

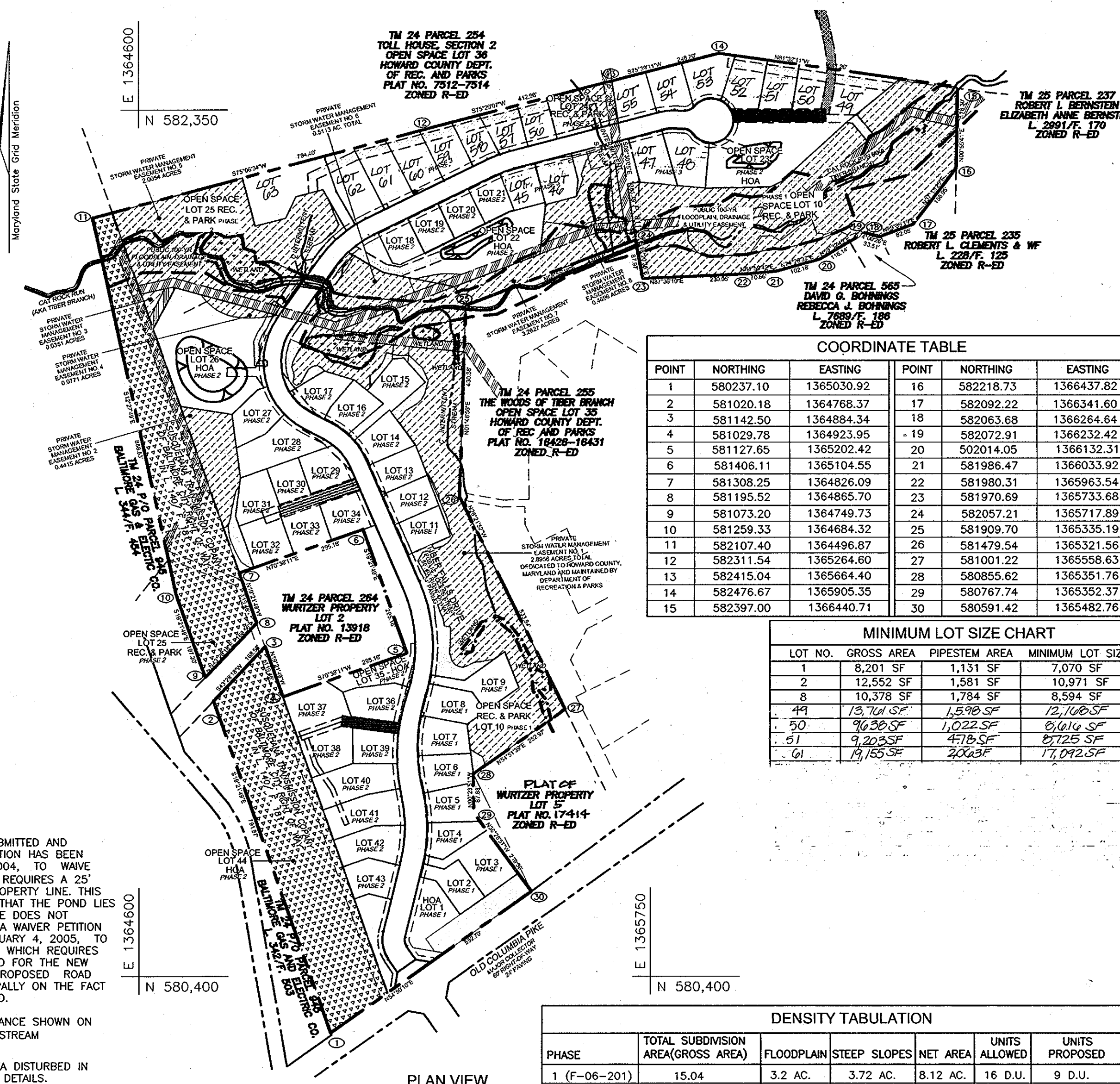
SITE DATA
 LOCATION:
 2nd ELECTION DISTRICT
 EXISTING ZONING: R-ED
 GROSS AREA OF PARCEL 264: LOT 3: 29.79 AC.
 GROSS AREA OF PARCEL 811: 7.066 AC.
 GROSS AREA OF PROJECT: 36.855 AC.
 AREA OF 100-YR FLOODPLAIN & UTILITY EASEMENT: 4.24 AC.
 AREA OF STEEP SLOPES OUTSIDE OF 100-YR FLOODPLAIN: 3.72 AC.
 NET AREA OF PROJECT: 26.07 AC.
 AREA OF BQ&E EASEMENT: 5.27 AC.
 AREA OF CREDITED OPEN SPACE REQUIRED: 50% x 31.56 AC = 15.78 AC.
 AREA OF CREDITED OPEN SPACE PROVIDED: 16.91 AC. (54%)
 AREA OF NON-CREDITED OPEN SPACE PROVIDED: 5.45 AC.
 TOTAL AREA OF OPEN SPACE PROVIDED (CREDITED AND NON-CREDITED): 22.36 AC. (71% OF 31.56 AC.)
 AREA OF RECREATIONAL OPEN SPACE REQUIRED: 16,200 SF (300 SF PER BUILDABLE LOT)
 AREA OF RECREATIONAL OPEN SPACE PROVIDED: 16,200 SF
 AREA OF PROPOSED RIGHT-OF-WAY: 2.77 AC.
 AREA OF PROPOSED BUILDABLE LOTS: 58 BLDG LOTS
 NUMBER OF LOTS/PARCELS ALLOWED (2 PER NET ACRE): 58 BUILDABLE LOTS
 NUMBER OF LOTS/PARCELS PROPOSED: 54 BUILDABLE LOTS
 TOTAL APPROXIMATE LIMIT OF DISTURBANCE: 18.97 AC.

- GENERAL NOTES**
- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
 - DEED REFERENCE: L 9866 F, 161 - TRINITY HOMES AT WOODS OF TIBER BRANCH, LLC. PLAT 17414 - THE PLAT OF RESUBDIVISION LOT 4 & LOT 5, WURTZLER PROPERTY
 - DENSITY TABULATION:
 GROSS AREA OF PROJECT: 36.855 AC.
 AREA OF 100-YR FLOODPLAIN DRAINAGE & UTILITY EASEMENT: 4.24 AC.
 AREA OF STEEP SLOPES OUTSIDE OF 100-YR FLOODPLAIN: 3.72 AC.
 NET AREA OF PROJECT: 26.07 AC.
 DWELLING UNITS PER NET ACRE ALLOWED: 2 UNITS PER NET ACRE (2 X 29.05 AC. = 58 BUILDABLE LOTS)
 DWELLING UNITS PROPOSED: 54 UNITS
 PHASE 1 9 BUILDABLE LOTS
 PHASE 2 26 BUILDABLE LOTS
 PHASE 3 19 BUILDABLE LOTS
 - DPZ FILE NO. F-78-12, F-98-130, SP-04-14 (SIGNED/APPROVED ON 01/27/06). WP-99-48, F-05-079, WP-04-020, PB 371 (DEDICATION AND ORDER SIGNED ON 11/10/05).
 - THE PROJECT BOUNDARY FOR TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC AND WURTZLER PROPERTY LOT 4 IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY VOGEL ASSOCIATES, INC., MARCH 2001.
 - THE TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL TOPOGRAPHIC SURVEY PREPARED BY POTOMAC AERIAL SURVEYS INC., DATED MAY 2003.
 - WATER AND SEWER FOR THIS PROJECT WILL BY PUBLIC. WATER WILL BE PROVIDED THROUGH CONTRACT NO. 11-W. SEWER WILL BE PROVIDED THROUGH CONTRACT NO. 680-S AND CONTRACT NO. 14-1642-D.
 - STORM WATER MANAGEMENT TO BE PROVIDED FOR THIS DEVELOPMENT BY A MICROPOOL EXTENDED DETENTION FACILITY LOCATED IN OPEN SPACE LOT 26 AND TWO POCKET PONDS LOCATED IN OPEN SPACE LOT 22 AND OPEN SPACE LOT 23. ALL FACILITIES ARE HAZARD CLASS 'A' AND WILL BE OWNED AND MAINTAINED BY THE HOA. AND NATURAL CONSERVATION AREAS (PRIVATE STORMWATER MANAGEMENT EASEMENT 1-11) IN ACCORDANCE WITH MDE NATURAL AREA CONSERVATION CREDIT WASEMENTS.
 - STREAMS AND WETLANDS SHOWN ON-SITE ARE BASED ON A FIELD INVESTIGATION PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED NOVEMBER 2003.
 - THE 100-YR FLOODPLAIN DRAINAGE AND UTILITY EASEMENT SHOWN ON-SITE IS BASED ON A FLOODPLAIN STUDY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED JUNE 2004.
 - FOREST STAND DELINEATION PLAN PREPARED BY EXPLORATION RESEARCH, INC., DATED JUNE 2004.
 - FOREST CONSERVATION PLAN PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED JUNE 2004.
 - THE EXISTING 0.80 AC. RETENTION FOREST SHOWN ON F-98-130 AND F-05-079 TO BE ABANDONED. AN ABANDONMENT FEE OF \$1.00 PER SF (\$4,848.00) TO BE PAID TO HOWARD COUNTY FOREST CONSERVATION FUND.
 - THE FOREST CONSERVATION OBLIGATION FOR THIS ENTIRE 36.855 AC. RESUBDIVISION/SUBDIVISION HAS BEEN FULFILLED BY RETENTION OF 5.50 AC. (\$47,916.00), REFORESTATION OF 3.69 AC. (\$80,368.20) AND FEE-IN-LIEU PAYMENT FOR THE REMAINING 0.12 AC. OF REQUIRED 3.81 AC. OF REFORESTATION. (\$2,613.60). TOTAL FINANCIAL SURETY OBLIGATION IS \$128,284.20 AC.
 - APFO TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP, DATED JANUARY 2004.
 - STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$45,600.00 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE REQUIRED 152 PUBLIC STREET TREES. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING PROVIDED PER THE LANDSCAPE MANUAL TO BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$36,950.00 FOR THE REQUIRED 96 SHADE TREES AND THE REQUIRED 36 EVERGREEN TREES AND 275 LINEAR FEET OF FENCE.
 - STREET LIGHTING WILL BE PROVIDED FOR THIS SITE.
 - SEWAGE AND EROSION CONTROL WILL BE PROVIDED FOR THIS SITE. 20. THIS PROPERTY IS WITHIN THE METROPOLITAN DISTRICT.
 - TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL/CEMETARY LOCATIONS ON-SITE.
 - STREET TREES ARE REQUIRED FOR THIS SUBDIVISION IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.
 - A NOISE STUDY IS NOT REQUIRED FOR THIS SUBDIVISION.
 - WP-04-20: A WAIVER PETITION HAS BEEN SUBMITTED AND APPROVED, DATED DECEMBER 18, 2003, TO WAIVE SECTION 16.115(c) TO PERMIT CLEARING, GRADING, AND CONSTRUCTION OF A PUBLIC ROAD WITHIN A 100-YR FLOODPLAIN; SECTIONS 16.116(a)(1) AND 16.116(c)(2) TO PERMIT CLEARING, GRADING, AND THE CONSTRUCTION OF A PUBLIC ROAD WITHIN THE 25' WETLAND BUFFERS AND THE 50' AND 75' STREAM BUFFERS, AND SECTION 16.116(b) TO PERMIT CLEARING, GRADING, AND THE CONSTRUCTION OF A PUBLIC ROAD ON STEEP SLOPE AREAS. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS: 1. THE EXISTING RETENTION FEE OF 0.80 ACRES ON LOT 3 MUST BE RELOCATED TO ANOTHER HIGH PRIORITY AREA ON THIS SITE, AND IT IS IN ADDITION TO THE FOREST CONSERVATION OBLIGATION FOR THIS PROPOSED RESUBDIVISION OF LOT 3, WURTZLER PROPERTY, PER GENERAL NOTE 18 ON F-98-130. 2. ALL IMPACTS TO THE ENVIRONMENTALLY SENSITIVE FEATURES MUST BE MINIMIZED. GRADED AREAS MUST BE RE-STABILIZED AND RE-VEGETATED. 3. THE DEVELOPER MUST OBTAIN ANY REQUIRED PERMITS FOR THE PROPOSED ENVIRONMENTAL IMPACTS.
 - NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE 100-YR FLOODPLAIN, WETLANDS, STREAMS, OR THEIR BUFFER, EXCEPT THOSE AREAS SPECIFIED IN WP-04-20. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS AND THEIR BUFFERS.
 - LOTS 30, 32, 33, 37, 38, 52, 53, 58, 49 WILL UTILIZE USE-IN-COMMON DRIVEWAYS. HOWARD COUNTY STANDARD DETAIL NO. R-6.06 WILL BE UTILIZED FOR THE ENTRANCE AT THE INTERSECTION OF THE PUBLIC ROAD AND EACH USE-IN-COMMON DRIVEWAY.
 - FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG, PIPE STEM OR PRIVATE ACCESS PLACE EASEMENTS AND THE ROAD RIGHT OF WAY LINE ONLY AND NOT ONTO THE FLAG/PIPE STEM DRIVEWAY.
 - OLD COLUMBIA PIKE IS A SCENIC ROAD. HOUSES ON LOT 2 AND LOT 3 SHALL BE ORIENTED TO FACE OLD COLUMBIA PIKE.
 - TREE PROTECTION FENCING WILL BE PROVIDED AT THE LIMITS OF DISTURBANCE WHERE GRADING IS ADJACENT TO ENVIRONMENTAL AREAS AND RETENTION FOREST CONSERVATION AREAS.
 - ALL EXISTING HOUSES, SHEDS, DRIVEWAYS, FENCES, AND MISC. STRUCTURES LOCATED ON WURTZLER PROPERTY (PARCEL 264, LOT 4) AND PARCEL 811 ARE TO BE REMOVED.
 - THIS SUBDIVISION COMPLIES WITH THE AMENDED 5TH EDITION OF THE SUBDIVISION AND ZONING REGULATIONS, BOTH AS AMENDED BY COUNCIL BILL 75-2003.
 - OPEN SPACE LOT 10, LOT 24, AND LOT 25 TO BE DEDICATED TO HOWARD COUNTY, MARYLAND, AND MAINTAINED BY DEPARTMENT OF RECREATION & PARKS AND OPEN SPACE LOT 1, 22, 23, 26, 35 AND 44 TO BE OWNED AND MAINTAINED BY THE HOME OWNER ASSOCIATION.
 - A MINIMUM OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
 - ALL SIGN POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL PERFORATED SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-1/2" GALVANIZED STEEL PERFORATED SQUARE TUBE SLEEVE (12 GAUGE - 3' LONG). A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
 - LOTS 1, 22, 23, 26, 35 & 44 WILL BE DEDICATED TO THE HOMEOWNERS ASSOCIATION AND OPEN SPACE LOTS 10, 24, 25 ARE DEDICATED TO HOWARD COUNTY, MARYLAND.
 - PRIVATE STORMWATER CREDIT EASEMENTS 1 THROUGH 11 ARE IN ACCORDANCE WITH THE MDE NATURAL AREA CONSERVATION AREA REQUIREMENTS.
 37. TREE PLANTING HAS BEEN PROVIDED FOR THE AREA DISTURBED IN ENVIRONMENTAL AREAS. SEE SHEET 21 OF 28 FOR DETAILS.

FINAL ROAD CONSTRUCTION PLAN THE WOODS OF TIBER BRANCH II PHASE I, II & III

LOT 2-9, 11-21, 27-34, 36-43 & 45 OPEN SPACE LOT 1, 10, 22, 23, 24, 25, 26, 35 & 44

HOWARD COUNTY, MARYLAND



COORDINATE TABLE

POINT	NORTHING	EASTING	POINT	NORTHING	EASTING
1	580237.10	1365030.92	16	582218.73	1366437.82
2	581020.18	1364768.37	17	582092.22	1366341.60
3	581142.50	1364884.34	18	582063.68	1366264.64
4	581029.78	1364923.95	19	582072.91	1366232.42
5	581127.65	1365202.42	20	502014.08	1366132.31
6	581406.11	1365104.55	21	581986.47	1366033.92
7	581308.25	1364826.09	22	581980.31	1365963.54
8	581195.52	1364865.70	23	581970.69	1365733.68
9	581073.20	1364749.73	24	582057.21	1365717.89
10	581259.33	1364684.32	25	581909.70	1365335.19
11	582107.40	1364496.87	26	581479.54	1365231.56
12	582311.54	1365264.60	27	581001.22	1365558.63
13	582415.04	1365664.40	28	580855.62	1365351.76
14	582476.67	1365905.35	29	580767.74	1365352.37
15	582397.00	1366440.71	30	580591.42	1365482.76

MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
1	8,201 SF	1,131 SF	7,070 SF
2	12,552 SF	1,581 SF	10,971 SF
3	10,378 SF	1,784 SF	8,594 SF
4	13,704 SF	1,580 SF	12,124 SF
5	9,636 SF	1,022 SF	8,614 SF
6	9,205 SF	478 SF	8,725 SF
7	19,155 SF	2,003 SF	17,152 SF

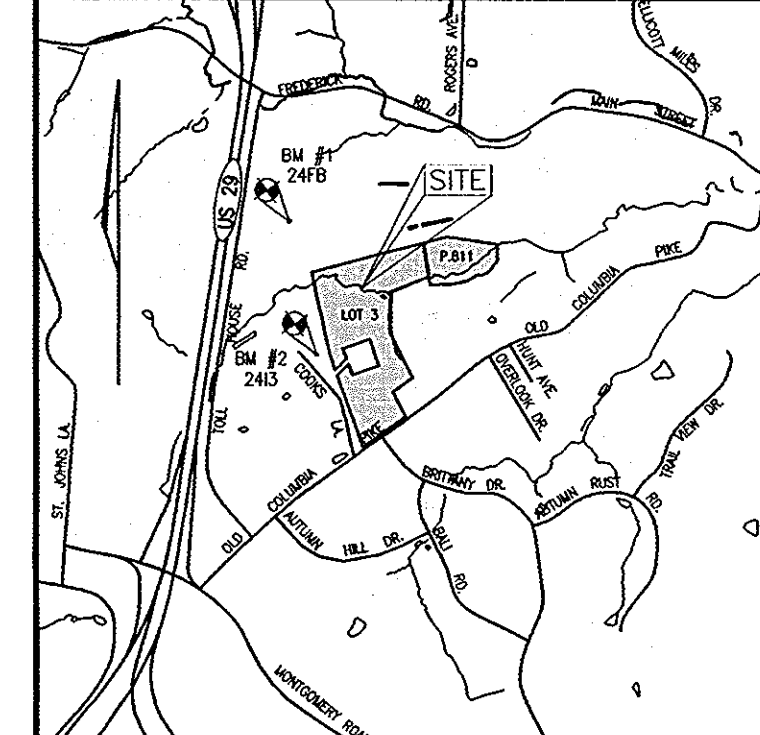
DENSITY TABULATION

PHASE	TOTAL SUBDIVISION AREA (GROSS AREA)	FLOODPLAIN	STEEP SLOPES	NET AREA	UNITS ALLOWED	UNITS PROPOSED
1 (F-06-201)	15.04	3.2 AC.	3.72 AC.	8.12 AC.	16 D.U.	9 D.U.
2 (F-06-201)	17.61	0.89 AC.	0.00 AC.	16.72 AC.	33 D.U.	26 D.U.
3 (F-06-201)	4.21	0.00 AC.	0.00 AC.	4.21 AC.	8 D.U.	19 D.U.
TOTAL	36.86	4.09 AC.	3.72 AC.	29.05 AC.	58 D.U.	54 D.U.

OPEN SPACE TABULATION

PHASE	TOTAL SUBDIVISION	TOTAL SUBDIVISION	AREA OF BQ&E EASEMENTS	GROSS AREA MINUS BQ&E EASEMENTS	REQUIRED OPEN SPACE*	PROVIDED CREDITED OPEN SPACE	PROVIDED NON-CREDITED OPEN SPACE	TOTAL PROVIDED OPEN SPACE	REQ. REC. FOR UNITS PROPOSED	REQ. REC. OPEN SPACE*	PROV. REC. OPEN SPACE
1 (F-06-201)	15.04 AC.	0 AC.	15.04 AC.	7.52 AC.	10.24 AC.	0.00 AC.	10.24 AC.	9 D.U. X 300 SF	(2,700 SF) 0.062 AC.	0.25 AC.	
2 (F-06-201)	17.61 AC.	5.27 AC.	12.34 AC.	6.17 AC.	5.45 AC.	12.12 AC.	26 D.U. X 300 SF	(7,800 SF) 0.18 AC.	0.12 AC.		
3 (F-06-201)	4.21 AC.	0 AC.	4.21 AC.	2.105 AC.	0.00 AC.	0.00 AC.	19 D.U. X 300 SF	(5,700 SF) 0.13 AC.	0.00 AC.		
TOTAL	36.86 AC.	5.27 AC.	31.59 AC.	15.795 AC.	16.91 AC.	5.45 AC.	22.36 AC.	54 D.U. X 300 SF	(16,200 SF) 0.37 AC.	0.37 AC.	

- BEST MANAGEMENT PRACTICES FOR WORKING IN NONWETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAIN**
- NO EXCESS FILL, CONSTRUCTION MATERIAL OR DEBRIS SHALL BE STOCKPILED OR STORED IN THE WETLANDS OR BUFFER.
 - PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NONWETLAND.
 - DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE.
 - PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO THE NONWETLANDS OR BUFFER.
 - REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL TO THERE IS NO PERMANENT LOSS OF NONWETLANDS IN EXCESS OF NONWETLANDS LOST UNDER THE ORIGINAL STRUCTURE OR FILL.
 - RECTIFY ANY NONWETLANDS TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
 - ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING RECOMMENDED SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE DIVISION. KENTUCKY 33 FESCUE SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
 - AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS OF NONWETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
 - TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM. USE I WATERS IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
 - STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
 - CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.



VICINITY MAP
 SCALE 1"=2000'
 BENCHMARK NO. 1: COUNTY CONTROL #24FB
 N 582652.103 E 1364255.930
 ELEV. = 423.282
 BENCHMARK NO. 2: COUNTY CONTROL #2413
 N 580648.911 E 1364974.459
 ELEV. =

MILESTONE CHART

PHASE	NO. TENTATIVE ALLOCATIONS	ALLOCATION YEAR	FINAL PLAN SUBMISSION MILESTONES
PHASE 1	9	2008	FOLLOWING THE SIGNATURE DATE OF THE SP-04-14 PLAN ORIGINALS BUT BEFORE 04-22-06
PHASE 2	26	2009	BETWEEN 7/1/06 AND 11/1/06
PHASE 3	17	2010	BETWEEN 07/1/07 AND 11/1/07

NOTES: PLUS 2** (SEE NOTE)
 ALL UTILITIES, ROADS, INFRASTRUCTURE TO BE CONSTRUCTED INITIALLY. ONLY CONSTRUCTION TO REMAIN FOR FUTURE PHASES ARE THE SINGLE FAMILY UNIT STRUCTURES ON THE FUTURE LOTS.
 FOR PHASE 2: A RED-LINE REVISION TO THIS PLAN MUST BE SUBMITTED TO THE DPZ BETWEEN 07/01/06 AND 11/01/06, OR THIS PROJECT WILL LOSE THE 26 PHASE 2 HOUSING UNIT ALLOCATIONS FOR PHASE 3. A RED-LINE REVISION TO THIS PLAN MUST BE SUBMITTED TO THE DPZ BETWEEN 07/01/07 AND 11/01/07, OR THIS PROJECT WILL LOSE THE 17 PHASE 3 HOUSING UNIT ALLOCATIONS.
 TWO (2) CREDIT HOUSING UNIT ALLOCATIONS ARE RECOGNIZED FOR THIS DEVELOPMENT FOR THE TWO (2) PROPERTIES WITH HOUSES THAT WERE RESUBDIVIDED/SUBDIVIDED TO CREATE IT.

SHEET INDEX

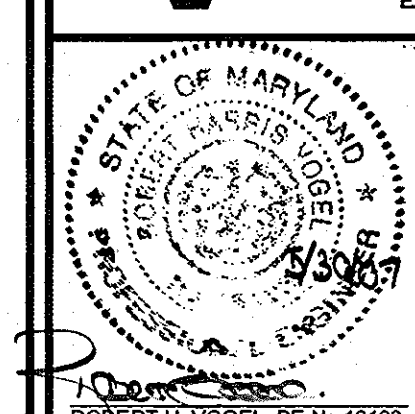
DESCRIPTION	SHEET NO.
COVER SHEET	1 OF 28
FINAL ROAD CONSTRUCTION PLAN	2 OF 28
FINAL ROAD CONSTRUCTION PLAN	3 OF 28
FINAL ROAD CONSTRUCTION PLAN	4 OF 28
GRADING AND SEDIMENT & EROSION CONTROL PLAN	5 OF 28
GRADING AND SEDIMENT & EROSION CONTROL PLAN	6 OF 28
GRADING AND SEDIMENT & EROSION CONTROL PLAN	7 OF 28
SEDIMENT & EROSION CONTROL DETAILS	8 OF 28
SEDIMENT & EROSION CONTROL DETAILS	9 OF 28
STORM DRAIN DRAINAGE AREA MAP	10 OF 28
STORM DRAIN DRAINAGE AREA MAP	11 OF 28
STORM DRAIN DRAINAGE AREA MAP	12 OF 28
STORM DRAIN PROFILES	13 OF 28
STORM DRAIN PROFILES	14 OF 28
STORM DRAIN PROFILES	15 OF 28
STORMWATER MANAGEMENT DETAILS	16 OF 28
STORMWATER MANAGEMENT DETAILS	17 OF 28
STORMWATER MANAGEMENT DETAILS	18 OF 28
LANDSCAPE AND FOREST CONSERVATION PLAN	19 OF 28
LANDSCAPE AND FOREST CONSERVATION PLAN	20 OF 28
LANDSCAPE AND FOREST CONSERVATION PLAN	21 OF 28
FOREST CONSERVATION NOTES AND DETAILS & RECOMMENDATIONS FOR CULTURE	22 OF 28
RETAINING WALLS DETAILS	23 OF 28
RETAINING WALLS DETAILS	24 OF 28
RETAINING WALLS DETAILS	25 OF 28
RETAINING WALLS DETAILS	26 OF 28
RETAINING WALLS DETAILS	27 OF 28
WATERWAY CONSTRUCTION DETAILS	28 OF 28

No.	REVISION	DATE
1	ADD PHASE III	2-19-08

**FINAL ROAD CONSTRUCTION PLAN
 COVER SHEET**
THE WOODS OF TIBER BRANCH II - PHASE I, II & III
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZLER PROPERTY
 SUBDIVISION OF TM PARCEL 881
 RECORDED AS PLAT NO. 17414
 TAX MAP 24 BLOCK 18
 2ND ELECTION DISTRICT
 REF.: F-98-130, WP-04-20
 PARCELS 264 & 811
 HOWARD COUNTY, MARYLAND

OWNERS
 AUGUST STEPHEN WURTZLER
 MARY WURTZLER COLLIER
 4020 OLD COLUMBIA PIKE
 ELLICOTT CITY, MARYLAND 21043
 (410) 465-4649

**ROBERT H. VOGEL
 ENGINEERING, INC.**
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

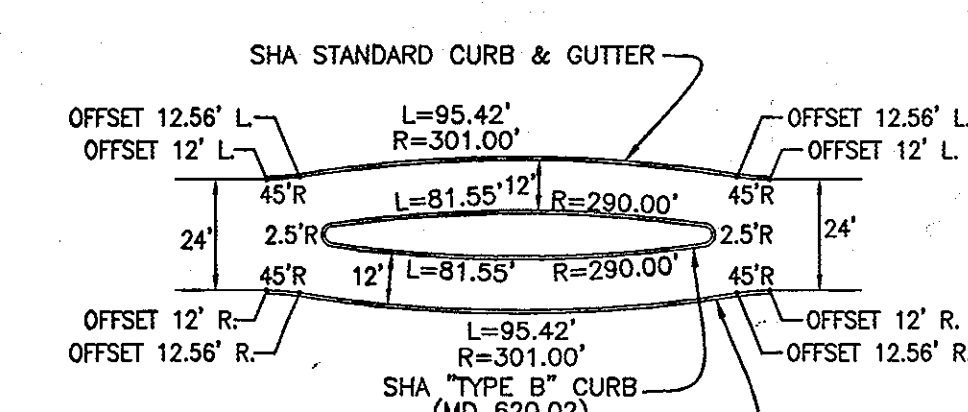
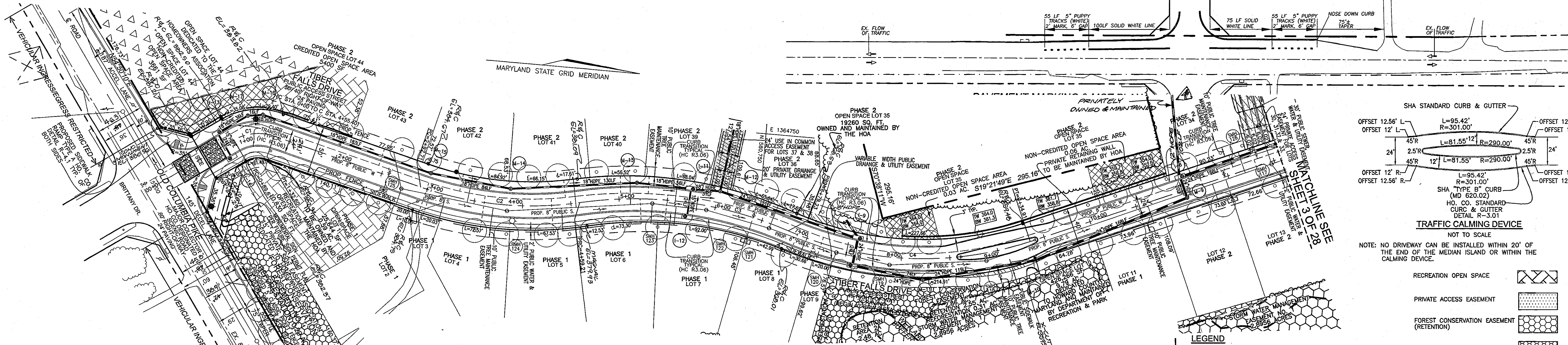


DESIGN BY: RHV/RJ
 DRAWN BY: RJ
 CHECKED BY: RHV
 DATE: 03-30-2007
 SCALE: AS SHOWN
 W.O. NO.: 03-43.00

APPROVED: DEPARTMENT OF PUBLIC WORKS
 With 2 sheets
 Chief, Bureau of Highways
 Date: 6-25-07

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Date: 7/2/07

Chief, Development Engineering Division
 Date: 6/28/07



TRAFFIC CALMING DEVICE
NOT TO SCALE

NOTE: NO DRIVEWAY CAN BE INSTALLED WITHIN 20' OF THE END OF THE MEDIAN ISLAND OR WITHIN THE CALMING DEVICE.

- RECREATION OPEN SPACE
- PRIVATE ACCESS EASEMENT
- FOREST CONSERVATION EASEMENT (RETENTION)
- FOREST CONSERVATION EASEMENT (REFORESTATION)
- PRIVATE DRAINAGE & UTILITY EASEMENT
- PUBLIC SIGHT DISTANCE EASEMENT
- WETLANDS
- PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT
- EXISTING PUBLIC SEWER EASEMENT
- RECREATION OPEN SPACE
- NON-CREDITED OPEN SPACE
- STORMWATER MANAGEMENT EASEMENT
- PUBLIC DRAINAGE & UTILITY EASEMENT
- PUBLIC SIDEWALK EASEMENT
- PUBLIC WATER & UTILITY EASEMENT
- PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25

- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - SPOT ELEVATION
 - DIRECTION OF FLOW
 - EXISTING TREES TO REMAIN
 - PROPOSED STREET TREE
 - SOILS
 - AREA OF 15 TO 24.9 PERCENT SLOPES
 - AREA OF 24 PERCENT OR GREATER SLOPES
 - FOREST CONSERVATION AREA (RETENTION)
 - FOREST CONSERVATION AREA (REFORESTATION)
 - WETLANDS
 - BG&E EASEMENT
 - NO WOODY BUFFER
 - WETLANDS BUFFER
 - STREAM CENTERLINE
 - STREAM BUFFER
 - PROP. STREET LIGHT
 - PROP. STREET SIGNS

PUBLIC ACCESS PLACE STREET TREE SCHEDULE

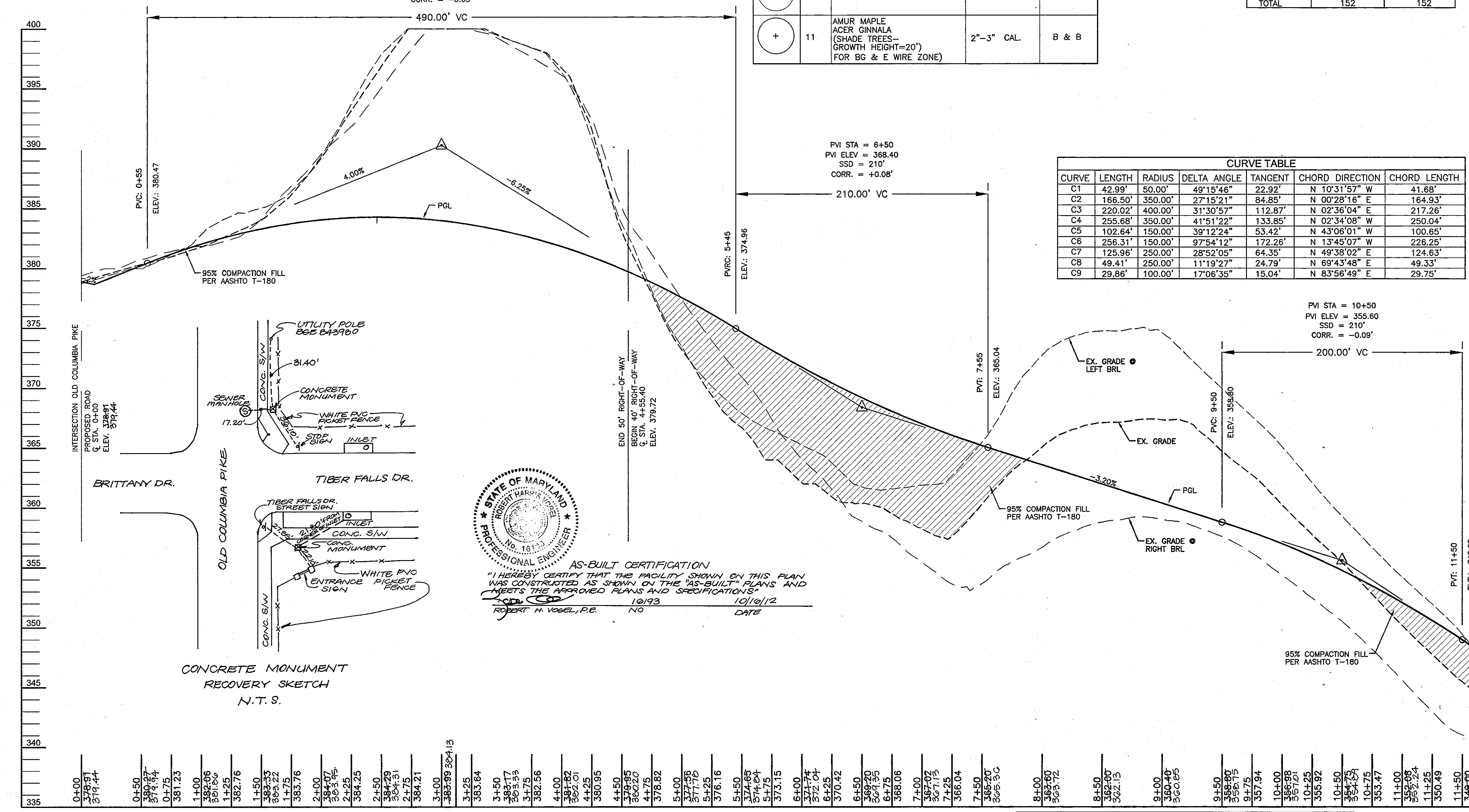
KEY	QUAN.	BOTANICAL NAME	SIZE	REM.
○	141	ACER SACCHARUM 'GOLDSPIRE' COLUMNAR SUGAR MAPLE	2 1/2"-3" CAL.	B & B
+	11	AMUR MAPLE ACER GINNALA (SHADE TREES - GROWTH HEIGHT=20') FOR BG & E WIRE ZONE	2"-3" CAL.	B & B

STREET TREE CALCULATIONS

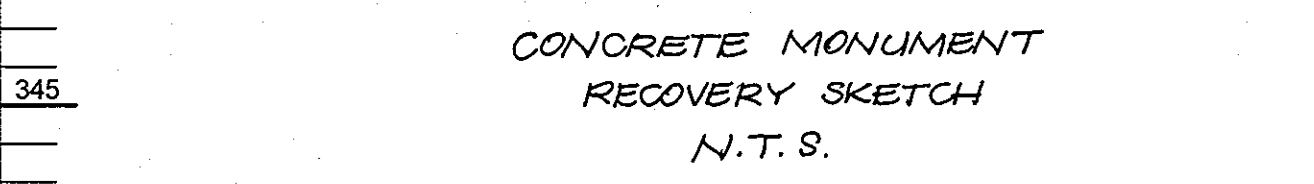
STREET NAME	LINEAR FEET	NO. REQUIRED	NO. PROVIDED
TIBER FALLS DRIVE	5650/40	141	141
OLD COLUMBIA PIKE	453/40	11	11
TOTAL		152	152

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	42.99'	50.00'	49°15'46"	22.92'	N 10°31'57" W	41.68'
C2	166.50'	350.00'	27°15'21"	84.85'	N 00°28'16" E	164.93'
C3	220.02'	400.00'	31°30'57"	112.87'	N 02°36'04" E	217.26'
C4	255.68'	350.00'	41°51'22"	133.85'	N 02°34'08" W	250.04'
C5	102.64'	150.00'	39°12'24"	53.42'	N 43°06'01" W	100.65'
C6	256.31'	150.00'	97°54'12"	172.26'	N 13°45'07" W	226.25'
C7	125.96'	250.00'	28°52'05"	64.35'	N 49°38'02" E	124.63'
C8	49.41'	250.00'	11°19'27"	24.79'	N 69°43'48" E	49.33'
C9	29.86'	100.00'	17°06'35"	15.04'	N 83°56'49" E	29.75'



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."
ROBERT H. VOGEL, P.E. 10/16/12



ROAD PROFILE
SCALE: 1"=50' HORIZ. 1"=5' VERT.

STATION	ELEVATION	STATION	ELEVATION
0+00	378.91	4+00	383.82
0+10	379.44	4+10	383.82
0+20	379.44	4+20	383.82
0+30	379.44	4+30	383.82
0+40	379.44	4+40	383.82
0+50	379.44	4+50	383.82
0+60	379.44	4+60	383.82
0+70	379.44	4+70	383.82
0+80	379.44	4+80	383.82
0+90	379.44	4+90	383.82
1+00	379.44	5+00	383.82
1+10	379.44	5+10	383.82
1+20	379.44	5+20	383.82
1+30	379.44	5+30	383.82
1+40	379.44	5+40	383.82
1+50	379.44	5+50	383.82
1+60	379.44	5+60	383.82
1+70	379.44	5+70	383.82
1+80	379.44	5+80	383.82
1+90	379.44	5+90	383.82
2+00	379.44	6+00	383.82
2+10	379.44	6+10	383.82
2+20	379.44	6+20	383.82
2+30	379.44	6+30	383.82
2+40	379.44	6+40	383.82
2+50	379.44	6+50	383.82
2+60	379.44	6+60	383.82
2+70	379.44	6+70	383.82
2+80	379.44	6+80	383.82
2+90	379.44	6+90	383.82
3+00	379.44	7+00	383.82
3+10	379.44	7+10	383.82
3+20	379.44	7+20	383.82
3+30	379.44	7+30	383.82
3+40	379.44	7+40	383.82
3+50	379.44	7+50	383.82
3+60	379.44	7+60	383.82
3+70	379.44	7+70	383.82
3+80	379.44	7+80	383.82
3+90	379.44	7+90	383.82
4+00	379.44	8+00	383.82
4+10	379.44	8+10	383.82
4+20	379.44	8+20	383.82
4+30	379.44	8+30	383.82
4+40	379.44	8+40	383.82
4+50	379.44	8+50	383.82
4+60	379.44	8+60	383.82
4+70	379.44	8+70	383.82
4+80	379.44	8+80	383.82
4+90	379.44	8+90	383.82
5+00	379.44	9+00	383.82
5+10	379.44	9+10	383.82
5+20	379.44	9+20	383.82
5+30	379.44	9+30	383.82
5+40	379.44	9+40	383.82
5+50	379.44	9+50	383.82
5+60	379.44	9+60	383.82
5+70	379.44	9+70	383.82
5+80	379.44	9+80	383.82
5+90	379.44	9+90	383.82
6+00	379.44	10+00	383.82
6+10	379.44	10+10	383.82
6+20	379.44	10+20	383.82
6+30	379.44	10+30	383.82
6+40	379.44	10+40	383.82
6+50	379.44	10+50	383.82
6+60	379.44	10+60	383.82
6+70	379.44	10+70	383.82
6+80	379.44	10+80	383.82
6+90	379.44	10+90	383.82
7+00	379.44	11+00	383.82
7+10	379.44	11+10	383.82
7+20	379.44	11+20	383.82
7+30	379.44	11+30	383.82
7+40	379.44	11+40	383.82
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7+90	379.44	11+90	383.82
8+00	379.44	12+00	383.82
8+10	379.44	12+10	383.82
8+20	379.44	12+20	383.82
8+30	379.44	12+30	383.82
8+40	379.44	12+40	383.82
8+50	379.44	12+50	383.82
8+60	379.44	12+60	383.82
8+70	379.44	12+70	383.82
8+80	379.44	12+80	383.82
8+90	379.44	12+90	383.82
9+00	379.44	13+00	383.82
9+10	379.44	13+10	383.82
9+20	379.44	13+20	383.82
9+30	379.44	13+30	383.82
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10+40	379.44	14+40	383.82
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10+90	379.44	14+90	383.82
11+00	379.44	15+00	383.82
11+10	379.44	15+10	383.82
11+20	379.44	15+20	383.82
11+30	379.44	15+30	383.82
11+40	379.44	15+40	383.82
11+50	379.44	15+50	383.82
11+60	379.44	15+60	383.82
11+70	379.44	15+70	383.82
11+80	379.44	15+80	383.82
11+90	379.44	15+90	383.82
12+00	379.44	16+00	383.82
12+10	379.44	16+10	383.82
12+20	379.44	16+20	383.82
12+30	379.44	16+30	383.82
12+40	379.44	16+40	383.82
12+50	379.44	16+50	383.82
12+60	379.44	16+60	383.82
12+70	379.44	16+70	383.82
12+80	379.44	16+80	383.82
12+90	379.44	16+90	383.82

OWNERS
STEPHEN WURTZLER
WURTZLER CULLBER
4025 OLD COLUMBIA PIKE
ELlicOTT CITY, MARYLAND 21043
410-465-4649

TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
3675 PARK AVENUE, SUITE 301
ELlicOTT CITY, MD.
21043-4511
410-480-0023

DEVELOPER
TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
3675 PARK AVENUE, SUITE 301
ELlicOTT CITY, MD.
21043-4511
410-480-0023

APPROVED: DEPARTMENT OF PUBLIC WORKS
William J. Mall 6-25-07
Chief, Bureau of Highways Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Andy Hanks 7/2/10
Chief, Division of Land Development Date

Chris Deussen 6/25/10
Chief, Development Engineering Division Date

FINAL ROAD CONSTRUCTION PLAN

THE WOODS OF TIBER BRANCH II - PHASE III & IIIA
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZLER PROPERTY
SUBDIVISION OF TM PARCEL 881
RECORDED AS PLAT NO. 17414

TAX MAP 24, BLOCK 18 PARCELS '264'
2ND ELECTION DISTRICT PARCEL '811'
REF.: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELlicOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHV/RJ
DRAWN BY: RJ
CHECKED BY: RIV
DATE: 03-30-2007
SCALE: AS SHOWN
W.O. NO.: 03-43.00

2 SHEET OF 28

CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	42.99'	50.00'	49°15'46"	22.92'	N 10°31'57" W	41.68'
C2	166.50'	350.00'	27°15'21"	84.85'	N 00°28'16" E	164.93'
C3	220.22'	400.00'	31°30'57"	112.87'	N 02°34'08" E	217.26'
C4	255.68'	350.00'	41°51'22"	133.85'	N 02°34'08" W	250.04'
C5	102.64'	150.00'	39°12'24"	53.42'	N 43°06'01" W	100.65'
C6	256.31'	150.00'	67°54'12"	172.26'	N 13°45'07" W	228.25'
C7	125.96'	250.00'	28°52'05"	64.35'	N 49°38'02" E	124.63'
C8	49.41'	250.00'	11°19'27"	24.79'	N 69°43'48" E	49.33'
C9	29.86'	100.00'	17°06'35"	15.04'	N 83°56'49" E	29.75'

DWG. NO.	STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
2 OF 10	TIBER FALLS DRIVE	0+30	50' RIGHT	150-WATT PREMIER POST-TOP FIXTURE
2 OF 10	TIBER FALLS DRIVE	1+15	15' LEFT	150-WATT PREMIER POST-TOP FIXTURE
2 OF 10	TIBER FALLS DRIVE	3+90	15' RIGHT	100-WATT PREMIER POST-TOP FIXTURE
2 OF 10	TIBER FALLS DRIVE	7+12	15' RIGHT	100-WATT PREMIER POST-TOP FIXTURE
2 OF 10	TIBER FALLS DRIVE	8+85	21' LEFT	100-WATT PREMIER POST-TOP FIXTURE
3 OF 10	TIBER FALLS DRIVE	12+96	15' RIGHT	100-WATT PREMIER POST-TOP FIXTURE
3 OF 10	TIBER FALLS DRIVE	15+05	15' LEFT	100-WATT PREMIER POST-TOP FIXTURE
3 OF 10	TIBER FALLS DRIVE	16+42	15' LEFT	150-WATT PREMIER POST-TOP FIXTURE
3 OF 10	TIBER FALLS DRIVE	18+85	15' LEFT	100-WATT PREMIER POST-TOP FIXTURE
4 OF 10	TIBER FALLS DRIVE	24+40	20' LEFT	100-WATT PREMIER POST-TOP FIXTURE
4 OF 10	TIBER FALLS DRIVE	LP 1+48	3'	100-WATT PREMIER POST-TOP FIXTURE

DWG. NO.	STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE
2 OF 10	TIBER FALLS DRIVE	0+34	28' LEFT	R1-1 "STOP"
2 OF 10	TIBER FALLS DRIVE	2+30	15' RIGHT	R2-1 "SPEED LIMIT 25 MPH"
2 OF 10	TIBER FALLS DRIVE	2+00	15' RIGHT	W3-1 "STOP AHEAD"
3 OF 10	TIBER FALLS DRIVE	11+79	18' LEFT	D3 "ST. NAME SIGN ASSEMBLY"
2 OF 10	TIBER FALLS DRIVE	2+96	15' RIGHT	R4-7 "KEEP RIGHT"
2 OF 10	TIBER FALLS DRIVE	5+88	15' LEFT	R4-7 "KEEP RIGHT"
2 OF 10	TIBER FALLS DRIVE	7+16	15' RIGHT	R4-7 "KEEP RIGHT"
3 OF 10	TIBER FALLS DRIVE	12+76	15' RIGHT	R4-7 "KEEP RIGHT"
3 OF 10	TIBER FALLS DRIVE	19+06	15' LEFT	R4-7 "KEEP RIGHT"
4 OF 10	TIBER FALLS DRIVE	LP 1+70	3'	R4-7 "KEEP RIGHT"
2 OF 10	TIBER FALLS DRIVE	8+62	-	R4-7 "KEEP RIGHT"
2 OF 10	TIBER FALLS DRIVE	9+40	-	R4-7 "KEEP RIGHT"
3 OF 10	TIBER FALLS DRIVE	24+03	24+78	W1-1R WARNING SIGN W/ SWEEP CURVE
3 OF 10	TIBER FALLS DRIVE	13+55	15' RIGHT	W1-1R WARNING SIGN W/ SWEEP CURVE
2 OF 10	TIBER FALLS DRIVE	11+55	15' RIGHT	W1-1R WARNING SIGN W/ SWEEP CURVE

*STREET NAME SIGNS SHALL BE FABRICATED BY HOWARD COUNTY

LEGEND

EXISTING TREES TO REMAIN

PROPOSED STREET TREE

SOILS

AREA OF 15 TO 24.9 PERCENT SLOPES

AREA OF 24 PERCENT OR GREATER SLOPES

FOREST CONSERVATION AREA (RETENTION)

FOREST CONSERVATION AREA (REFORESTATION)

WETLANDS

BG&E EASEMENT

NO WOODY BUFFER

WETLANDS BUFFER

STREAM CENTERLINE

STREAM BUFFER

PROP. STREET LIGHT

PROP. STREET SIGNS

RECREATION OPEN SPACE

PRIVATE ACCESS EASEMENT

FOREST CONSERVATION EASEMENT (RETENTION)

FOREST CONSERVATION EASEMENT (REFORESTATION)

PRIVATE DRAINAGE & UTILITY EASEMENT

PUBLIC SIGHT DISTANCE EASEMENT

WETLANDS

PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25

STORMWATER MANAGEMENT EASEMENT

PUBLIC DRAINAGE & UTILITY EASEMENT

PUBLIC SIDEWALK EASEMENT

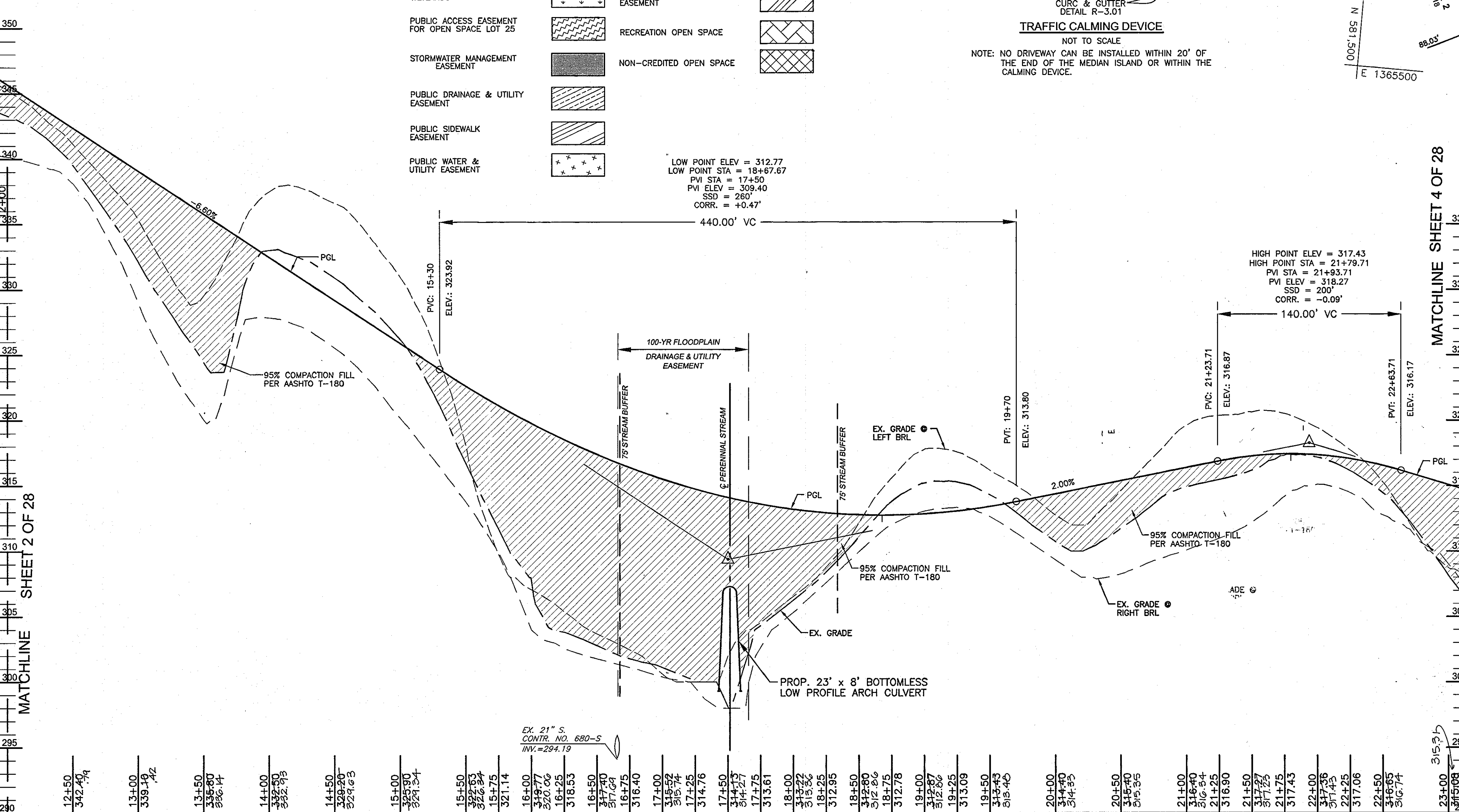
PUBLIC WATER & UTILITY EASEMENT

PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT

EXISTING PUBLIC SEWER EASEMENT

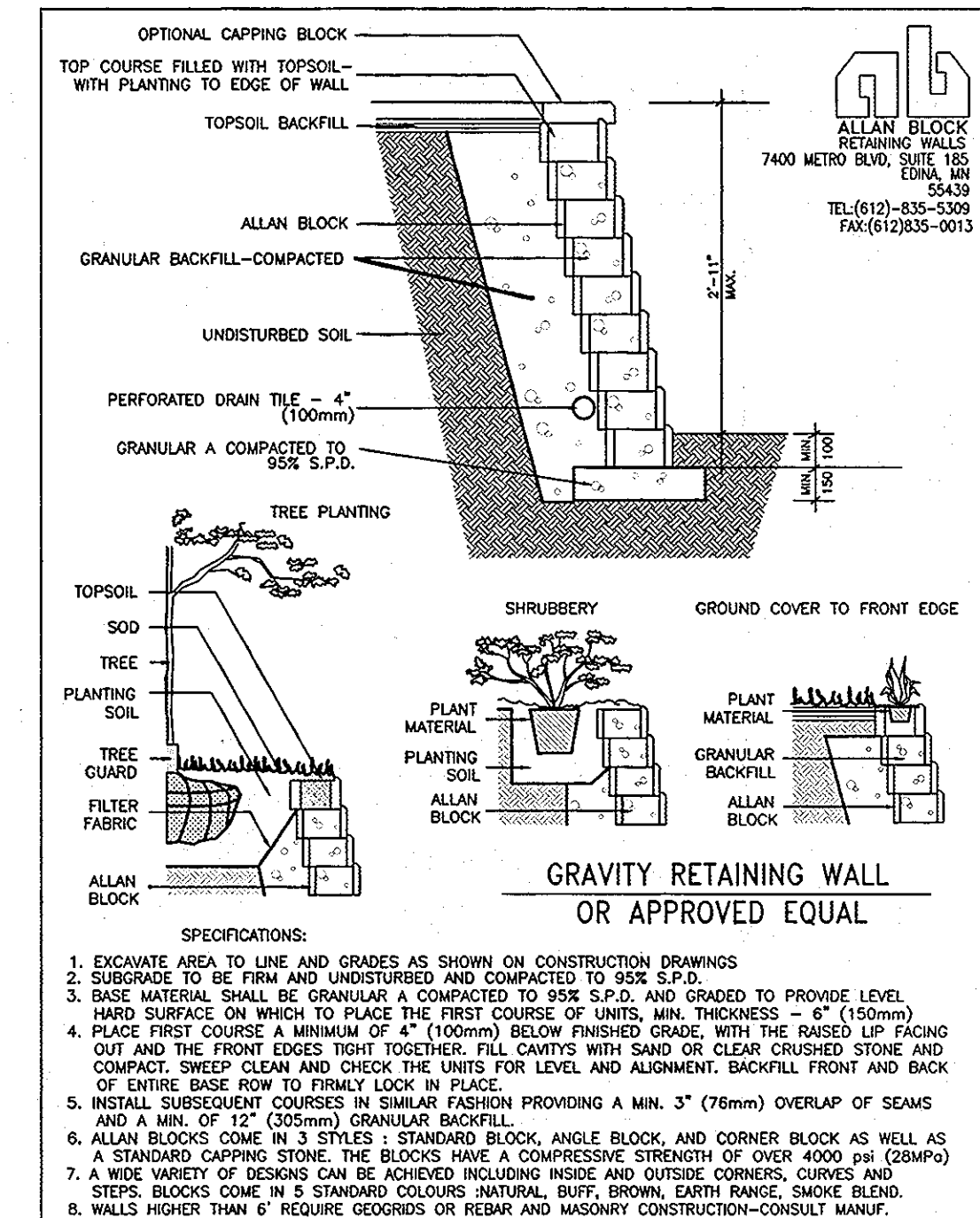
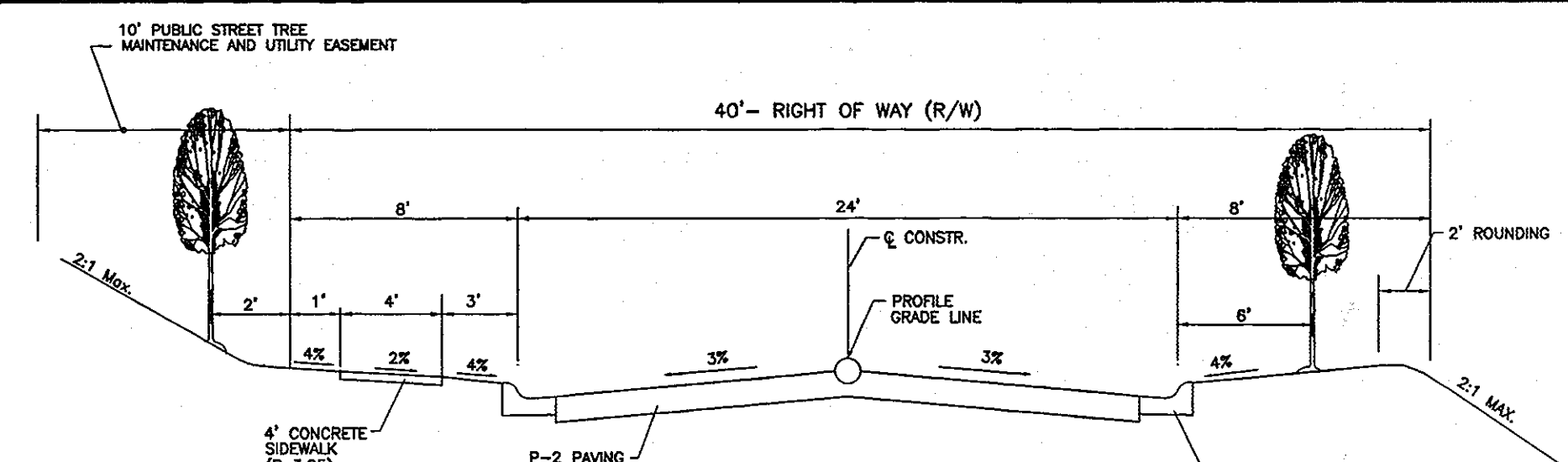
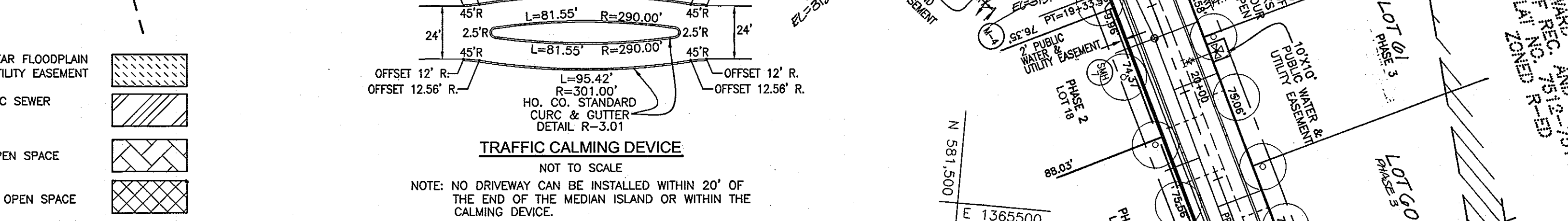
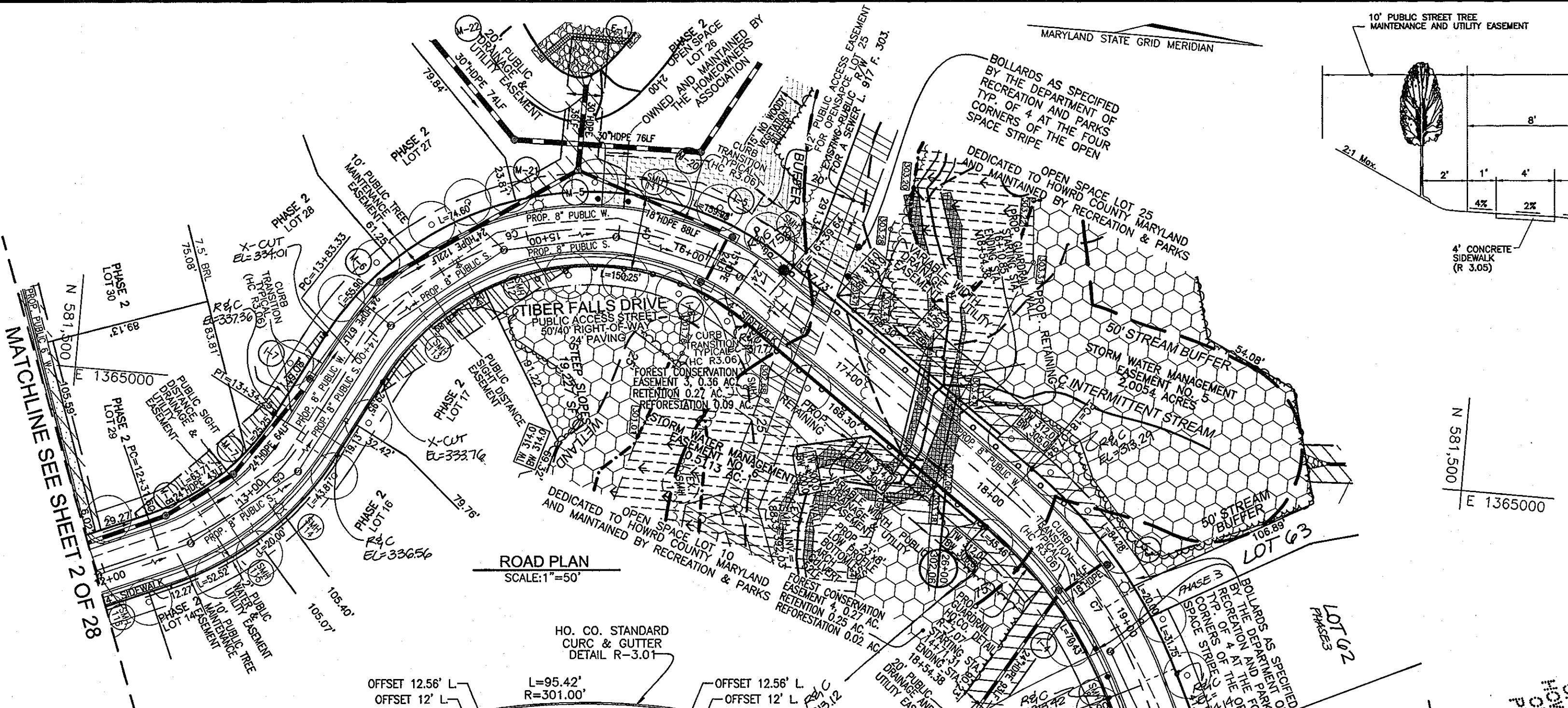
RECREATION OPEN SPACE

NON-CREDITED OPEN SPACE



STATION	ELEVATION
12+50	342.49
13+00	339.19
13+50	336.80
14+00	334.41
14+50	332.02
15+00	329.63
15+50	327.24
16+00	324.85
16+50	322.46
17+00	320.07
17+50	317.68
18+00	315.29
18+50	312.90
19+00	310.51
19+50	308.12
20+00	305.73
20+50	303.34
21+00	300.95
21+50	298.56
22+00	296.17
22+50	293.78
23+00	291.39

ROAD PROFILE SCALE: 1"=50' HORIZ. 1"=5' VERT.



