$\left(\right)$	SHEET INDEX
1	COVER SHEET
2	FINAL ROAD CONSTRUCTION PLANS & PROFILES
3	GRADING, SEDIMENT & EROSION CONTROL PLAN
4	GRADING, SEDIMENT & EROSION CONTROL PLAN
5	SEDIMENT AND EROSION CONTROL DETAILS
6	DRAINAGE AREA MAP FOR STORM DRAINAGE
7	STORM DRAIN PROFILES
8	PROFILES AND DETAILS - SWM POND
9	LANDSCAPE PLAN
10	FOREST CONSERVATION PLAN

SITE ANALYSIS

LOCATION: TAX MAP 25, GRIDS 1 & 2, PARCEL 3 2ND ELECTION DISTRICT

EXISTING ZONING: R-ED COUNTY REFERENCE: PB-276, PB-344, S-00-10, P-02-02, F-92-132, WP-02-57

GROSS AREA OF TRACT: 15.21 AC.

AREA OF FLOODPLAIN: 5960 SQ.FT.(0.14 AC.)

AREA OF FLOODPLAIN OUTSIDE OF STEEP SLOPES: 0.03 AC. (1158 SF) AREA OF STEEP SLOPES: 7.35 AC. (320135 SF)

NET AREA OF TRACT: 7.83 AC.

AREA OF PROPOSED BUILDABLE LOTS: 5.89 AC.

AREA OF PROPOSED OPEN SPACE LOTS 16 & 17: 8.97 AC

AREA OF PROPOSED RIGHT-OF-WAY: 0.35 AC. AREA OF OPEN SPACE REQUIRED: 25% OR 3.80 AC. AREA OF OPEN SPACE PROVIDED: 8.97 AC (59%)

NUMBER OF BUILDABLE LOTS PROPOSED: 15 LOTS NUMBER OF OPEN SPACE LOTS: 2 LOTS

AREA OF WETLANDS: 14150 SF TOTAL AREA OF DISTURBANCE: 5.96 ACRES

GENERAL NOTES

TEVALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.

2. DEED REFERENCE: 1313/336 3. DENSITY:

NUMBER OF ENTITIES PERMITTED BY RIGHT : 7.83 x 2 = 15 LOTS

NUMBER OF BUILDABLE ENTITIES PROPOSED: 15 LOTS WITHE BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT OCTOBER, 1999 BY VOGEL AND ASSOCIATES.

- 5. THE TOPOGRAPHY AND UTILITIES SHOWN HEREON IS BASED ON AERIAL PHOTOGRAMETRIC BY POTOMAC AERIAL SURVEYS, INC.
- WITH FIELD VERIFIED SPOT ELEVATIONS PROVIDED BY VOGEL AND ASSOCIATES, DATED OCTOBER 1999. 6 WATER AND SEWER FOR THIS PROJECT WILL BE PUBLIC. WATER CONTRACT NO. 640-W. SEWER CONTRACT NO. 10-1305. PATAPSCO RIVER AREA WATERSHED.
- 7. STORM WATER MANAGEMENT (2 YR AND 10 YR) TO BE PROVIDED FOR THE DEVELOPMENT. WATER QUALITY TO BE PROVIDED BY EXTENDED DETENTION. THE FACILITY WILL BE LOCATED ON LOT 16.
- THE FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
- 8. WETLANDS AND STREAMS SHOWN ONSITE ARE BASED ON A FIELD INVESTIGATION PERFORMED BY WILDMAN ENVIRONMENTAL SERVICES AND AERIAL PHOTOGRAMETRIC, DATED FEBRUARY 2000.
- 9. FLOODPLAIN SHOWN ONSITE IS BASED ON PLAT NO. 10817.

10. FOREST CONSERVATION PLAN PREPARED BY FREDERICK WARD AND ASSOCIATES, DATED JULY 2001.

11, APFO TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP DATED FEBRUARY 14, 2000 AND APPROVED JANUARY 24, 2001.

12 PLANNING AND ZONING FILE NUMBERS: S-00-10, P_02-02, F-92-132, PB CASE #276 APP. 2-18-92, PB-344 APP. 1-24-01, WP-02-57 APP. 2-26-02 13 ALL LANDSCAPING REQUIREMENTS AS SET FORTH IN THE LANDSCAPE MANUAL SHALL BE COMPLIED WITH.

LANDSCAPE SCREENING DEPICTED ON SHEET 2 OF S-00-10 IS REQUIRED PER PB-344 (1-24-01) AND IS

SHOWN ON THE PRELIMINARY PLAN AND FINAL PLAN. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." A MINIMUM SPACING OF 20' SHALL BE

MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE. 15. SEDIMENT AND EROSION CONTROL WILL BE PROVIDED FOR THIS SITE.

16. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION

- DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- 17. THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
- 18. TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL/CEMETARY LOCATIONS ON SITE.
- 19. PER P.B.344, THE LIMITS FOR THE AREA OF DISTURBANCE FOR THE PROPOSED STORM WATER MANAGEMENT FACILITY ARE NO GREATER THAN AS ILLUSTRATED ON THE APPROVED SKETCH PLAN. (IN RESPONSE TO DPZ REQUEST FOR INFORMATION, THE CURRENT PROPOSED DISTURBANCE FOR THE SWM POND IS 0.59 ACRE)
- 20. THE PROPOSED ROUTE FOR THE SEWER LINE CONNECTION AND THE LOCATION FOR THE STORMWATER MANAGEMENT FACILITY HAVE BEEN DETERMINED AS A NECESSARY DISTURBANCE OF THE 25% OR GREATER STEEP SLOPES BY DPZ IN ACCORDANCE
- WITH SECTION 16.116 (c) OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- 21. FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE AND THE
- FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY THE RETENTION OF
- EXISTING FOREST IN THE AMOUNT OF 5.32 AC. TOTAL OBLIGATION IS 5.32 AC.
- 22. STREET TREES ARE REQUIRED FOR THIS SUBDIVISION IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.
- 23. LOTS 2 AND 3 WILL UTILIZE A USE-IN-COMMON DRIVEWAY. HOWARD COUNTY STANDARD DETAIL
- NO R-6.06 WILL BE UTILIZED FOR THE ENTRANCE AT THE INTERSECTION OF THE PUBLIC ROAD. 24. TREE PROTECTION FENCING WILL BE PROVIDED AT THE LIMITS OF DISTURBANCE WHERE GRADING IS
- ADJACENT TO ENVIRONMENTAL AREAS.
- 25. OPEN SPACE LOT 16 TO BE PRIVATELY OWNED AND MAINTAINED BY THE HOA.
- OPEN SPACE LOT 17 IS TO BE OWNED AND MAINTAINED BY HOWARD COUNTY DEPT. OF RECREATION AND PARKS.
- 26. THIS DEVELOPMENT IS SUBJECT TO SECTION R310 OF THE INTERNATIONAL RESIDENTIAL CODE (IRC) 2000 EDITION WHICH REQUIRES EMERGENCY ESCAPE EXTERIOR WINDOWS OR DOORS FROM ALL BASEMENTS WITH HABITABLE SPACE.
- 27. A NOISE STUDY IS NOT REQUIRED FOR THIS SITE.
- 28. CHURCH ROAD AND PARK DRIVE ARE SCENIC ROADS.

29, ALL SDP'S FOR LOTS 1-15 WILL REQUIRE PLANNING BOARD APPROVAL PER PB CASE NO. 344 DECISION AND ORDER DATED 1/24/01.

- 30. EXISTING VEHICULAR INGRESS AND EGRESS RESTRICTIONS ALONG CHURCH ROAD AND PARK DRIVE AS RECORDED ON THE "F.A.A.D. PROPERTY"
- SUBDIVISION PLAT WILL BE ABANDONED WITH THE RECORDING OF THE SUBDIVISION PLAT FOR THE "WOODS OF PARK PLACE".
- 31. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS. STREAMS
- OR THEIR BUFFERS AND THE FOREST CONSERVATION EASEMENTS.
- 32. A WAIVER HAS BEEN SUBMITTED AND APPROVED ON FEBRUARY 7, 2002 TO WAIVE SECTION 2.3.2.B OF THE
- DESIGN MANUAL, VOLUME III, TO ALLOW A TEE-TURNAROUND ON A PERMANENT NON-THROUGH STREET. 33. A WAIVER HAS BEEN SUBMITTED AND APPROVED ON FEBRUARY 26, 2002 (WP-02-57) TO WAIVE SECTION 16.134.(b)(1)(i)
- OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS TO ALLOW A PUBLIC ROAD WITHOUT A SIDEWALK.
- 34. THIS PLAN AND PROJECT IS GRANDFATHERED TO THE FOURTH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. 35. FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION
- OF THE FLAG OR PIPE STEM AND THE ROAD RIGHT-OF-WAY LINE ONLY AND NOT ONTO THE FLAG OR PIPE STEM LOT DRIVEWAY.
- 36. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- 37. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT. 38. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON
- THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 24-FA AND 25AA WERE USED FOR THIS PROJECT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS

