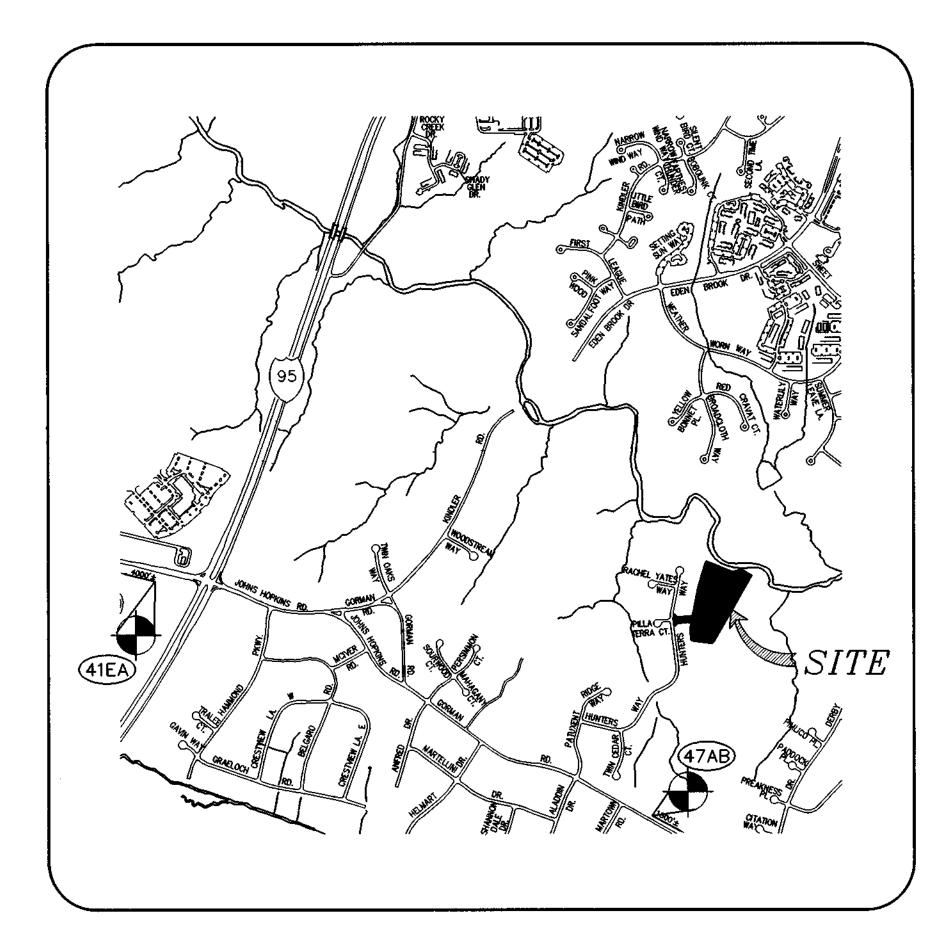
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ROAD CONSTRUCTION PLANS WARFIELDS RANGE II LOTS 77 THRU 92

A RESUBDIVISION OF LOT 69
WARFIELDS RANGE, SECTION 2, AREA 4
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



VICINITY MAP



CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ONSITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ONSITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AND ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES. BY THE DEVELOPER: "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING 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. I ALSO AUTHORIZE PERIODIC ON—SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT." 7-17-01 SMATURE OF DEVELOPER James L New Burn PRINTED NAME OF DEVELOPER "I 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 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." SIGNATURE OF ENGINEER COB HIKMAT THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL. THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION, DISTRICT. HOWARD SUIL CONSERVATION DISTRICT APPROVED: DEPARTMENT OF PUBLIC WORKS

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

OWNER

THE ESTATE OF JANET PHELPS

C/O DONALD WYVELL

8706 CARRIAGE HILLS DRIVE

COLUMBIA, MD 21046

DEVELOPER
WARFIELDS RANGE ASSOCIATES, LLC
5570 STERRETT PLACE, SUITE 201
COLUMBIA, MD 21044
(410) 997-3815

GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS
- 2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTIONS DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK
- 3. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS PRIOR TO ANY EXCAVATION WORK:

MISS UTILITY

C&P TELEPHONE COMPANY

HOWARD COUNTY BUREAU OF UTILITIES

AT&T CABLE LOCATION DIVISION

BALTIMORE GAS & ELECTRIC

STATE HIGHWAY ADMINISTRATION

HOWARD COUNTY DEPT. OF PUBLIC WORKS/

(410) 313-1880 CONSTRUCTION INSPECTION DIVISION 4. PROJECT BACKGROUND: LOCATION: TAX MAP 41, P/O PARCEL 454, BLOCK , LOT 69 **ELECTION DISTRICT:** TOTAL ACRES: 7.00 ±AC. AREA OF BUILDABLE LOTS: 4.35 ±AC $30\% \times 7.00 \text{ AC} = 2.10 \pm \text{AC}$ AREA OF OPEN SPACE REQUIRED: AREA OF OPEN SPACE PROVIDED: NON-CREDITED OPEN SPACE: 2.13 ±AC 0.03 ±AC 2.10 ±AC NET OPEN SPACE PROVIDED: AREA OF RECREATIONAL OPEN SPACE: N/A AREA OF ROAD DEDICATION: 0.52 ±AC NUMBER OF BUILDABLE LOTS: NUMBER OF OPEN SPACE LOTS:

DPZ FILE: F-86-168; WP-87-132; S-99-14, P-00-11 5. DEED REFERENCE: LIBER 706, FOLIO 340.

MINIMUM AREA OF BUILDABLE LOT:

TOTAL NUMBER OF LOTS:

6. TWO FOOT CONTOUR TOPOGRAPHY AND EXISTING CONDITIONS BASED ON AERIAL TOPOGRAPHIC SURVEY BY WINGS AERIAL MAPPING, INC. PERFORMED ON OR ABOUT FEBRUARY 2000.

14,000 SQ.FT.

7. HORIZONTAL AND VERTICAL DATUMS BASED ON (NAD'83) MARYLAND STATE COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS.

STA. 41EA N 544,825.809 E 1,339,217.444 STA. 47AB N 540,058.231 E 1,350,005.027

8. STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

STORMWATER MANAGEMENT WILL BE JOINTLY OWNED AND MAINTAINED BY HOWARD COUNTY AND THE HOA.

10. GEOTECHNICAL REPORT PREPARED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC., DATED OCTOBER 1999.

- 11. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- 12. DRY WELLS OR OTHER APPROVED BEST MANAGEMENT PRACTICE SHALL BE APPLIED AT THE SITE DEVELOPMENT PLAN TO ANY ROOF DRAINAGE NOT MANAGED BY THE STORMWATER MANAGEMENT FACILITY FOR LOTS 81-86.

13. COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.

9. STORMWATER MANAGEMENT IS PROVIDED VIA THE METHOD OF DETENTION.

- 14. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES ON SITE PRIOR TO COMMENCING CONSTRUCTION.
- 15. FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.200 OF HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING, OF CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OR CONSERVATION EASEMENT ARE ALLOWED.
- MANAGEMENT PRACTICES AS DEFINED IN THE DEED OR CONSERVATION EASEMENT ARE ALLOWED.

 16. FOREST STAND DELINEATION PERFORMED BY ECO-SCIENCE PROFESSIONALS ON JANUARY 12, 1998
- 17. PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.

 18. SLOPES IN EXCESS OF 25% EXIST AND ARE IDENTIFIED WHERE THEY EXCEED 20,000 SQ. FT.
- ALL EXISTING STRUCTURES TO BE REMOVED.
 THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION HAS BEEN FULFILLED BY RETENTION OF EXISTING FOREST IN THE AMOUNT OF 1.16 ACRES (50,529.6 SQ. FT. AT \$10,105.92), REFORESTATION IN THE AMOUNT OF 0.17 ACRES (7,405.2 SQ. FT. AT \$3,702.60), AND BY THE PURCHASE OF CREDITS EQUAL TO 1.41 ACRES AT THE FOREST MITIGATION BANK LOCATED ON WINKLER PROPERTY. FOREST CONSERVATION SURETY IN THE AMOUNT OF \$13,808.52 FOR RETENTION AND REFORESTATION HAS BEEN POSTED AS
- 20. THE 4'X10' TRASH PAD (4" IN DEPTH) WITHIN THE PUBLIC RIGHT OF WAY SHALL BE MAINTAINED BY THE OWNERS OF LOTS 81-89 PERSUANT TO THE DECLARATION OF RIGHTS OF ACCESS AND MAINTENANCE OBLIGATIONS RECORDED AMONG THE LAND RECORDS FOR HOWARD COUNTY, MARYLAND.

PART OF THE DPW DEVELOPER'S AGREEMENT.