LOT NO.	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
1	8,201 SF	1,131 SF	7,070 SF
2	12,552 SF	1,581 SF	10,971 SF
8	10,378 SF	1,784 SF	8,594 SF
44	13,761 SF	1,596 SF	12,165 SF
50	9,630 SF	1,022 SF	8,608 SF
51	12,029 SF	1,710 SF	10,319 SF
61	14,155 SF	2,003 SF	12,152 SF

AS-BUILT CERTIFICATION

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

10/10/12 DATE

PROFESSIONAL ENGINEER

OWNERS: TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC 3675 PARK AVENUE, SUITE 301 ELLICOTT CITY, MD. 21043-4511 410-480-0023

DEVELOPER: TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC 3675 PARK AVENUE, SUITE 301 ELLICOTT CITY, MD. 21043-4511 410-480-0023

No.	ADD PHASE III REVISION	2-19-06 DATE
1	ADD PHASE III	2-19-06

APPROVED: DEPARTMENT OF PUBLIC WORKS

Walter J. Hall Chief, Bureau of Highways 6-25-07 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hanna Chief, Division of Land Development 7/2/07 Date

Chief, Development Engineering Division 6/29/07 Date

FINAL ROAD CONSTRUCTION PLAN

THE WOODS OF TIBER BRANCH II - PHASE II & III

A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZLER PROPERTY SUBDIVISION OF TM PARCEL 881

RECORDED AS PLAT NO. 17414

TAX MAP 24 BLOCK 18 PARCELS '264' ELLICOTT CITY, MARYLAND 21043 2ND ELECTION DISTRICT

REF.: F-98-130, WP-04-20

ROBERT H. VOGEL ENGINEERING, INC.

ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410-461-7666 FAX: 410-461-1891

DESIGN BY: RHW/RJ

DRAWN BY: RJ

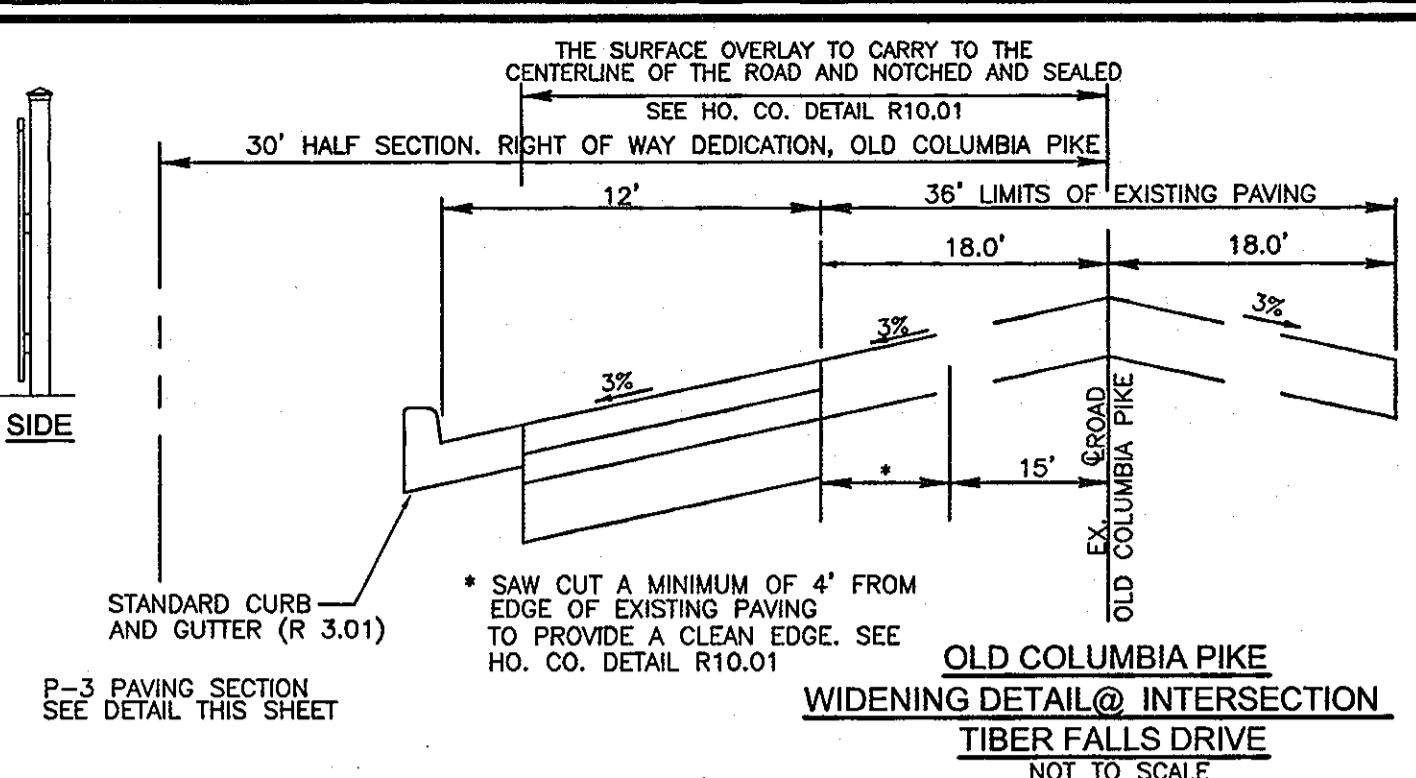
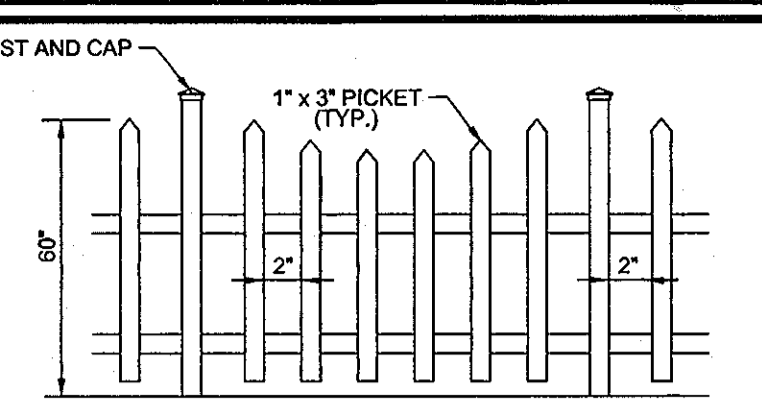
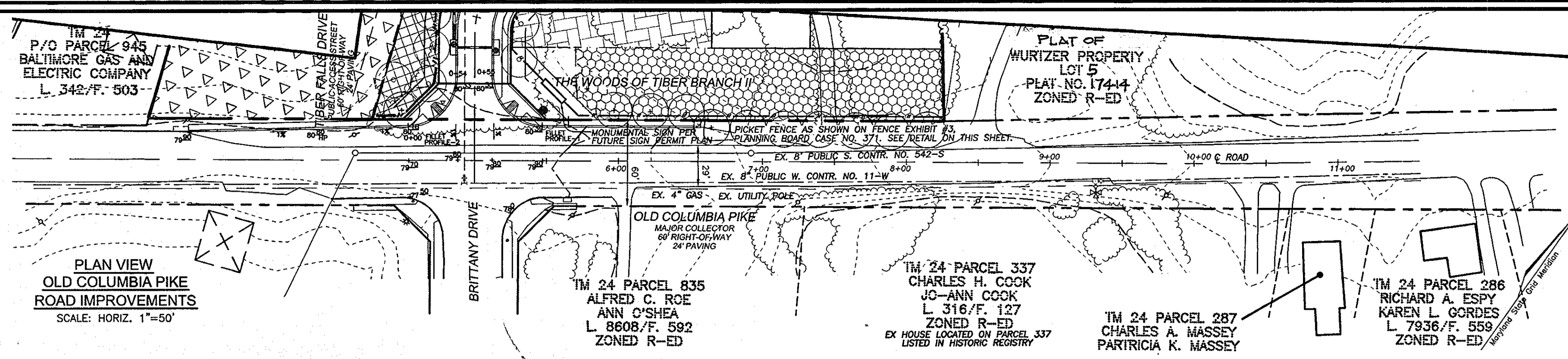
CHECKED BY: RHV

DATE: 03-30-2007

SCALE: AS SHOWN

W.O. NO.: 03-43.00

3 SHEET OF 28



LEGEND

- EXISTING TREES TO REMAIN
- PROPOSED STREET TREE
- AREA OF 15 TO 24.9 PERCENT SLOPES
- AREA OF 24 PERCENT OR GREATER SLOPES
- FOREST CONSERVATION AREA (RETENTION)
- FOREST CONSERVATION AREA (REFORESTATION)
- WETLANDS
- BO&E EASEMENT
- NO WOODY BUFFER
- WETLANDS BUFFER
- STREAM CENTERLINE
- STREAM BUFFER
- PROP. STREET LIGHT
- PROP. STREET SIGNS
- RECREATION OPEN SPACE
- PRIVATE ACCESS EASEMENT
- FOREST CONSERVATION EASEMENT (RETENTION)
- FOREST CONSERVATION EASEMENT (REFORESTATION)
- PRIVATE DRAINAGE & UTILITY EASEMENT
- PUBLIC SIGHT DISTANCE EASEMENT
- WETLANDS
- PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT
- EXISTING PUBLIC SEWER EASEMENT
- RECREATION OPEN SPACE
- NON-CREDITED OPEN SPACE
- STORMWATER MANAGEMENT EASEMENT
- PUBLIC DRAINAGE & UTILITY EASEMENT
- PUBLIC SIDEWALK EASEMENT
- PUBLIC WATER & UTILITY EASEMENT
- PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25

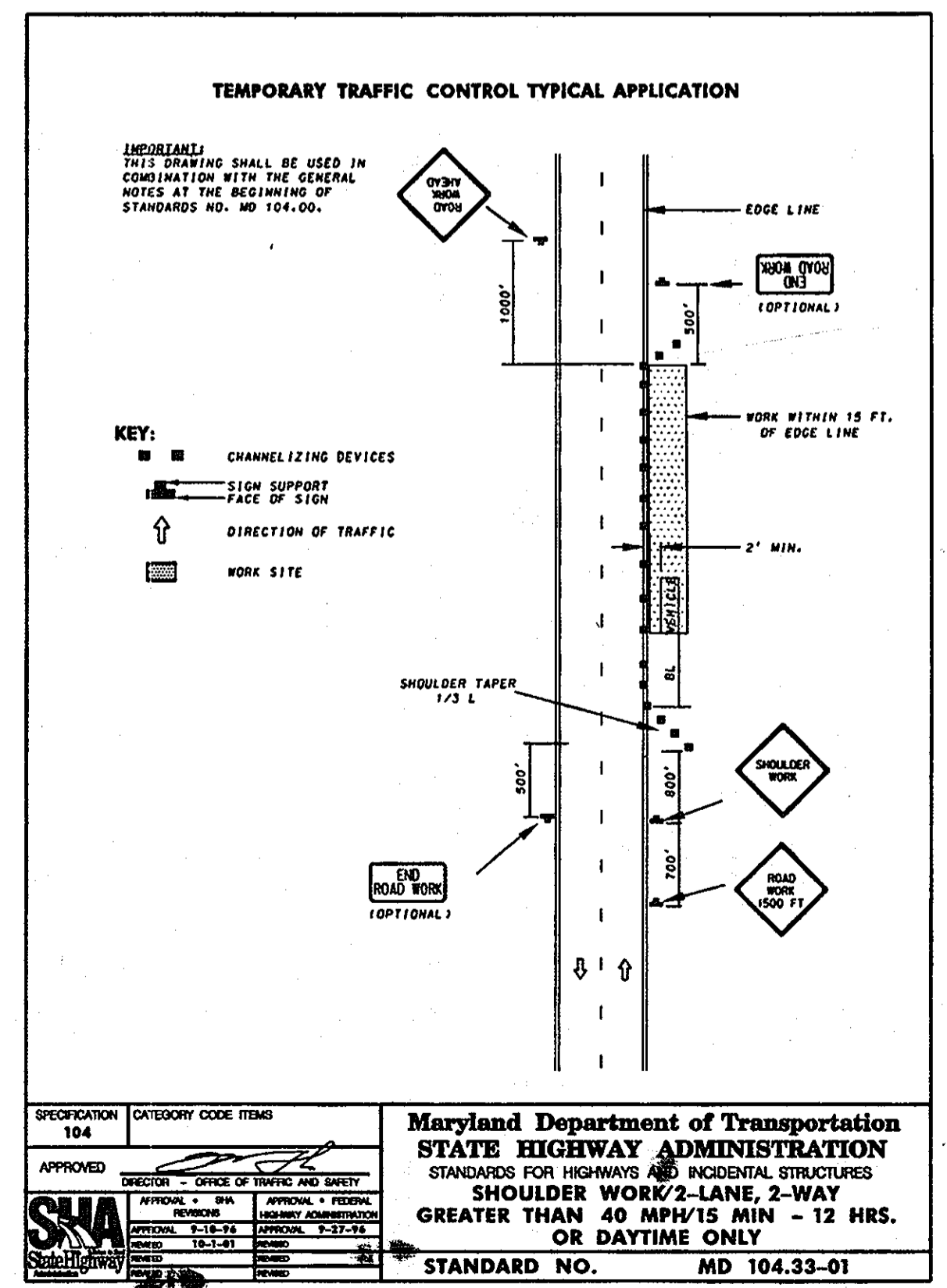
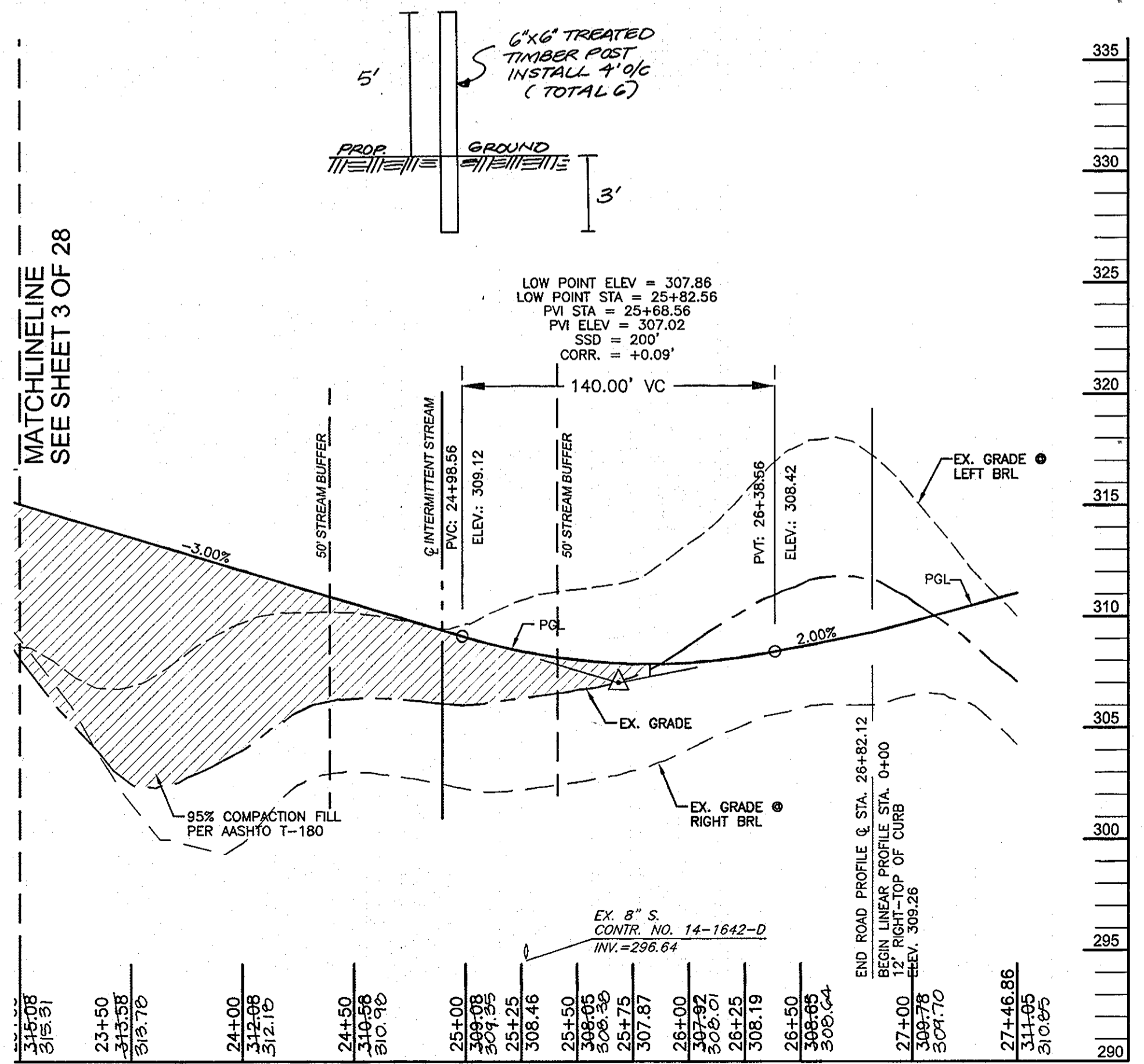
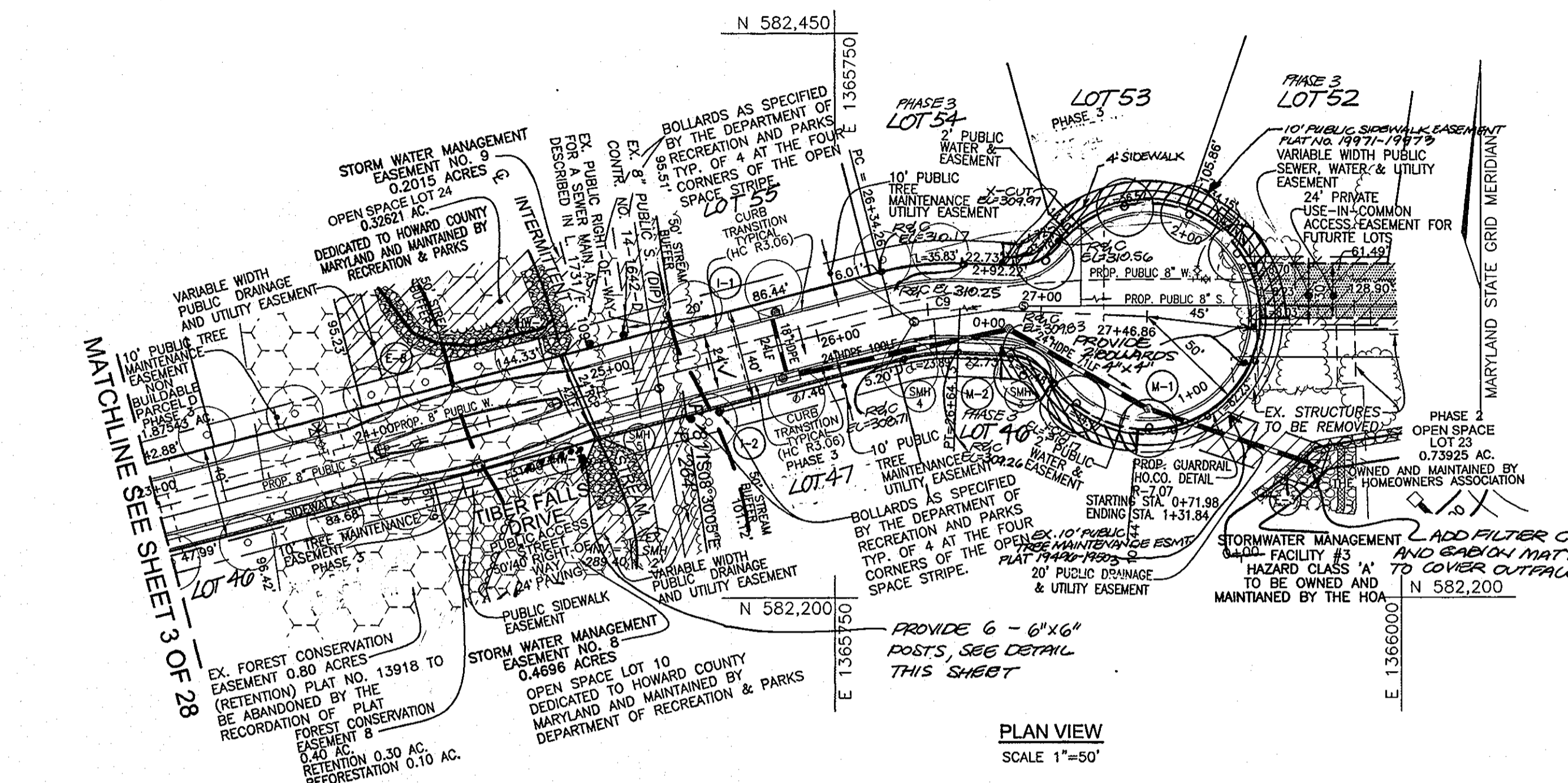
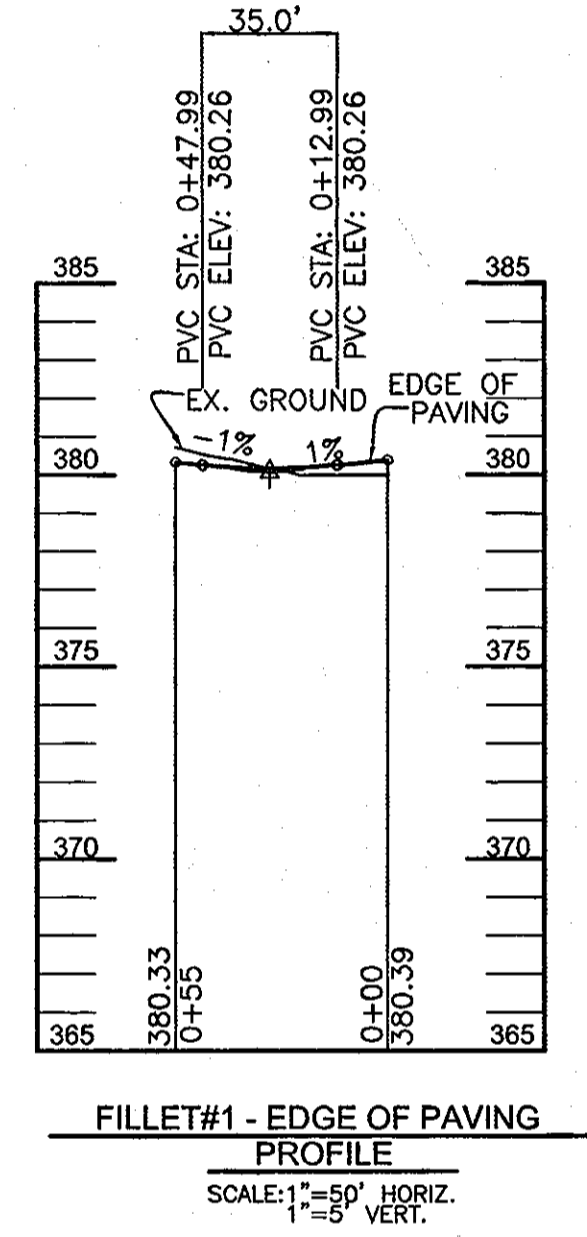
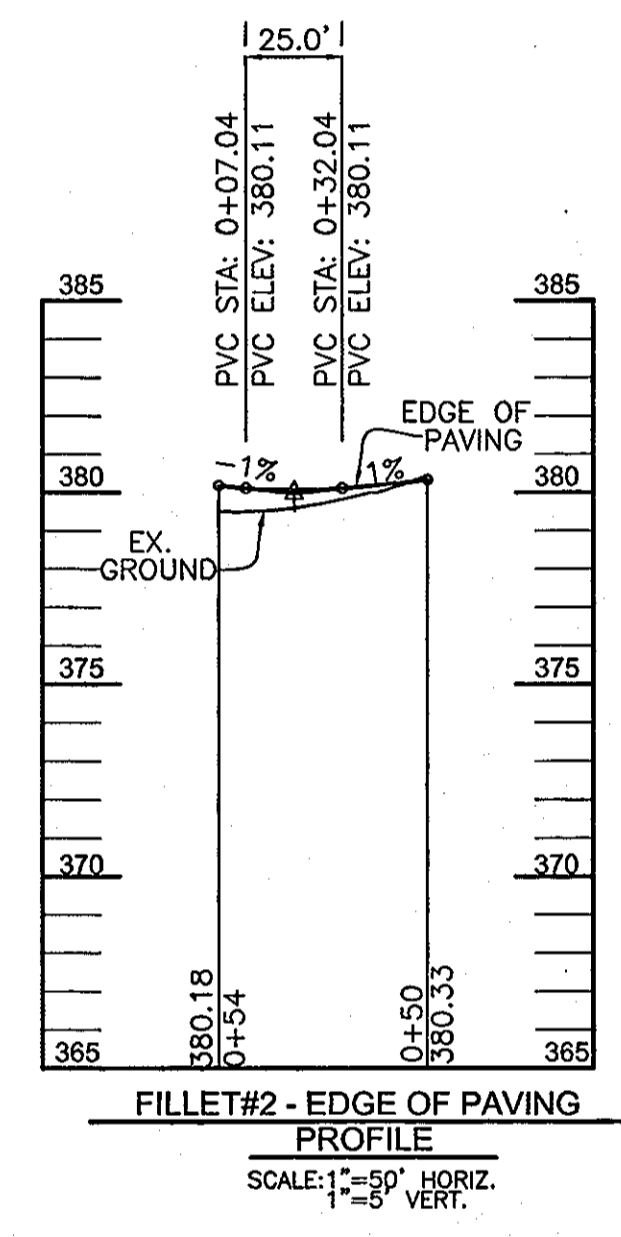
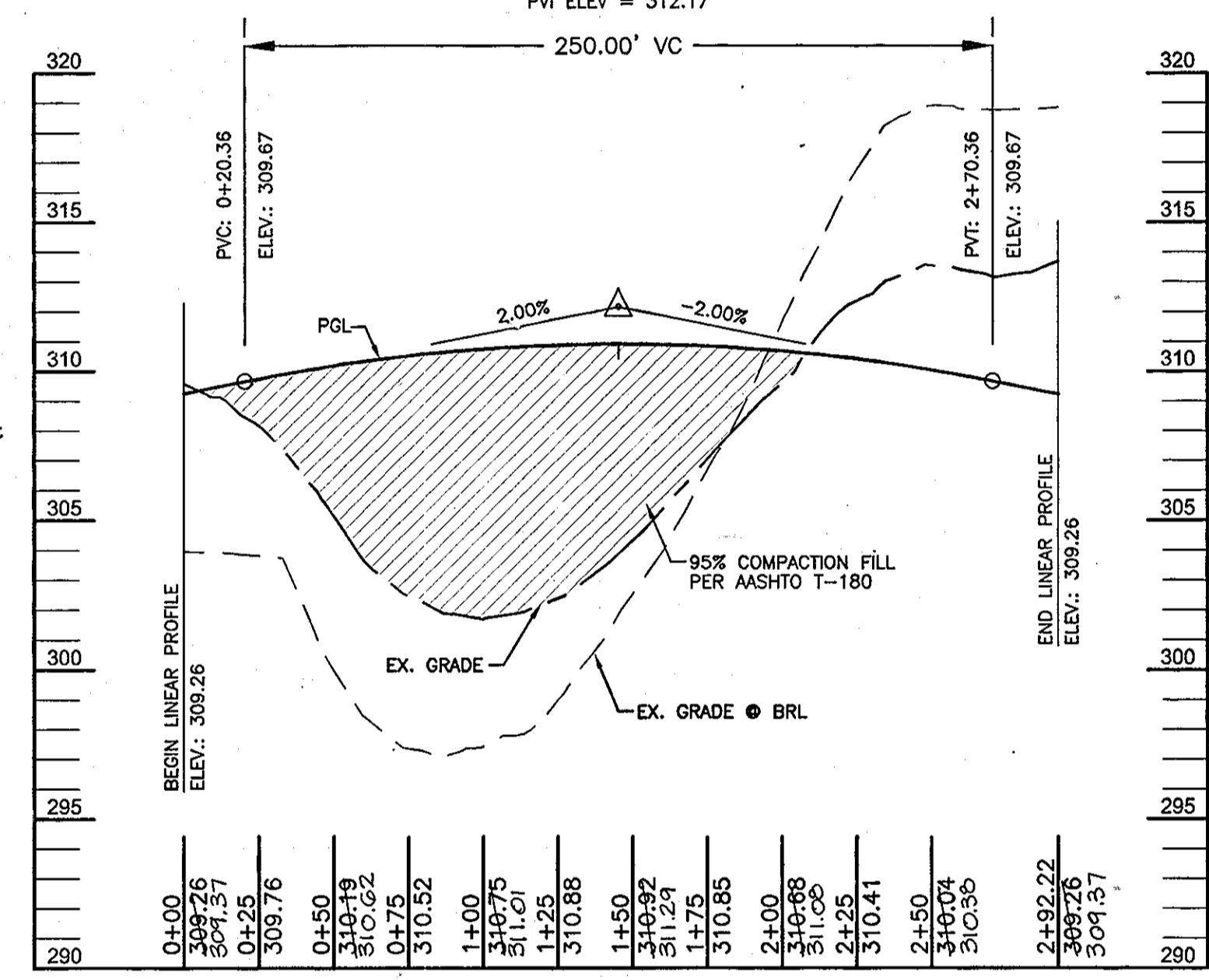
CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA ANGLE	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	42.99'	50.00'	49°15'46"	22.92'	N 10°31'57" W	41.68'
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C8	49.41'	250.00'	11°19'27"	24.79'	N 69°43'48" E	49.33'
C9	29.86'	100.00'	17°06'35"	15.04'	N 83°56'49" E	29.75'

HIGH POINT ELEV = 310.92
 HIGH POINT STA = 1+45.36
 PVI STA = 1+44.53
 PVI ELEV = 312.17

LOW POINT ELEV = 380.05
 LOW POINT STA = 0+19.54
 PVI STA = 0+19.54
 PVI ELEV = 379.98

LOW POINT ELEV = 380.17
 LOW POINT STA = 0+30.49
 PVI STA = 0+30.49
 PVI ELEV = 380.09
 A.D. = 2.0000

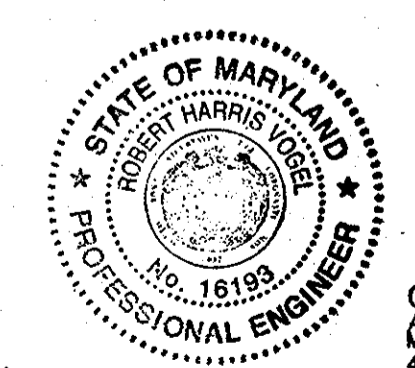


AS-BUILT CERTIFICATION

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.

ROBERT H. VOGEL, RE. NO. 16193 DATE 10/16/12

No.	REVISION	DATE
3	REPLACE GUARD RAIL WITH BOLLARDS	7/3/12
2	ADD 4' SIDEWALK, PUBLIC SIDEWALK EASEMENT	6/19/00
1	ADD PHASE III	2-19-00
	REVISION	DATE



OWNERS
 AUGUSTE STEPHEN WURTZER
 MARY WURTZER WILHELM
 4020 OLD COLUMBIA PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-485-4649

DEVELOPER
 TRINITY HOMES AT WOODS
 OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD.
 21043-4511
 410-480-0023

APPROVED: DEPARTMENT OF PUBLIC WORKS

William J. ...
 Chief, Bureau of Highways Date 6-25-07

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cond. ...
 Chief, Division of Land Development Date 7/2/07

...
 Chief, Development Engineering Division Date 6/29/07

FINAL ROAD CONSTRUCTION PLAN

THE WOODS OF TIBER BRANCH II - PHASE II & III
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY
 SUBDIVISION OF TM PARCEL 881

TAX MAP 24 BLOCK 18 RECORDED AS PLAT NO. 17414 PARCELS '264'
 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 REF.: F-98-130, WP-04-20

ROBERT H. VOGEL ENGINEERING INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.5911

DESIGN BY: RHV/RJ
 DRAWN BY: RJ
 CHECKED BY: RHV
 DATE: 03-30-2007
 SCALE: AS SHOWN
 W.O. NO.: 03-43-00

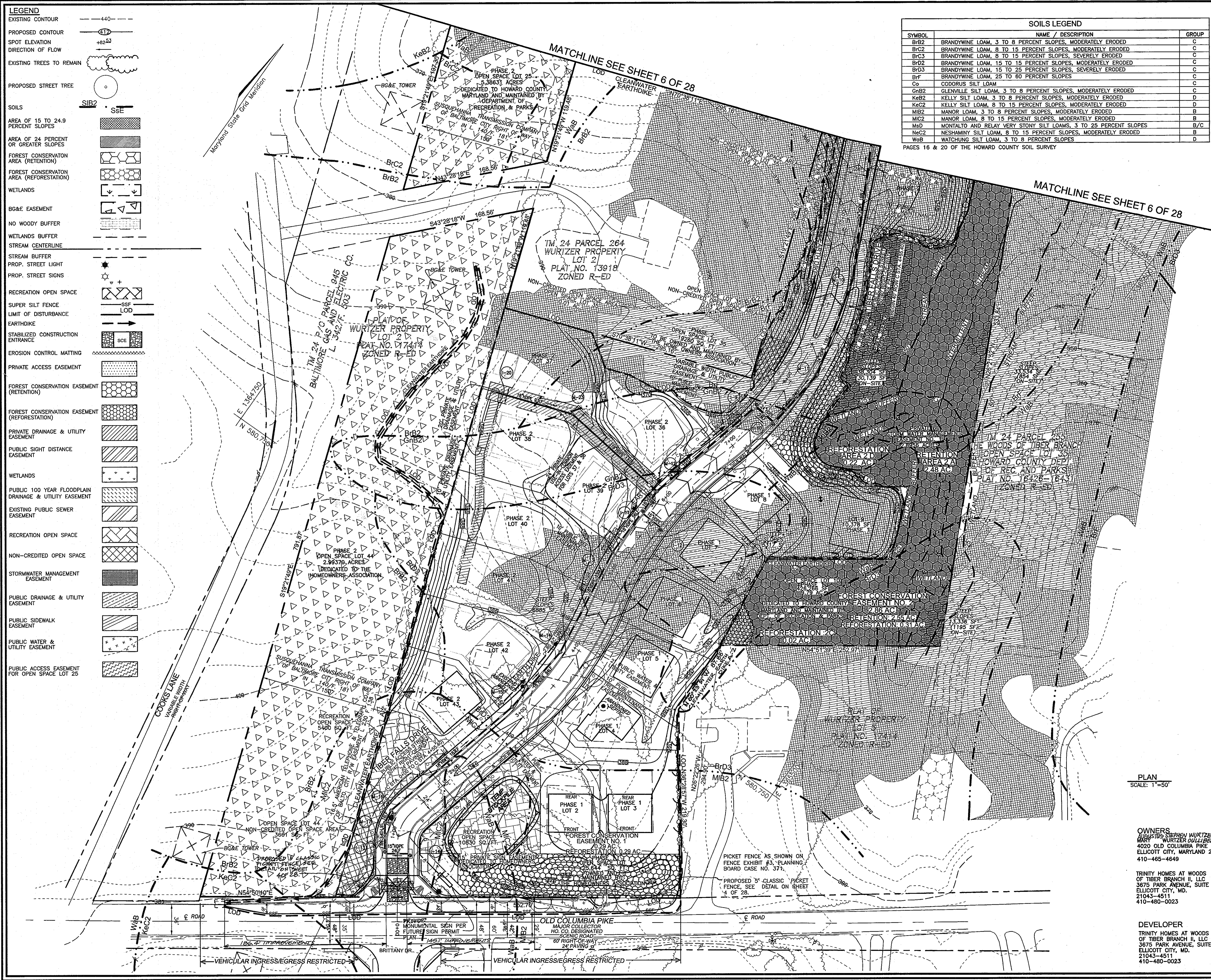
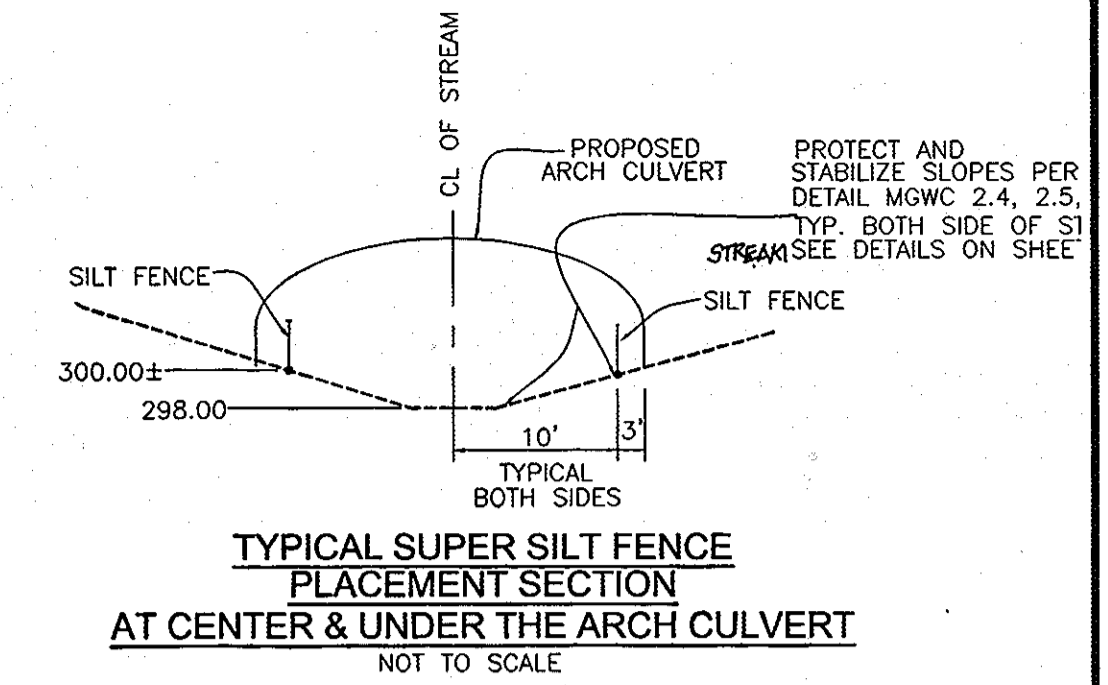
4 SHEET OF 28

- LEGEND**
- EXISTING CONTOUR ---440---
 - PROPOSED CONTOUR ---417---
 - SPOT ELEVATION +82.53
 - DIRECTION OF FLOW
 - EXISTING TREES TO REMAIN
 - PROPOSED STREET TREE
 - SOILS
 - AREA OF 15 TO 24.9 PERCENT SLOPES
 - AREA OF 24 PERCENT OR GREATER SLOPES
 - FOREST CONSERVATION AREA (RETENTION)
 - FOREST CONSERVATION AREA (REFORESTATION)
 - WETLANDS
 - BG&E EASEMENT
 - NO WOODY BUFFER
 - WETLANDS BUFFER
 - STREAM CENTERLINE
 - STREAM BUFFER
 - PROP. STREET LIGHT
 - PROP. STREET SIGNS
 - RECREATION OPEN SPACE
 - SUPER SILT FENCE
 - LIMIT OF DISTURBANCE
 - EARTHDIKE
 - STABILIZED CONSTRUCTION ENTRANCE
 - EROSION CONTROL MATTING
 - PRIVATE ACCESS EASEMENT
 - FOREST CONSERVATION EASEMENT (RETENTION)
 - FOREST CONSERVATION EASEMENT (REFORESTATION)
 - PRIVATE DRAINAGE & UTILITY EASEMENT
 - PUBLIC SIGHT DISTANCE EASEMENT
 - WETLANDS
 - PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT
 - EXISTING PUBLIC SEWER EASEMENT
 - RECREATION OPEN SPACE
 - NON-CREDITED OPEN SPACE
 - STORMWATER MANAGEMENT EASEMENT
 - PUBLIC DRAINAGE & UTILITY EASEMENT
 - PUBLIC SIDEWALK EASEMENT
 - PUBLIC WATER & UTILITY EASEMENT
 - PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
BrB2	BRANDYWINE LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
BrC2	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
BrD3	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED	C
BrD3	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	C
BrF	BRANDYWINE LOAM, 25 TO 60 PERCENT SLOPES	C
Co	CODORUS SILT LOAM	C
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
KeB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
KcC2	KELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	D
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MIC2	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
MsD	MONTALTO AND RELAY VERY STONY SILT LOAMS, 3 TO 25 PERCENT SLOPES	B/C
NcC2	NESHAMINY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
WcB	WATCHUNG SILT LOAM, 3 TO 8 PERCENT SLOPES	D

PAGES 16 & 20 OF THE HOWARD COUNTY SOIL SURVEY



No.	REVISION	DATE
1	ADD PHASE III	2-19-06

APPROVED: DEPARTMENT OF PUBLIC WORKS

With 2 sheets 6-25-07
 Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Andy Hunt 7/2/07
 Chief, Division of Land Development

W. DeWitt 6/23/07
 Chief, Development Engineering Division

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

Jim Myrland 4/21/07
 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.

John S.C.D. 4/21/07
 HOWARD S.C.D.

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 NOTICED 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.

Robert H. Vogel 5/22/07
 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.

Michael Ryan 5.22.07
 SIGNATURE OF DEVELOPER
 TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC

**FINAL ROAD CONSTRUCTION PLAN
 GRADING AND SEDIMENT & EROSION CONTROL PLAN
 THE WOODS OF TIBER BRANCH II - PHASE II & III**
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZLER PROPERTY SUBDIVISION OF TM PARCEL 881 RECORDED AS PLAT NO. 17414

TAX MAP 24, BLOCK 18 PARCELS '264' & '811'
 2ND ELECTION DISTRICT REF.: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERS, INC.
 ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8951

DESIGN BY: RHW/RJ
 DRAWN BY: RJ
 CHECKED BY: RHW
 DATE: 03-30-2007
 SCALE: AS SHOWN
 W.O. NO.: 03-43.00

5 SHEET OF 28

PLAN SCALE: 1"=50'

OWNERS
 WURTZLER WURTZLER
 4020 OLD COLUMBIA PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-485-4649

TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD 21043-4511
 410-480-0023

DEVELOPER
 TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD 21043-4511
 410-480-0023

LEGEND

EXISTING CONTOUR ---440---

PROPOSED CONTOUR ---410---

SPOT ELEVATION +82.53

DIRECTION OF FLOW

EXISTING TREES TO REMAIN

PROPOSED STREET TREE

SOILS

SIB2 S5E

AREA OF 15 TO 24.9 PERCENT SLOPES

AREA OF 24 PERCENT OR GREATER SLOPES

FOREST CONSERVATION AREA (RETENTION)

FOREST CONSERVATION AREA (REFORESTATION)

WETLANDS

BO&E EASEMENT

NO WOODY BUFFER

WETLANDS BUFFER

STREAM CENTERLINE

STREAM BUFFER

PROP. STREET LIGHT

PROP. STREET SIGNS

RECREATION OPEN SPACE

SUPER SILT FENCE

LIMIT OF DISTURBANCE

EARTHDIKE

STABILIZED CONSTRUCTION ENTRANCE

EROSION CONTROL MATTING

PRIVATE ACCESS EASEMENT

FOREST CONSERVATION EASEMENT (RETENTION)

FOREST CONSERVATION EASEMENT (REFORESTATION)

PRIVATE DRAINAGE & UTILITY EASEMENT

PUBLIC SIGHT DISTANCE EASEMENT

WETLANDS

PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT

EXISTING PUBLIC SEWER EASEMENT

RECREATION OPEN SPACE

NON-CREDITED OPEN SPACE

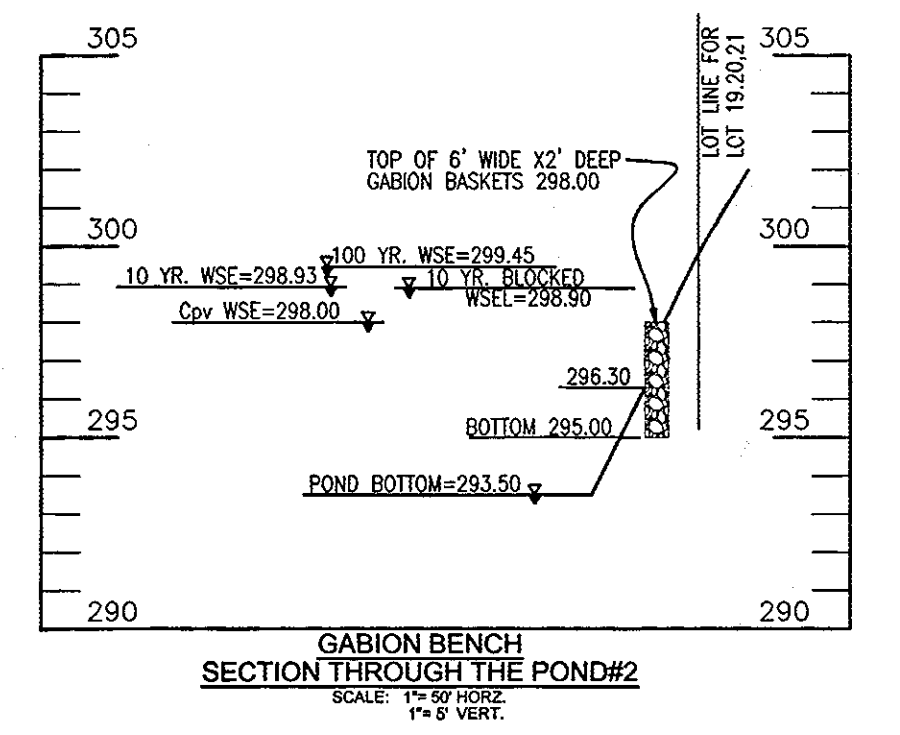
STORMWATER MANAGEMENT EASEMENT

PUBLIC DRAINAGE & UTILITY EASEMENT

PUBLIC SIDEWALK EASEMENT

PUBLIC WATER & UTILITY EASEMENT

PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25



MATCHLINE SEE SHEET 7 OF 28

APPROVED: DEPARTMENT OF PUBLIC WORKS
Wade J. Whitt
 Chief, Bureau of Highways Date 6-25-07

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Krasner
 Chief, Division of Land Development Date 7/2/07

John Demun
 Chief, Development Engineering Division Date 6/29/07

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

Jim Myers, Esq.
 USDA NATURAL RESOURCES CONSERVATION SERVICE Date 6/21/07

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert H. Vogel
 HOWARD S.C.D. Date 6/21/07

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.

Robert H. Vogel
 SIGNATURE OF ENGINEER Date 6/21/07

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.

Michael Plan
 SIGNATURE OF DEVELOPER Date 6-22-07

FINAL ROAD CONSTRUCTION PLAN
GRADING AND SEDIMENT & EROSION CONTROL PLAN
THE WOODS OF TIBER BRANCH II - PHASE II & III
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY SUBDIVISION OF TM PARCEL 881
 RECORDED AS PLAT NO. 17414

TAX MAP 24 BLOCK 18 PARCELS '264'
 2ND ELECTION DISTRICT PARCEL '811'
 REF.: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
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 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHV/RJ
 DRAWN BY: RJ
 CHECKED BY: RHV
 DATE: 03-30-2007
 SCALE: AS SHOWN
 W.O. NO.: 03-43.00

6 SHEET OF 28

BASIN NO.1

TRAP TYPE: BASIN
 EX. DRAINAGE AREA: 21.0 AC.
 PROP. DRAINAGE AREA: 12.50 AC. BASIN + 6.7 AC UNMANAGED
 TOTAL STORAGE REQUIRED: 45,000 CF
 TOTAL STORAGE PROVIDED: 45,000 CF
 BOTTOM ELEV.: 313.00
 CREST ELEVATION: 321.00
 TEMPORARILY BLOCKED

WET STORAGE ELEVATION: 313.00-318.30
 DRY STORAGE ELEVATION: 318.30-321.00
 TOTAL STORAGE DEPTH: 8.0'
 TOP OF EMBANKMENT: 324.82
 CLEANOUT ELEVATION: 318.80
 SIDE SLOPES: 3:1
 EMERGENCY SPILLWAY: N/A

Q1 (EX.): 11.93 CFS
 Q1 (TSMW): 6.95 CFS
 1 YR TSMW WSEL= 322.45
 10 YR TSMW WSEL= 333.69

POND NO.1
 (DRAINAGE AREA A/B)
 MICROPOOL EXTENDED DETENTION HAZARD CLASS A
 PRIVATELY OWNED & MAINTAINED
 1 YR WSE = 320.74
 10 YR WSE = 322.02
 100 YR WSE = 322.79
 WQv=0.19 Ac. Ft.
 CPV=0.71 Ac.Ft.
 Rev=0.00 Ac. Ft.
 Q1 EX. = 11.9 CFS
 Q1 W/SWM = 4.4 CFS
 Q10 EX. = 53.8 CFS
 Q10 W/SWM = 48.8 CFS
 Q100 EX. = 95.5 CFS
 Q100 W/SWM = 97.9 CFS
 CPV WSEL=320.74
 WQV WSEL=317.30
 100 YR WSEL=322.79

BASIN NO.2

TRAP TYPE: BASIN
 EX. DRAINAGE AREA: 1.95 AC.
 PROP. DRAINAGE AREA: 3.07 AC.
 TOTAL STORAGE REQUIRED: 11,160 CF
 TOTAL STORAGE PROVIDED: 11,160 CF
 BOTTOM ELEV.: 293.50
 CREST ELEVATION: 299.60
 TEMPORARILY BLOCKED

WET STORAGE ELEVATION: 293.50-297.10
 DRY STORAGE ELEVATION: 297.10-299.60
 TOTAL STORAGE DEPTH: 6.1'
 TOP OF EMBANKMENT: 302.26 (TEMPORARY)
 CLEANOUT ELEVATION: 296.45
 SIDE SLOPES: 3:1
 EMERGENCY SPILLWAY: N/A

Q1 (EX.): 0.46 CFS
 Q1 (TSMW): 0.48 CFS
 1 YR TSMW = 299.54
 10 YR TSMW = 300.26

POND NO.2
 POCKET POND HAZARD CLASS A
 PRIVATELY OWNED & MAINTAINED
 1 YR WSE = 298.00
 10 YR WSE = 298.93
 100 YR WSE = 299.45
 WQv = 0.035 Ac. Ft.
 CPV = 0.12 Ac.Ft.
 Rev = 0.00 Ac. Ft.
 Q1 EX. = 0.53 CFS
 Q1 W/SWM = 0.05 CFS
 Q10 EX. = 4.83 CFS
 Q10 W/SWM = 4.94 CFS
 Q100 EX. = 9.54 CFS
 Q100 W/SWM = 9.93 CFS
 CPV ELEV.=298.00
 50%WQV ELEV.=295.80
 100 YR WSEL=299.45

AS-BUILT CERTIFICATION

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

Robert H. Vogel, P.E.
 NO. DATE

No.	REVISION	DATE
3	SHOW A STORM DRAIN SUB AND SHOW AS-BUILT INFORMATION ON TRASH RACKS POND 2 & 3.	8/30/12
2	ADD 4" SIDEWALK, PUBLIC SIDEWALK EASEMENT AND PRIVATE WALL MAINTENANCE EASEMENT.	6-19-08
1	ADD PHASE III	2-19-08

OWNERS
 MARY WURTZER OULLIER
 4020 OLD COLUMBIA PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-465-4649

DEVELOPER
 TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
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AS-BUILT CERTIFICATION

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Robert H. Vogel, P.E.
 NO. DATE

AS-BUILT CERTIFICATION

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Robert H. Vogel, P.E.
 NO. DATE

AS-BUILT CERTIFICATION

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Robert H. Vogel, P.E.
 NO. DATE

AS-BUILT CERTIFICATION

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Robert H. Vogel, P.E.
 NO. DATE

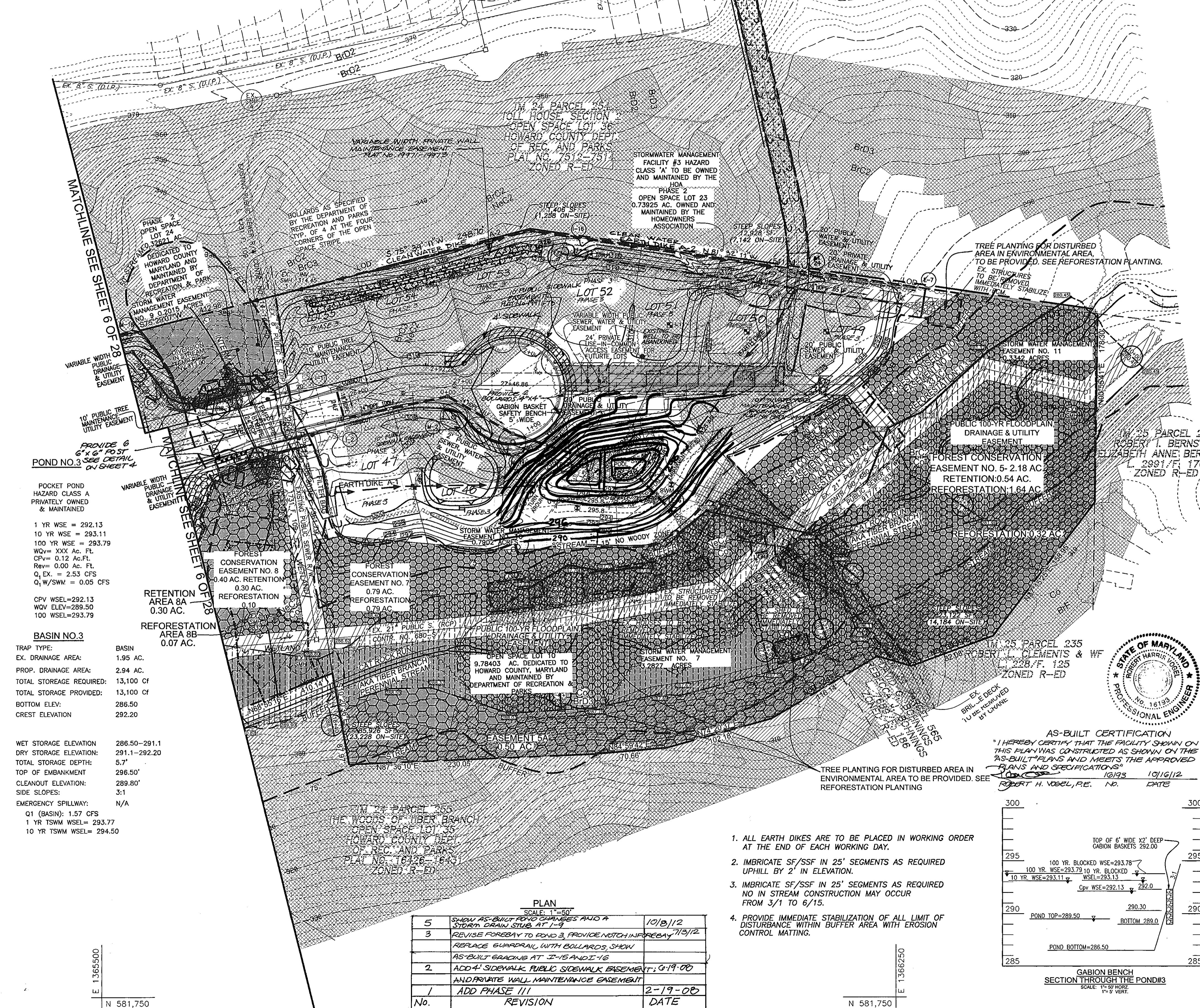
AS-BUILT CERTIFICATION

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

Robert H. Vogel, P.E.
 NO. DATE

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	GROUP
BrB2	BRANDYWINE LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
BrC2	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
BrC3	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	C
BrD2	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED	C
BrD3	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	C
Bf	BRANDYWINE LOAM, 25 TO 60 PERCENT SLOPES	C
Co	CODORUS SILT LOAM	C
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
KeB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
KeC2	KELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	D
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MIC2	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
Md	MONTALO AND RELAY VERY STONY SILT LOAMS, 3 TO 25 PERCENT SLOPES	B/C
NcC2	NESHAMINY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
WgB	WATCHUNG SILT LOAM, 3 TO 8 PERCENT SLOPES	D

PAGES 16 & 20 OF THE HOWARD COUNTY SOIL SURVEY



BASIN NO. 3

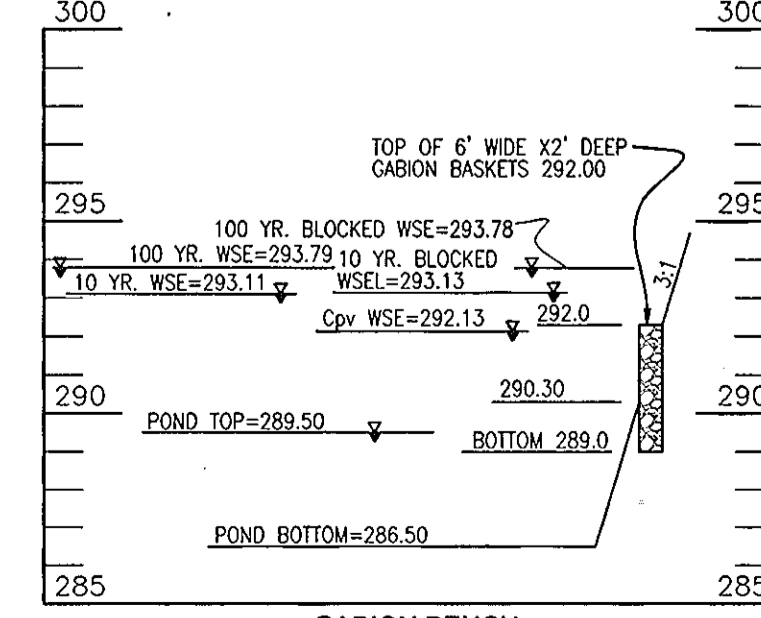
TRAP TYPE:	BASIN
EX. DRAINAGE AREA:	1.95 AC.
PROP. DRAINAGE AREA:	2.94 AC.
TOTAL STORAGE REQUIRED:	13,100 CF
TOTAL STORAGE PROVIDED:	13,100 CF
BOTTOM ELEV.:	286.50
CREST ELEVATION:	292.20
WET STORAGE ELEVATION:	286.50 - 291.1
DRY STORAGE ELEVATION:	291.1 - 292.20
TOTAL STORAGE DEPTH:	5.7'
TOP OF EMBANKMENT:	296.50'
CLEANOUT ELEVATION:	289.80'
SIDE SLOPES:	3:1
EMERGENCY SPILLWAY:	N/A
Q1 (BASIN):	1.37 CFS
1 YR TSSW WSEL:	293.77
10 YR TSSW WSEL:	294.50

PLAN
SCALE: 1"=50'

No.	REVISION	DATE
5	SHOW AS-BUILT POND CHANGES AND A STORM DRAIN STUB AT I-9	10/8/12
3	REVISE FOREBAY TO POND 3, PROVIDE NOTCH IN FOREBAY 7/9/12	
2	REPLACE GUARDRAIL WITH BOLLARDS, SHOW AS-BUILT GRADING AT I-15 AND I-16	
1	ADD 4' SIDEWALK PUBLIC SIDEWALK EASEMENT, 6' PRIVATE AND PRIVATE WALL MAINTENANCE EASEMENT	6/19/00
1	ADD PHASE III	2-19-08

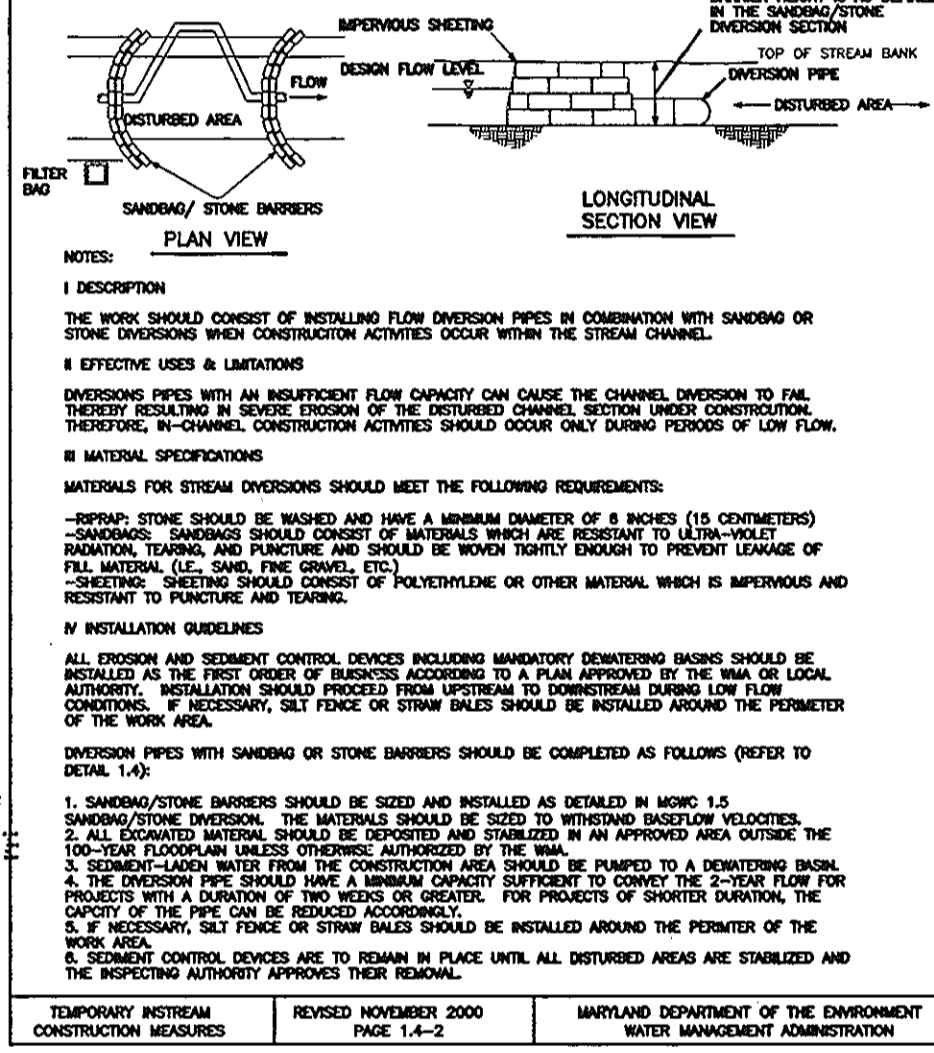
- ALL EARTH DIKES ARE TO BE PLACED IN WORKING ORDER AT THE END OF EACH WORKING DAY.
- IMBRICATE SF/SSF IN 25' SEGMENTS AS REQUIRED UPHILL BY 2' IN ELEVATION.
- IMBRICATE SF/SSF IN 25' SEGMENTS AS REQUIRED NO IN STREAM CONSTRUCTION MAY OCCUR FROM 3/1 TO 6/15.
- PROVIDE IMMEDIATE STABILIZATION OF ALL LIMIT OF DISTURBANCE WITHIN BUFFER AREA WITH EROSION CONTROL MATTING.