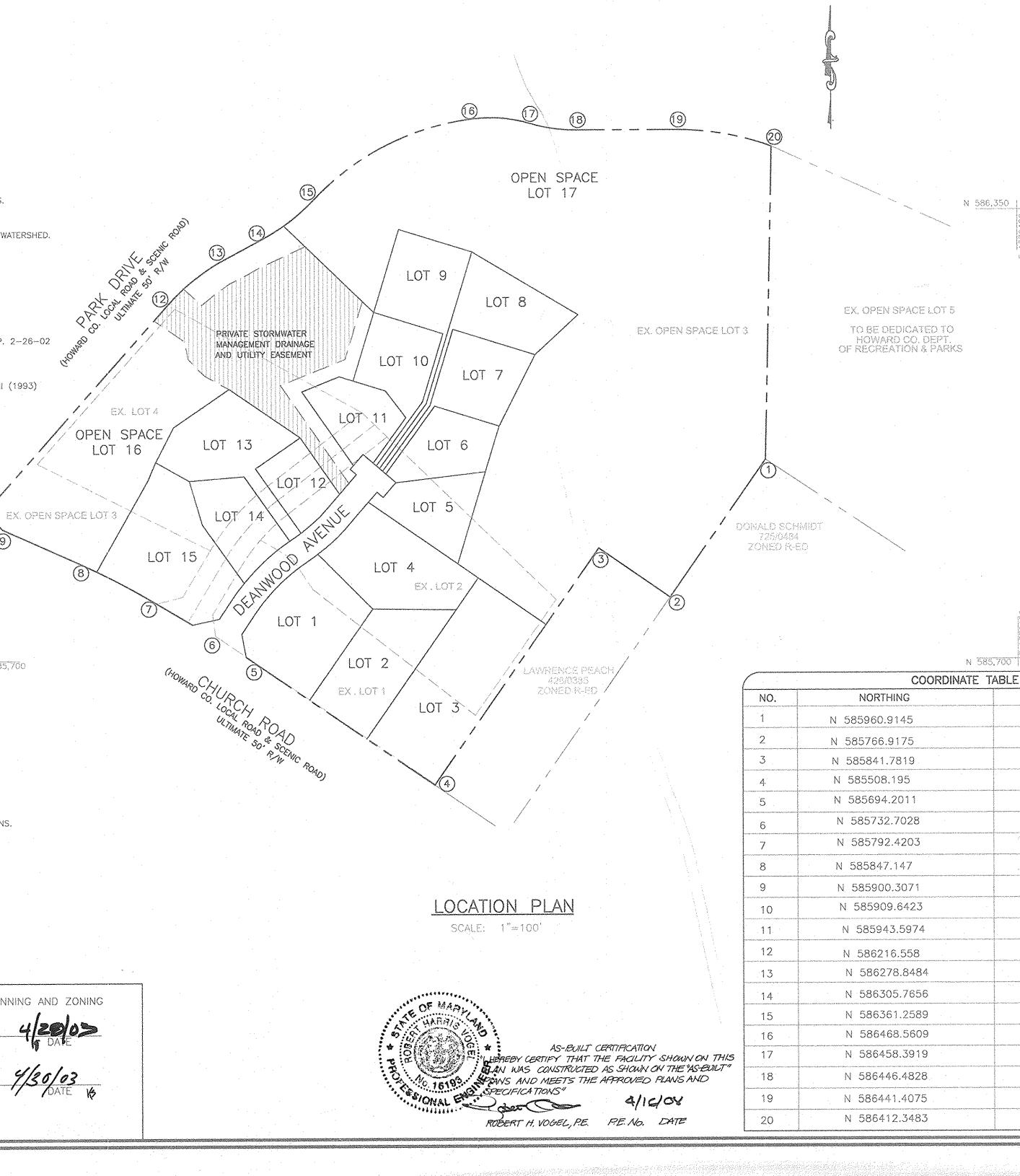
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

N 585.700

FINAL ROAD CONSTRUCTION PLAN THE WOODS OF PARK PLACE LOTS 1-15 AND OPEN SPACE LOTS 16-17

A RESUBDIVISION OF THE F.A.A.D. PROPERTY LOTS 1-4

HOWARD COUNTY, MARYLAND



BENCHMARKS

BENCHMARK NO. 1: COUNTY CONTROL #24FA N. 583,751.410; E. 1,366,091.943 ELEV. = 263.701

BENCHMARK NO. 2: COUNTY CONTROL #25AA N. 585,307.185. E. 1,366,071.024 ELEV. = 308.447'

BALTIMORI COUNTY 24FA HOWARI COUNTY

> VICINITY MAP SCALE : $1" = 2000^{\circ}$

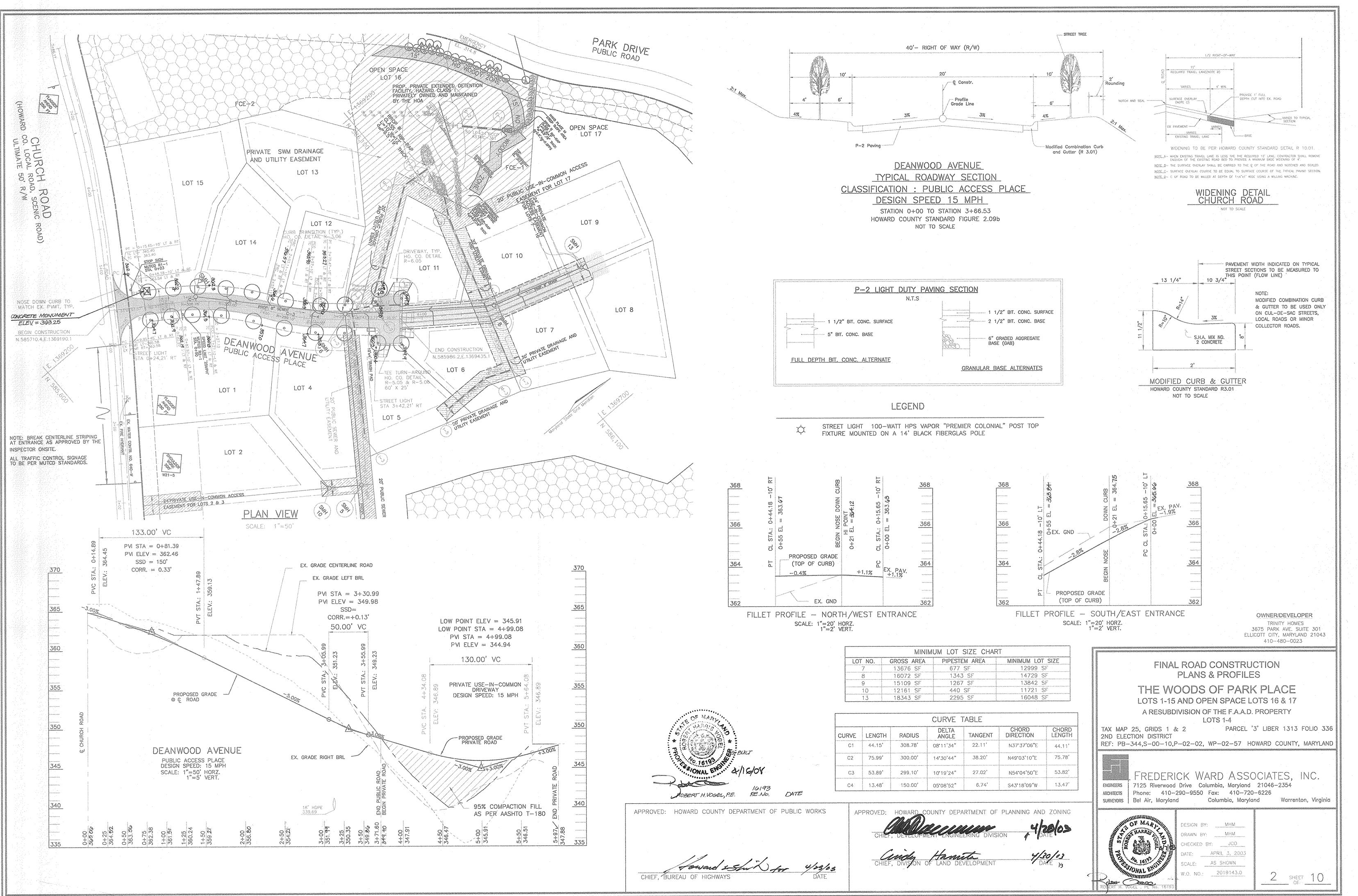
> > OWNER/DEVELOPER TRINITY HOMES 3675 PARK AVE. SUITE 301 ELLICOTT CITY, MARYLAND 21043 410-480-0023