A 4

O SUBMITTED TO HOWARD COUNTY FOR SIGNATURE 7/19/01

DS RANGE II, LOTS 77 THRU 92 OF LOT 69 - WARFIELDS RANGE, SECTION 2, AREA TAX MAP 42 - P/O PARCEL 454 - BLOCK 19
HOWARD COUNTY, MARYLAND

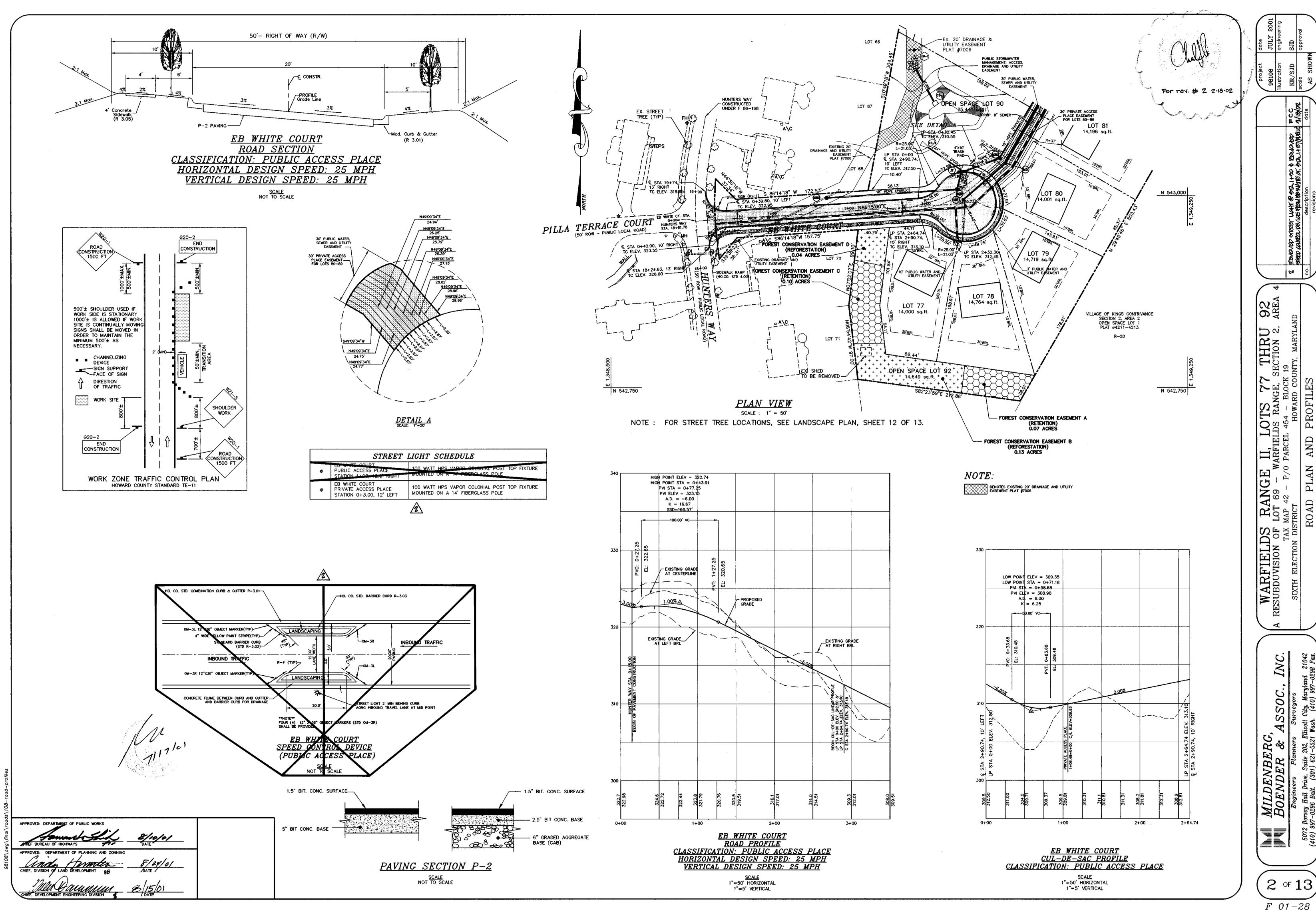
SHE

WARFIELDS
A RESUBDIVISION OF
TA
SIXTH ELECTION L

& ASSOC., INC ners Surveyors 102, Ellicott City, Maryland 2104

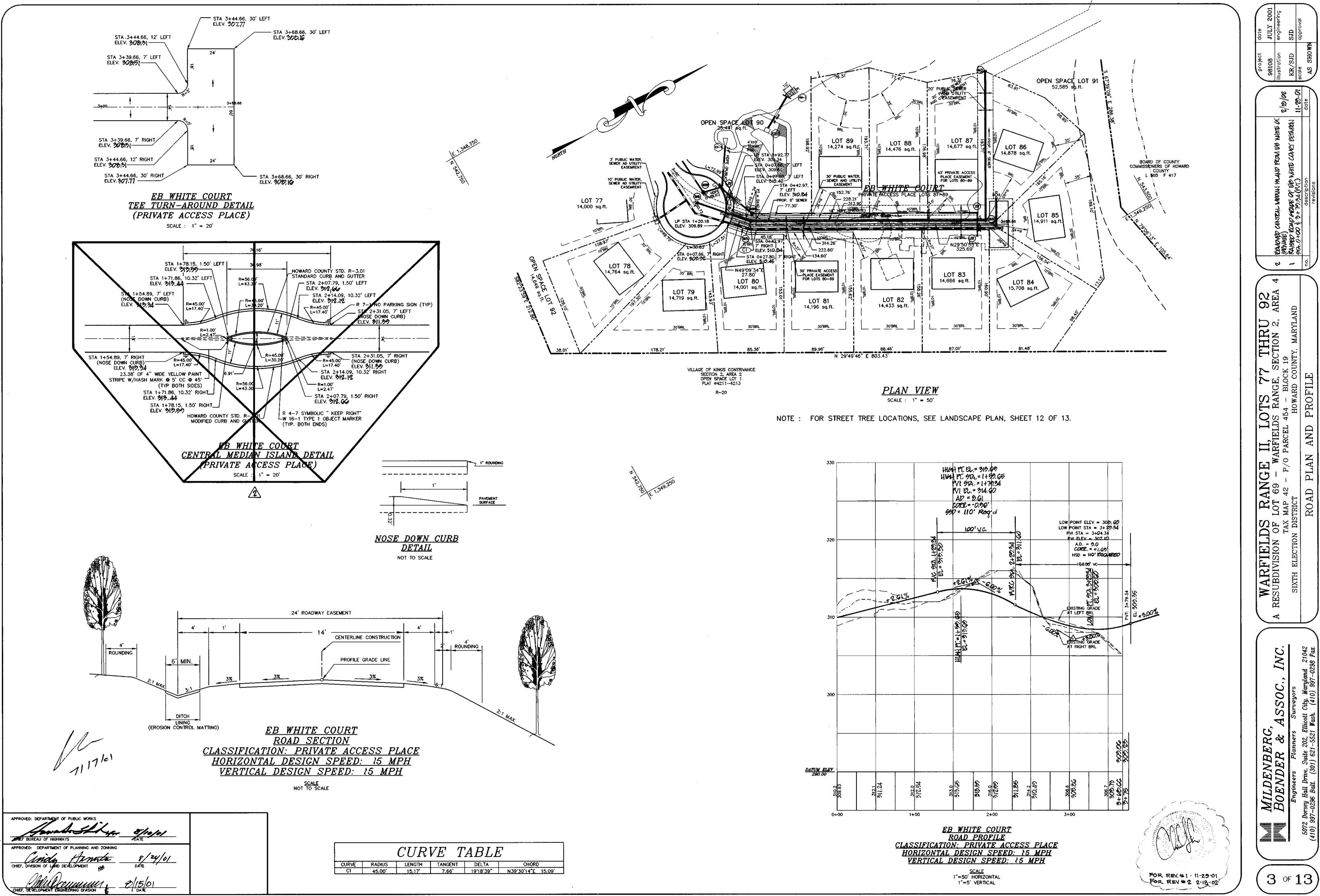
MILDENBER BOENDER & Engineers Planner

1 of 13



F 01-28

PROFILE



3 of 13

320 HUNTERS WAY LEFT TURN TO EB WHITE COURT HUNTERS WAY RIGHT TURN TO EB WHITE COURT SCALE: HOR. 1" = 20' VER. 1" = 2' SCALE: HOR. 1" = 20' VER. 1" = 2'

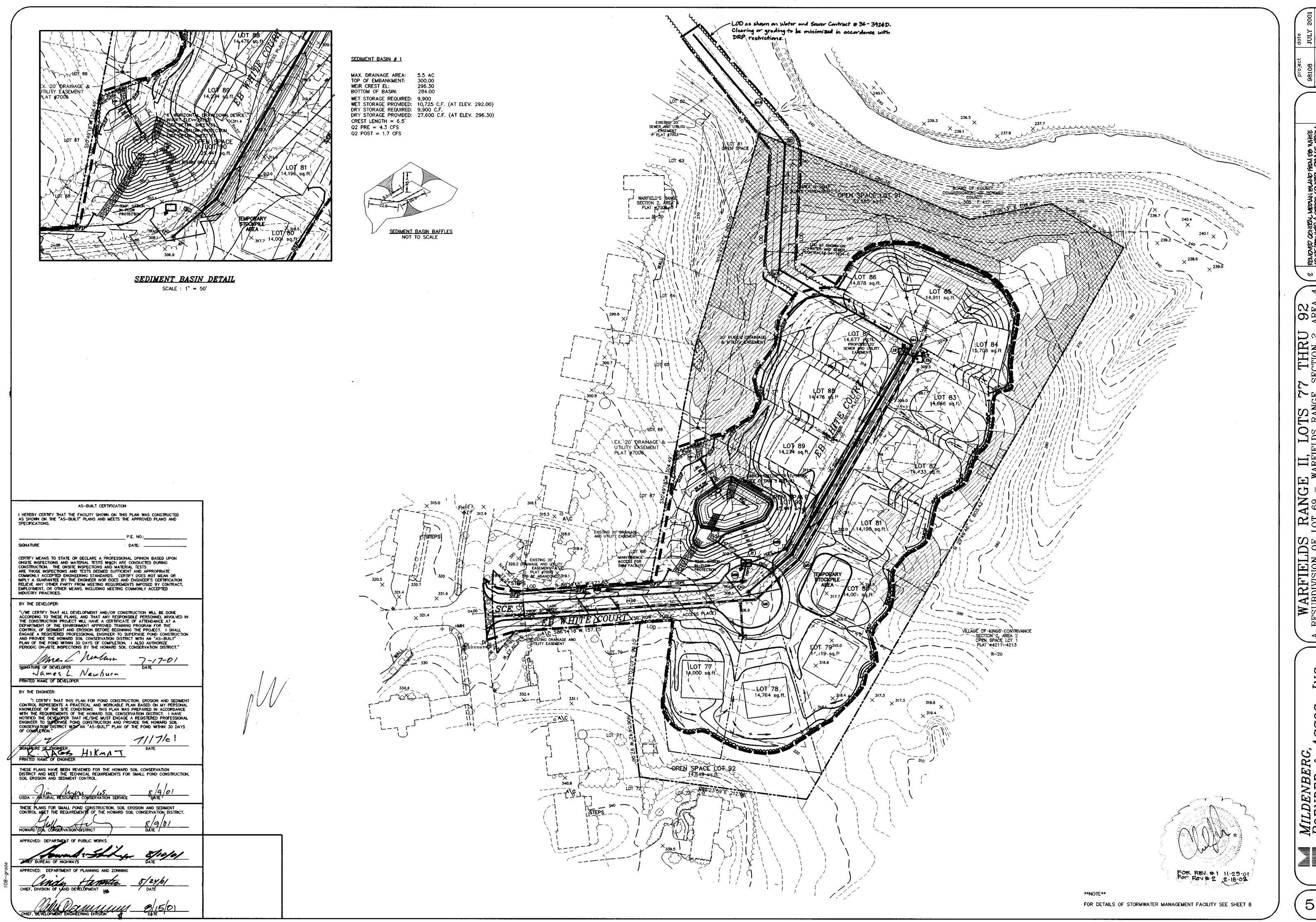
APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF BUREAU OF HIGHWAYS