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.
ROBERT H. VOGEL, P.E. NO. 18193 DATE 10/16/12

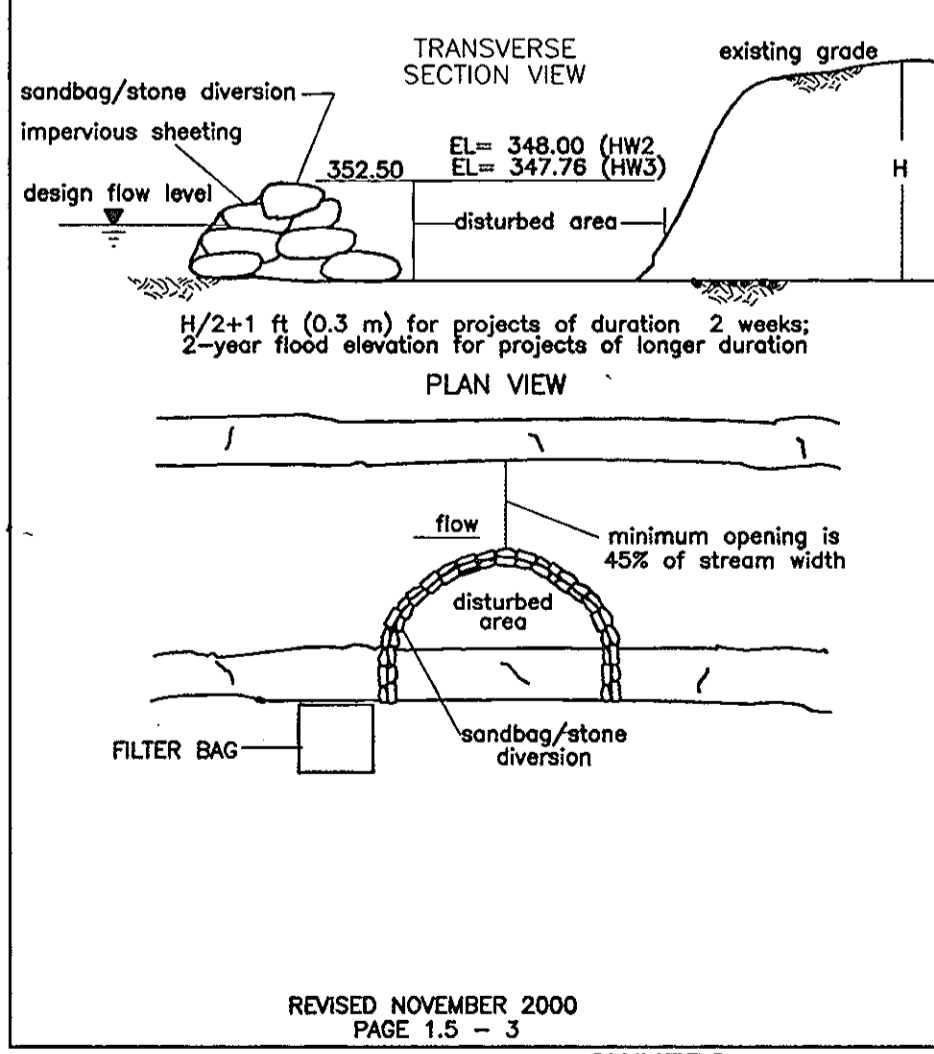


LEGEND	
EXISTING CONTOUR	---440---
PROPOSED CONTOUR	---41---
SPOT ELEVATION	+82.53
DIRECTION OF FLOW	→
EXISTING TREES TO REMAIN	(Tree symbol)
PROPOSED STREET TREE	(Circle with cross symbol)
SOILS	(Patterned boxes)
AREA OF 15 TO 24.9 PERCENT SLOPES	(Pattern)
AREA OF 24 PERCENT OR GREATER SLOPES	(Pattern)
FOREST CONSERVATION AREA (RETENTION)	(Pattern)
FOREST CONSERVATION AREA (REFORESTATION)	(Pattern)
WETLANDS	(Pattern)
BG&E EASEMENT	(Pattern)
NO WOODY BUFFER	(Pattern)
WETLANDS BUFFER	(Pattern)
STREAM BUFFER	(Pattern)
PROP. STREET LIGHT	(Symbol)
PROP. STREET SIGNS	(Symbol)
RECREATION OPEN SPACE	(Pattern)
SUPER SILT FENCE	(Symbol)
LIMIT OF DISTURBANCE	(Symbol)
EARTHDIKE	(Symbol)
STABILIZED CONSTRUCTION ENTRANCE	(Symbol)
EROSION CONTROL MATTING	(Symbol)
PRIVATE ACCESS EASEMENT	(Symbol)
FOREST CONSERVATION EASEMENT (RETENTION)	(Symbol)
FOREST CONSERVATION EASEMENT (REFORESTATION)	(Symbol)
PRIVATE DRAINAGE & UTILITY EASEMENT	(Symbol)
PUBLIC SIGHT DISTANCE EASEMENT	(Symbol)
WETLANDS	(Symbol)
PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT	(Symbol)
EXISTING PUBLIC SEWER EASEMENT	(Symbol)
RECREATION OPEN SPACE	(Symbol)
NON-CREDITED OPEN SPACE	(Symbol)
STORMWATER MANAGEMENT EASEMENT	(Symbol)
VARIABLE WIDTH PUBLIC DRAINAGE & UTILITY EASEMENT	(Symbol)
PUBLIC SIDEWALK EASEMENT	(Symbol)
PUBLIC WATER & UTILITY EASEMENT	(Symbol)
PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25	(Symbol)

DETAIL 1.4: DIVERSION PIPE



DETAIL 1.5: SANDBAG/STONE DIVERSION



APPROVED: DEPARTMENT OF PUBLIC WORKS

Walter Z. Smith, Jr. 6-25-07
Chief, Bureau of Highways Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cecilia Kramida 7/2/07
Chief, Division of Land Development Date

Michael J. ... 6/29/07
Chief, Development Engineering Division Date

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

Jim ... 6/26/07
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Howard S.C.D. 6/21/07
DATE

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.

Signature of Engineer
ROBERT H. VOGEL
5/29/07 DATE

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. 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.

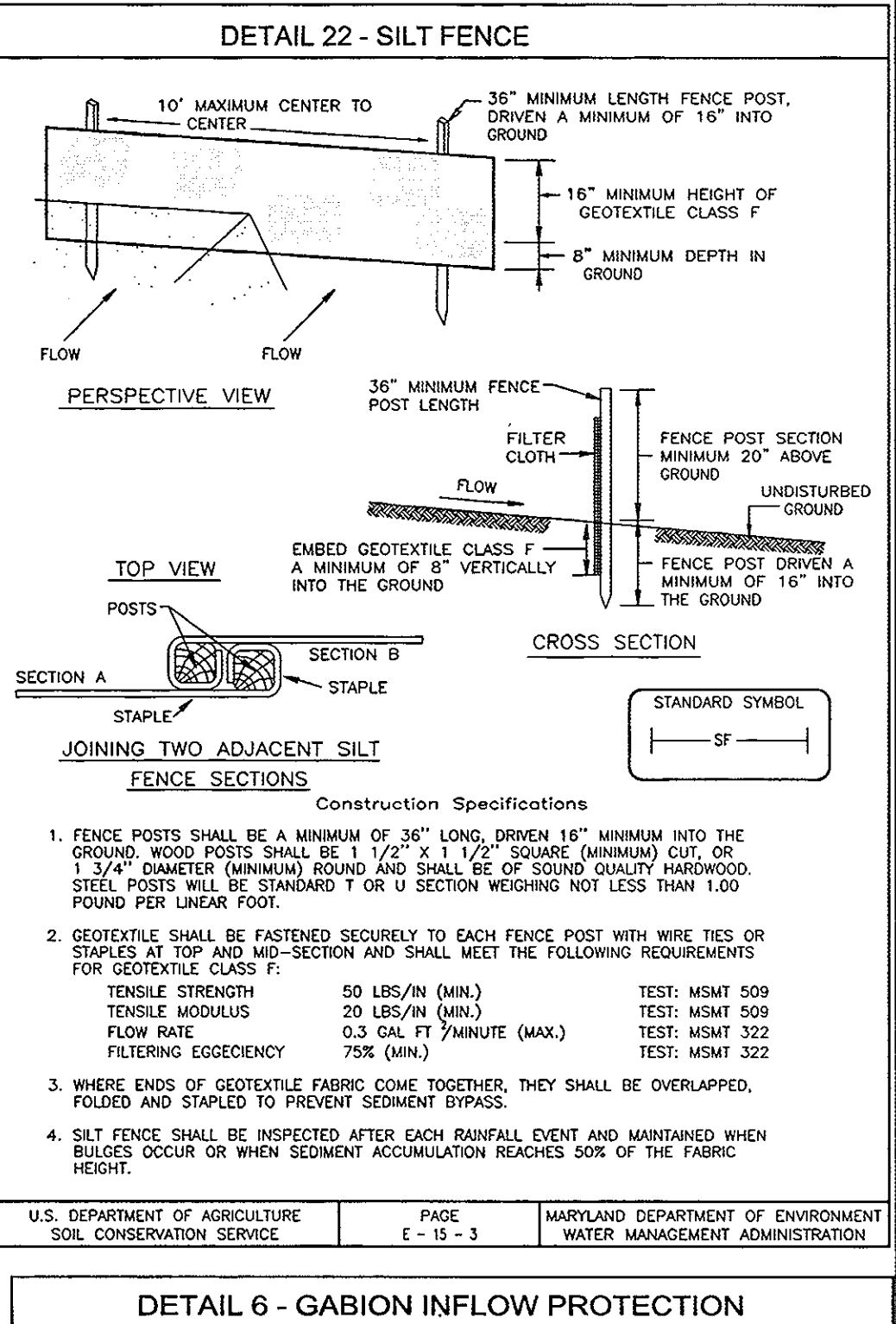
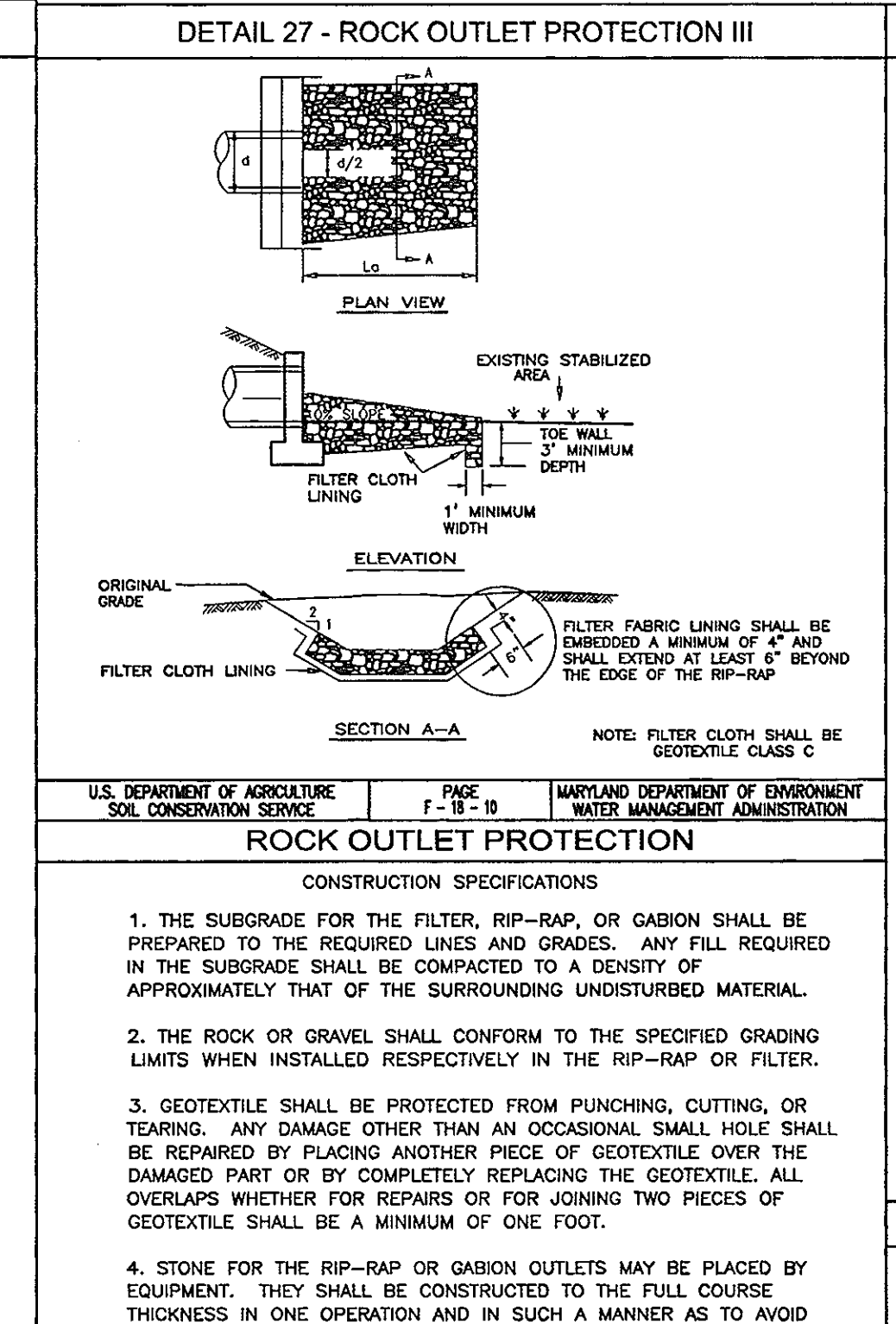
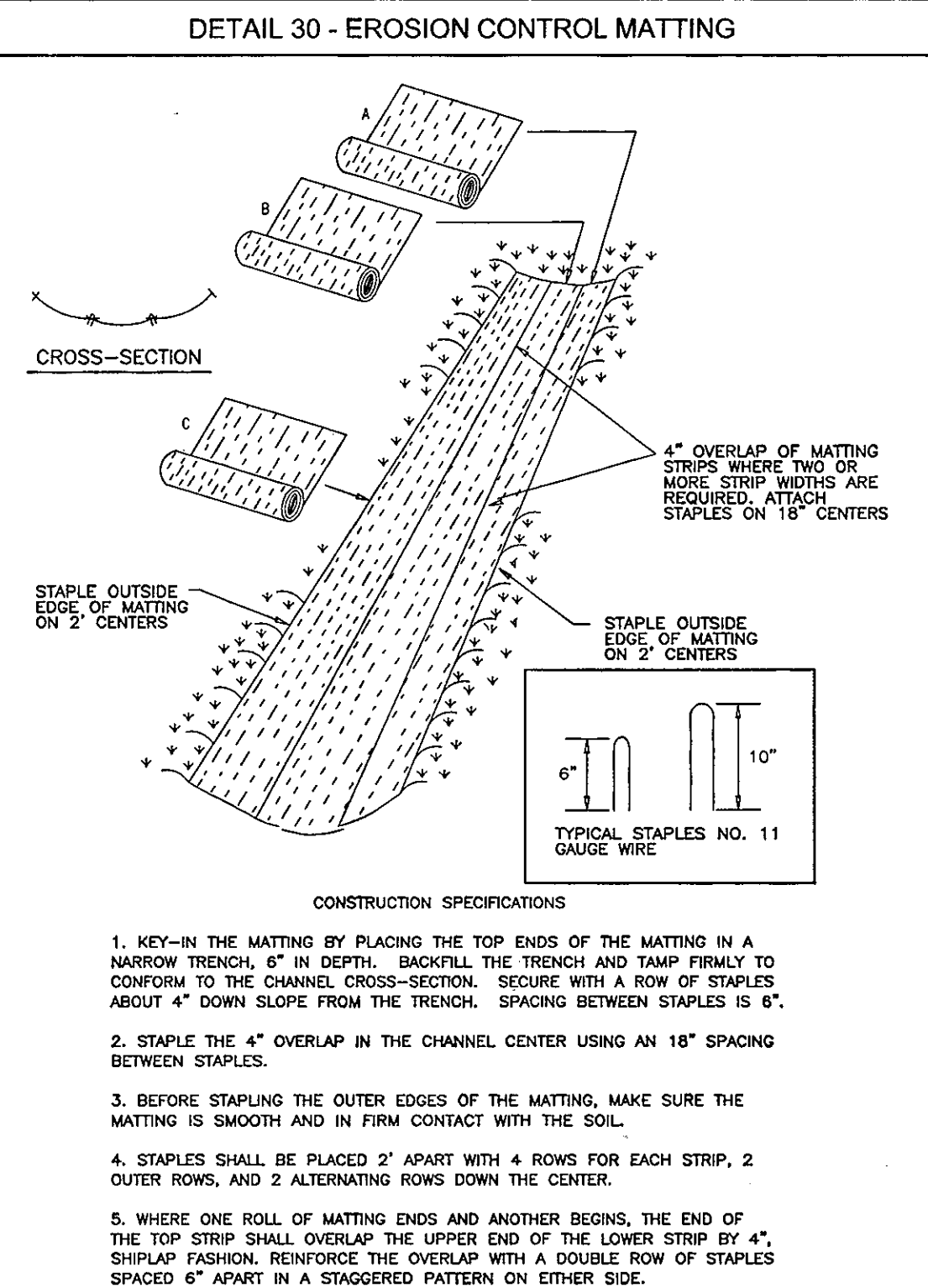
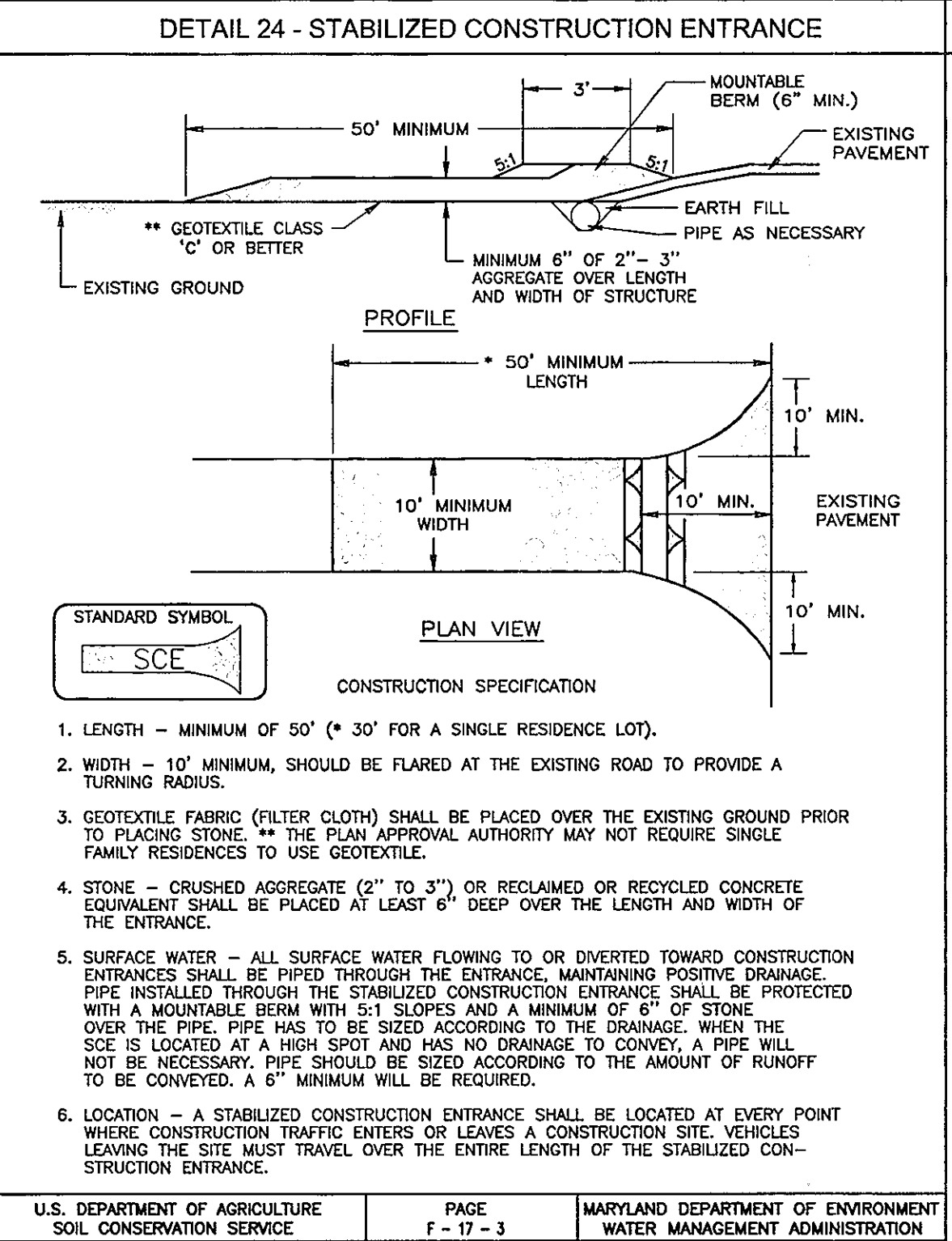
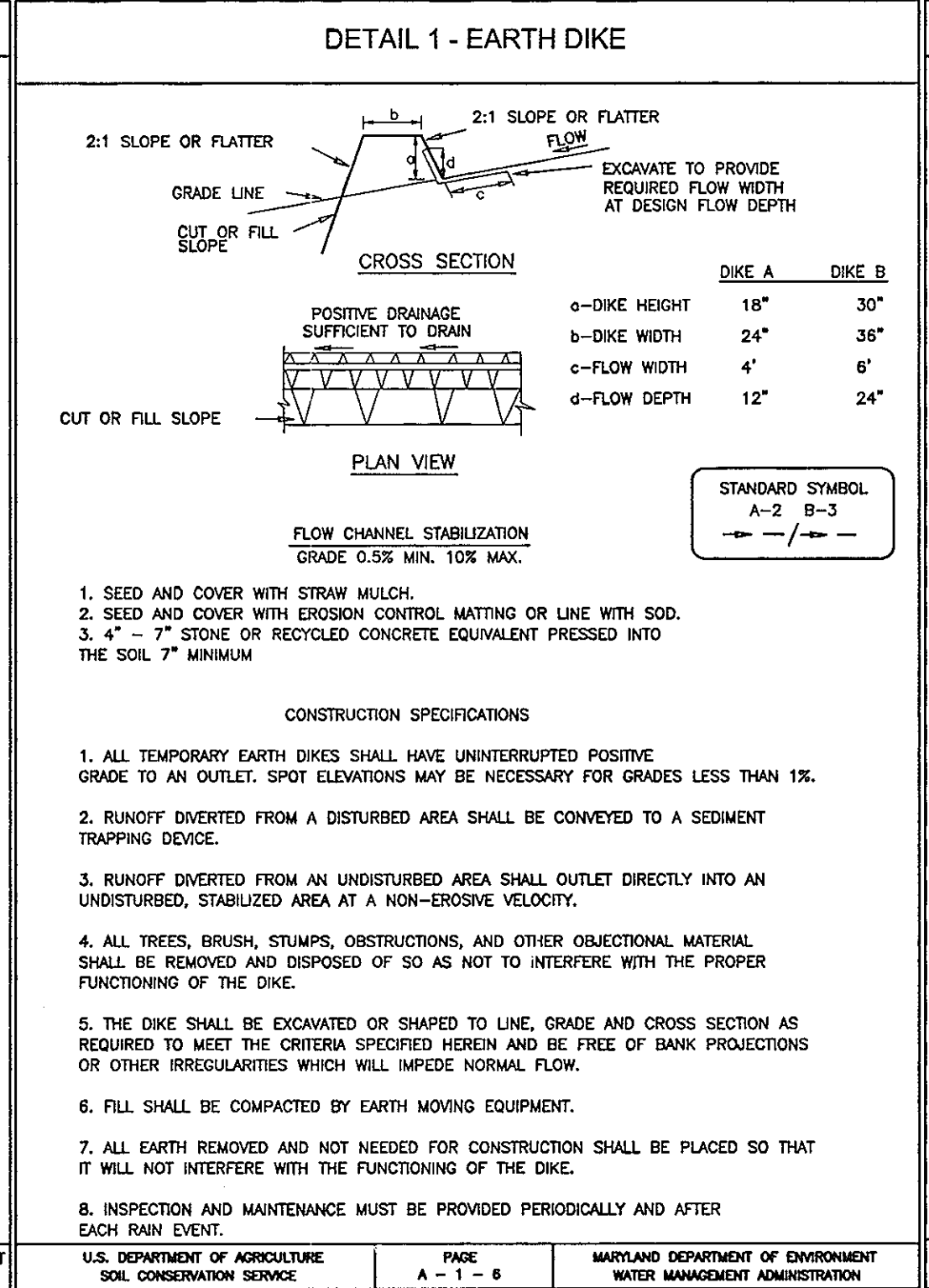
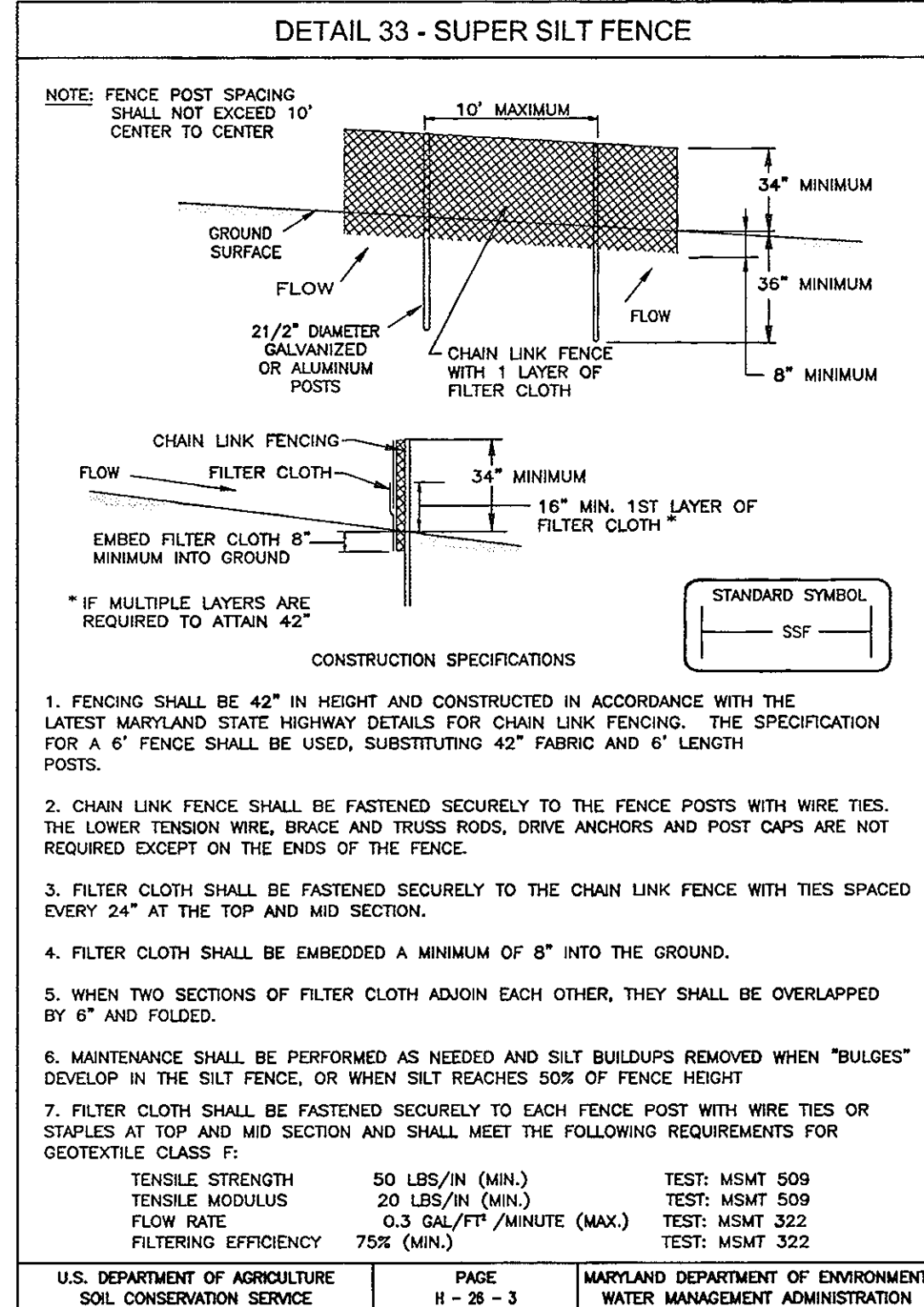
Signature of Developer
MICHAEL PLAN
TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
5-22-07 DATE

FINAL ROAD CONSTRUCTION PLAN
GRADING, SEDIMENT & EROSION CONTROL PLAN
THE WOODS OF TIBER BRANCH II - PHASE III & III
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZLER PROPERTY SUBDIVISION OF TM PARCEL 881
RECORDED AS PLAT NO. 17414
TAX MAP 24, BLOCK 18 PARCELS '264' & '811'
2ND ELECTION DISTRICT
REF: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET, ELLICOTT CITY, MD 21043
TEL: 410.461.7666 FAX: 410.461.6969

DESIGN BY: RHV/RJ
DRAWN BY: RJ
CHECKED BY: RHV
DATE: 03-30-2007
SCALE: AS SHOWN
W.O. NO.: 03-43.00

7 SHEET OF 28



21.0 STANDARDS AND SPECIFICATIONS FOR TOPSOIL

DEFINITION
PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE
TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETABLE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - 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.
 - 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 SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
 - TOPSOIL 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 A SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CHALK, STONES, SLAGS, COALS, GRAVEL, STONKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 AND 1/2" IN DIAMETER.
 - AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEGGE, POISON DETRIMENTAL TO PROPER GRADING AND SEEDING PREPARATION.
 - 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 PROCEDURES:
 - 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.
 - FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 - FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES: TEST RESULTS INDICATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - 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.
 - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 - NO 500 OR MORE SHALL BE PLACED ON SOIL SOIL WHICH 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 THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION-SECTION I-VEGETATIVE STABILIZATION METHODS AND MATERIALS.
 - 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.
 - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALTHOUGH 4" HIGHER IN ELEVATION.
 - 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 RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - TOPSOIL SHALL NOT BE PLACED 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 CORRECTED BY TILLAGE OPERATIONS.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING 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 ACRE DOLOMITIC LIMESTONE (92 LBS./100 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.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 UNIFORM FERTILIZER (9 LBS./1000 SQ.FT.)
- ACCEPTABLE-APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./100 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.

SEEDING: FOR 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 LBS. PER ACRE (0.5 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 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) SOI. SOD. OPTION (3) SEED WITH 80 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/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 (6 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 SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

SEDIMENT CONTROL NOTES

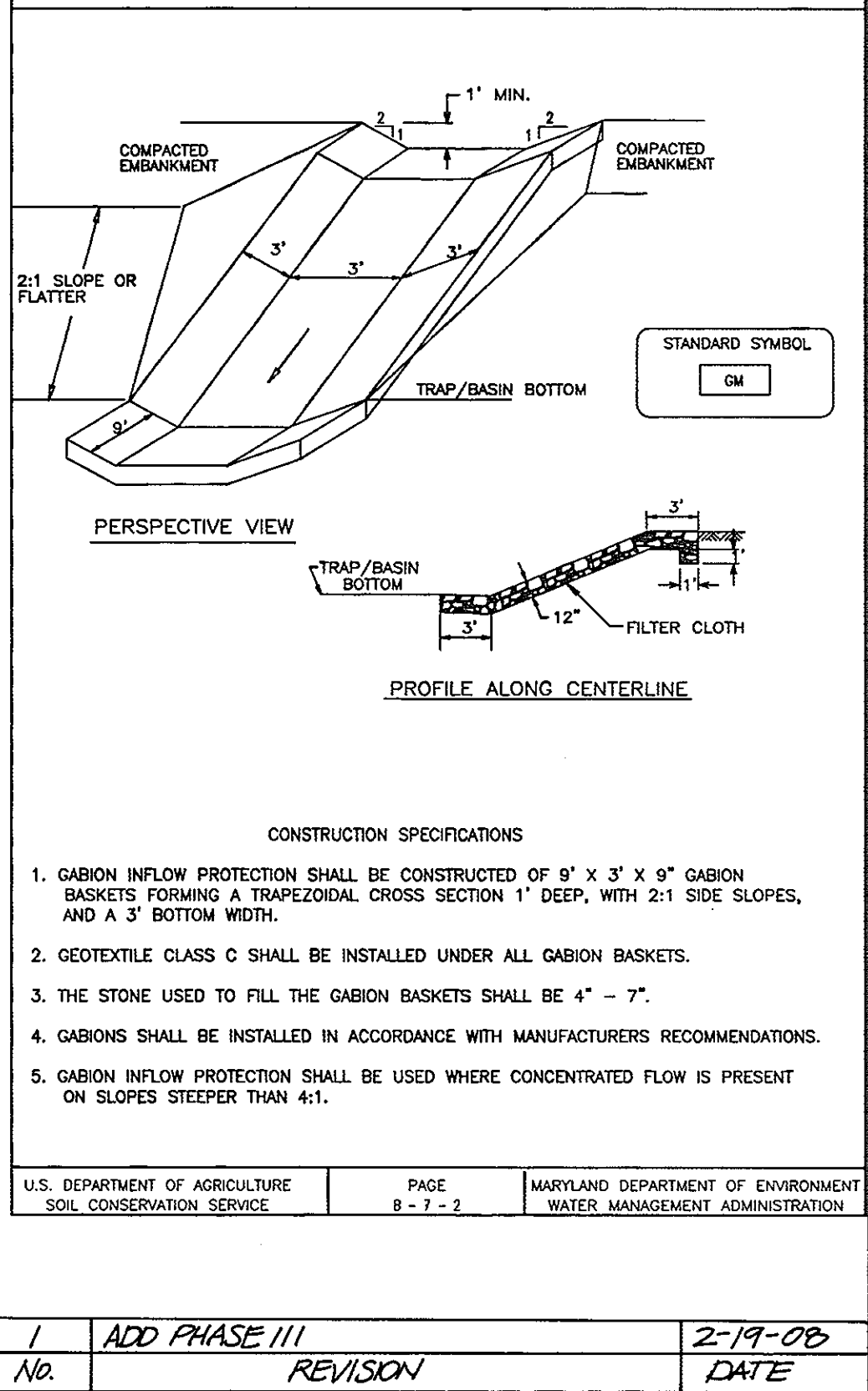
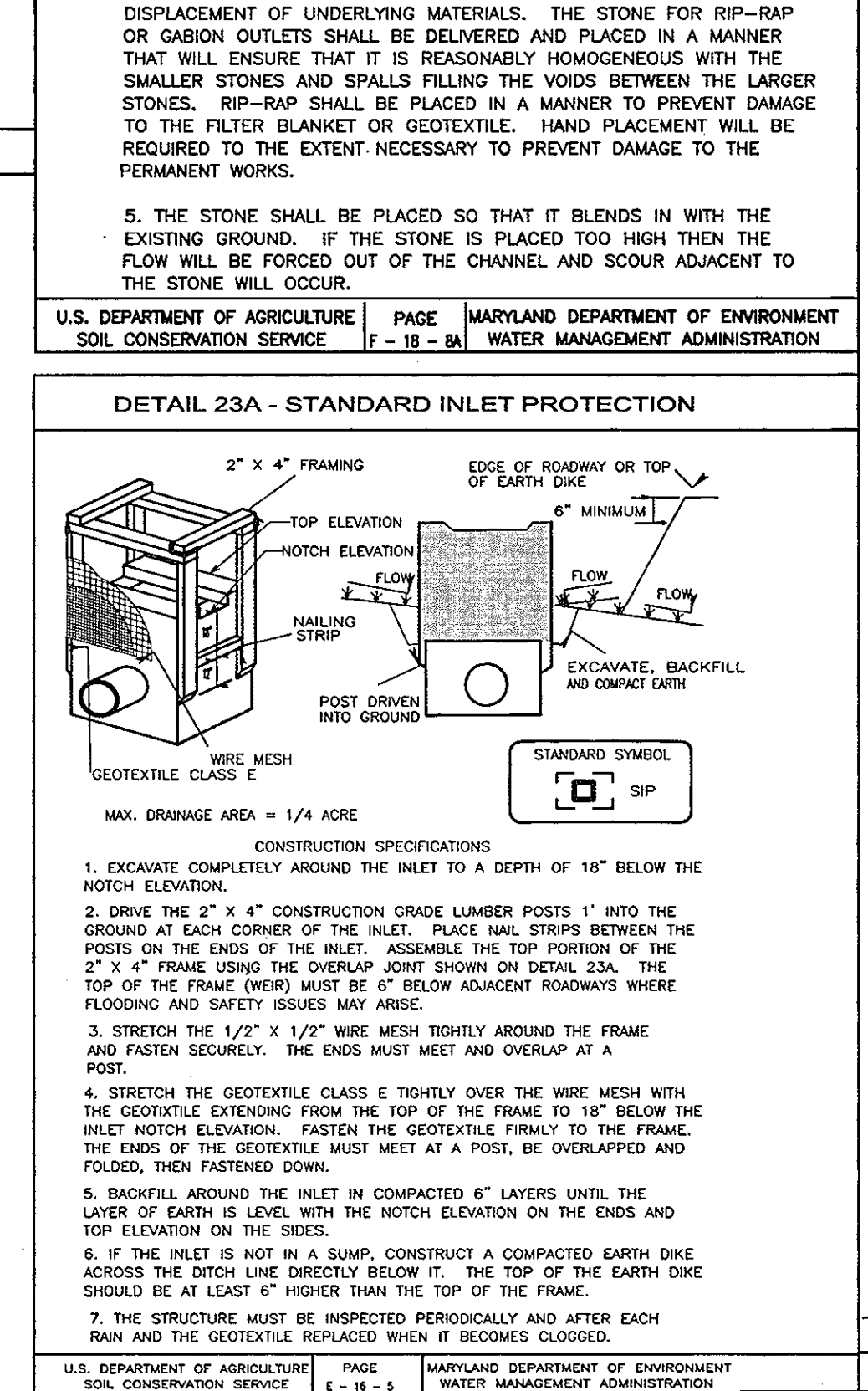
- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPT. OF INSPECTION, LICENSE AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
- ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARD 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 PERMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES, AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND 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, SOI. TEMPORARY SEEDING, AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- SITE ANALYSIS:

TOTAL AREA	28.87 AC.
AREA DISTURBED	18.87 AC.
AREA TO BE ROOFED OR PAVED	1.97 AC.
AREA TO BE VEGETATIVELY STABILIZED	17.0 AC.
TOTAL FILL	86.81 CY.
OFFSITE WASTE/BORROW AREA LOCATION	*
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERMETER 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.
- 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

SEQUENCE OF CONSTRUCTION

- BEGIN GRADING PERMIT, MDE PERMIT NO. (APPLICATION TRACKING NUMBER) STREAM CLOSURE CLASS A, IN STREAM CONSTRUCTION MAY NOT OCCUR BETWEEN 3/1 AND 5/15.
- NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK.
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE
- WHEN CONTRIBUTING AREAS ARE FULLY STABILIZED AND A 5-DAY CLEAR WEATHER (NO PRECIPITATION) FORECAST FROM THE NWS IS OBTAINED, WITH INSPECTOR'S APPROVAL, UPON INSTALLATION OF CONTROLS AS SHOWN ON THE PLAN, CONSTRUCT ARCH CULVERT. CONTRACTOR IS REQUIRED TO HAVE THE MANUFACTURER'S REPRESENTATIVE ON SITE DURING ERECTION OF STRUCTURE AND BACK FILLING, AND CONSTRUCT OTHER 25" PIPE CULVERT.
- INSTALL CLEANWATER EARTH DIKES AND RELATED SWALES, BERMS AND SILT FENCE AS NEEDED FOR THE CONTROL OF BYPASS STORM DRAIN SYSTEM OFFSITE DRAINAGE RUNOFF. STABILIZE IMMEDIATELY WITH ECM.
- INSTALL BYPASS STORM DRAIN SYSTEM FROM I-18 TO E-9 AND I-16 TO E-7, I-17 TO E-8, I-19 TO HW4. REMOVE BERM AFTER CONSTRUCTION @ E9 & STABILIZE IMMEDIATELY WITH EROSION CONTROL MATTING.
- INSTALL TREE PROTECTION DEVICES, SILT FENCE, EARTH DIKES, SUPER SILT FENCE, INLET PROTECTION FOR EX. INLET ON OLD COLUMBIA PIKE AND ALL REMAINING PERIMETER CONTROLS.
- CONSTRUCT STORMWATER MANAGEMENT FACILITY (SEDIMENT BASIN) AND INSTALL EARTH DIKES. (ALL STRUCTURES AND SUBSIES FOR PONDS MUST BE ON-SITE, AND PERMISSION FROM THE INSPECTOR IS GRANTED, BEFORE PROCEEDING).
- AFTER OBTAINING PERMISSION FROM SEDIMENT CONTROL INSPECTOR TO PROCEED ROUGH GRADE TO LOD.
- BEGIN CONSTRUCTION STORM DRAIN SYSTEM.
- BEGIN CONSTRUCTION OF WATER & SEWER SYSTEM.
- GRADE ROAD TO SUB-BASE
- WITH PERMISSION OF THE INSPECTOR, STABILIZE DISTURBED AREA.
- WITH ROAD GRADED TO SUB-BASE BEGIN ROAD PAVING.
- FINE GRADE SITE IN CONFORMANCE WITH PLAN.
- WITH INSPECTOR APPROVAL AND FINAL ROAD PAVING COMPLETE STABILIZE ANY REMAINING DISTURBED AREAS AND CLOSE CURB CUTS.
- ALL BASINS ARE TO REMAIN UNTIL CONSTRUCTION FOR ALL PHASES INCLUDING DWELLING UNITS ARE NOT CONSTRUCTED.
- CONVERT SEDIMENT BASINS TO FINAL STORMWATER MANAGEMENT FACILITIES AND REMOVE SEDIMENT CONTROL MEASURES
- REMOVE ALL NEW AND OLD JUNK, TRASH, DEBRIS AND OTHER MATERIALS FROM THE PROJECT SITE AND CONSIDERATION EASEMENT, FLOODPLAIN, WETLANDS, STREAMS AND THEIR BUFFERS.
- INSTALL STREET TREES AND ALL LANDSCAPING

TOTAL 26 WEEKS



APPROVED: DEPARTMENT OF PUBLIC WORKS

Walter Z. Mink
Chief, Bureau of Highways
6-25-07
Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Charles H. Homan
Chief, Division of Land Development
7/2/07
DATE

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD COUNTY CONSERVATION DISTRICT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Michael New
SIGNATURE OF DEVELOPER
TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
5-22-07
DATE

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Robert H. Vogel
SIGNATURE OF ENGINEER
ROBERT H. VOGEL
6/21/07
DATE

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Robert H. Vogel
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ROBERT H. VOGEL
6/21/07
DATE

FINAL ROAD CONSTRUCTION PLAN
SEDIMENT AND EROSION CONTROL DETAILS
THE WOODS OF TIBER BRANCH II - PHASE III & III
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY
SUBDIVISION OF TIBER PARCEL 881
RECORDED AS PLAT NO. 17414
TAX MAP 24, BLOCK 18
DISTRICT 1
REF.: F-98-130, WP-04-20
PARCELS '264'
HOWARD COUNTY, MARYLAND

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Robert H. Vogel
SIGNATURE OF ENGINEER
ROBERT H. VOGEL
6/21/07
DATE

OWNERS
Walter Z. Mink
WURTZER PROPERTY
4020 OLD COLUMBIA PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4847