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1		DODS OF PARK				
		AND OPEN SPACE LC				
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	TAX MAP 25, GRIDS 1 & 2 PARCEL '3' LIBER 1313 FOLIO 336 2ND ELECTION DISTRICT F-92-132, F-03-042 REF: PB-344,S-00-10,P-02-02, WP-02-57 HOWARD COUNTY, MARYLAND					
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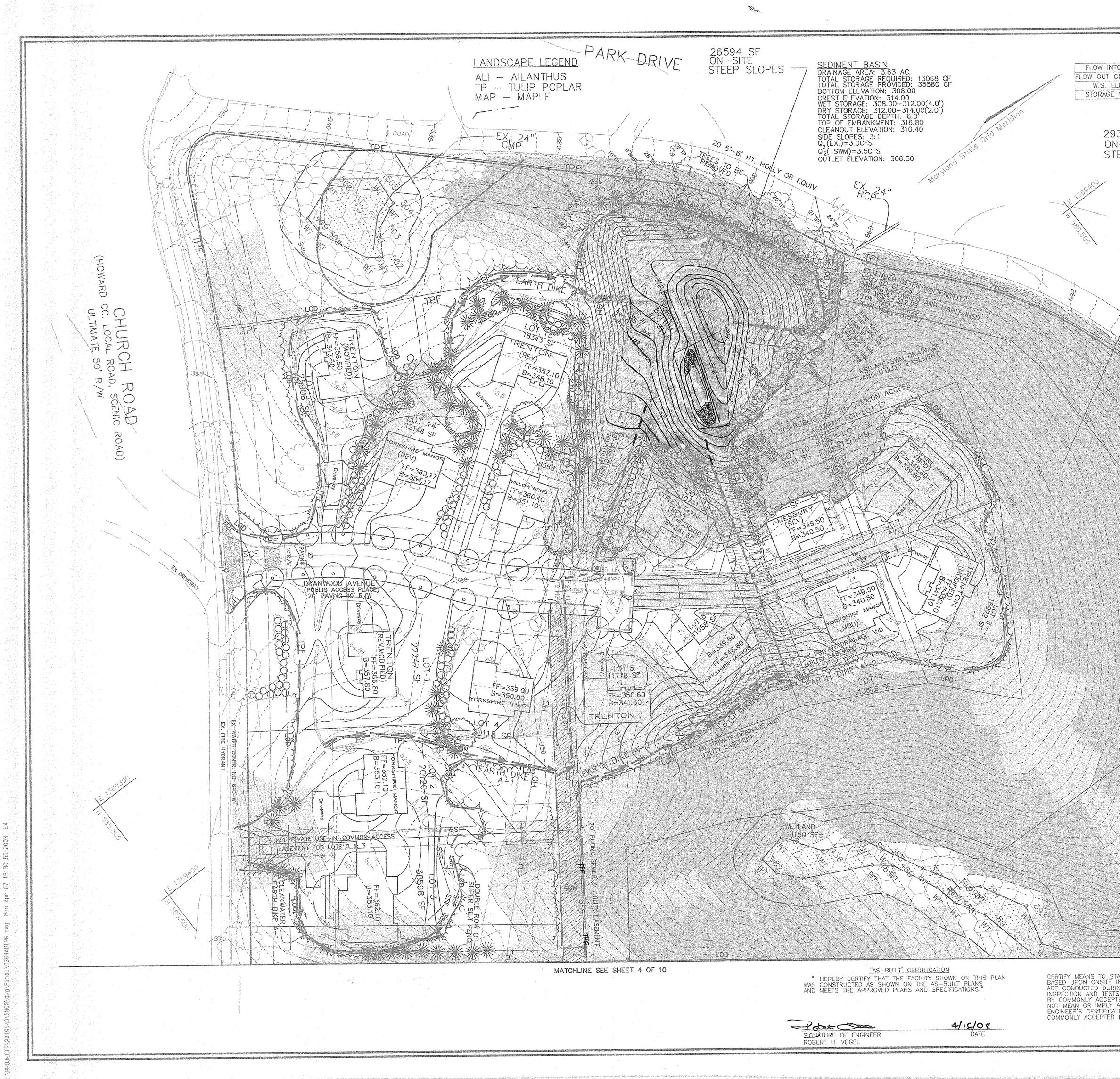
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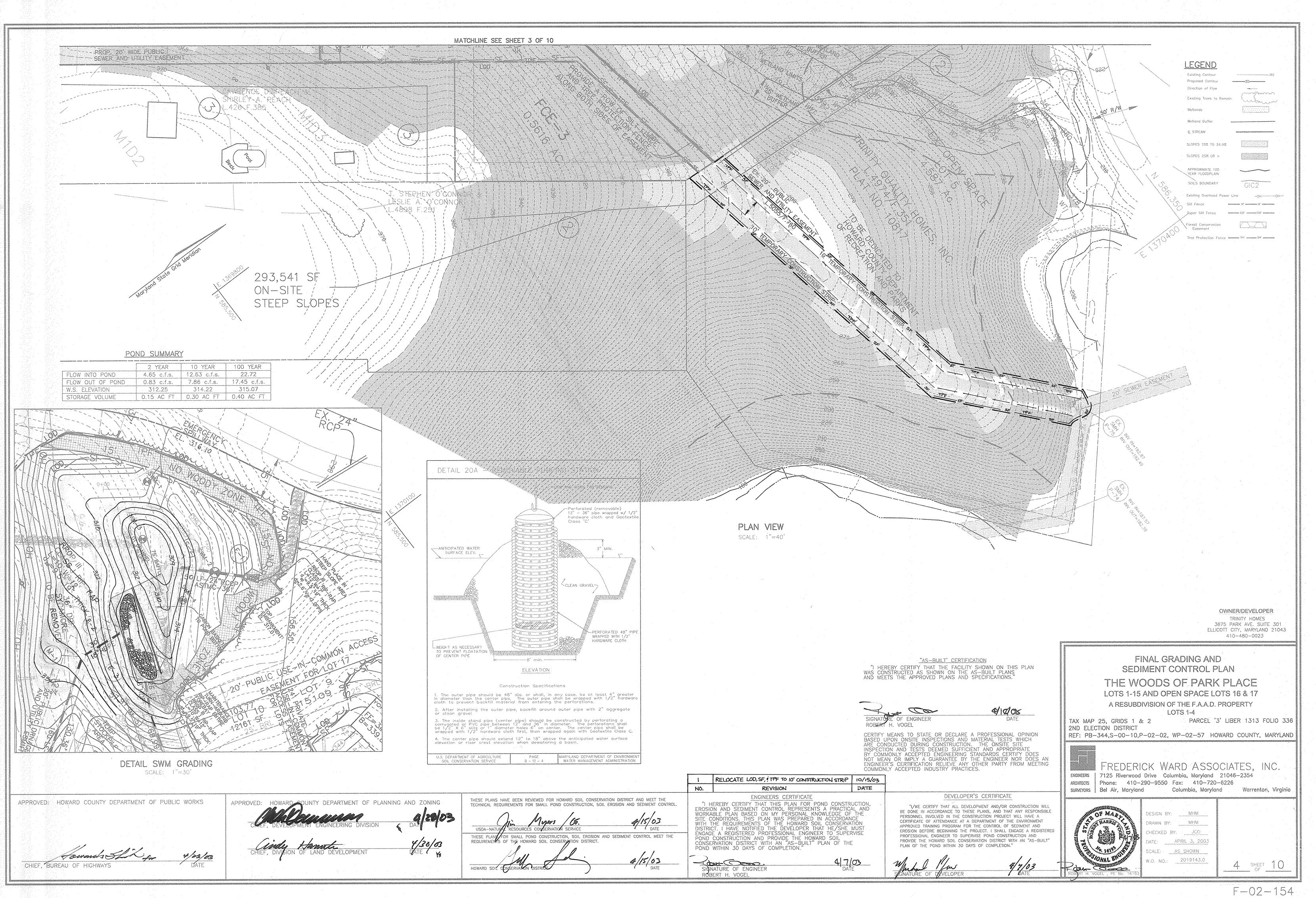
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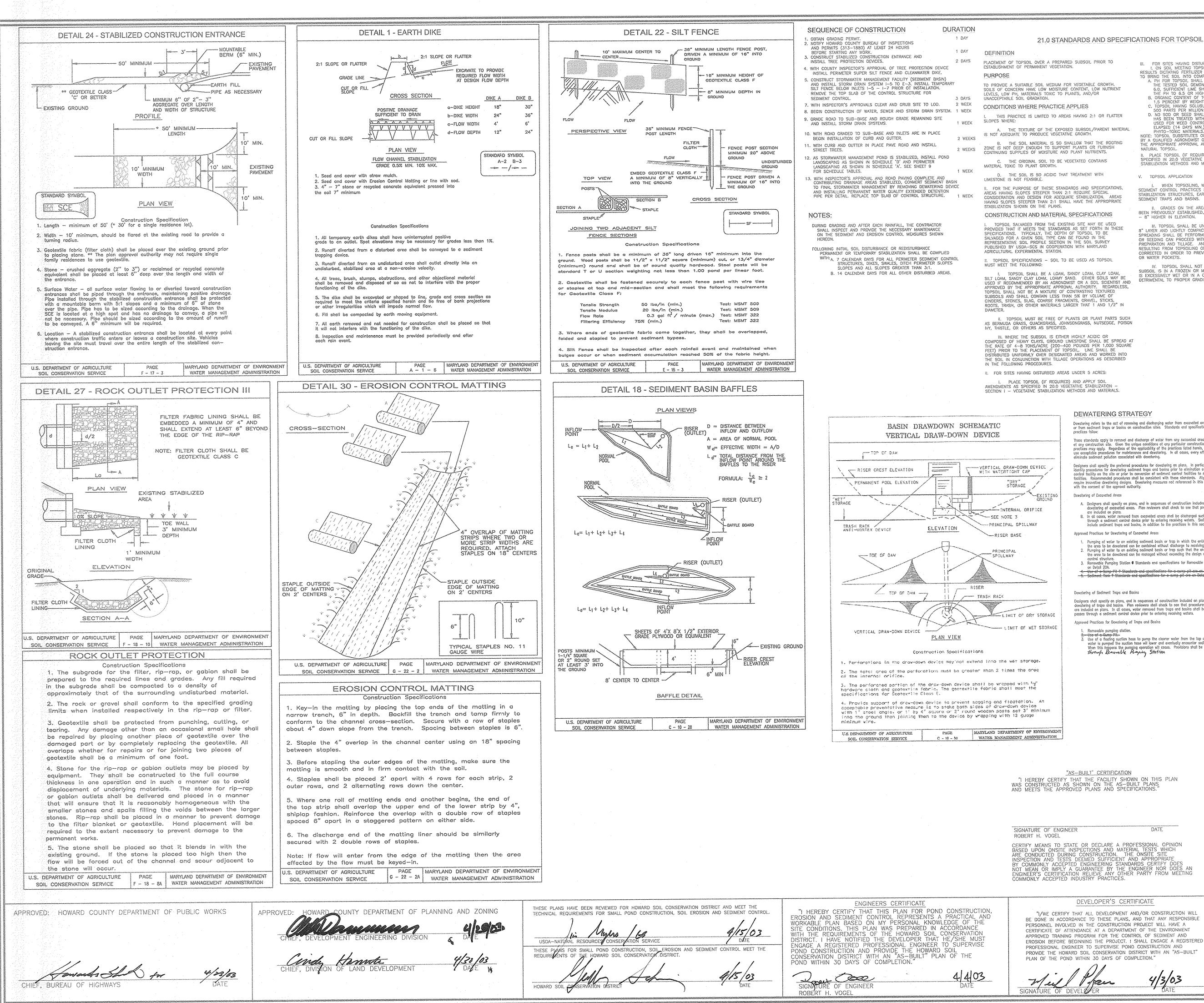
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F-02-154



