & FCE#3 REQUIRING A SURETY IN THE AMOUNT OF \$40,135 (BASED ON 96,269 SQ. FT./ACRE X \$0.50/SQ. FT.) 24. SITE IS NOT ADJACENT TO A SCENIC ROAD.
- 25. ALL LOT/PARCEL AREAS ARE MORE OR LESS. 26. DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID. 27. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE
- 20. The SWM FACILITIES LOCATED ON H.O.A. OPEN SPACE WILL BE OWNED AND MAINTAINED BY THE CENTENNIAL RESERVE HOMEOWNER'S ASSOCIATION. SWM FACILITIES LOCATED ON SINGLE FAMILY LOTS WILL BE OWNED AND MAINTAINED BY THE OWNER OF THAT PARTICULAR LOT. SWM FACILITY WITHIN A PUBLIC STORMWATER ANAGEMENT EASEMENT WILL BE PUBLICLY OWNED AND JOINTLY MAINTAINED. 29. A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNT
- BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE FOR ALL THE USE-IN-COMMON DRIVEWAYS IN THE DEVELOPMENT. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND 30. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURES AND POLES SHALL BE IN ACCORDANCE WITH THE
- MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE. 31. FOR PROPOSED PUBLIC ROADS WITH 24' WIDTH, DPW-TRAFFIC MAY RESTRICT PARKING ALONG ONE SIDE OF THE ROADWAY TO ALLOW FIRE AND EMERGENCY RESPONSE VEHICLES TO SAFELY MANEUVER THROUGH THIS

HOWARD COUNTY DESIGN MANUAL, VOLUME III (2006), SECTION 5.5.A. A MINIMUM OF 20' SHALL BE

- 32. ARTICLES OF INCORPORATION FOR THE HOMEOWNERS ASSOCIATION, INC. WILL BE FILED WITH THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION PRIOR TO RECORDATION OF THE FINAL PLAT. 33. TRAFFIC CONTROL DEVICES:
- (a) THE R1-1 (STOP) SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED. (b) THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF
- (c) ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MDMUTCD). (d) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED (QUICK PUNCH), SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL. A
- GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST. 34. A NOISE STUDY WAS PERFORMED BY THE MARS GROUP ON SEPTEMBER 13, 2010, AND WAS EXPANDED TO INCLUDE THE NORTHERN SEGMENT ALONG CENTENNIAL LANE ON APRIL 6, 2019, AND APPROVED ON JUNE
 - REFERENCE FOR G.N. 43 8 44
 - (1) 128.0.A.1.b. and 128.0.A.1.c. Sub Regs (2) 128.0.A.1.e. - Sub Regs
 - 3 107.0.D.5.c. Zoning Regs
 - 4) THIS EXCEPTION APPLIES TO THE REAR LOT LINE AND NOT THE PROJECT BRL

OWNERS DEVELOPER

LENNIS HAMRICK 4489 CENTENNIAL LANE ELLICOTT CITY, MD 21042

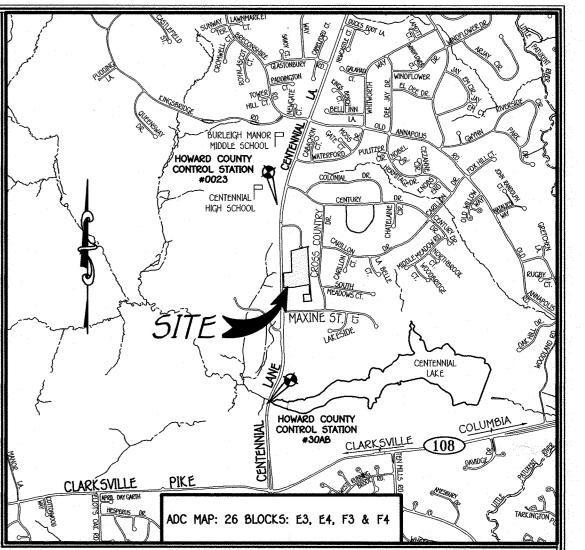
CHATEAU BUILDERS, INC 5305 VILLAGE CENTER DRIVE COLUMBIA, MD 21044 PARCEL 174 & PARCEL 05 CENTENNIAL RESERVE, LLC

308 MAGOTHY ROAD

SEVERNA PARK, MARYLAND 21146

300 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146 DAVE WOESSNER 240-319-1735

CENTENNIAL RESERVE, LLC



- 35. OPEN SPACE LOT 10 WILL BE OWNED BY THE HOMEOWNERS ASSOCIATION 36. USING THE DENSITY/CLUSTER EXCHANGE OPTION DESCRIBED IN SECTION 100.0(G)(2&3) AND SECTION 128.0(K) OF THE ZONING REGULATIONS. THE DEVELOPMENT RIGHTS FOR 1 DEO OF THE RESIDENTIAL LOTS/PARCELS SHOWN ON THE SUBDIVISION PLAN FOR CENTENNIAL RESERVE (5P-19-001) WILL BE FRANSFERRED FROM THE PROPERTY OF BELMONT. (F-20-010-5) 37. DEO RECEIVING UNIT TABULATION: a. GROSS TRACT AREA = 0.13 AC
- . NUMBER OF UNITS ALLOWED BY MATTER OF RIGHT =16 TOTAL NUMBER OF DEO UNITS REQUIRED TO BE TRANSFERRED =
- NUMBER OF PROPOSED UNITS = 17 36. EXISTING STRUCTURE AT CENTENNIAL LANE WAS BUILT APPROXIMATELY IN 1961. BASED ON AN EMAIL FROM AFTH AURCESS, RESOURCE CONSERVATION CHIEF, THE HISTORIC PRESERVATION COMMISSION DOES NOT NEE TO REVIEW THIS DEMOLITION FOR ADVISORY COMMENTS.
- 39. EXISTING UTILITIES AREA BASED ON MISS UTILITY MARKINGS. FIELD LOCATIONS AND AVAILABLE COUNT
- 41. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE WETLAND BUFFER. 42. CENTENNIAL RESERVE DEVELOPMENT IS SUBJECT TO A 75' PROJECT BRI. MEASURE FROM THE PROJECT BOUNDARY AND A 25' REAR BRL MEASURED FROM THE LOT LINES. ACCESSORY STRUCTURES ARE NO
- CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16' FEET IN WIDTH MAY PROJECT NOT MORE THAN FEET INTO ANY SETBACKS. PORCHES OR DECKS, OPEN OR ENCLOSED, MAY PROJECT NOT MORE THAN 10'
- ANOTHER DECK. AS AN ADVISORY, THE 15' DISTANCE DOES APPLY TO THE SECOND STORY OVERHANC . THIS R-20 ZONED SUBDIVISION IS BEING DEVELOPED AS R-ED AND IS SUBJECT TO COUNCIL BILL NO. "SECTION 128.0.A.1.] OF THE ZONING REGULATIONS (CB-2-2012) WHICH ALLOWS SUNROOMS AND ROOM EXTENSIONS NOT MORE THAN 10 FEET INTO THE REAR SETBACK ALONG NOT MORE THAN 60% OF THE REAR
- FACE OF THE DWELLING ON A LOT WHICH ADJOINS OPEN SPACE ALONG A MAJORITY OF THE REAR LOT LINE FOR R-ED LOTS RECORDED AFTER THE EFFECTIVE DATE OF 5/13/12." 45. NO DECKS, PATIOS, SHEDS, OR OTHER IMPERVIOUS STRUCTURES OR SURFACES
- DRAINAGE EASEMENT AT THE REAR OF LOTS 5 THRU 13. 6. SUBDIVISION IS SUBJECT TO WP-19-047 (REVISED), WITH APPROVAL ON JUNE 12, 2019 FOR THI REMAINING REQUESTS. THE PLANNING DIRECTOR APPROVED THESE REQUESTS FOR AN ALTERNATIVE COMPLIANCE OF SECTION 16.1205(A)(7) - ONSITE FOREST RETENTION AND SECTION 16.119(F)(1)
 - APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS: PER DED COMMENTS: DIRECT ACCESS ONTO CENTENNIAL LANE WILL ONLY BE PERMITTED IF THE
- PROPOSED ACCESS MEETS ALL CURRENT DESIGN STANDARDS REGARDING LAYOUT, SLOPES AND SIGHT
- b) REMOVAL OF SPECIMEN TREE #15 SHALL BE MITIGATED 2:! BY PLANTING 2 NATIVE TREES OF 2.5" MITIGATION TO THE LANDSCAPE PLANS WITH A NOTE IDENTIFYING WHICH TREES SATISFY THIS CONDITION
- c) FOR RELIEF OF SECTION 16.119(f)(1) ACCESS RESTRICTIONS AS AN ALTERNATIVE COMPLIANCE, THE THAT CONNECTS CENTENNIAL RESERVE WITH CENTENNIAL WOODS LANE
- d) update any notes on the plan that were required under the previous approval dated JANUARY 24, 2019 AND PERTAIN TO THE ADJOINER DEED FOR LOT 6 TO INDICATE THAT SINCE LOT 6 IS NO LONGER PART OF THE SUBDIVISION, THE APPROVAL FOR RELIEF OF SECTION 16.147 IS VOID.
- e) APPROVAL IS SUBJECT TO COMPLIANCE WITH ALL SRC COMMENTS REGARDING APPROVAL OF 5P-19-001 CENTENNIAL RESERVE. f) THE PREVIOUS APPROVAL OF SECTION 16.147 FINAL SUBDIVISION PLAN AND FINAL PLAT IS VOID SINCE
- PARCEL 6 HAS BEEN REMOVED FROM THE SUBDIVISION. 47. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL FINANCIAL SURETY FOR: -THE REQUIRED PERIMETER LANDSCAPING WILL BE POSTED AS PART OF THE DEVELOPERS AGREEMENT FOR
- THIS FINAL PLAN, IN THE AMOUNT OF \$14,250.00 BASED ON (39) SHADE TREES @ \$300.00 ea. AND - THE REQUIRED STREET TREE PLANTING WILL BE POSTED AS PART OF THE DEVELOPERS AGREEMENT FOR
- THIS FINAL PLAN, IN THE AMOUNT OF \$6,900 BASED ON (23) SHADE TREES @ \$300.00 ed. 48: ON MAY 16,2019 THE PLANNING BOARD OF HOWARD COUNTY, MARYLAND APPROVED PB CASE No. 444 FOR 5P-19-001, CENTENNIAL RESERVE.
- 49. DECLARATION OF COVENANTS AND RESTRICTIONS FOR CENTENNIAL RESERVE HOMEOWNERS ASSOCIATION ASSOCIATION, INC. HAS BEEN RECORDED SIMULTANEOUSLY WITH THE FINAL PLAT.
- 50. THE PRIVATE USE-IN-COMMON DRIVEWAY ACCESS EASEMENT AND MAINTENANCE AGREEMENT FOR SHARED DRIVEWAY ON LOTS 4 THRU 7 AND LOT 13 & TAX PARCEL 6 IS RECORDED SIMULTANEOUSLY WITH THE 51: SUBDIMISION IS SUBJECT TO SECTION 104.0.F OF THE ZONING REGULATIONS, AT LEAST 10% OF THE DWELLING UNITS SHALL BE MODERATE INCOME HOUSING UNITS (M.I.H.U.) OR AN ALTERNATIVE COMPLIANCE
- WILL BE PROVIDED. THE DEVELOPER SHALL EXECUTE A M.I.H.U. AGREEMENT WITH THE DEPARTMENT OF HOUSING TO INDICATE HOW THE M.I.H.U. REQUIREMENT WILL BE MET. THE M.I.H.U. AGREEMENT AND COUNTY, MARYLAND. THIS DEVELOPMENT WILL MEET M.I.H.U. ALTERNATIVE COMPLIANCE BY A PAYMENT OF FEE-IN-LIEU TO THE DEPARTMENT OF HOUSING FOR EACH REQUIRED UNIT. a. M.I.H.U. REQUIRED(17 LOTS X 10% = 2 M.I.H.U. b. M.I.H.U. PROPOSED = DEVELOPER WILL PURSUE ALTERNATIVE COMPLIANCE BY PAYING A
 - FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT FOR THE UNITS REQUIRED BY THE c. AN EXECUTED M.I.H.U. AGREEMENT WITH THE HOWARD COUNTY HOUSING DEPARTMENT HAS BEEN COMPLETED AND RECORDED SIMULTANEOUSLY WITH THE PLAT.
- 52. THE 65dBA NOISE CONTOUR LINE DRAWN ON THESE PLANS IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992, AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65 dBA NOISE EXPOSURE. THE 65 dBA NOISE LINE WAS ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS, AND FUTURE RESIDENTS THAT AREAS BEYOND THIS
- THRESHOLD MAY EXCEED GENERALLY ACCEPTED NOISE LEVELS ESTABLISHED BY THE U.S. DEPARTMENT OF 53: PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.
- 54. THIS R-20 ZONED SUBDIMISION IS BEING DEVELOPED PURSUANT TO SECTION 100.F.3 OF THE ZONING
- 55. SPECIMEN TREE NOTE: CONTRACTOR SHALL BE RESPONSIBLE TO PERFORM ADEQUATE PRE (DURING) AND POST CONSTRUCTION PRACTICES AND MEASURES AS DESCRIBED IN APPENDIX G OF THE LATEST HOWARD COUNTY FOREST CONSERVATION MANUAL WHEN WORKING IN THE VICINITY OF THE SPECIMEN TREES IDENTIFIED TO REMAIN WITHIN THIS PROJECT TO ENSURE THE SURVIVAL OF THE TREES.
- A DESIGN MANUAL WAIVER HAS BEEN APPROVED ALLOWING A ROADWAY RADIUS LESS THAN 210-FEET AND IS SUBJECT TO THE FOLLOWING DPW COMMENTS: - THE PAVEMENT WIDTH MUST BE WIDENED ALONG THE INSUFFICIENT CURVE. - NO PARKING SIGNS MUST BE PLACED ALONG THE INSUFFICIENT CURVE.
- IN A LETTER DATED JANUARY 3, 1996 FROM K&K EXCAVATING TO HOWARD COUNTY HEALTH DEPARTMENT I IS STATED THAT SEPTIC ABANDONMENT FOR THIS PROPERTY WAS COMPLETED ON DECEMBER 15, 1995.
- 58. AN ALTERNATIVE COMPLIANCE APPLICATION (WP-19-047 (REVISED) APPROVED 6/12/19) FOR RELIEF TO
- SECTION 16.1205(a)(7) IT SPECIMEN TREES EXIST ON SITE, ONE SPECIMEN TREE (ST # 15) WILL BE REMOVED AND MITIGATED BY PLANTING TWO NATIVE TREES OF 2.5 CAL. WITHIN THE FOREST CON. EASEMENT. (SEE LANDSCAPE SHEET IO FOR LOCATION AND LANDSCAPE DETAIL SHEET 12 FOR TYPE & SIZE).

TITLE SHEET

CENTENNIAL RESERVE

LOTS 1 THRU 17, OPEN SPACE LOT 18 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

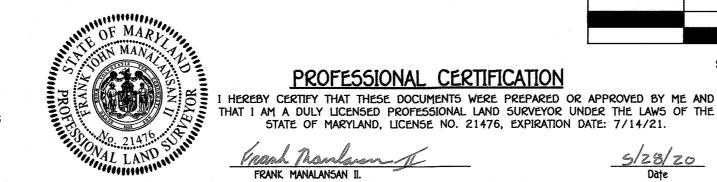
TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOs.:04, 05, 174, & 449

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY. 2020

SHEET 1 OF 24

F-20-010

Chief, Bureau Of Highways 📉 🔀

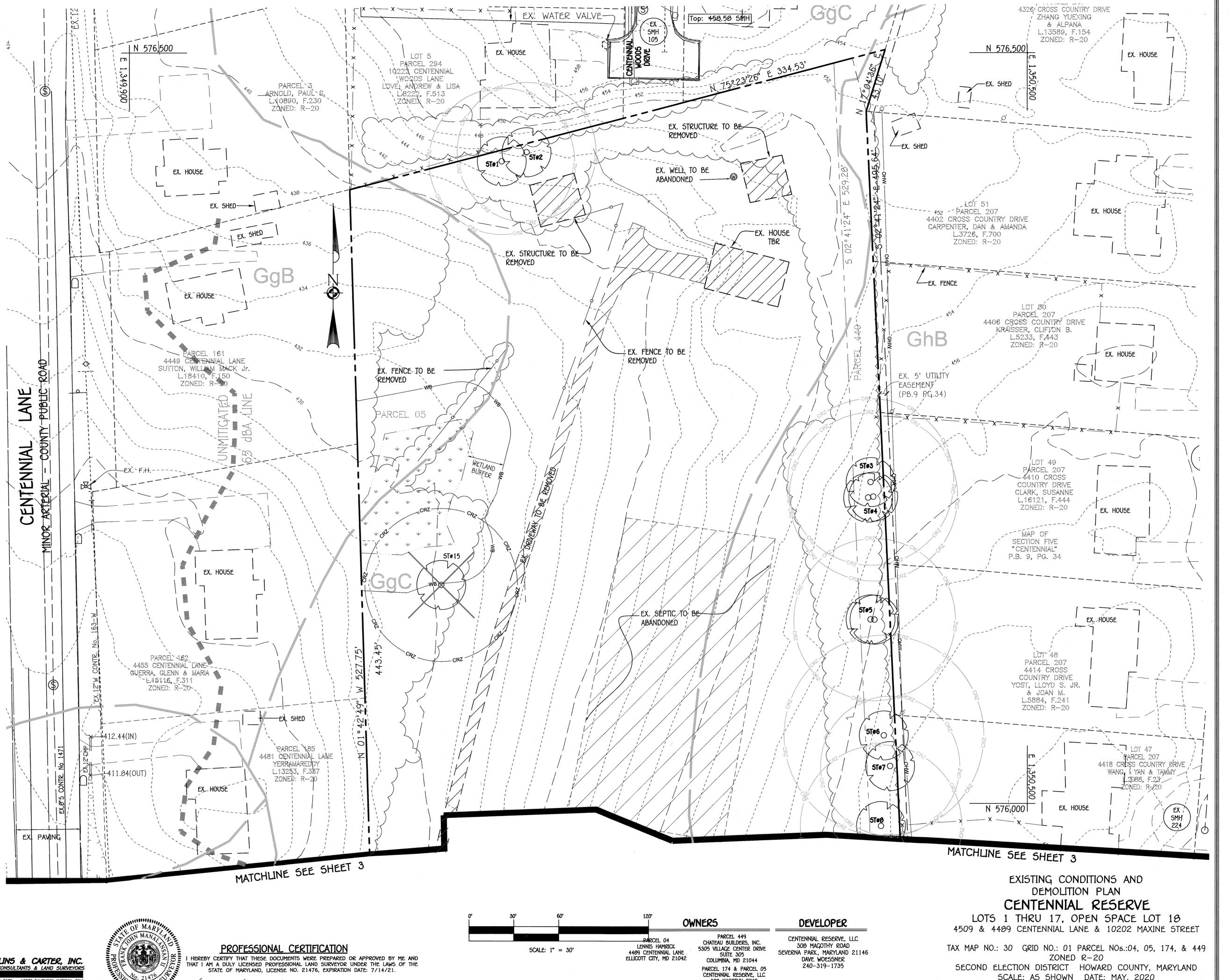


PROFESSIONAL CERTIFICATION

STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/21.