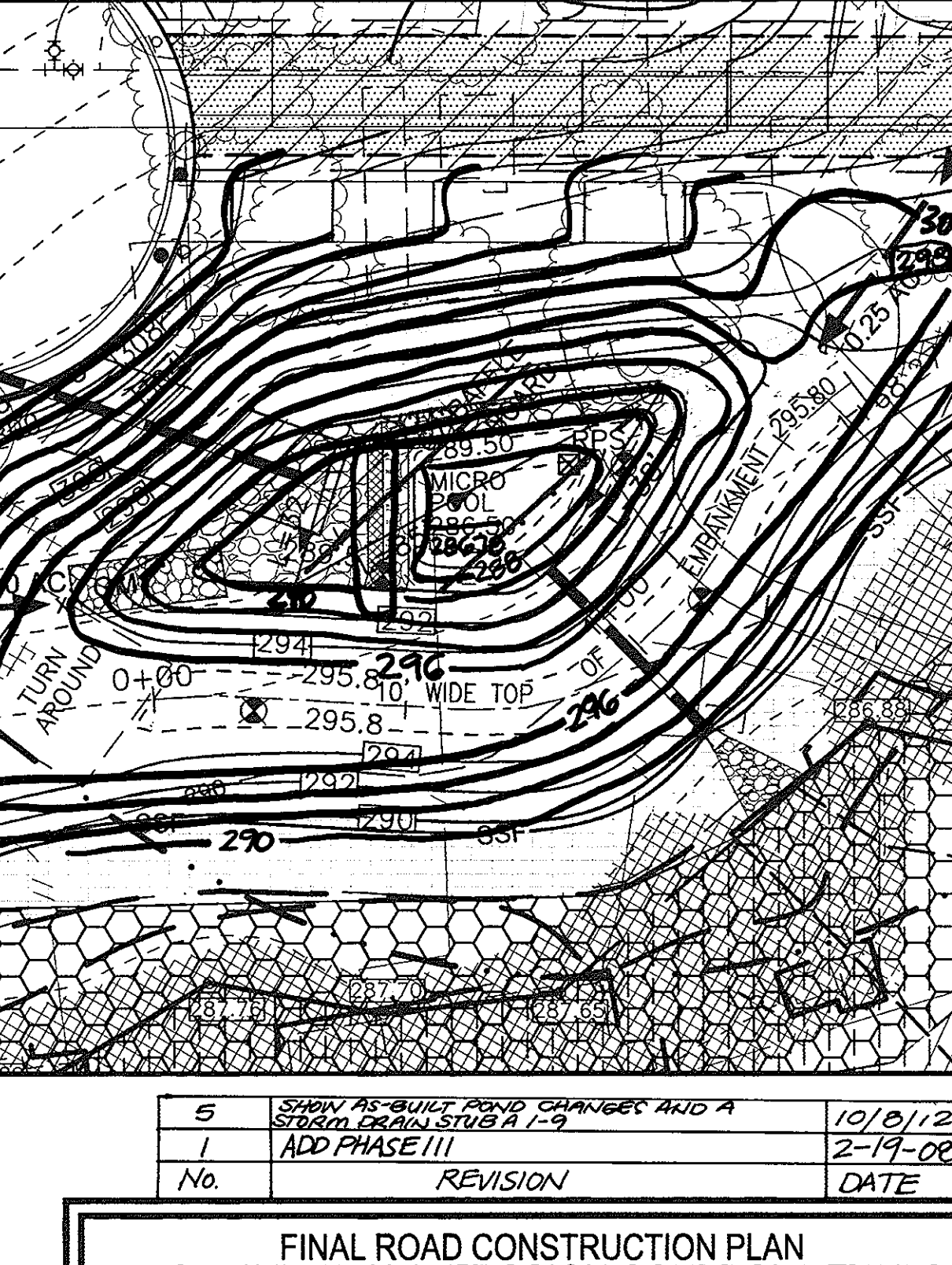
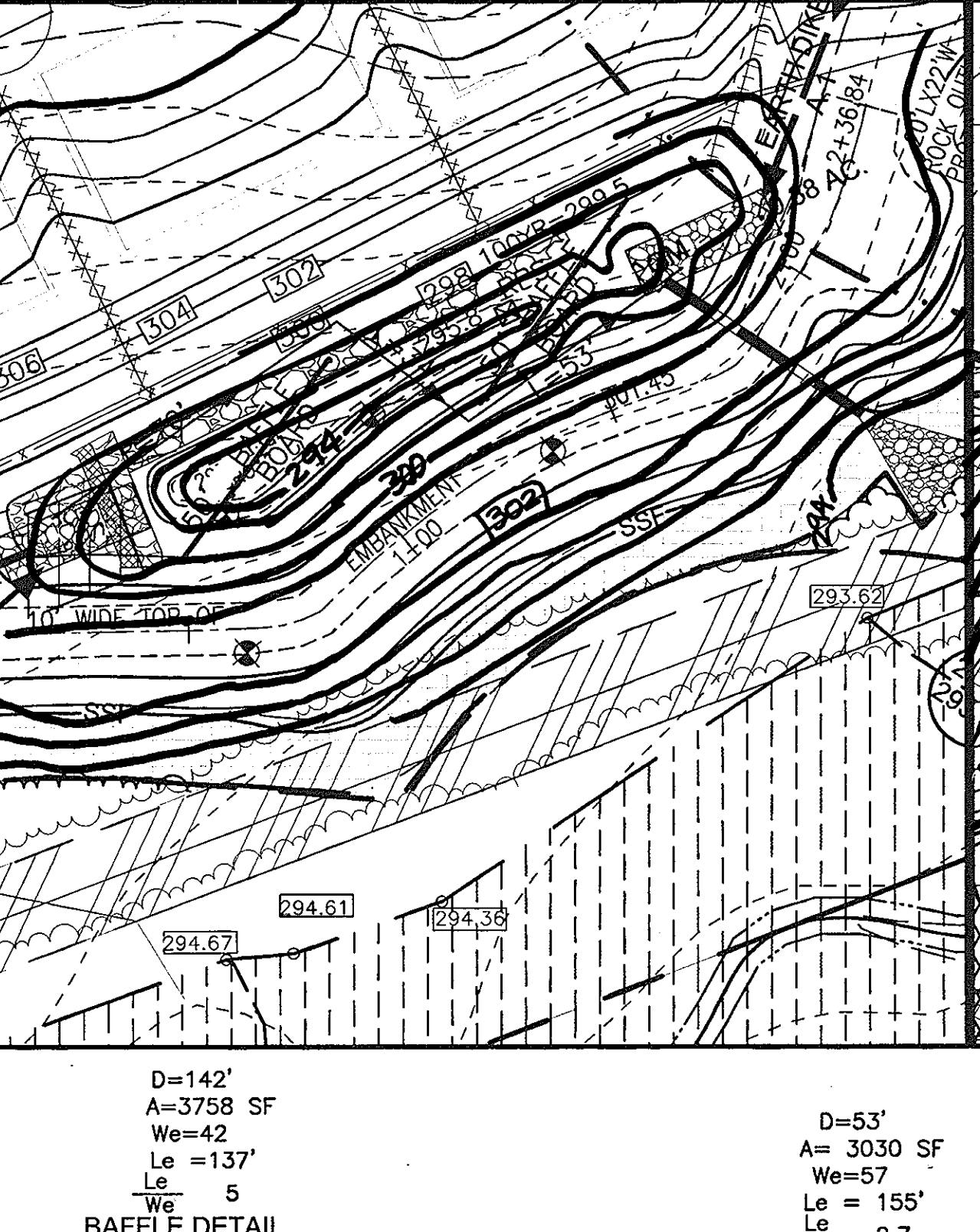
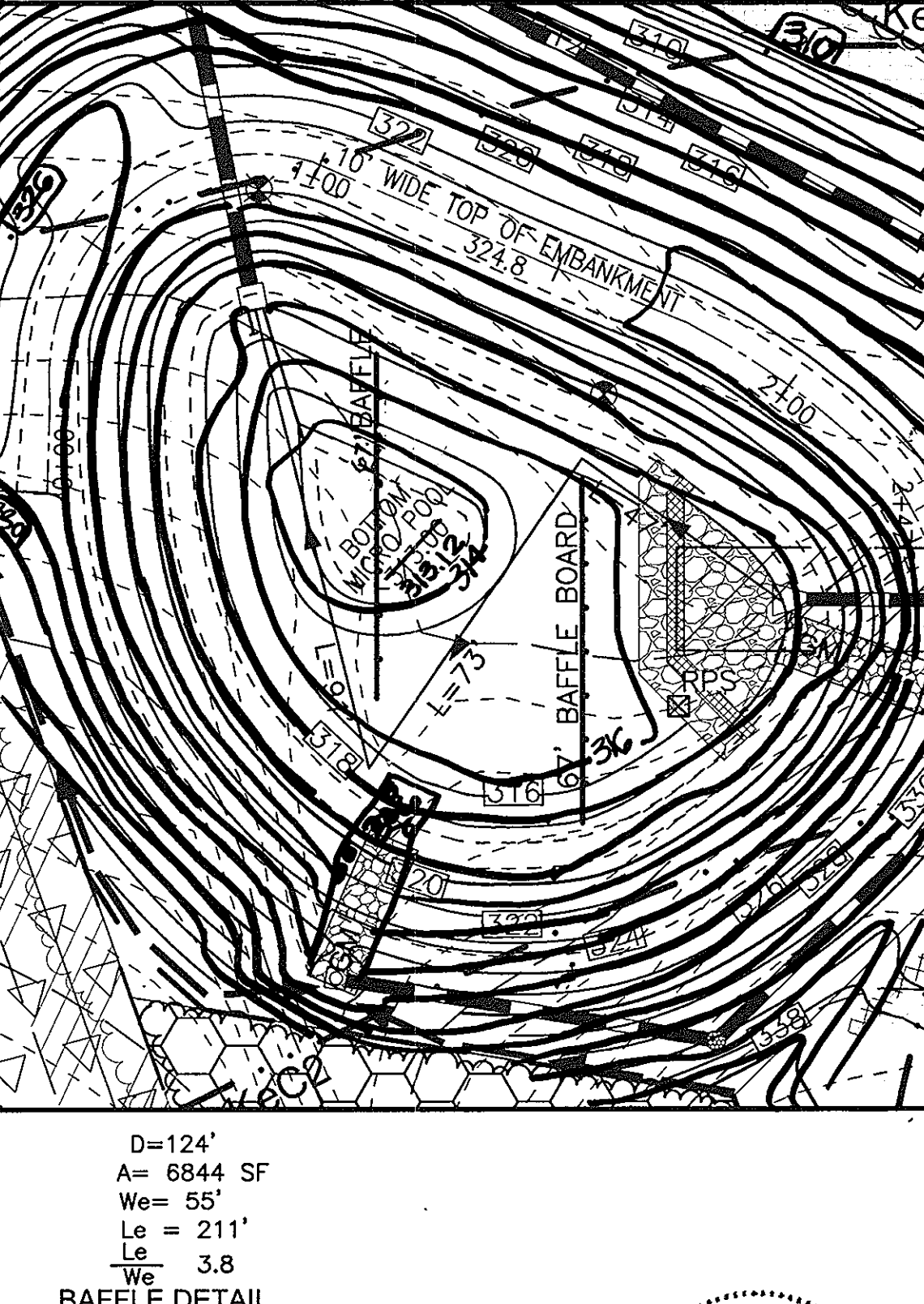
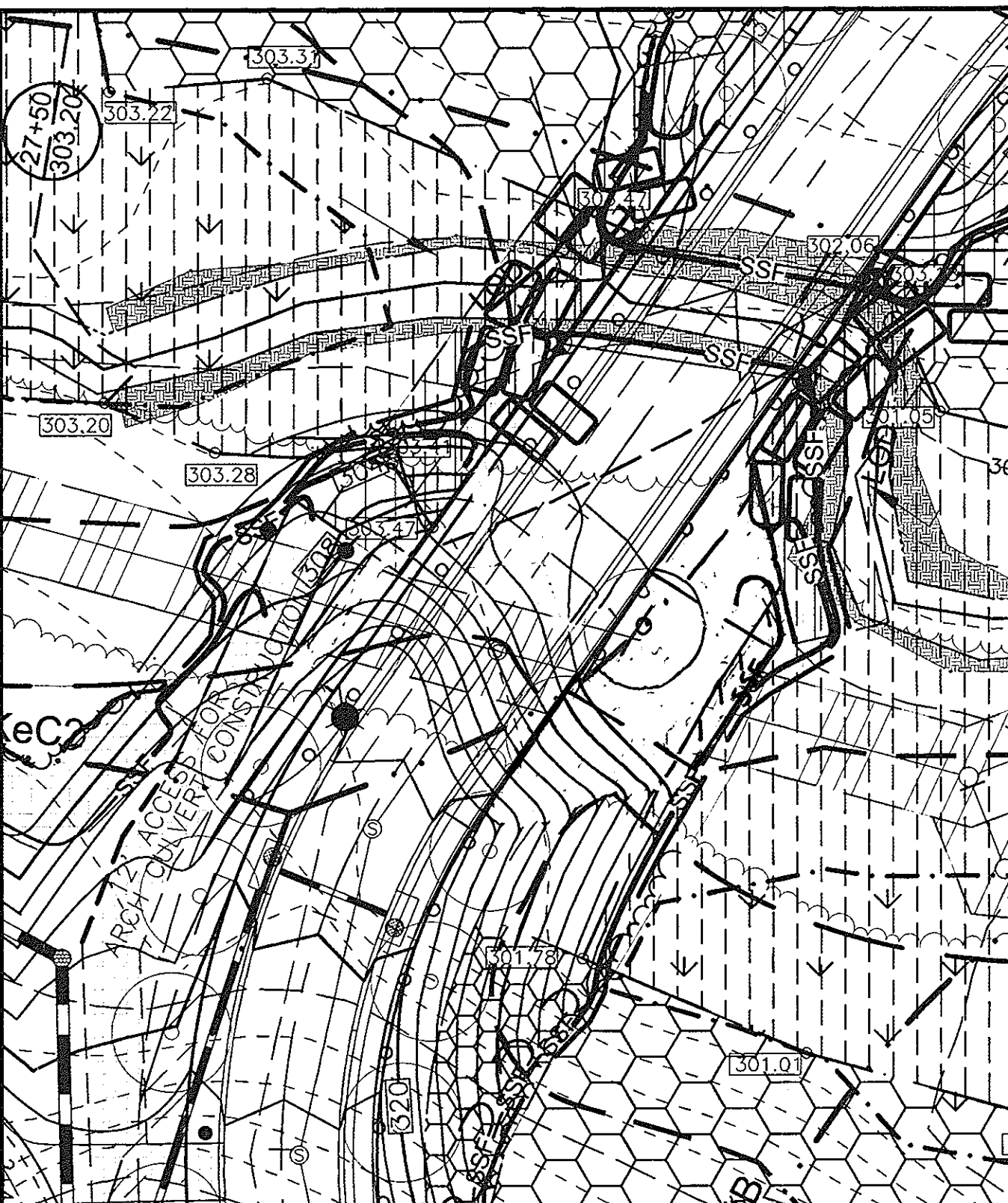
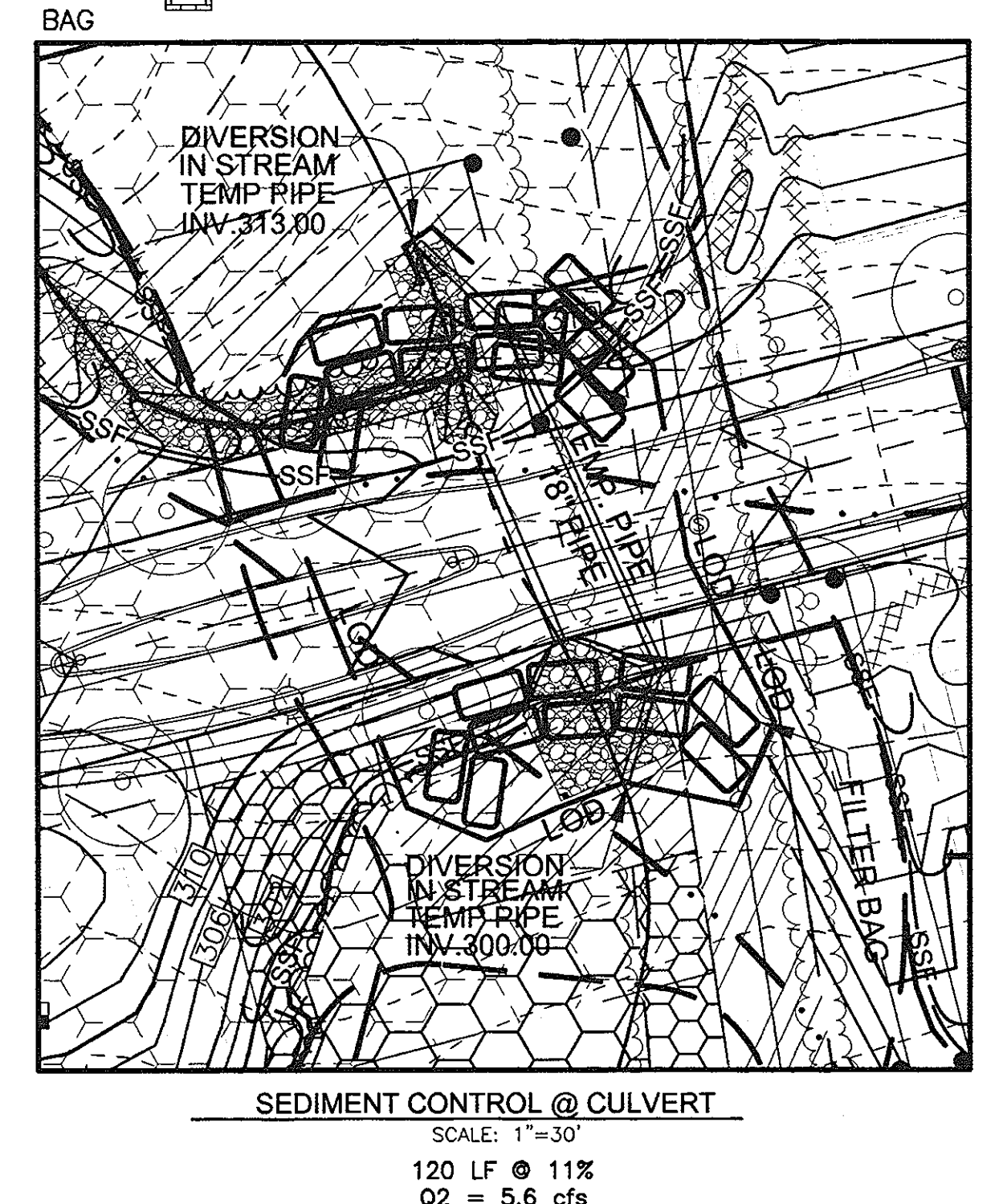
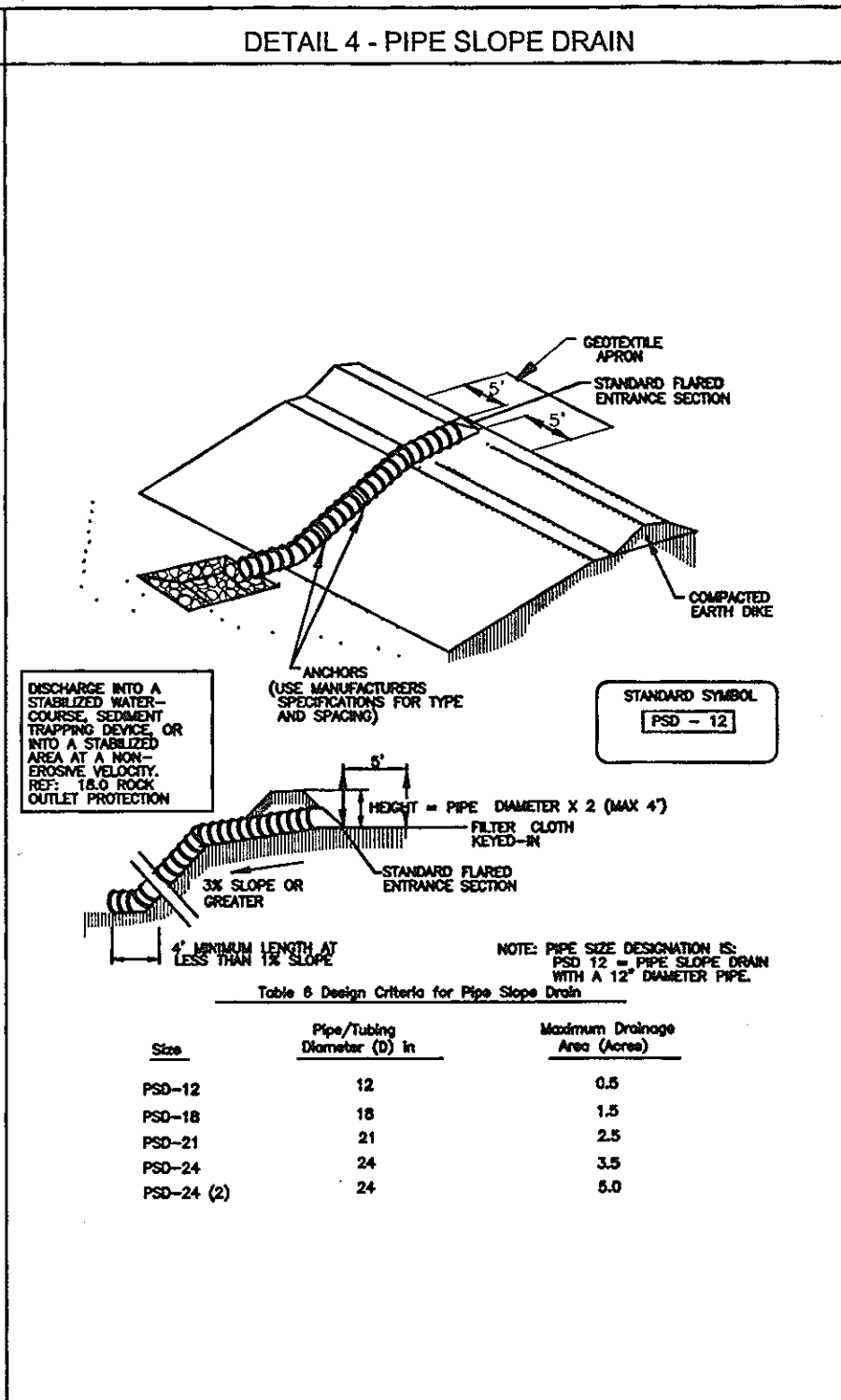
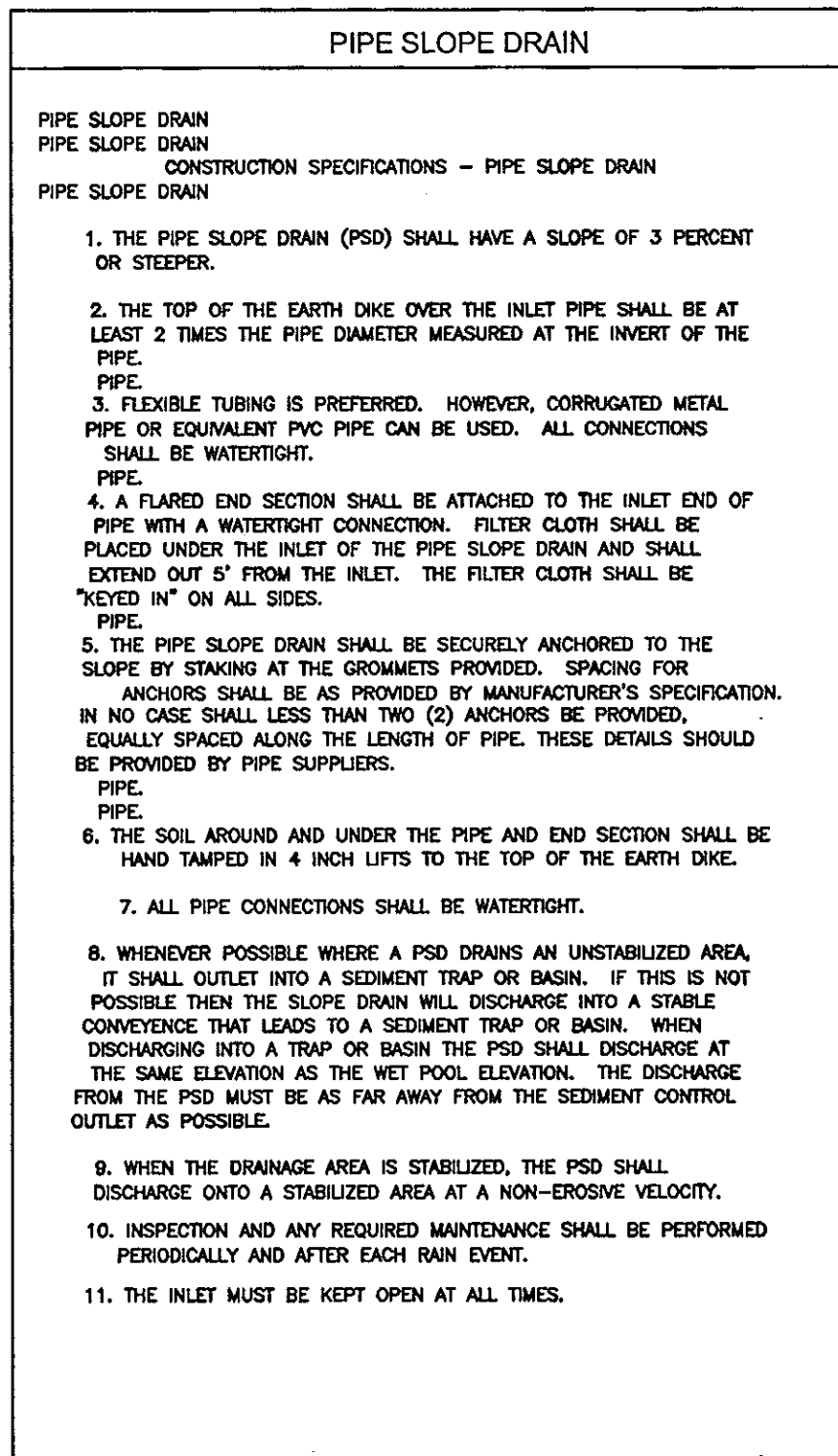
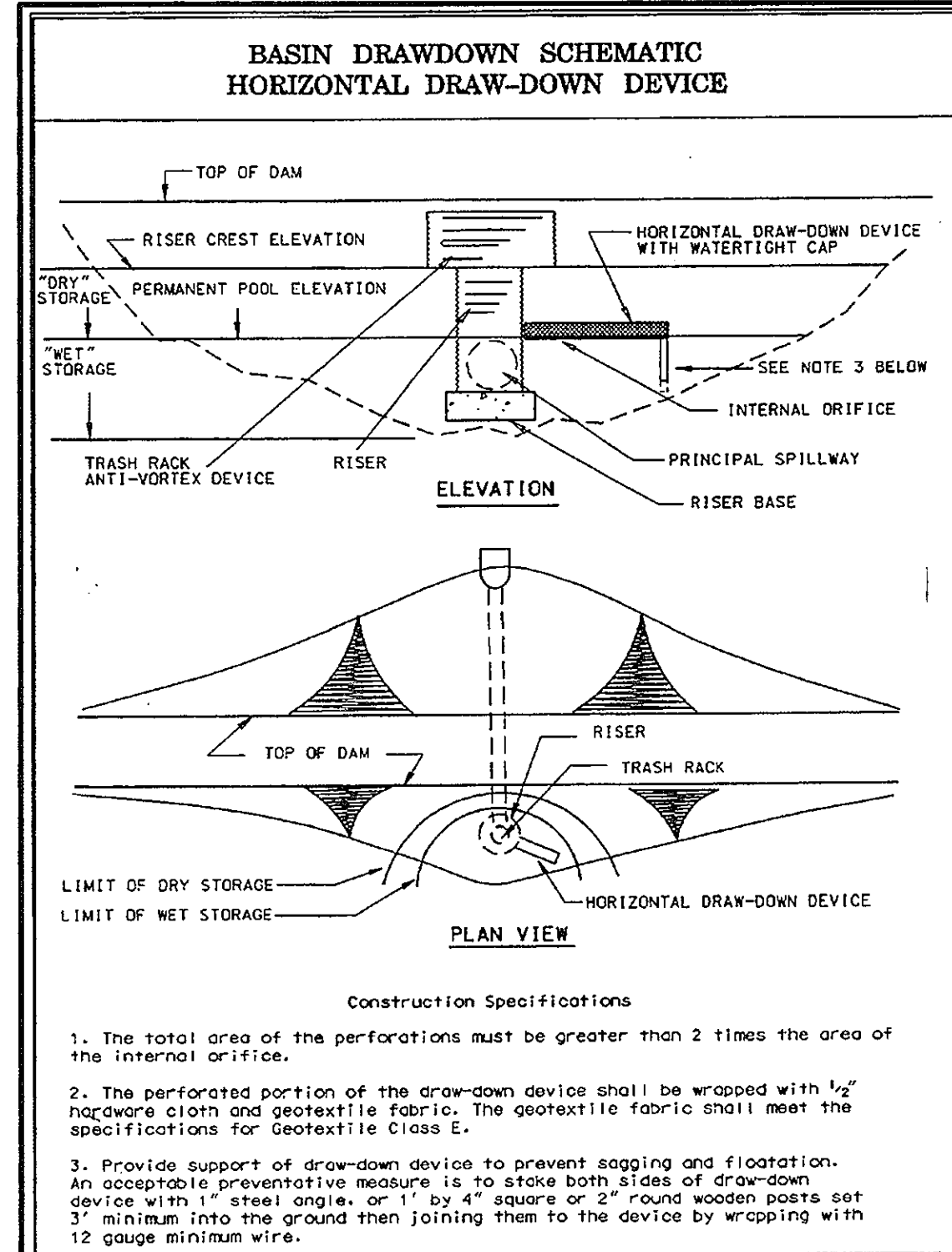
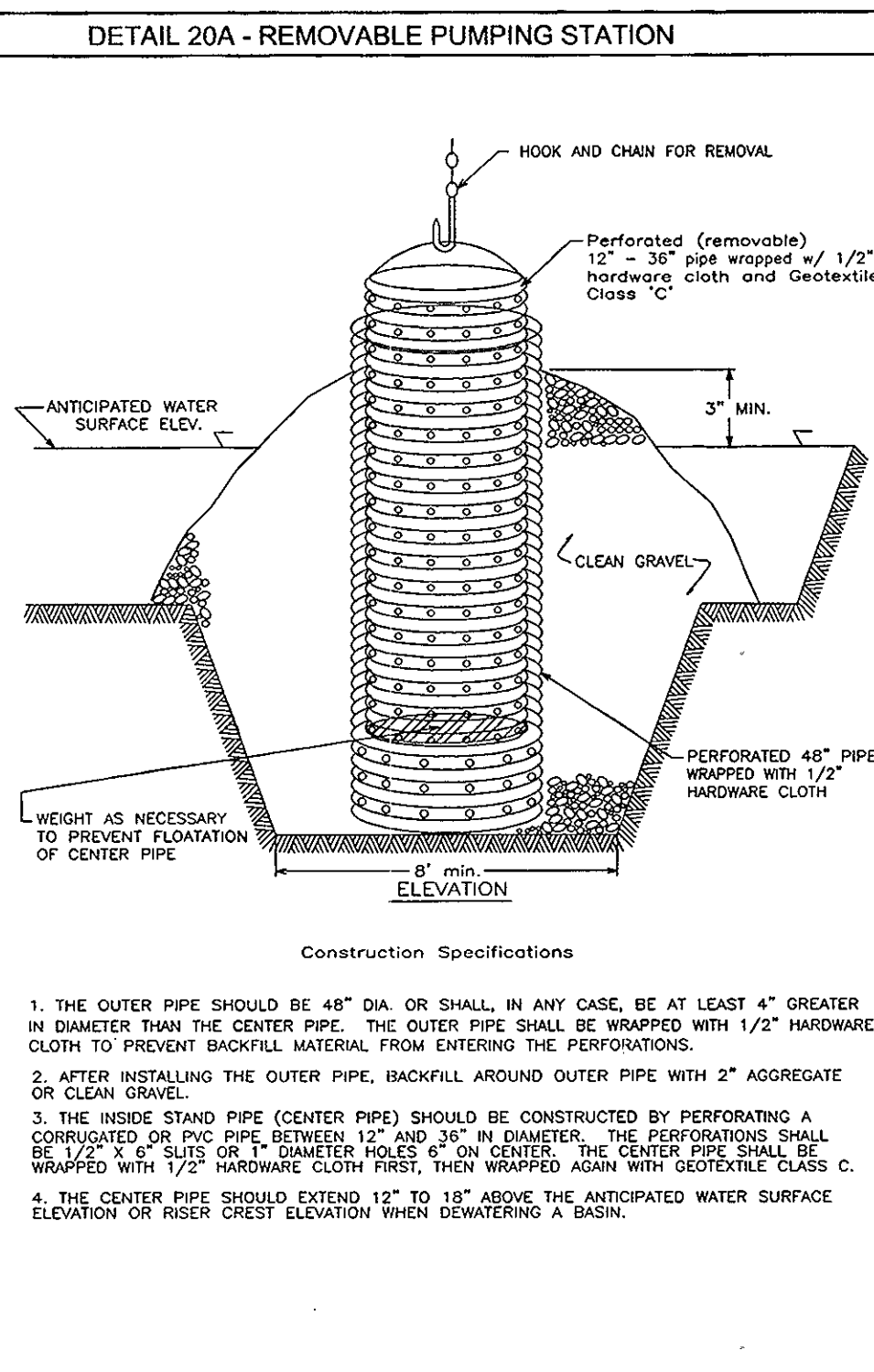
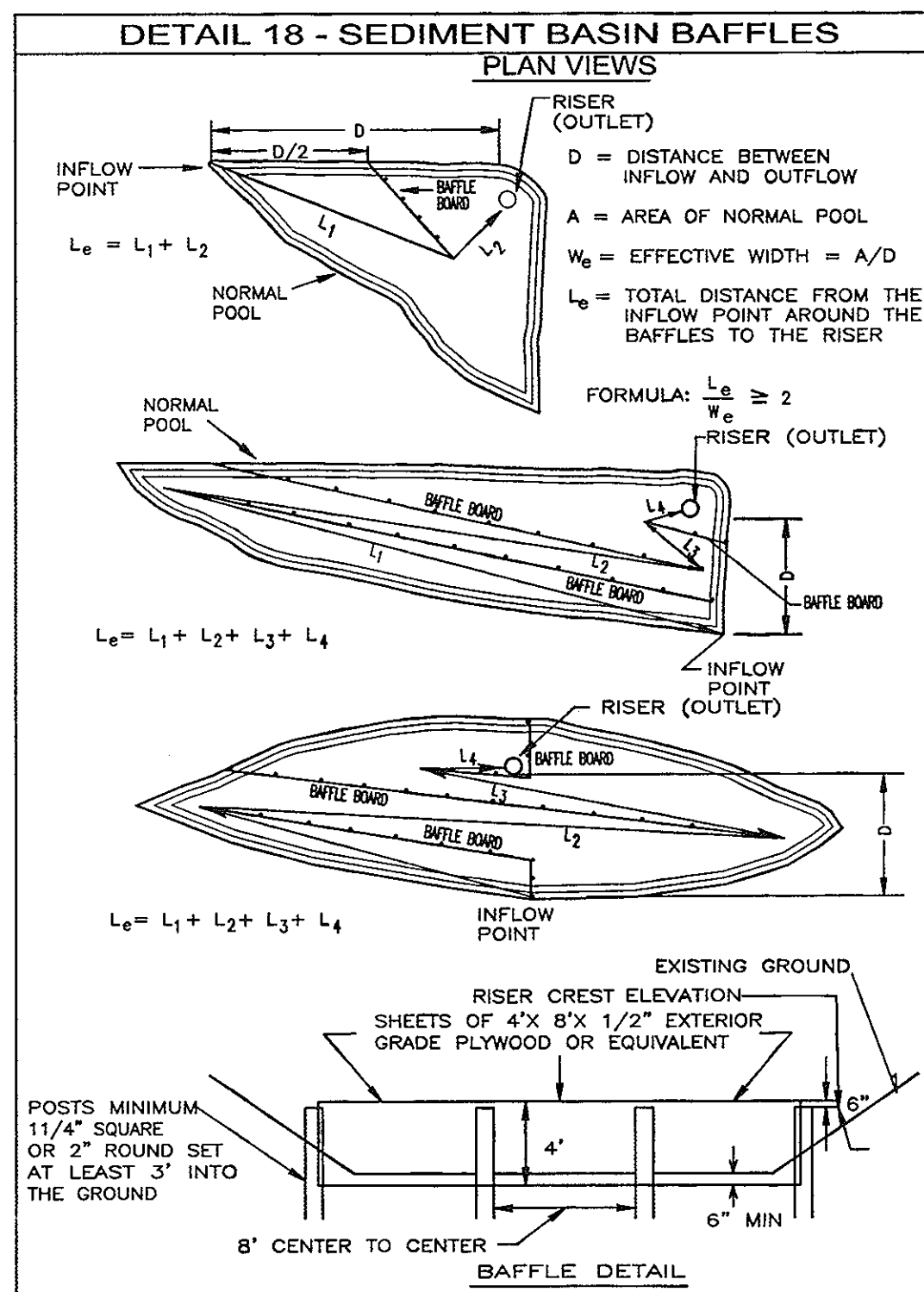
DEVELOPER
TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
3675 PARK AVENUE, SUITE 301
ELLCOTT CITY, MD. 21043-4511
410-480-0023

DESIGN BY: RHV/RJ
DRAWN BY: RJ
CHECKED BY: RHV
DATE: 03-30-2007
SCALE: AS SHOWN
W.O. NO.: 03-43.00

ROBERT H. VOGEL
ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: RHV/RJ
DRAWN BY: RJ
CHECKED BY: RHV
DATE: 03-30-2007
SCALE: AS SHOWN
W.O. NO.: 03-43.00

8 SHEET OF 28



APPROVED: DEPARTMENT OF PUBLIC WORKS

Walter Z. ...
 Chief, Bureau of Highways

6-25-07
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy ...
 Chief, Division of Land Development

7/2/07
 DATE

Michael ...
 Chief, Development Engineering Division

6/2/07
 DATE

DEVELOPER'S CERTIFICATE

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

Michael ...
 SIGNATURE OF DEVELOPER

5-22-07
 DATE

TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC

ENGINEER'S CERTIFICATE

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

Robert H. Vogel
 SIGNATURE OF ENGINEER

6/2/07
 DATE

HOWARD S.C.D.

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

Robert H. Vogel
 SIGNATURE OF ENGINEER

6/2/07
 DATE

HOWARD S.C.D.

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert H. Vogel
 SIGNATURE OF ENGINEER

6/2/07
 DATE

HOWARD S.C.D.

No.	REVISION	DATE
5	SHOWN AS-BUILT POND CHANGES AND A STORM DRAIN SUB A 1-9	10/8/12
1	ADD PHASE III	2-19-00

FINAL ROAD CONSTRUCTION PLAN
 SEDIMENT AND EROSION CONTROL DETAILS

THE WOODS OF TIBER BRANCH II - PHASE III & III
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF RESUBDIVISION LOT 4 & OT 5 WURTZER PROPERTY
 SUBDIVISION OF TM PARCEL 881

TAX MAP 24, BLOCK 18, PARCELS 264
 2ND ELECTION DISTRICT, PARCEL 611
 REF: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS

8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHV/RJ
 DRAWN BY: RJ
 CHECKED BY: RHV
 DATE: 03-30-2007
 SCALE: AS SHOWN
 W.O. NO.: 03-43.00

9 SHEET OF 28

DRAINAGE AREA TABULATIONS						
NO.	AREA	'C'	% IMP.	SOIL TYPE	ZONE	
I-1	1.41 AC.	0.38	47%	B/C	R-ED	
I-2	0.33 AC.	0.65	70%	B/C	R-ED	
I-3	1.12 AC.	0.36	39%	B/C/D	R-ED	
I-4	0.26 AC.	0.60	61%	B/C/D	R-ED	
I-5	1.57 AC.	0.35	39%	C/D	R-ED	
I-6	0.77 AC.	0.43	48%	C/D	R-ED	
I-7	1.34 AC.	0.34	40%	C/D	R-ED	
I-8	0.86 AC.	0.32	31%	C	R-ED	
I-9	1.73 AC.	0.30	32%	C	R-ED	
I-10	1.35 AC.	0.34	40%	B/C/D	R-ED	
I-11	0.99 AC.	0.35	40%	B/C	R-ED	
I-12	0.62 AC.	0.36	41%	B/C/D	R-ED	
I-13	1.10 AC.	0.24	12%	B/C/D	R-ED	
I-14	0.19 AC.	0.41	44%	B/D	R-ED	
I-15	0.61 AC.	0.22	4%	B/C	R-ED	
I-16	0.55 AC.	0.20	4%	C	R-ED	
I-17	1.63 AC.	0.17	3%	B/C	R-ED	
I-18	0.89 AC.	0.18	4%	B/C	R-ED	
I-19	9.26 AC.	0.27	15%	C/D	R-ED	
I-20	2.69 AC.	0.28	26%	C	R-ED	

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	GROUP
B/B2	BRANDYWINE LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
B/C2	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
B/C3	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	C
B/D2	BRANDYWINE LOAM, 15 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
B/D3	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	C
Br	BRANDYWINE LOAM, 25 TO 60 PERCENT SLOPES	C
Co	CODORUS SILT LOAM	C
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
KeB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
KeC2	KELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	D
M/B2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
M/C2	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
M/D	MANOR AND RELAY VERY STONY SILT LOAMS, 3 TO 25 PERCENT SLOPES	B/C
NeC2	NESHAMINY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
WoB	WATCHUNG SILT LOAM, 3 TO 8 PERCENT SLOPES	D

LEGEND		
EXISTING CONTOUR	440	PRIVATE ACCESS EASEMENT
PROPOSED CONTOUR	410	FOREST CONSERVATION EASEMENT (RETENTION)
EXISTING TREES TO REMAIN	(Symbol)	FOREST CONSERVATION EASEMENT (REFORESTATION)
PROPOSED STREET TREE	(Symbol)	PRIVATE DRAINAGE & UTILITY EASEMENT
SOILS	SIB2	PUBLIC SIGHT DISTANCE EASEMENT
FOREST CONSERVATION AREA (RETENTION)	(Symbol)	WETLANDS
FOREST CONSERVATION AREA (REFORESTATION)	(Symbol)	PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT
WETLANDS	(Symbol)	BG&E EASEMENT
BG&E EASEMENT	(Symbol)	EXISTING PUBLIC SEWER EASEMENT
NO WOODY BUFFER	(Symbol)	RECREATION OPEN SPACE
WETLANDS BUFFER	(Symbol)	NON-CREDITED OPEN SPACE
STREAM BUFFER	(Symbol)	STORMWATER MANAGEMENT EASEMENT
PROP. STREET LIGHT	(Symbol)	PUBLIC DRAINAGE & UTILITY EASEMENT
PROP. STREET SIGNS	(Symbol)	PUBLIC SIDEWALK EASEMENT
RECREATION OPEN SPACE	(Symbol)	PUBLIC WATER & UTILITY EASEMENT
DRAINAGE AREA DIVIDE	(Symbol)	PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25



PLAN VIEW
SCALE 1"=50'

OWNERS
STEPHEN WURTZER
MARY WURTZER OLLIBER
4020 OLD COLUMBIA PIKE
ELLICOTT CITY, MARYLAND 21043
410-465-4649
TRINITY HOMES AT WOODS
OF TIBER BRANCH II, LLC
3675 PARK AVENUE, SUITE 301
ELLICOTT CITY, MD.
21043-4511
410-480-0023

DEVELOPER
TRINITY HOMES AT WOODS
OF TIBER BRANCH II, LLC
3675 PARK AVENUE, SUITE 301
ELLICOTT CITY, MD.
21043-4511
410-480-0023

No.	ADD PHASE III REVISION	2-19-00 DATE
APPROVED: DEPARTMENT OF PUBLIC WORKS		
<i>William F. ...</i>		6-25-07 Date
APPROVED: DEPARTMENT OF PLANNING AND ZONING		
<i>...</i>		7/2/10 Date
<i>...</i>		6/2/10 Date

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN DRAINAGE AREA MAP
THE WOODS OF TIBER BRANCH II - PHASE II & III
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
PLAT-OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY
SUBDIVISION OF TM PARCEL 881
RECORDED AS PLAT NO. 17414
TAX MAP 24 BLOCK 18 PARCELS '264'
2ND ELECTION DISTRICT PARCEL '811'
REF.: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET TEL: 410.461.7666
ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHR/RJ
DRAWN BY: RJ
CHECKED BY: RHV
DATE: 03-30-2007
SCALE: AS SHOWN
W.O. NO.: 03-43-00

10 SHEET OF 28

DRAINAGE AREA TABULATIONS					
NO.	AREA	% IMP.	SOIL TYPE	ZONE	
I-1	1.41 AC.	0.38	47%	B/C	R-ED
I-2	0.33 AC.	0.65	70%	B/C	R-ED
I-3	1.12 AC.	0.36	39%	B/C/D	R-ED
I-4	0.26 AC.	0.60	61%	B/C/D	R-ED
I-5	1.57 AC.	0.35	39%	C/D	R-ED
I-6	0.77 AC.	0.43	48%	C/D	R-ED
I-7	1.34 AC.	0.34	40%	C/D	R-ED
I-8	0.86 AC.	0.32	31%	C	R-ED
I-9	1.73 AC.	0.30	32%	C	R-ED
I-10	1.35 AC.	0.34	40%	B/C/D	R-ED
I-11	0.99 AC.	0.35	40%	B/C	R-ED
I-12	0.62 AC.	0.36	41%	B/C/D	R-ED
I-13	1.10 AC.	0.24	12%	B/C/D	R-ED
I-14	0.19 AC.	0.41	44%	B/D	R-ED
I-15	0.61 AC.	0.22	4%	B/C	R-ED
I-16	0.55 AC.	0.20	4%	C	R-ED
I-17	1.63 AC.	0.17	3%	B/C	R-ED
I-18	0.89 AC.	0.18	4%	B/C	R-ED
I-19	9.26 AC.	0.27	15%	C/D	R-ED
I-20	2.69 AC.	0.28	26%	C	R-ED

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	GROUP
Bb2	BRANDYWINE LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
Bc2	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
Bc3	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	C
Bd2	BRANDYWINE LOAM, 15 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
Bd3	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	C
Bf	BRANDYWINE LOAM, 25 TO 60 PERCENT SLOPES	C
Co	COODRUS SILT LOAM	C
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
KsB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
KsC2	KELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	D
Mb2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
Mb3	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
Md	MONTALO AND RELAY VERY STONY SILT LOAMS, 3 TO 25 PERCENT SLOPES	B/C
Nc2	NESHAMINY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
Wb2	WATCHUNG SILT LOAM, 3 TO 8 PERCENT SLOPES	D

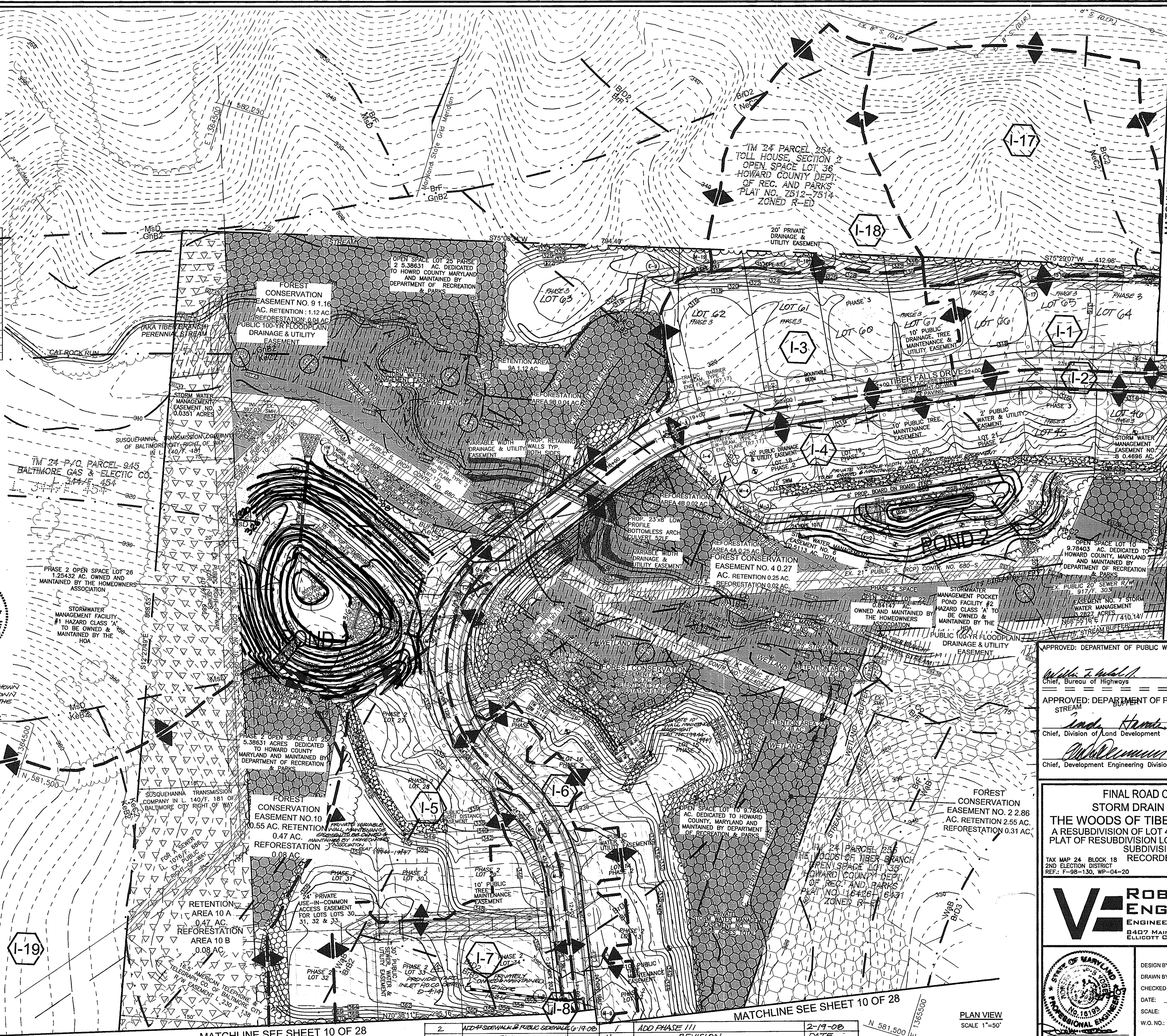
LEGEND

- PUBLIC SIGHT DISTANCE EASEMENT
- WETLANDS
- PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT
- EXISTING PUBLIC SEWER EASEMENT
- RECREATION OPEN SPACE
- NON-CREDITED OPEN SPACE
- STORMWATER MANAGEMENT EASEMENT
- PUBLIC DRAINAGE & UTILITY EASEMENT
- PUBLIC SIDEWALK EASEMENT
- PUBLIC WATER & UTILITY EASEMENT
- PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25

OWNERS
 WALTER STEPHEN WURTZLER
 WALTER STEPHEN WURTZLER
 4020 OLD COLUMBIA PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-465-4649

DEVELOPER
 TRINITY HOMES AT WOODS
 OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD.
 21043-4511
 410-480-0023

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.
 ROBERT H. VOGEL, PE, No. 18193, 10/16/12



LEGEND	
EXISTING CONTOUR	440
PROPOSED CONTOUR	410
SPOT ELEVATION	482.53
DIRECTION OF FLOW	
EXISTING TREES TO REMAIN	
PROPOSED STREET TREE	
FOREST CONSERVATION AREA (RETENTION)	
FOREST CONSERVATION AREA (REFORESTATION)	
WETLANDS	
BG&E EASEMENT	
NO WOODY BUFFER	
WETLANDS BUFFER	
STREAM BUFFER	
PROP. STREET LIGHT	
PROP. STREET SIGNS	
RECREATION OPEN SPACE	
PRIVATE ACCESS EASEMENT	
FOREST CONSERVATION EASEMENT (RETENTION)	
FOREST CONSERVATION EASEMENT (REFORESTATION)	
PRIVATE DRAINAGE & UTILITY EASEMENT	

LEGEND	
FOREST CONSERVATION EASEMENT NO. 8	0.40 AC.
RETENTION	0.30 AC.
REFORESTATION	0.10 AC.

APPROVED: DEPARTMENT OF PUBLIC WORKS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING

APPROVED: DEPARTMENT OF PUBLIC WORKS
 APPROVED: DEPARTMENT OF PLANNING AND ZONING

Walter F. Hall
 Chief, Bureau of Highways
 Date: 6-25-07

Chief, Division of Land Development
 Date: 7/2/10

Chief, Development Engineering Division
 Date: 6/26/10

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN DRAINAGE AREA MAP
THE WOODS OF TIBER BRANCH II - PHASE I, II & III
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZLER PROPERTY
 SUBDIVISION OF TM PARCEL 881
 TAX MAP 24, BLOCK 18, PARCELS '264'
 2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 REF: F-98-130, WP-04-20
 RECORDED AS PLAT NO. 17414

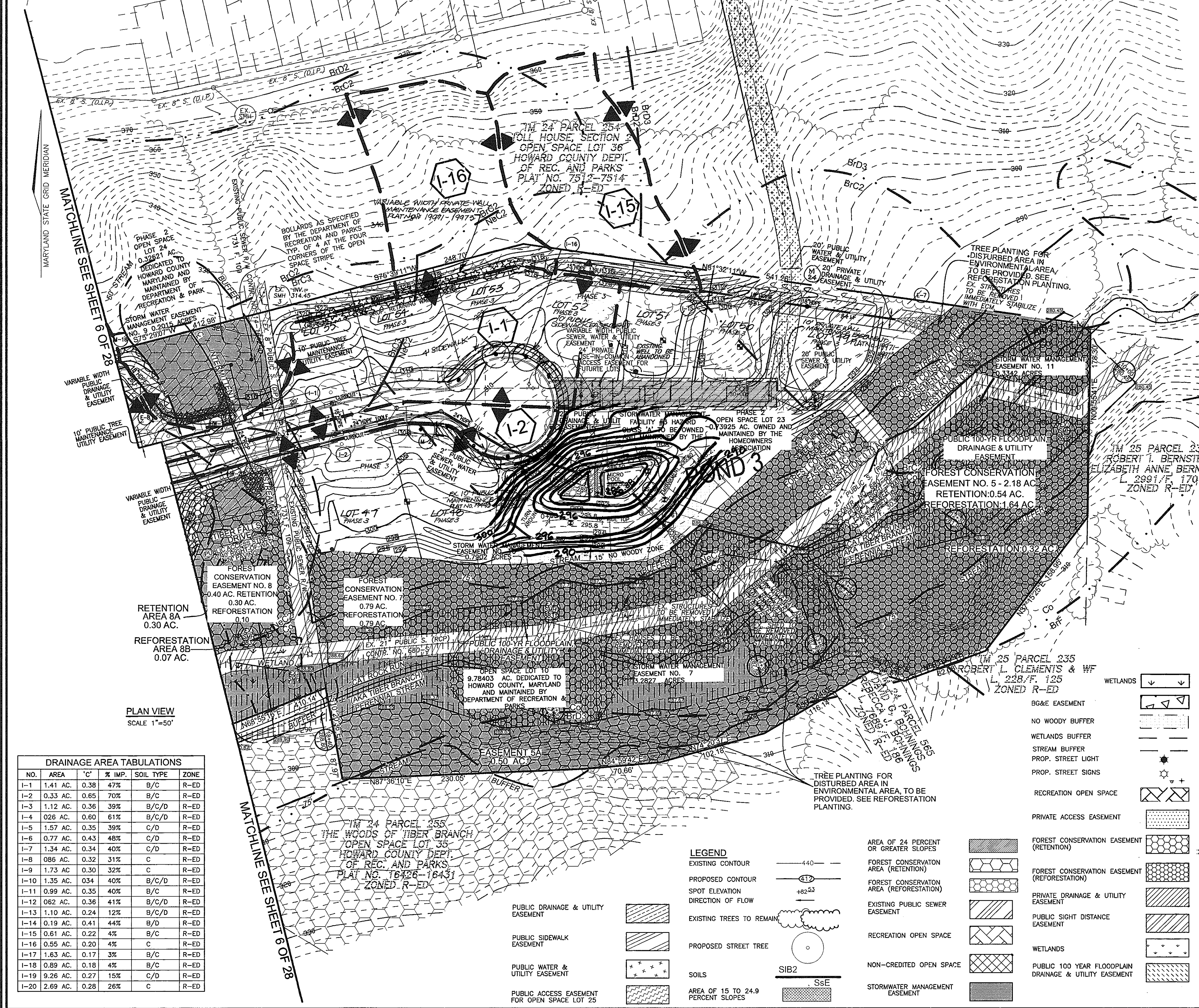
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8487 MAIN STREET, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666 FAX: 410.461.6991

DESIGN BY: RHW/RJ
 DRAWN BY: RJ
 CHECKED BY: RHW
 DATE: 03-30-2007
 SCALE: AS SHOWN
 W.O. NO.: 03-43.00

11 SHEET OF 28

SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	GROUP
Br2	BRANDYWINE LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
BrC2	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
BrC3	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	C
BrD2	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED	C
BrD3	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	C
Bf	BRANDYWINE LOAM, 25 TO 60 PERCENT SLOPES	C
Co	CODORUS SILT LOAM	C
GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
KeB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
KeC2	KELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	D
MIB2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MIC2	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
MoD	MONTAIO AND RELAY VERY STONY SILT LOAMS, 3 TO 25 PERCENT SLOPES	B/C
NcC2	NESHAMINY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
WgB	WATCHUNG SILT LOAM, 3 TO 8 PERCENT SLOPES	D

PAGES 16 & 20 OF THE HOWARD COUNTY SOIL SURVEY



DRAINAGE AREA TABULATIONS						
NO.	AREA	'C'	% IMP.	SOIL TYPE	ZONE	
1-1	1.41 AC.	0.38	47%	B/C	R-ED	
1-2	0.33 AC.	0.65	70%	B/C	R-ED	
1-3	1.12 AC.	0.36	39%	B/C/D	R-ED	
1-4	0.26 AC.	0.60	61%	B/C/D	R-ED	
1-5	1.57 AC.	0.35	39%	C/D	R-ED	
1-6	0.77 AC.	0.43	48%	C/D	R-ED	
1-7	1.34 AC.	0.34	40%	C/D	R-ED	
1-8	0.86 AC.	0.32	31%	C	R-ED	
1-9	1.73 AC.	0.30	32%	C	R-ED	
1-10	1.35 AC.	0.34	40%	B/C/D	R-ED	
1-11	0.99 AC.	0.35	40%	B/C	R-ED	
1-12	0.62 AC.	0.36	41%	B/C/D	R-ED	
1-13	1.10 AC.	0.24	12%	B/C/D	R-ED	
1-14	0.19 AC.	0.41	44%	B/D	R-ED	
1-15	0.61 AC.	0.22	4%	B/C	R-ED	
1-16	0.55 AC.	0.20	4%	C	R-ED	
1-17	1.63 AC.	0.17	3%	B/C	R-ED	
1-18	0.89 AC.	0.18	4%	B/C	R-ED	
1-19	9.26 AC.	0.27	15%	C/D	R-ED	
1-20	2.69 AC.	0.28	26%	C	R-ED	

POND CONSTRUCTION RECOMMENDATIONS
GEOTECHNICAL REPORT DATED 4-28-2004

It is recommended that the geotechnical aspects of the pond be designed and constructed in accordance with MD 378/2000 specifications.

B. Principal Spillway

The exact location of the principal spillway was not indicated on the plans; however, we would assume that the principal spillways would be located at boring SWM-4, SWM-5, SWM-8, SWM-9, and/or SWM-11. The test borings indicate that suitable support of principal spillway would be provided in the underlying native soils if the applied pressure does not exceed 2,000 PSF in the east and west ponds. In the center most pond SWM-5 and SWM-9 indicate soft to barely medium stiff clayey soils. It may be necessary to undercut these clayey soils and replace with more competent material to provide proper support of the riser and outfall pipe construction.

E. Permanent Ground Water Control

The ground water control was addressed in the slope stability section. In addition to slope drains, it may be necessary to construct wall channels in the embankment to direct seepage flow into the low flow orifices to prevent a very shallow accumulation of water.

VIII. EARTHWORK CONSTRUCTION

It is our opinion that the soft, barely medium stiff fine-grained soils as encountered in SWM-5 and SWM-9 to depths of approximately 3 feet may not be suitable for embankment support. We recommend that soft soils beneath the embankment footprint and extending 5 feet beyond the interior and exterior slope be undercut to expose the underlying, lower plasticity granular soils. Upon reaching the underlying granular native soils, the undercut excavation should be backfilled with approved soils, placed and compacted in accordance with APPENDIX I, COMPACTED FILL. Undercut backfill soils should exclude Unified GS, SW, SP, or SM materials but may be particularly impervious since the core trench would be extended down to the fill after embankment undercut and backfilling is complete. Undercut backfill should have an AASHTO T-99 maximum compacted dry density of at least 100 PSF.

Examination of the moisture/compacted density relationship test results presented on SHEET 1, COMPACTION TEST indicates that the tested proposed cut soil from SWM-2 has an acceptably high maximum dry density and classification. The soil is suitable for core trench and dam core fill; however, the existing moisture content of the soils at the time of sampling was 8 to 9 percent over the optimum for most efficient compaction. These soils would require significant drying by aeration prior to use as controlled compacted embankment or core trench fill. It may be more expedient for core trench soils to be taken from higher elevations on site, if possible, where moisture contents may be more acceptable.

C. Earth Slope Stability

From review of the plans, it appears that both cut and fill slopes will be a 3H:1V inclination. With proper undercut and replacement of unsuitable soils beneath the embankment as outlined later in this report, and with the use of on-site or imported soils with a Unified CL classification to structurally stable when properly compacted. However, these soil types are highly susceptible to erosion and slopes may require periodic maintenance until a uniformly thick grass cover can be established. Also, ground water seepage from the base of the slopes may result in toe instability requiring the installation of drains or undercutting or replacing failed material with more suitable soils or aggregate. The nature and extent of the drains and undercuts would be best determined at the time of construction.

Core Trench

Following undercutting and replacement of foundation soils beneath the embankment as necessary, the core trench may be excavated to the typical MD 378/2000 specified dimensions or at least 2 feet into original soils below any undercut backfill; whichever depth is greater. For example, a 3-foot deep undercut at SWM-5 would require a core trench to a depth of 5 feet below the original stripped existing grades. Given the shallow height of the embankment and the flat gradient of the ground downstream from the facilities, excessive seepage beneath the embankment is not expected to be a problem in embankment stability with proper core trench construction.

A review of test boring results and laboratory data indicate that Unified "C" classification soils may be available in some of the shallow cuts to a depth of 3 feet to a depth of 3 feet to a depth of 3 feet. It has been our experience in similar geologic areas that the quantity of Unified "C" classification soils are limited and typically encountered near the surface. The CL soils that are found can have excessive moisture content. Consequently it is expected that at least some off-site borrow would be required for completion of core trench and dam core fill.

Given the elevated soil moisture, it is recommended that earthwork operations be performed during the normally warmer drier summer and early fall construction seasons when more intense sun and warmer temperatures will maximize drying capabilities. Construction during the cooler, wetter seasons of the year may make these high moisture soils unavailable for use as controlled, compacted fill. Further, construction during the cooler, wetter seasons of the year may result in saturated or frozen subgrades requiring undercut and replacement with more suitable materials.

Normal soil excavation techniques will be sufficient for removal of materials encountered in the test borings with the exception of materials with standard penetration resistances exceeding 100 blows per foot where either ripping or limited blasting may be required. Temporary ground water control will be required in core trench and embankment undercut excavations which extend below the ground water levels shown. In residual soils, seepage rates are usually low unless a fracture rock seam is encountered and can be controlled by a series of pits, trenches and pumps during construction.

X. INFILTRATION POTENTIAL

The Maryland Department of the Environment MDE requires that the infiltration occur only in undisturbed native soils with a minimum infiltration rate of 0.52 inches/hour. Howard County has more stringent requirements of 1.02 inches/hour. It is further required that the bottom of the infiltration structure be at least 4 feet above the ground water table or rock (i.e. impermeable materials).

Ground water levels will prohibit design storm water disposal by infiltration in all three storm water management ponds. Ground water will also negate storm water disposal by infiltration in the lot infiltration borings I-1, I-2, I-5, I-9 and I-11.

No.	REVISION	DATE
2	ADD 4" SIDEWALK PUBLIC SIDEWALK EASEMENT AND PRIVATE WALL MAINTENANCE EASEMENT	6-19-00
1	ADD PHASE III	2-19-00

For the remaining borings, I-3, I-4, I-6, I-8 and I-10, borehole infiltrometer tests were performed at an approximate depth of 6 feet below the existing ground surface. Tests were performed in accordance with the procedures outlined in the MDE storm water management manual. The test results and the test procedures are presented on TABLE 2, INFILTROMETER TEST DATA. The test results indicate that infiltration would be possible in borings I-3 and I-4 at design rates of 1.5 and 4 inches per hour, respectively. In the three borings tested north of the stream, the test results showed inadequate infiltration rates. These locations are not acceptable for infiltration.

It is our opinion that infiltration rates of soils will decrease over time as very fine sediments washing in with the runoff begin to cover the infiltrating surface. Consequently, all infiltration structures should have a daylight gravity outlet discharge directed so as not to adversely affect adjacent structures or properties. Downpour drywells on single-family residential lots should be located a sufficient distance from the house to limit the possibility of infiltrating water reaching the basement excavation. It is particularly critical that the high quality exterior foundation drain system be placed around basements where infiltration drywells are used.

XI. GEOTECHNICAL MONITORING

We recommend that Herbat/Benson & Associates be retained to provide the geotechnical monitoring and testing services during the earthwork and principal spillway construction phases of the work. This is to observe compliance with design concepts, specifications or recommendations and to allow design changes in the event that subsurface conditions differ from those anticipated prior to the start of construction.

The earthwork construction including stripping, undercutting, proof rolling and controlled fill placement shall be inspected with in-place density tests taken to verify construction according to the specifications. Also, the principal spillway excavations shall be examined and the exposed soil conditions approved for the design bearing. We will provide the indicated geotechnical monitoring and testing services upon request.

GENERAL CONDITIONS

This report has been prepared in accordance with generally accepted geotechnical engineering practice to aid in the evaluation and design of this project. In the event of changes in the proposed construction (types, elevations, locations, etc.) the conclusions and recommendations presented in this report should not be considered valid unless changes are reviewed and the conclusions of this report are modified or approved in writing by our office.

The analyses and recommendations included in this report are based upon the data obtained from the test borings performed at the approximate locations indicated on the boring location plan. This report does not reflect variations which may occur between the borings. The nature and extent of the variations may not become evident until the time of construction. If significant variations then become evident it may be necessary for us to reevaluate the recommendations of this report.

We appreciate the opportunity to provide a geotechnical storm water management study for this project. We will be available to provide additional consultation, if necessary, during the design phase and hope to have the opportunity to provide geotechnical monitoring and testing services during construction. If in the meantime you or your consultants have any questions, please do not hesitate to contact us.

Most Respectfully,

HERBAT/BENSON & ASSOCIATES
By: Robert C. Benson
Principal

RCB/fjh
04023MD
Professional Engineer
State of Maryland
Professional Engineer
No. 15193

OWNERS
WURZEL DEVELOPERS
4020 OLD COLUMBIA PIKE
ELLCOTT CITY, MARYLAND 21043
410-465-4648
TRINITY HOMES AT WOODS
OF TIBER BRANCH II, LLC
3675 PARK AVENUE, SUITE 301
ELLCOTT CITY, MD.
21043-4511
410-480-0023

DEVELOPER
TRINITY HOMES AT WOODS
OF TIBER BRANCH II, LLC
3675 PARK AVENUE, SUITE 301
ELLCOTT CITY, MD.
21043-4511
410-480-0023

APPROVED: DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways
Date: 6-25-07

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Division of Land Development
Date: 7/2/07

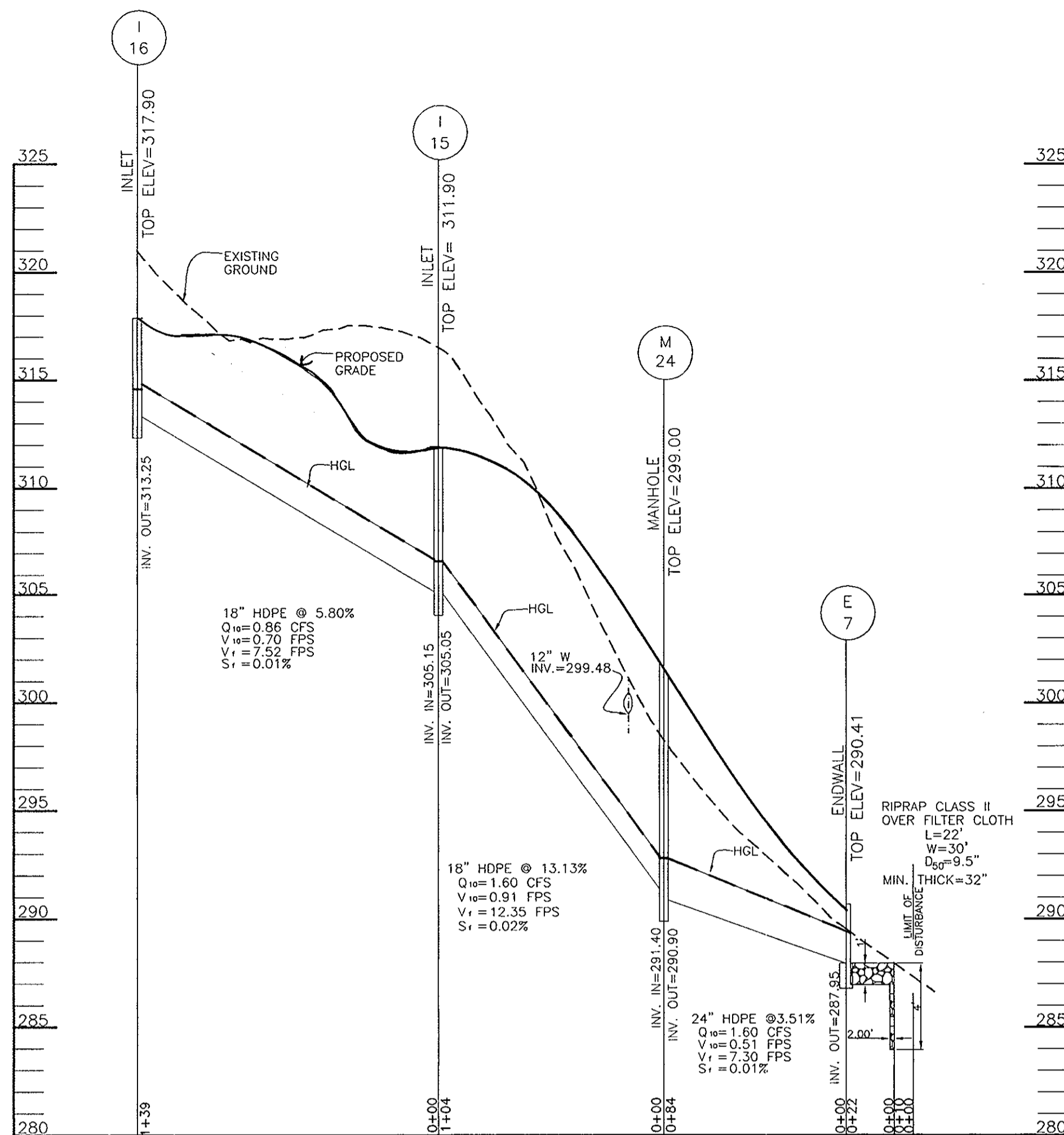
Chief, Development Engineering Division
Date: 6/29/07

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN DRAINAGE AREA MAP
THE WOODS OF TIBER BRANCH II - PHASE II & III
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURZEL PROPERTY
SUBDIVISION OF TM PARCEL 881
RECORDED AS PLAT NO. 17414
TAX MAP 24 BLOCK 18 PARCEL 264
2ND ELDON DISTRICT
REF.: F-98-130, WP-04-20
HOWARD COUNTY, MARYLAND

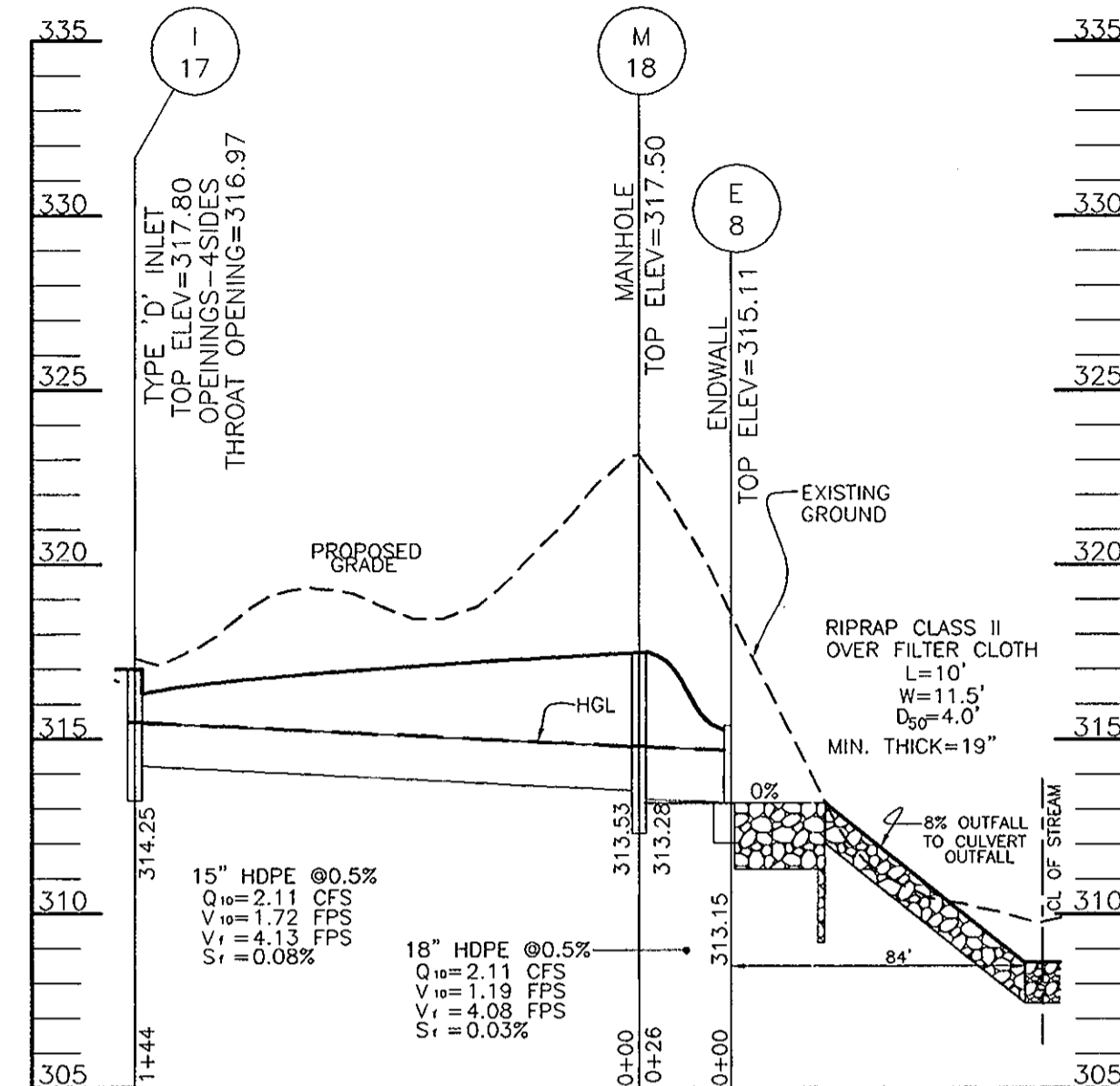
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8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.461.7666
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DESIGN BY: RHV/RJ
DRAWN BY: RJ
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DATE: 03-30-2007
SCALE: AS SHOWN
W.O. NO.: 03-43-00

12 SHEET OF 28

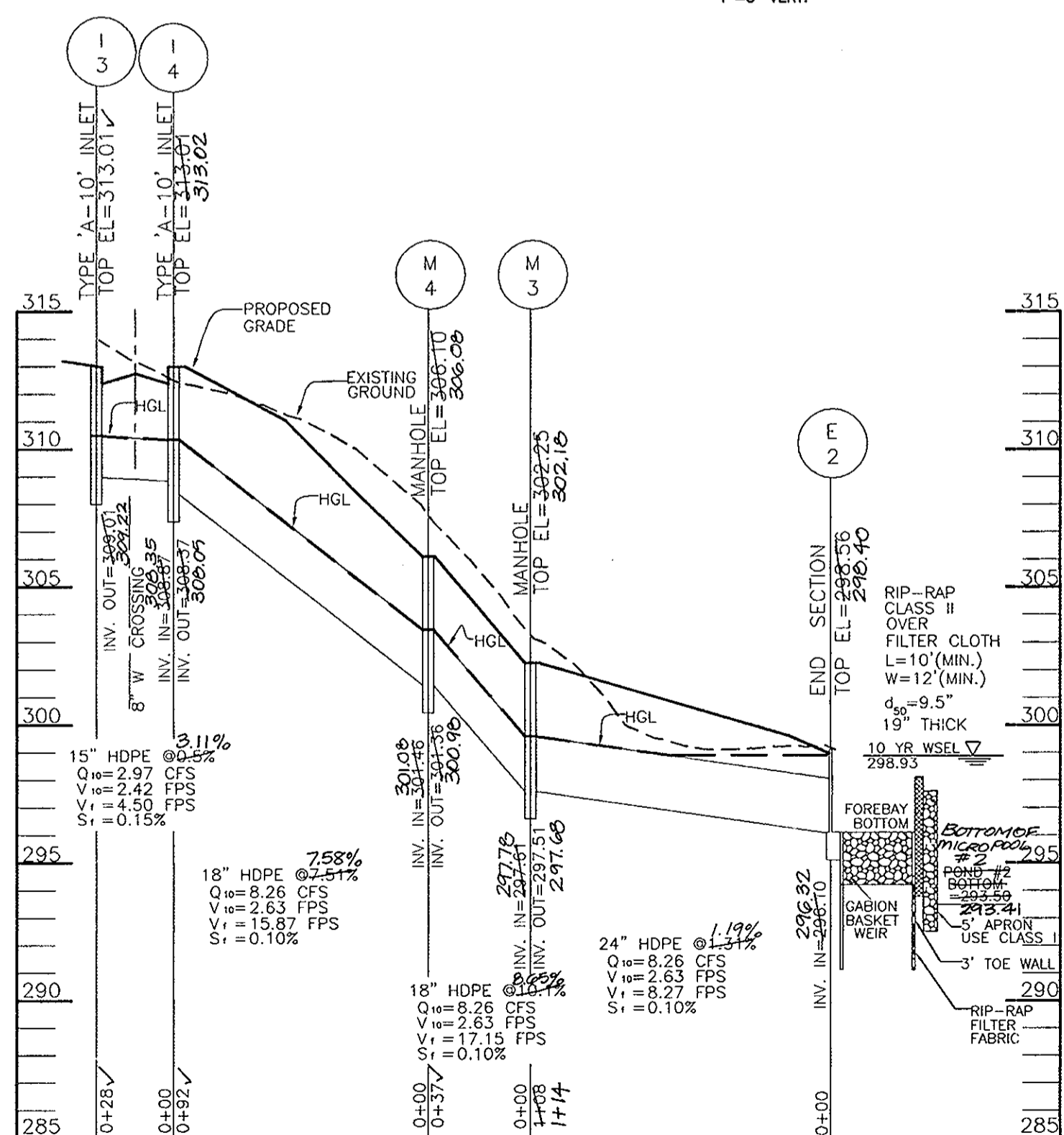


STORM DRAIN PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.