STREET LIGHT POND SUMMARY LEGEND APPROXIMATE 100 Martin Contraction of the Contra YEAR FLOODPLAIN 2 YEAR 10 YEAR 100 YEAR Existing Contour GIC2 FLOW INTO POND 4.65 c.f.s. 12.63 c.f.s. SOILS BOUNDARY 22.72 c.f.s. Proposed Contour OW OUT OF POND 0.83 c.f.s. 7.86 c.f.s. 17.45 c.f.s. Direction of Flow 315.07 W.S. ELEVATION 312.25 314.22 a contractor Existing Trees to Remain <u>r an</u>g STORAGE VOLUME 0.15 AC FT 0.30 AC FT 0.40 AC FT Sit Fence Wetlands Wetlend Butter Earth Dike C STREAM 293,541 SF Erosion Control Matting XXXXXXX enabert eller version de la complete Limit of Disturbance SLOPES 15% TO 24.9% Forest Conservation SLOPES 25% OR > and the second sec Easement THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL. 9/15/02 - DATA USDA-NATURAL RESOURCES CONSERVATION SERVICE THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. 4/15/03 HOWARD SOIL SOIL HOWAR COUNTY DEPARTMENT OF PLANNING AND ZONING APPROVED: 4/20/03 Ø 4/30/03 LAND DEVELOPMENT APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 4/23/03 CHIEF, BUREAU OF HIGHWAYS ENGINEERS CERTIFICATE "I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION." 4/7/03 ROCE Hab SIGNATURE OF ENGINEER ROBERT H. VOGEL DEVELOPER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION." 4/1/03 Minul SIGNATURE OI OWNER/DEVELOPER TRINITY HOMES 3675 PARK AVE. SUITE 301 ELLICOTT CITY, MARYLAND 21043 410-480-0023 FINAL GRADING AND SEDIMENT CONTROL PLAN THE WOODS OF PARK PLACE LOTS 1-15 AND OPEN SPACE LOTS 16 & 17 A RESUBDIVISION OF THE F.A.A.D. PROPERTY LOTS 1-4 PARCEL '3' LIBER 1313 FOLIO 336 TAX MAP 25, GRIDS 1 & 2 2ND ELECTION DISTRICT REF: PB-344,S-00-10,P-02-02, WP-02-57 HOWARD COUNTY, MARYLAND FREDERICK WARD ASSOCIATES, INC. ENGINEERS | 7125 Riverwood Drive Columbia, Maryland 21046-2354 50' STREAM ARCHITECTS Phone: 410-290-9550 Fax: 410-720-6226 SURVEYORS | Bel Air, Maryland Columbia, Maryland Warrenton, Virginia DESIGN BY: MHM CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE SITE INSPECTION AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES. DRAWN BY: MHM CHECKED BY: JOO DATE: APRIL 3, 2003 SCALE: 1"=40' W.O. NO .: 2019143.0 SHEET 10 Se OF deute com F-02-154





21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES: I. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING: TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL

USED IF RECOMMENDED BY AN AGRONOMIST OR A SOIL SCIENTIST AND PPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, OOTS, TRASH, OR OTHER MATERIALS LARGER THAT 1 AND 1/2" IN

II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH

COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT HE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1.000_SQUARE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO

DEWATERING STRATEGY

ing refers to the act of removing and discharging water from excavated areas on construction sites or from sediment trops or basins on construction sites. Standards and specifications for dewatering practices follow:

These standards apply to removal and discharge of water from any excavated area or sediment trap or basin at any construction site. Given the unique conditions at any particular construction site, any or all of the practices may apply. Regardless of the applicability of the practices listed herein, operators are required to use acceptable procedures for maintenance and dewatering. In all cases, every effort shall be made to eliminate sediment pollution associated with devotoring.

Designers shall specify the preferred procedures for dewatering on plans. In particular, designers should tentify procedures for dewatering sediment traps and basins prior to elimination of the tast sediment ontrol facility on the site or prior to conversion of sediment control lacilities to stormwater management facilities. Recommended procedures shall be consistent with these standards. Atypical site conditions may require innovative dewatering designs. Dewatering measures not referenced in this standard may be used with the consent of the approved authority. Devotering of Excovated Areas

Designers shall specify on plans, and in sequences of construction included on plans, practices fo dewatering of excavated areas. Plan reviewers shall check to see that procedures for dewatering are included on plans. B. In all cases, water removed from excavated areas shall be discharged such that it shall pass through a sedement control device prior to entering receiving waters. Sediment control devices include sediment trops and basins, in addition to the practices in this section.

Approved Proctices for Dewatering of Excovated Areas

- 1. Pumping of water to on existing sediment basin or trop in which the entire volume of water from the crea to be deviatered can be contained without discharge to receiving waters. 2. Pumping of water to an existing sediment basin or trop such that the entire volume of water from the crea to be dewatered can be managed without exceeding the design outflow from the sediment
- control structure 3. Removable Pumping Station @ Standards and specifications for Removable Pumping Station are
- on Detail 20A Use of a Sump Pit ? Standards and openitizations for a sump pit are an Detail 202 S. Scalinent Tank ? Standards and openitizations for a sump pit are an Datail 21.

Dewatering of Sediment Trops and Basins

Designers shot specify on plans, and in sequences of construction included on plans, the practices for devalating of traps and basins. Then reviewers shall check to see that procedures for devalating to be used are included on plans. In all cases, water removed from traps and basins shall be discharged so that it cosses through a sediment control device prior to entering receiving waters. Approved Practices for Dewatering of Trops and Basins

Removable pumping station.
Use of a Boating suction has to pump the cleaner water from the top of the pond. As the cleaner
Use of a floating suction has to pump the cleaner water from the top of the pond. As the cleaner

water is pumped the suction has will lover and eventually encounter sediment laden water. When this happens the pumping operation will cease. Provisions shall be made to filter water through Removable Rimping Station

A. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0. SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER. B. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT. C. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN SOD PARTS PER MILLION SHALL NOT BE USED. NO SOD OR SEED SHALL BE PLACED ON SOIL SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS

USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS. NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY

V. TOPSOIL APPLICATION

WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

IL GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREMOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4"

III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" -8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL 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 RESHITING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS

IN TOPSOIL SHALL NOT BE PLACE WHILE 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

HE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMMENDMENTS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION-SECTION I-VEGETATIVE STABILIZATION METHODS AND MATERIALS.

- 8" HIGHER IN ELEVATION.

OR WATER POCKETS.

DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

LOOSENED.

(8 GAL/1000 SQ.FT.) FOR ANCHORING.