Specimen Tree Chart

Key (X#)	Species	Size (in.dbh)	CRZ (feet radius)	Comments
1	Tulip poplar	32.5	48.75	
2	Tulip poplar	31	46.5	
3	Tulip poplar	37	55.5	
4	Tulip poplar	37.5	56.25	twin stems
5	Tulip poplar	36	54	two specimen trunks joined at ground plus a 3rd smaller trunk
6	Tulip poplar	44.5	66.75	fair, storm damage
7	Tulip poplar	31	46.5	
8	Black cherry	36	54	
9	Red oak	35	52.5	
10	Tulip poplar	43	64.5	
11 .	Tulip poplar	34	51	
12	Tulip poplar	35	52.5	
13	White pine	34	51	
14	White pine	31	46.5	
15	Tulip poplar	34	51	TO BE REMOVED



REVISIONS DATE DESCRIPTION Approved: Department Of Planning And Zoning Chief. Division Of Land Development Chief, Development Engineering Division Approved: Howard County Department Of Public Works 8/21/2020

Chief, Bureau Of Highways 🏻 MK

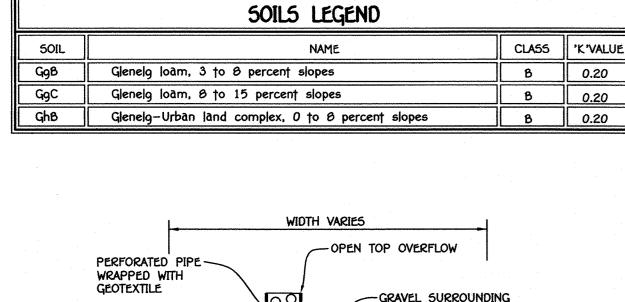
FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS NNIAL 5QUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2055

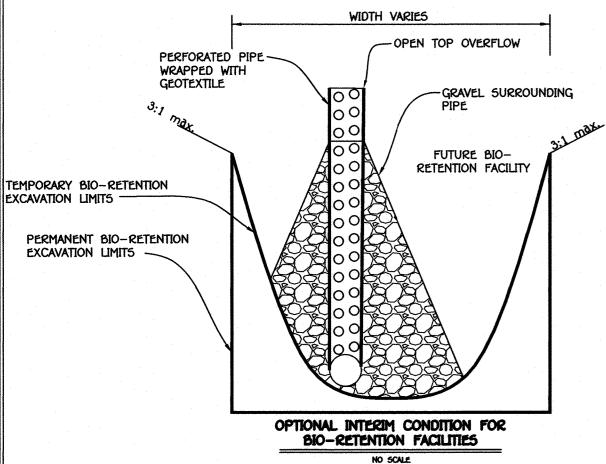
5/28/20 Dațe

300 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146

SCALE: AS SHOWN DATE: MAY, 2020 SHEET 2 OF 24

Drawings 3\30501 Centennial Lane - Spedden\dwg\F-PLANS\30501 F-PLANS 02-03 - EXISTING CONDITIONS.dwg, C-03_DEMO PLAN, 1:1







Will Be Done Pursuant To This Approved Erosion And Sediment Control Plan, Including Inspecting And Maintaining Controls And That The Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Training At A Maryland Department Of The Environment (MDE) Approved Training Program For The Control On Erosion And Sediment Prior To Beginning The Project. I Certify Right-of-entry For Periodic On-site Evaluation By Howard County, The Howard Soil Conservation District And/or

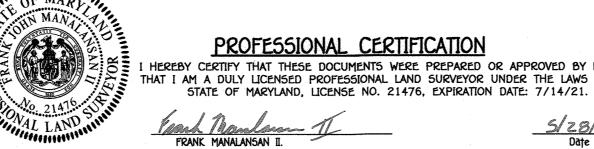
Approved: This Plan Is Approved For Small Pond Construction, And Soil Erosion

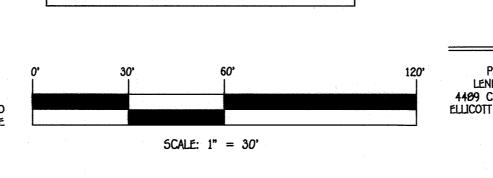
Approved: Department Of Planning And Zoning Chief, Division Of Land Development Date

REVISIONS DESCRIPTION NO.



EX PAVING





PROPOSED HOUSES CANNOT BE CONSTRUCTED

UNDER THIS PLAN.

N 87 46 49 E 102 35 7 5' BRL

OWNERS PARCEL 449 CHATEAU BUILDERS, INC. 5305 VILLAGE CENTER DRIVE SUITE 305 COLUMBIA, MD 21044 PARCEL 174 & PARCEL 05 CENTENNIAL RESERVE, LLC 300 MAGOTHY ROAD

DEVELOPER CENTENNIAL RESERVE, LLC 300 MAGOTHY ROAD DAVE WOESSNER 240-319-1735

SEDIMENT AND EROSION CONTROL PLAN - PHASE 1 CENTENNIAL RESERVE LOTS 1 THRU 17, OPEN SPACE LOT 18 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

4326/ CROSS COUNTRY DRIVE

ZHANG YUEXING

& ALPANA L.13589, F.154

ZONED: R-20

EX. HOUSE

EX. HOUSE

EX. HOUSE

EX. HOUSE

EX. HOUSE

N 576,500

—ex. 5Hed

EASEMENT' (PB.9 PG.34)

PRIVATE/ DRAINAGE EASEMEN

5T#5/

5T#7 C

(SEE SHEET

12 FOR DETAIL)

4402 CROSS COUNTRY DRIVE

CARPENTER, DAN & AMANDA

L3726, F.700 ZCNED: R-20

PAROZL 207 4406 CROSS COUNTRY DRIVE

KRÁISSER, CLIFYÓN B. L5233, F443 ZONED: X-20

> 410 CROSS COUNTRY DRIVE CLARK, SUSANNE L.16121, F.444 ZONED: R-20

MAP OF SECTION FIVE "CENTENNIAL" P.B. 9, PG. 34

PARCEL 207

4414 CROSS

COUNTRY DRIVE

YOST, LLOYD S. JR.

& JOAN M.

L.5884, F.241

ZONED: R-20

N 576,000

MATCHLINE SEE SHEET 5

109' LENGTH 2.8' HIGH

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOs.:04, 05, 174, & 449 ZONED R-20 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY, 2020

EX. HOUSE

PARCEL 04 LENNIS HAMRICK 4489 CENTENNIAL LANE ELLICOTT CITY, MD 21042

SEVERNA PARK, MARYLAND 21146

SHEET 4 OF 24

F-20-010

Personal Knowledge Of The Site, And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

MD Registration No. P.E., R.L.S., or R.L.A. (circle one) OWNER/DEVELOPER CERTIFICATION

FRANK MANALANSAN II Printed Name

"I/We Certify That Any Clearing, Grading, Construction Or Development

5/28/2020

Chief, Development Engineering Division

Approved: Howard County Department Of Public Works 8/21/2020 Chief, Bureau Of Highways MK

DATE

ISI SCHOOLPHOTO

-EX. MAILBOX EX. HOUSE

PARCEL\462

4455 CENTENNIAL LANE

`LH5416,_F.311

-411.84(OUT)

HEX. MAILBOX

ZONED: R-20

N 576,500

EX. HOUSE

EX. HOUSE

L18410, F.15 ZONED: R-3X

", MAILBOX

EX. SHED

PROP. PERMANENT

FENCING

CONSERVATION EASEMENT

PARCEL\

ARNOLD, PAUL`S

LX0890, F.230 ZONED: R-20

GUERRA, GLENN & MARIA

'PARCEL X85

4481 ČENTENNIÁL LANE YERRAMARED/DY L.13253, F.367 ZONED: R-40

EX. HOUSE

MATCHLINE SEE SHEET 5

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

<u>5/28/20</u> Dațe

EX. WATER VALVE-

PATHWAY AND STAIRS TO

BE OWNED/MAINTAINED

BY CENTENNIAL RESERVE

HO A ISEE GENERAL

PROPOSED PRIVATE

N 87° 46' 49 -104.00° 7

BSE=439.2

8,379/59

PEDESTRIAN EASEMENT

-PROPOSED CONCRETE

PHASE !

L.O.D.

PATHWAY AND STAIRS TO

BE OWNED MAINTAINED

PROPOSED. TREELING

FOR DETAILS

OPEN SPACE

FFE=448.42

B5E=438.62 9,396 5q. Ft

FFE=449.87

BSE=440.07

7,680 5q. Ft.

5 87 47 41"

FFE=451.07 B5E=441.277,964 5q./Ff

> FFE=454.06 BSE=444.26

7,352/\$q. Ft.

7.5' BRL 452.4

FFE=454,27

BSE=444.47

7,101 5q. Ft.

FFE=452.16

BSE=442.36

7.141 Sq. F

7,8','BRL N 87, 46'49" E 102.30'

, 450.8 75'

EX. HOUSE

FOR THE USE AND BENEFIT BEOJECT BR

LOT 5

PARCEL 294

10224 CENTENNIAI

YWOODS LANE

L'OVE), ANDREW & LISA

\ZQNEI\: R-20

EX. TREELINE

PUBLIC FOREST

CONSERVATION

EASEMENT 3 <1.025 AC.

(REFORESTATION)

PUBLIC STORMWATER MANAGEMENT, SWM ACCESS, DRAINAGE & UTILITY

EASEMENT (PUBLICLY/OWNED AND JOINTLY MAINTAINED BY HOWARD COUNTY, MARYLAND AND THE H.O.A.

SEVERNA PARK, MARYLAND 21146

NARCEL 207

4418 CRÔSS COUNTRY D'RIVE

WANG, I YAN & TAMMY

12088, F.23

K:\Drawings 3\30501 Centennial Lane - Spedden\dwq\F-PLANS\30501 F-PLANS 04-05 - SEC1.dwg, C-05 SEC, 1:1

	LEGEND
5YMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
× 448.5	SPOT ELEVATION
18" 50	EXISTING STORM DRAIN
15"RCCP	PROPOSED STORM DRAIN PIPE
EX. F.H.	EXISTING WATER LINE
<u>8"5</u> →	EXISTING SEWER LINE
8"5	PROPOSED SEWER
8'W	
	PROPOSED WATER — EXISTING CABLE LINE
-6-	EXISTING GAS LINE
OHW-	EXISTING OVERHEAD WIRE
	PROPOSED ASPHALT PAVING/PATH
4	PROPOSED SIDEWALKS (CONCRETE)
	FOREST CONSERVATION EASEMENT (REFORESTATION)
0 0 0	PERMANENT FOREST CONSERVATION EASEMENT FENCING
7/77/77/77	ACCESS EASEMENT STORM DRAIN EASEMENT
	WATER AND SEWER EASEMENT
100	TREE PROTECTION FENCE
	LIMIT OF DISTURBANCE
55F	- SUPER SILT FENCE
5F	- SILT FENCE
	EXISTING TREE LINE
	PROPOSED TREE LINE
	DRYWELL (M-5)-TYPICAL
Ç. °	PROPOSED STREET LIGHT
Gg8 GgC	SOIL LINES AND TYPES
WB	EXISTING WETLANDS & WETLAND BUFFER
	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
0	PROPOSED ROOF LEADER
X *	DENOTES EXISTING TREES TO BE REMOVED
	denotes existing trees to remain
0 V 2/11V	

DESIGN CERTIFICATION

I Hereby Certify That This Plan Has Been Designed In Accordance With Current Maryland Erosion And Sediment Control Laws, Regulations And Standards, That It Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site, And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

FRANK MANACANSAN IL
Printed Name

Z1476 MD Registration No. P.E., R.L.S.) or R.L.A. (circle one) OWNER/DEVELOPER CERTIFICATION

"I/We Certify That Any Clearing, Grading, Construction Or Development Will Be Done Pursuant To This Approved Erosion And Sediment Control Plan, Including Inspecting And Maintaining Controls And That The Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Training At A Maryland Department Of The Environment (MDE) Approved Training Program For The Control On Erosion And Sediment Prior To Beginning The Project. I Certify Right-of-entry For Periodic On-site Evaluation By Howard County, The Howard Soil Conservation District And/or

MDE."

Owner's/Developer's Signature 5/26/2020

DAVID WOESSNER Printed Name & Title

Approved: This Plan Is Approved For Small Pond Construction, And Soil Erosion And Sediment Control By The Howard Soil Conservation District.

Approved: Department Of Planning And Zoning

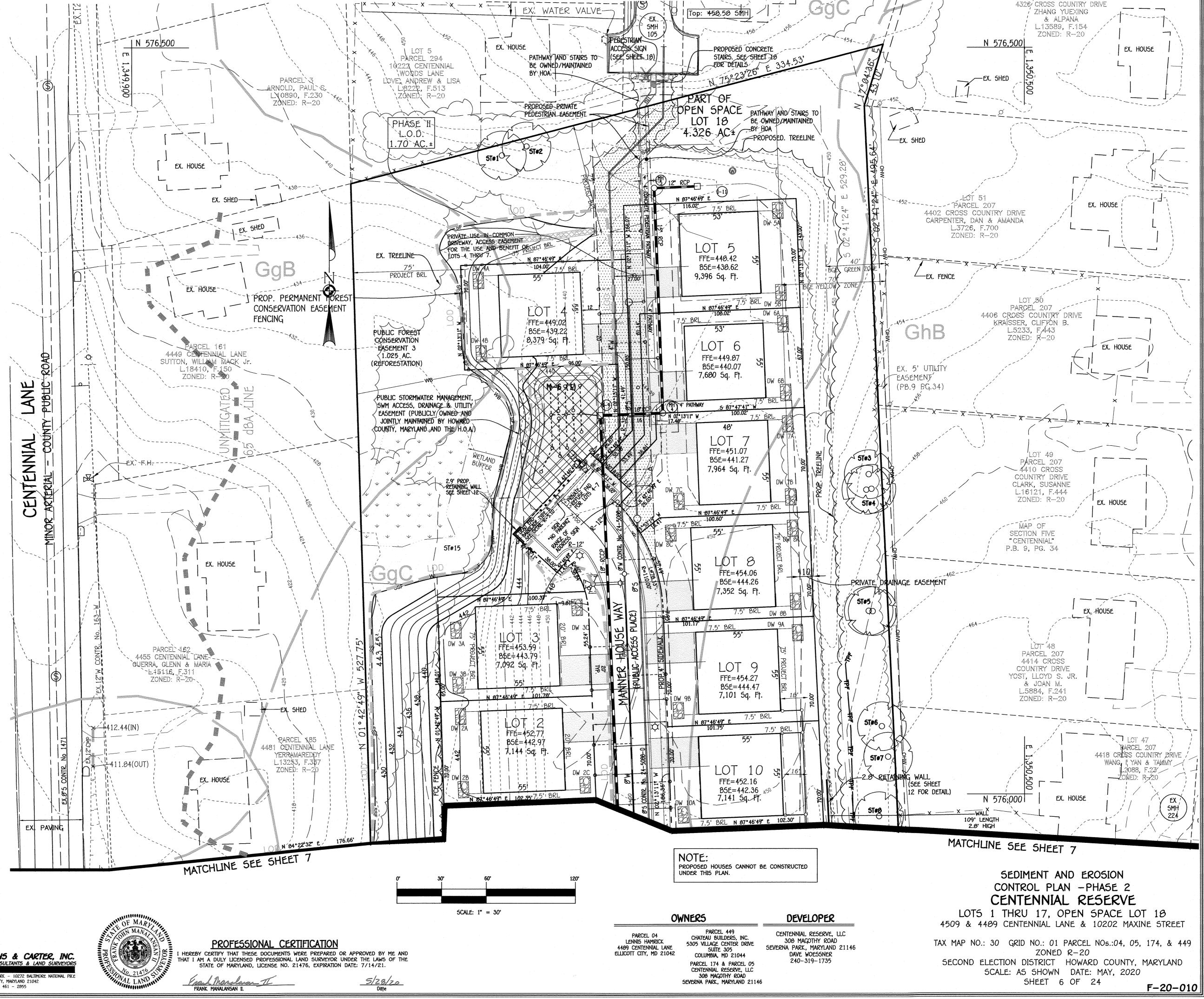
60/16/20 Chief, Division Of Land Development Date

Chief. Development Engineering Division Approved: Howard County Department Of Public Works 8/21/2020 Jung_