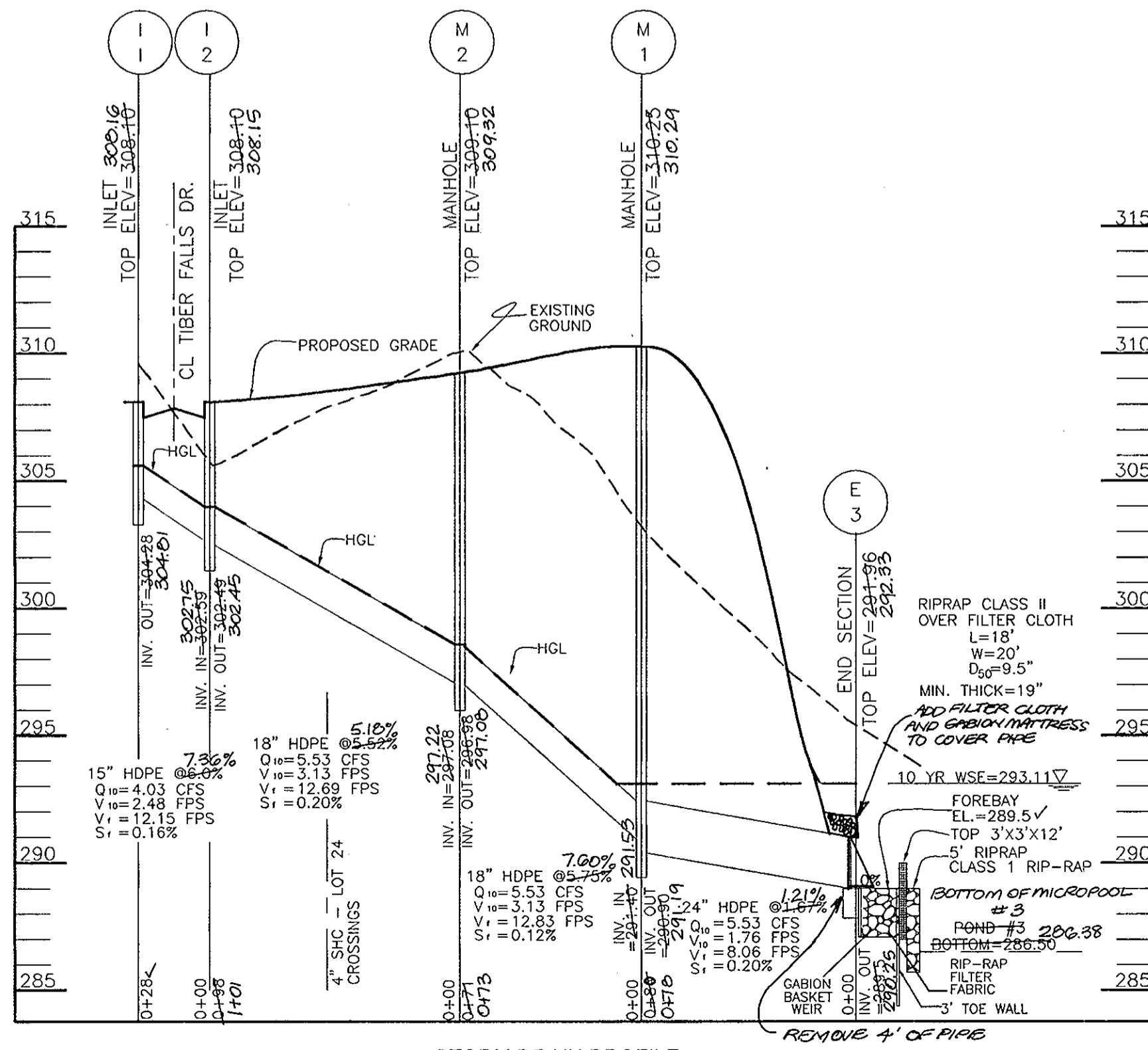


STORM DRAIN PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.

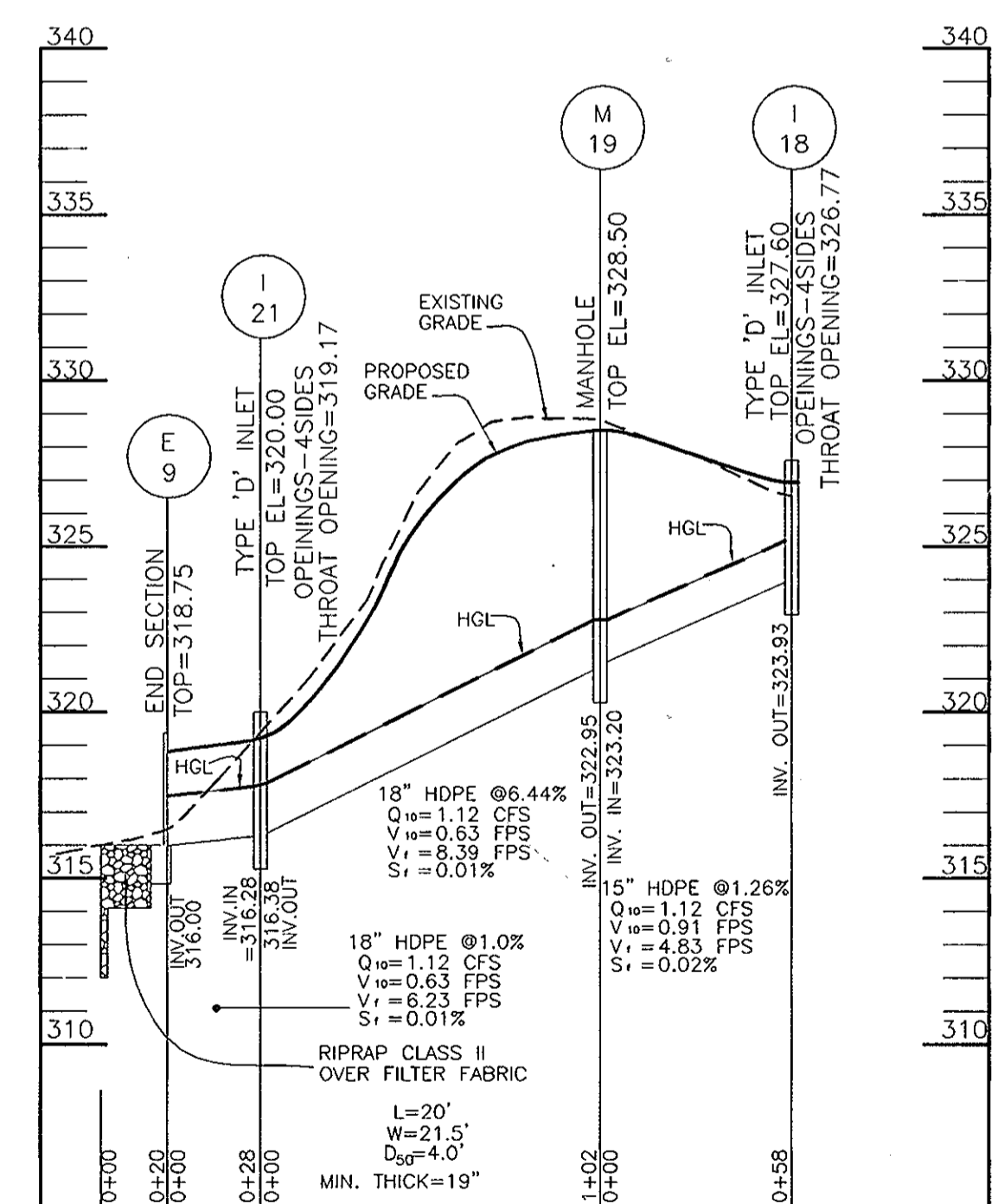
PIPE SIZE	TYPE	TOTAL LENGTH
15"	HDPE	407 LF
18"	HDPE	1562 LF
24"	HDPE	1215 LF
30"	HDPE	382 LF



STORM DRAIN PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.



STORM DRAIN PROFILE
SCALE: 1"=50' HORIZ.
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STORM DRAIN PROFILE
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AS-BUILT CERTIFICATION
"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE AS-BUILT PLAN AND MEETS THE APPLICABLE STANDARDS AND SPECIFICATIONS."
ROBERT H. VOGEL, P.E.
PROFESSIONAL ENGINEER
NO. 16193
DATE 10/16/12

APPROVED: DEPARTMENT OF PUBLIC WORKS

Wade Z. Malin
Chief, Bureau of Highways

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chris Hamer
Chief, Division of Land Development

Chief, Development Engineering Division

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	TOP ELEV.	INV. IN	INV. OUT	REMARKS
E-1	CONCRETE END SECTION TYPE "A"	N 581760.7811, E 1364824.2255	317.9814	-	314.52	SD5.51&SD5.52
M-5	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 15+28.87, 13.68' LT.	323.9814	324.00	315.68	GS.13
M-6	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 14+21.69, 16.00' LT.	324.00	324.00	316.00	GS.13
I-7	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 13+58.75, 12.00' LT.	335.05	330.48	322.00	SD4.41
M-7	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 12+90, 16.00' LT.	339.05	332.00	323.00	GS.13
M-8	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 12+42, 16.00' LT.	342.00	333.00	323.00	GS.13
I-8	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 11+02.79, 14.5' RT.	352.14	345.61	346.11	SD4.41
M-9	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 11+02.79, 8.10' RT.	351.05	347.00	342.00	GS.13
M-10	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 9+34.91, 22.0' RT.	359.00	353.00	352.93	GS.13
M-11	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 8+22.4, 22.0' RT.	362.00	357.00	356.00	GS.13
I-10	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 7+50.18, 12.0' RT.	365.00	360.00	359.67	SD4.41
I-9	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 7+50.18, 12.0' RT.	365.00	360.00	359.67	SD4.41
M-12	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 5+98.5, 17.4' LT.	371.00	366.00	365.00	GS.13
I-11	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 5+72.49, 12.0' LT.	373.00	368.00	367.00	SD4.41
I-12	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 5+72.49, 12.0' LT.	373.00	368.00	367.00	SD4.41
M-13	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 5+18.35, 16.6' RT.	376.00	369.00	368.00	GS.13
M-14	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 3+86.7, 17.2' RT.	382.00	374.00	374.00	GS.13
M-15	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 2+98, 17.0' LT.	384.00	376.00	376.00	GS.13
M-16	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 1+10.37, 19.4' LT.	382.00	376.00	376.00	GS.13
M-17	STANDARD 5' MANHOLE	CL TIBER FALLS DRIVE STA 1+8.07, 19.17' LT.	382.00	376.00	376.00	GS.13
I-13	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 0+78.63, 12.0' LT.	381.00	376.00	376.00	SD4.41
I-14	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 0+78.63, 12.0' LT.	381.00	376.00	376.00	SD4.41
HW4	MSHA STD. TYPE "H" ENDWALL	N 581,908.26 E 1364699.59	311.00	-	-	SEE SWM DETAILS
M-20	STANDARD 5' MANHOLE	N 581,801.13 E 1364855.33	309.00	309.00	309.00	GS.13
M-21	STANDARD 5' MANHOLE	N 581,724.89 E 1364856.98	313.00	313.00	313.00	GS.13
M-22	STANDARD 5' MANHOLE	N 581,675.67 E 1364806.598	318.00	317.00	317.00	GS.13
I-19	TYPE "D" INLET	N 581,687.78 E 1364733.46	325.00	-	-	SD4.41
M-25	STANDARD 5' MANHOLE	N 581894.61 E 1364702.34	312.00	312.00	312.00	GS.13
CS-1	CONTROL STRUCTURE	N 581,819.12 E 1364717.50	324.00	-	-	SEE SWM DETAILS
E-9	CONCRETE END SECTION TYPE "A"	N 582214.92 E 1365020.38	317.00	316.00	316.00	SD5.51&SD5.52
I-21	TYPE "D" INLET	N 581724.89 E 1364856.98	320.00	316.38	316.28	SD4.41
M-19	STANDARD 5' MANHOLE	N 582244.92 E 1365084.10	328.00	323.20	322.95	GS.13
I-18	TYPE "D" INLET	N 582259.63 E 1365139.44	327.00	-	-	SD4.41
S-2	CONTROL STRUCTURE	N 582,076.62 E 1365425.99	300.00	-	294.10	SEE SWM DETAILS
E-5	CONCRETE END SECTION TYPE "A"	N 582,055.57 E 1365456.95	295.25	-	293.30	SD5.51&SD5.52
E-8	CONCRETE END SECTION TYPE "A"	N 582,341.12 E 1365545.89	315.11	-	313.15	SD5.51&SD5.52
M-18	STANDARD 5' MANHOLE	N 582,361.53 E 1365529.52	317.00	313.53	313.28	GS.13
I-17	TYPE "D" INLET	N 582,325.39 E 1365389.92	317.00	-	314.25	GS.13
E-3	CONCRETE END SECTION TYPE "A"	N 582257.86 E 1365965.16	322.00	320.00	320.00	SD5.51&SD5.52
M-1	STANDARD 5' MANHOLE	N 582283.77 E 1365888.28	310.00	309.00	309.00	GS.13
M-2	STANDARD 5' MANHOLE	N 582319.19 E 1365826.77	309.00	309.00	309.00	GS.13
I-2	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 25+82, 12' RT.	308.00	302.50	302.50	SD4.41
I-1	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 25+82, 12' LT.	308.00	302.50	302.50	SD4.41
E-6	CONCRETE END SECTION TYPE "A"	N 582233.74 E 1366015.74	289.00	287.00	287.00	SD5.51&SD5.52
CS-3	CONTROL STRUCTURE	N 582209.29 E 1366039.60	295.00	-	288.00	SEE SWM DETAILS
E-7	CONCRETE END SECTION TYPE "A"	N 582406.25 E 1366256.23	290.00	-	287.95	SD5.51&SD5.52
M-24	STANDARD 5' MANHOLE	N 582418.64 E 1366173.23	299.00	291.00	290.90	GS.13
I-15	TYPE "D" INLET	N 582433.98 E 1366070.06	311.00	305.15	305.05	SD4.41
I-16	TYPE "D" INLET	N 582434.41 E 1365932.57	317.00	-	313.25	SD4.41
E-2	CONCRETE END SECTION TYPE "A"	N 582025.46 E 1365288.77	298.50	296.00	296.00	SD5.51&SD5.52
M-3	STANDARD 5' MANHOLE	N 581986.57 E 1365188.68	302.00	297.00	297.00	GS.13
M-4	STANDARD 5' MANHOLE	N 581993.79 E 1365152.65	306.00	301.00	301.00	GS.13
I-4	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 18+67, 12' RT.	313.00	308.00	308.00	SD4.41
I-3	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 18+67, 12' LT.	313.00	308.00	308.00	SD4.41
I-20	TYPE "D" INLET	N 580943.92 E 1364970.36	383.00	-	379.75	SD4.41
M-23	STANDARD 5' MANHOLE	N 580974.85 E 1365059.38	384.00	379.21	378.96	GS.13
I-5	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 16+05.15, 12' LT.	319.25	316.36	316.14	SD4.41
I-6	TYPE "A-10" INLET	CL TIBER FALLS DRIVE STA 16+05.15, 12' RT.	319.25	316.36	316.14	SD4.41
HW1	MSHA STD. TYPE "A" HEADWALL	N 582308.41 E 1365629.45	309.00	-	304.5	MD 382.01
HW2	MSHA STD. TYPE "A" HEADWALL	N 582270.17 E 1365645.68	308.00	-	301.8	MD 382.01

1. TOP ELEVATION IS CL OF INLET AT TOP OF CURB FOR TYPE 'A' INLETS AND TOP OF SLAB FOR 'D' INLETS
MODIFIED HEADWALL FOR WING WALL LENGTH:
THE HEADWALL STRUCTURE (HW2) MUST BE DESIGNED BY A STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION.

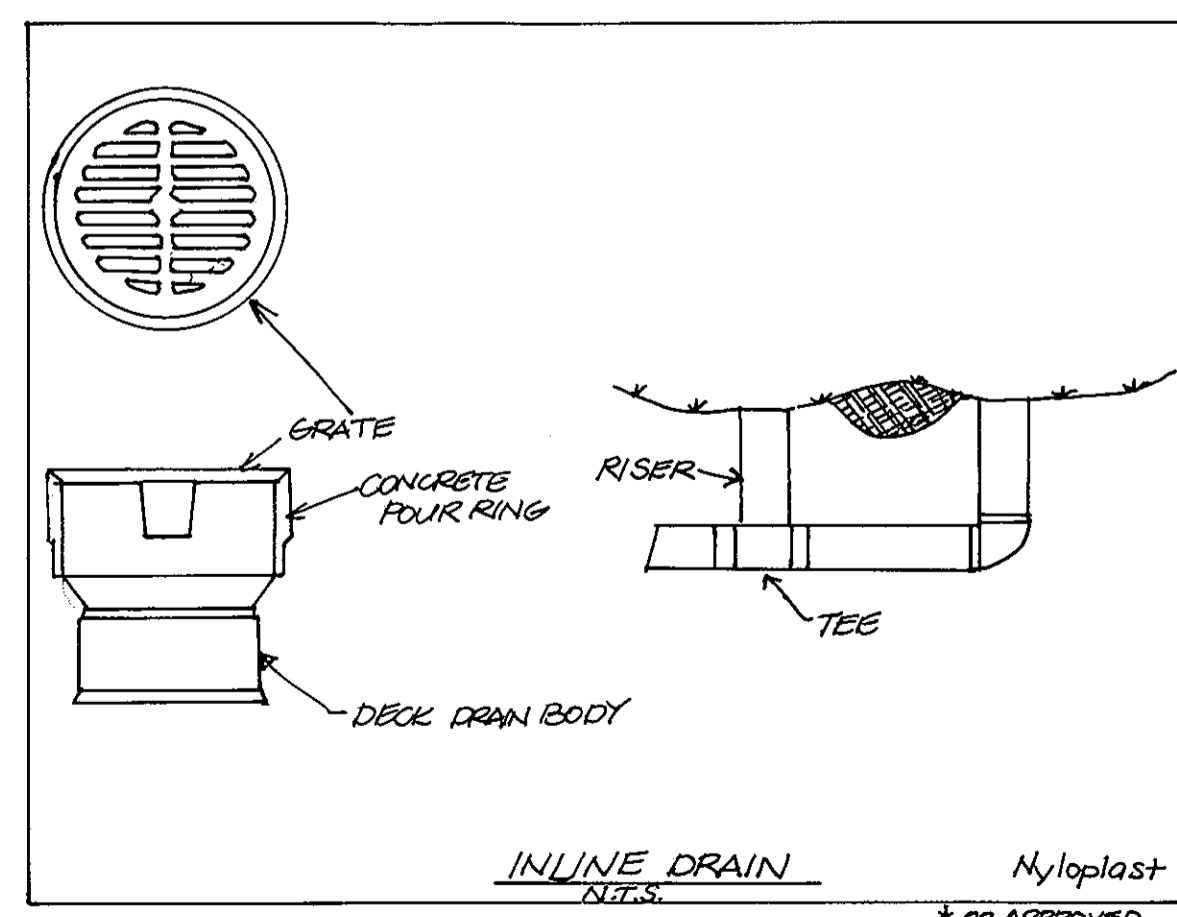
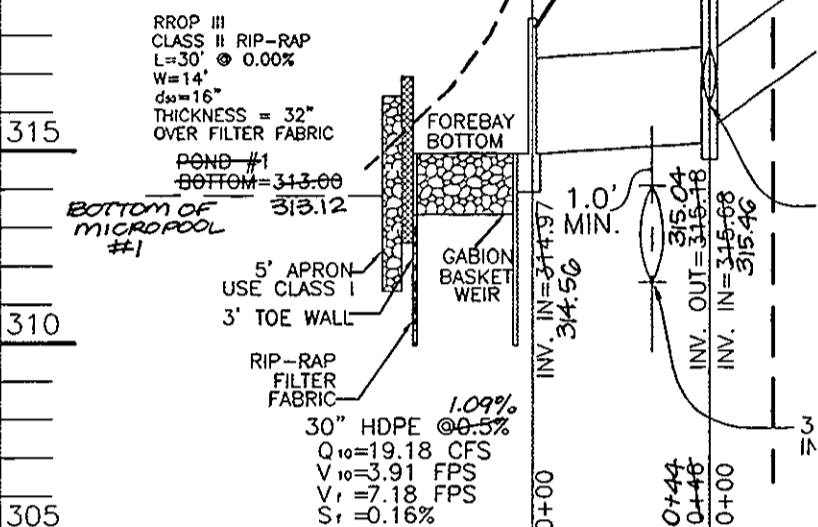
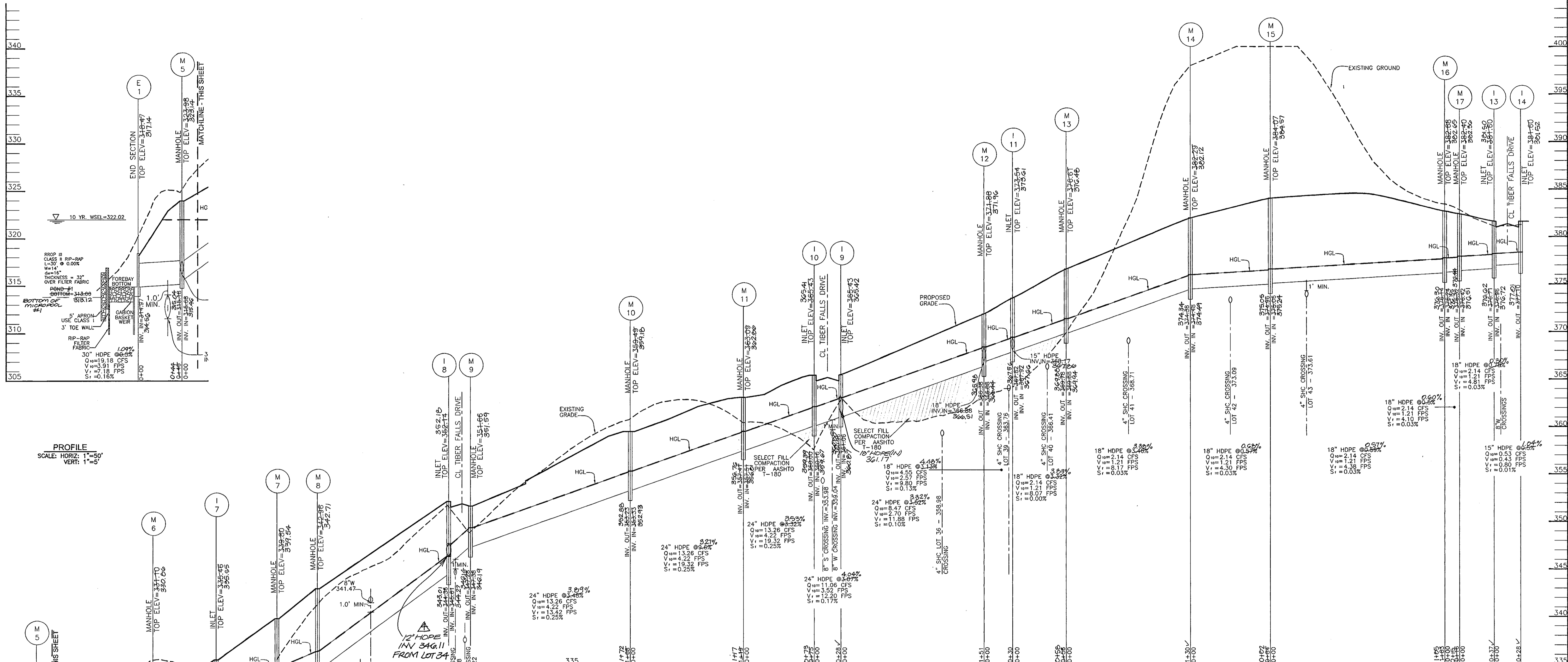
No.	REVISION	DATE
4	SHOW A STORM DRAIN STUB AND SHOW AS-BUILT TRASH RACKS ON PONDS 2&3	8/30/12
3	REPLACE CHURCH RAIL WITH BOLLARDS, REUSE FOREBAY TO POND 3, PROVIDE NOTCH IN FOREBAY WALL AND SHOW AS-BUILT GRADING I-15 & I-16	7/3/2012
1	ADD PHASE III	2-19-08

OWNERS
AUGUSTUS STEPHEN WURTZER
MARY WURTZER OULLIBER
4020 OLD COLUMBIA PIKE
ELICOTT CITY, MARYLAND 21043
(410) 465-4649
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., STE. 301
ELICOTT CITY, MARYLAND 21043
2143-4511
(410) 480-0023
DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., STE. 301
ELICOTT CITY, MARYLAND 21043
(410) 480-0023

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN PROFILES
THE WOODS OF TIBER BRANCH II - PHASE III & III
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY
SUBDIVISION OF TM PARCEL 881
RECORDED AS PLAT NO. 17414
TAX MAP 24 BLOCK 18 PARCELS '264'
2ND ELECTION DISTRICT REF: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND
PARCEL '811'

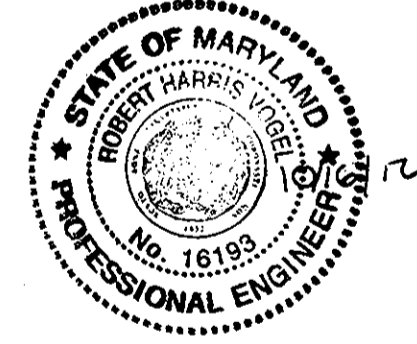
ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: RHV/RJ
DRAWN BY: RJ
CHECKED BY: RHV
DATE: 03-30-2007
SCALE: AS SHOWN
W.O. NO.: 03-43.00
13 SHEET OF 28



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

10/13/12
ROBERT H. VOGEL, P.E. NO. DATE



OWNERS
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MARY WURTZER OLLIBER
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(410) 480-0023

APPROVED: DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways Date 6-25-07

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Division of Land Development Date 7/2/07

Chief, Development Engineering Division Date 4/29/07

No.	REVISION	DATE
5	SHOW AS-BUILT ROAD CHANGES AND A STORM DRAIN STA AT 1+9	10/10/12
4	ADD PRIVATE 12" HDPE ON LOT 34	8/30/12
2	ADD INLINE DRAIN ON LOT 34	6-19-08
1	ADD PHASE III	2-19-08

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN PROFILES

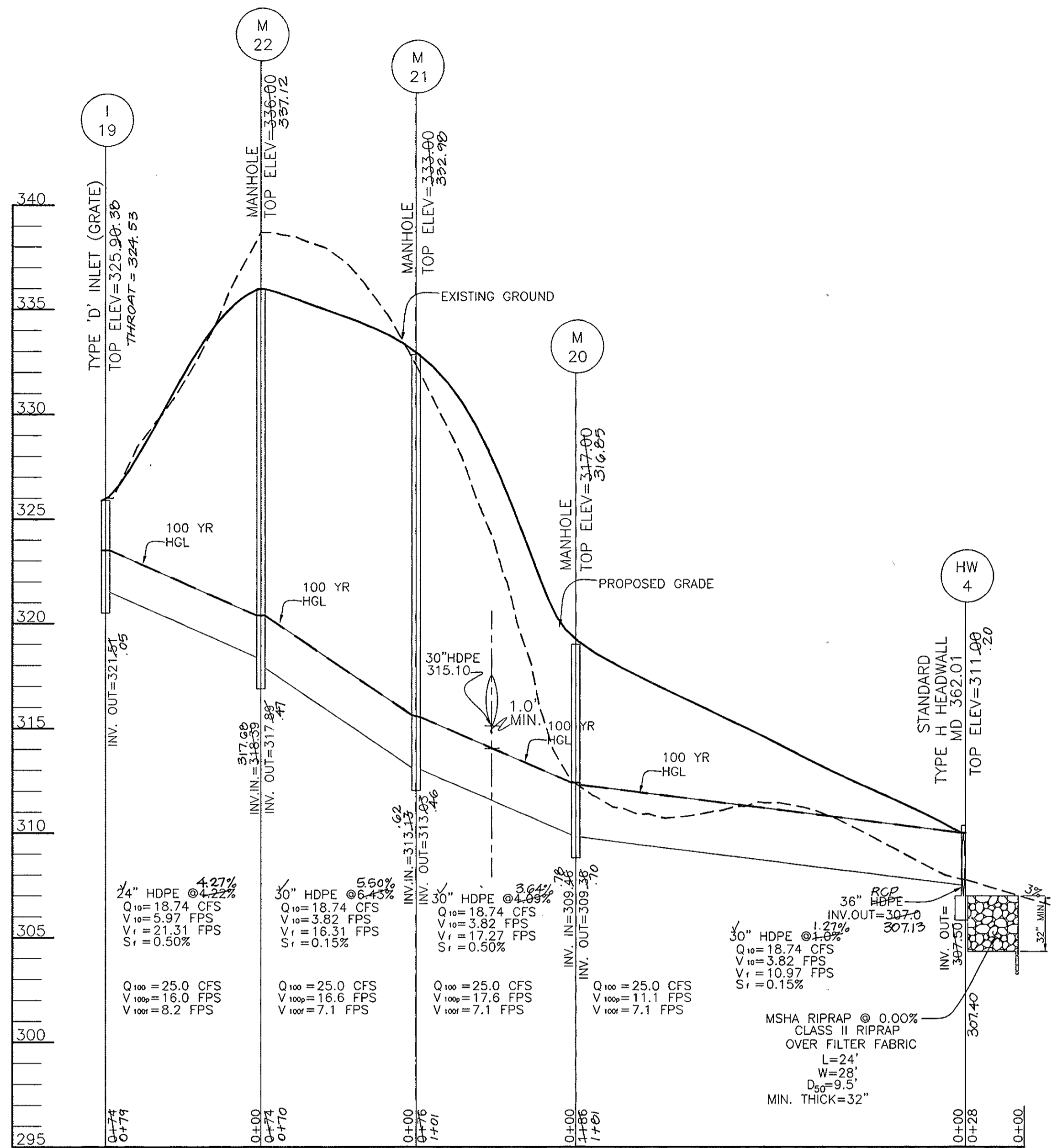
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SUBDIVISION OF TM PARCEL 881

TAX MAP 24 BLOCK 18 PARCELS '264'
REF: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

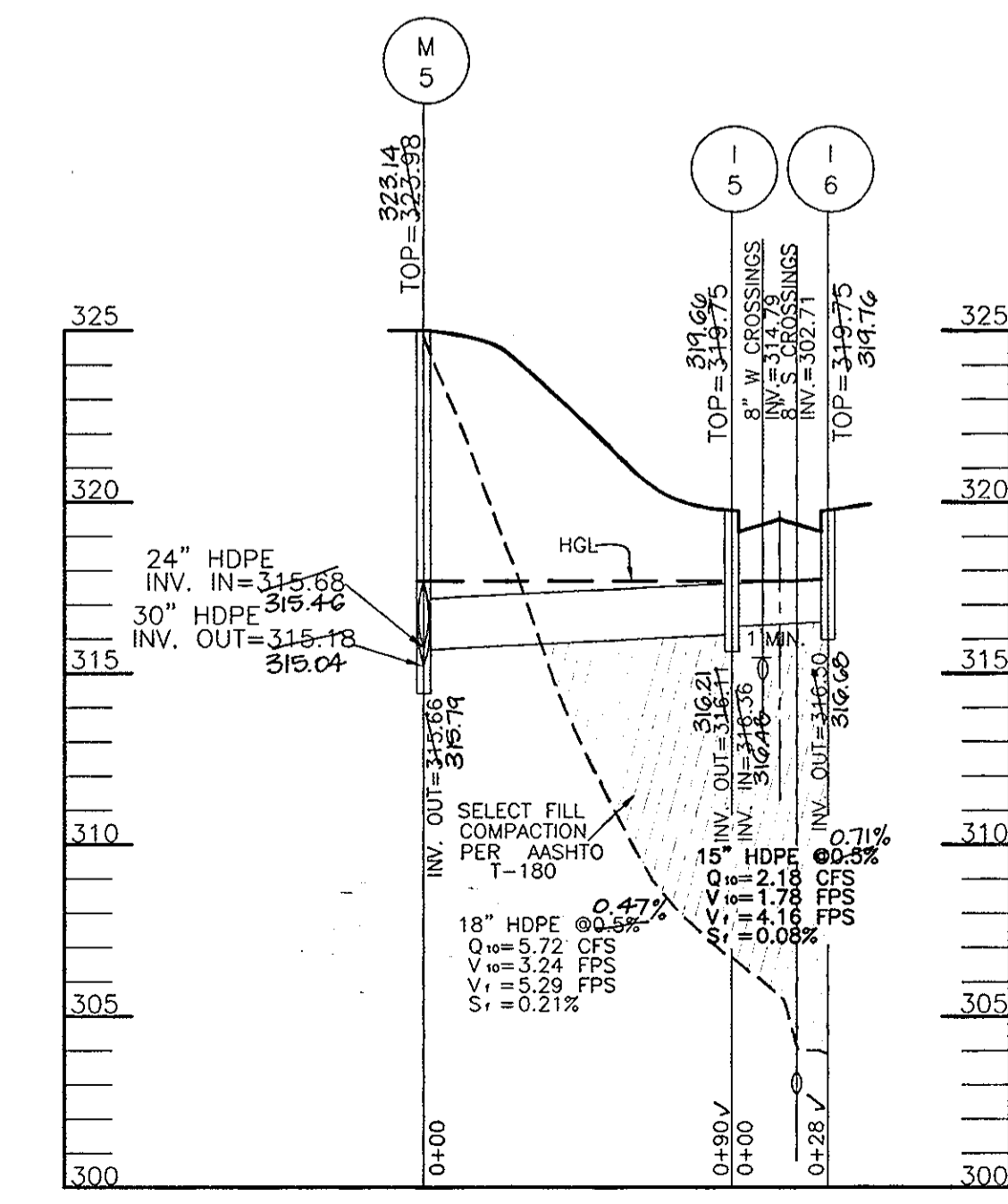
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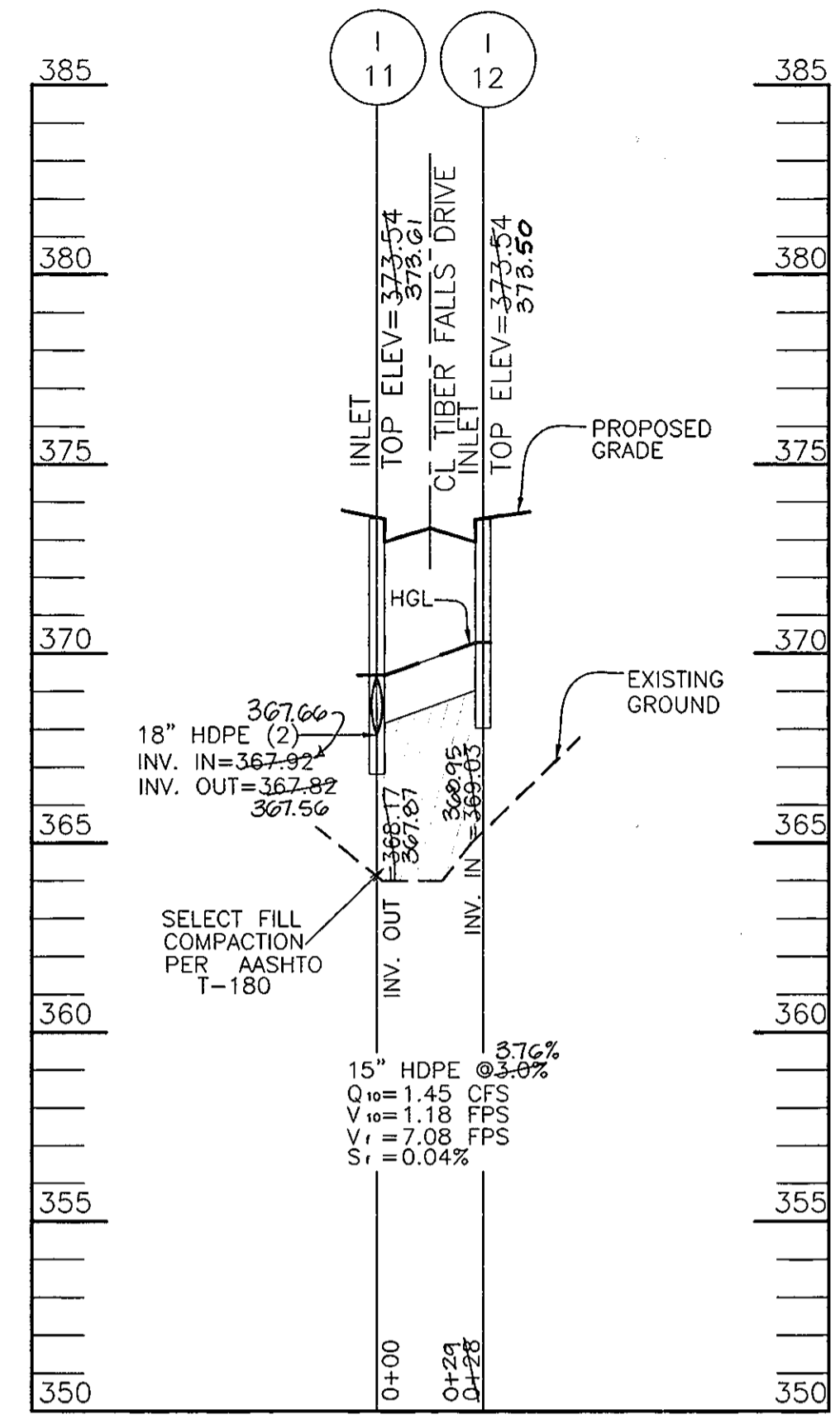
14 SHEET OF 28



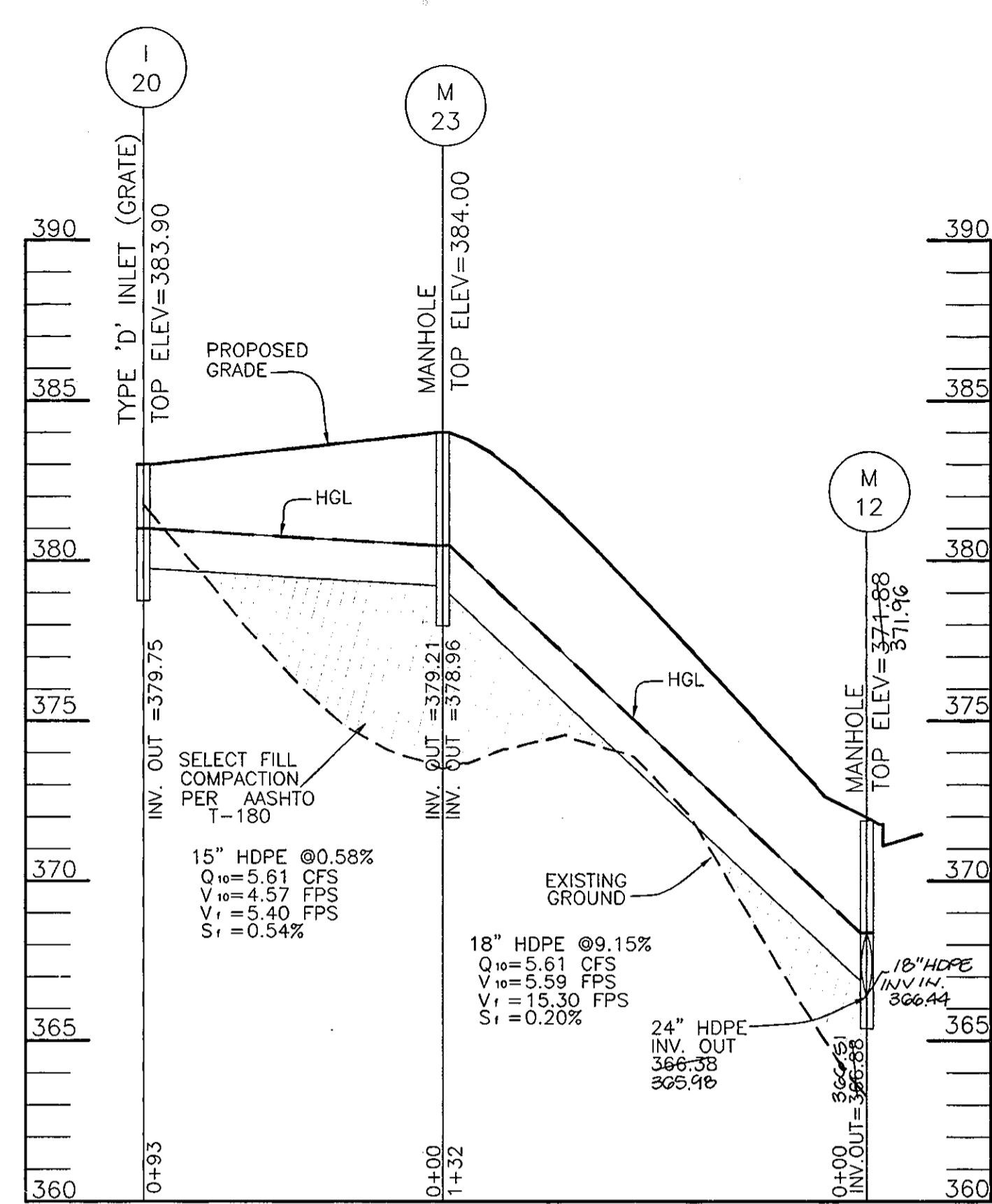
STORM DRAIN PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.



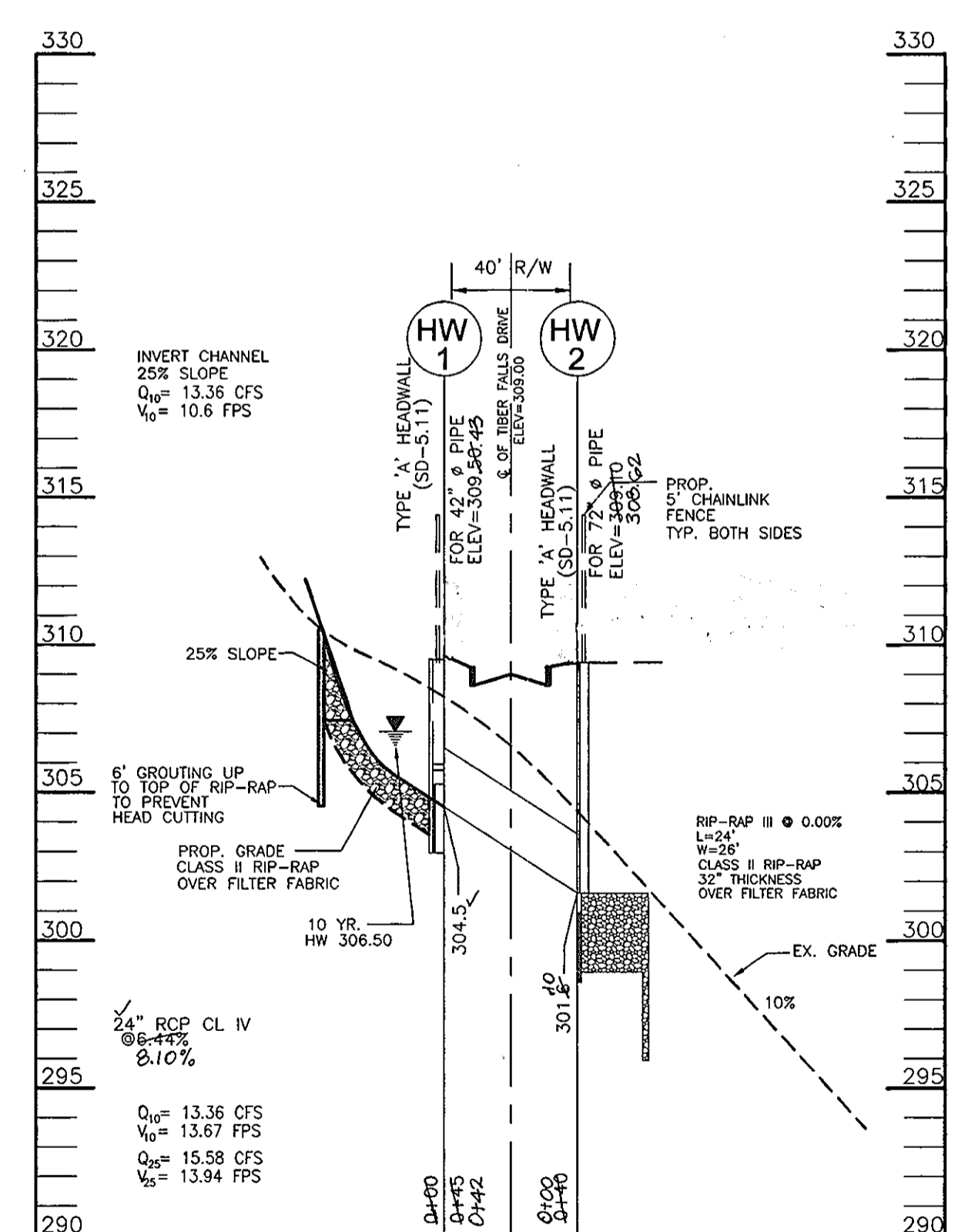
STORM DRAIN PROFILE
SCALE: 1"=50' HORIZ.
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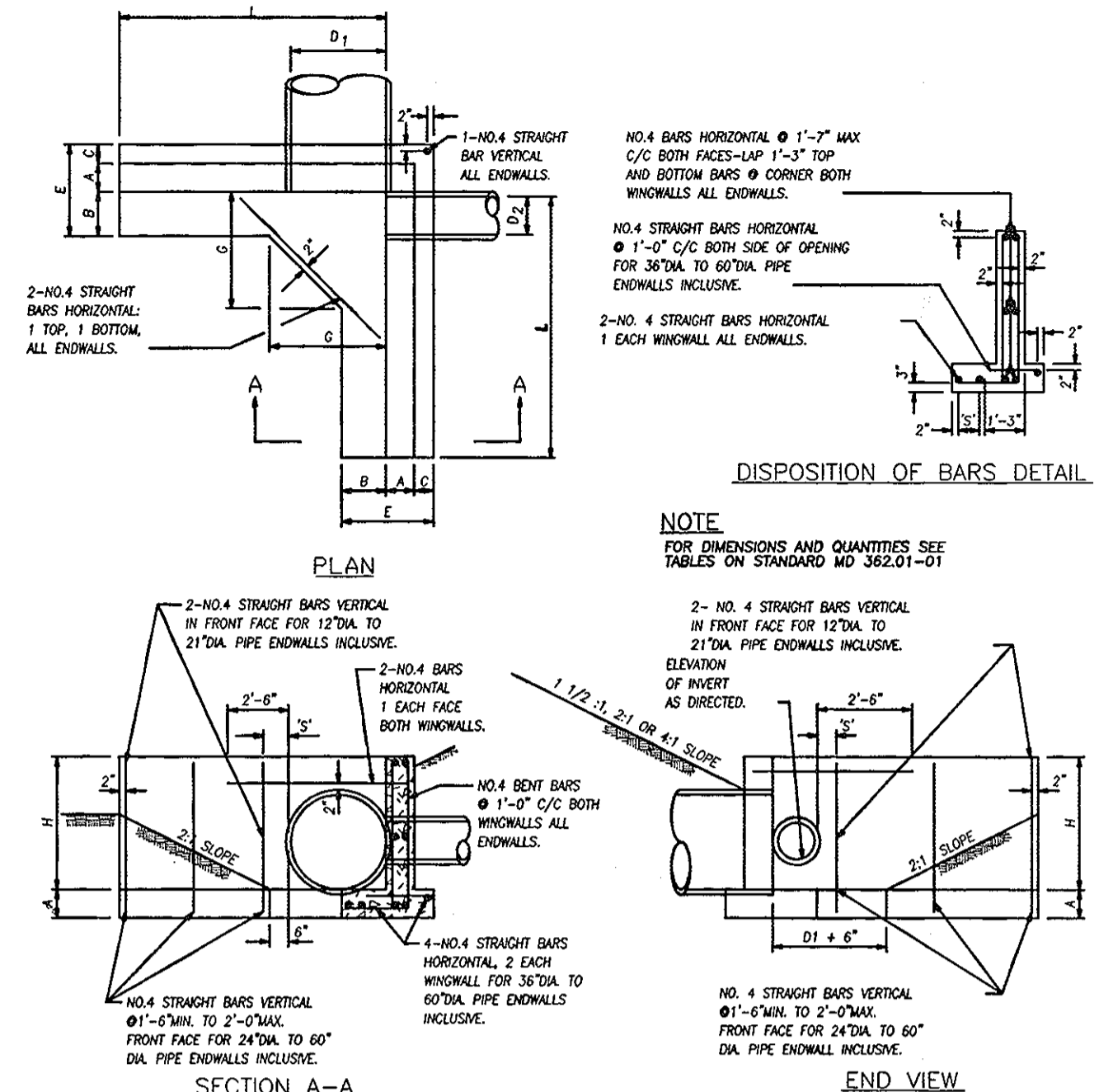
STORM DRAIN PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.



STORM DRAIN PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.



CULVERT PROFILE
SCALE: 1"=50' HORIZ.
1"=5' VERT.



GENERAL NOTES
SPECIFICATIONS: LATEST S.H.A.
CONCRETE SHALL BE MIX NO. 2
REINFORCING: DEFORMED STEEL BARS NO. 4
CHAMFER: PLACE 50% OF R/W, AROUND ENDWALL AS
INDICATED ON THE PLANS.