DATE

4 of 13)

F = 0.1 - 2R



SIXTH ELECTION GRAPHING,

SEDIMENT

EROSION

5 of 13

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED. SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING , DISKING OR OTHER ACCEPTABLE MEANS

- BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED. SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES: PREFERRED - APPLY 2 TONS PER ACRES DOLOMITIC UMESTONE (92 LB\$/1000 \$0.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING
- HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT 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 DOLOMITIC LIMESTONE (92 LBS./1000

SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15. SEED WITH 60 LBS. PER

ACRE 1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LOBS. PER ACRE (.05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 15 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF 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 TONE/ACRE WELL ANCHORED STRAW. 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 SO.FT.) OF ENULSIFIED 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 SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED. TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

SOIL 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 OCTOBER 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 (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER 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.

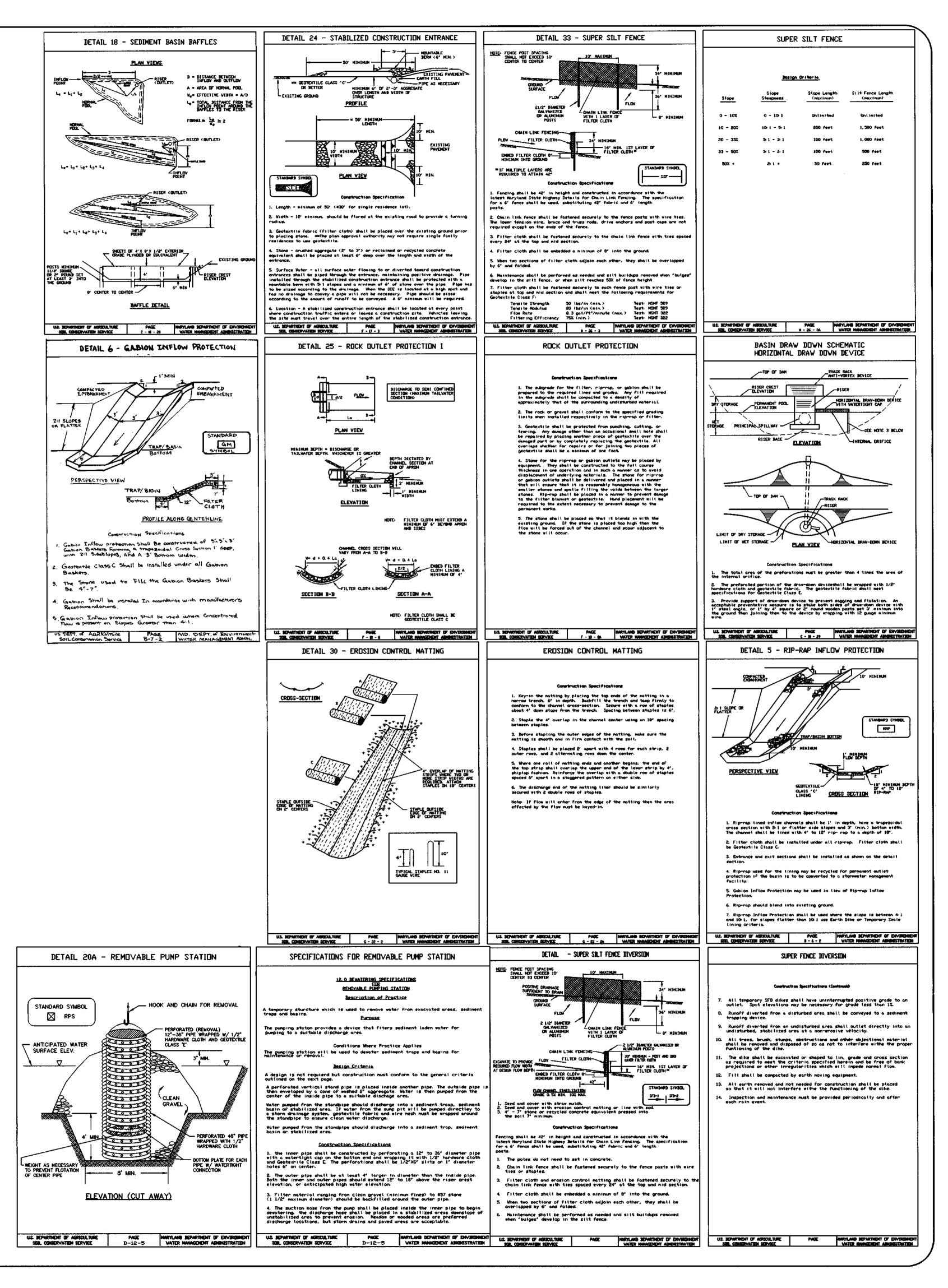
MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED WEED FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

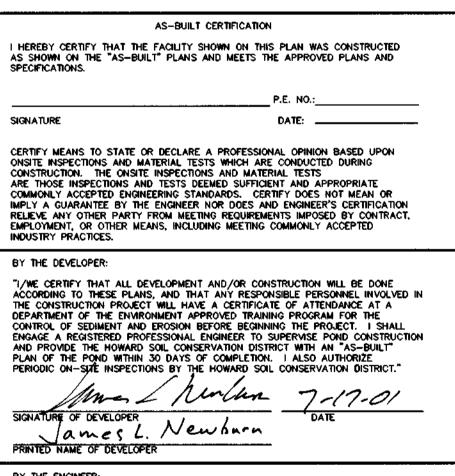
STANDARD SEDIMENT CONTROL NOTES 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF NAY

- CONSTRUCTION, (313-1855). 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 MOST CURRENT "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 PROJECT SITE.
- 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN
- ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY 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 OF SITE: _____ AREA DISTURBED: ___ AREA TO BE ROOFED OR PAVED: _____ AREA TO BE VEGITATIVELY STABILIZED: ______ 2.70____ ACRES 9,500 CU. YDS. 9,500 CU. YDS. TOTAL CUT: _____ TOTAL FILL: TOTAL WASTE/BORROW AREA LOCATION: ______ (NOT REQUIRED THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITY MEASUREMENTS ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY 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 CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER. STANDARD AND SPECIFICATIONS FOR TOPSOIL DEFINITION PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. LOW NUTRIENT LEVELS, LOW pH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION. CONDITIONS WHERE PRACTICE APPLIES I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS. CONSTRUCTION AND MATERIAL SPECIFICATIONS TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATION. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING: TORSON, SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CON-TRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnson-SON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES: PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION — SECTION i — VEGETATIVE STABILIZATION METHODS AND MATERIALS.







"I 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 F COMPLETION." 5/01/01 SIGNATURE OF ENGINEER R Jacob Hikmat

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION.

USDA - MATURAL RESOURCES CONSERVATION SERVICE

APPROVED: DEPARTMENT OF PUBLIC WORKS DEPARTMENT OF PLANNING AND ZONNIN

Stamulta 8/21/01 EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

references: Guideline Specifications, soil preparation and sodding. Mid—va, pub. #1, cooperative

COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.

IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

I TOPSOIL SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME

MENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED ACRONOMIST OR SOIL

II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

MAINTAINED, ALBEIT 4" -- 8" HIGHER IN ELEVATION.

FORMATION OF DEPRESSIONS OR WATER POCKETS.

ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

GRADING AND SEEDBED PREPARATION.

SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL

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. ii. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE

HI. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM

THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN

SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE

PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE

IV. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN

I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER

d. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE

THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.

IV. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILLIZER APPLIED AT THE RATE OF 4 LB/1.000

PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE

b. COMPOSTED SLUDGE SHALL CONTAIN AT LEASE 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOURUS, AND 0.2

PERCENT POTASSIUM AND HAVE A Ph OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS,

5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5

VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL

FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:

THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER

a. PH FOR TOPSOILS SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF

LESS THAN 6.0, SUFFICIENT LIME SHALL BE PERSCRIBED TO RAISE THE pH TO 6.5 OR HIGHER.

c. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.

CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT

d. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR

SEQUENCE OF CONSTRUCTION

OBTAIN GRADING PERMIT (1 DAY)

CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE AT LOCATION SHOWN. (1 DAY)
INSTALL TREE PROTECTIVE FENCES AS SHOWN ON THE FOREST CONSERVATION . INSTALL SEDIMENT CONTROL MEASURES (SILT FENCES). (1 DAY) . CONSTRUCT SEDIMENT BASIN. PROCEED ONLY UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR. (5 DAYS) . GRADE SITE. (6 DAYS) . CONSTRUCT STORM DRAIN SYSTEM AND BLOCK WITH INLET PROTECTION. (3

BRING SITE TO FINAL GRADE AND PAVE ROAD. (5 DAYS) 9. STABILIZE ALL DISTURBED AREAS. (3 DAYS)
10. CONTRACTOR SHALL FLUSH STORMDRAIN SYSTEMS AND CLEAN POND. (2 DAYS)
11. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASIN TO STORMWATER MANAGEMENT CONTROL INSPECTOR, CONVENT SEDIMENT

12. WHEN ALL CONTRIBUTING DRAINAGE AREAS TO SEDIMENT CONTROL DEVICES HAVE
BEEN STABILIZED AND WITH THE APPROVAL OF THE SEDIMENT CONTROL
INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING
DISTURBED AREAS. (3 DAYS)



TOPSOIL APPLLICATION

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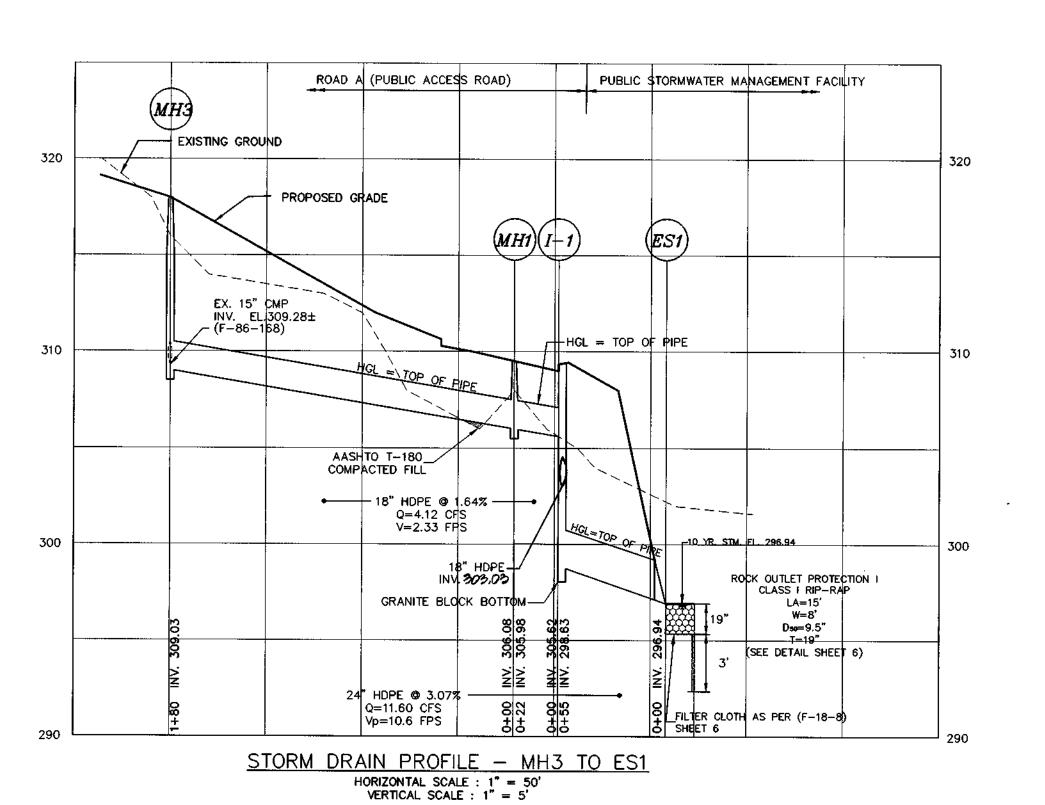
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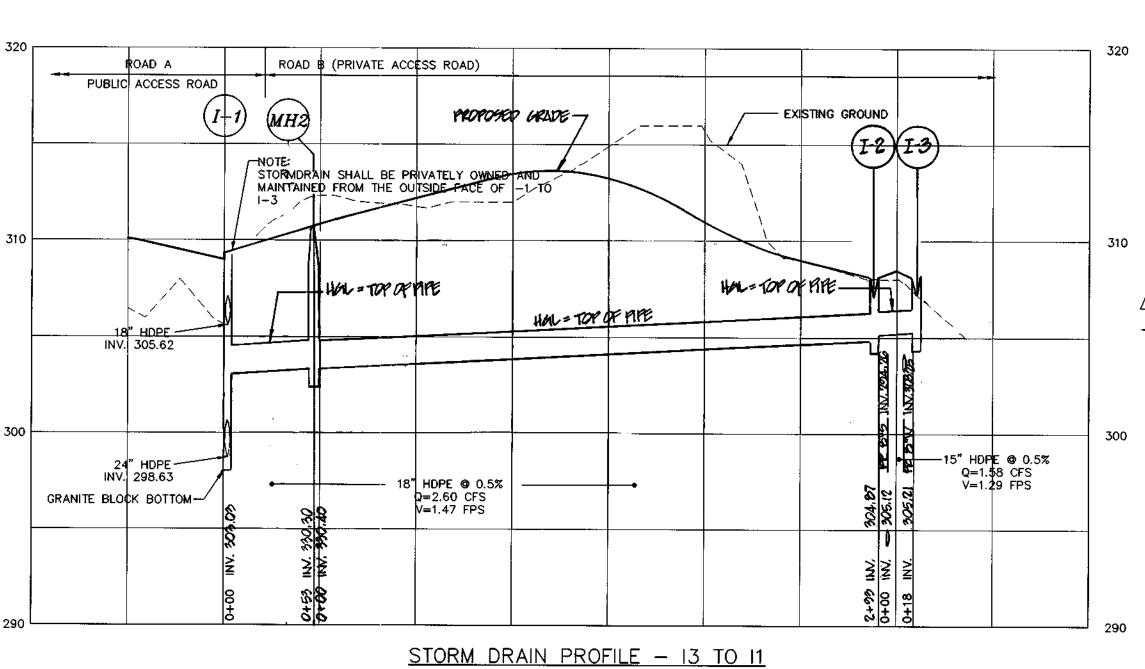
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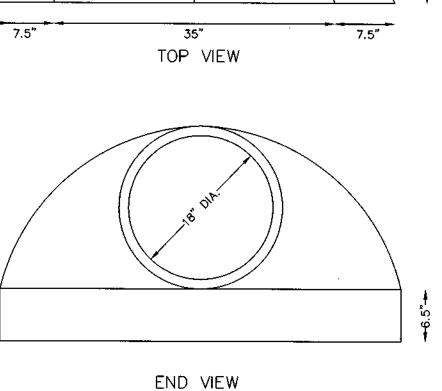
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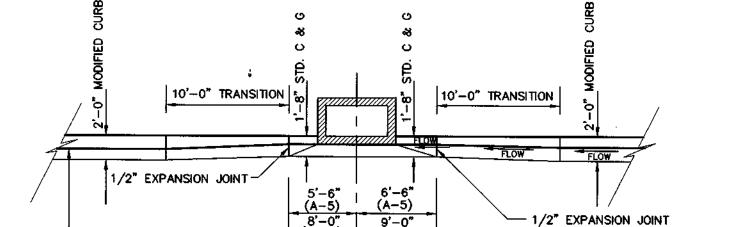


HORIZONTAL SCALE: 1" = 50' VERTICAL SCALE: 1" = 5'



INSTALLATION INSTRUCTIONS

- SPREAD THE END SECTION COLLAR AND PLACE IT OVER THE LAST PIPE CORRUGATION. MAKE SURE THE COLLAR SEATS PROPERLY IN THE CORRUGATION VALLEY.
- 2. INSERT THREADED ROD THROUGH THE PRE-DRILLED HOLES IN THE END SECTION COLLAR. TIGHTEN WING NUTS.
- PLACE BACKFILL AROUND THE END SECTION AND OVER THE TOE PLATE. USE CARE DURING COMPACTION ALONG THE SIDES TO PREVENT DISTORTION.