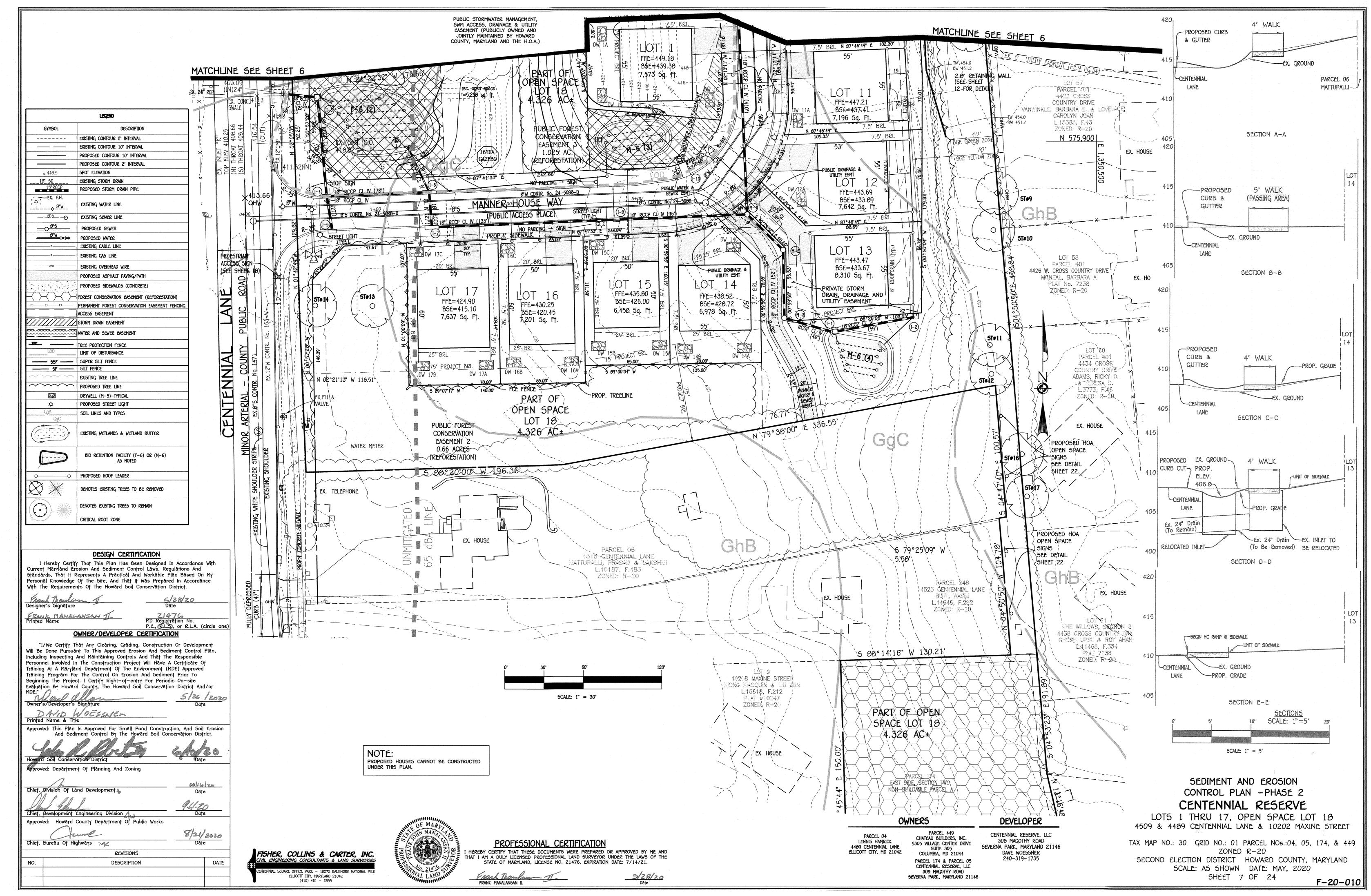
Chief, Bureau Of Highways MK REVISIONS

FISHER, COLLINS & CARTER, INC. TML ENGINEERING CONSULTANTS & LAND SURVEYORS DATE DESCRIPTION TENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIK ELLICOTT CITY, MARYLAND 21042





NO.



K:\Drawings 3\30501 Centennial Lane - Spedden\dwg\F-PLANS\30501 F-PLANS 06-07 - SEC2.dwg, C-07_SEC, 1

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION. 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 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

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 6 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. . 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.). 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

DISKING OR OTHER SUITABLE MEANS. 5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL DUST CONTRO

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

PROPOSED HOUSES CANNOT BE CONSTRUCTED UNDER THIS PLAN.

DESIGN CERTIFICATION

I Hereby Certify That This Plan Has Been Designed In Accordance With Current Maryland Erosion And Sediment Control Laws. Regulations And Standards, That It Represents A Practical And Workable Plan Based On My Personal Knowledge Of The Site, And That It Was Prepared in Accordance With The Requirements Of The Howard Soil Conservation District.

Frank Manufaram II
Designer's Signature FRANK MANALANSAN II.
Printed Name

ved: Department Of Planning And Zoning

Chief. Division Of Land Development

Chief, Development Engineering Division

- Cup

Chief, Bureau Of Highways

NO.

Approved: Howard County Department Of Public Works

REVISIONS

DESCRIPTION

MD Registration No. P.E., (R.L.S.,) or R.L.A. (circle one) OWNER/DEVELOPER CERTIFICATION

5/28/20 Date

Date

8/21/2020

DATE

"I/We Certify That Any Clearing, Grading, Construction Or Development Will be Done Pursuant To This Approved Erosion And Sediment Control Plan, Including Inspecting And Maintaining Controls And That The Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Training At A Maryland Department Of The Environment (MDE) Approved Training Program For The Control On Erosion And Sediment Prior To Beginning The Project. I Certify Right-of-entry For Periodic On-site Evaluation By Howard County, The Howard Soil Conservation District And/or

5/26/2020 Date Approved: This Plan Is Approved For Small Pond Construction, And Soil Erosion 3. 500 MAINTENANCE And Sediment Control by The Howard Soil Conservation District.

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 SOO DURING THE HEAT OF THE DAY TO PREVENT WILTING. 3. After the first week, sod watering is required as necessary to maintain adequate moisture content. . DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS

SPECIFICATIONS

1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED

4. 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

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

1. PERMENENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER AND PERMANENT STABILIZATION

WITH 50D. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

5. BARRIERS - SOLID BOARD FENCES SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALE DIKES AND

6. CALCIUM CHLORIDE - APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

2. TOPSOILING - COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.

TEMPORARY SEEDING NOTES (B-4-4)

DEFINITION

PURPOSE

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS.

SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORAL

seeding summary below along with application rates, seeding dates and seeding depths.

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

TEMPORARY SEEDING SUMMARY

MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

PERMANENT SEEDING NOTES (B-4-5

A SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE 8.3 FOR THE APPROPRIATE PLANT

B. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found

IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.

THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY

seeding summary. The summary is to be placed on the plan.

EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE

Hardiness zone (from Figure B.3) and based on the site condition or purpose found on table B.2.

enter selected mixture(s), application rates, and seeding dates in the permanent seeding summary

C. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL

testing agency. D. for areas receiving low maintenance, apply urea form fertilizer (46–0–0) at

3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO

a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites

B. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR

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

ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT.

II. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE PAPIN

CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MOXTURE PER 1000 SQUARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH

III. TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE ARPAS AND/OR

FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE, RECOMMENDED

mixture includes; certified tall fescue cultivars 95 to 100 percent, certified kentucky

BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET.

one or more cultivars may be blended. IV. Kentucky bluegrass/fine fescue: Shade Mixture: for use in areas with shade in bluegrass

LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES;

CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND

PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST 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

IMES OF SEEDING FOR TURF GRASS MIXTURES WESTERN MD: MARCH 15 TO JUNE 1, AUGUST

HARDINESS ZONE: 6B) SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15. AUGUST 15 TO OCTOBER 15

OCTOBER 1 (HARDINESS ZONES: 5B, 6A) CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 1

THE 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

PERMANENT SEEDING SUMMARY

FERTILIZER RATE (10-20-20) LIME RATE

N P205 K20

MAR. 1-MAY 15 | 1/4-1/2 | 45 LBS. 90 LB/AC | 90 LB/AC | 2 TONS/AC | 45 LBS. 90 LB/AC | 12 LB/ | 1000 SF) | 1000 SF)

E IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH If Sull modifiee to detecting, supplied new seedings with adaptive water four fourth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry

B. 50D: TO PROVIDE QUICK COVER ON DISTURBED AREAS

A. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE

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

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.

E. 500 MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. 50D NOT TRANSPLANTED

D. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OF WET) MAY

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

B. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY

ensure that 500 is not stretched or overlapped and that all joints are butted tight in order to

WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS.

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

OLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT

WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH

B. 500 MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS TO 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF

(2:1 GRADE OR FLATTER)

PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT

FERTILIZER RATE LIME RATE (10-20-20)

IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED. THEN TABLE 8.1 PLUS FERTILIZES

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE

FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

resting agency. Soil tests are not required for temporary seeding

TEMPORARY METHODS

RUNOFF BEGINS TO FLOW.

OR TACKED TO PREVENT BLOWING.

WHICH MAY PRODUCE THE DESIRED EFFECT.

OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN

IND TIME RATES MUST BE PUT ON THE PLAN.

HARDINESS ZONE (FROM FIGURE 8.3): 68
SEED MIXTURE (FROM TABLE 8.1):

96

72

112

THE SUMMARY IS TO BE PLACED ON THE PLAN.

PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

GRASSES WILL POSE NO DIFFICULTY

or hot seasons, or on adverse sites

HARDINESS ZONE (FROM FIGURE 8.3): 68
SEED MIXTURE (FROM TABLE 8.3): 6

NO. SPECIES APPLICATION RATE SEEDING (LB/AC) DATES

1. GENERAL SPECIFICATIONS

JOB FOREMAN AND INSPECTOR

ADMFRSELY AFFECT ITS SURVIVAL

2. 50D INSTALLATION

UNEVEN ENDS WILL NOT BE ACCEPTABLE.

SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.

PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.

exists between 500 roots and the underlying 501l surface.

irrigating for any piece of 500 within eight hours.

A. SEED MIXTURES

TURFGRASS MIXTURES

1. GENERAL USE

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

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

2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER

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, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1). B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

A mound or pile of soil protected by appropriately designed erosion and sediment control measures 3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH Purpose 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 To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

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

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

4. Access the stockpile area from the upgrade side. 5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner. 6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment

control practice must be used to intercept the discharge. 7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization. 8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable

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

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

DEFINITION THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

PURPOSE TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING. A. SEFDING

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 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.

B. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS. C. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING, NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL 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. 2. APPLICATION A. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

1. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE 8.3, OR SITE-SPECIFIC SEEDING SUMMARIES. II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER, APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT. B. DRILL OR CULTIPACKER SEEDING; MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL. 1. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING, SEEDBED MUST BE FIRM AFTER PLANTING.

II. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER). 1. 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.O (PHOSPHORUS),

200 POUNDS PER ACRE; K20 (POTASSIUM), 200 POUNDS PER ACRE. II. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING), NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

III MIX SEED AND FEOTILIZED ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERPRIPTION 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 IS 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. I. WCFM. INCLUDING DYF. MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS. III. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER

MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS. IV. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BY PHYTO-TOXIC.

V. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 6.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM. 2. APPLICATION

A. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

B. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE. C. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED TO A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD

DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER

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 • Use I and IP March 1 - June 15

A. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE

EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.

III. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR, OR OTHER

IV. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS.

3. ANCHORINGINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF

NETTING IS USUALLY AVAILABLE IN ROLLS 4-15 FEET WIDE AND 300 TO 3,000 FEET LONG.

100 GALLONS OF WATER.

any other earth disturbance or grading.

SEDIMENT CONTROL, and revisions thereto.

6. Site Analysis For Total Site Area:

LOD Total Area Disturbed:

Area to be roofed or paved:

on the same day of disturbance.

Photographs

Monitoring/sampling

Activities (NPDES, MDE).

Area to be vegetatively stabilized:

Offsite waste/borrow area location: ____

Name and title of inspector

• Identification of plan deficiencies

Total Area of Site:

Total Cut:

Total Fill:

BANKS, USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.

the removal or modification of sediment control practices.

areas on the project site except for those areas under active grading.

permission for their removal has been obtained from the CID.

DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF5THE AREA AND EROSION HAZARD:

1. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE

A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE

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

APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID

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

b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding

c. Prior to the start of another phase of construction or opening of another grading unit, d. Prior to

Inspection Division (CID), 410-313-1855 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 withearth

Other building or grading inspection approvals may not be authorized until this initial approval by the inspection

agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to

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

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within

4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011

Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the

concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).

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

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).

around is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15'

of cut and/or fill. Stockpiles (Sec. 8-4-8) in excess of 20 ft. must be benched with stable outlet. All

8.13+/- Acres

5.82+/- Acres

1.99+/- Acres

3.83+/- Acres

25,523 Cu.Yds.

20,585 Cu. Yds

7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired

6. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall

· Weather information (current conditions as well as time and amount of last recorded precipitation)

· Other inspection items as required by the General Permit for Stormwater Associated with Construction

Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be

10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by

11. 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 H5CD. Unless otherwise specified and approved by the H5CD, no more than 30

12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a

the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of

be inspected by the contractor weekly; and the next day after each rain event. A written report by the

Brief description of project's status (e.g., percent complete) and/or current activities
Evidence of sediment discharges

· Compliance status regarding the sequence of construction and stabilization requirements

contractor, made available upon request, is part of every inspection and should include:

• Inspection type (routine, pre-storm event, during rain event)

Identification of sediment controls that require maintenance

back-filled and stabilized by the end of each workday, whichever is shorter.

· Maintenance and/or corrective action performed

acres cumulatively may be disturbed at a given time.

sediment basin or other approved washout structure.

• Identification of missing or improperly installed sediment controls

• Use III and IIIP October 1 - April 30 Use IV March 1 - May 31

16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

TABLE B.1 TEMPORARY SEEDING FOR SITE STABILIZATION

· · · · · · · · · · · · · · · · · · ·	SEEDING RATE 1/		SEEDING	RECOMMENDED	RECOMMENDED SEEDING DATES BY PLANT HARDINESS ZONE 3/		
PLANT SPECS	LB./AC.	LB./1000 FT. ²	DEPTH 2/ (INCHE5)	5b AND 6a	6Ь	7a AND 7b	
COOL-SEASON GRASSES		· .	-				
ANNUAL RYEGRASS (LOLIUM PERENNE 55P. MUTIFLORUM)	40	1.0	0.5	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30	
BARLEY (HORDEUM VULGARE)	96	2.2	1.0	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30	
OATS (AVENA SATIVA)	72	1.7	1.0	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 3	
WHEAT (TRITICUM AESTIVUM)	120	2.8	1.0	MAR. 15 TO MAY 31; AUG. 1 TO SEPT. 30	MAR. 1 TO MAY 15; AUG. 1 TO OCT. 15	FEB. 15 TO APR. 30; AUG. 15 TO NOV. 30	
CEREAL RYE (SECALE CEREALE)	112	2.8	1.0	MAR. 15 TO MAY 31; AUG. 31 TO OCT. 31	MAR. 1 TO MAY 15; AUG. 1 TO NOV. 15	FEB. 15 TO APR. 30; AUG. 15 TO DEC. 1	
WARM-SEASON GRASSES		-					
FOXTAIL MILLET (SETARIA ITALICA)	30	0.7	0.5	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14	
PEARL MILLET (PENNISETUM GLAUCUM)	20	0.5	0.5	JUNE 1 TO JULY 31	MAY 16 TO JULY 31	MAY 1 TO AUGUST 14	

1. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIVE SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY, AS TESTED. ADJUSTMENTS ARE USUALLY NOT NEEDED FOR THE COOL-SEASON GRASSES SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE. WHEN PLANTED AS A NURSE CROP WITH PERMANENT SEED MIXES, USE 1/3 OF THE SEEDING RATE LISTED ABOVE FOR BARLEY,

OATS AND WHEAT. FOR SMALLER-SEEDED GRASSES (ANNUAL RYEGRASS, PEARL MILLET, FOXTAIL MILLET). DO NOT EXCEED MORE THAN 5% (BY WEIGHT) OF THE OVERALL PERMANENT SEEDING MIX, CEREAL RYE GENERALLY SHOULD NOT BE USED AS A NURSE CROP, UNLESS PLANTING WILL OCCUR IN VERY LATE FALL BEYOND THE SEEDING DATES FOR OTHER TEMPORARY SEEDINGS. CEREAL RYE HAS ALLELOPATHIC PROPERTIES that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above. OATS ARE THE RECOMMENDED NURSE CROP FOR WARM-SEASON GRASSES.

OWNERS

PARCEL 04 LENNIS HAMRICK 4489 CENTENNIAL LANE ELLICOTT CITY, MD 21042

PARCEL 449 CHATEAU BUILDERS, INC 5305 VILLAGE CENTER DRIVE **SUITE 305** COLUMBIA, MD 21044 PARCEL 174 & PARCEL 05 CENTENNIAL RESERVE, LLC 300 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146

CENTENNIAL RESERVE, LLC 300 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146 DAVE WOESSNER 240-319-1735

DEVELOPER

DETAIL E-2 SILT FENCE ON PAVEMENT ⊢—SFOP—I 2 IN x 4 IN ACROSS-TOP OF STONE STAPLE-JOINING ADJACENT SECTIONS
OF GEOTEXTILE -MASTIC SEAL CONSTRUCTION SPECIFICATIONS SECTION A-A I. USE NOMINAL 2 INCH X 4 INCH LUMBER.

CONSTRUCTION SPECIFICATIONS

ELEVATION

GALVANIZED CHAIN LINK FENCE WITH MOVEN SLIT FILM GEOTEXTILE

. Fasten 9 gauge or heavier galvanized chain link fence (2% inch maximum opening) 42 inches in height securely to the fence posts with wire ties or hug rings. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

CROSS SECTION

DETAIL E-3 SUPER SILT FENCE

CHAIN LINK FENCING-

WOVEN SLIT FILM GEOTEXTILE-

EMBED GEOTEXTILE AND — CHAIN LINK FENCE 8 IN MIN, INTO GROUND

FLOW ___

⊢—SSF—

. 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. three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed

> PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT 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 MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION

2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS. . 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. 4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.

. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE. . KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.

WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.

PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION. . SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.

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

DETAIL E-9-3 CURB INLET PROTECTION MAXIMUM DRAINAGE AREA - 1/4 ACRE -2 FT MIN. LENGT OF 2 IN x 4 IN SANDBAG OR OTHER APPROVED 2 IN x 4 IN WEIR-FT MAX. SPACING OF % TO 11/2 STONE 2 IN x 4 IN ANCHORS, 2 FT MIN. LENGTH 2 IN x 4 IN SPACE NONWOVEN-GEOTEXTILE -2 IN x 4 IN SPACE -2 IN x 4 IN WEIR SECTION A-A ISOMETRIC

CONSTRUCTION SPECIFICATIONS

I. USE NOMINAL 2 INCH x 4 INCH LUMBER 2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS

3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART). 4. ATTACH A CONTINUOUS PIECE OF 1/2 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.

PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSION CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.

. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.

FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB T SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾, TO 1½ INC. STONE OR EQUIVALENT RECYCLED CONCRETE.

AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET

10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

EX. GROUND. G SWALE DETAIL

NOT TO SCALE

STANDARD SYMBO DETAIL B-1 STABILIZED SCE CONSTRUCTION ENTRANCE - EXISTING PAVEMENT -EARTH F **PROFILE** 50 FT MIN. LENGTH * PLAN VIEW

CONSTRUCTION SPECIFICATIONS

PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLE MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEE 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

. 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 EROSION AND SEDIMENT CONTROL 2011

SEQUENCE OF CONSTRUCTION . OBTAIN A GRADING PERMIT. (2 WEEKS) 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 REQUEST A PRE-CONSTRUCTION MEETING WITH THE APPROPRIATE ENFORCEMENT

4. CLEAR AND GRUB AS NECESSARY FOR THE INSTALLATION OF PERIMETER CONTROLS COMMENCE INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS. (1 WEEKS) COMMENCE INSTALLATION OF THE S.O.S.T. WITH BAFFLES AND SUPPORTING EARTH DIKE AND BERMS FOR DIVERSION OF ROAD RUNOFF. BERMS TO BE CONVERTED TO

MACADAM AT DIRECTION OF CID INSPECTOR. (2 WEEKS) OBTAIN APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED. (1 DAY) COMMENCE SITE GRADING TO PROPOSED SUB-GRADE, INSTALLATION OF UTILITIES, landscape walls and installation of bio-retention facilities to interim CONDITION AS SHOWN ON SHEET 4. INLET I-6 LEADING TO I-4 TO REMAINED BLOCKED UNTIL REMOVAL OF 5.0.ST. (1 MONTH) 9. COMMENCE INSTALLATION OF PAVING BASE COURSE, OFF-SITE SIDEWALK. STABILIZE

ALL SURROUNDING AREAS. (3 WEEKS) 7. INSTALL EARTH BERM, MACADAM BERM TO GET FLOW FROM THE ROAD INTO THE B. REMOVE BLOCKING FROM INLET I-6. (1 DAY)

9. WITH INSPECTORS PERMISSION, COMMENCE REMAINING GRADING, REMOVAL OF EARTH DIKE AND BEGIN CONVERSION OF 5,0,5,T, AND INTERIM CONDITION BIO-RETENTION FACILITIES TO BIO RETENTION FACILITIES AS FINAL DESIGNED. (3 WEEKS) 10. COMMENCE INSTALLATION OF FINAL PAVING COURSE AND INSTALLATION OF

LANDSCAPING. (2 WEEK) 11. AT COMPLETION OF PAVING EFFORTS, CONTRACTOR SHALL PERMANENTLY SEED ANY DISTURBANCE. (1 DAY) 12. OBTAIN APPROVAL OF SEDIMENT CONTROL INSPECTOR PRIOR TO THE REMOVAL OF SEDIMENT CONTROLS. (3 DAYS)

13. REMOVE ANY REMAINING SEDIMENT CONTROLS AND STABILIZE ALL AREAS THAT ARE DISTURBED BY REMOVAL OF SEDIMENT CONTROLS. (2 DAYS) 14. NOTE: THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE AFTER EACH RAINFALL AND ON A DAILY BASIS.

15. PROPOSED HOUSES CANNOT BE CONSTRUCTED UNDER THIS PLAN.

SEDIMENT AND EROSION CONTROL NOTES AND DETAILS CENTENNIAL RESERVE

LOTS 1 THRU 17, OPEN SPACE LOT 18 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOs.:04, 05, 174, & 449 ZONED R-20

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY, 2020 SHEET 8 OF 24 F-20-010

FISHER. COLLINS & CARTER. INC. IVIL ENGINEERING CONSULTANTS & LAND SURVEYOR 5QUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PI ELLICOTT CITY, MARYLAND 21042

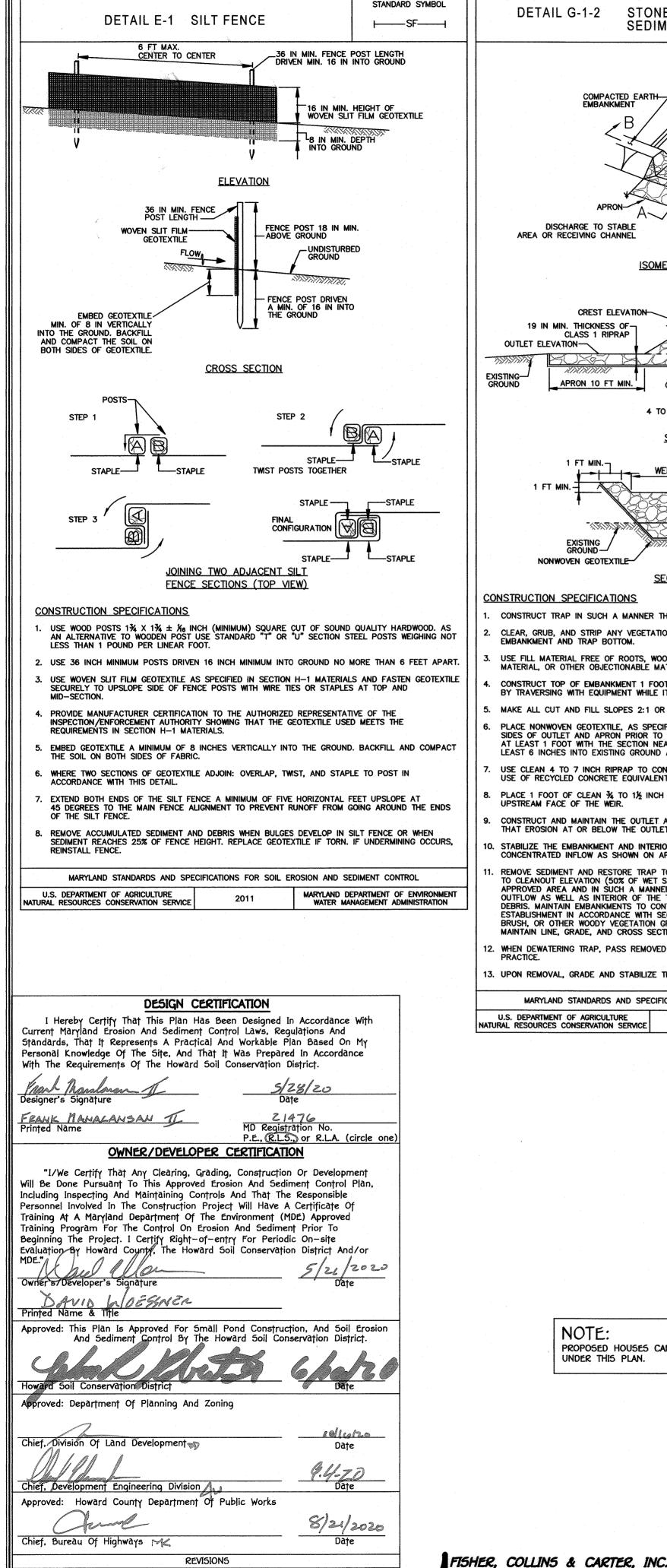
PROFESSIONAL CERTIFICATION

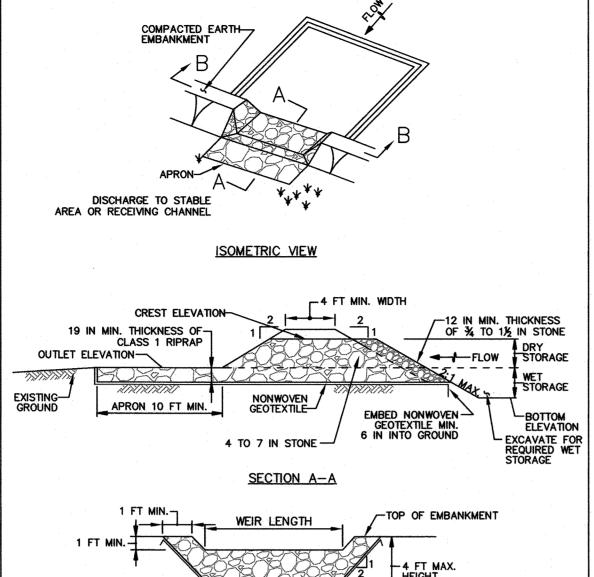
Frank Thanlaw 1

FRANK MANALANSAN II.

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.

5/28/20





SECTION B-B

CONSTRUCT TRAP IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE AVOIDED.

USE FILL MATERIAL FREE OF ROOTS, WOODY VEGETATION, OVERSIZED STONES, ROCKS, ORGANIC MATERIAL, OR OTHER OBJECTIONABLE MATERIAL FOR THE EMBANKMENT.

6. PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE BOTTOM AND

CONSTRUCT TOP OF EMBANKMENT 1 FOOT MINIMUM ABOVE WEIR CREST. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.

SIDES OF OUTLET AND APRON PRIOR TO PLACEMENT OF RIPRAP. OVERLAP SECTIONS OF GEOTEXTILE AT LEAST 1 FOOT WITH THE SECTION NEARER TO THE TRAP PLACED ON TOP. EMBED GEOTEXTILE AT LEAST 6 INCHES INTO EXISTING GROUND AT ENTRANCE OF OUTLET CHANNEL.

USE CLEAN 4 TO 7 INCH RIPRAP TO CONSTRUCT THE WEIR. USE CLASS I RIPRAP FOR THE APRON. USE OF RECYCLED CONCRETE EQUIVALENT IS ACCEPTABLE.

8. PLACE 1 FOOT OF CLEAN 3/4 TO 11/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE ON THE UPSTREAM FACE OF THE WEIR.

9. CONSTRUCT AND MAINTAIN THE OUTLET ACCORDING TO APPROVED PLAN, AND IN SUCH A MANNER

10. STABILIZE THE EMBANKMENT AND INTERIOR SLOPES WITH SEED AND MULCH. STABILIZE POINTS OF

WHEN DEWATERING TRAP, PASS REMOVED WATER THROUGH AN APPROVED SEDIMENT CONTROL

PROPOSED HOUSES CANNOT BE CONSTRUCTED

UNDER THIS PLAN.

CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

ELLICOTT CITY, MARYLAND 21042

(410) 461 - 2055

INIAL SQUARE OFFICE PARK – 10272 BALTIMORE NATIONAL PIK

DATE

DESCRIPTION

NO.

REMOVE SEDIMENT AND RESTORE TRAP TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO CLEANOUT ELEVATION (50% OF WET STORAGE DEPTH). DEPOSIT REMOVED SEDIMENT IN AN

APPROVED AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. KEEP POINTS OF INFLOW AND

EBRIS. MAINTAIN EMBANKMENTS TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. REMOVE ANY TREES, BRUSH, OR OTHER WOODY VEGETATION GROWING ON EMBANKMENT OR NEAR PRINCIPAL SPILLWAY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

CLEAR, GRUB, AND STRIP ANY VEGETATION AND ROOT MAT FROM THE AREA UNDER THE

STONE/RIPRAP OUTLET

ST-II

MAXIMUM DRAINAGE AREA = 10 ACRES

-19 IN MIN. CLASS I

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEDIMENT TRAP ST-II

DETAIL G-1-2

NONWOVEN GEOTEXTILE

CONSTRUCTION SPECIFICATIONS

EMBANKMENT AND TRAP BOTTOM.

5. MAKE ALL CUT AND FILL SLOPES 2:1 OR FLATTER.

MAINTAIN LINE, GRADE, AND CROSS SECTION.

THAT EROSION AT OR BELOW THE OUTLET DOES NOT OCCUR.

13. UPON REMOVAL, GRADE AND STABILIZE THE AREA OCCUPIED BY TRAP.

CONSTRUCTION SPECIFICATIONS

118118118118

ALUMINUM POST

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

CROSS SECTION

ELEVATION

GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE

DETAIL E-3 SUPER SILT

WOVEN SLIT FILM GEOTEXTILE-

STANDARD SYMBOL

-SSF--

2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2% INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.

FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID

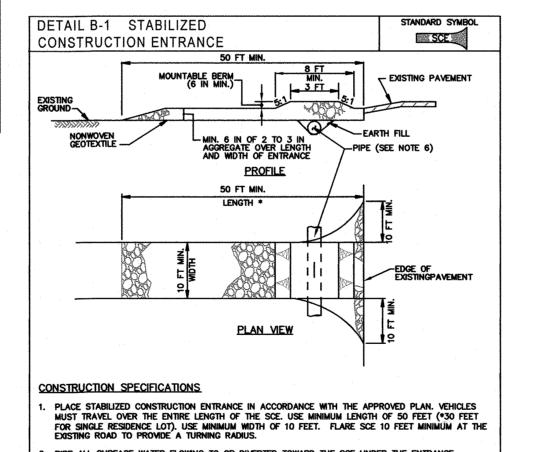
SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES,

FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS. 5. 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

6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT

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.



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 DRAINAGTO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT

. 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 (WITHOU 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 M OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

PROFESSIONAL CERTIFICATION 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. Yeard Thanlow

DETAIL G-2-4 BAFFLE BOARDS EFFECTIVE WIDTH, We = $(A/2)^2/2 = 48'$ FLOW LENGTH FROM INFLOW POINT TO OUTLET = 44' WET IF Wex2 IS < OUTLET LENGTH THEN BAFFLE BOARDS ARE NEEDE POOL FFFECTIVE FLOW LENGTH L1+L2 = 101' > Wex 2 = 96' RISER (OUTLET) - Section Le=L1+L2 PLAN VIEWS SET ELEVATION AT ½ OF THE DRY STORAGE (WET STORAGE ELEVATION + DRY STORAGE (OUTLET) WHICHEVER IS LOWER -4 FT CENTER TO CENTER MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

EXISTING TREES TO REMAIN - 2' + ORANGE STREAMERS 3'± O.C. TIKTIKTIKTIK T FLOW GALVANIZED CHAIN LINK FENCE WITH WOVEN SLIT FILM GEOTEXTILE **ELEVATION**

CONSTRUCTION SPECIFICATIONS

1. 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

CHAIN LINK FENCING

CROSS SECTION

WOVEN SLIT FILM GEOTEXTILE-

2. 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.

3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

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

5. 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. 6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT

GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.

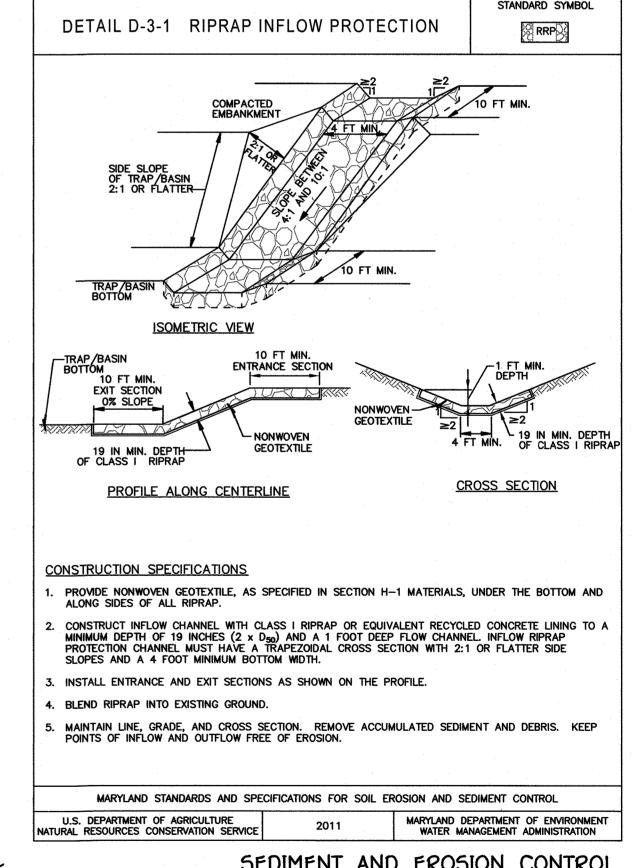
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL

SUPER SILT FENCE, TREE PROTECTION FENCE NOT TO SCALE

> OWNERS DEVELOPER PARCEL 449 CENTENNIAL RESERVE, LLC PARCEL 04 CHATEAU BUILDERS, INC. 300 MAGOTHY ROAD LENNIS HAMRICK 5305 VILLAGE CENTER DRIVE 4489 CENTENNIAL LANE SEVERNA PARK, MARYLAND 21146 DAVE WOESSNER COLUMBIA, MD 21044 240-319-1735 PARCEL 174 & PARCEL 05 CENTENNIAL RESERVE, LLC 308 MAGOTHY ROAD

> > SEVERNA PARK, MARYLAND 21146

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT NATURAL RESOURCES CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION STANDARD SYMBOL DETAIL B-4-6-C PERMANENT SOIL STABILIZATION MATTING PSSMC - * lb/ft CHANNEL APPLICATION (* INCLUDE SHEAR STRESS) FILL MAT VOIDS OVERLAP EROSION MATTING #1 0.41 |b/sqft| AT ROLL EROSION MATTING #2 0.45 lb/sqft END (TYP. EROSION MATTING #3 0.27 1b/sqft UPPER END OF DOWN SLOPE ROLL. (TYP.) WITH SEED CONSTRUCTION SPECIFICATIONS: USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION 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 OR WOOD STAKES. 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 1 ½ 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 MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH—SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL UNROLL MATTING IN DIRECTION OF WATER FLOW, CENTERING THE FIRST ROLL ON THE CHANNEL CENTER LINE. WORK FROM CENTER OF CHANNEL OUTWARD WHEN PLACING ROLLS. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE NEXT DOWNSTREAM MAT. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.). ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



SEDIMENT AND EROSION CONTROL NOTES AND DETAILS CENTENNIAL RESERVE

LOTS 1 THRU 17, OPEN SPACE LOT 18 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOs.:04, 05, 174, & 449 ZONED R-20

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY, 2020 5HEET 9 OF 24

	50IL5 LEGEND		_
50IL	NAME	CLA55	'K'VALUE
GgB	Glenelg loam, 3 to 8 percent slopes	В	0.20
G ₉ C	Glenelg loam, 8 to 15 percent slopes	В	0.20
GhB	Glenelg-Urban land complex, 0 to 8 percent slopes	В	0.20

5YMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
× 448.5	SPOT ELEVATION
<u>18" 50</u>	EXISTING STORM DRAIN
15"RCCP	PROPOSED STORM DRAIN PIPE
「	EXISTING WATER LINE
<u>- 8"5</u> →	existing sewer line
c	EXISTING CABLE LINE
- G	EXISTING GAS LINE
OHW	EXISTING OVERHEAD WIRE
	PROPOSED ASPHALT PAVING/ PATH
	PROPOSED SIDEWALKS (CONCRETE)
4 4 4	
	FOREST CONSERVATION EASEMENT (REFORESTATION)
	PERMANENT FOREST CONSERVATION EASEMENT FENCING
	EXISTING TREE LINE
	PROPOSED TREE LINE
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	DRYWELL (M-5)-TYPICAL
	SOIL LINES AND TYPES
WB	EXISTING WETLANDS & WETLAND BUFFER
	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
0 0	PROPOSED ROOF LEADER
(°)	denotes existing trees to remain
Service The service of the service o	-CRITICAL ROOT ZONE
	DENOTES 15%-24.9% SLOPES
	PROPOSED TREES (SEE SHEET 12 FOR DETAILS)
PERIMETER XX XX LF	LANDSCAPE PERIMETER LABEL —AND LEADER

LANDSCAPE DEVELOPER'S CERTIFICATE

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.