STANDARD TYPE H ENDWALL
METAL OR CONCRETE ROUND PIPE
STANDARD NO. MD 362.01
DETAIL FOR HW-4
NOT TO SCALE

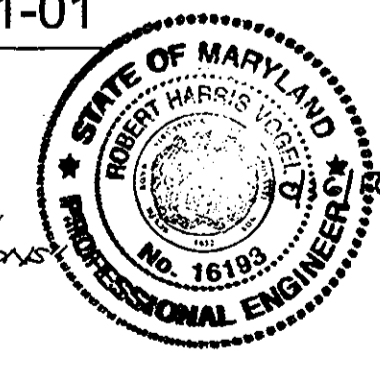
QUANTITIES FOR ESTIMATING PURPOSES ONLY

D ₁	D ₂	A	B	C	E	H	L	G	QUANTITIES	
									CONC. C.Y.	STEEL LBS.
30"	15"	9"	14"	6"	2'-5"	3'-6"	8'-0"	3'-9"	2.63	171
30"	18"	9"	14"	6"	2'-5"	3'-6"	8'-0"	3'-9"	2.62	171
30"	21"	9"	14"	6"	2'-5"	3'-6"	8'-0"	3'-9"	2.60	170
30"	24"	9"	14"	6"	2'-5"	3'-6"	8'-0"	3'-9"	2.58	166
30"	27"	9"	14"	6"	2'-5"	3'-6"	8'-0"	3'-9"	2.55	169
30"	30"	9"	14"	6"	2'-5"	3'-6"	8'-0"	3'-9"	2.53	164
36"	12"	12"	16"	10"	3'-2"	4'-0"	9'-6"	4'-6"	5.15	271
36"	15"	12"	16"	10"	3'-2"	4'-0"	9'-6"	4'-6"	5.14	265
36"	18"	12"	16"	10"	3'-2"	4'-0"	9'-6"	4'-6"	5.12	267
36"	21"	12"	16"	10"	3'-2"	4'-0"	9'-6"	4'-6"	5.09	267
36"	24"	12"	16"	10"	3'-2"	4'-0"	9'-6"	4'-6"	5.07	266
36"	27"	12"	16"	10"	3'-2"	4'-0"	9'-6"	4'-6"	5.04	261
36"	30"	12"	16"	10"	3'-2"	4'-0"	9'-6"	4'-6"	5.00	261
36"	33"	12"	16"	10"	3'-2"	4'-0"	9'-6"	4'-6"	4.96	250
36"	36"	12"	16"	10"	3'-2"	4'-0"	9'-6"	4'-6"	4.92	249

NOTE FOR STANDARD H ENDWALL DETAILS SEE STANDARD MD 362.01

STANDARD TYPE H ENDWALL
DIMENSIONS & QUANTITIES
STANDARD NO. MD 362.01-01
NOT TO SCALE

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."
ROBERT H. VOGEL, P.E. 10/19/12
DATE 10/16/12



OWNERS
ALBERT'S STEPHEN WALTERS
MARY WURTZER OULLIPER
4020 OLD COLUMBIA PIKE
ELLCOTT CITY, MARYLAND 21043
PARCEL '811'
(410) 465-4649
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., STE. 301
ELLCOTT CITY, MARYLAND 21043
(410) 480-0023
DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., STE. 301
ELLCOTT CITY, MARYLAND 21043
(410) 480-0023

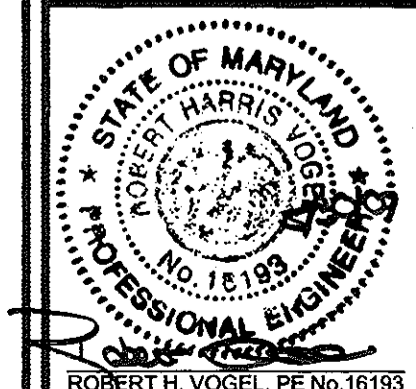
3	REMOVE GUARDRAIL	7/3/12
1	ADD PHASE III	2-19-08
NA	REVISION	DATE

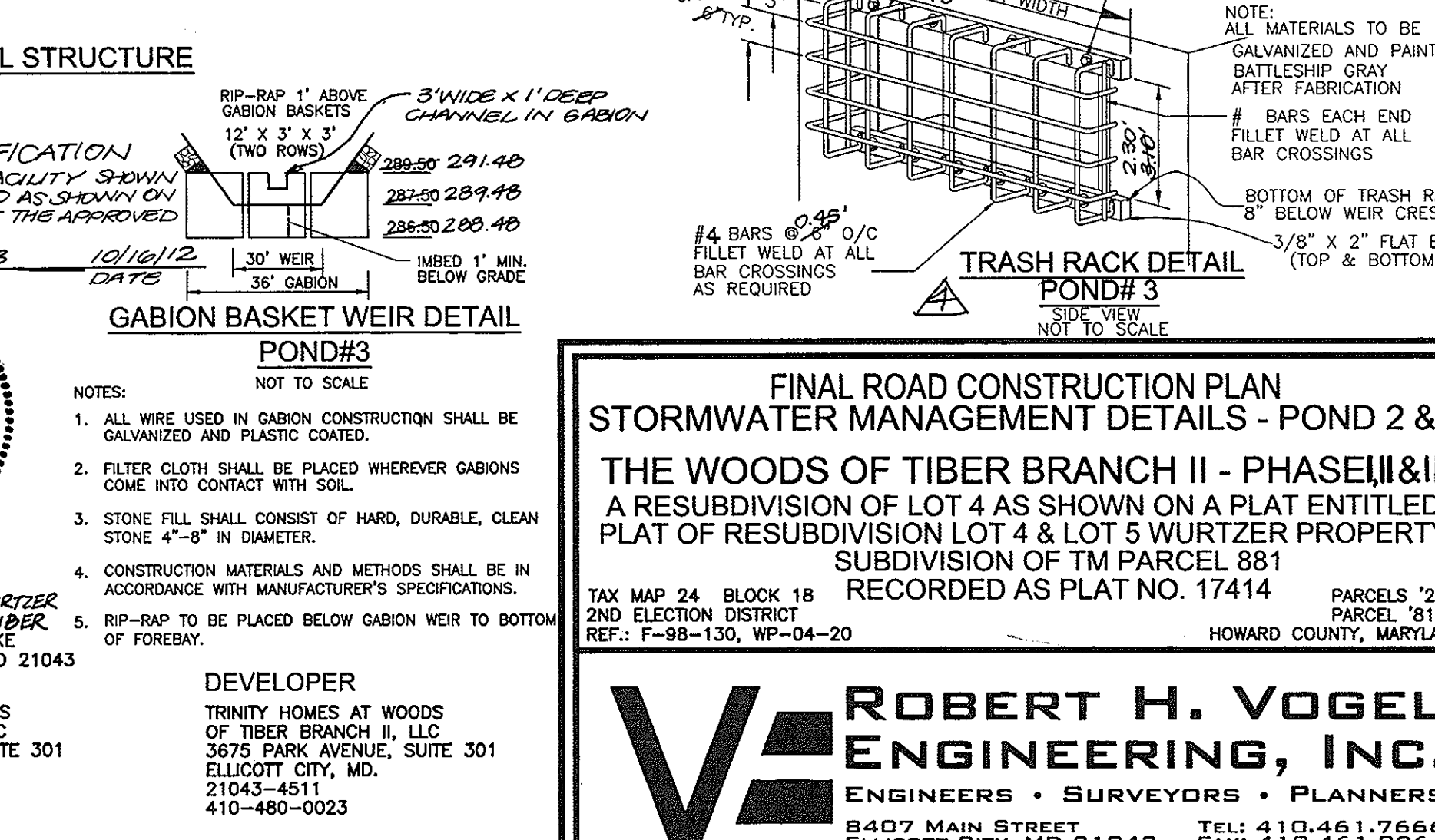
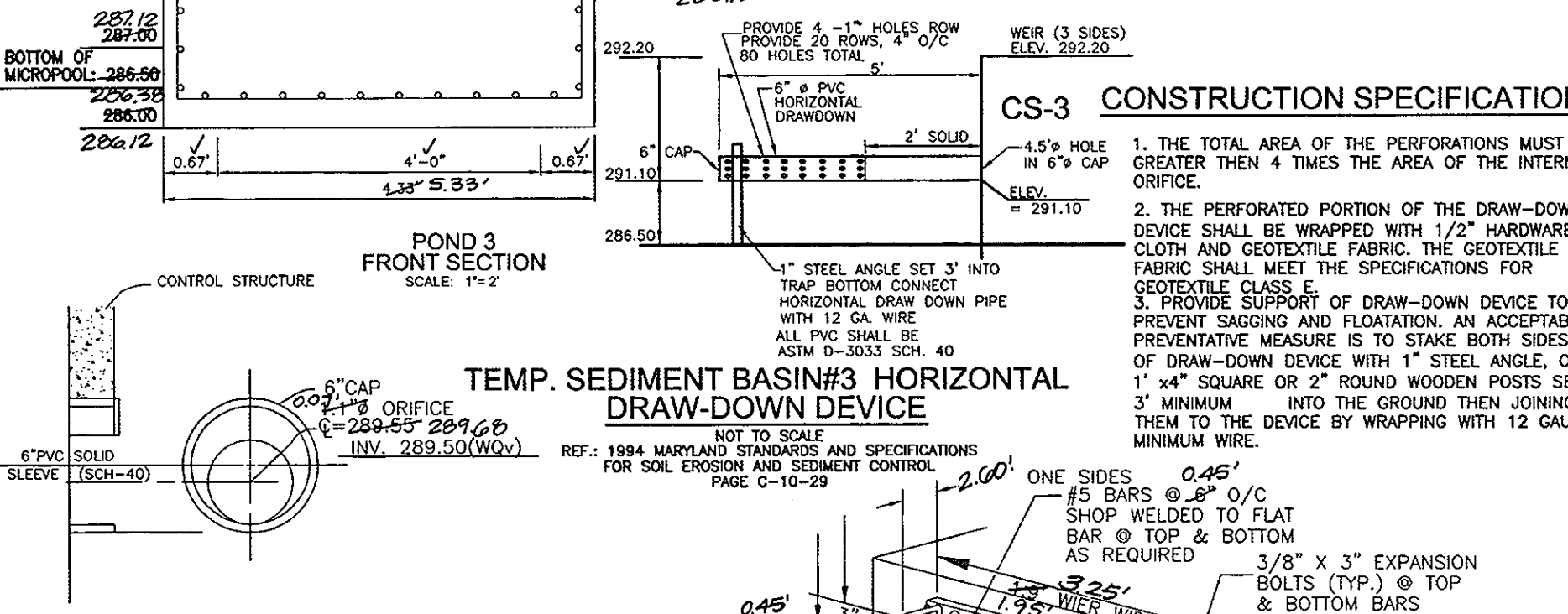
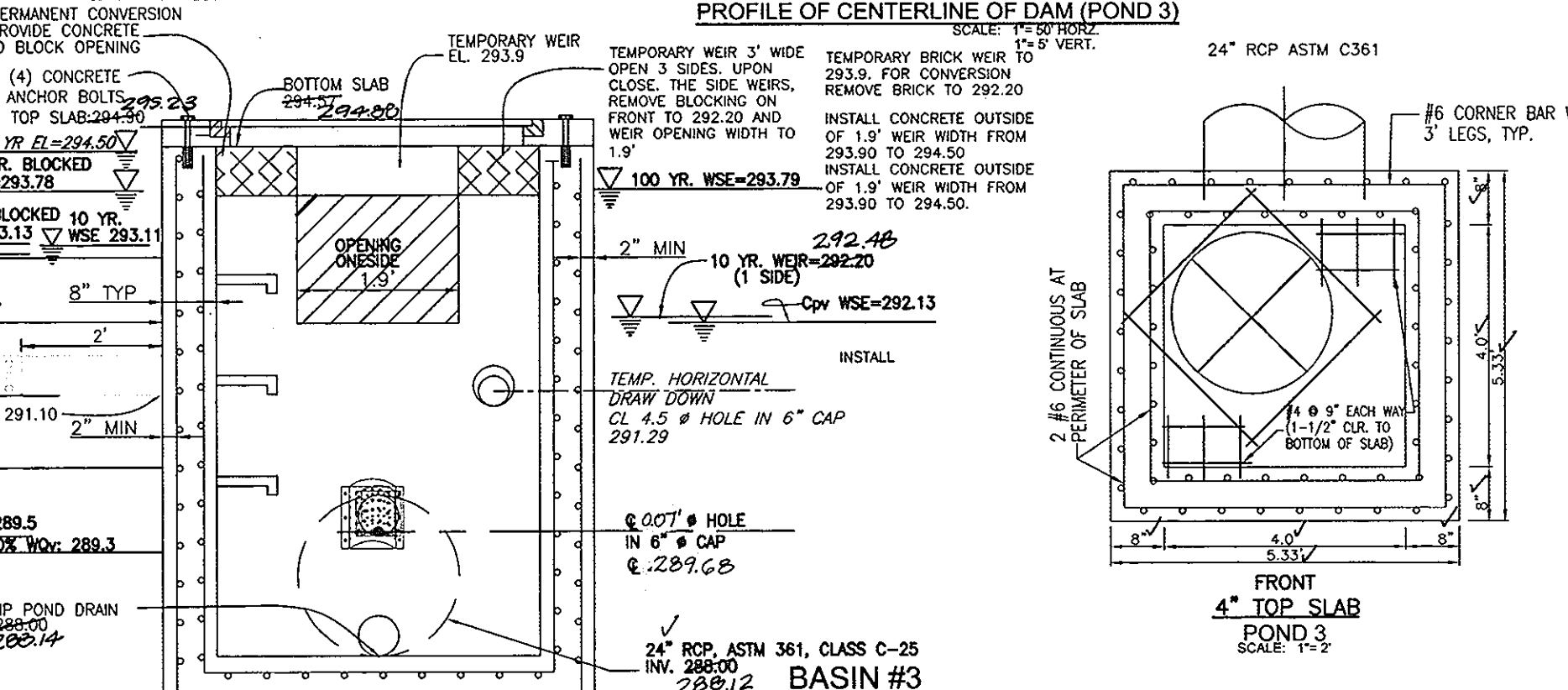
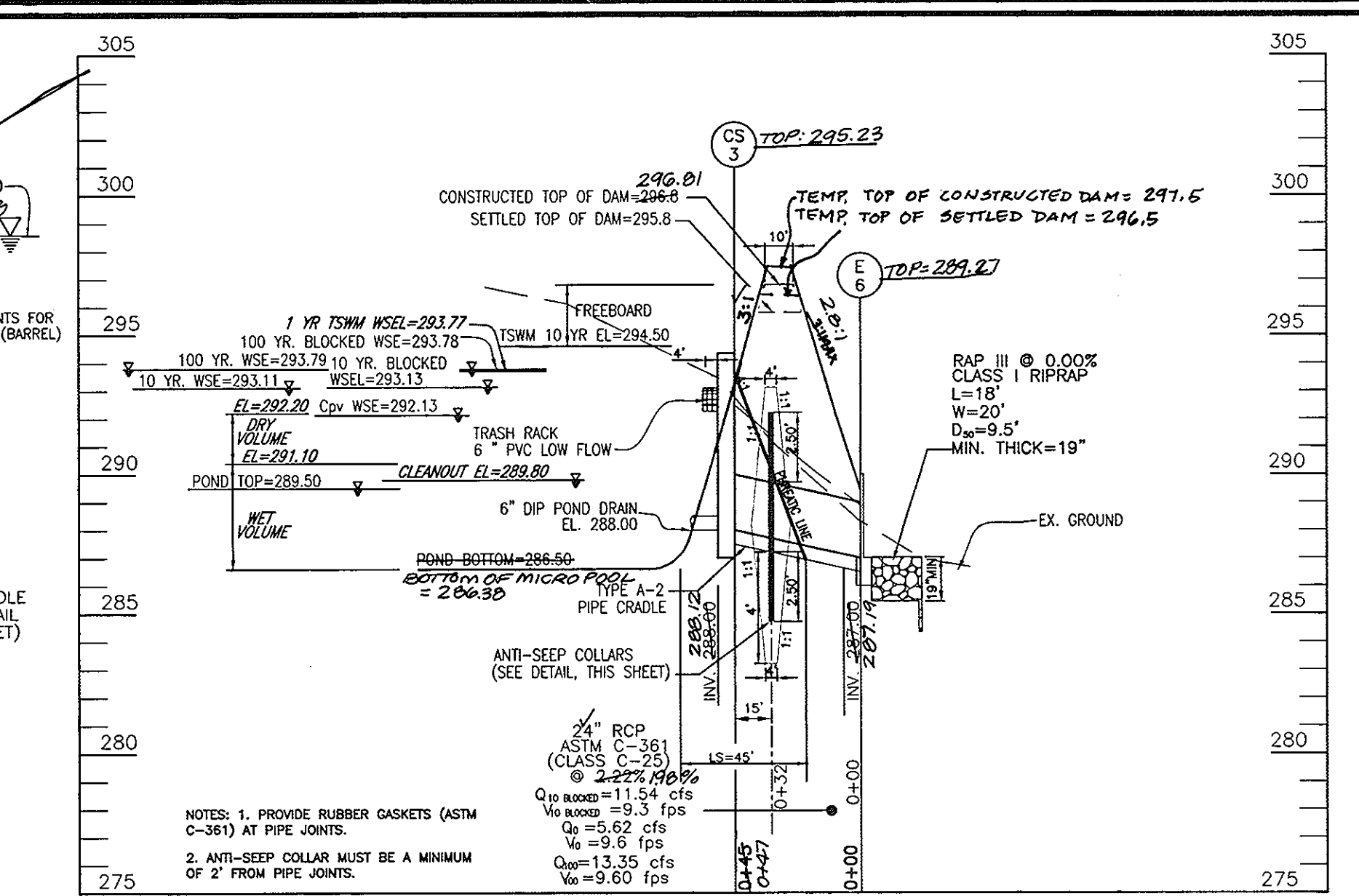
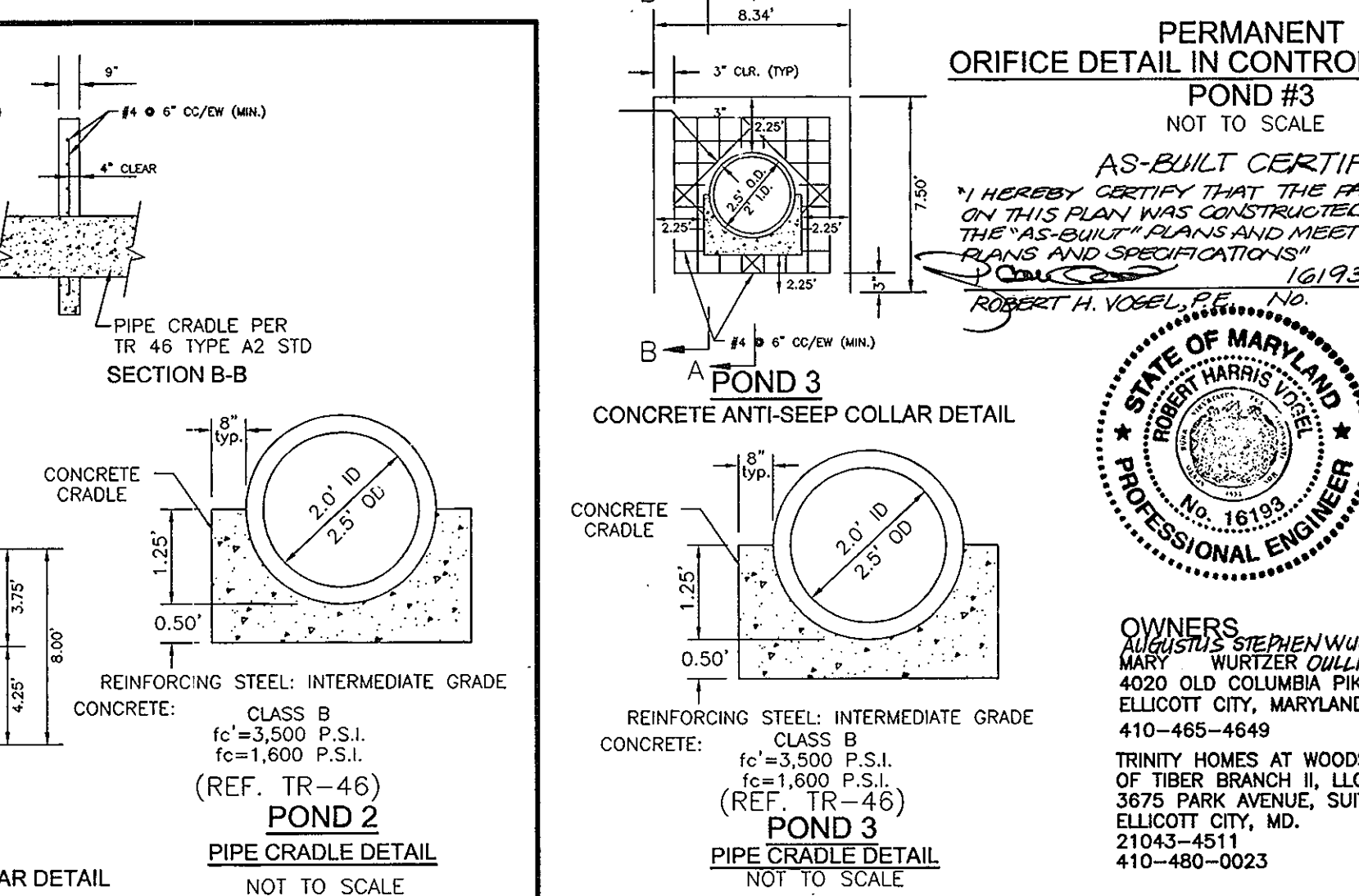
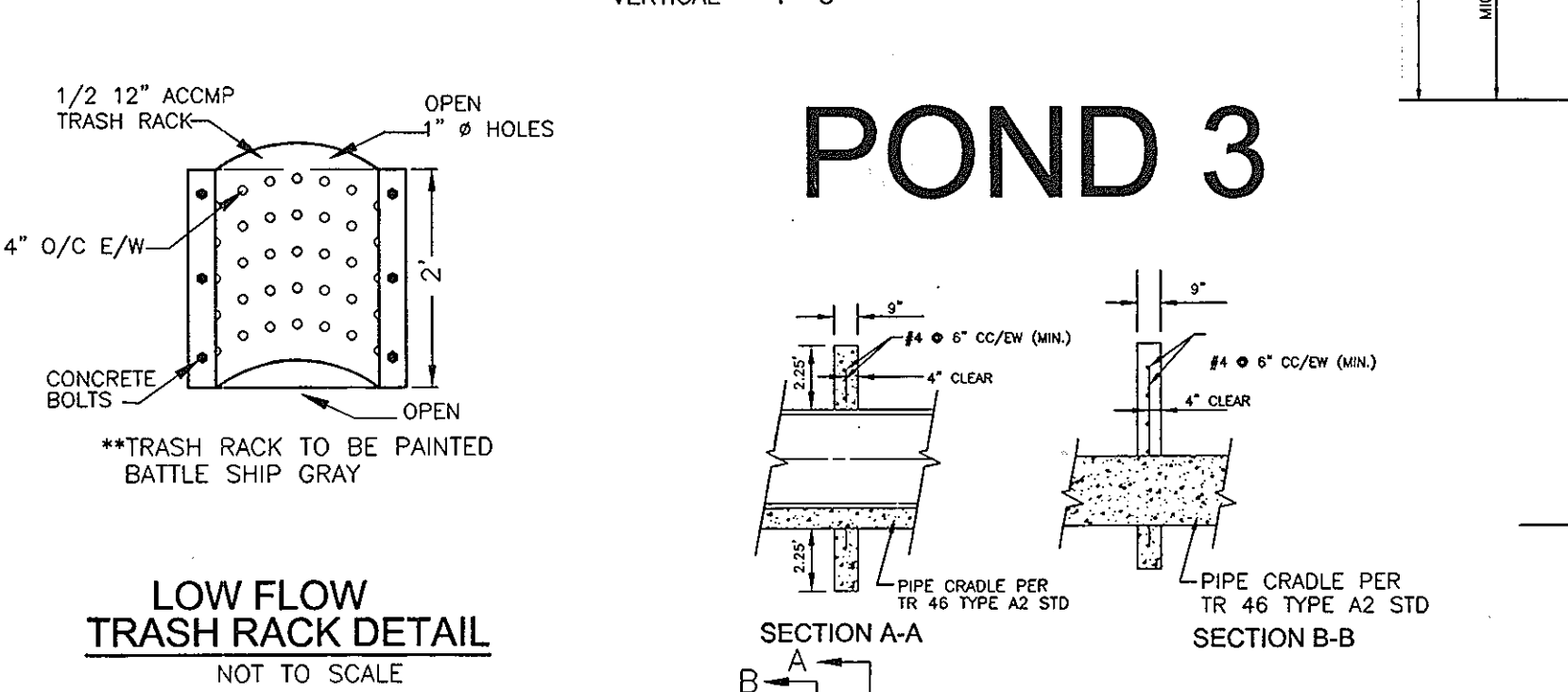
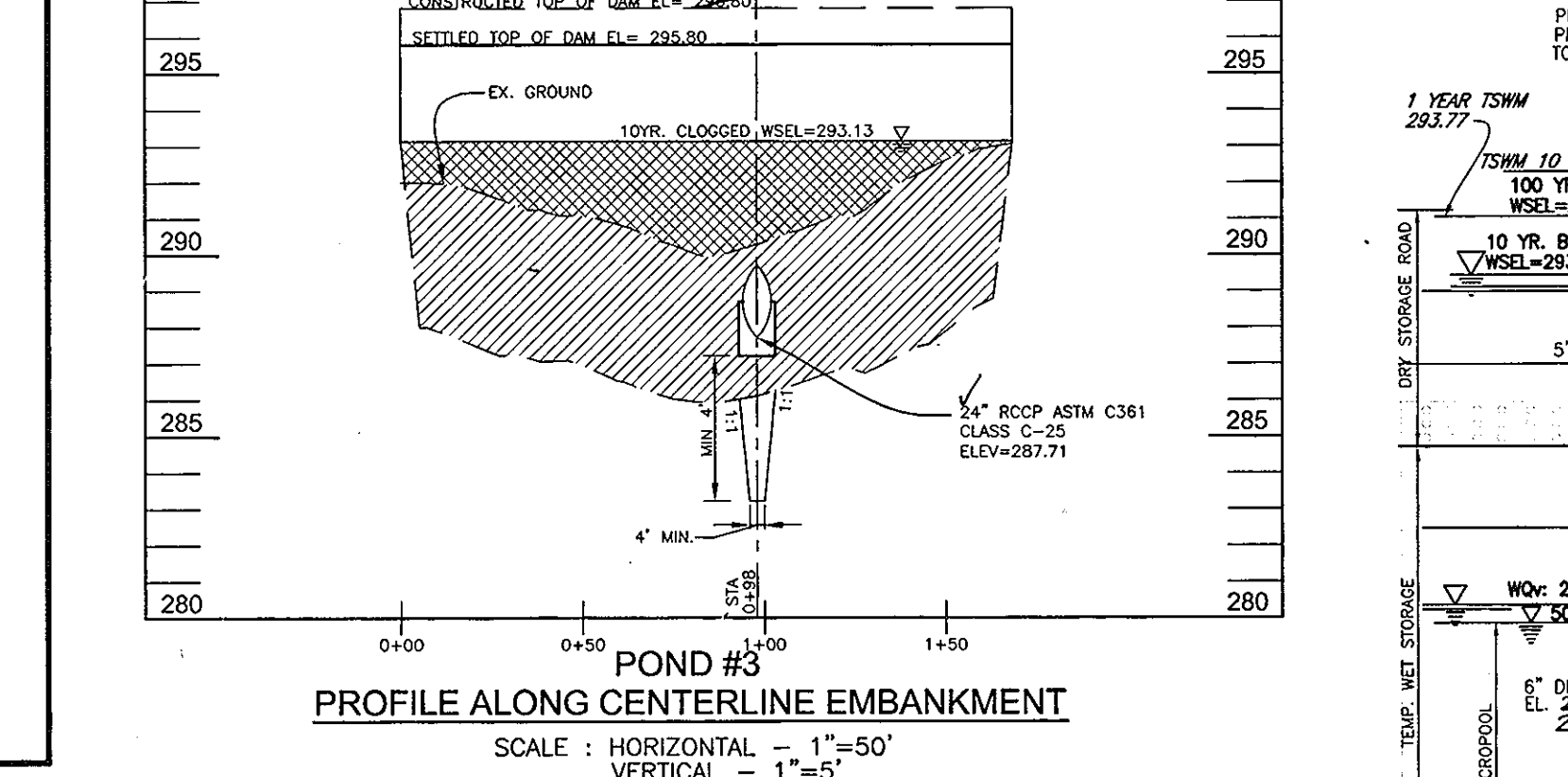
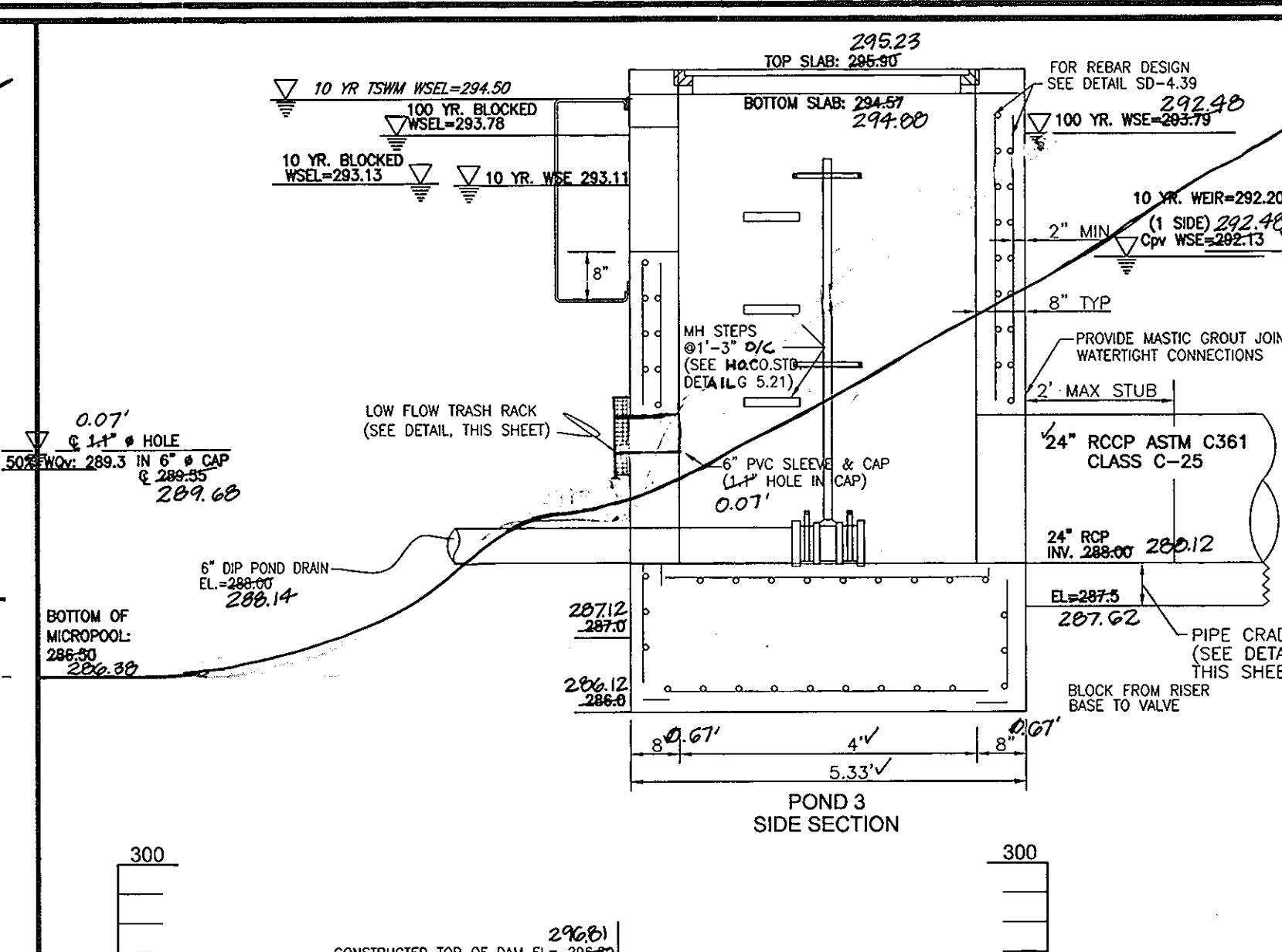
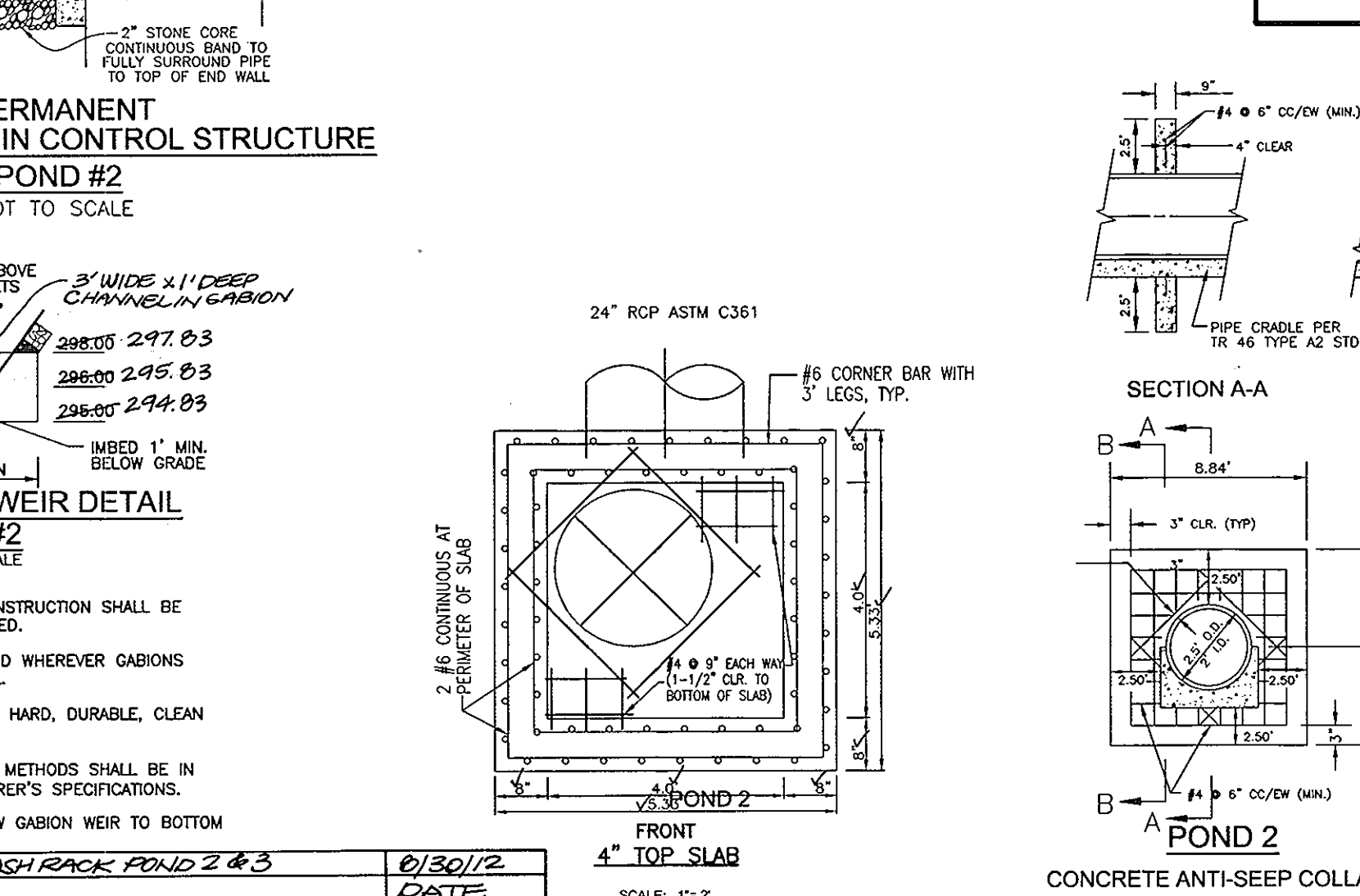
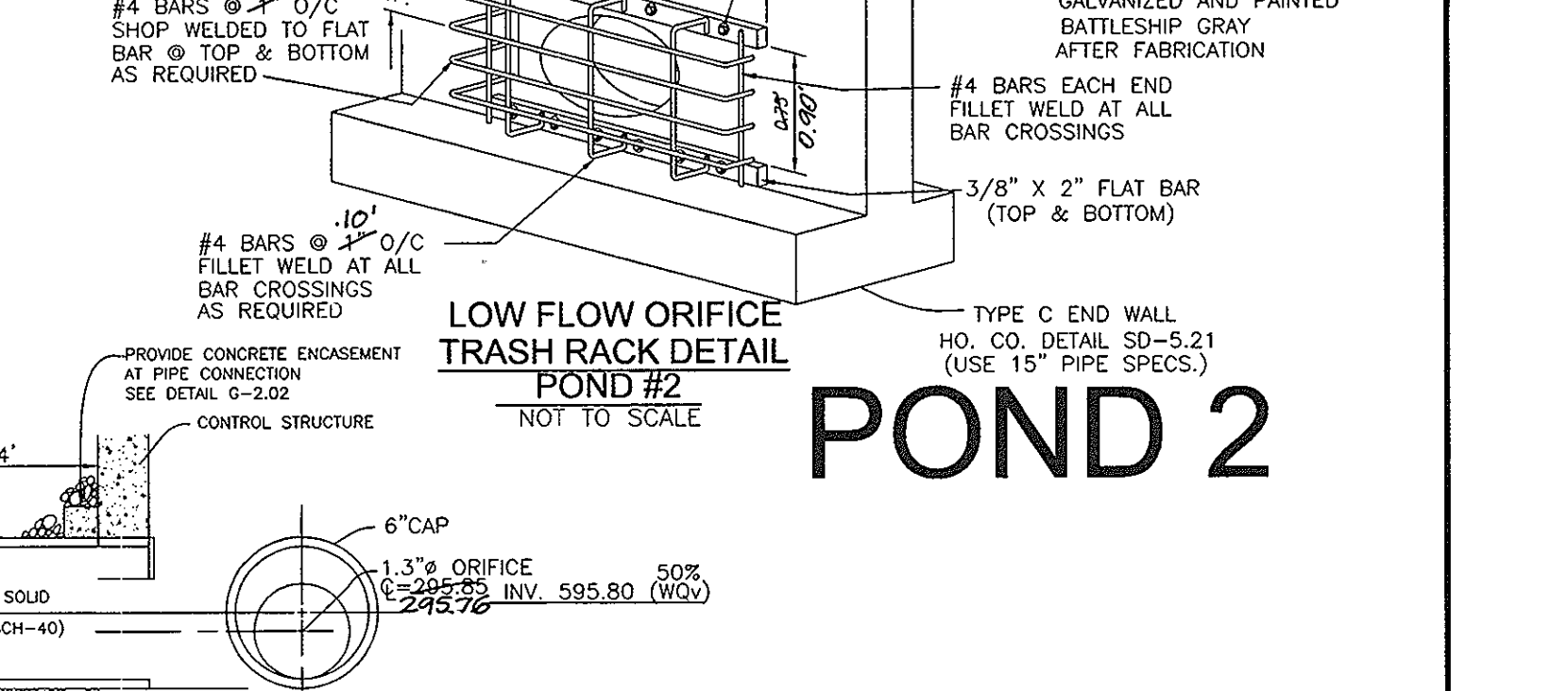
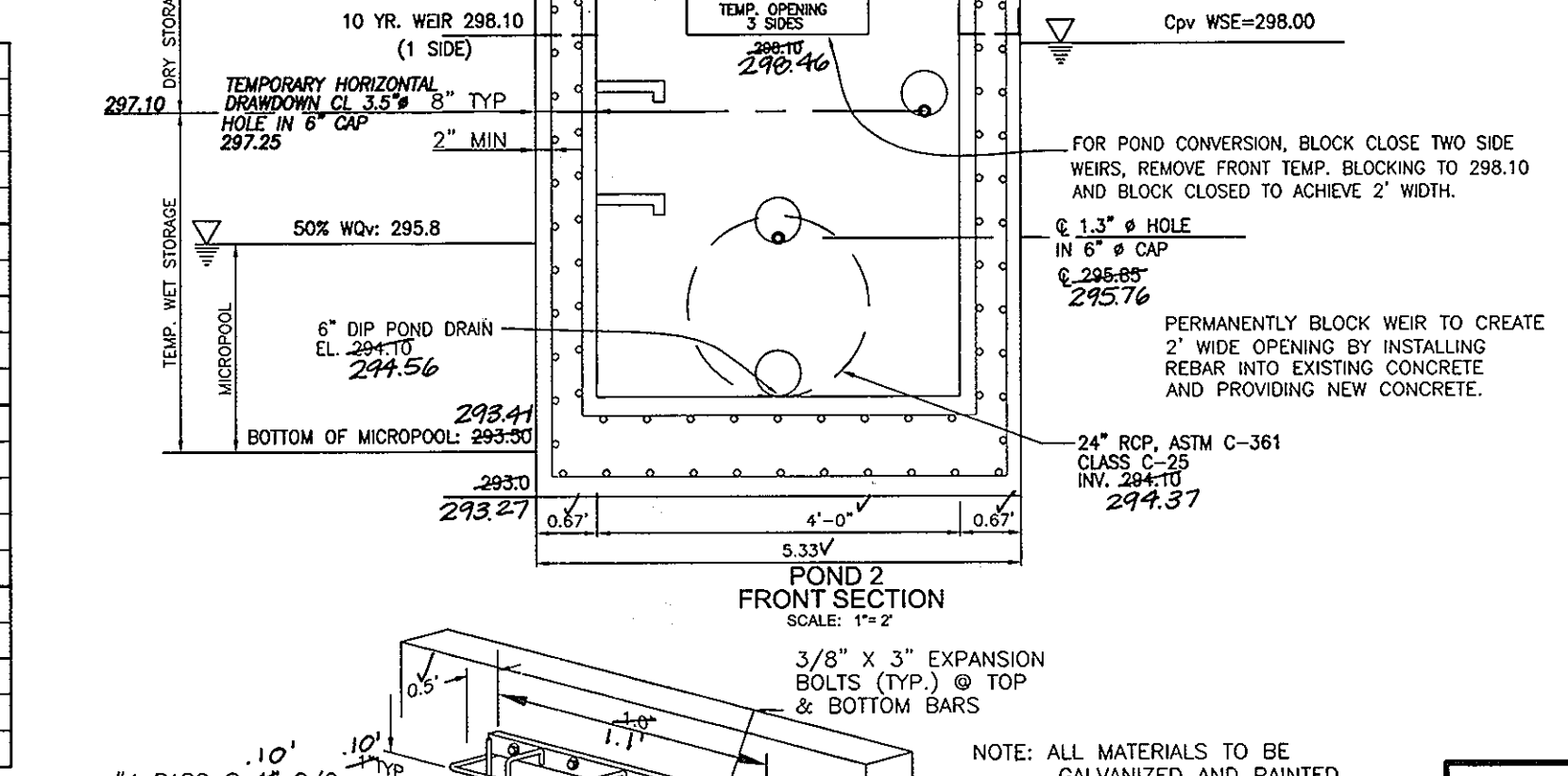
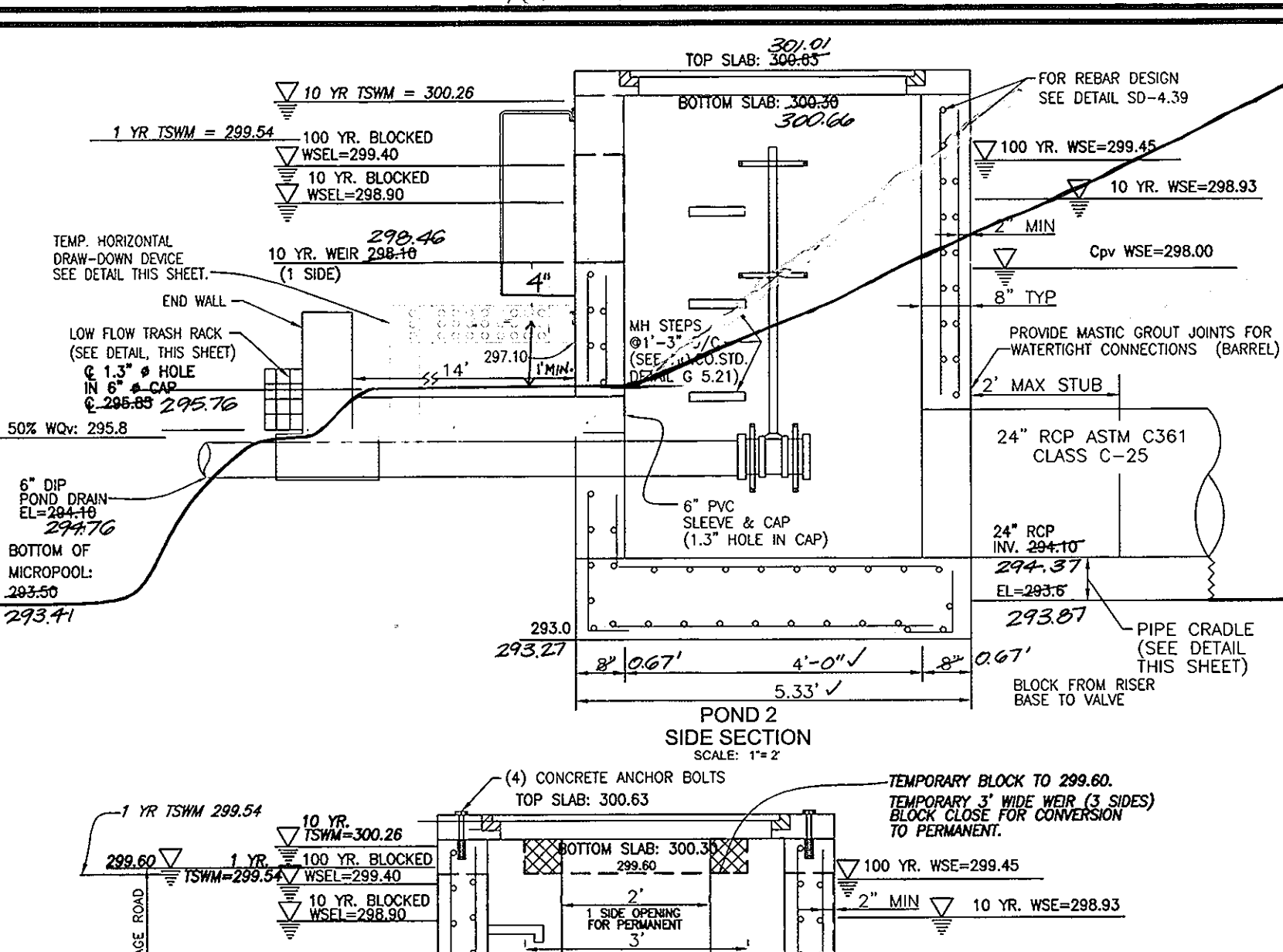
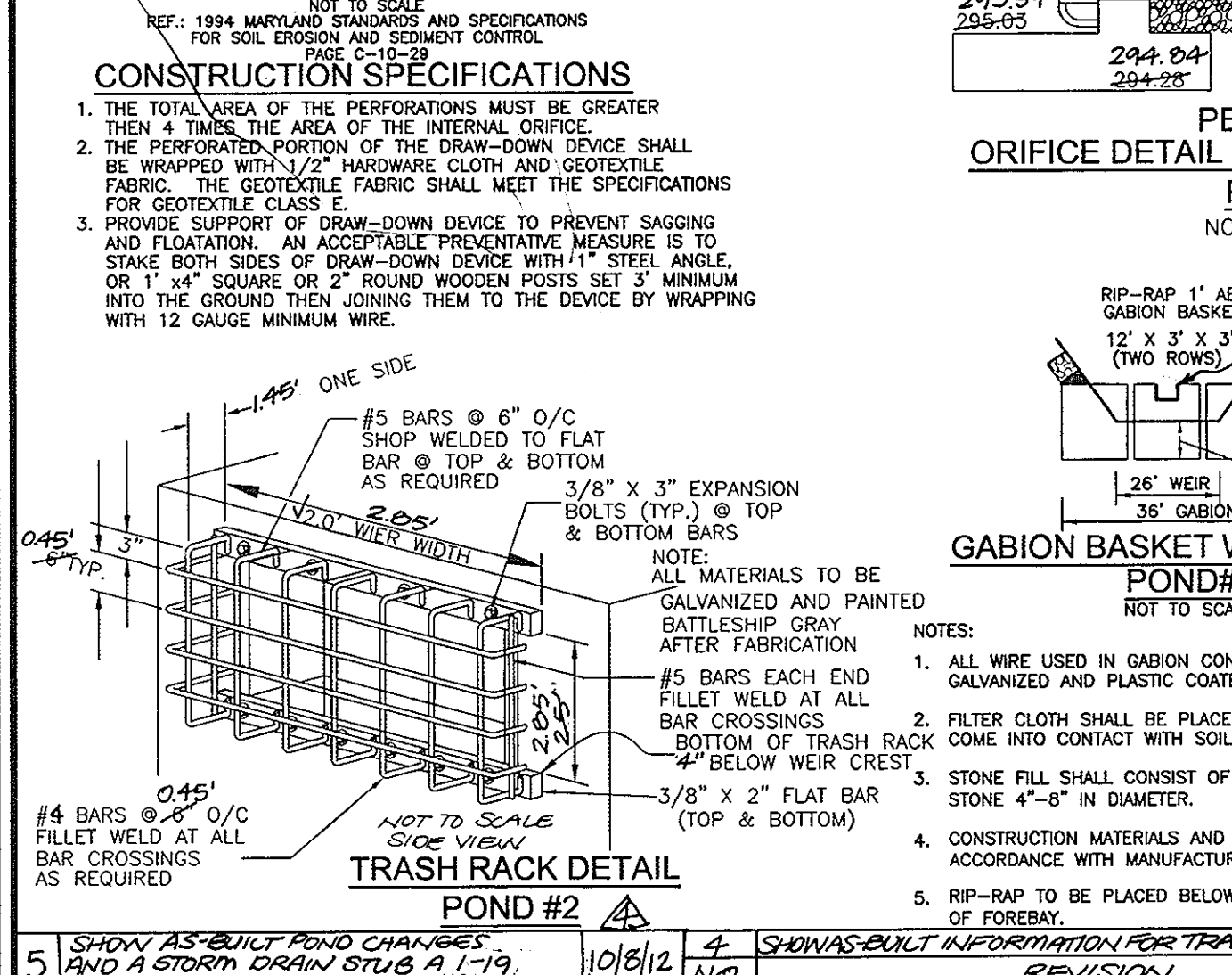
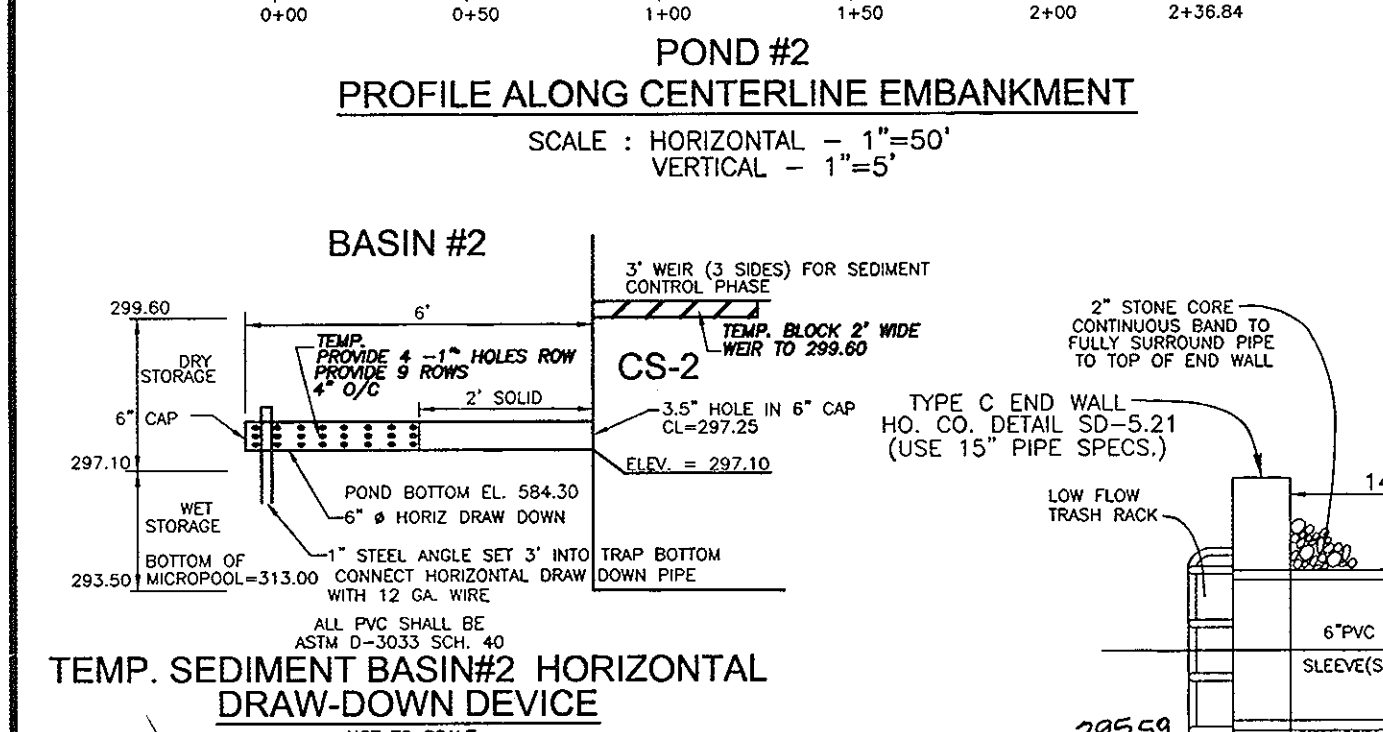
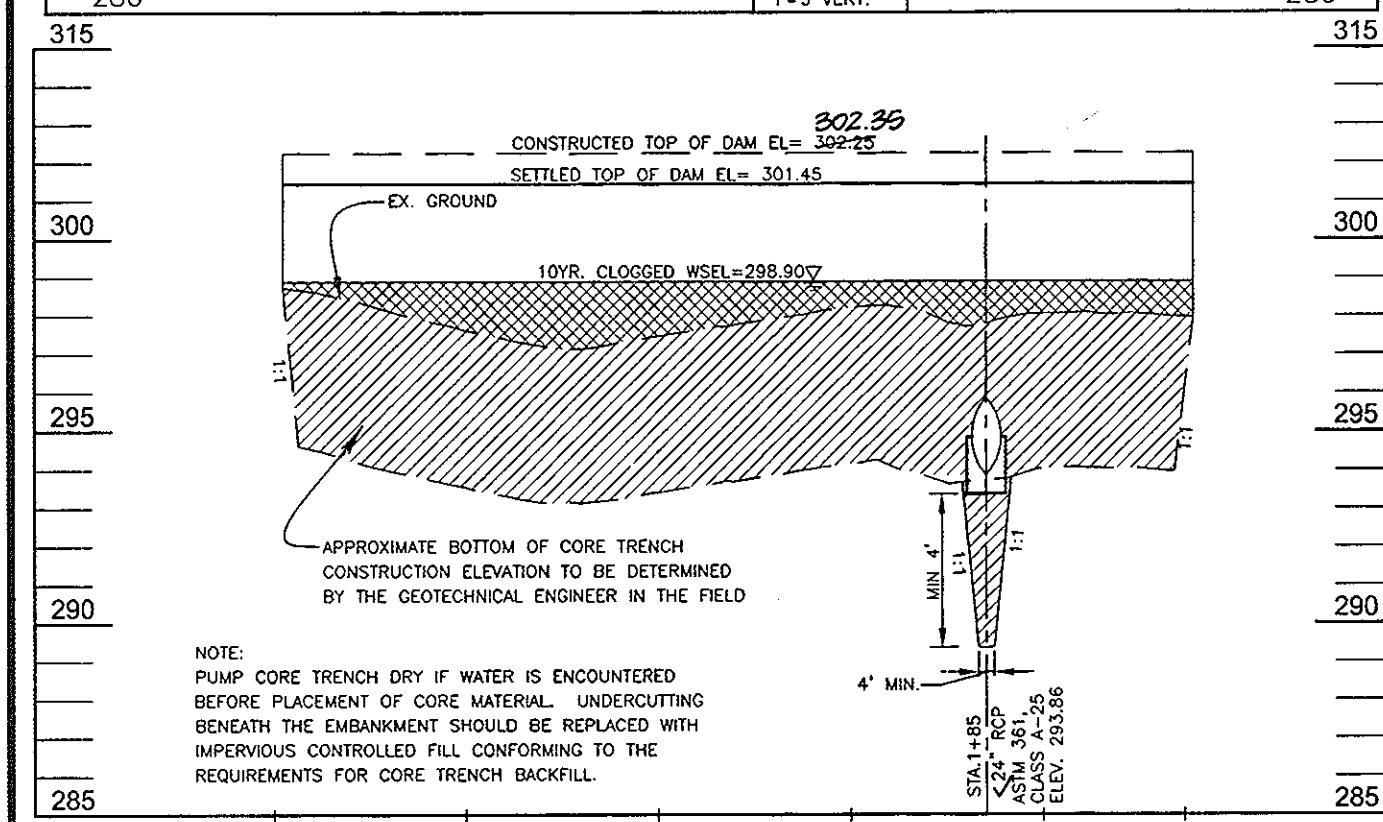
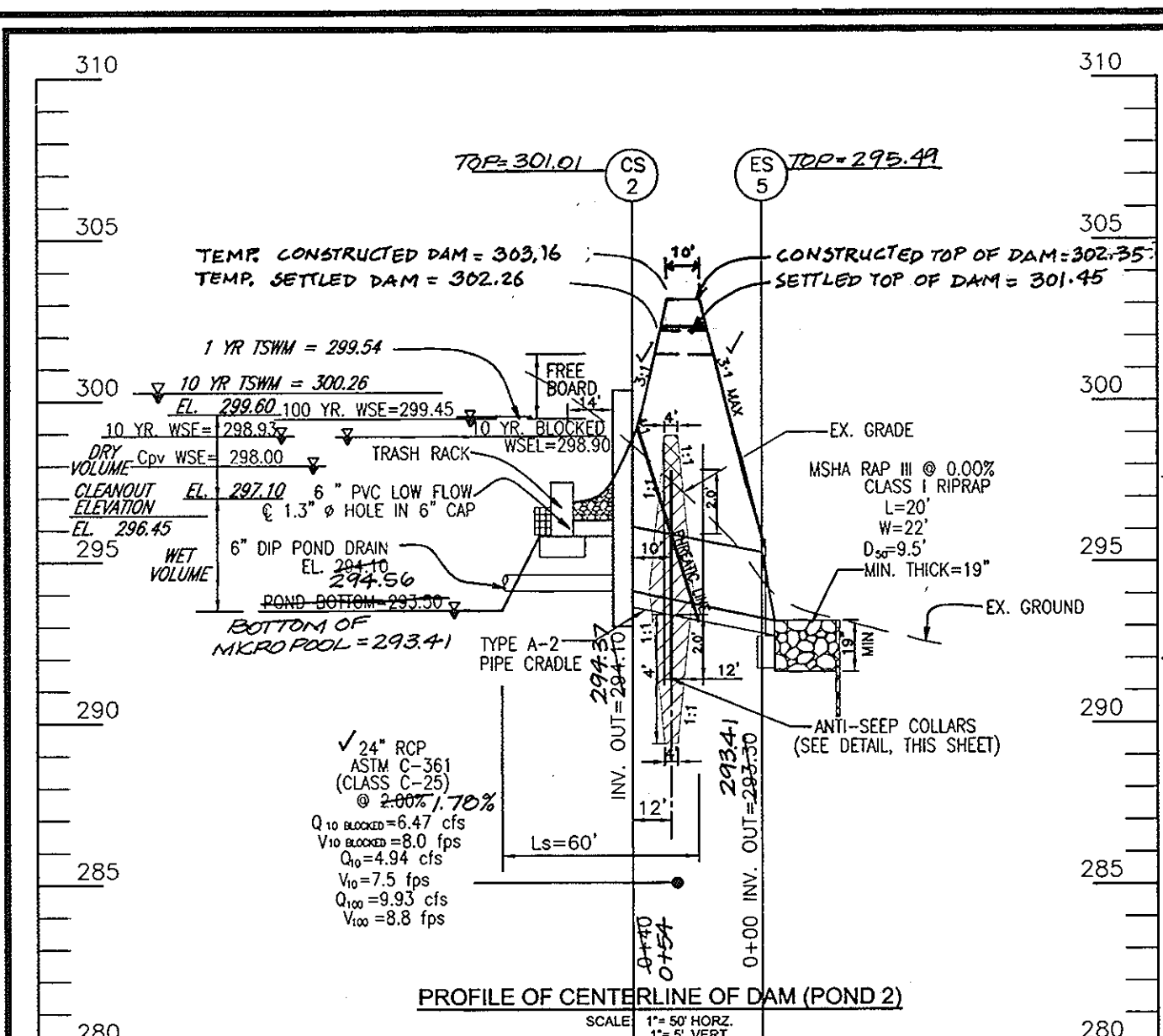
APPROVED: DEPARTMENT OF PUBLIC WORKS
William J. ... 6-25-07
Chief, Bureau of Highways Date
APPROVED: DEPARTMENT OF PLANNING AND ZONING
... 7/2/07
Chief, Division of Land Development Date
... 6/29/07
Chief, Development Engineering Division Date

FINAL ROAD CONSTRUCTION PLAN
STORM DRAIN PROFILES
THE WOODS OF TIBER BRANCH II - PHASE III & III
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY
SUBDIVISION OF TM PARCEL 881
RECORDED AS PLAT NO. 17414 PARCELS '264'
TAX MAP 24 BLOCK 18 2ND ELECTION DISTRICT
REF.: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: RHW/RJ
DRAWN BY: RJ
CHECKED BY: RHW
DATE: 03-30-2007
SCALE: AS SHOWN
S.W. NO.: 03-43.00





APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chief, Division of Land Development
7/2/09
10/6/12

DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT...
Michael Pflaw
5.22.07

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT...
Robert H. Vogel

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
USDA - NATURAL RESOURCES CONSERVATION SERVICE
6/21/07

APPROVED: DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways
6-25-07
2-19-08

FINAL ROAD CONSTRUCTION PLAN
STORMWATER MANAGEMENT DETAILS - POND 2 & 3
THE WOODS OF TIBER BRANCH II - PHASE II & III
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY SUBDIVISION OF TM PARCEL 881
RECORDED AS PLAT NO. 17144
TAX MAP 24 BLOCK 18
2ND ELECTION DISTRICT
REF: F-98-130, WP-04-20
PARCELS '264' PARCEL '811'
HOWARD COUNTY, MARYLAND

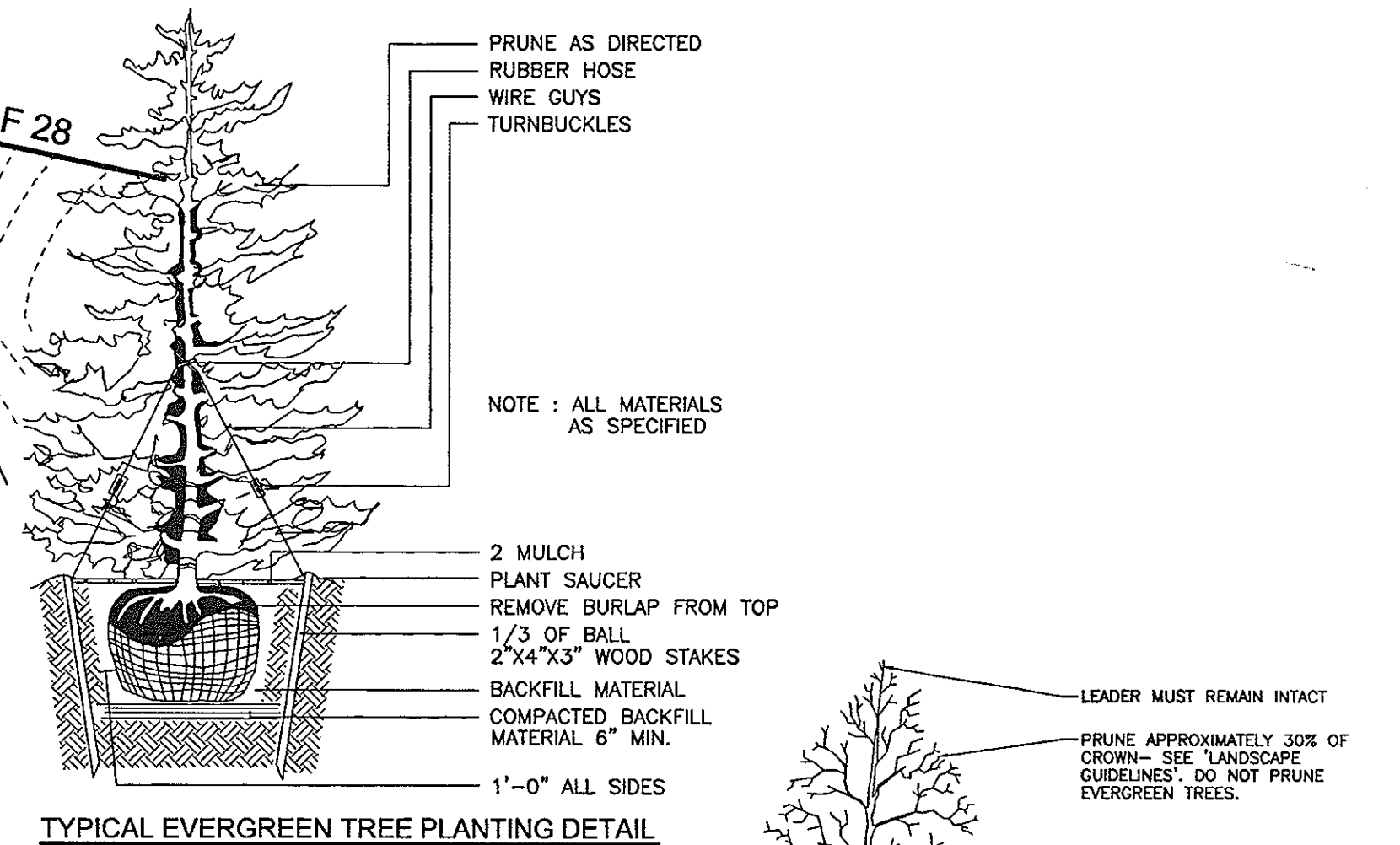
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ELLCOTT CITY, MD 21043
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- LEGEND**
- EXISTING CONTOUR
 - PROPOSED CONTOUR
 - EXISTING TREES TO REMAIN
 - PROPOSED STREET TREE
 - SOILS
 - AREA OF 15 TO 24.9 PERCENT SLOPES
 - AREA OF 24 PERCENT OR GREATER SLOPES
 - FOREST CONSERVATION AREA (RETENTION)
 - FOREST CONSERVATION AREA (REFORESTATION)
 - WETLANDS
 - BG&E EASEMENT
 - NO WOODY BUFFER
 - WETLANDS BUFFER
 - STREAM BUFFER
 - PROP. STREET LIGHT
 - PROP. STREET SIGNS
 - RECREATION OPEN SPACE
 - PRIVATE ACCESS EASEMENT
 - FOREST CONSERVATION EASEMENT (RETENTION)
 - FOREST CONSERVATION EASEMENT (REFORESTATION)
 - PRIVATE DRAINAGE & UTILITY EASEMENT
 - PUBLIC SIGHT DISTANCE EASEMENT
 - WETLANDS
 - PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT
 - EXISTING PUBLIC SEWER EASEMENT
 - LANDSCAPE PERIMETER
 - FOREST CONSERVATION SIGN

SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	GROUP
BBr2	BRANDYWINE LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
Brc2	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
Brc3	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	C
Brd2	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED	C
Brd3	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	C
Brd	BRANDYWINE LOAM, 25 TO 60 PERCENT SLOPES	C
Co	CODORUS SILT LOAM	C
Gnb2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
KeB2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
KeC2	KELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	D
Mb2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
Mic2	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
Msd	MONTALTO AND RELAY VERY STONY SILT LOAMS, 3 TO 25 PERCENT SLOPES	B/C
Nec2	NESHAMINY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
Wob	WATCHUNG SILT LOAM, 3 TO 8 PERCENT SLOPES	D

PAGES 16 & 20 OF THE HOWARD COUNTY SOIL SURVEY



- NOTES**
- SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIALS, PRODUCT, AND PROCEDURE SPECIFICATIONS.
 - SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
 - PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
 - KEEP MULCH 1" FROM TRUNK.
 - SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
 - TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.