CURB TRANSITION - INLETS

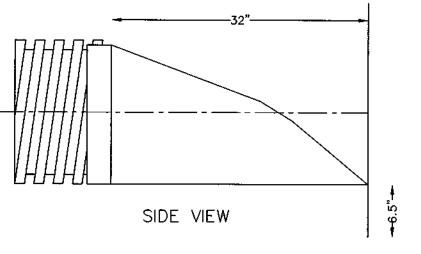
STRUCTURE SCHEDULE

NO.	LOCATION*	TOP**	INV. IN	INV. OUT	COMMENTS
I-1	EB WHITE COURT (PUBLIC ACCESS PLACE) STA 3+48.86 - 40.88' LEFT	309.03	305.62 303.03	298.63	INLET TYPE A-10 (HO. CO. STD SD 4.02) - PUBLIC
I - 2	EB WHITE COURT (PRIVATE ACCESS PLACE) STA 3+29.34 - 9' LEFT	308.39	30512	304.87	INLET TYPE K (HO. CO. STD SD 4.12) - PRIVATE
1–3	EB WHITE COURT (PRIVATE ACCESS PLACE) STA 3+79,34 - 9' RIGHT	308.39		305.21	INLET TYPE K (HO. CO. STD SD 4.12) - PRIVATE
MH-1	EB WHITE COURT (PUBLIC ACCESS PLACE) STA 3+42 - 18.9' LEFT	309.50	306.08	305.98	PRECAST MANHOLE (HO. CO. STD SD 5.11) - PUBLIC
MH-2	EB WHITE COURT (PRIVATE ACCESS PLACE) STA 0+35.39 - 14.57' LEFT	310.34	303.40	303,30	PRECAST MANHOLE (HO. CO. STD SD 5.11) - PRIVATE
MH-3	EB WHITE COURT (PUBLIC ACCESS PLACE) STA 1+72 - 18.9' LEFT	318.00	309.28±	309.03	PRECAST MANHOLE (HO. CO. STD SD 5.11) - PUBLIC
ES-1	EB WHITE COURT (PUBLIC ACCESS PLACE) STA 3+07.72 - 76.00' LEFT			296.94	24" Ø HDPE END SECTION (SEE DETAIL) - PUBLIC

* LOCATIONS SHOWN ARE AT L OF INLET AT FACE OF CURB

** ELEVATIONS MEASURED TO CENTER OF ALL INLETS

** ALL "A" TYPE STRUCTURES ARE 2.5' WIDE UNLESS OTHERWISE NOTED



18" HDPE END SECTION (PART NO. 1810 NP) NOT TO SCALE

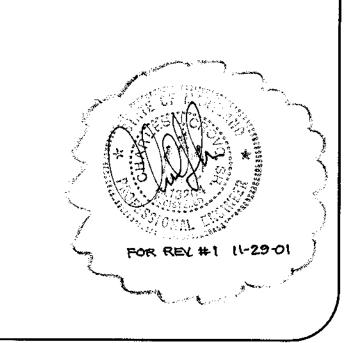
PIPE SCHEDULE

ROAD DESIGN WIDTH MEASURED TO

THIS POINT, INLETS ARE OFFSET 5-1/4"

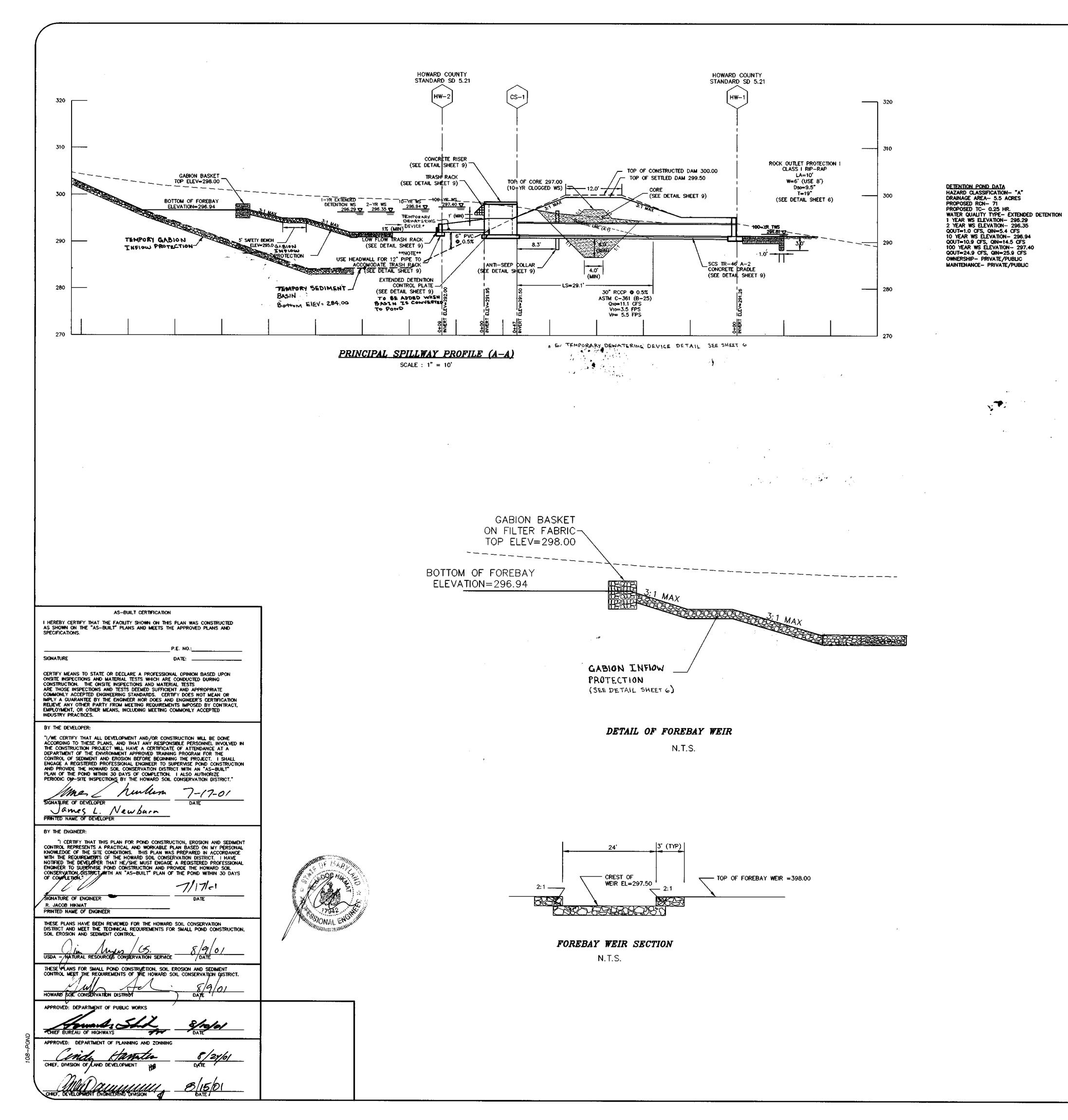
	SIZE	LENGTH
	15" HDPE	18'
PRIVATE	18" HDPE	350°
PUBLIC	24" HDPE	55'
FOBLIC	18" HDPE	202'

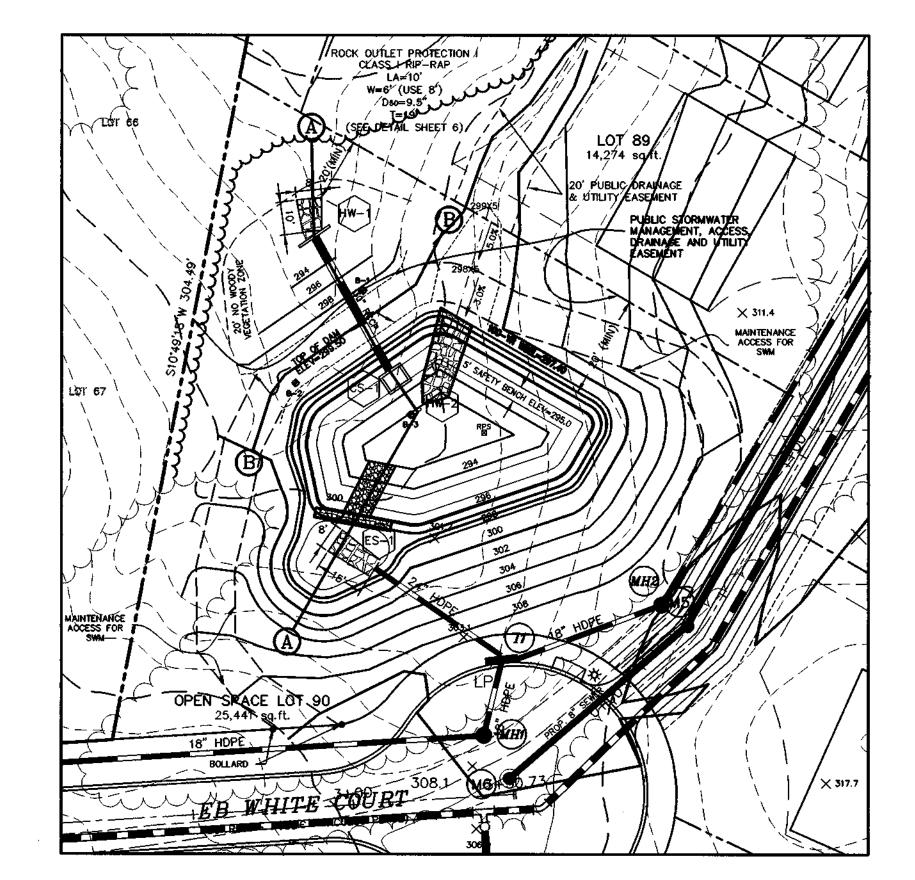




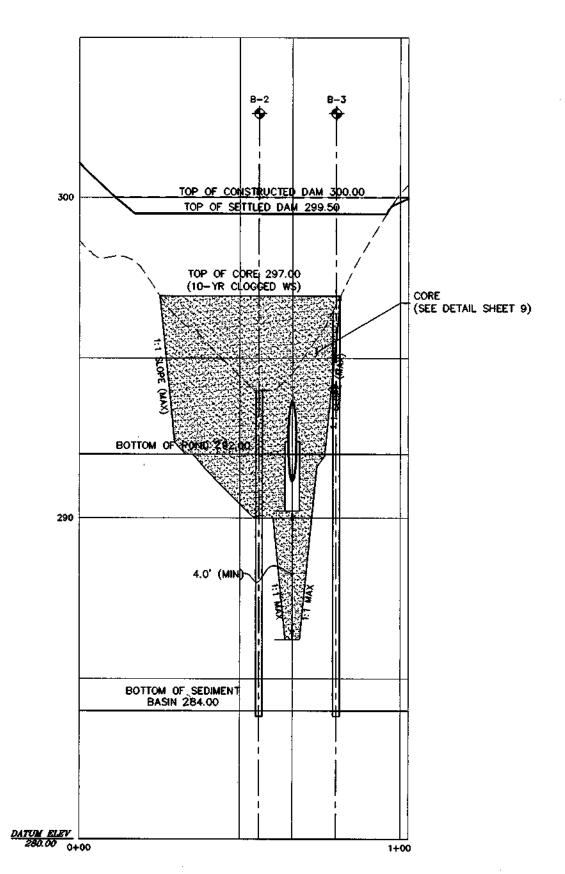
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7 of 13