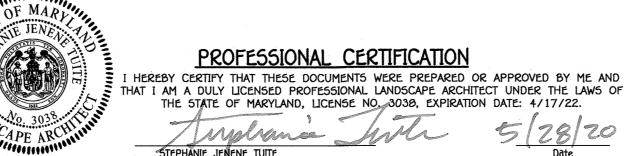
de	awaller-	5/26	12020
	Name	Dațe	
	REVISIONS		
NO.	DESCRIPTION	DATE	
	:		
:			
Approv	red: Department Of Planning And Zoning		
	/2	16/20	
1	Division Of Land Development Division Of Land Development Q.4.	ate 20	
Cille,	Development Engineering Division	ule	

8/21/2020

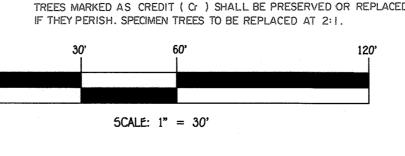
Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways MK

FISHER, COLLINS & CARTER, INC. ELLICOTT CITY, MARYLAND 21042 (410) 461 - 2855



N 576,500



TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOs.:04, 05, 174, & 449 ZONED R-20 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

4326 CROSS COUNTRY DRIVE

ZHANG YUEXING

ZONED: R-20

EX. HOUSE

N 576,500

& ALPANA L13589, F.154

SCALE: AS SHOWN DATE: MAY, 2020 SHEET 10 OF 24

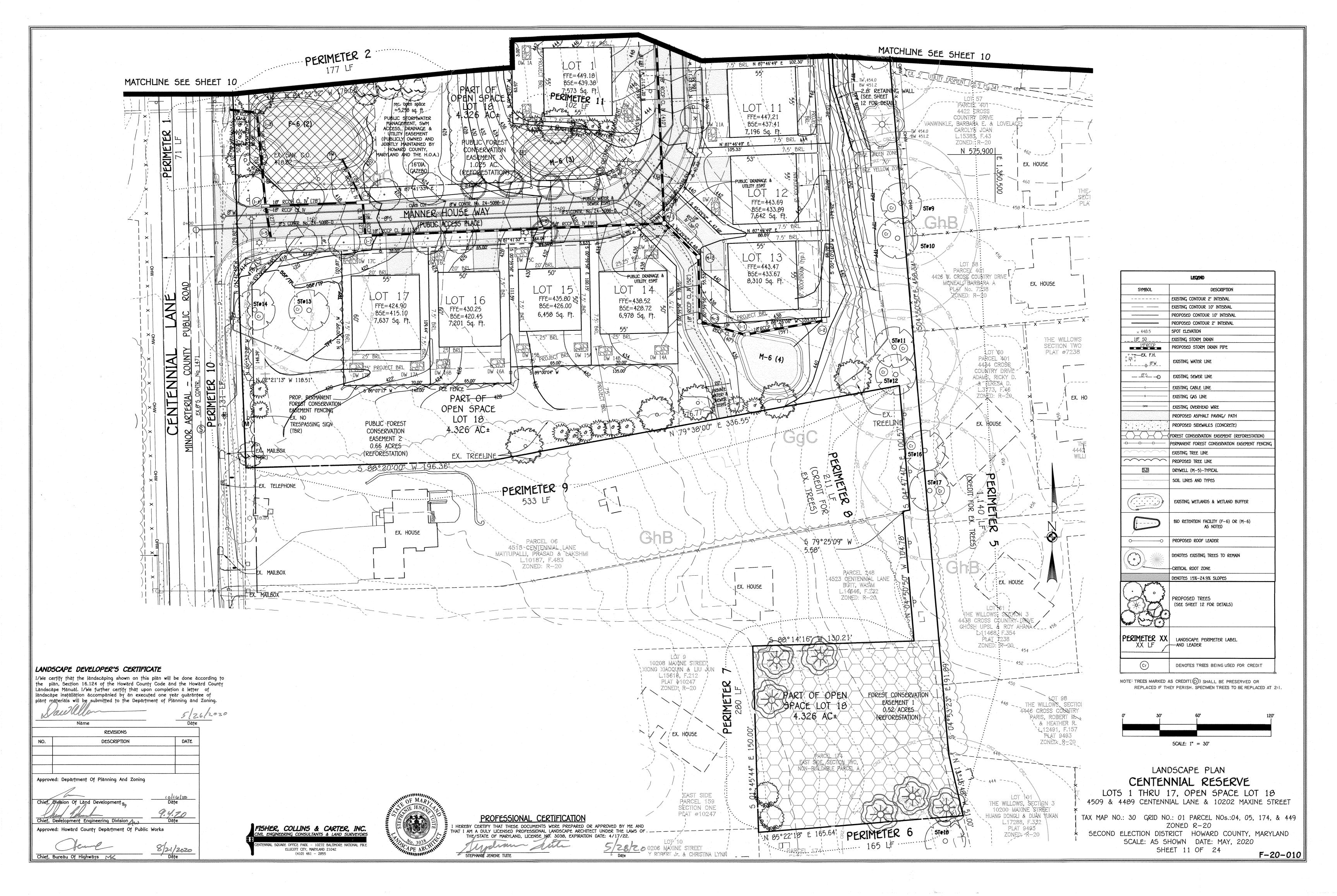
F-20-010



EX. WATER VALVE-

EX. HOUSE

Top: 458.58 5MH



"At the time of plant installation, all trees listed and approved on the Landscape Plan, shall comply with the proper height requirement in accordance with the Howard County Landscape Manual. In addition, no substitutions or relocations of the required plantings may be made without prior review and approval from the Department of Planning and Zoning. Any deviations from the approved Landscape Plan may result in denial or delay in the release of landscape surety until such time as all required materials are planted and/or revisions are made to the road drawing plans".

"The Owner, tenants and/or their agents shall be responsible for maintenance of the required perimeter landscaping. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All the other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced".

PLANTING SPECIFICATIONS

PLANTS, RELATED MATERIAL, AND OPERATIONS SHALL MEET THE DETAILED DESCRIPTION AS GIVEN ON THE PLANS AND AS DESCRIBED HEREIN.

ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED, HAVE A VIGOROUS ROOT SYSTEM, AND SHALL CONFORM TO THE SPECIES. SIZE, ROOT AND SHAPE SHOWN ON THE PLANT LIST AND THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUN SCALD INJURIES, ABRASIONS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BORERS AND ALL FORMS OF INSECT INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET SPECIFIED REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. ALL PLANTS SHALL BE FRESHLY DUG; NO HEALED-IN PLANTS FROM COLD STORAGE WILL BE ACCEPTED.

UNLESS OTHERWISE SPECIFIED, ALL GENERAL CONDITIONS, PLANTING OPERATIONS, DETAILS AND PLANTING SPECIFICATION SHALL CONFORM TO "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS", (HEREINAFTER "LANDSCAPE GUIDELINES") APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE POTOMAC CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECT, LATEST EDITION, INCLUDING ALL AGENDA.

ONE YEAR AFTER DATE OF ACCEPTANCE IN ACCORDANCE WITH THE APPROPRIATE SECTION OF THE LANDSCAPE GUIDELINES CONTRACTOR'S ATTENTION IS DIRECTED TO THE MAINTENANCE REQUIREMENTS FOUND WITHIN THE ONE YEAR SPECIFICATIONS INCLUDING WATERING AND REPLACEMENT OF SPECIFIED PLANT MATERIAL

CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF

BID SHALL BE BASE ON ACTUAL SITE CONDITIONS. NO EXTRA PAYMENT SHALL BE MADE FOR WORK ARISING FROM SITE CONDITIONS DIFFERING FROM THOSE INDICATED ON DRAWINGS AND SPECIFICATIONS

ALL SHRUBS SHALL BE PLANTED IN CONTINUOUS TRENCHES OR PREPARED PLANTING BEDS AND MULCHED WITH COMPOSTED HARDWOOD MULCH AS DETAILS AND SPECIFIED EXCEPT WHERE NOTED ON PLANS.

POSITIVE DRAINAGE SHALL BE MAINTAINED IN PLANTING BEDS 2 PERCENT SLOPE).

PLANTING MIX SHALL BE AS FOLLOWS: DECIDUOUS PLANTS - TWO PARTS TOPSOIL, ONE PART WELL-ROTTED COW OR HORSE MANURE. ADD 3 LBS. OF STANDARD FERTILIZER PER CUBIC YARD OF PLANTING MIX. EVERGREEN PLANTS - TWO PARTS TOPSOIL, ONE PART HUMUS OR OTHER APPROVED ORGANIC MATERIAL. ADD 3 LBS. OF EVERGREEN (ACIDIC) FERTILIZER PER CUBIC YARD OF PLANTING MIX. TOPSOIL SHALL CONFORM TO THE LANDSCAPE GUIDELINES.

WEED CONTROL: INCORPORATE A PRE-EMERGENT HERBICIDE INTO THE PLANTING BED FOLLOWING RECOMMENDED RATES ON THE LABEL. CAUTION: BE SURE TO CAREFULLY CHECK THE CHEMICAL USED TO ASSURE ITS ADAPTABILITY TO THE SPECIFIC GROUND COVER TO BE TREATED.

A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND TREE.

ALL AREAS WITHIN CONTRACT LIMITS DISTURBED DURING OR PRIOR TO CONSTRUCTION NOT DESIGNATED TO RECEIVE PLANTS AND MULCH SHALL BE FINE GRADED AND SEEDED.

PRE-CONSTRUCTION MEETING

- 1. AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS
 - MEETING WILL BE: A. TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE
 - PARKING AREAS AND EQUIPMENT STAGING AREAS; B. INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
- C. MAKE ALL NECESSARY ADJUSTMENTS; D. ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.

CONSTRUCTION MONITORING

- THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS.
- ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST
- 3. THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR

SUBSTITUTION NOTE: *PERIMETER 9 - 2:1 EVERGREEN SUBSTITUTION; 8 EVERGREEN TREES FOR 4 SHADE trees (substitution provides native plant variety

* PERIMETER 11 - 2:1 EVERGREEN SUBSTITUTION; 2 EVERGREEN TREES FOR 1 SHADE TREES (SUBSTITUTION ACCOMMODATES FOR LIMITED SPACE AND PROVIDES

CREDIT NOTE: TREES TAKEN FOR CREDIT ON THE APPROVED LANDSCAPE PLANS MUST BE MAINTAINED OR REPLACED IF THEY PERISH. SPECIMEN TREES USED AS CREDIT SHALL BE REPLACED 2:1 WITH 2.5" CALIPER TREES.

	LANDSCAPING PLANT LIST							
QTY.	KEY	NAME	SIZE					
9*		ACER RUBRUM 'OCTOBER GLORY' (OCTOBER RED MAPLE)	2 1/2" - 3' CALIPER FULI CROWN, B&					
.4.		PRUNUS SARGENTII (SARGENT CHERRY)	2 1/2" - 3' CALIPER FULI CROWN, B&					
12		ZELKOVA SERRATA (JAPANESE ZELKOVA)	2 1/2" - 3' CALIPER FULI CROWN, B&					
14		HEDGE MAPLE ACER CAMPESTRE	2 1/2" - 3' CALIPER FULL CROWN, B&					
9	AND	THUJA STANDISHII X PLICATA (GREEN GIANT ARBORVITAE)	5'-6' HT. 8&B					
8	No. of the state o	ILEX x 'NELLIE STEVENS' (NELLY STEVENS HOLLY)	5'-6' HT. 8&8					

		STREET TREE SCH	EDUL	E
QTY.	SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
5	×	QUERCUS RUBRA NORTHERN RED OAK	2.5-3" CAL.	40' APART ON PUBLIC R/W
9	\odot	ACER TATARICUM TATARIUM MAPLE	2.5-3" CAL.	30' APART ON PUBLIC R/W
9		PRUNUS SERRULATA 'KWANZAN' KWANZAN CHERRY	2.5-3" CAL.	30' APART ON PUBLIC R/W
: 23				

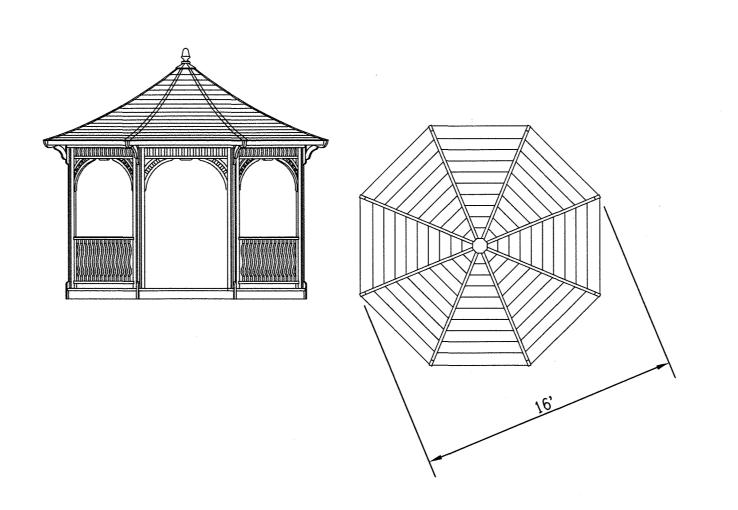
CAP UNIT ADHERES TO TOP UNIT IMPERVIOUS FILL — 12" DEEP CONCRETE ADHESIVE -MODULAR CONCRETE-UNIT5 -DRAINAGE AGGREGATE 12" THICK MIN. -4" DIA. DRAIN PIPE OUTLET @ END OF WALL OR @ 40' CENTERS MAX. GRANULAR LEVELING PAD MIN. 6"

CONCRETE BLOCK LANDSCAPE WALL DETAIL

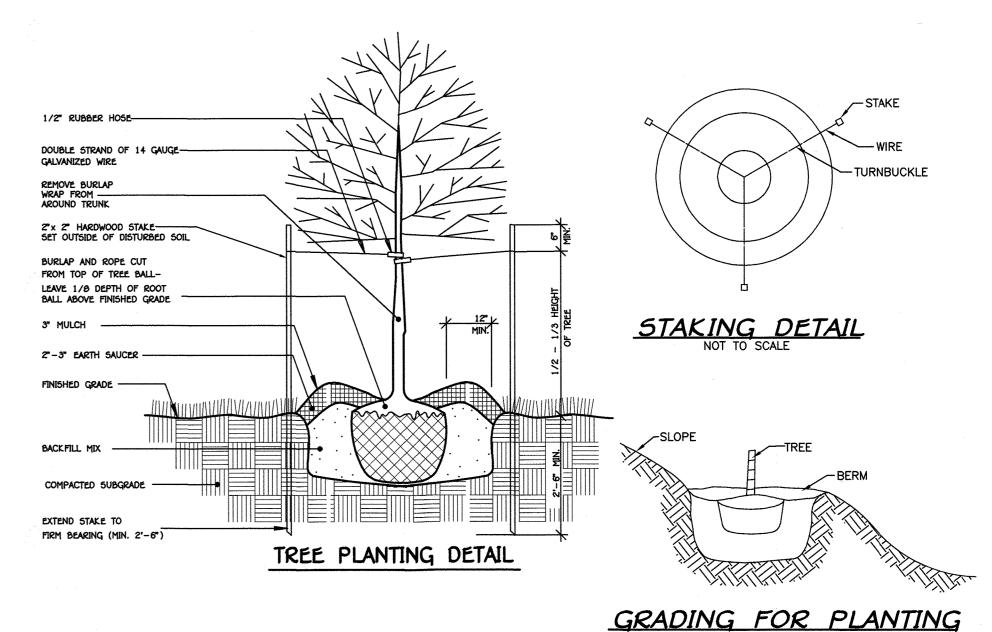
TOTAL: 39 SHADE TREES, 17 EVERGREEN TREES

* PER CONDITION #2 OF WP-19-047 TWO 2.5" CALIPER TREES ARE REQUIRED TO BE PLANTED AS MITIGATION FOR THE REMOVAL OF 1 SPECIMEN TREE IN THE FOREST CONSERVATION EASEMENT. TWO (2) 'OCTOBER GLORY' RED MAPLE TREES ARE PROPOSED AS REPLACEMENT.

SEE SHEET 10 FOR LOCATION.



GAZEBO DETAIL (OR APPROVED EQUAL) SCALE: 1"=30'



LANDSCAPE NOTES & DETAILS CENTENNIAL RESERVE

LOTS 1 THRU 17, OPEN SPACE LOT 18 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOs.:04, 05, 174, & 449

ZONED R-20 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

LANDSCAPE DEVELOPER'S CERTIFICATE

Chief, Bureau Of Highways

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.

5/26/2020 REVISIONS DATE NO. DESCRIPTION Approved: Department Of Planning And Zoning Chief, Division Of Land Development

FISHER, COLLINS & CARTER, INC. Approved: Howard County Department Of Public Works IL ENGINEERING CONSULTANTS & LAND SURVEYORS 8/21/2020 QUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042



PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 3038, EXPIRATION DATE: 4/17/22.