LEGEND

- RECREATION OPEN SPACE
- NON-CREDITED OPEN SPACE
- STORMWATER MANAGEMENT EASEMENT
- PUBLIC DRAINAGE & UTILITY EASEMENT
- PUBLIC SIDEWALK EASEMENT
- PUBLIC WATER & UTILITY EASEMENT
- PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25

OWNERS
TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD, 21043-4511
 410-480-0023

DEVELOPER
TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD, 21043-4511
 410-480-0023

Michael Riem
 DNR QUALIFIED FOREST PROFESSIONAL
 JOHN CANOLES
 ECO-SCIENCE PROFESSIONALS, INC.
 DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE

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

TREE PLANTING AND STAKING
 DECIDUOUS TREES UP TO 2-1/2" CALIPER
 NOT TO SCALE

No.	ADD PHASE III	REVISION	DATE
1			2-19-08

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter Z. ... 6-25-07
 Chief, Bureau of Highways Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Janis ... 7/2/09
 Chief, Division of Land Development Date

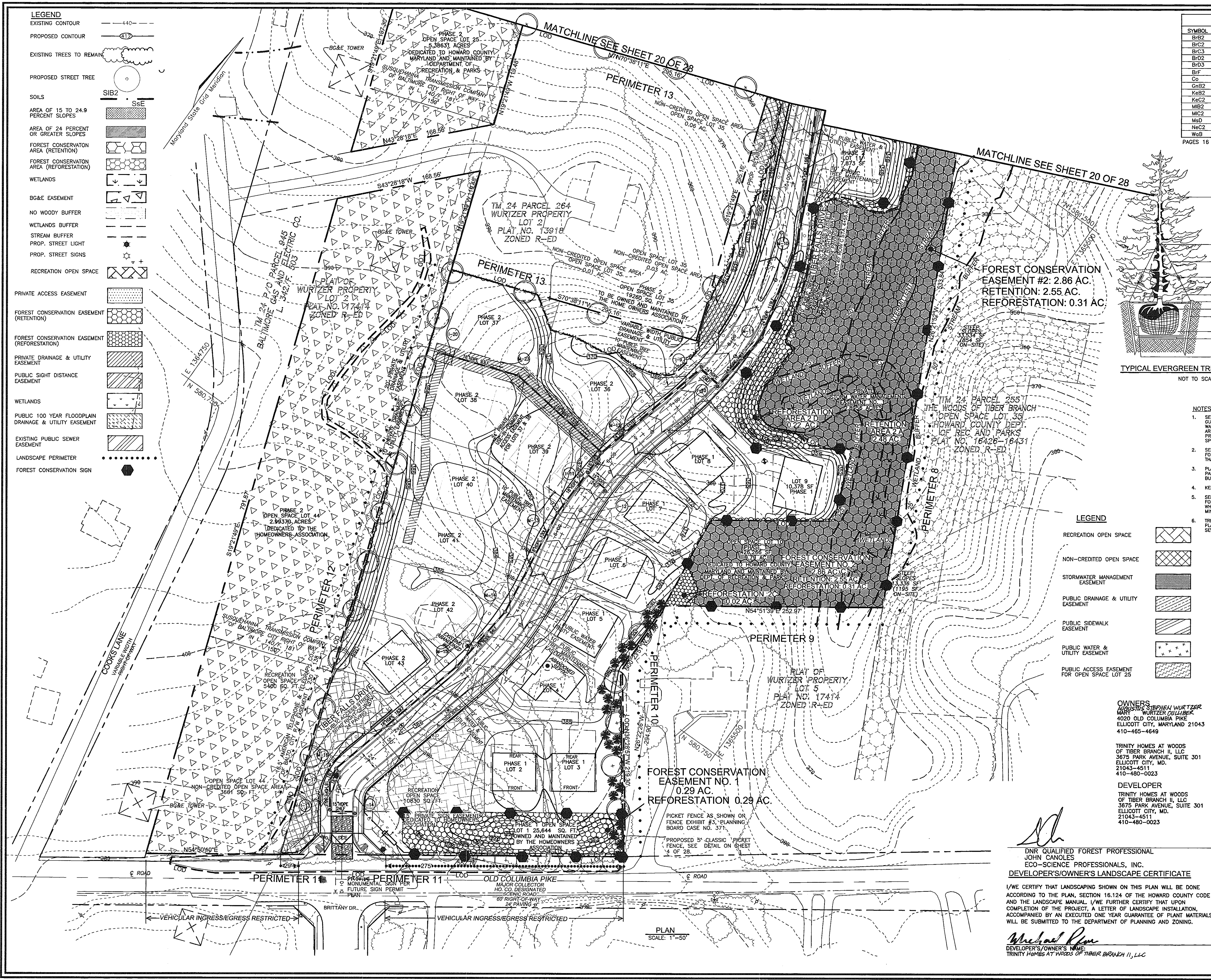
... 10/29/09
 Chief, Development Engineering Division Date

FINAL ROAD CONSTRUCTION PLAN
LANDSCAPE AND FOREST CONSERVATION PLAN
THE WOODS OF TIBER BRANCH II - PHASE III & IIII
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY
 SUBDIVISION OF TM PARCEL 881
 RECORDED AS PLAT NO. 17414
 TAX MAP 24, BLOCK 18
 2ND ELECTION DISTRICT
 REF.: F-98-130, WP-04-20
 PARCELS '264'
 HOWARD COUNTY, MARYLAND

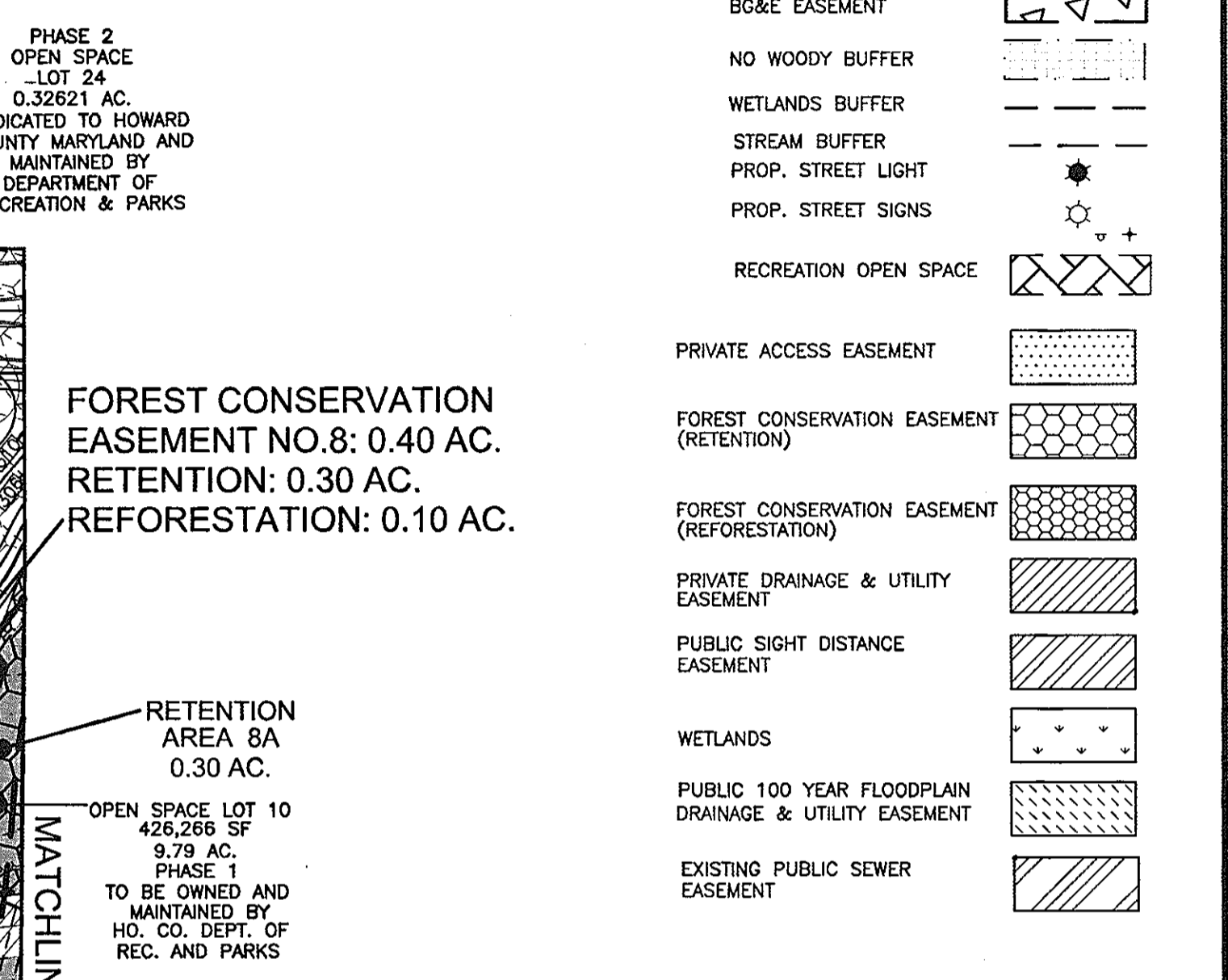
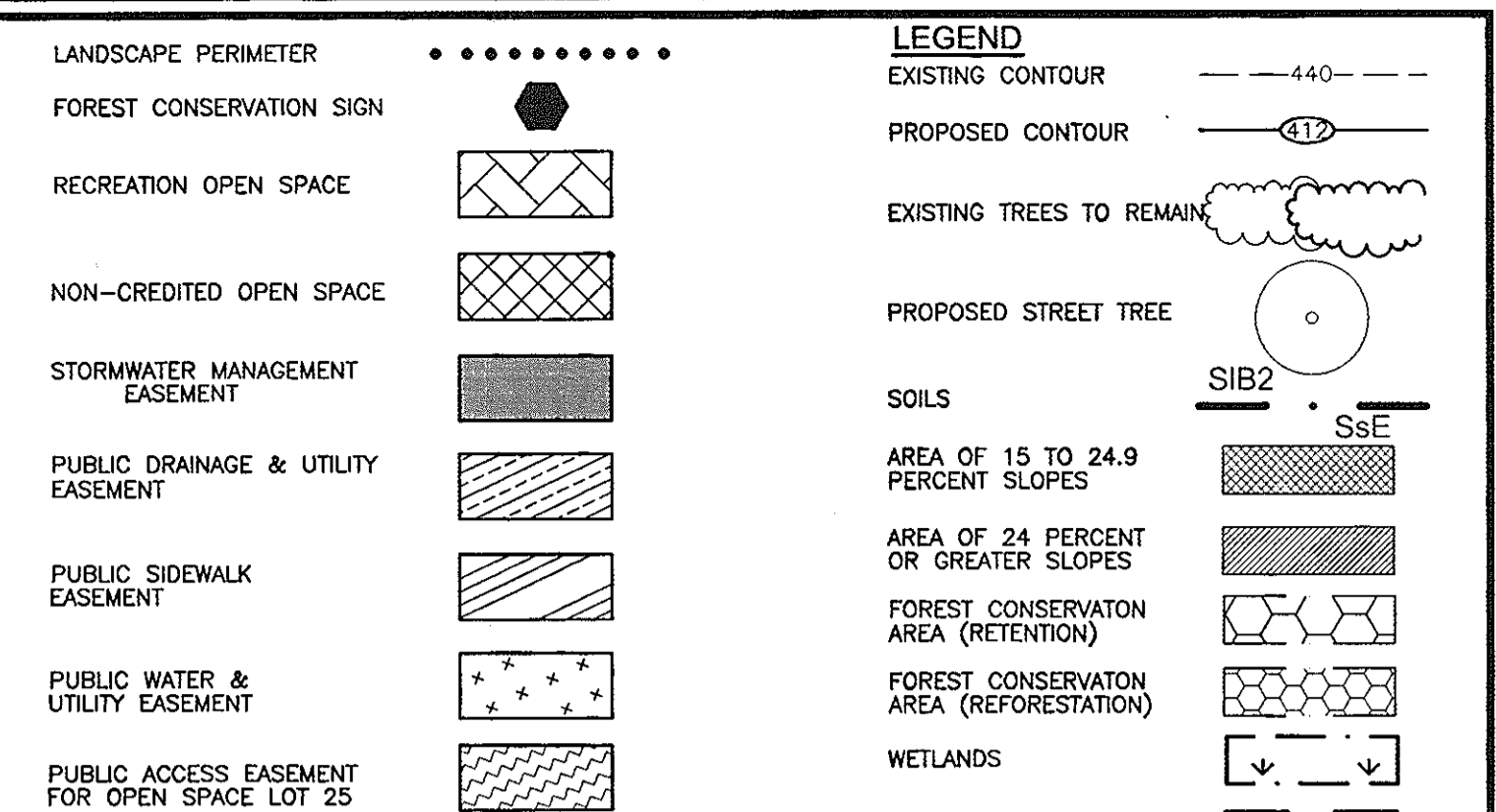
ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: RHW/RJ
 DRAWN BY: RJ
 CHECKED BY: RHW
 DATE: 03-30-2007
 SCALE: AS SHOWN
 W.O. NO.: 03-43.00

19 SHEET OF 28



PLAN
 SCALE: 1"=50'



SOILS LEGEND

SYMBOL	NAME / DESCRIPTION	C
B/B2	BRANDYWINE LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
B/C2	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
B/C3	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	C
B/D2	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, MODERATELY ERODED	C
B/D3	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	C
B/F	BRANDYWINE LOAM, 25 TO 60 PERCENT SLOPES	C
Co	CODORUS SILT LOAM	C
G/B2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
K/B2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
K/C2	KELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	D
M/B2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
M/C2	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
M/D	MONTALTO AND RELAY VERY STONY SILT LOAMS, 3 TO 25 PERCENT SLOPES	B/C
N/C2	NESHAMBY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
W/B	WATCHUNG SILT LOAM, 3 TO 8 PERCENT SLOPES	D

PAGES 16 & 20 OF THE HOWARD COUNTY SOIL SURVEY

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter J. Wall Chief, Bureau of Highways Date 6-25-07
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
Candy Hanna Chief, Division of Land Development Date 7/6/07
John P. ... Chief, Development Engineering Division Date 6/29/07

OWNERS
 AUGUST STEPHEN WURTZER
 WURTZER & ZULIBER
 4020 OLD COLUMBIA PIKE
 ELLICOTT CITY, MARYLAND 21043
 410-465-4649

TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD. 21043-4511
 410-480-0023

DEVELOPER
 TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD. 21043-4511
 410-480-0023

FINAL ROAD CONSTRUCTION PLAN
LANDSCAPE AND FOREST CONSERVATION PALM
THE WOODS OF TIBER BRANCH II - PHASE III & III
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY SUBDIVISION OF TM PARCEL 881
 RECORDED AS PLAT NO. 17414

TAX MAP 24 BLOCK 18 PARCELS '264'
 2ND ELECTION DISTRICT PARCEL '811'
 REF: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET TEL: 410.461.7666
 ELLICOTT CITY, MD 21043 FAX: 410.461.8961

DESIGN BY: RHV/RJ
 DRAWN BY: RJ
 CHECKED BY: RHV
 DATE: 03-30-2007
 SCALE: AS SHOWN
 W.O. NO.: 03-43-00

20 SHEET OF 28

PLAN SCALE: 1"=50'

No.	REVISION	DATE
4	SHOW STORM DRAIN STUB AND AS-BUILT INFORMATION FOR TRASH RACKS FOUND	6/30/12
1	ADD PHASE III	2-19-08

DNR QUALIFIED FOREST PROFESSIONAL
JOHN CANOLES
 ECO-SCIENCE PROFESSIONALS, INC.
 DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE

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

Michael P. ...
 DEVELOPER'S/OWNER'S NAME
 TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC

QUAN	BOTANICAL NAME	SIZE	REM.
34	Acer rubrum 'Red Sunset' Red Sunset Maple (Shade trees) ADJACENT TO PROPERTY PERIMETER 1,2,3,4	2 1/2"-3" Cal.	B & B
28	Quercus coccinea Scarlet Oak (Shade trees) SCHEDULE D (SWMF1), (SWMF2), (SWMF3)	2 1/2"-3" Cal.	B & B
34	Acer rubrum 'Autumn Flame' Autumn Flame Red Maple (Shade trees) ADJACENT TO PROPERTY PERIMETER 10,12,13,14 ADJACENT TO ROADWAY PERIMETER 11	2 1/2"-3" Cal.	B & B
22	Picea abies norway spruce (Evergreen trees) PERIMETER 10 (PER THE OWNER)	6"-8" Ht.	B & B
36	Pinus nigra Austrian Pine (Evergreen trees) SCHEDULE D (SWMF1), (SWMF2), (SWMF3)	6"-8" Ht.	B & B

CATEGORY	SCHEDULE D: STORMWATER MANAGEMENT AREA LANDSCAPING-TYPE 'B' BUFFER		
	SWMF 1	SWMF 2	SWMF 3
LINEAR FEET OF PERIMETER	553'	467'	540'
CREDIT FOR EXISTING VEGETATION (YES, NO, AND LINEAR FEET)	YES* 118'	-	-
CREDIT FOR OTHER LANDSCAPING (YES, NO, AND 2)	-	-	-
NUMBER OF TREES REQUIRED	435'	-	-
SHADE TREES 1:50	9	9	10
EVERGREEN TREES 1:40	11	12	13
NUMBER OF TREES PROVIDED	9	9	10
SHADE TREES	11	12	13
SHRUBS	-	-	-

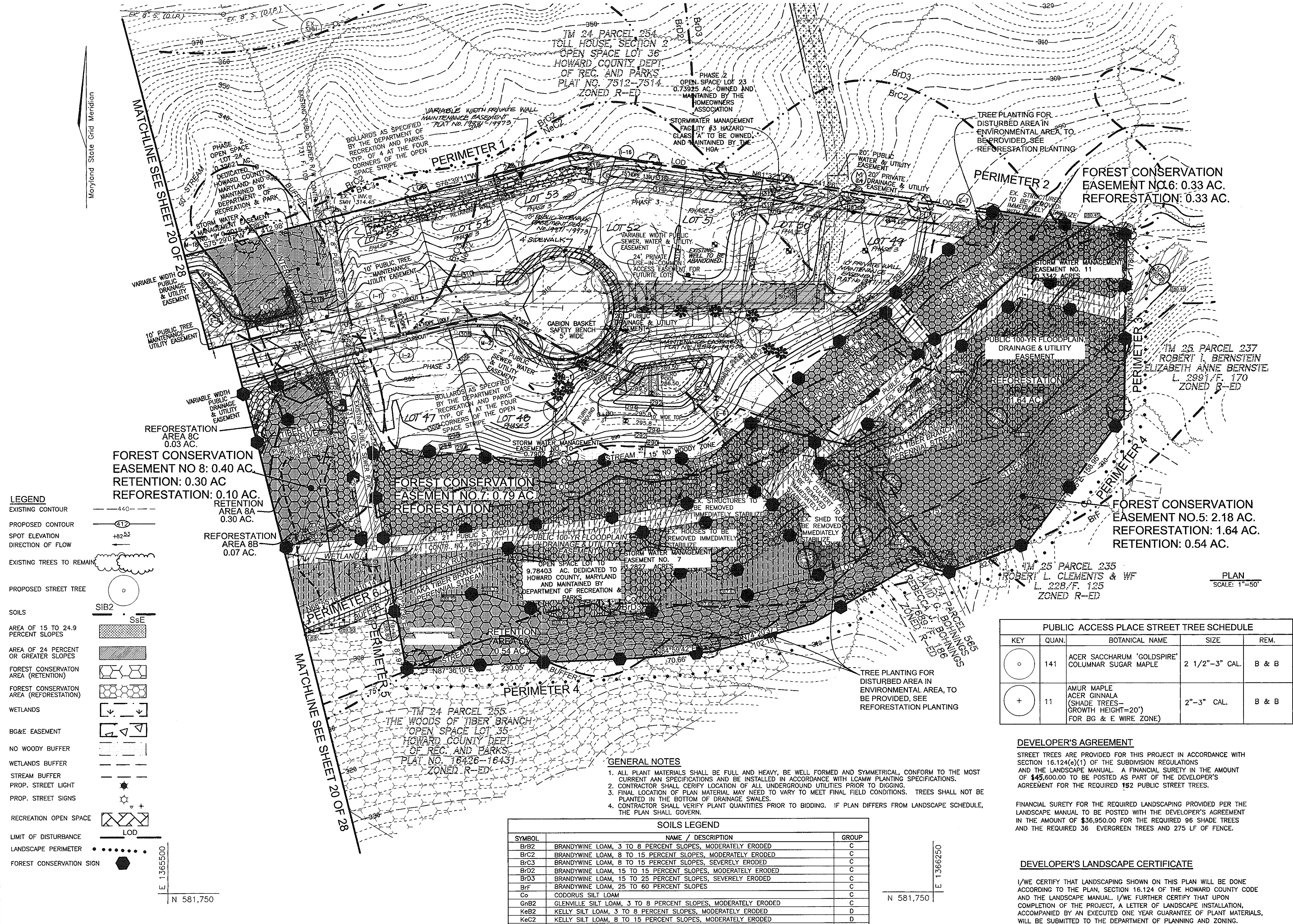
CATEGORY	SCHEDULE A: PERIMETER LANDSCAPE EDGE						
	ADJACENT TO PERIMETER PROPERTIES						
PERIMETER/FRONTAGE DESIGNATION	1	2	3	4	5	6	7
LANDSCAPE TYPE	A	A	A	A	A	A	A
LINEAR FEET OF ROADWAY PERIMETER/FRONTAGE	1436'	541'	178'	794'	88'	410'	430'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES* 415'	-	-	YES* 485'	YES* 88'	YES* 410'	YES* 430'
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	-	-	-	-	-	-	-
NUMBER OF PLANTS REQUIRED (LF REMAINING)	1041'	1:60 9	1:60 3	309'	88'	410'	430'
SHADE TREES	1:60 17	-	-	1:60 5	1:60 0	1:60 0	1:60 0
EVERGREEN TREES	-	-	-	-	-	-	-
SHRUBS	-	-	-	-	-	-	-
NUMBER OF PLANTS PROVIDED	17	9	3	5	0	0	0
SHADE TREES	-	-	-	-	-	-	-
EVERGREEN TREES	-	-	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	-	-	-
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	-	-	-	-	-	-	-

CATEGORY	ADJACENT TO PERIMETER PROPERTIES										
	PERIMETER/FRONTAGE DESIGNATION	8	9	10	12	13	14	11			
LANDSCAPE TYPE	A	A	A	A	A	A	A				
LINEAR FEET OF ROADWAY PERIMETER/FRONTAGE	534'	253'	307'	710'	885'	860'	304'				
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET)	YES* 534'	YES* 219'	-	-	YES* 300'	YES* 441'	-				
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET)	-	-	-	-	-	-	YES 275' FENCE				
NUMBER OF PLANTS REQUIRED (LF REMAINING)	534'	34'	5	12	585'	419'	29'				
SHADE TREES	1:60 0	1:60 0	1:60 5	1:60 12	1:60 10	1:60 7	1:60 0				
EVERGREEN TREES	-	-	-	-	-	-	-				
SHRUBS	-	-	-	-	-	-	-				
NUMBER OF PLANTS PROVIDED	0	0	5	12	10	7	0				
SHADE TREES	-	-	**22	-	-	-	-				
EVERGREEN TREES	-	-	-	-	-	-	-				
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	-				
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	-	-	-				
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)	-	-	-	-	-	-	-				

*EXISTING WOODS TO REMAIN
 **22 ADDITIONAL NORWAY SPRUCE TO PLACED 7 LF APART TO PROVIDE ADDITIONAL BUFFERING FROM MR. WURTZER'S PROPERTY. (WURTZER PROPERTY, LOT 5)
 REQUIRED SURETY FOR A FENCE = \$10.0 PER LINEAR FOOT OF FENCE

LEGEND	
PRIVATE ACCESS EASEMENT	EXISTING PUBLIC SEWER EASEMENT
FOREST CONSERVATION EASEMENT (RETENTION)	RECREATION OPEN SPACE
FOREST CONSERVATION EASEMENT (REFORESTATION)	NON-CREDITED OPEN SPACE
PRIVATE DRAINAGE & UTILITY EASEMENT	STORMWATER MANAGEMENT EASEMENT
PUBLIC SIGHT DISTANCE EASEMENT	PUBLIC DRAINAGE & UTILITY EASEMENT
WETLANDS	PUBLIC SIDEWALK EASEMENT
PUBLIC 100 YEAR FLOODPLAIN DRAINAGE & UTILITY EASEMENT	PUBLIC WATER & UTILITY EASEMENT
	PUBLIC ACCESS EASEMENT FOR OPEN SPACE LOT 25

STREET TREE CALCULATIONS			
STREET NAME	LINEAR FEET	NO. REQUIRED	NO. PROVIDED
TIBER FALLS DRIVE	5650/40	141	141
OLD COLUMBIA PIKE	453/40	11	11
TOTAL		152	152



LEGEND	
EXISTING CONTOUR	440'
PROPOSED CONTOUR	417'
SPOT ELEVATION	+82.53
DIRECTION OF FLOW	
EXISTING TREES TO REMAIN	
PROPOSED STREET TREE	
SOILS	SIB2, SSE
AREA OF 15 TO 24.9 PERCENT SLOPES	
AREA OF 24 PERCENT OR GREATER SLOPES	
FOREST CONSERVATION AREA (RETENTION)	
FOREST CONSERVATION AREA (REFORESTATION)	
WETLANDS	
BG&E EASEMENT	
NO WOODY BUFFER	
WETLANDS BUFFER	
STREAM BUFFER	
PROP. STREET LIGHT	
PROP. STREET SIGNS	
RECREATION OPEN SPACE	
LIMIT OF DISTURBANCE	LOD
LANDSCAPE PERIMETER	
FOREST CONSERVATION SIGN	

No.	REVISION	DATE
2	ADD 4' SIDEWALK AND PUBLIC SIDEWALK EASEMENT; ADD PRIVATE RETAINING WALL MAINTENANCE EASMT.	6-19-08
1	ADD PHASE III	2-19-08

PUBLIC ACCESS PLACE STREET TREE SCHEDULE				
KEY	QUAN	BOTANICAL NAME	SIZE	REM.
○	141	ACER SACCHARUM 'GOLDSPIRE' COLUMNAR SUGAR MAPLE	2 1/2"-3" CAL.	B & B
+	11	AMUR MAPLE ACER GINNALA (SHADE TREES - GROWTH HEIGHT=20') FOR BG & E WIRE ZONE)	2"-3" CAL.	B & B

DEVELOPER'S AGREEMENT
 STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$45,000.00 TO BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT FOR THE REQUIRED 152 PUBLIC STREET TREES.

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING PROVIDED PER THE LANDSCAPE MANUAL TO BE POSTED WITH THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$36,950.00 FOR THE REQUIRED 96 SHADE TREES AND THE REQUIRED 36 EVERGREEN TREES AND 275 LF OF FENCE.

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

Michael Pflaum
 DEVELOPER'S NAME:
 TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC

OWNERS
 TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD, 21043-4511
 410-480-0023

DEVELOPER
 TRINITY HOMES AT WOODS OF TIBER BRANCH II, LLC
 3675 PARK AVENUE, SUITE 301
 ELLICOTT CITY, MD, 21043-4511
 410-480-0023

Michael Pflaum
 DNR QUALIFIED FOREST PROFESSIONAL
 JOHN CANOLES
 ECO-SCIENCE PROFESSIONALS, INC.

GENERAL NOTES
 1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT ANN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH LANDSCAPING SPECIFICATIONS.
 2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
 3. FINAL LOCATION OF PLANT MATERIAL MAY VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
 4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

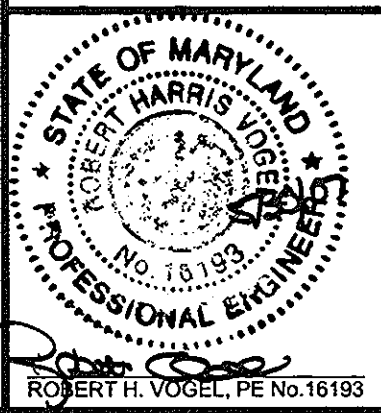
SOILS LEGEND		
SYMBOL	NAME / DESCRIPTION	GROUP
B#2	BRANDYWINE LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
B#2	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
B#3	BRANDYWINE LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED	C
B#2	BRANDYWINE LOAM, 15 TO 15 PERCENT SLOPES, MODERATELY ERODED	C
B#3	BRANDYWINE LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED	C
B#F	BRANDYWINE LOAM, 25 TO 60 PERCENT SLOPES	C
Co	CODORUS SILT LOAM	C
G#2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	C
K#2	KELLY SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	D
K#2	KELLY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	D
M#2	MANOR LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED	B
MIC	MANOR LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
M#d	MONTALTO AND RELAY VERY STONY SILT LOAMS, 3 TO 25 PERCENT SLOPES	B/C
N#C2	NESHAMINY SILT LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED	B
W#d	WATCHUNG SILT LOAM, 3 TO 8 PERCENT SLOPES	D

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter J. Wall 6-25-07
 Chief, Bureau of Highways Date
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
Candy Korman 7/2/07
 Chief, Division of Land Development Date
John Canoles 6/29/07
 Chief, Development Engineering Division Date

FINAL ROAD CONSTRUCTION PLAN
FOREST CONSERVATION AND LANDSCAPE PLAN
THE WOODS OF TIBER BRANCH II - PHASE II & III
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY
 SUBDIVISION OF TM PARCEL 881
 RECORDED AS PLAT NO. 17414
 TAX MAP 24, BLOCK 18 PARCELS 284'
 2ND ELECTION DISTRICT
 REF: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHW/RJ
 DRAWN BY: RJ
 CHECKED BY: RHW
 DATE: 03-30-2007
 SCALE: AS SHOWN
 W.O. NO.: 03-43-00



HOWARD COUNTY
FOREST CONSERVATION WORKSHEET

ZONED R-20
NET TRACT AREA:
A. TOTAL TRACT AREA 36.86 AC
B. AREA WITHIN 100 YEAR FLOODPLAIN 4.09 AC
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION 5.27 AC
D. NET TRACT AREA 27.50 AC

LAND USE CATEGORY:
INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY. ZONED R-ED.
ARA MDR IDA HDR MPD CIA
0 0 0 0 1 0 0 0

E. AFFOREST THRESHOLD 15% X D = 4.13 AC
F. CONSERVATION THRESHOLD 20% X D = 5.50 AC
EXISTING FOREST COVER:
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN) 20.73 AC
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD 16.66 AC
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD 15.23 AC
BREAK EVEN POINT:
J. BREAK EVEN POINT 8.55 AC
K. CLEARING PERMITTED WITHOUT MITIGATION 12.19 AC
PROPOSED FOREST CLEARING:
L. TOTAL AREA OF FOREST TO BE CLEARED 15.23 AC
M. TOTAL AREA OF FOREST TO BE RETAINED 5.50 AC
PLANTING REQUIREMENTS:
N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD 3.81 AC
O. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD 0.00 AC
P. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD 0.01 AC
Q. TOTAL REFORESTATION REQUIRED (N+P-Q) 3.81 AC
R. TOTAL AFFORESTATION REQUIRED 0.00 AC
S. TOTAL REFORESTATION AND AFFORESTATION REQUIRED 3.81 AC

OBLIGATION TO BE FULLFILLED BY RETENTION OF 5.50 AC (\$47,916.0), REFORESTATION OF 3.69 AC, (\$80,368.20) AND FEE-IN-LIEU PAYMENT FOR THE REMAINING 0.12 AC. OF REQUIRED 3.81 AC. OF REFORESTATION. (\$2,613.60)
TOTAL FINANCIAL SURETY OBLIGATION IS \$128,284.20 AC.

THE EXISTING 0.08 AC. RETENTION FOREST CONSERVATION EASEMENT SHOWN ON F-98-130 AND F-05-079 TO BE ABANDONED. AN ABANDONMENT FEE OF \$1.00 PER SF (\$34,848.00) TO BE PAID TO HOWARD COUNTY.

REFORESTATION PLANTING NOTES

1. REFORESTATION AREAS MAY BE PLANTED AS SOON AS REASONABLE TO DO SO. LATE WINTER OR EARLY SPRING PLANTINGS ARE EARLIEST PLANTING DATES WILL VARY FROM YEAR TO YEAR BUT PLANTING MAY GENERALLY BEGIN AS SOON AS THE GROUND IS NO LONGER FROZEN. ALTERNATE PLANTING DATES MAY BE CONSIDERED AS CONDITION WARRANTS.
2. SOIL AMENDMENTS AND FERTILIZATION RECOMMENDATIONS WILL BE MADE BASED UPON THE RESULTS OF SOIL ANALYSIS FOR NITROGEN, PHOSPHORUS, POTASSIUM, ORGANIC MATTER CONTENT AND pH. IF REQUIRED, FERTILIZER WILL BE PROVIDED USING A SLOW RELEASE, SOLUBLE 16-8-16 ANALYSIS DESIGNED TO LAST 5-8 YEARS CONTAINED IN POLYETHYLENE PERFORATED BAGS SUCH AS MANUFACTURED BY ADCO WORKS, P.O. BOX 510 HOLLIS, N.Y. 11423 OR APPROVED EQUIVALENT.
3. PLANT MATERIALS WILL BE PLANTED IN ACCORDANCE WITH THE PLANTING DETAILS AND PLANT SCHEDULE.
4. PLANT MATERIAL SHALL BE NURSERY GROWN AND INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO THE AMERICAN STANDARD FOR NURSERY STOCK SPECIFICATIONS FOR SIZE, FORM, VIGOR, OR ROOTS, OR DUE TO TRUNK WOUNDS, BREAKAGE, DESICCATION, INSECT OR DISEASE MUST BE REPLACED.
5. PLANTING STOCK MUST BE PROTECTED FROM DESICCATION AT ALL TIMES PRIOR TO PLANTING. MATERIALS HELD FOR PLANTING SHALL BE MOISTENED AND PLACED IN COOL SHADED AREAS UNTIL READY FOR PLACEMENT.
6. NEWLY PLANTED TREES MAY REQUIRE WATERING AS LEAST ONCE PER WEEK DURING THE FIRST GROWING SEASON DEPENDING ON RAINFALL IN ORDER TO GET ESTABLISHED. THE INITIAL PLANTING OPERATION SHOULD ALLOW FOR WATERING DURING INSTALLATION TO COMPLETELY SOAK BACKFILL MATERIAL.
7. MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE DIAGRAM PROVIDED AND SHALL CONSIST OF COMPOSTED, SHREDED HARDWOOD BARK MULCH, FREE OF WOOD ALCOHOL.
8. ALL NURSERY STOCK TO BE SPRAYED WITH DEER REPELLENT CONTAINING BITREX, SUCH AS REPELLEX. ALL NURSERY STOCK TO BE GROWN WITH DEER REPELLENT TABLETS IN GROWING MEDIUM, SUCH AS REPELLEX TABLETS.

REFORESTATION AREA MONITORING NOTES

1. MONTHLY VISITS DURING THE FIRST GROWING SEASON ARE TO ASSESS THE SUCCESS OF THE PLANTINGS AND TO DETERMINE IF SUPPLEMENTAL WATERING, PEST CONTROL OR OTHER ACTIONS ARE NECESSARY. EARLY SPRING VISITS WILL DOCUMENT WINTER KILL AND AUTUMN VISITS WILL DOCUMENT SUMMER KILL.
2. THE MINIMUM SURVIVAL RATE SHALL BE 75% OF THE TOTAL NUMBER OF TREES PLANTED PER ACRE AT THE END OF THE TWO YEAR MAINTENANCE PERIOD. WILD TREE SEEDLINGS FROM NATURAL REGENERATION ON THE PLANTING SITE MAY BE COUNTED UP TO 50% TOWARD THE TOTAL SURVIVAL NUMBER IF THE ARE HEALTHY NATIVE SPECIES AT LEAST 12 INCHES TALL.
3. SURVIVAL WILL BE DETERMINED BY A STRATIFIED RANDOM SAMPLING OF THE PLANTINGS. THE SPECIES COMPOSITION OF THE SAMPLE POPULATION SHOULD BE PROPORTIONATE TO THE AMOUNT OF EACH SPECIES IN THE ENTIRE PLANTING TO BE SAMPLED.
4. EFFECTIVE MONITORING WILL ASSESS PLANT SURVIVABILITY DURING THE FIRST GROWING SEASON AND MAKE RECOMMENDATIONS FOR REINFORCEMENT PLANTINGS IF REQUIRED AT THAT TIME.

FOREST RETENTION AREAS AND NOTES

1. FORESTED STREAM AND WETLAND BUFFERS ARE RETAINED IN OPEN SPACE LOTS.
2. NO BARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THIS SITE.
3. FORESTED AREAS ADJACENT TO FLOODPLAINS AND STREAM BUFFERS ARE SUBSTANTIALLY RETAINED IN OPEN SPACE LOTS.
4. THERE ARE NO ISOLATED FOREST STANDS ON THIS SITE.
5. CHANGES IN GRADING AND RUNOFF WITHIN CONSTRUCTION/INSTALLATION AREAS WILL NOT ADVERSELY AFFECT THE SOILS WITHIN THE FOREST RETENTION AREA. SEDIMENT CONTROL MEASURES WILL REDIRECT CONCENTRATED FLOW RUNOFF TO STORMWATER MANAGEMENT FACILITIES, RETAIN SEDIMENT WITHIN THE CONSTRUCTION SITE, AND/OR REDIRECT CLEAN WATER AWAY FROM CONSTRUCTION AREAS.
6. FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1200 OF THE HOWARD COUNTY CODE, DPZ AND THE FOREST CONSERVATION MANUAL FOR THIS SUBDIVISION WILL BE FULFILLED BY THE RETENTION OF EXISTING FOREST IN THE AMOUNT OF 0.96 AC, REFORESTATION OF 0.43 AC.
7. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

FOREST PROTECTION NOTES

- PRE-CONSTRUCTION ACTIVITIES
1. FOR RETENTION AREAS, INSTALL BLAZE ORANGE FENCE AND RETENTION SIGNS BEFORE CONSTRUCTION BEGINS.
 2. FENCING SHALL BE MAINTAINED IN GOOD CONDITION AND PROMPTLY REPAIRED OR RESTORED AS THE SITUATION WARRANTS.
 3. A QUALIFIED TREE CARE EXPERT SHALL DETERMINE IF ROOT PRUNING IS REQUIRED ALONG THE LIMIT OF DISTURBANCE. ROOT PRUNE TREES AS REQUIRED. WATER ANY ROOT-PRUNED TREES IMMEDIATELY AFTER ROOT-PRUNING AND MONITOR FOR SIGNS OF STRESS DURING CONSTRUCTION.

CONSTRUCTION PHASE

1. NO DISTURBANCE OR DUMPING IS ALLOWED INSIDE THE TREE RETENTION AREA.
2. NO EQUIPMENT SHALL BE OPERATED INSIDE THE TREE RETENTION AREA INCLUDING TREE CANOPIES.
3. IN THE EVENT OF DROUGHT, THE PROTECTED TREES SHALL BE MONITORED FOR SIGNS OF STRESS AND WATERED AS NEEDED.

POST-CONSTRUCTION ACTIVITIES

1. AT THE DIRECTION OF A QUALIFIED TREE CARE EXPERT, DAMAGES TO RETAINED TREES SHALL BE REPAIRED BY THE CONTRACTOR.
2. FENCE REMOVAL AND STABILIZATION SHALL BE AS PER THE SEDIMENT AND EROSION CONTROL PLAN.
3. DO NOT REMOVE SIGNS.

COST ESTIMATE: (For bonding purposes, only)

(RETENTION - (5.50 AC.) 239580 SF x 20 = \$47,916.0)
(REFORESTATION - (3.69 AC.) 160736.40 SF x 50 = \$80,368.20)

THE EXISTING FOREST CONSERVATION EASEMENT SHOWN ON F-98-130 TO BE ABANDONMENT FEE OF \$1.00 PER SF (\$34,848.00) TO BE PAID TO HOWARD COUNTY.

SURETY NOTE

FINANCIAL SURETY IN THE AMOUNT OF \$128,284.20 WILL BE POSTED WITH THE FC MAINTENANCE AGREEMENT.

SEQUENCE OF CONSTRUCTION-FOREST CONSERVATION

1. PRECONSTRUCTION MEETING / SITE WALK WITH CONTRACTORS AND OTHER RESPONSIBLE PARTIES TO DEFINE PROTECTION MEASURES TO BE UTILIZED AND TO POINT OUT PARTICULAR TREES TO BE SAVED.
2. STAKE OUT LIMITS OF DISTURBANCE AND TREE PROTECTION FENCING LOCATIONS.
3. INSTALL TREE PROTECTION FENCING; FENCING TO BE INSPECTED BY THE PROJECT ENGINEER OR THE PROJECT ECOLOGIST AND HOWARD COUNTY PLANNING AND ZONING.
4. PROCEED WITH TREE REMOVAL AND SITE IMPROVEMENTS AS PER APPROVED SEDIMENT CONTROL PLAN - TO BE INSPECTED BY HOWARD COUNTY PLANNING AND ZONING.
5. TEMPORARY TREE PROTECTION DEVICES SHALL BE REMOVED AFTER ALL FINISHED GRADING AND UTILITY CONSTRUCTION HAS OCCURRED AND WITH APPROVAL FROM THE HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

BOTANICAL NAME	PLANT SCHEDULE										SIZE	SPACING (FT)
	FCE1	FCE2	FCE3	FCE4	FCE5	FCE6	FCE7	FCE8	FCE9	FCE10		
Acer rubrum Red Maple	11	12	4	2	65	12	32	2	2	3	1" Cal.	15 X 15
Liquidambar styraciflua American Sweetgum	11	12	4	2	65	13	32	2	2	3	1" Cal.	15 X 15
Ptilorus occidentalis Sycamore	12	12	4	0	65	13	32	2	2	3	1" Cal.	15 X 15
Prunus serotina Black Cherry	12	13	4	0	66	13	31	1	1	3	1" Cal.	15 X 15
Quercus palustris Pin Oak	12	13	4	0	67	13	31	1	1	4	1" Cal.	15 X 15

REFORESTATION PROVIDED - FCE-1

0.29 ACRES OR 12,632.40 SF
1" CALIPER TREES
58 TREES @ 200 TREES PER ACRE

REFORESTATION PROVIDED - FCE-2

0.31 ACRES OR 13,503.60 SF
2C = 0.02 AC.
2D = 0.22 AC.
2E = 0.07 AC.
1" CALIPER TREES
62 TREES @ 200 TREES PER ACRE

REFORESTATION PROVIDED - FCE-3

0.09 ACRES OR 4,356 SF
3B = 0.03 AC.
3C = 0.06 AC.
1" CALIPER TREES
18 TREES @ 200 TREES PER ACRE

REFORESTATION PROVIDED - FCE-4

0.02 ACRES OR 871.2 SF
4B = 0.02 AC.
1" CALIPER TREES
4 TREES @ 200 TREES PER ACRE

REFORESTATION PROVIDED - FCE-5

1.64 ACRES OR 71,438.4 SF
5B = 1.64 AC.
1" CALIPER TREES
328 TREES @ 200 TREES PER ACRE

REFORESTATION PROVIDED - FCE-6

0.33 ACRES OR 13,939.20 SF
1" CALIPER TREES
66 TREES @ 200 TREES PER ACRE

REFORESTATION PROVIDED - FCE-7

0.79 ACRES OR 34,412.40 SF
1" CALIPER TREES
158 TREES @ 200 TREES PER ACRE

REFORESTATION PROVIDED - FCE-8

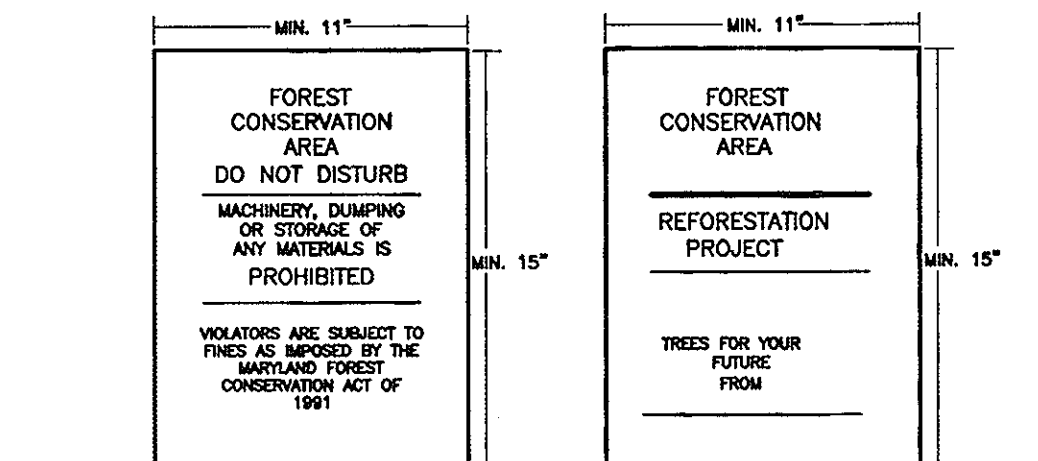
0.10 ACRES OR 4,356 SF
8B = 0.07 AC.
8C = 0.03 AC.
1" CALIPER TREES
20 TREES @ 200 TREES PER ACRE

REFORESTATION PROVIDED - FCE-9

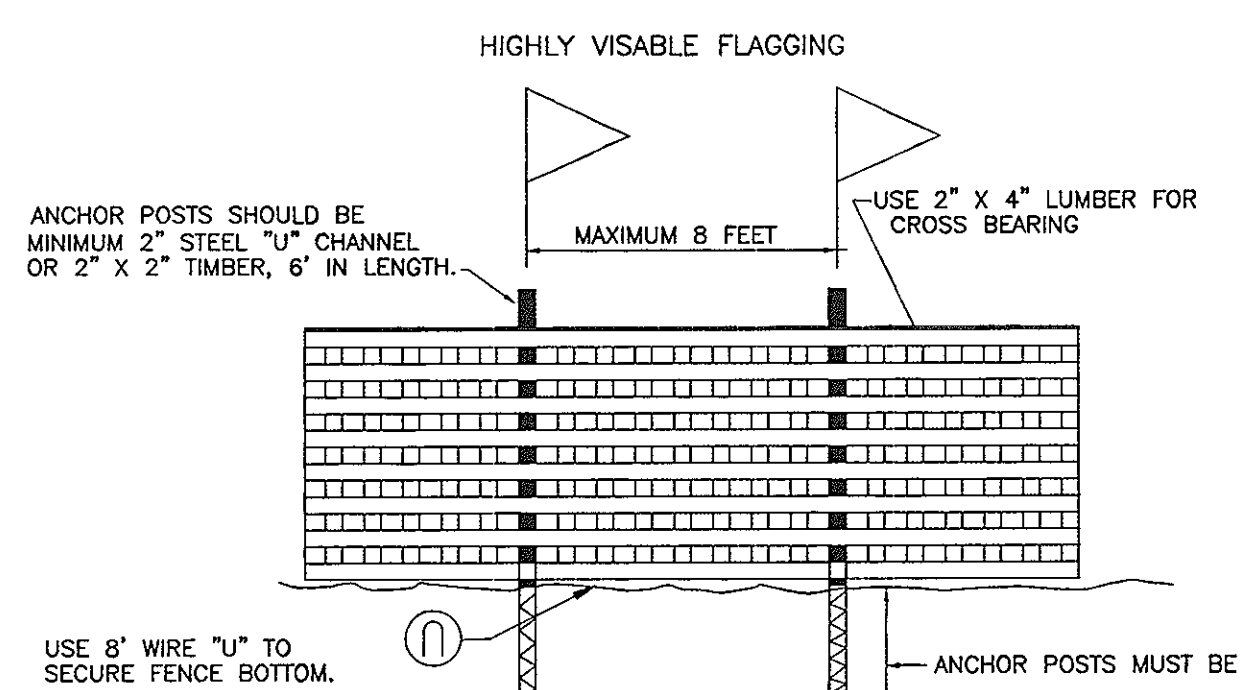
0.04 ACRES OR 1,742.40 SF
9B = 0.04 AC.
1" CALIPER TREES
8 TREES @ 200 TREES PER ACRE

REFORESTATION PROVIDED - FCE-10

0.08 ACRES OR 3,484.80 SF
10B = 0.08 AC.
1" CALIPER TREES
16 TREES @ 200 TREES PER ACRE

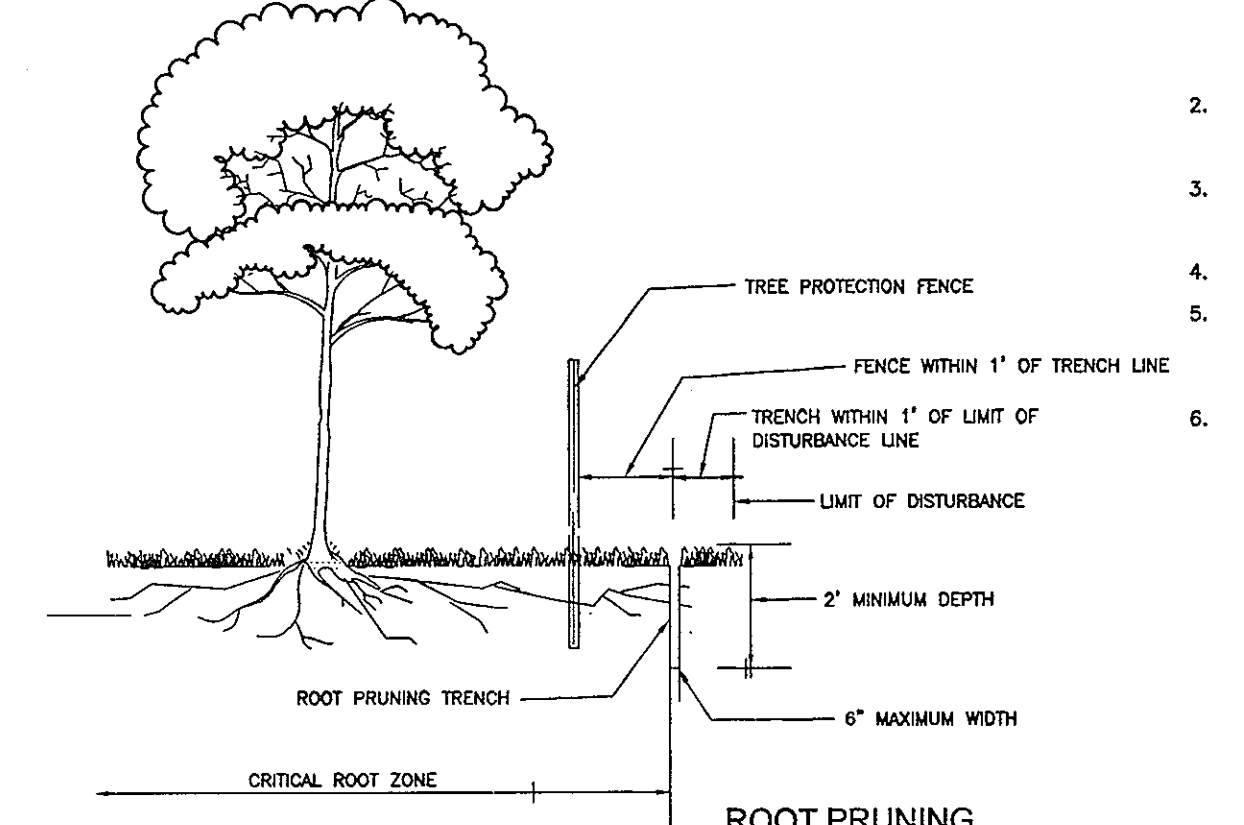


- NOTE:
1. BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.
2. SIGNS TO BE PLACED AT A MAXIMUM SPACING OF 50-100 FEET.
CONDITIONS ON-SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART.
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.



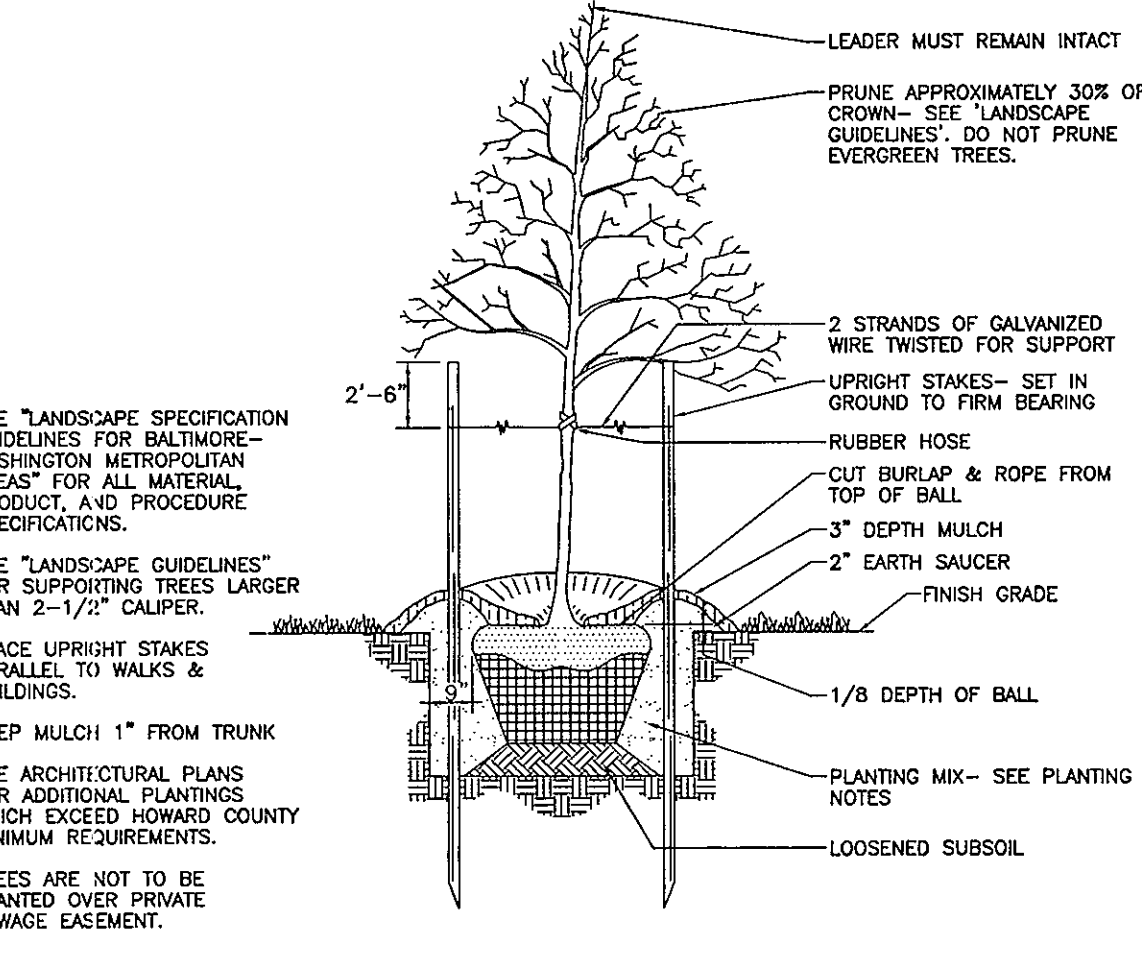
- NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOF DAMAGE SHOULD BE AVOIDED.

BLAZE ORANGE PLASTIC MESH
TYPICAL TREE PROTECTION FENCE DETAIL



- NOTES:
1. RETENTION AREAS TO BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
2. BOUNDARIES OF RETENTION AREAS TO BE STAKED, FLAGGED AND/OR FENCED PRIOR TRENCHING.
3. EXACT LOCATION OF TRENCH SHOULD BE IDENTIFIED.
4. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR ORGANIC SOIL.
5. ROOTS SHOULD BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.

FOREST CONSERVATION EASEMENT TABLE	
TOTAL RETENTION: 5.50 AC.	
TOTAL REFORESTATION: 3.69 AC.	
TOTAL FOREST CONSERVATION EASEMENT: 9.19 AC.	
FOREST CONSERVATION EASEMENT 1	FOREST CONSERVATION EASEMENT 6
REFORESTATION 0.29 AC. TOTAL	REFORESTATION 0.33 AC. TOTAL
TOTAL AREA FCE 1 0.29 AC.	TOTAL AREA FCE 6 0.33 AC.
FOREST CONSERVATION EASEMENT 2	FOREST CONSERVATION EASEMENT 7
RETENTION AREA 2A 2.48 AC.	REFORESTATION 0.79 AC. TOTAL
RETENTION AREA 2B 0.07 AC.	TOTAL AREA FCE 7 0.79 AC.
TOTAL AREA FCE 2 2.55 AC.	
FOREST CONSERVATION EASEMENT 3	FOREST CONSERVATION EASEMENT 8
RETENTION AREA 3A 0.02 AC.	RETENTION AREA 8A 0.30 AC. TOTAL
REFORESTATION AREA 2C 0.22 AC.	REFORESTATION AREA 8B 0.07 AC.
REFORESTATION AREA 2E 0.07 AC.	REFORESTATION AREA 8C 0.03 AC.
TOTAL AREA FCE 3 2.86 AC.	TOTAL AREA FCE 8 0.40 AC. TOTAL
FOREST CONSERVATION EASEMENT 4	FOREST CONSERVATION EASEMENT 9
RETENTION AREA 4A 0.25 AC. TOTAL	RETENTION AREA 9A 1.12 AC. TOTAL
REFORESTATION AREA 4B 0.02 AC. TOTAL	REFORESTATION AREA 9B 0.04 AC. TOTAL
TOTAL AREA FCE 4 0.27 AC.	TOTAL AREA FCE 9 1.16 AC.
FOREST CONSERVATION EASEMENT 5	FOREST CONSERVATION EASEMENT 10
RETENTION AREA 5A 0.54 AC. TOTAL	RETENTION AREA 10A 0.47 AC. TOTAL
REFORESTATION AREA 5B 1.64 AC. TOTAL	REFORESTATION AREA 10B 0.08 AC. TOTAL
TOTAL AREA FCE 5 2.18 AC.	TOTAL AREA FCE 10 0.55 AC.



TREE PLANTING AND STAKING
DECIDUOUS TREES UP TO 2-1/2" CALIPER
NOT TO SCALE

- NOTES:
1. SEE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" FOR ALL MATERIAL PRODUCT, AND PROCEDURE SPECIFICATIONS.
2. SEE "LANDSCAPE GUIDELINES" FOR SUPPORTING TREES LARGER THAN 2-1/2" CALIPER.
3. PLACE UPRIGHT STAKES PARALLEL TO WALKS & BUILDINGS.
4. KEEP MULCH 1" FROM TRUNK.
5. SEE ARCHITECTURAL PLANS FOR ADDITIONAL PLANTINGS WHICH EXCEED HOWARD COUNTY MINIMUM REQUIREMENTS.
6. TREES ARE NOT TO BE PLANTED OVER PRIVATE SEWAGE EASEMENT.

WOODS OF TIBER BRANCH II CULVERT
Geotechnical Engineering Study Page 4

at a depth of 3x ft below existing site grades in Boring B-2. It should be anticipated that groundwater will be encountered at levels near the level of the existing stream. Groundwater levels at the site would also be expected to vary based on the flow in the stream.

A more accurate determination of the hydrostatic water table would require the installation of perforated pipes or piezometers which could be monitored over an extended period of time. The actual level of the hydrostatic water table and the amount and level of perched water should be anticipated to fluctuate throughout the year, depending on variations in precipitation, surface run-off, infiltration, site topography, and drainage.

5.0 EVALUATIONS AND RECOMMENDATIONS

Our findings indicate that the site can be developed for the proposed culvert construction utilizing conventional spread footings. It should also be anticipated that dewatering will be required and that unsuitable materials requiring modification or removal will be encountered at or near foundation bearing levels.

Special consideration should be given to the proper monitoring of fill operations, footing excavations, and concrete placement in all structural areas. Footings should not be constructed on or over any existing fill materials encountered at the site.

The following recommendations have been developed on the basis of the previously described project characteristics and subsurface conditions. If there are any changes to the project characteristics or different subsurface conditions encountered during construction, HCEA should be consulted so that the recommendations of this report can be reviewed and revised, if necessary.

5.1 General Site Preparation

The initial step in the development of this site should be the controlled removal of surficial topsoil, wet or soft soils, and deleterious materials from the areas to be developed. Striping operations should be performed in a manner consistent with good erosion and sediment control practices.

After the initial striping process is completed, areas of the site to receive fill, or areas of the site at-grade where structures will be located, should be profiled. The profiling operations should be performed using a 20-ton, fully-loaded dump truck. The purpose of the profiling will be to provide surficial gradation and to locate any near-surface pockets of soft or loose soils requiring undercutting. A Geotechnical Engineer or experienced Soils Inspector should witness the profiling operations and should determine which areas need further undercutting and/or stabilization.

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.

WOODS OF TIBER BRANCH II CULVERT
Geotechnical Engineering Study Page 5

In areas where decomposed rock and rock was encountered, it should be anticipated that more intensive excavation efforts may be required. If particular areas of confined excavation may require ripping, jackhammering, or other rock excavation methods to establish proposed elevations. It should also be anticipated that boulders, hard spots or other localized areas of difficult excavation may be encountered.

5.2 Fill Selection, Placement and Compaction

All material to be used as fill or backfill should be inspected, tested and approved by the Geotechnical Engineer. In general, the on-site soils which are free from organic and other deleterious components can be reused at general site fill. Materials suitable for various construction purposes can be identified by an experienced Soils Inspector during grading operations.

Moisture conditioning (that is, wetting or drying) of the soils should be anticipated to achieve proper compaction. The moisture contents of the soils should be controlled properly to avoid extensive construction delays. Imported fill materials is required, those materials which have Unified Soil Classification of poorly graded sand should be used.

All fill should be placed in relatively horizontal 8-inch (maximum) loose lifts and should be compacted to a minimum of 95 percent of the Standard Proctor (ASTM D-698) maximum dry density. Fill materials in landscape and other non-structural areas should be compacted to at least 90 percent of the Standard Proctor maximum dry density if significant subsidence of the fill under its own weight is to be avoided. Field moisture contents should be maintained within 2 percentage points of the optimum moisture content in order to provide adequate compaction.

Fill slopes no steeper than 2H:1V, or flatter, should be used. A sufficient number of in-place density tests should be performed by an experienced Engineering Technician on a full-time basis to verify that the proper degree of compaction is being obtained.

5.3 Groundwater and Drainage

As stated previously, it should be anticipated that groundwater will be encountered at levels near the level of the existing stream. It is expected that the water flow will be diverted around the foundation areas during construction. It should be expected that groundwater will also have to be pumped from the footing excavations prior to concreting.

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.

WOODS OF TIBER BRANCH II CULVERT
Geotechnical Engineering Study Page 6

It should also be anticipated that undercutting of well, loose soil or other unstable materials may be necessary. Additional dewatering procedures may also be necessary to prevent any potential bearing subsidence from becoming wet and/or soft. Any unsuitable materials removed should be replaced with lean (2000 psi) concrete.