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSE AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE DODUCT. STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT S
- 4. ALL SEDIMENT TRAPS/BASING SHOWN MUST BE FENCED AND WARNING SIGNS POSTED UND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL BE DONE WITH OFFICIENTS DESCRIPTION OF ALL ONE FOR PERCEPTION WITH MULCH ALONE SHALL BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES
- 6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. 7. SITE ANALYSIS
- TOTAL AREA AREA DISTURBED AREA TO BE ROOFED OR PAVED AREA TO BE VEGETATIVELY STABILIZED
- OFFSITE WASTE/BORROW AREA LOCATION. 8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR
- PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE. 9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE
- IOWARD COUNTY SEDIMENT CONTROL INSPECTOR. 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR
- GRADING, OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE. 11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER. * TO BE DETERMINED BY CONTRACTOR, WITH PRE-APPROVAL OF THE SEDIMENT CONTROL INSPECTOR WITH AN APPROVED AND ACTIVE GRADING PERMIT
 - OWNER/DEVELOPER TRINITY HOMES

3675 PARK AVE: SUITE 301 ELLICOTT CITY, MARYLAND 21043

FINAL SEDIMENT AND EROSION CONTROL DETAILS THE WOODS OF PARK PLACE "AS-BUILT' CERTIFICATION "I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLANS LOTS 1-15 AND OPEN SPACE LOTS 16 & 17 A RESUBDIVISION OF THE F.A.A.D. PROPERTY LOTS 1-4 PARCEL '3' LIBER 1313 FOLIO 336 TAX MAP 25, GRIDS 1 & 2 2ND ELECTION DISTRICT REF: PB-344,S-00-10,P-02-02, WP-02-57 HOWARD COUNTY, MARYLAND CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE SITE INSPECTION AND TESTS DEEMED SUFFICIENT AND APPROPRIATE INSPECTION AND LESIS DEEMED SUFFICIENT AND APPROXIMATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES. FREDERICK WARD ASSOCIATES, INC. 7125 Riverwood Drive Columbia, Maryland 21046-2354 ENGINEERS Phone: 410-290-9550 Fax: 410-720-6226 ARCHITECTS SURVEYORS | Bel Air, Maryland Columbia, Maryland Warrenton, Virginia DEVELOPER'S CERTIFICATE "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE DESIGN BY: MHM PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT RAWN BY: MHM APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND

> HECKED BY: JCO APRIL 3, 2003 AS SHOWN SCALE: W.O. NO.: 2019143.0

> > F-02-154

SHEET 10

PERMANENT SEEDING NOTES APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE

URTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED. SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY

OIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF HE FOLLOWING SCHEDULES:

- 1) PREFERRED-APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS, 100 SO.FT.) AND 600 LBS PER ACRE 10-10 FERTILIZER (14 LBS/ 1000 SO.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL, AT THE TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ.FT.)
- 2) ACCEPTABLE-APPLY 2 TONS PER ACRE DOLOMATIC LIMESTONE (92 LBS/ 1000 SQ.FT.) AND APPLY 1000 LBS. PER ACRE 10-10-10- FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

EEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU CTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS/1000 SQ.FT.) OF ENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE 0.5 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF CTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OPTION (2) USE SOD, OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

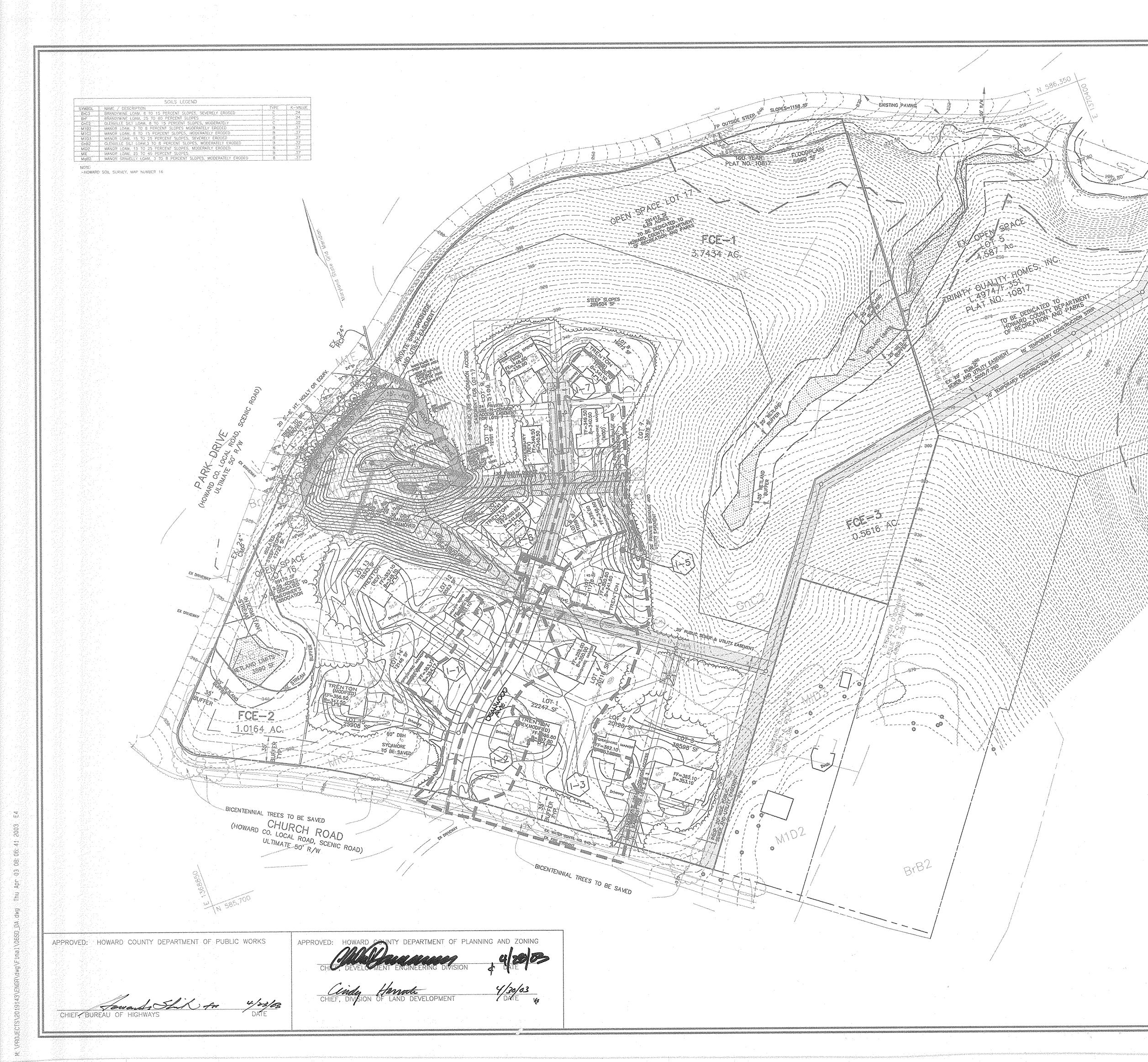
TEMPORARY SEEDING NOTES

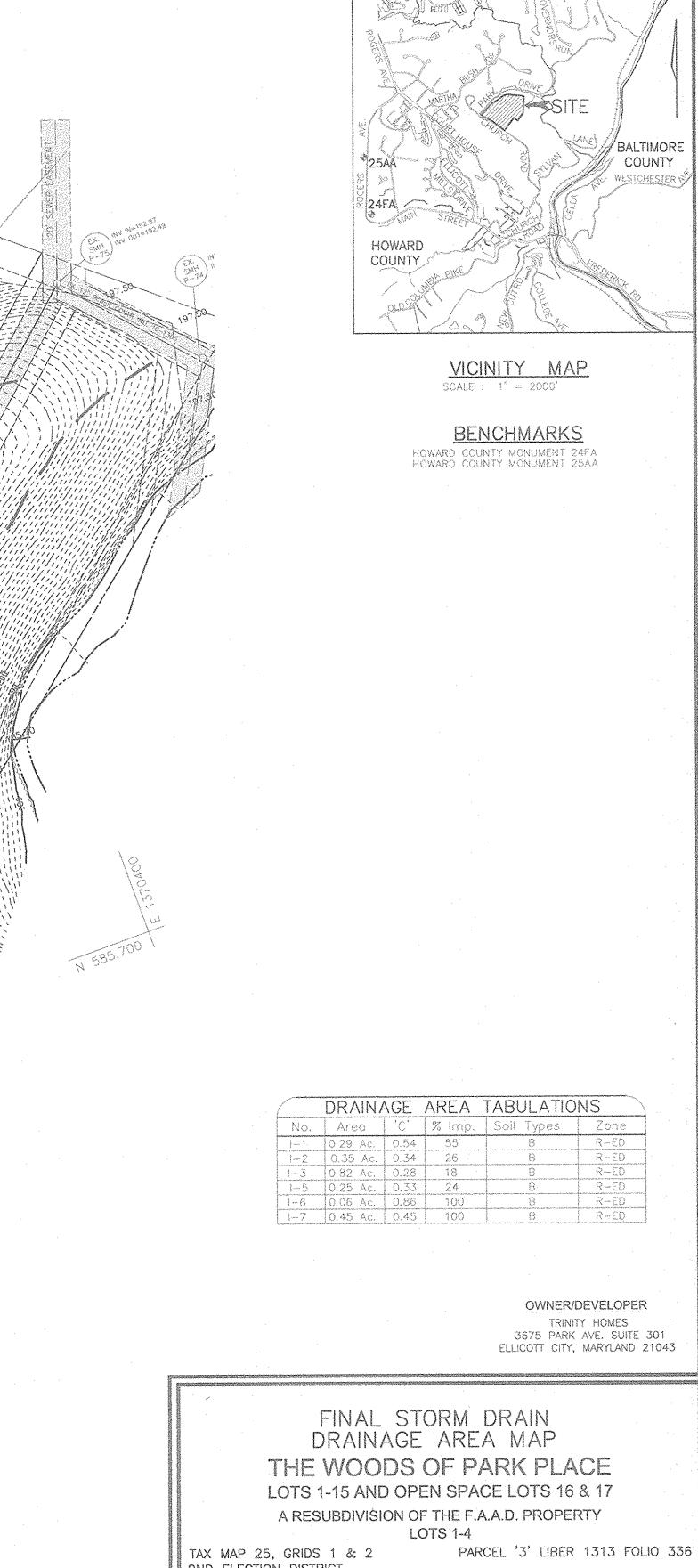
SEFORED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING. SCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY COLL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER

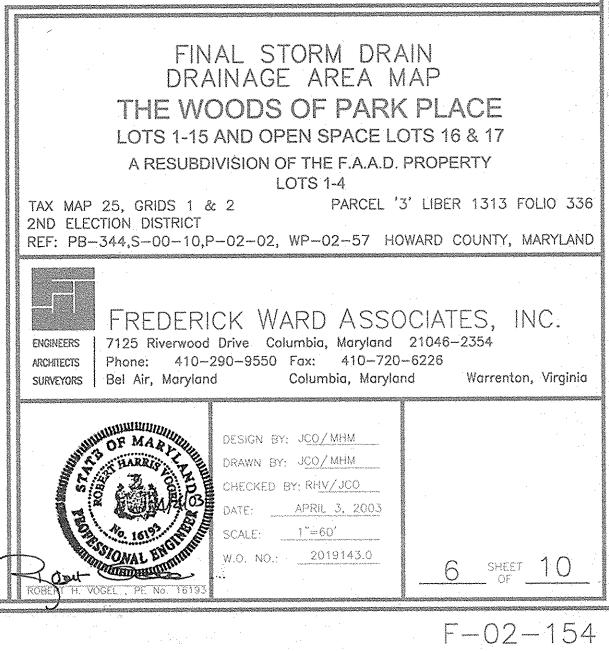
(14 LBS./1000 SQ.FT). SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.0.7 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 1 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS

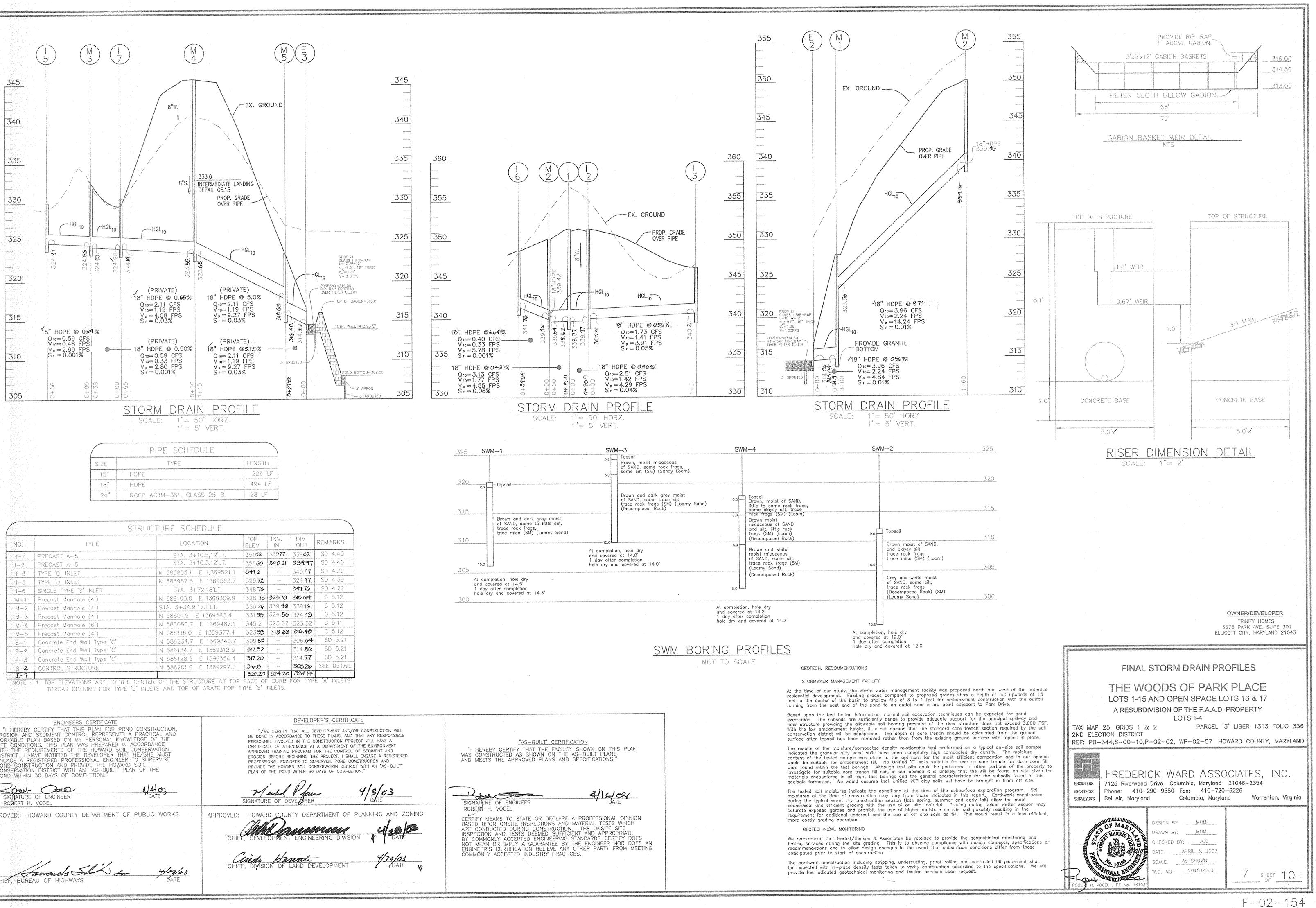
PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR

MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.