OWNERS

PARCEL 04 LENNIS HAMRICK 4489 CENTENNIAL LANE ELLICOTT CITY, MD 21042

PARCEL 449 CHATEAU BUILDERS, INC 5305 VILLAGE CENTER DRIVE COLUMBIA, MD 21044 PARCEL 174 & PARCEL 05 CENTENNIAL RESERVE, LLC 300 MAGOTHY ROAD

308 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146 DAVE WOESSNER 240-319-1735 SEVERNA PARK, MARYLAND 21146

DEVELOPER

CENTENNIAL RESERVE, LLC

SCALE: AS SHOWN DATE: MAY, 2020 SHEET 12 OF 24

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 AESTHETIC 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 50 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 5M, 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.

TABLE A.3 PLANTING SOIL CHARACTERISTICS

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)	05 LBS. PER ACRE, MINIMUM			
SOLUBLE SALTS	500 PPM			
CLAY	10 TO 25 %			
SILT	30 TO 55 %			
SAND	35 TO 60%			

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

PLANTING GUIDANCE

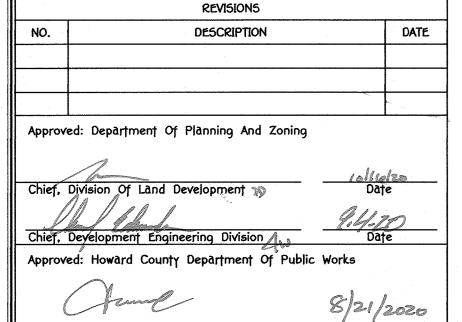
PLANT MATERIAL SELECTION SHOULD BE BASED ON THE GOAL OF SIMULATING A TERRESTRIAL FORESTED COMMUNITY OF NATIVE SPECIES. BIORETENTION SIMULATES AN UPLAND-SPECIES ECOSYSTEM. THE COMMUNITY SHOULD BE DOMINATED BY TREES, BUT HAVE A DISTINCT COMMUNITY OF UNDERSTORY TREES SHRUBS AND HERBACEOUS MATERIALS. BY 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 WATER. THE OUTER EDGE IS THE HIGHEST ELEVATION AND GENERALLY SUPPORTS PLANTS ADAPTED TO DRYER CONDITIONS. A SAMPLE OF

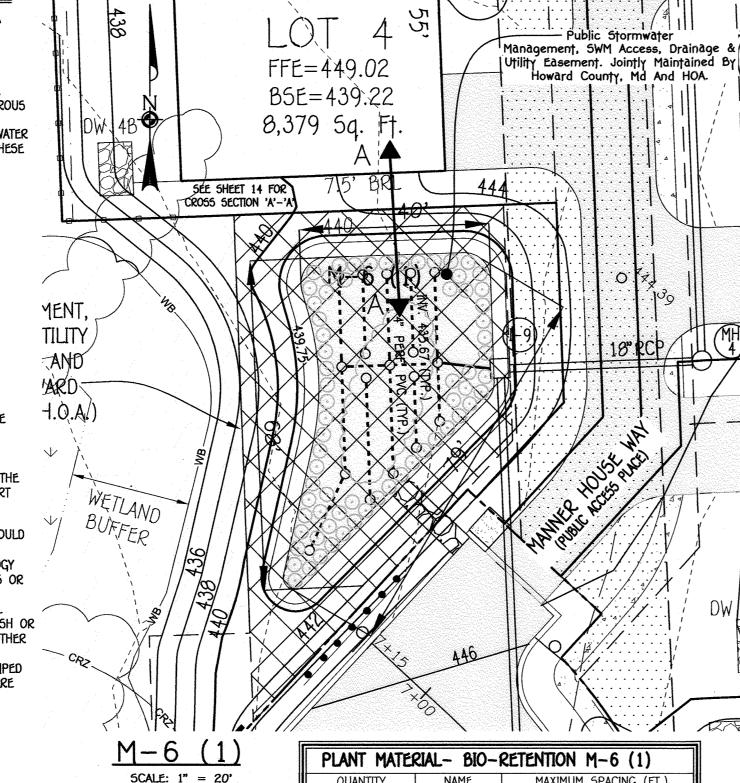
APPROPRIATE PLANT MATERIALS FOR BIORETENTION FACILITIES ARE INCLUDED IN TABLE A.4. THE LAYOUT OF PLANT MATERIAL SHOULD BE FLEXIBLE, BUT SHOULD FOLLOW THE GENERAL PRINCIPALS DESCRIBED IN TABLE A.5. THE OBJECTIVE IS TO HAVE A SYSTEM, WHICH RESEMBLES A RANDOM, AND NATURAL PLANT LAYOUT, WHILE MAINTAINING OPTIMAL CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH. FOR A MORE EXTENSIVE BIORETENTION PLAN. CONSULT ETAB. 1993 OR CLAYTOR AND SCHUELER, 1997.

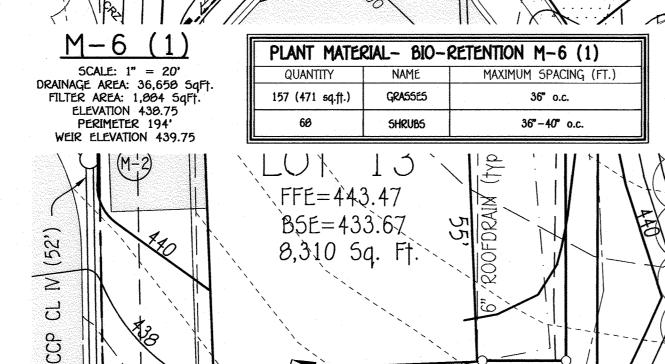
PRIVATELY OWNED OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (M-6) (4)

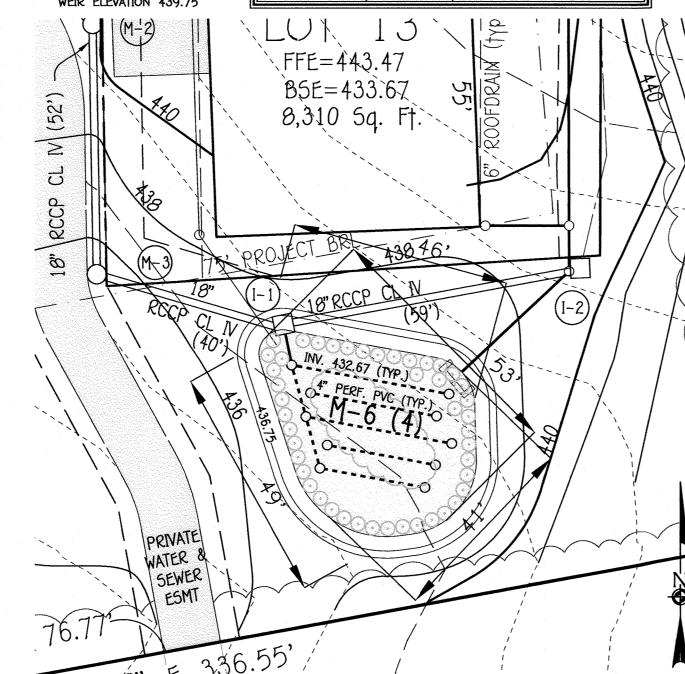
- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE 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.



Chief, Bureau Of Highways







M-6 (4)						
SCALE: 1" = 20' DRAINAGE AREA: 52,963 54Ft.	PLANT MATERIAL- BIO-RETENTION M-6 (4)					
FILTER AREA: 1,456 Sqft.	QUANTITY	NAME	MAXIMUM SPACING (FT.)			
ELEVATION 435.75 PERIMETER 143'	129 (380 sq.ft.)	GRASSES	36° o.c.			
WEIR ELEVATION 436.75	45	5HRUB5	36"-40" o.c.			

OLIANITITY				
QUANTITY	NAME	MAXIMUM SPACING (FT.)		
21 (664 sq.ff.)	GRASSES	36" o.c.		
91	5HRUB5	36"-40" o.c.		
-	21 (664 sq.ff.) 91			

1-18" RCCP CK IV MANNER HOUSE WAY

(PUBLIC ACCESS PLACE)

Public Stormwater

Hility Easement. Jointly Maintained B

Howard County, Md And HOA.

PUBLIC/ WATER &

MAXIMUM SPACING (FT.)

36"-40" o.c.

SEWER ESMI-

Management, 5WM Access, Drainage

PLANT MATERIAL - BIO-RETENTION M-6 (3)

NAME

GRASSES

SHRUBS

73'

78 (235 sq.ff.)

Public Stormwater

Management, SWM Access, Drainage & Utility Easement. Jointly Maintained By loward County, Md And HOA.—



SCALE: 1" = 20'

PROFESSIONAL CERTIFICATION 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. 5/28/20 FRANK MANALANSAN II.

*CONTRACTOR MAY SUBSTITUTE 6" DIAMETER SLOTTED HOPE PIPE CLASS II PER AASHTO SPECIFICATION M252(ADS N-12 ST18 PIPE OR EQUIVALENT).

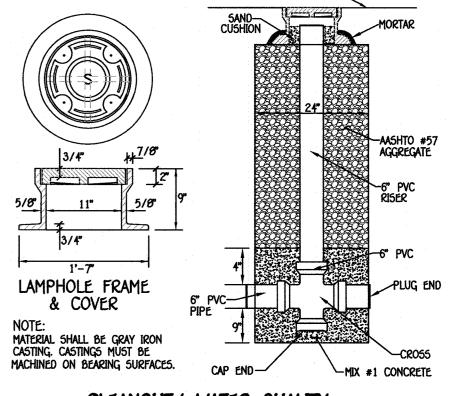
OWNERS PARCEL 449 PARCEL 04 CHATEAU BUILDERS, INC. LENNIS HAMRICK 4489 CENTENNIAL LANE SUITE 305 ELLICOTT CITY, MD 21042

5CALE: 1" = 20'

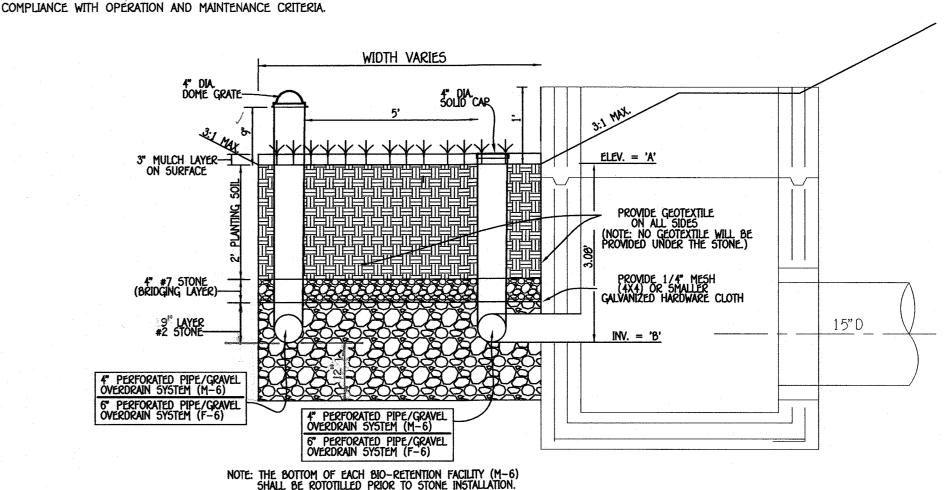
308 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146

DEVELOPER CENTENNIAL RESERVE, LLC 300 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146 DAVE WOESSNER 240-319-1735

STORMWATER MANAGEMENT PRACTICES DRY WELLS MICRO BIO-RETENTION 5027 MANNER HOUSE WAY Y(3) Y PROVIDED BY M-6(3)
5031 MANNER HOUSE WAY Y(3) Y PROVIDED BY M-6(2)
5035 MANNER HOUSE WAY Y(3) Y PROVIDED BY M-6(1)
5049 MANNER HOUSE WAY Y(2) Y PROVIDED BY M-6(1)
5027 MANNER HOUSE WAY Y(2) Y PROVIDED BY M-6(1)
5048 MANNER HOUSE WAY Y(2) Y PROVIDED BY M-6(1)
5044 MANNER HOUSE WAY Y(3) Y PROVIDED BY M-6(1)
5040 MANNER HOUSE WAY Y(3) Y PROVIDED BY M-6(1)
5040 MANNER HOUSE WAY Y(3) Y PROVIDED BY M-6(1)
5046 MANNER HOUSE WAY Y(3) Y PROVIDED BY M-6(1) 5036 MANNER HOUSE WAY Y(2) Y PROVIDED BY M-6(1)
5032 MANNER HOUSE WAY Y(1) Y PROVIDED BY M-6(4)
5028 MANNER HOUSE WAY Y(1) Y PROVIDED BY M-6(4)
5024 MANNER HOUSE WAY Y(1) Y PROVIDED BY M-6(4)
5024 MANNER HOUSE WAY Y(1) Y PROVIDED BY M-6(4) MANNER HOUSE WAY N Y PROVIDED BY M-6(4)



CLEANOUT/ WATER QUALITY



TYPICAL SECTION
BIO-RETENTION FACILITY (F-6) AND (M-6) NOT TO SCALE



6" DIA. DOME GRATE

TYPICAL CLEAN-OUT DETAIL

OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)

WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.

(72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.

A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS

C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.

D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO

E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE

B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING

24" PLANTING

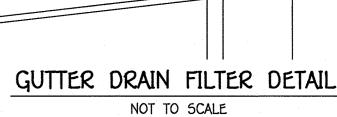
AND AFTER EVERY HEAVY STORM EVENT.

PROVIDE 6" LE 40

I. 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.



*A GUTTER GUARD OR A SUITABLE EQUIVALENT SHALL BE USED FOR EACH DOWNSPOUT DIRECTED TO A DRYWELL.

STORMWATER MANAGEMENT NOTES AND DETAILS CENTENNIAL RESERVE

LOTS 1 THRU 17, OPEN SPACE LOT 18 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOs.:04, 05, 174, & 449 ZONED R-20 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: MAY, 2020 SHEET 13 OF 24

FISHER, COLLINS & CARTER, INC. ENGINEERING CONSULTANTS & LAND SURVEYORS UARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042

SHRUB5

BUTTONBRUSH BUCKEYE

SWITCHGRASS
HEAVY METAL SWITCHGRASS

BOTTLEBRUSH BUCKEYE

ANY OF THE SHRUBS LISTED MAY BE USED

ANY OF THE GRASS LISTED MAY BE USED



NO TO SCALE

EASEMEN

-MANNER HOUSE WAY

5CALE: 1" = 20'

DRAINAGE AREA: 21,098 54Ft

FILTER AREA: 937 59Ft.

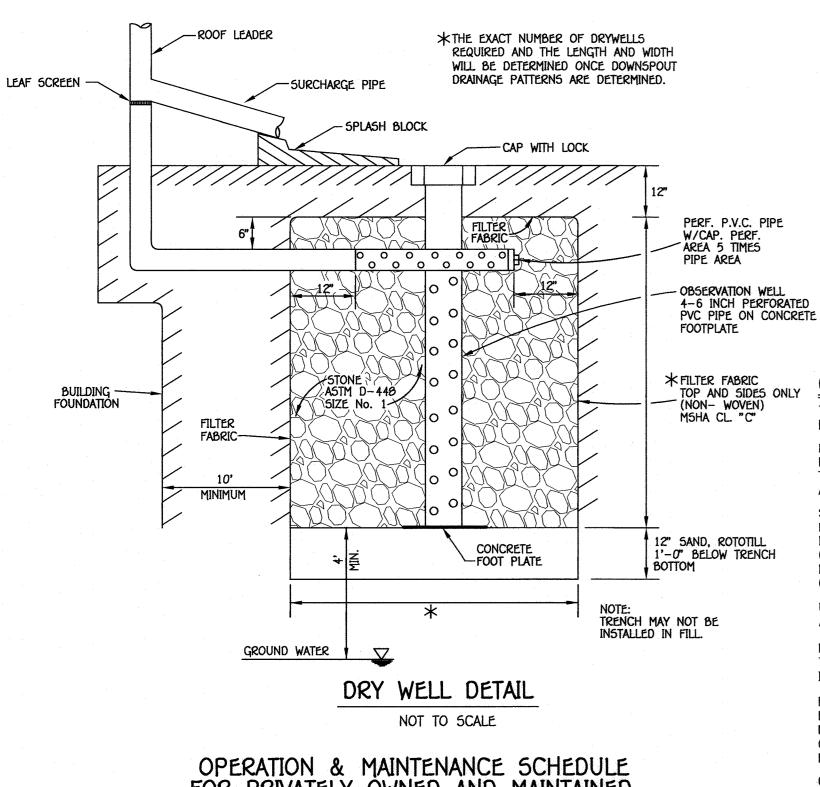
ELEVATION 424.75

PERIMETER 120'

WEIR ELEVATION 425.75

(PUBLIC ACCESS PLACE)

5305 VILLAGE CENTER DRIVE COLUMBIA, MD 21044 PARCEL 174 & PARCEL 05 CENTENNIAL RESERVE, LLC



FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5) A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS

- AND AFTER EVERY HEAVY STORM EVENT.
- B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS. D. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY-TWO
- (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING CONSTRUCTION OF PROJECTS WITH DRY WELLS:

EROSION AND SEDIMENT CONTROL: FINAL GRADING FOR PROPOSED DRY WELLS SHOULD NOT TAKE PLACE UNTIL THE SURROUNDING SITE IS COMPLETELY STABILIZED. IF THIS CANNOT BE ACCOMPLISHED, RUNOFF FROM DISTURBED AREAS SHALL BE DIVERTED.

50IL COMPACTION: EXCAVATION SHOULD BE CONDUCTED IN DRY CONDITIONS WITH EQUIPMENT LOCATED OUTSIDE OF THE PRACTICE TO MINIMIZE BOTTOM AND SIDEWALL COMPACTION. CONSTRUCTION OF A DRY WELL SHALL BE PERFORMED WITH LIGHTWEIGHT, WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND COMPACTION. EXCAVATED MATERIALS SHALL BE PLACED IN A CONTAINED AREA.