POND PLAN SCALE : 1" = 30'



CENTERLINE EMBANKENT PROFILE (B-B)

HORIZONTAL SCALE: 1'' = 30'VERTICAL SCALE : 1" = 3'

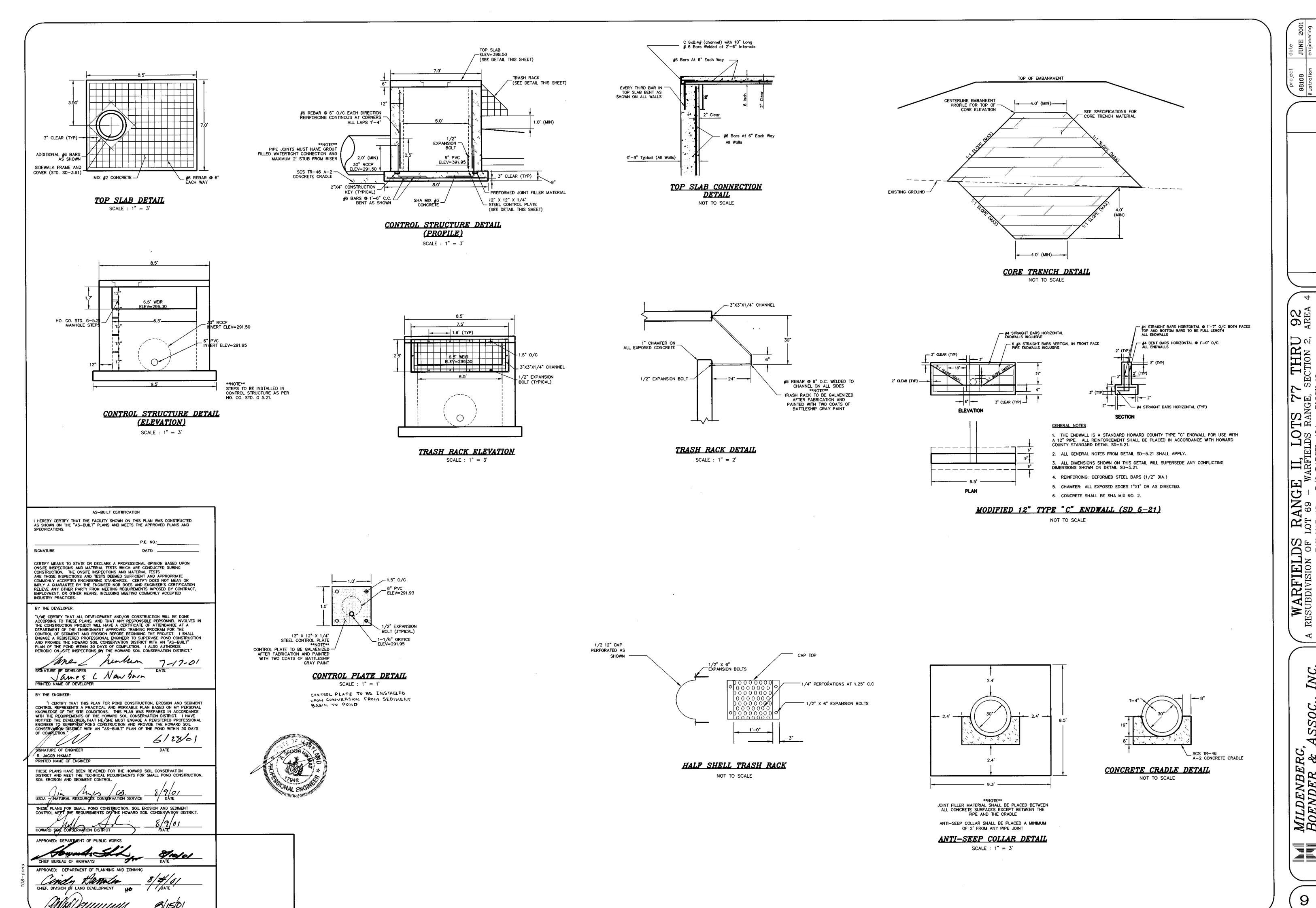
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MD-378 POND SPECIFICATIONS (JANUARY 2000)

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

SITE PREPARATION

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 TOE OF THE EMBANKMENT.

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 STORM WATER MANAGEMENT PONDS, A MINIMUM OF A 25-FOOT RADIUS AROUND THE INLET STRUCTURE SHALL BE

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DRAIN 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.

EARTH FILL

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, MOOD, 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 CC, 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 EMBANKMENT 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

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 FILL. 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 PASSES 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 WET THAT WATER CAN BE SQUEEZED OUT. 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 PROCCTOR)

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

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 TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY. IN ADDITION, THE CORE SHALL BE PLACED CONCURRENTLY WITH THE OUTER SHELL OF THE EMBANKMENT.

STRUCTURAL BACKFILL

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 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 OPERATE 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, JUNESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE STRUCTURE BACKFILL MAY BE FLOWABLE FILL MEETING THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 3/3 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 A 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. IT 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 TAMPER 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 A STRUCTURE, UNDER NO CIRCUMSTANCES SHALL EQUIPMENT BE DRIVEN OVER ANY PART OF A STRUCTURE OR PIPE UNLESS THERE IS A COMPACTED FILL OF 24" OR GREATER OVER THE STRUCTURE OR PIPE. BACKFILL MATERIAL OUTSIDE THE STRUCTURAL BACKFILL WABLE FILL) ZONE SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

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ONSITE INSPECTIONS AND MATERIAL CONSTRUCTION. THE ONSITE INSPEARE THOSE INSPECTIONS AND TEST COMMONLY ACCEPTED ENGINEERING MPLY A GUARANTEE BY THE ENGINEELIEVE ANY OTHER PARTY FROM I	LARE A PROFESSIONAL OPINION BASED UPON TESTS WHICH ARE CONDUCTED DURING CITIONS AND MATERIAL TESTS S DEEMED SUFFICIENT AND APPROPRIATE STANDARDS. CERTIFY DOES NOT MEAN OR HEER NOR DOES AND ENGINEER'S CERTIFICATION MÉETING REQUIREMENTS IMPOSED BY CONTRACT, HICLUDING MEETING COMMONLY ACCEPTED
BY THE DEVELOPER:	
ACCORDING TO THESE PLANS, AND THE CONSTRUCTION PROJECT WILL DEPARTMENT OF THE ENVIRONMENT CONTROL OF SEDIMENT AND EROSIC ENGAGE A REGISTERED PROFESSION AND PROMISE THE HOWARD SOIL OF PLAN OF THE POND WITHIN 30 DAY PERIODIC ON—SITE INSPECTIONS BY	MENT AND/OR CONSTRUCTION WILL BE DONE THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN HAVE A CERTIFICATE OF ATTENDANCE AT A T APPROVED TRAINING PROGRAM FOR THE ON BEFORE BEGINNING THE PROJECT. I SHALL NAL ENGINEER TO SUPERVISE POND CONSTRUCTION ONSERVATION DISTRICT WITH AN "AS-BUILT" YS OF COMPLETION. I ALSO AUTHORIZE THE HOWARD SOIL CONSERVATION DISTRICT." DATE OW BUTA
SIGNATURE OF DEVELOPER	DATE
James L. N	ewbarn
PRINTED NAME OF DEVELOPER	
BY THE ENGINEER:	
CONTROL REPRESENTS A PRACTICA KNOWLEDGE OF THE SITE CONDITION WITH THE REQUIREMENTS OF THE HOTHER THAT HE ENGINEER TO SUPERVISE POND CO CONSERVATION DISTRICT, WITH AN OF COMPLETION."	FOR POND CONSTRUCTION, EROSION AND SEDIMENT IL AND WORKABLE PLAN BASED ON MY PERSONAL NS. THIS PLAN WAS PREPARED IN ACCORDANCE HOWARD SOIL CONSERVATION DISTRICT. I HAVE SHE MUST ENGAGE A REGISTERED PROFESSIONAL NSTRUCTION AND PROVIDE THE HOWARD SOIL "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS
R. JACOB HIKMAT PRINTED NAME OF ENGINEER	
THESE PLANS HAVE BEEN REVIEWE	
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PIPE CONDUIT

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.

CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

I. MATERIALS - (POLYMER COATED STEEL PIPE) - STEEL PIPES WITH POLYMERIC COATINGS 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 COATED STEEL PIPE) — THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M—274 WITH WATERTIGHT COUPLING BANDS OR FLANGES. ALUMINUM COATED 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 PAINTED WITH ONE COAT OF ZINC CHROMATE PRIMER OR TWO

MATERIALS — (ALUMINUM PIPE) — THIS PIPE AND ITS APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF AASHTO SPECIFICATION M-196 OR M-21 L 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

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 LEAST 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 RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BANDWIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 24 INCHES IN DIAMETER: FLANGES ON BOTH ENDS OF THE PIPE WITH A CIRCULAR 3/8 INCH CLOSED CELL NEOPRENE GASKET, PRE-PUNCHED TO THE FLANGE BOLT CIRCLE, SANDWICHED BETWEEN ADJACENT FLANGES; A 12-INCH WIDE STANDARD LAP TYPE BAND WITH 12-INCH WIDE BY 3/8-INCH THICK CLOSED CELL CIRCULAR NEOPRENE GASKET; AND A 12-INCH WIDE HUGGER TYPE BAND WITH 0-RING GASKETS HAVING A MINIMUM DIAMETER OF ½ 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 SEARNS WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

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.