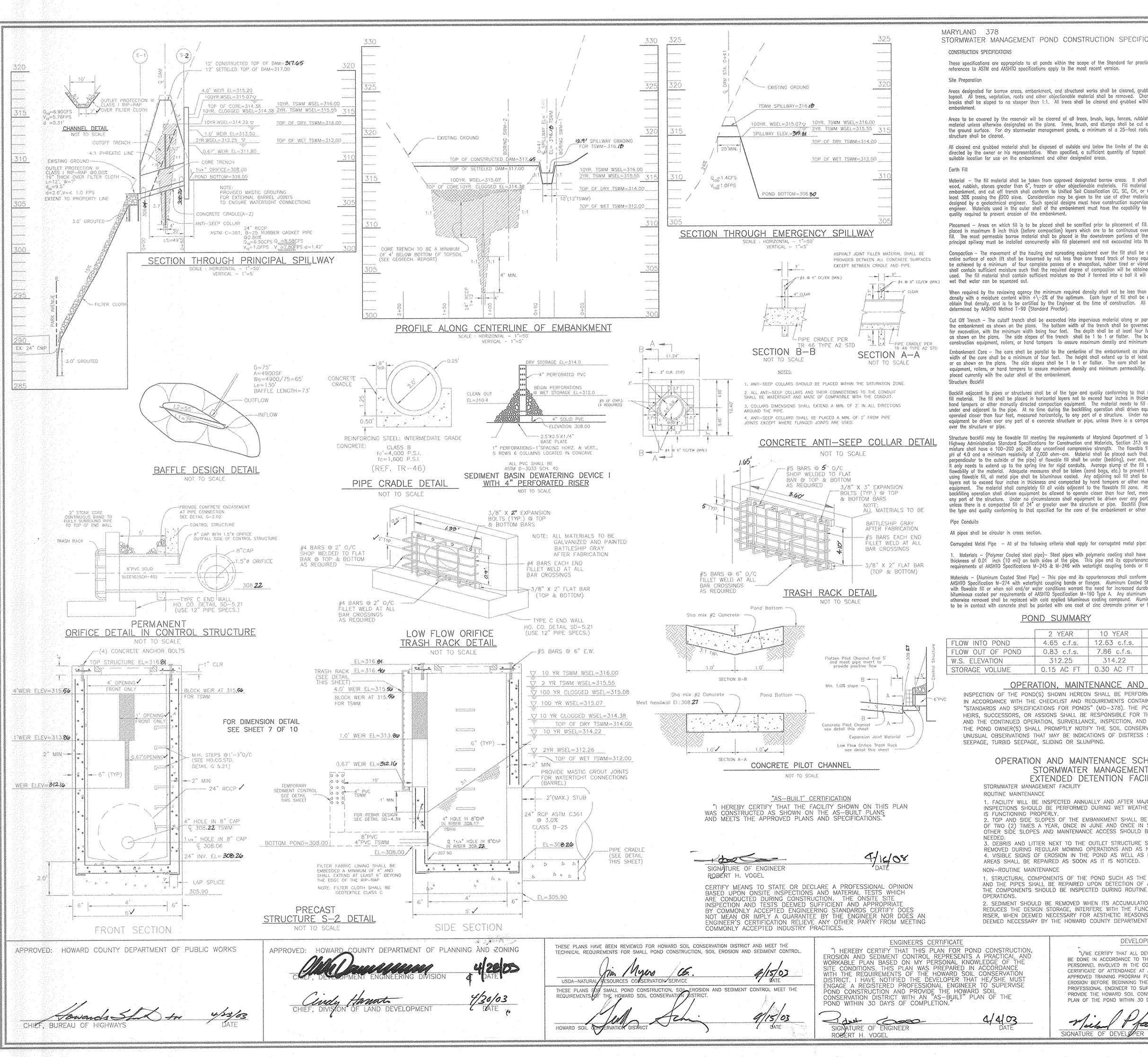






	STRU	JCTURE SCHEDULE				
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
	PRECAST A-5	STA. 3+10.5,12'LT.	351 52	339.77	339 62	SD 4.40
nan pain an dia manana di manan 1 angi 22	PRECAST A-5	STA. 3+10.5,12'LT.	351.60	340.21	339.97	SD 4.40
	TYPE 'D' INLET	N 585855.1 E 1,369521.1	347.6	vijeta	340.97	SD 4.39
	TYPE 'D' INLET	N 585957.5 E 1369563.7	329.72		324: 97 :	SD 4.39
6	SINGLE TYPE 'S' INLET	STA. 3+72,18'LT.	348.76	1000m	341.76	SD 4.22
North Contraction	Precast Manhole (4')	N 586100.0 E 1369309.9	328,75	323.70	315.64	. 6 5.12
5 M-2	Precast Manhole (4')	STA. 3+34.9,17.1'LT.	350. 26	339. 46	339:16	G 5.12
M3	Precast Manhole (4')	N 58601.9 E 1369563.4	331 .33	324.56	324.13	G 5.12
NA care de .	Precast Manhole (6')	N 586080.7 E 1369487.1	345.2	323.62	323.52	G 5.11
	Precast Manhole (4')	N 586116.0 E 1369377.4	323 38	318.63	316.48	6 5.12
enineterrenenineterrenenineterrenen	Concrete End Wall Type 'C'	N 586234.7 E 1369340.7	309.55		306.64	SD 5.21
E en L	Concrete End Wall Type 'C'	N 586134.7 E 1369312.9	317.52		314.86	SD 5.21
ninesiminen osan araa a	Concrete End Wall Type 'C'	N 586128.5 E 1396354.4	317.20		314.27	SD 5.21
S ei 1 2	CONTROL STRUCTURE	N 586201.0 E 1369297.0	316.81	elette.	306.26	SEE DETAIL
I-7			320.20	324.20	324.14	E 'A' INLETS'

"I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION." -Lood-APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS



STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the tow of the

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embonkment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the ill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete posses of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within + -2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tompers to assure maximum density and minimum permeability. In addition the core shall be placed currently with the outer shell of the embankment.

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operated closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi; 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. t only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7° to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of the structure. Under no circumstances shall equipment be driven over any part of a structure or pipe inless there is a compacted fill of 24° or greater over the structure or pipe. Backfill (flowable fill)zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

All pipes shall be circular in cross section.

1. Materials - (Polymer Coated steel pipe)- Steel pipes with polymeric coating shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Cooted Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Cooted Steel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be pointed with one coat of zinc chromate primer or two coats of asphalt.

POND SUMMARY

2 YEAR 4.65 c.f.s. FLOW OUT OF POND 0.83 c.f.s. 312.25 0.15 AC FT

OPERATION, MAINTENANCE AND INSPECTION INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND ANY HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

STORMWATER MANAGEMENT

STORMWATER MANAGEMENT FACILITY

ROUTINE MAINTENANCE 1. FACILITY WILL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IS FUNCTIONING PROPERLY. . TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHOULD BE MOWED AS 3. DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.

4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIPRAP OUTLET AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED. NON-ROUTINE MAINTENANCE 1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER,

AND THE PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS. 2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERE WITH THE FUNCTION OF THE

RISER, WHEN DEEMED NECESSARY FOR AESTHETIC REASONS. OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE IN ACCORDANCE TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND. CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

4/4/03

SIGNATUR

10 YEAR	100 YEAR
12.63 c.f.s.	22.72 c.f.s.
7.86 c.f.s.	17.45 c.f.s.
314.22	315.07
0.30 AC FT	0.40 AC FT

OPERATION AND MAINTENANCE SCHEDULE FOR EXTENDED DETENTION FACILITY

DEVELOPER'S CERTIFICATE

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9. 2. Coupling, bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at lease 24 mils in thickness.

3. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be rerolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24 inches diameter: flanges on both ends of the pipe with a circular 3/8 inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugation depth. Pipes 24 inches in diameter and larger shall be connected by a 24 inch long annular corrugated band using a minimum of 4(four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12 inches on the end of each pipe. Flanged joints with 3/8'inch closed cell gaskets the full width of the flange is also acceptable. Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

Backfilling shall conform t&tructure Backfill " 6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe: 1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or

exceed ASTM C-361. Bedding - Reinforced concrete pipe conduits shall be loid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel

Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser. with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding

4. Backfilling shall conform totructure Backfill ".

a neoprene bead.

bedding is not permitted.

5. Other details (anti-seep collars, valves, etc.) shall be shown on the drawings.

Plastic Pipe - The following criterio shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4"-10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.

2. Joints and connections to anti-seep collors shall be completely watertight.

3. Bedding — The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock ar soft, spangy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform totructure Backfill

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms – When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprop

Concrete

Rock riprop shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction Materials, Section 311. Geotexile shall be placed under all riprap and shall meet requirements of Maryland Department of Transportation,

State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C. Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the wark and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or utlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

All borrow areas shall be graded to provide proper drainage and left I a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

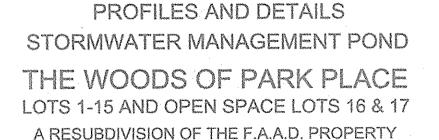
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

POND BOTTOM SOIL CONDITIONS

If broken rock fragments are encountered at finished pond bottom, under cut a minimum of 12" below basin grade and to a horizontal distance of at least 18" beyond each edge of the broken rock and backfill with fine-grained ML or CL soils compacted to a firm condition. This procedure should be performed under the supervision of the project Geotechnical Engineer.

> OWNER/DEVELOPER TRINITY HOMES 3675 PARK AVE, SUITE 301

ELLICOTT CITY, MARYLAND 21043



LOTS 1-4 TAX MAP 25, GRIDS 1 & 2 PARCEL '3' LIBER 1313 FOLIO 336 2ND ELECTION DISTRICT

REF: PB-344,S-00-10,P-02-02, WP-02-57 HOWARD COUNTY, MARYLAND

REDERICK WARD ASSOCIATES, INC.

Columbia, Maryland

7125 Riverwood Drive Columbia, Maryland 21046-2354 ENGINEERS Phone: 410-290-9550 Fax: 410-720-6226 ARCHITECTS SURVEYORS | Bel Air, Maryland