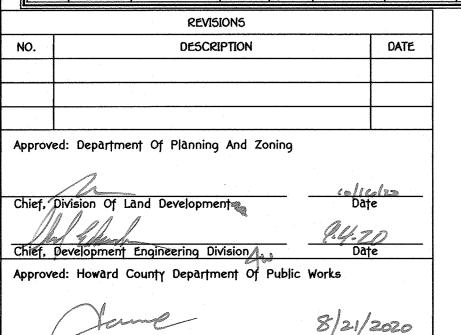
UNDERGROUND CHAMBER: A SUBSURFACE PREFABRICATED CHAMBER MAY BE USED.

THE BOTTOM SHALL BE AS LEVEL AS POSSIBLE TO MINIMIZE POOLED WATER IN SMALL AREAS THAT MAY REDUCE OVERALL INFILTRATION AND LONGEVITY.

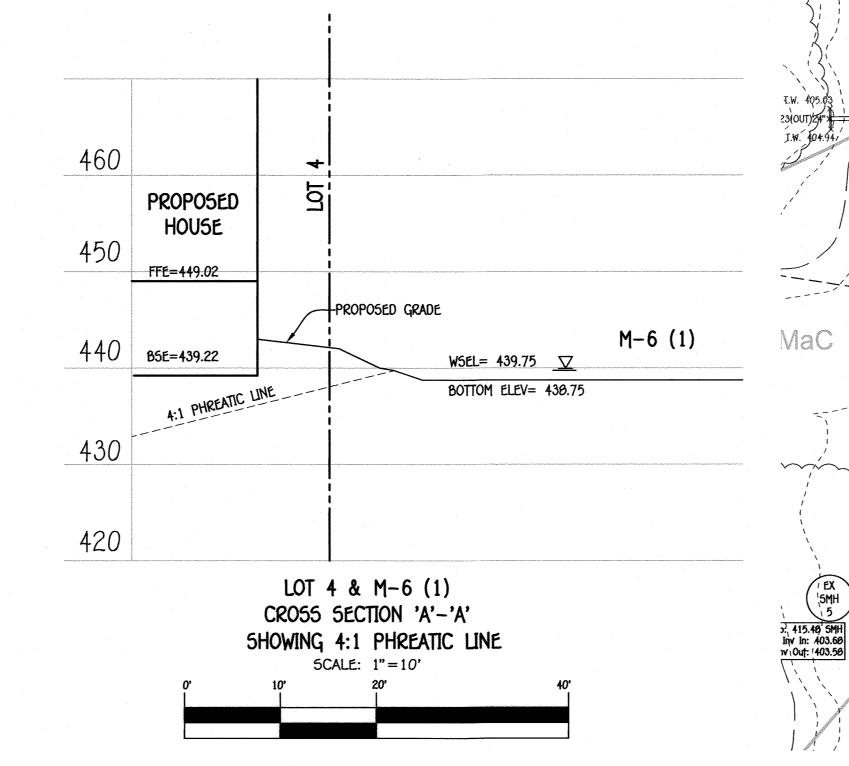
FILTER CLOTH SHALL NOT BE INSTALLED ON THE BOTTOM OF THE WELL. NON-WOVEN FILTER CLOTH SHOULD BE USED TO LINE THE TOP AND SIDES OF THE DRY WELL TO PREVENT THE PORE SPACE BETWEEN THE STONES FROM BEING BLOCKED BY THE SURROUNDING NATIVE MATERIAL.

THE AGGREGATE SHALL BE COMPOSED OF AN 18 TO 48-INCH LAYER OF CLEAN WASHED, OPEN GRADED MATERIAL WITH 40% POROSITY (E.G., ASTM D448 4, 5, OR 6 STONE OR EQUAL).

	DRY WELL CHART								
LOT NO.	DRYWELL NUMBER	NO. OF DOWNSPOUTS	AREA OF ROOF	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF STORAGE	AREA OF TREATMENT	NO. OF DRYWELLS	DIMENSIONS OF DRYWELLS
1	M-5 (1A)	2	756 5qFt	108 CuFt	123 CuFt	100%	100%	1	11' X 7' X 4'
1	M-5 (1B)	2	756 5qFt	108 CuFt	123 CuFf	100%	100%	1	11' X 7' X 4'
1	M-5 (1C)	2	756 5qFt	108 CuFf	123 CuF†	100%	100%	1	11' X 7' X 4'
2	M-5 (2A)	2	756 SqFt	108 CuFt	123 CuFt	100%	100%	1	11' X 7' X 4'
2	M-5 (2B)	2	756 SqFt	108 CuFt	123 CuFt	100%	100%	1	11' X 7' X 4'
2	M-5 (2C)	2	756 5qFt	108 Cuft	123 Cuft	100%	100%	1	11' X 7' X 4'
3	M-5 (3A)	2	756 5qFt	100 CuFt	123 CuFt	100%	100%	1	11' X 7' X 4'
3	M-5 (3B)	2	756 SqF†	108 Cuff	123 CuFt	100%	100%	1	11' X 7' X 4'
3	M-5 (3C)	2	756 SqF†	108 Cuff	123 CuFt	100%	100%	1	11' X 7' X 4'
4	M-5 (4A)	2	756 5qFt	108 CuFt	123 CuFt	100%	100%	1	11' X 7' X 4'
4	M-5 (48)	2	756 SqFt	100 CuFt	123 CuF†	100%	100%	1	11' X 7' X 4'
5	M-5 (5A)	2	756 SqFt	108 CuFt	123 CuFt	100%	100%	1	11' X 7' X 4'
5	M-5 (5B)	2	756 SqFt	108 CuFt	123 CuF†	100%	100%	1	11' X 7' X 4'
6	M-5 (6A)	2	756 5qFt	108 Cuff	123 CuF†	100%	100%	1	11' X 7' X 4'
6	M-5 (6B)	2	756 SqF†	108 CuFt	123 CuFt	100%	100%	1	11' X 7' X 4'
7	M-5 (7A)	2	756 SqFt	100 CuFt	123 CuFt	100%	100%	1	11' X 7' X 4'
7	M-5 (78)	2	756 5qFt	108 Cuff	123 CuF†	100%	100%	1	11' X 7' X 4'
7	M-5 (7C)	2	756 SqF†	108 CuFt	123 CuF†	100%	100%	1	11' X 7' X 4'
8	M-5 (8A)	2	756 SqF†	108 CuFt	123 CuFf	100%	100%	1	11' X 7' X 4'
8	M-5 (88)	2	756 5qFt	108 CuFf	123 CuF†	100%	100%	1	11' X 7' X 4'
8	M-5 (8C)	2	756 5qFt	108 CuFf	123 CuFf	100%	100%	1	11' X 7' X 4'
9	M-5 (9A)	2	756 SqFt	108 CuFf	123 CuF†	100%	100%	1	11' X 7' X 4'
9	M-5 (9B)	2	756 SqFt	108 CuFf	123 CuF†	100%	100%	1	11' X 7' X 4'
10	M-5 (10A)	2	756 SqFt	108 CuFf	123 CuFf	100%	100%	1	11' X 7' X 4'
11	M-5 (11A)	2	756 SqFt	108 CuFt	123 CuFf	100%	100%	1	11' X 7' X 4'
12	M-5 (12A)	2	756 54Ft	108 CuFt	123 CuFf	100%	100%	1	11' X 7' X 4'
14	M-5 (14A)	2	756 54Ft	108 CuFt	123 CuF†	100%	100%	1	11' X 7' X 4'
14	M-5 (24A)	2	756 SqFt	108 CuFt	123 CuF†	100%	100%	1	11' X 7' X 4'
14	M-5 (14B)	2	756 5qFt	108 Cuff	123 CuFt	100%	100%	1	11' X 7' X 4'
15	M-5 (15A)	2	756 54Ft	108 CuFt	123 CuFt	100%	100%	1	11' X 7' X 4'
15	M-5 (158)	2	756 5qFt	108 Cuff	123 CuFt 123 CuFt	100%	100%	1	11' X 7' X 4'
15	M-5 (15C)	2	756 5qFt 756 5qFt	100 CuFt 100 CuFt	123 Curt	100%	100%	1	11' X 7' X 4'
16					123 Curt	100%	100%	1	11' X 7' X 4'
16 16	M-5 (16B)	2	756 5qFt 756 5qFt	100 CuFt 100 CuFt	123 CuFf	100%	100%	1	11' X 7' X 4'
17	M-5 (16C)	2	<u> </u>	100 Curt	123 CuFf	100%	100%	1	11' X 7' X 4'
17	M-5 (17A)	2		100 Curt	123 Curj	100%	100%	1	11' X 7' X 4'
17	1	2		108 Cuff	123 CuFt	100%	100%	1	11' X 7' X 4'
17	M-5 (17C)	۷	756 SqFt	בעוד מעוד	123 CUIT	100%	100%	1	II X / X 4



Chief, Bureau Of Highways



NOTE: THIS SHEET IS FOR S.W.M. ONLY.



PROFESSIONAL CERTIFICATION

FRANK MANALANSAN II.

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.

5/23/20 Date

PARCEL 449 CENTENNIAL RESERVE, LLC CHATEAU BUILDERS, INC. 300 MAGOTHY ROAD LENNIS HAMRICK 5305 VILLAGE CENTER DRIVE SEVERNA PARK, MARYLAND 21146 4489 CENTENNIAL LANE SUITE 305 DAVE WOESSNER COLUMBIA, MD 21044 240-319-1735 PARCEL 174 & PARCEL 05 CENTENNIAL RESERVE, LLC

SEVERNA PARK, MARYLAND 21146

PUBLIC FORES CONSERVATION EASEMENT 3 1.025 AC.

PARCEL 162
4455 CENTENNIAL DANE
OUERRA, GLENN & MARIA
L45116, F.311
ZONED: R-20

LOT 17 FFE=424.90 B5E=415.10 7,637 5q. Ft.

PUBLIC FOREST CONSERVATION EASEMENT 2 0.66 ACRES

Out 406,17 \

EX PAVING

STORMWATER MANAGEMENT PLAN CENTENNIAL RESERVE

N 576.500

452 PARCEL 207
4402 CROSS COUNTRY DRIVE
CARPENTER, DAN & AMANDA
L3726, F.700
ZONED: R-20

4410 CROSS COUNIRY DRIVE CLARK, SUSANNE L16121, F.444 ZONED: R-20

SECTION FIVE "CENTENNIAL" P.B. 9, PG. 34

N 575,900

5WALE 1B: DRAINAGE AREA = 1.42 Ac. 100' © 3.0% 262' © 4.0%

εχ. 5' υπμίτγ

(PB.9 PG.34)

EASEMENT

FFE=449.87

BSE=441.27

FFE=454.27

FFE=452.16 / BSE=442.36 7,141 5q. Ft.

FFE=447.21 BSE=437:41 7,196 5q. F

FFE=443.47 BSE=433.67 8,310 5q. Ft.

LOTS 1 THRU 17, OPEN SPACE LOT 18 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

LOT 60
PARCEL 401
4434 CROSS
COUNTRY DRIVE
ADAMS, RICKY D.
A TERESA D.
L3773, F.46
ZONED: R-20

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOs.:04, 05, 174, & 449 ZONED R-20 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: MAY, 2020 SHEET 14 OF 24

OWNERS DEVELOPER 308 MAGOTHY ROAD

FFE=452.77 BSE=442.97

FFE=449.18 BSE=439.38

FFE=435.60 S 85E=426.00

6,458 5q. Ft.

PART OF 10 OPEN SPACE

FFE=438.52 85E=428.72 6,978 54. Ft.

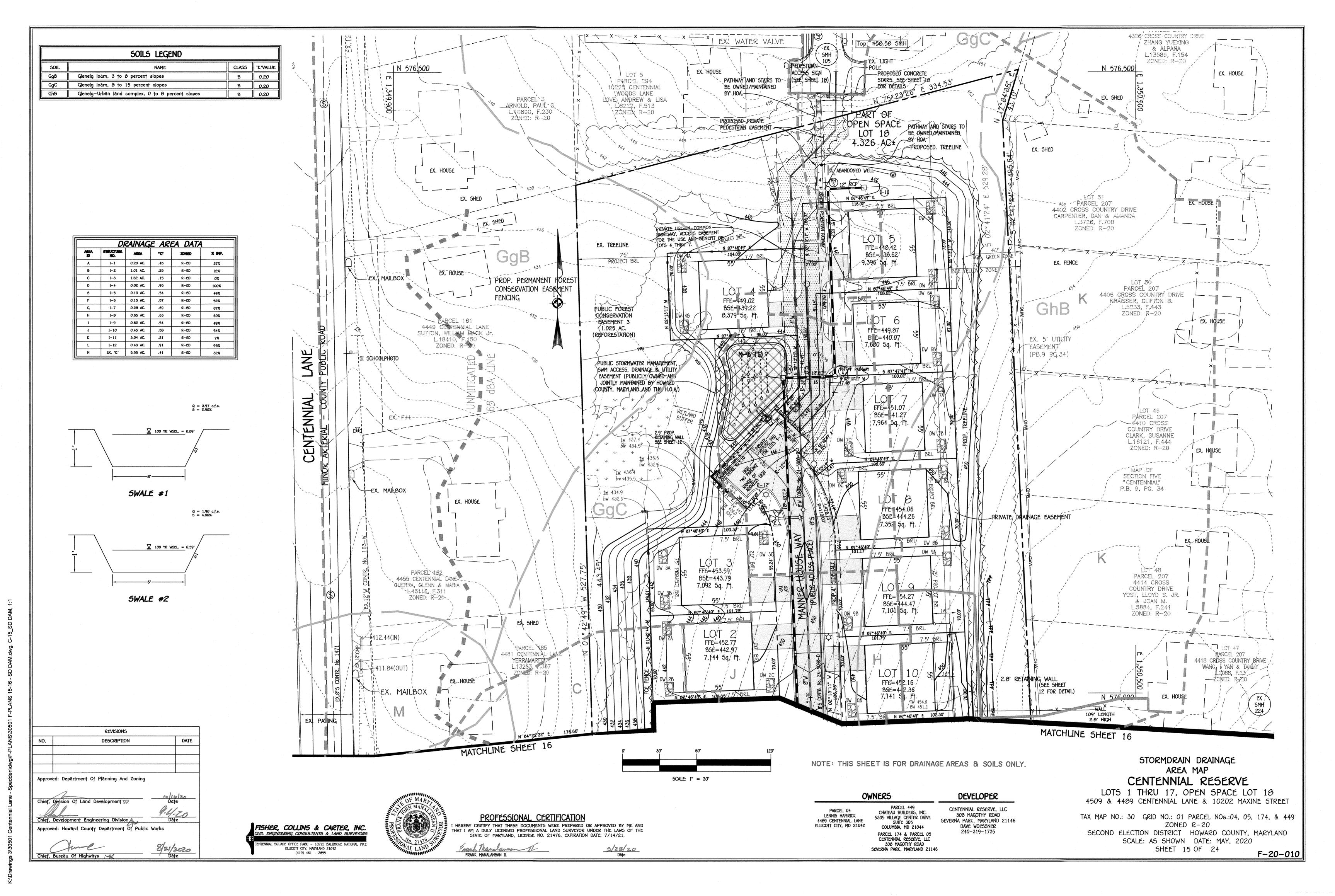
EXISTING (PRE) AND PROPOSED (POST)

STORMWATER CONDITIONS ANALYSIS MAP

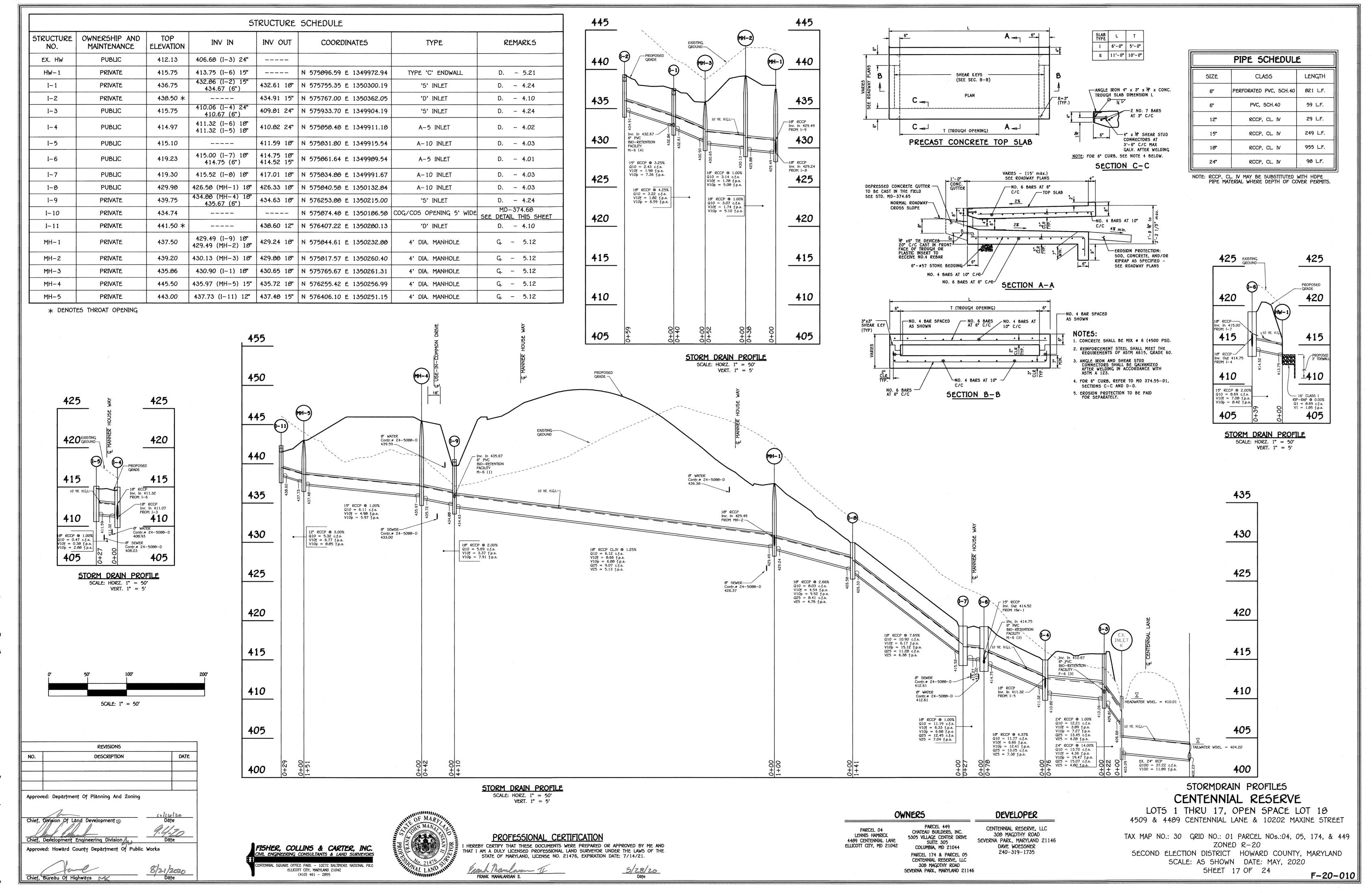
SCALE: 1"=50'

FISHER, COLLINS & CARTER, INC.