- 5. BACKFILLING SHALL CONFORM TO "STRUCTURE 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.

2. BEDDING - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID 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, CRAVEL BEDDING IS NOT REPORTED.

3. LAYING PIPE — BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM. JOINTS SHALL BE MADE IN ACCORDANCE WITH RECOMMENDATIONS OF THE MANUFACTURER OF THE MATERIAL. AFTER THE JOINTS ARE SEALED FOR THE ENTIRE LINE, THE BEDDING 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.

4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL."

5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE - THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:

1. MATERIALS — PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D1785 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 COLLARS SHALL BE COMPLETELY WATERTIGHT.

3. 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.

4. BACKFILL SHALL CONFORM TO "STRUCTURE 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 RIPRAP

ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE 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 THE AREAS 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 WORK 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. 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 OUTLET 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 STABILTY OF THE EXCAVATION OPERATIONS. DURING THE PLACING 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.

STABILIZATION

ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN 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.

OPERATION AND MAINTENANCE ROUTINE MAINTENANCE:

1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER ALL MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.

2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.

3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AS NEEDED.

4. VISIBLE SIGNS OF EROSION ON THE POND, RIP—RAP, OR GABION OUTLET AREA SHALL BE REPAIRED AS

NON-ROUTINE MAINTENANCE:

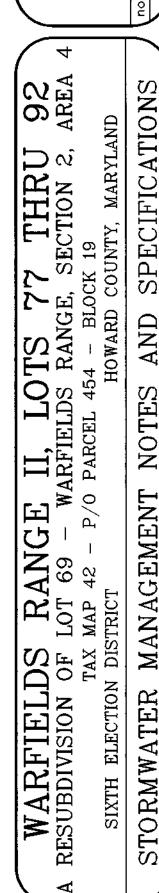
1. STRUCTURAL COMPONENTS OF THE POND (DAM, RISER, AND PIPES) SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE

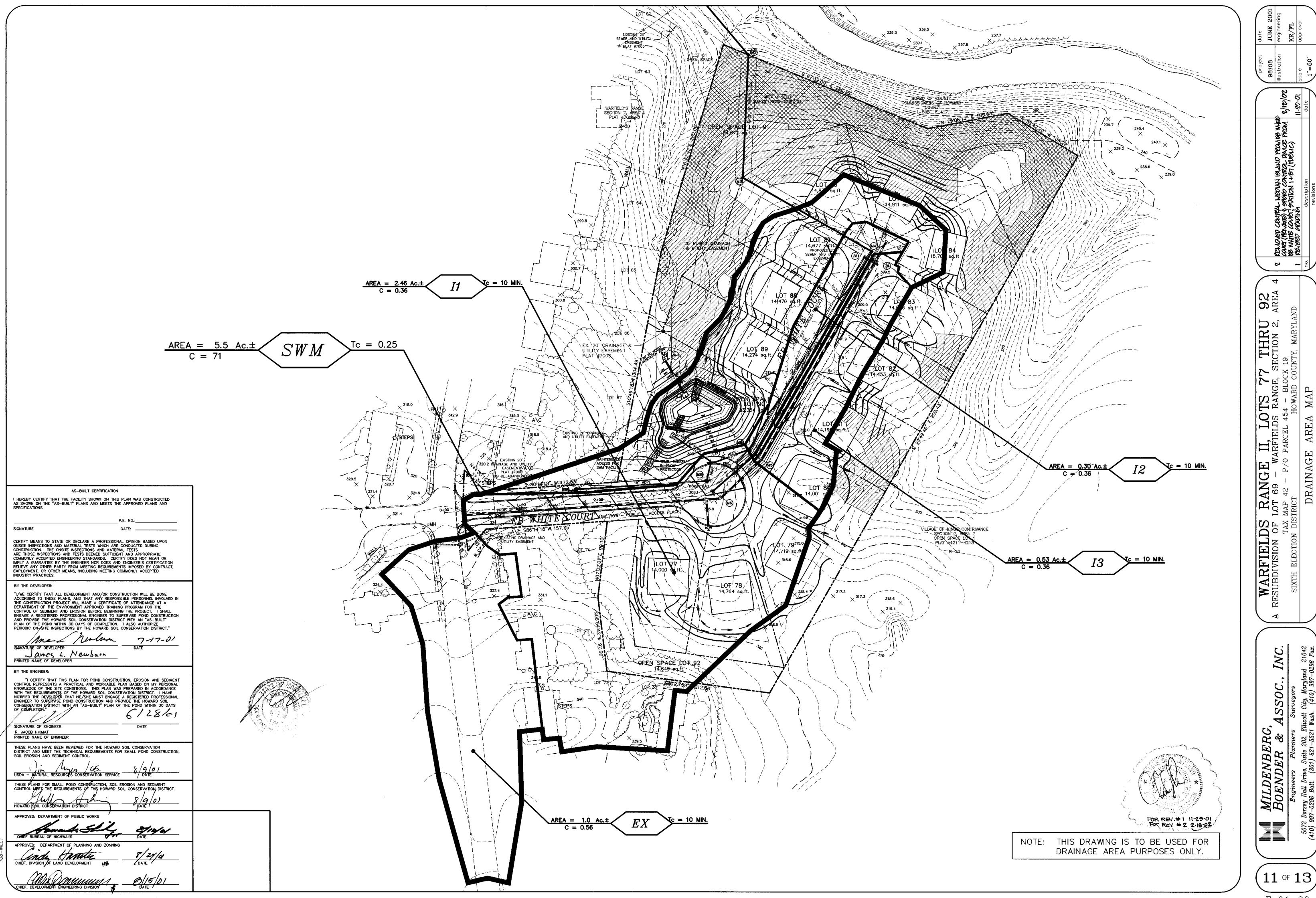
2. SEDIMENT SHALL BE REMOVED FROM THE POND AND/OR FOREBAY, WHEN ONE HALF THE TOTAL CAPACITY OF THE POND AND/OR FOREBAY IS FULL OF SEDIMENT, OR DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

		E		– CARNE ING ASSO		S, INC.				Page 1 of	11
				record of	SOIL I	EXPLORATION					
Project Nar Location	ne Warfields Range SWM Elkridge, Maryland						Boring Job #	#_	B-1 99392A		
Datum		Hommer Wt.	140	SAMPLER i40 Libs. Hole Diameter			6°		Foreman Lamont S		Smith
Surt. Elev. Date Starte	d 10-01-99	Hammer Drop Pipe Size	30 2.0	Inches Inches 00		Core Dia g Method	HSA		_ Inspector _ Date Completed	10-01-99)
ELEV.	SOIL Cotor Moisture Densi	DESCRIPTION ty.Size.Proportion	STRA. Depth		CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SA	MPLING NOTES]
+		SURFACE		0.0		-					\vdash
=	Brown, moist, soft trace mica root to				Đ	2-2-2	1	16"	7" Topsoil		E
	(Possible Fill)]								
=	Orange/Tan to B	lack/Tan,	2.5	<u> </u>	D	3-4-7	2	16"	Groundwater enco		F
- - - - -	moist, medium d micaceous silty s	ense,		5					AL IN WHILE OF	~~' y	E
	USDA — Sandy Le	oam			D	5-6-10	3	18*	Caved in at 12.0° Completion	' at	E
4				_							\vdash
				=	D	11-12-11	4	13*			E
				10							E
_			12.5		D	9-6-8	5	14"			
3	Tan, wet, very de medium sand, tro silt, rock fragmer	ice to little		_							
=	(SM-SP)	i(\$									
=				15							
			16.3	_	D	32-27-51/3"	6	13"			
	Bottom of Test Hole at	16.3'									E
†						:					E
\dashv				20 -							
otherwise m Pt-pressed	SPOON UNLESS	SAMPLE CONDITION D-DISINTEGRATED I-INTACT U-UNDISTURBED L-LOST	ONS	GROUN AT COMPLE AFTER AFTER		10.0 7.5	FT. FT. FT.		BORING METHOD HSA-HOLLOW STEM A CFA-CONT. FLIGHT A DC-DRIVING CASING MD-MUD DRILLING		

			£	NGINEER	- CARNE ING ASSO	CIATES	S, INC. Exploration			Page 1	of 1
Proje Loca	ect Name tion	Warfields Range SWM Elkridge, Maryland			RECORD OF	SURL	LAPLOKATION	Boring Job #		8-2 99392A	
Datu Surf.	m Elev.		Hammer Wt. Hammer Drop	140 30	40 Lbs.		MIPLER _ Hole Diameter Rack Core Dia.			Foreman Lamont	
Date	Started	10-01-99	Pipe Size	2.0	Inches 00			HSA		Date Completed 10-01-9	19
-	ELEY.	SOIL Color Moisture Densi	DESCRIPTION ty.Size.Proportion	STRA. Depth		CON	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES	
		Brown to red bro loose to medium sand, with mica, fragments (SM)	dense silty		0.0 	D	1-1-0	1	16"	6" Topsoil	
		USDA - Sandy La	oam		5	D	2-7-5	2	10"	Groundwater encountered at 10.0° white drilling	
						D D	6-7-13	3	14"	Caved in at 12:0' at Completion	
		Tan, moist to we silty sand with m		9.5	10	Đ	18-20-22	5	19"		
					15						
		Bottom of Test Hole at	16.3	16.3	-	D	18-22-51/3"	6	14"		
	N CO TO	-	CAMPLE AMENT	OMIC	20	MD 1844 7	TD OCD TO			DODING AFTERS	
ORIVE OTHE PT-P	rwise note Ressed sh	POON UNLESS	SAMPLE CONDITI D-DISINTEGRATED 1-INTACT U-UNDISTURBED L-LOST		AT COMPLE		ER DEPTH 8.0 6.5	FT. FT. FT.		BORING METHOD HSA-HOLLOW STEM AUGERS CFA-CONT, FLIGHT AUGERS DC-DRIVING CASING MD-MUD ORILLING	