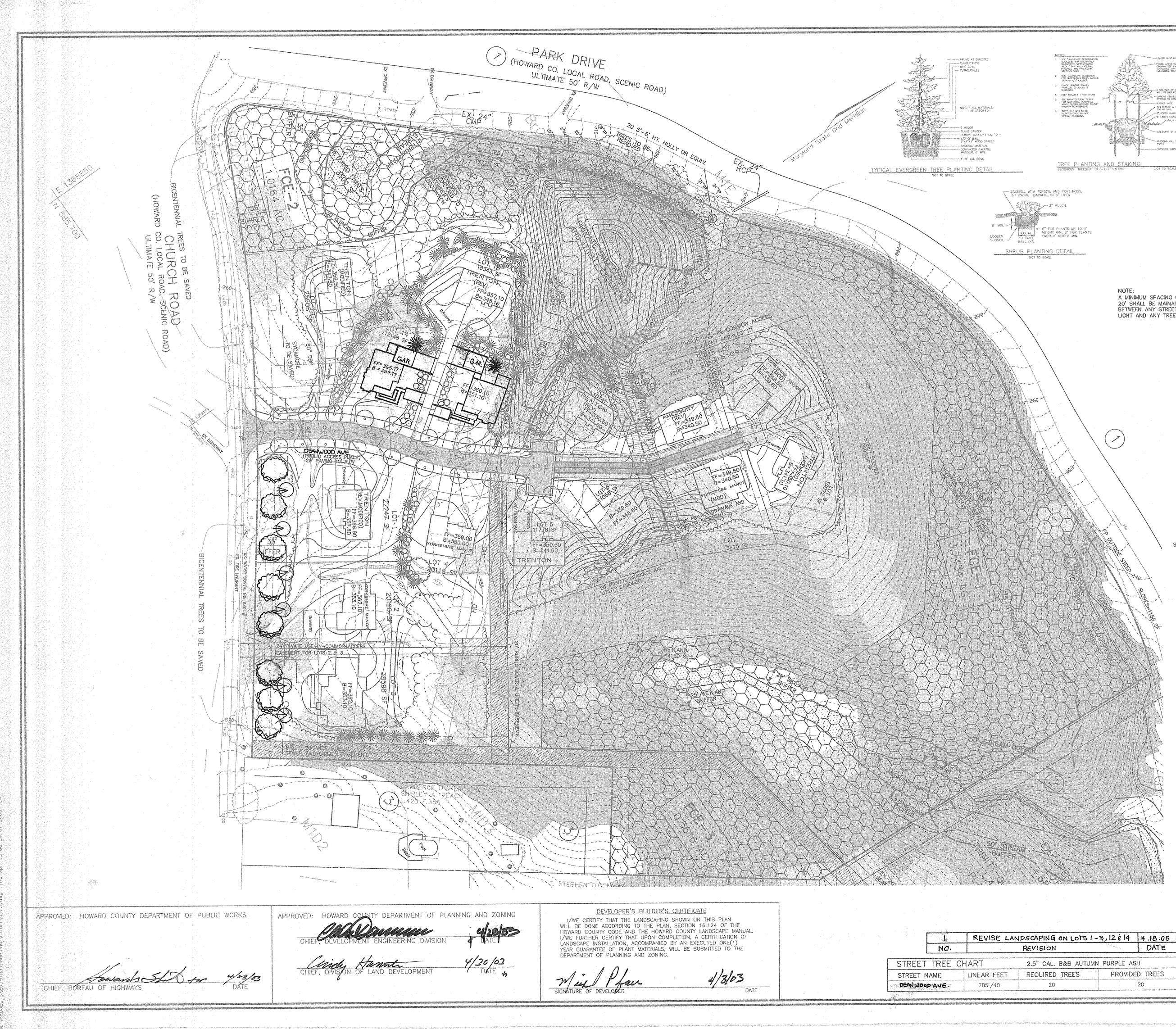
> DESIGN BY: MHM DRAWN BY: MHM HECKED BY: JCO DATE: APRIL 3, 2003 SCALE:

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AS: SHOWN W.O. NO.: 2019143.0

SHEET 10

Warrenton, Virginia



LEGEND ---LEADER WIST REMARK W RE LANDRAPE STOP APPROXIMATE 100 and the second Existing Contour PROG APPROVATELY 303 (POMP- SEE LARCSCAPE OLIVERSIA SEE LARCSCAPE (VERGESIA SPEES. ----- 382 YEAR FLOODPLAIN Pronosed Contour TAN "LANGUAPY GLODERS"" FOR SEPERATING TREES LARGED DIAN 2-1/2" CALFER. SOILS BOUNDARY Direction of Flow PLACE LEPSONT STAKES PARALLEL TO WALKS & SCREPHON -2 STRAIDS OF GALVARGES WHIT THISTED FOR SEATCHT Existing Trees to Remain 4. KEEP WART I FROM THUS - UPREASE STANES- SET IN . DAMAGE WE'L OF DAMAGE SEL ARON TOTOTAL PLANS FOR ADOUTORIAL PLANTINGS WHEN EXCED MOMAND COM MOMENTA EXCEDIMENTS. ----- MUNICE WOLL Wetlands CUT BURNAR & RUSE CHUN TOP OF BASK Limit of Disturbance 6. TYLES ARE NOT TO BE FLANTED CARE ARVAIL SCRACE EASEMINT. Wetland Buffer and the second s Forest Conservation Eosement **@** STREAM Light Poles Post Top 🌣 🍸 Overhead - PLATERI MICH IXI PLANIDIS NOTES SLOPES 15% TO 24.9% osses tesse SLOPES 25% OR > TREE PLANTING AND STAKING DECIDUOUS TREES UP TO 3-1/2" CALIPER NOT TO SCALE GENERAL NOTES 1. Financial Surety for the required landscaping provided per PB-344 (Applicants Exhibit No.11 1-24-01) and the Landscape Manual to be posted as part of the Developer's Agreement in the amount of \$19,860.00 for 10 shade trees, 59 evergreen trees and 167 shrubs; and for the 20 evergreen trees that are to be provided as alternative compliance along the north side of the SWM facility due to removal of 3 existing trees within the 35' scenic road buffer. SCHEDULE A PERIMETER LANDSCAPE EDGE ADJACENT TO PERIMETER PROPERTIES ADJACENT TO CATEGORY ROADWAYS Perimeter/Frontage Designation Landscape Type Linear Feet of Roadway 707 1420 Frontage/Perimeter Credit for Existing Vegetation (Yes, No, Linear Fest Describe below if needed) Credit for Wall, Fence or Berm (Yes, No, Linear Fest Yes* 707' Yes* 1420' NOTE: A MINIMUM SPACING OF No No Describe below if needed) Imber of Plants Required(LF Remaining 20' SHALL BE MAINAINED BETWEEN ANY STREET 1:50 0 1:40 0 1:60 0 Shode Trees LIGHT AND ANY TREE. Evergreen Trees Shrubs Number of Plants Provided Shode Trees Evergreen Trees 4504° Other Trees (2:1 Substitution) *** Shrubs (10:1 Substitution) Describe Plant Substitution Credits Below if needed) * Existing Woods to Remain SCHEDULE D : STORMWATER MANAGEMENT AREA LANDSCAPING SWM POND 623 LF LINEAR FEET OF PERIMETER CREDIT FOR EXISTING VEGETATION Yes* 398' (NO, YES AND LINEAR FEET) Yes** 36% (225') CREDIT FOR OTHER LANDSCAPING (NO, YES AND %) NUMBER OF TREES REQUIRED (225) 5 SHADE TREES 6 EVERGREEN TREES SHADE TREES EVERGREEN TREES NUMBER OF TREES PROVIDED SHADE TREES 4 SHADE TREES** 35 EVERGREEN TREES** EVERGREEN TREES

*Existing woods to remain

**SWM perimeter landscaping provided per the alternative compliance provision of the Landscape Manual in accordance with the special landscaping illustrated on the sketch plan per PB Case No. 344; and the addition of 20 hollies due to the removal of 3 existing trees within the 35' scenic road buffer. LANDSCAPE SCHEDULE REM. SIZE BOTANICAL NAME TYPE KEY QUAN. ACER RUBRUM 'OCTOBER GLORY' OCTOBER GLORY RED MAPLE 2 1/2"-3" Col. B & B SH. TREE 18 SH. TREE 20 FRAXINUS AMER. 'AUTUMN PURPLE' 2 1/2"-3" Cal. B & B STREET TREE * 71 PINUS STROBUS EASTERN WHITE PINE 7 - 9' Ht. B&B EV. TREE B&B O 171 RHODODENDRON C. 'ROSEUM ELEGANS' ROSEUM ELEGANS CATAWBA RHODODENDRON SHRUB 24"- 30" Ht. OR CONT. AMERICAN HOLLY OR EQUIVALENT 5-6' Ht. 8 & B EV. TREE 1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LCAMW PLANTING SPECIFICATIONS. 2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.

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3. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.

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

OWNER/DEVELOPER

GIC2

542

Yes* 542'

No

1:60 0

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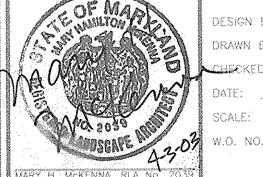
TRINITY HOMES -3675 PARK AVE. SUITE 301

ELLICOTT CITY, MARYLAND 21043

FINAL LANDSCAPE AND STREET TREE PLAN THE WOODS OF PARK PLACE LOTS 1-15 AND OPEN SPACE LOTS 16 & 17 A RESUBDIVISION OF THE F.A.A.D. PROPERTY LOTS 1-4

PARCEL '3' LIBER 1313 FOLIO 336 TAX MAP 25, GRIDS 1 & 2 2ND ELECTION DISTRICT REF: PB-344,S-00-10,P-02-02, WP-02-57 HOWARD COUNTY, MARYLAND

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	FREDERICK WARD ASSOCIATES,	INC.
	7125 Riverwood Drive Columbia, Maryland 21046-2354	
	Phone: 410-290-9550 Fax: 410-720-6226	
SURVEYORS	Bel Air, Maryland Columbia, Maryland Warren	ton, Virginia



DATE

PROVIDED TREES

20

laryland	Columbia, Marylai	nd Warrenton,	Virginia
aryland	Columbia, Marylan DESIGN BY: MHM DRAWN BY: MHM CHECKED BY: JCO DATE: APRIL 3, 2003 SCALE: 1°=50' W.O. NO.; 2019143.0	nd Warrenton,	Virginia 1 A
2;07		<u> </u>	

F-02-154