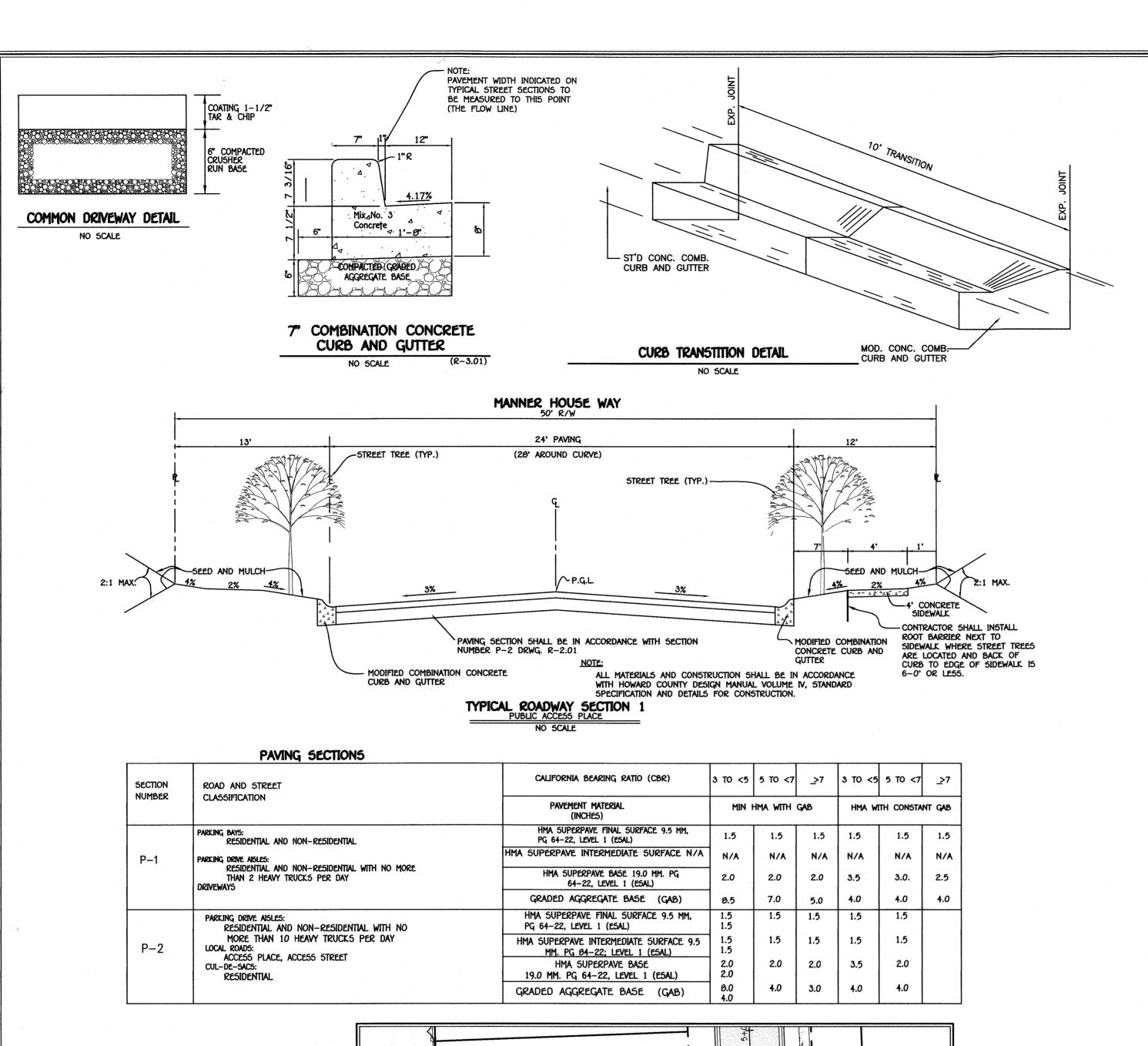
SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE ELLICOTT CITY, MARYLAND 21042

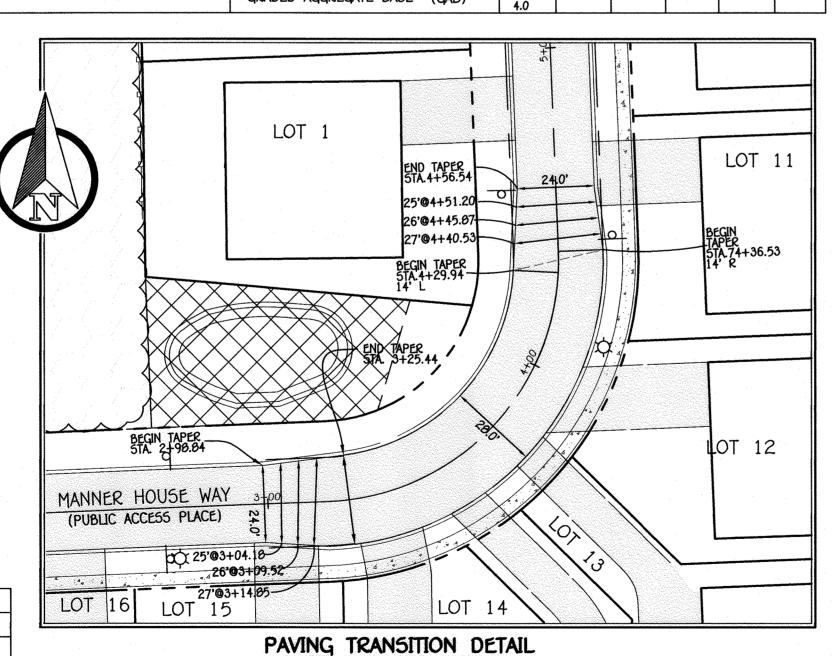


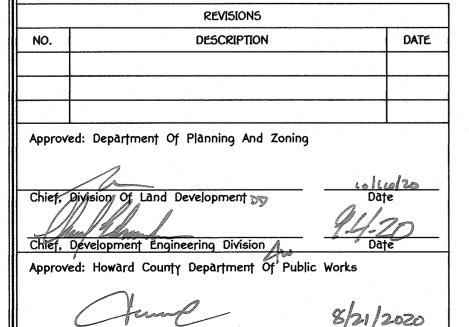
orawings 3\30501 Centennial Lane - Spedden\dwg\F-PLANS\30501 F-PLANS 15-16 - SD DAM.dwg, C-16_SD DAM, 1



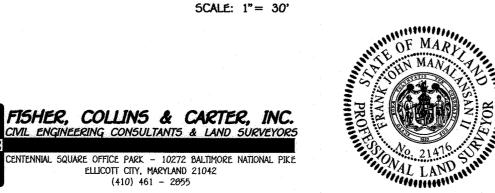
:\Drawings 3\30501 Centennial Lane - Spedden\dwa\F-PLANS\30501 F-PLANS 17- SD PROFILES.dwg. C-17 SD







Chief, Bureau Of Highways MK



ELLICOTT CITY, MARYLAND 21042

PROFESSIONAL CERTIFICATION 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.

FRANK MANALANSAN II. <u>5/28/20</u> Date

CONCRETE: MIX NO.2

. CHAMFERS: 3/4"x3/4"

3. EXPOSED SURFACES: CLASS 1 SURFACE FINISH. 4. REINFORCING STEEL: A-15 WITH A-305 DEFORMATIONS.

5. ALL REINFORCING BARS SHALL BE NO.4 BARS EXCEPT NOSING BARS.

. NOSING BARS SHALL BE NO.2 BARS AND PLACED IN ALL STEPS REGARDLESS OF STAIR LENGTH. MINIMUM COVER 2 INCHES.

UNLESS OTHERWISE NOTED, ALL TREADS SHALL BE FINISHED WITH A LIGHTLY BROOMED SURFACE. PROV MAXIMUM 2% WASH AT EXTERIOR LOCATIONS.

PER CUBIC YARD FOR "MIX NO.2 CONCRETE FOR MISCELLANEOUS STRUCTURES", COMPLETE IN PLACE OR

ON A LUMP SUM BID FOR EACH "CONCRETE STAIRS", COMPLETE IN PLACE.

NUMBER OF BARS A

N=1-5 N=6 N=7 N=8 N=9 N=10 N=11 N=12 N=13-25

4 5 5 6 6 7 7

FOR OTHER WIDTHS, THE APPROX. SPACING OF BARS A IN INCHES WILL BE EQUAL TO 80/N WITH A MIN SPACING OF 6 IN. N-INDICATES NUMBER OF STEPS EXCLUSIVE OF LANDING.

5 6 7 7 8 8 9 10

Howard County, Maryland Department of Public Works

Approved: mornas & Sutle

. UNLESS OTHERWISE NOTED, PAINTED RAILING SHALL BE FURNISHED. 1 1/4"x1/4" FLAT BAR --

Chief, Bureau of Engineering

2. RAILING AND POSTS TO BE PAINTED OR GALVANIZED SHALL CONFORM TO ASTM A36.

5. UNLESS OTHERWISE NOTED, RAILING SHALL BE FURNISHED FOR BOTH SIDES OF STAIRS AND ALL STAIRS HAVING 4 RISERS AND OVER. PROVIDE INTERMEDIATE RAILS AS REQUIRED BY CODE.

. RAILING SHALL BE ALL WELDED WITH ITS JOINTS GROUND SMOOTH AND FREE OF BURRS.

GUARD POSTS SHALL BE SET IN METAL SLEEVES, 6" DEEP AND FILLED WITH HOT POURED LEAD OR HOT POURED SULFUR OR AN EQUIVALENT EPOXY COMPOUND.

GALVANIZED RAILINGS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.

B. THIS HANDRAIL IS TO BE USED ONLY AS A PROTECTION FOR PEDESTRIANS AND SHOULD NOT BE PLACED IN ANY LOCATION WHERE IT MIGHT BE SUBJECT TO VEHICULAR IMPACT. FOR VEHICULAR PROTECTION, STANDARD GUARD RAIL SHOULD BE USED.

THE RAILING SHALL BE PAID FOR AT THE UNIT PRICE BID PER LINEAR FOOT, MEASURED HORIZONTALLY, FOR "CONCRETE STAIRS PIPE RAILING" COMPLETE IN PLACE; OR ITS COST SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR

D. GUARD REQUIRED ALONG OPEN SIDE OF STAIRS WITH VERTICAL DROP OVER 30" ABOVE GRADE OR FLOOR

RAIL SECTION

NOTE: INSTALL EXPANSION JOINTS AT MAX. 15'-0" O.C. AND INSTALL SCORING

CONCRETE WALK DETAIL

NO SCALE

MIX NO. 3 CONCRETE

MODIFIED COMBINATION CURB AND GUTTER

NO SCALE

JOINTS AT MAX. 5'-0" O.C.

SLOPE ACROSS SIDEWALK SHALL BE MIN. 1/8"/FT.

--- 1 1/4"x1/4" FLAT BAR

-1"X1/2"X1/8"⊏

- 3/8" PREMOLDED EXPANSION JOINT

CONCRETE SLAB ON GRADE - 6"X6"W2.1XW2.1 WIRE

APPROVED COMPACTED SUBGRADE

- 4" THICK 4000 PSI AIR ENTRAINED

MESH-DISCONTINUE MESH AT EXPANSION

PAVEMENT WIDTH INDICATED ON

10 3/4"

TYPICAL STREET SECTIONS TO BE

MEASURED TO THIS POINT. (FLOW LINE)

MODIFIED COMBINATION

USED ONLY ON LOCAL,

CURB AND GUTTER TO BE

CUL-DE-SAC AND MINOR COLLECTOR ROADS.

--- 3/8"X3/8" SCORING JOINT

Howard County, Maryland

Department of Public Works

Approved: mornas & Sutle

Chief. Bureau of Engineering

NOSING BAR -

6 7 8 9 9 10 11 12

. FOR RAILING DETAILS, SEE G-7.02 AND G-7.03.

SLOPE RISER STEP

1:1.57 7" MAX 11"

4:1 4" MIN 16"

(FOR NO. OF BARS,

4 MIL POLYETHLENE VAPOR BARRIER ----

DETAIL

1"x1/2"x1/8"⊏—

BARS B (TYP)-

RISER HEIGHT VAR

Concrete Stairs

5'-0" MAX

RAIL ELEVATION

SECTION A-A

1 1/2"

END ELEVATION

Concrete Stairs

Ornamental Railing

POST - MAX 5'-0" 0/C

REDESTRIAM

ACCESS

CENTENNIAL

CONTINUES

THIS WAY

PEDESTRIAN ACCESS SIGN

NO SCALE

OWNERS DEVELOPER PARCEL 449 PARCEL 04 CHATEAU BUILDERS, INC. 308 MAGOTHY ROAD LENNIS HAMRICK 5305 VILLAGE CENTER DRIVE SEVERNA PARK, MARYLAND 21146 4489 CENTENNIAL LANE **SUITE 305** ELLICOTT CITY, MD 21042 COLUMBIA, MD 21044 DAVE WOESSNER 240-319-1735 PARCEL 174 & PARCEL 05 CENTENNIAL RESERVE, LLC 308 MAGOTHY ROAD SEVERNA PARK, MARYLAND 21146

PLAN

ONE BAR B TO BE PLACED UNDER EACH STEP AND TWO UNDER LANDING AS SHOWN

1'--2"

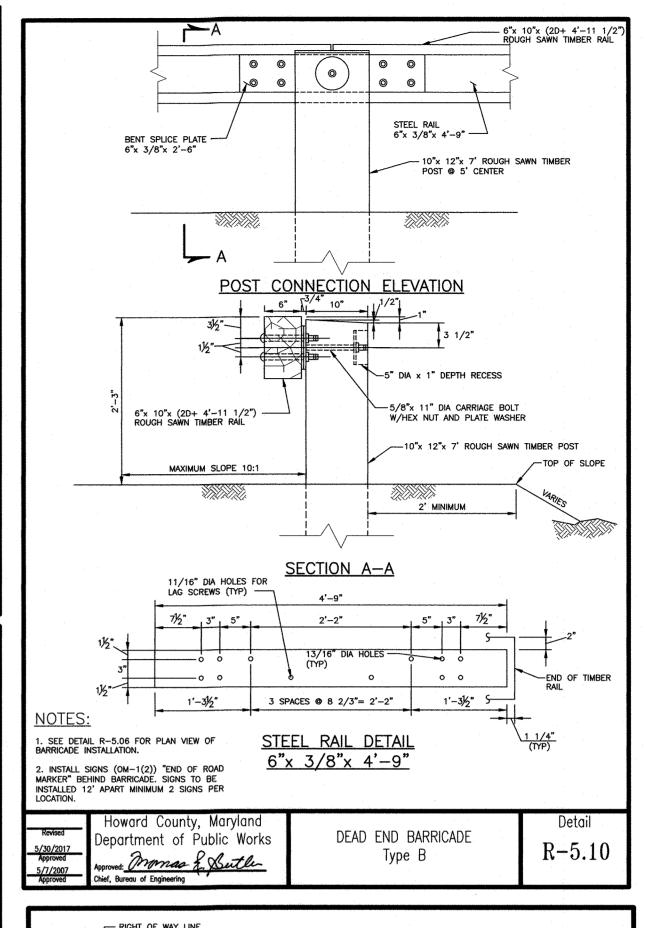
- TWISTED PICKETS

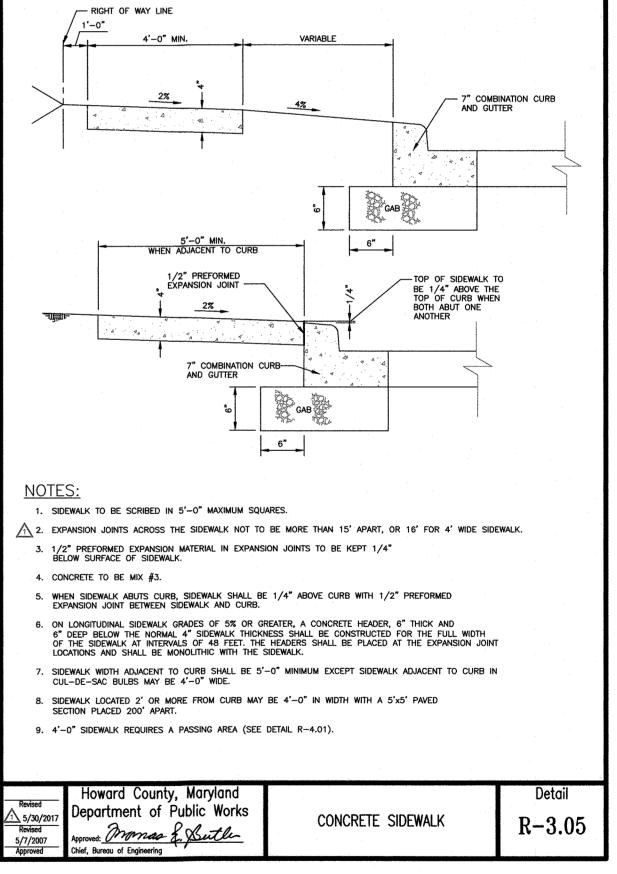
G-7.03

MEASUREMENT FOR UNIT PRICE
BID PER LINEAR FOOT

1/2" PICKETS @4" 0/C

_1 1/2" STANDARD STEEL PIP





MANNER HOUSE WAY ROADWAY SECTION AND DETAILS CENTENNIAL RESERVE

LOTS 1 THRU 17, OPEN SPACE LOT 18 4509 & 4489 CENTENNIAL LANE & 10202 MAXINE STREET

TAX MAP NO.: 30 GRID NO.: 01 PARCEL NOs.:04, 05, 174, & 449 ZONED R-20 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: MAY, 2020

5HEET 18 OF 24