			E	NGINEER	— Carne Ing Asso Record of	CIATES	S, INC. Exploration				Page 1 o	f 1
		Warfields Range SWM						Boring	ŧ	B-3		
Location)	Elkridge, Maryland	···-					Job #		99392A		
Datum			Hammer Wt.		Libs.	SAMPLER Hole Diameter		8		_ Foreman	Lamont Smith	
Surf. Ek Date St	ev. arted	10-01-99	Hammer Drop Pipe Size	30 2.0	Inches 00		Core Dia Method	HSA		Inspector Date Completed	10-01-99)
						•	_	1		•		¬
	EV.		DESCRIPTION sity.Size.Proportion SURFACE	STRA. Depth	DEPTH SCALE 0.0	CON	SAMPLE BLOWS 6*	.NO.	REC.	BORING & SA	MOTES	1_
1		Reddish brown, loose silty sand rock fragments	moist, very , trace mica,			D	1-0-1	1	11*	6" Topsoil		
		USDA - SAndy		4.5		Đ	2-2-2	2	16"	No groundwater encountered while	e drilling	
- - - -		Tan to brown, r loose to dense silty sand USDA — Sandy	micaceous	7.0	5	Đ	2-2-3	3	14"	Cowed in at 11.5' Completion	' at	
						Đ	4-5-8	4	12"			
					10	D	6-8-10	5	14"			
1 1 1					15							
		Bottom of Test Hole	at 16.5'	16.5		D	14-16-20	6	12"	:		- - - - -
SAMPLE	r Typ:	<u> </u>	SAMPLE CONDIT	ONS	20	D WAT	ER DEPTH			BORING METHOD		E
DRIVEN SI Otherwis	PLIT SP E NOTE	OON UNLESS	D-DISINTEGRATED I-INTACT U-UNDISTURBED		AT COMPLET AFTER AFTER		dry	FT, FT. FT,		HSA-HOLLOW STEM A CFA-CONT. FLIGHT A DC-DRIVING CASING		

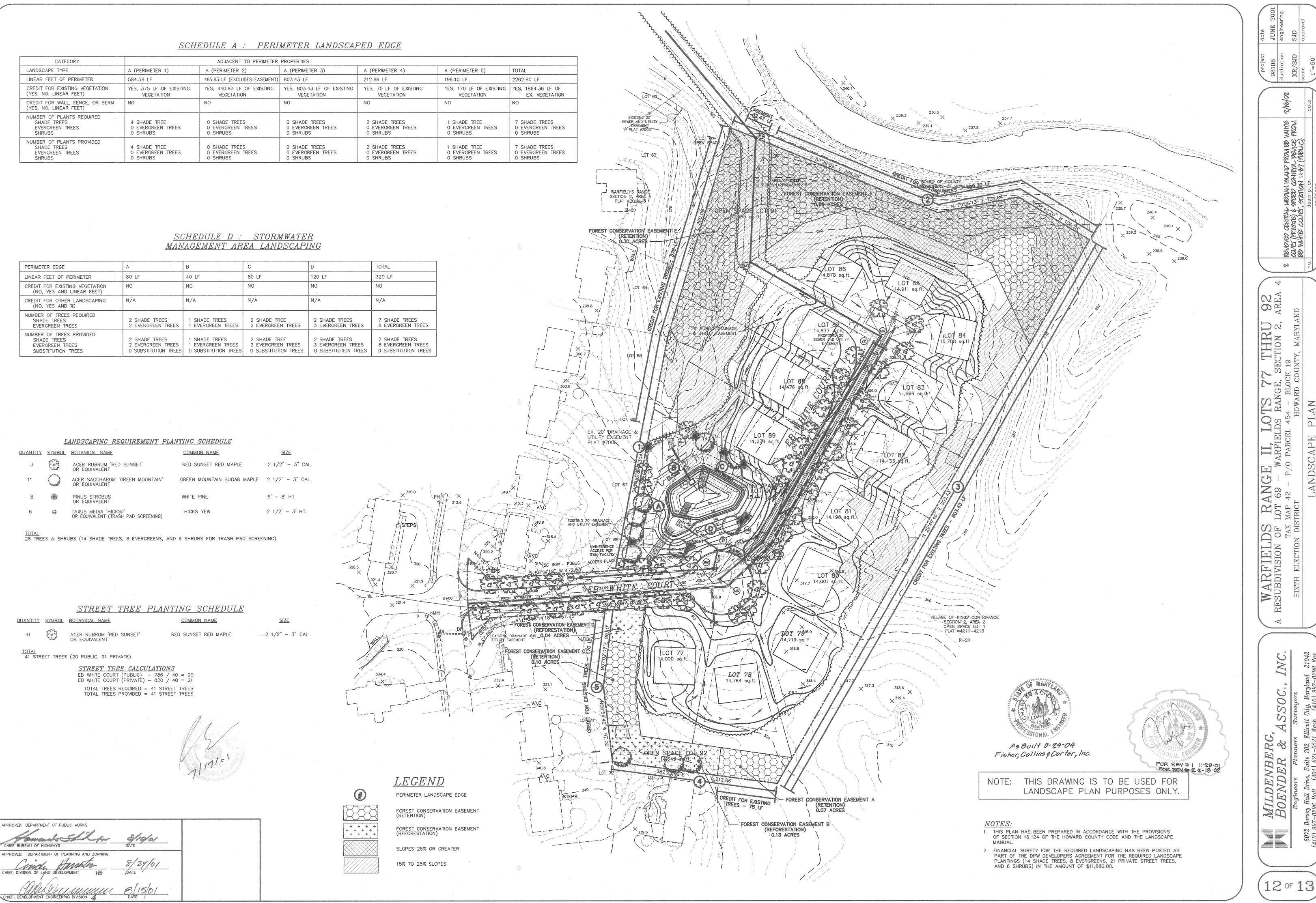




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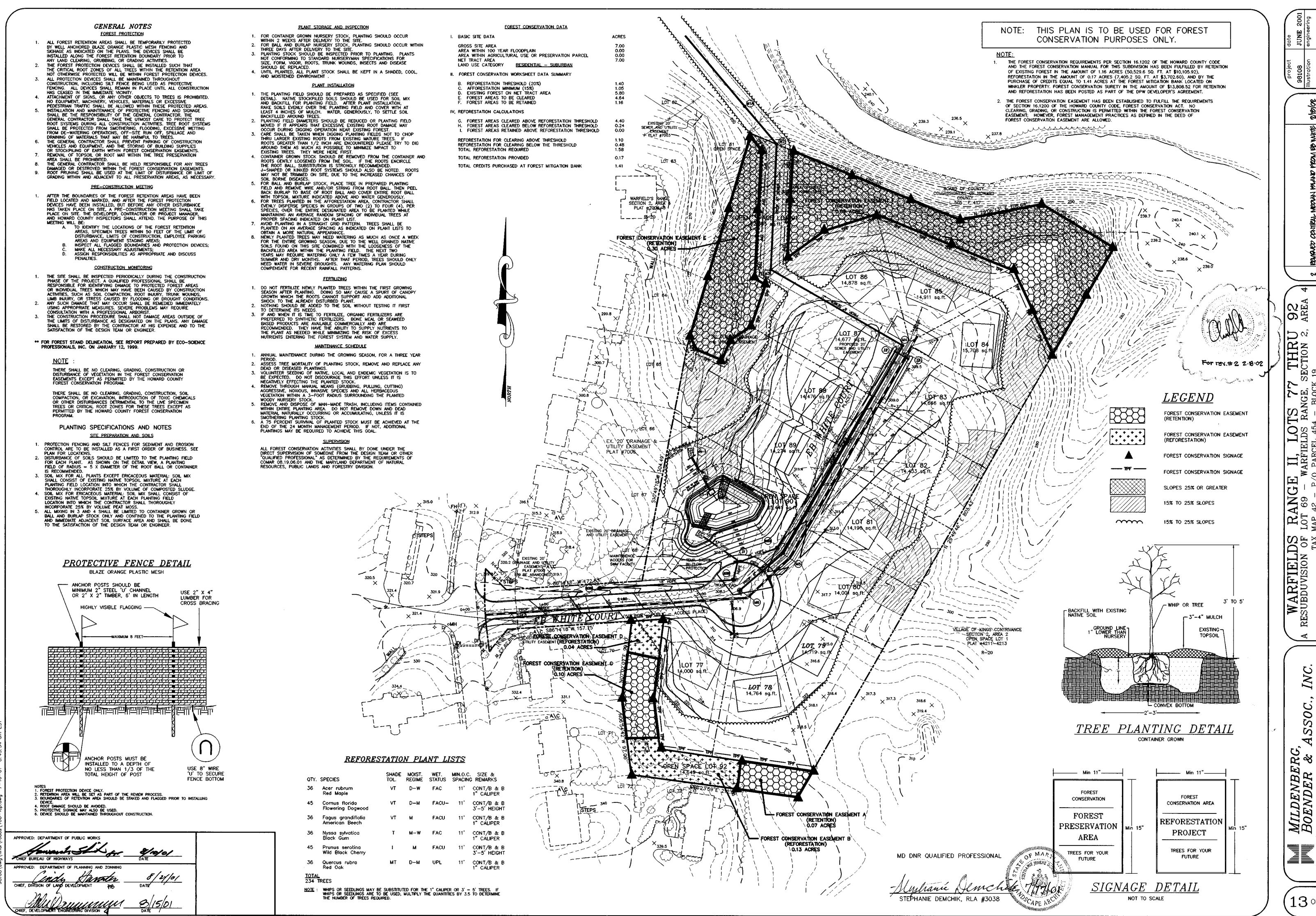


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