Any water infiltration resulting from precipitation, surface run-off, or perched water should be able to be controlled by means of sump pits and pumps, or by gravity ditching procedures. If conditions are encountered that cannot be handled in such a manner, the Geotechnical Engineer should be consulted.

Adequate drainage should be provided at the site to minimize any increases in the moisture contents of the foundation soils. All other graded areas should be sloped away from the structure to prevent the ponding of water.

5.4 Foundations

Our findings indicate that the proposed structure can be supported on foundations bearing on firm natural soils. As stated previously, it has been assumed that the foundations for the culverts will be located at least 3x ft below the existing site grades at the proposed bearing locations. If foundations are to be supported at shallower depths, then some additional modification to the shallow subsurface conditions should be anticipated.

Based on the maximum anticipated structural loads, the maximum allowable settlement, and the general soil conditions which were encountered, it is our judgment that a net allowable design soil bearing pressure of 3000 psf will be appropriate for proportioning foundations supported on firm, natural materials.

The exposed foundation subsurfaces should be inspected by a Geotechnical Engineer or experienced Soils Inspector prior to the placement of concrete. The purpose of the inspection would be to verify that the exposed materials will be capable of supporting the design bearing pressure. If soft or loose pockets are encountered during the footing excavations, the unsuitable materials should be removed and replaced with lean (2000 psi) concrete or with a clean, washed #57 stone or other approved free-draining coarse-granular material back to the proposed culvert bearing level.

Foundation subsurfaces should be located at depths of at least 2.5 ft below final exterior grades so as to provide adequate protection from frost heave.

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.

WOODS OF TIBER BRANCH II CULVERT
Geotechnical Engineering Study Page 7

6.0 RECOMMENDED ADDITIONAL SERVICES

Additional soil and foundation engineering, testing, and consulting services recommended for this project are summarized as follows:

Site Preparation and Profiling: A Geotechnical Engineer or experienced Soils Inspector should inspect the site after it has been stripped and excavated. The inspector should determine if any undercutting or in-place densification is necessary to prepare a subgrade for fill placement.

Fill Placement and Compaction: A Geotechnical Engineer or experienced Soils Inspector should witness any required filling operations and should take sufficient in-place density tests to verify that the specified degree of fill compaction is achieved. He should observe and approve borrow materials used and should determine if their existing moisture contents are suitable.

Footing Excavation Inspections: A Geotechnical Engineer or experienced Soils Inspector should inspect the footing excavations. He should verify that the design bearing pressure is available and that no loose pockets exist beneath the bearing surfaces. Based on the inspection, the inspector would either approve the bearing surfaces or recommend that loose or soft soils be undercut to expose satisfactory bearing materials.

7.0 REMARKS

This report has been prepared to aid in the evaluation of the site for the proposed culvert construction. It is recommended that adequate recommendations have been provided to serve as a basis for design and preparation of plans and specifications. Additional recommendations can be provided as needed.

These analyses and recommendations are, of necessity, based on the information made available to us at the time of the actual writing of the report and the on-site conditions, surface and subsurface, that existed at the time the exploratory borings were drilled. Further assumption has been made that the limited exploratory borings, in relation both to the areal extent of the site and to depth, are representative of conditions across the site.

If subsurface conditions are encountered which differ from those reported herein, this Office should be notified immediately so that the analyses and recommendations can be reviewed and/or revised as necessary. It is also recommended that:

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.

OWNERS
ANNEPOSTLETT/WURTZER
4020 OLD COLUMBIA PIKE
ELLCOTT CITY, MARYLAND 21043
410-485-4649

TRINITY HOMES AT WOODS
OF TIBER BRANCH II, LLC
3675 PARK AVE., STE. 301
ELLCOTT CITY, MARYLAND 21043-4511
(410) 480-0023

DEVELOPER
TRINITY HOMES AT WOODS
OF TIBER BRANCH II, LLC
3675 PARK AVE., STE. 301
ELLCOTT CITY, MARYLAND 21043
(410) 480-0023

DNR QUALIFIED FOREST PROFESSIONAL
JOHN CALLES
ECO-SCIENCE PROFESSIONALS, INC.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Walter J. ... 6-25-07
Chief, Bureau of Highways Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy ... 7/2/07
Chief, Development Engineering Division Date

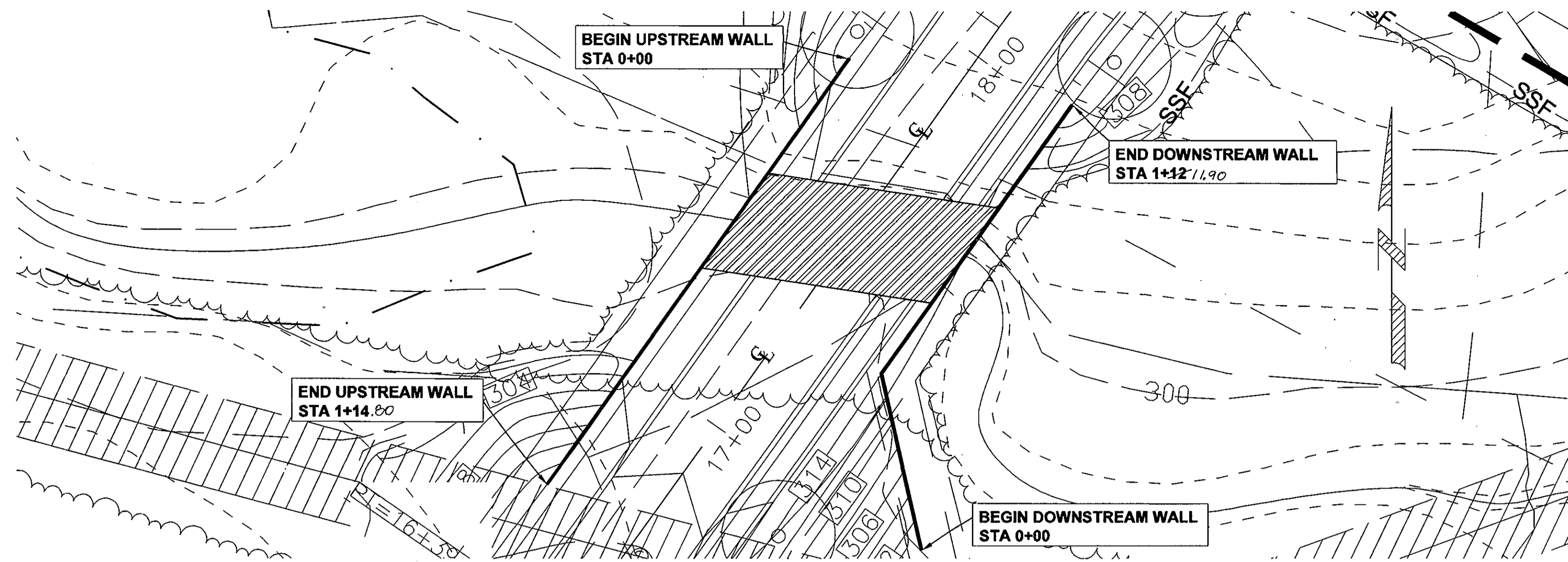
FINAL ROAD CONSTRUCTION PLAN
FOREST CONSERVATION NOTES AND DETAILS &
SEDIMENT & EROSION CONTROL DETAILS
THE WOODS OF TIBER BRANCH II - PHASE III & IIII
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAN ENTITLED
"PLAT OF RESUBDIVISION LOT 4 & LOT 5 WURTZER PROPERTY
SUBDIVISION OF TM PARCEL 881
RECORDED AS PLAT NO. 17414 PARCELS 254
TAX MAP 24, BLOCK 18 DISTRICT
REF: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLCOTT CITY, MD 21043 TEL: 410.461.7666
FAX: 410.461.8961

DESIGN BY: RHR/RJ
DRAWN BY: RJ
CHECKED BY: RHR
DATE: 03-30-2007
SCALE: AS SHOWN
W.O. NO.: 03-43.00

22 SHEET OF 28

AS-BUILT 10/16/12 F-06-201

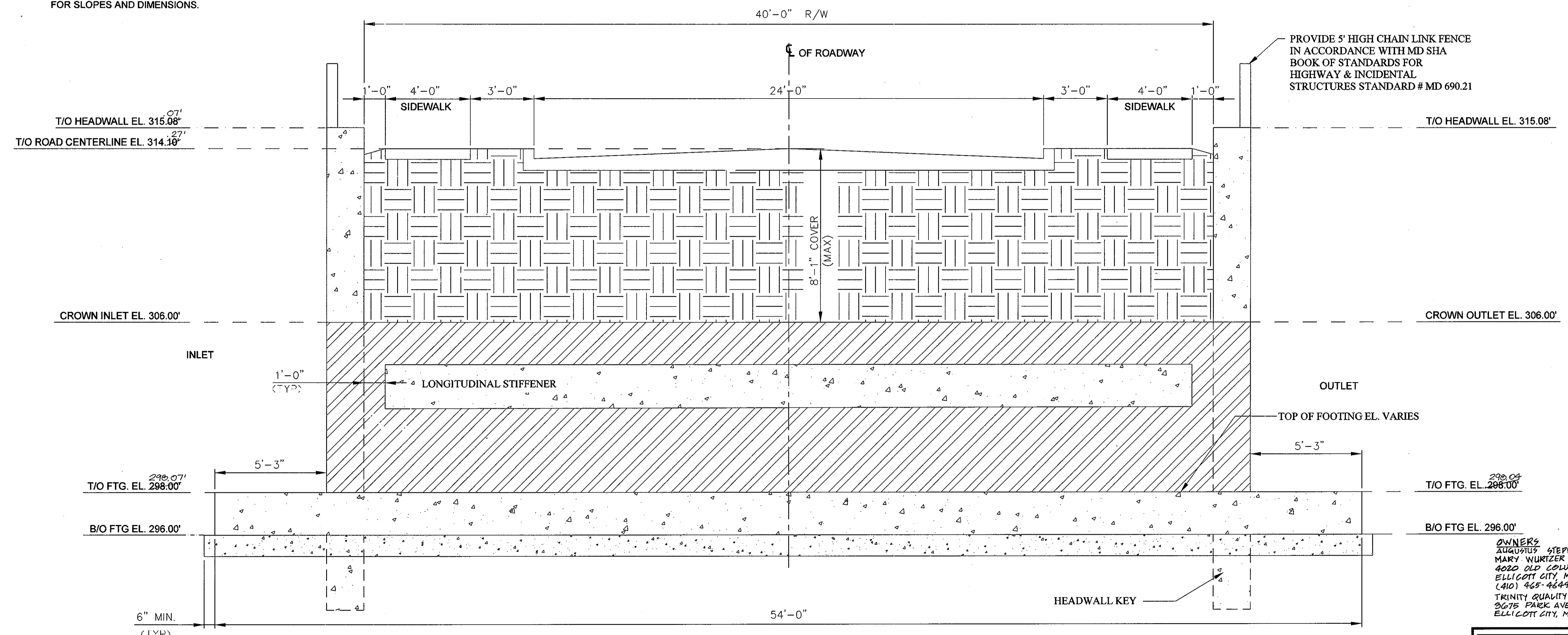


PLAN VIEW (LOW PROFILE ARCH LA2706)
SCALE: 1" = 20'

APPROVED: DEPARTMENT OF PLANNING & ZONING
[Signature] 6/29/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 7/9/07
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 6-25-07
 CHIEF, BUREAU OF HIGHWAYS DATE

NOTE: REFERENCE ROAD CROSS SECTION FOR SLOPES AND DIMENSIONS.



CULVERT CENTERLINE PROFILE (LOW PROFILE ARCH NO. LA2706)
SCALE: 3/8" = 1'

OWNERS
 TRINITY QUALITY HOMES, INC.
 3675 PARK AVE., STE. 301
 ELLICOTT CITY, MARYLAND 21043
 (410) 465-4644

DEVELOPER
 TRINITY QUALITY HOMES, INC.
 3675 PARK AVE., STE. 301
 ELLICOTT CITY, MARYLAND 21043
 410-465-0023

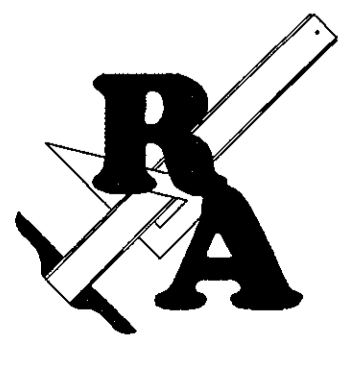
FINAL ROAD CONSTRUCTION PLAN
 THE WOODS OF TIBER BRANCH II
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF REVISION LOT 4 & LOT 5 WURTZER PROPERTY
 SUBDIVISION OF TM PARCEL 881
 RECORDED AS PLAT NO. 174.14
 TAX MAP 24 BLOCK 18 PARCELS 284
 2ND ELECTION DISTRICT & A SUBDIVISION OF THE ALBAN PROPERTY, PARCEL 811
 REF.: F-98-130, VP-04-20 HOWARD COUNTY, MARYLAND

REVISIONS			
No.	DATE	BY	DESCRIPTION
1	10/31/08	MH	PER COMMENTS FROM COUNTY DATED 08/30/08

DRAWN BY: DH
 DESIGN BY: MH
 CHECKED BY: MS
 DATE: 08/24/07

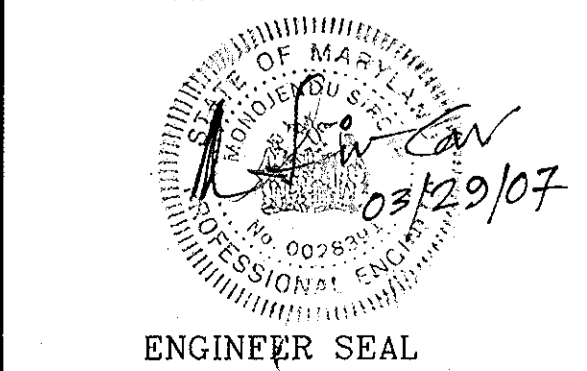
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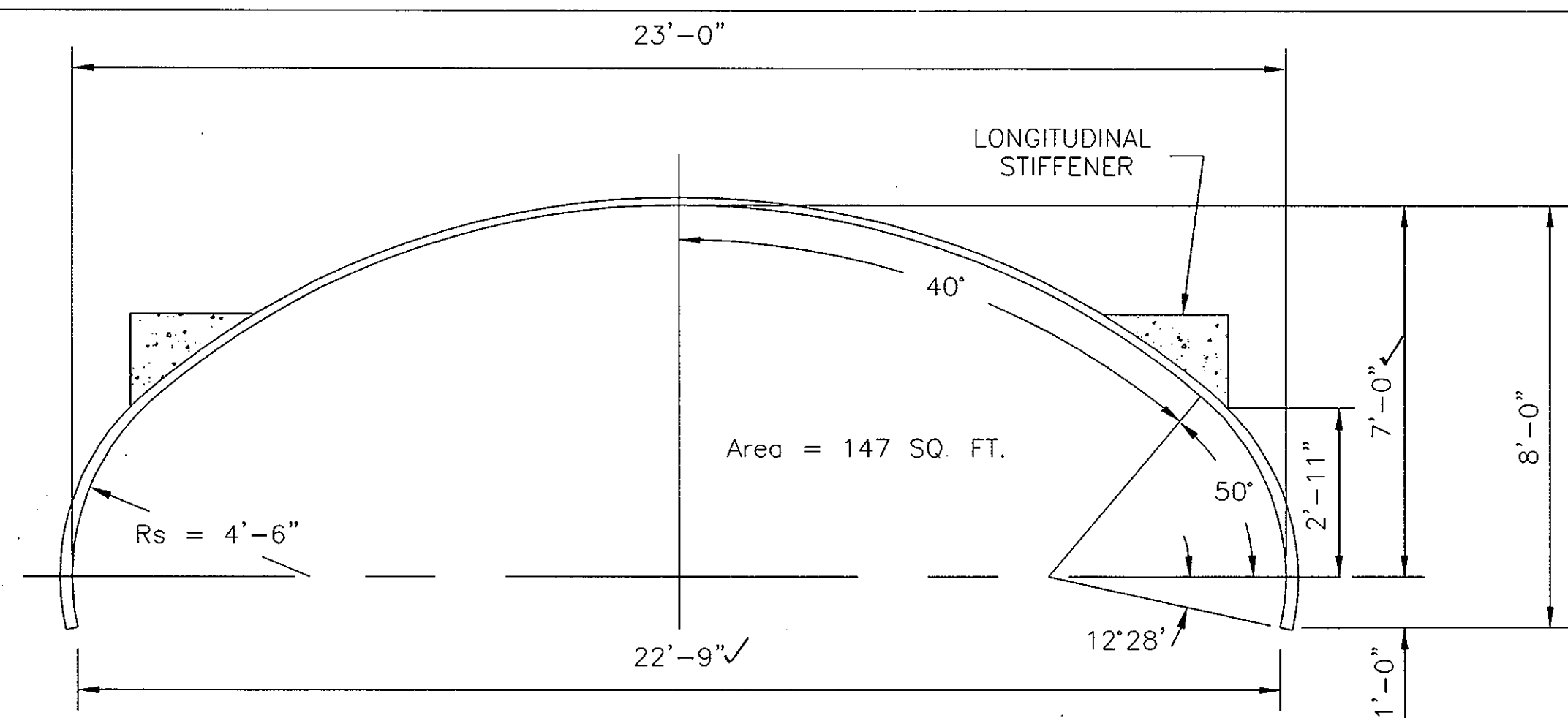
CLIENT: LONG SPAN BRIDGE & CULVERT, LLC
 OWNER: TRINITY HOMES
 JOB No: 1101-06-01



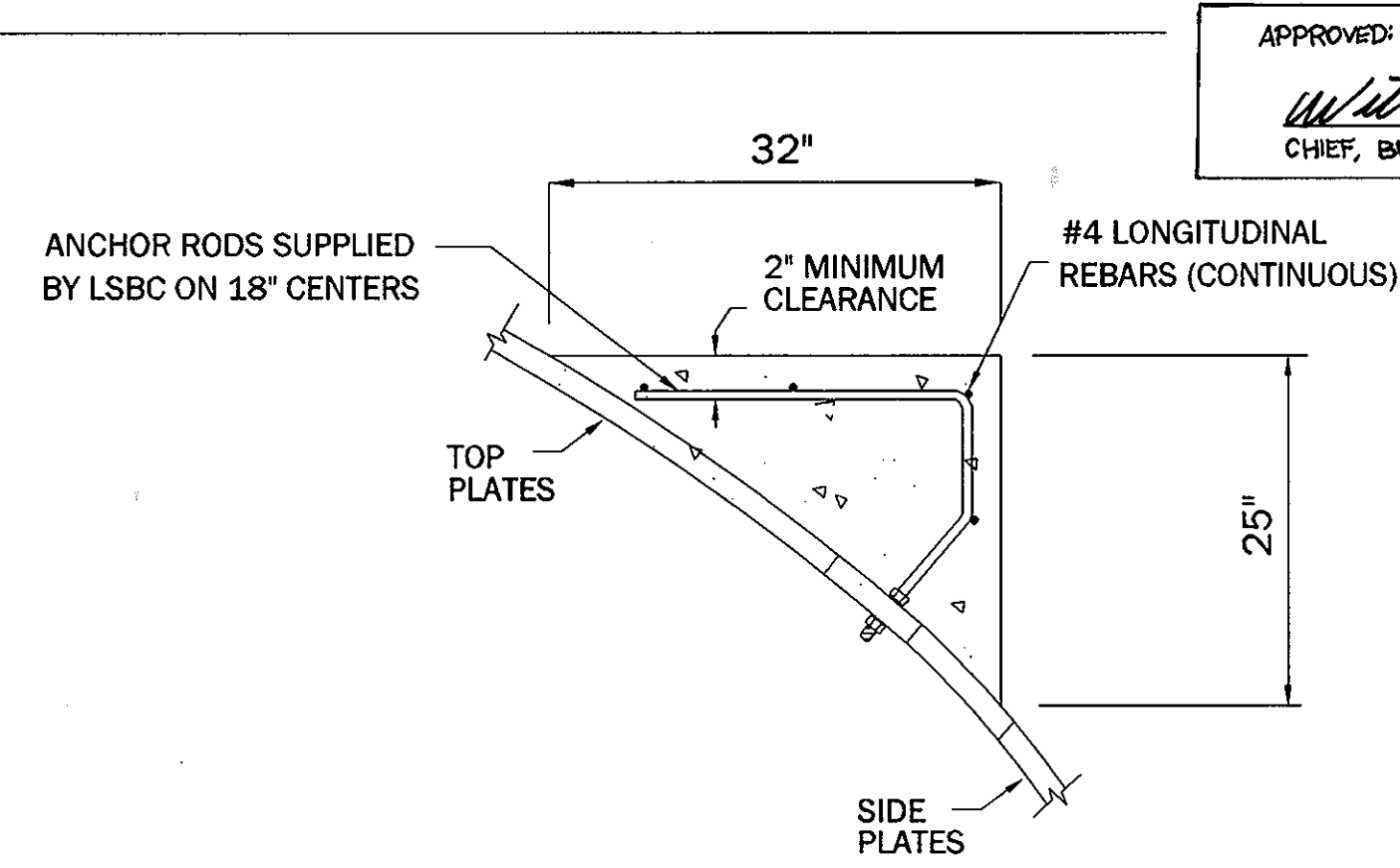
Ryan & Associates
 A Division of WKR Consulting Inc.
 Consulting & Design Engineers
 Structural - Geotechnical - Civil
 Email: info@ryanandassociates.net
 922 North East St. Tel: (301) 360-9534
 Frederick, Md. 21701 Fax: (301) 360-9574

PLAN AND PROFILE
 LONG SPAN LOW PROFILE ARCH LA2706
 WOODS OF TIBER BRANCH II
 HOWARD CO., MD

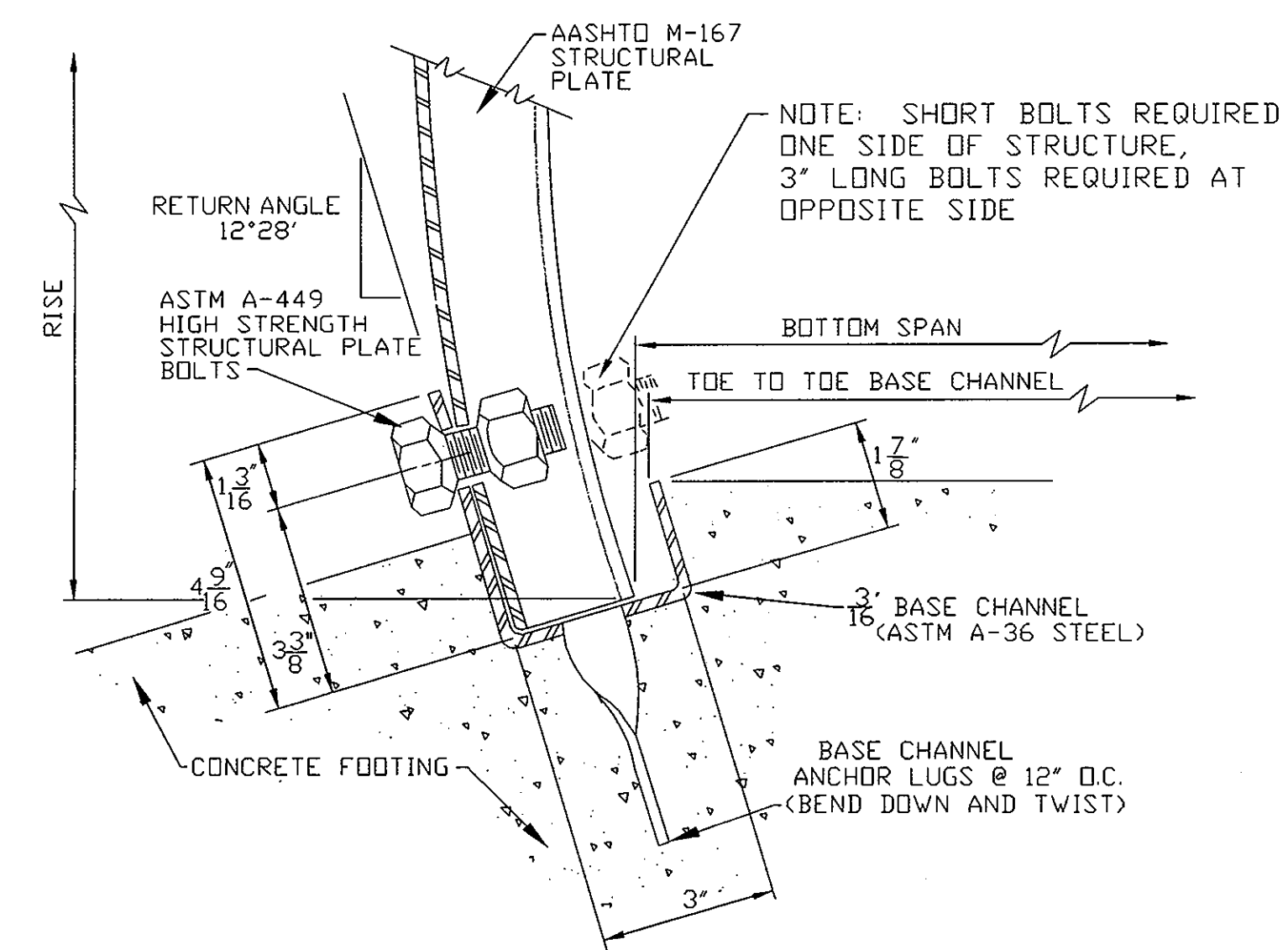




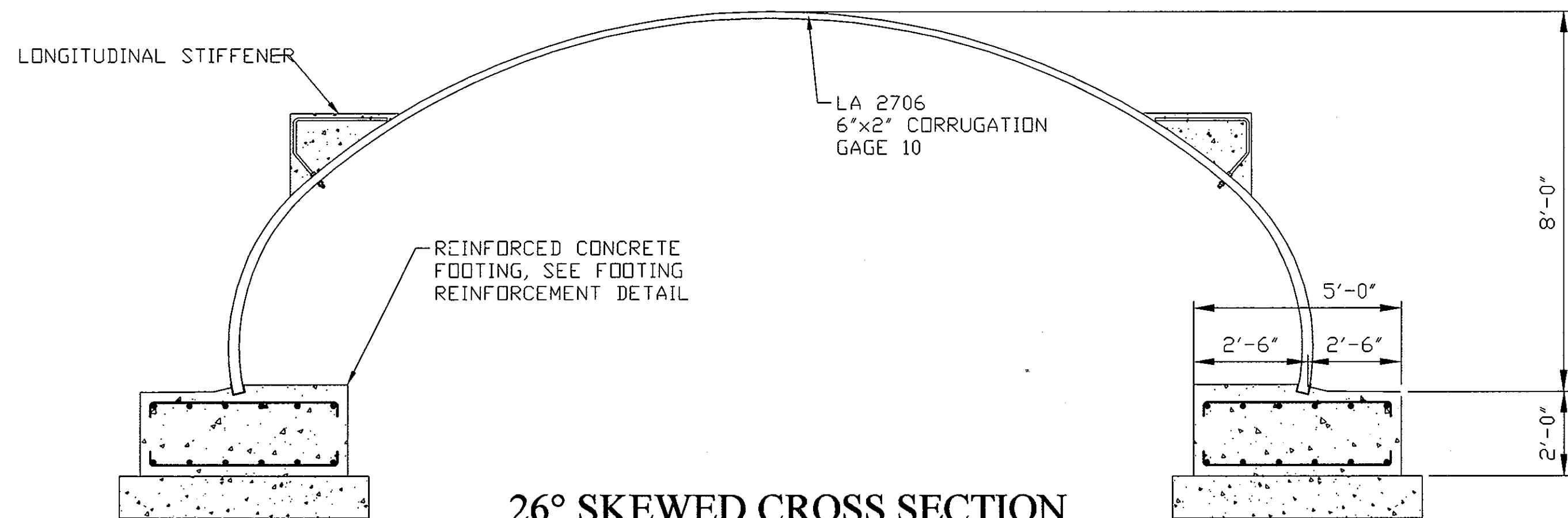
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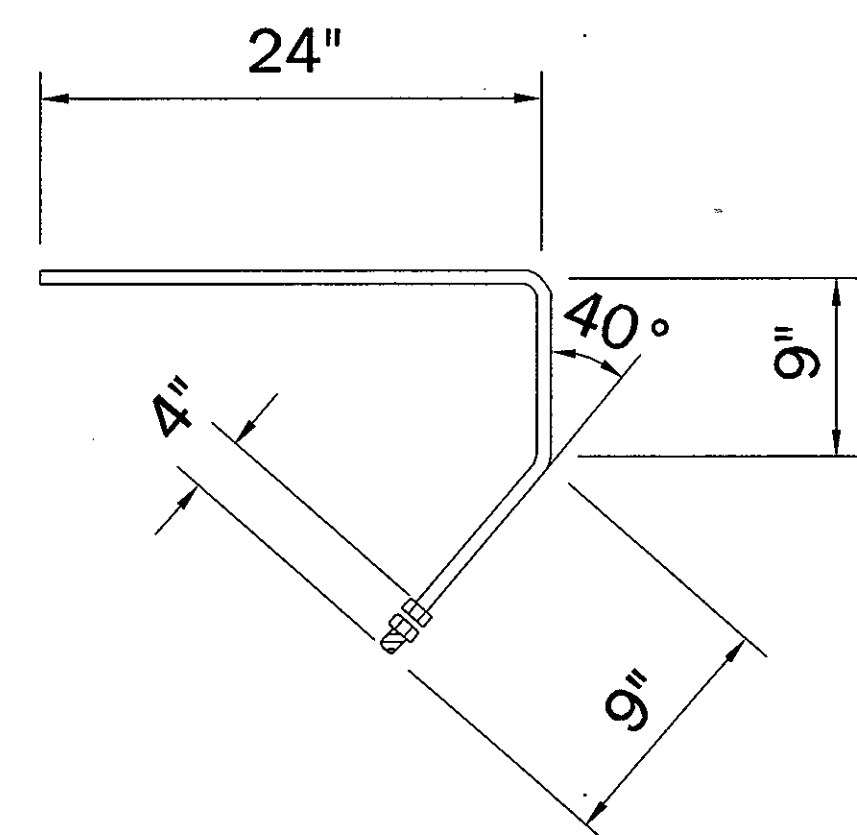
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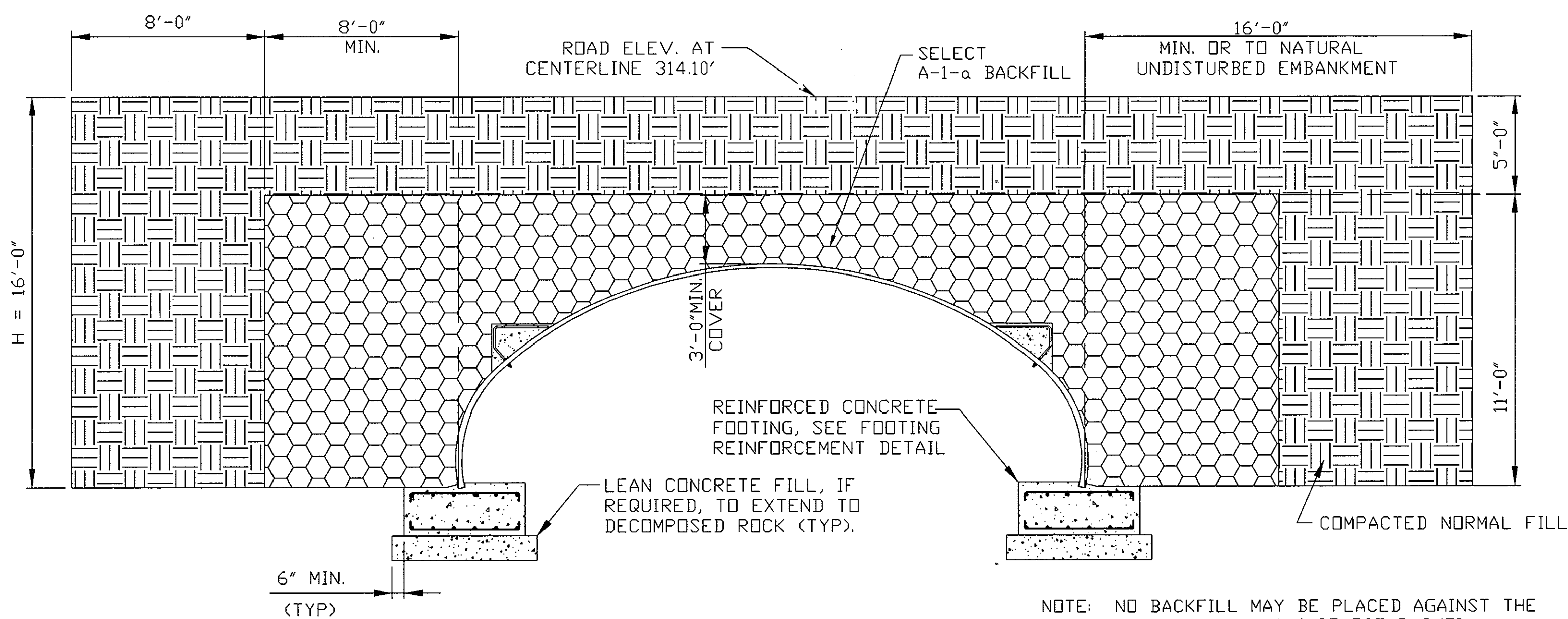
BASE CHANNEL DETAIL
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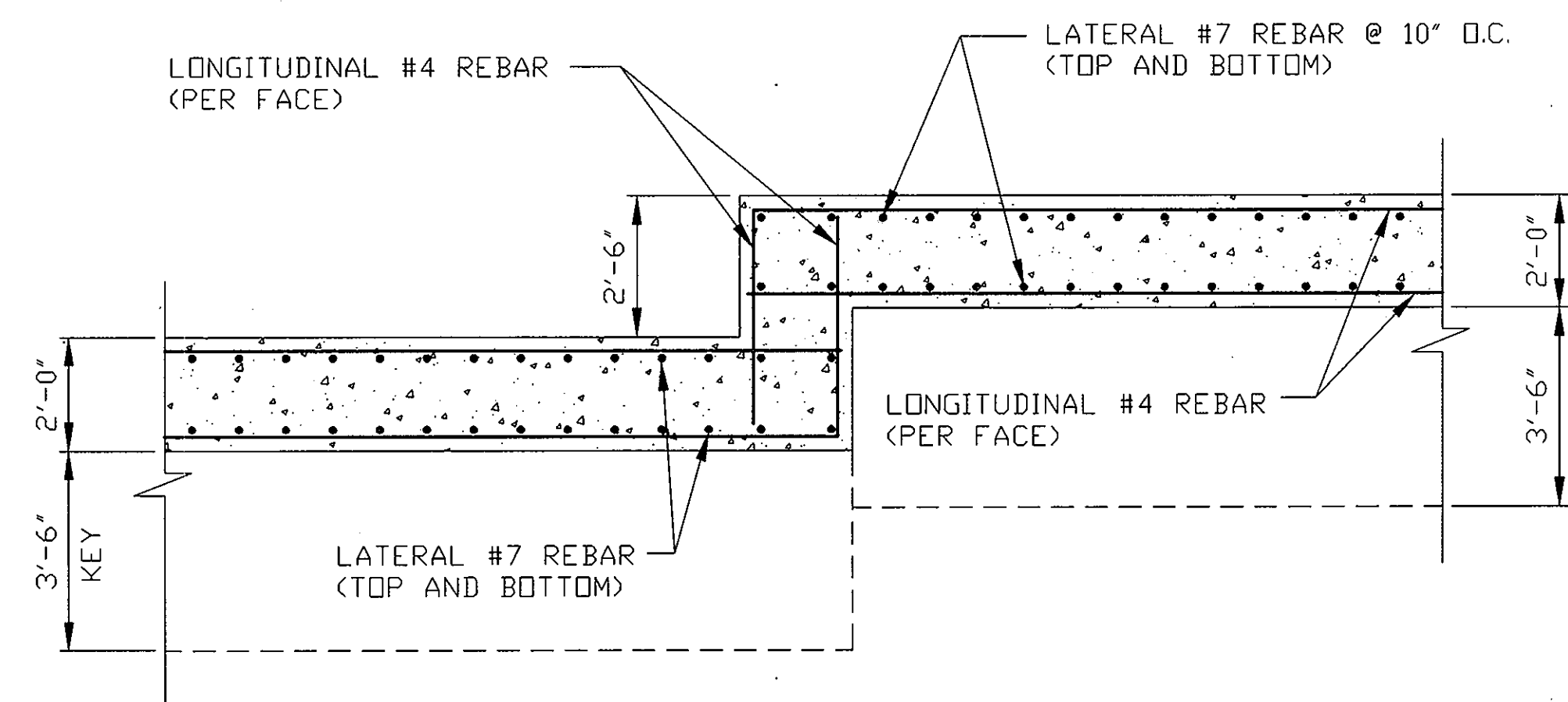
26° SKEWED CROSS SECTION
SCALE: 3/8" = 1'



BENT ROD DETAIL
NOT TO SCALE



TYPICAL SELECT BACKFILL SECTION AT CENTERLINE OF ROAD
SCALE: 1/4" = 1'



DOWNSTREAM HEADWALL FOOTING STEP DETAIL
(RIGHT SIDE FACING UPSTREAM)
SCALE: 3/8" = 1'

OWNERS
AUGUSTUS STEPHEN WURTZER
MARY WURTZER SULLBER
4020 OLD COLUMBIA PIKE
ELLICOTT CITY, MARYLAND 21043
(410) 465-4049

DEVELOPER
TRINITY QUALITY HOMES, INC.
3675 PARK AVE., STE. 301
ELLICOTT CITY, MARYLAND 21043-4911

FINAL ROAD CONSTRUCTION PLAN
THE WOODS OF TIBER BRANCH II
A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
PLAT OF REVISION LOT 4 & LOT 5 WURTZER PROPERTY
SUBDIVISION OF TM PARCEL 881
RECORDED AS PLAT NO. 17414

TAX MAP 24 BLOCK 18 PARCELS 284
2ND ELECTION DISTRICT & A SUBDIVISION OF THE ALBAN PROPERTY, PARCEL 811
REF. F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

REVISIONS			
No.	DATE	BY	DESCRIPTION
1	10/31/08	MH	PER COMMENTS FROM COUNTY DATED 08/30/08

DRAWN BY: DH
DESIGN BY: MH
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DATE: 04/28/08

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CLIENT: LONG SPAN BRIDGE & CULVERT, LLC
OWNER: TRINITY HOMES
JOB No: 1101-06-01

Ryan & Associates
A Division of WKR Consulting Inc.
Consulting & Design Engineers
Structural - Geotechnical - Civil
Email: info@ryanandassociates.net
922 North East St. Tel (301) 360-9534
Frederick, Md. 21701 Fax (301) 360-9574

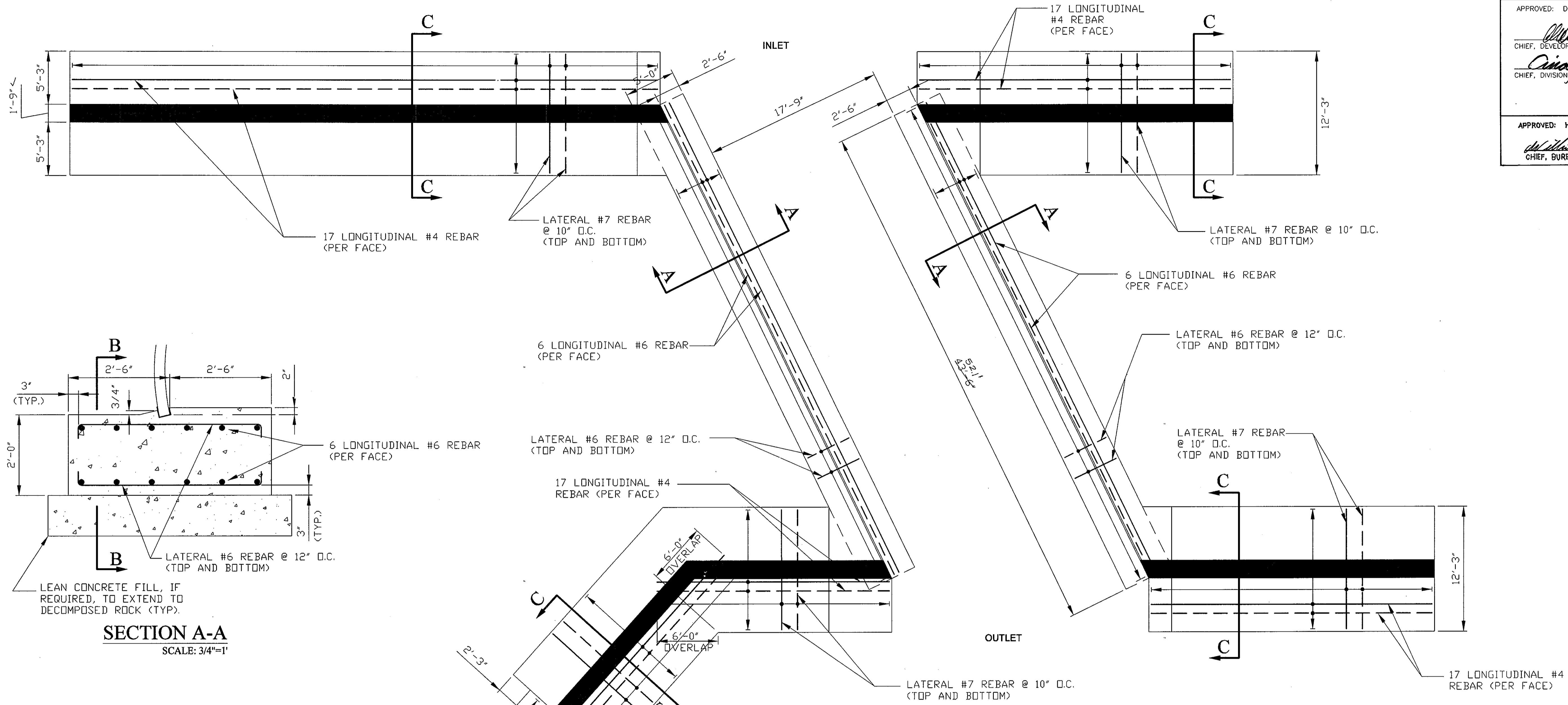
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LONG SPAN LOW PROFILE ARCH LA 2706
WOODS OF TIBER BRANCH II
HOWARD CO. MD

ENGINEER SEAL
03/29/07

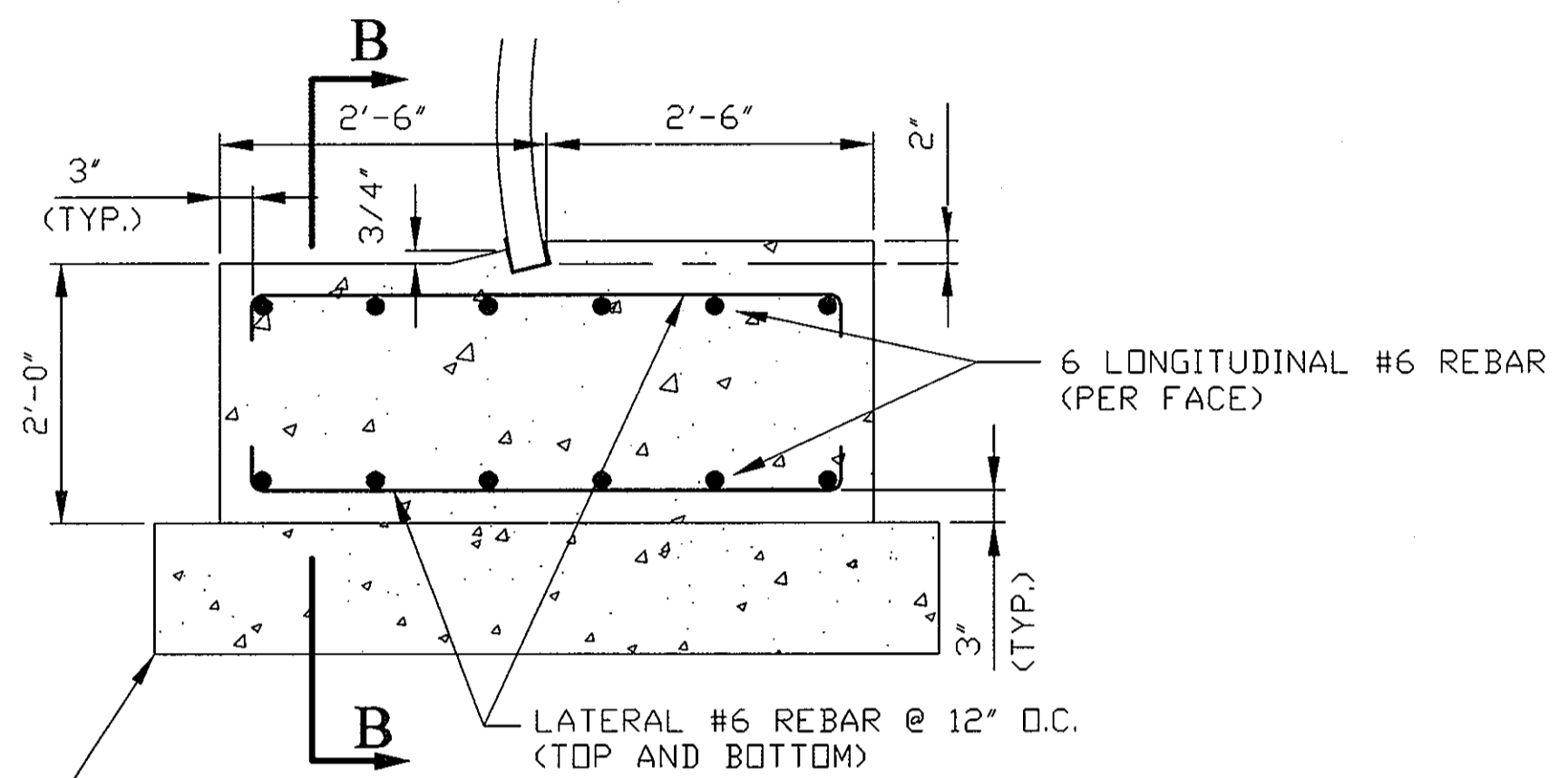
24 SHEET OF 28
AS-BUILT 10/16/12
F-06-201

APPROVED: DEPARTMENT OF PLANNING & ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 7/2/07

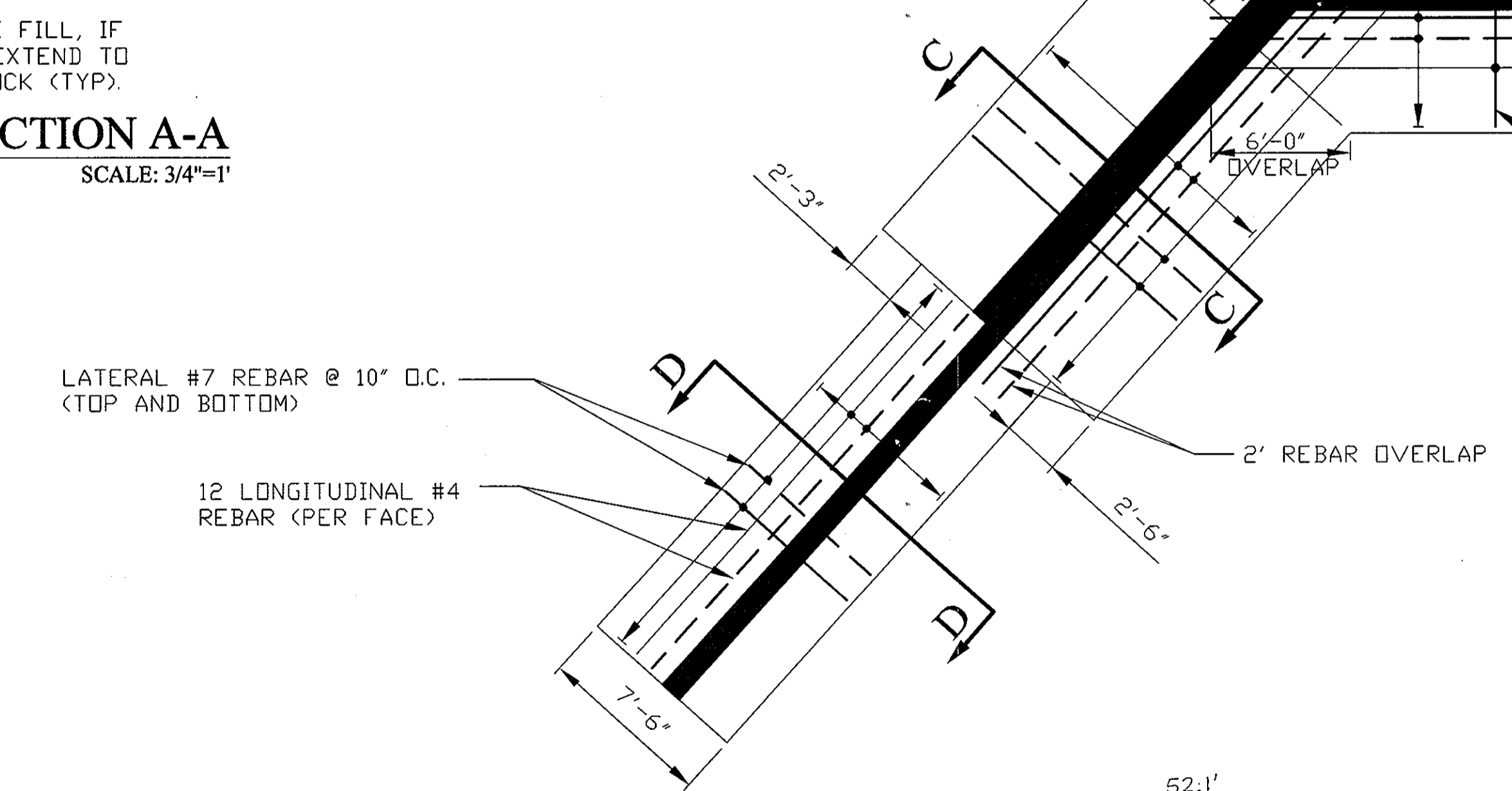
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 6-25-07



CULVERT & HEADWALL FOOTING PLAN
 SCALE: N.T.S.



SECTION A-A
 SCALE: 3/4"=1'



SECTION B-B
 SCALE: N.T.S.

OWNERS
 AUGUSTUS STEPHEN WURTZER
 MARY WURTZER OULLIBER
 9020 OLD COLUMBIA PIKE
 ELLICOTT CITY, MARYLAND 21043
 (410) 466-4649

DEVELOPER
 TRINITY QUALITY HOMES, INC.
 3075 PARK AVE., STE. 301
 ELLICOTT CITY, MARYLAND 21043
 (410) 480-0023

FINAL ROAD CONSTRUCTION PLAN
THE WOODS OF TIBER BRANCH II
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF REVISION LOT 4 & LOT 5 WURTZER PROPERTY
 SUBDIVISION OF TM PARCEL 881
 RECORDED AS PLAT NO. 17414

TAX MAP 24 BLOCK 18 PARCELS 264
 2ND ELECTION DISTRICT & A SUBDIVISION OF THE ALBAN PROPERTY, PARCEL 811
 REF.: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

REVISIONS				
No.	DATE	BY	DESCRIPTION	
1.	10/31/06	MH	PER COMMENTS FROM COUNTY DATED 08/30/06	

DRAWN BY: DH
 DESIGN BY: MH
 CHECKED BY: MS
 DATE: 04/28/08

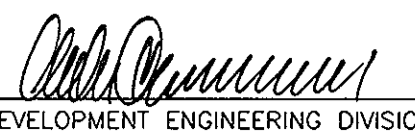
DO NOT SCALE THIS DRAWING.
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CLIENT: LONG SPAN BRIDGE & CULVERT, LLC
 OWNER: TRINITY HOMES
 JOB No: 1101-06-01

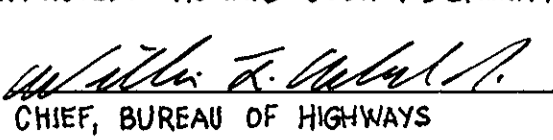
Ryan & Associates
 A Division of WKR Consulting Inc.
Consulting & Design Engineers
 Structural - Geotechnical - Civil
 Email: info@ryanandassociates.net
 922 North East St. Tel (301) 360-9534
 Frederick, Md. 21701 Fax (301) 360-9574

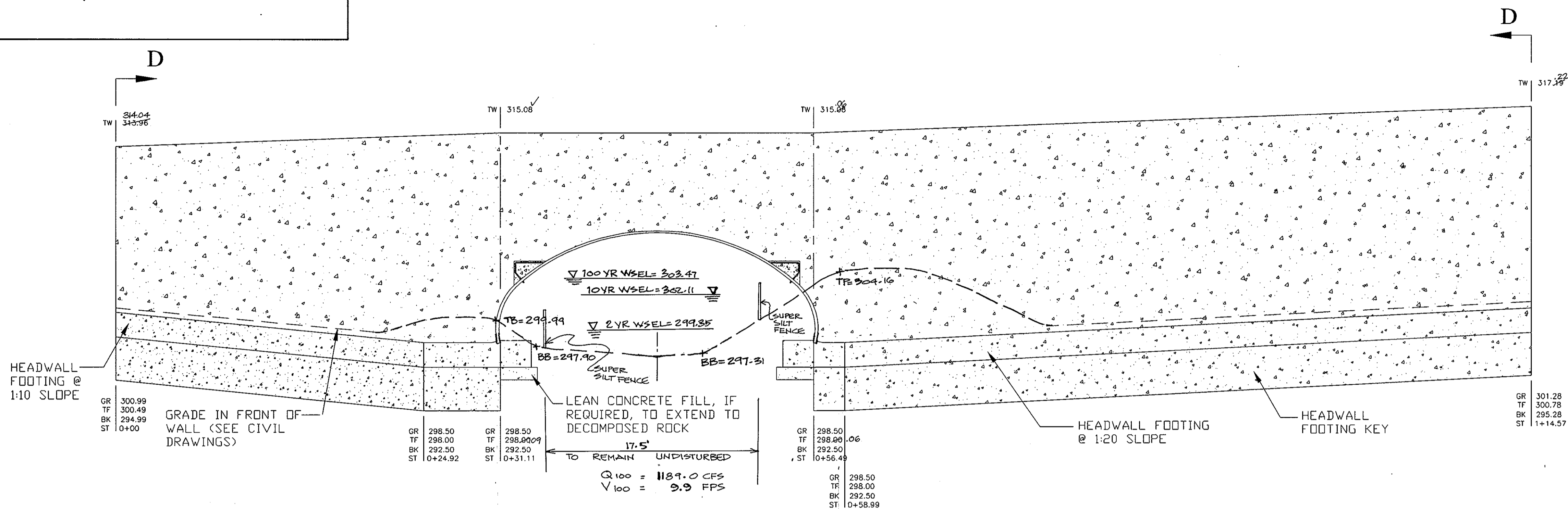
FOOTING REINFORCEMENT DETAILS
 LONG SPAN LOW PROFILE ARCH LA 2706
WOODS OF TIBER BRANCH II
 HOWARD CO. MD

ENGINEER SEAL
 03/29/07


 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6/22/07


 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 7/2/07

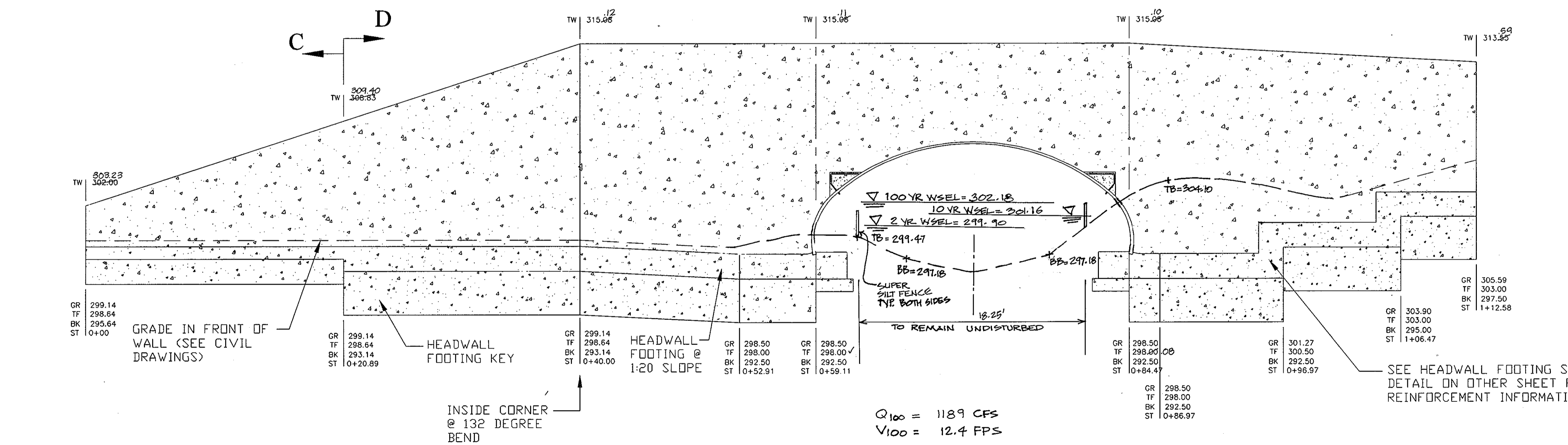

 CHIEF, BUREAU OF HIGHWAYS
 DATE: 6-25-07



UPSTREAM CULVERT HEADWALL PROFILE

SCALE: 3/16"=1'

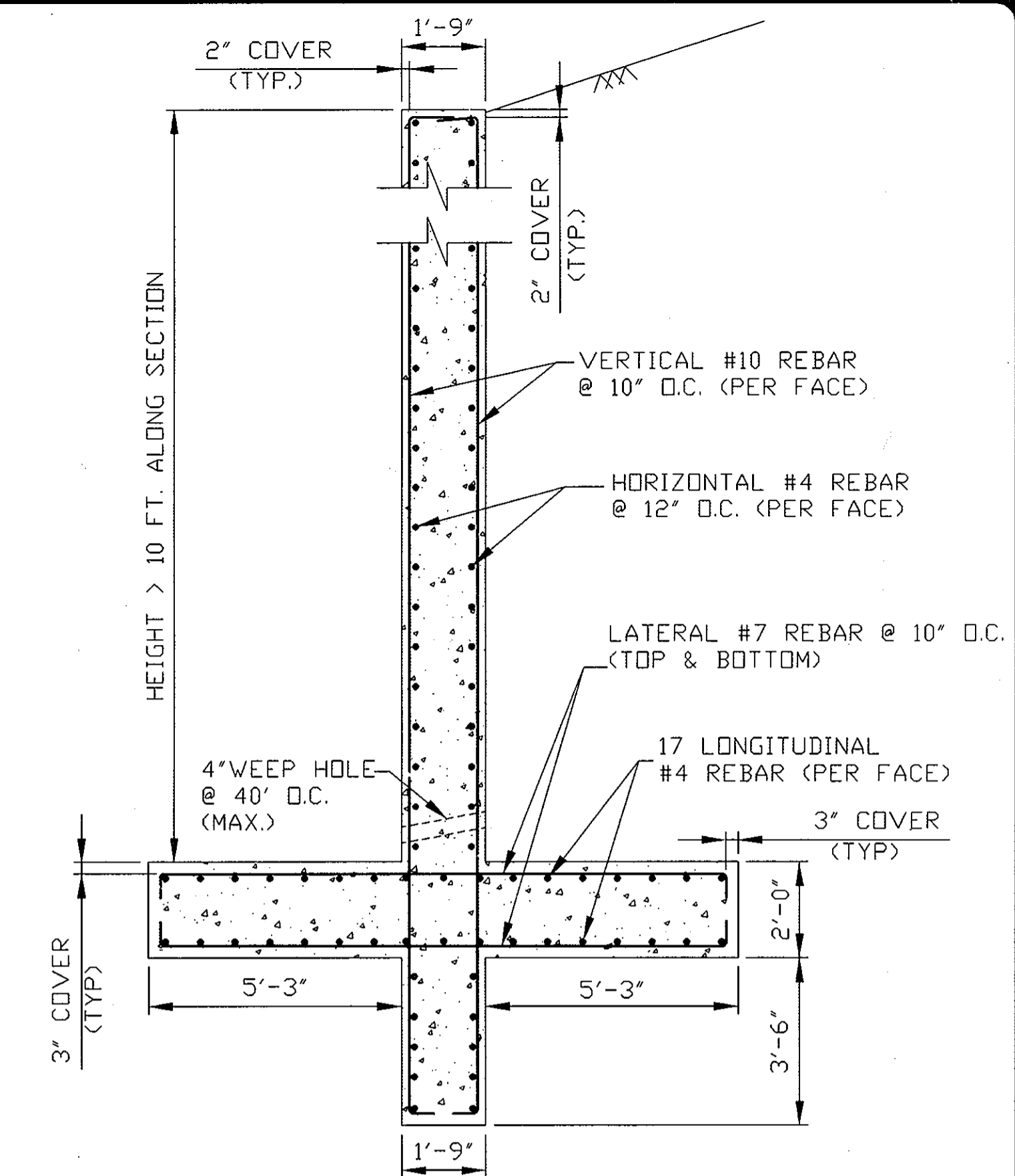
TW = TOP OF WALL
 GR = PROPOSED FINISHED GRADE AT BASE OF WALL
 TF = TOP OF WALL FOOTING
 BK = BOTTOM OF KEY
 ST = WALL STATION



DOWNSTREAM CULVERT HEADWALL PROFILE

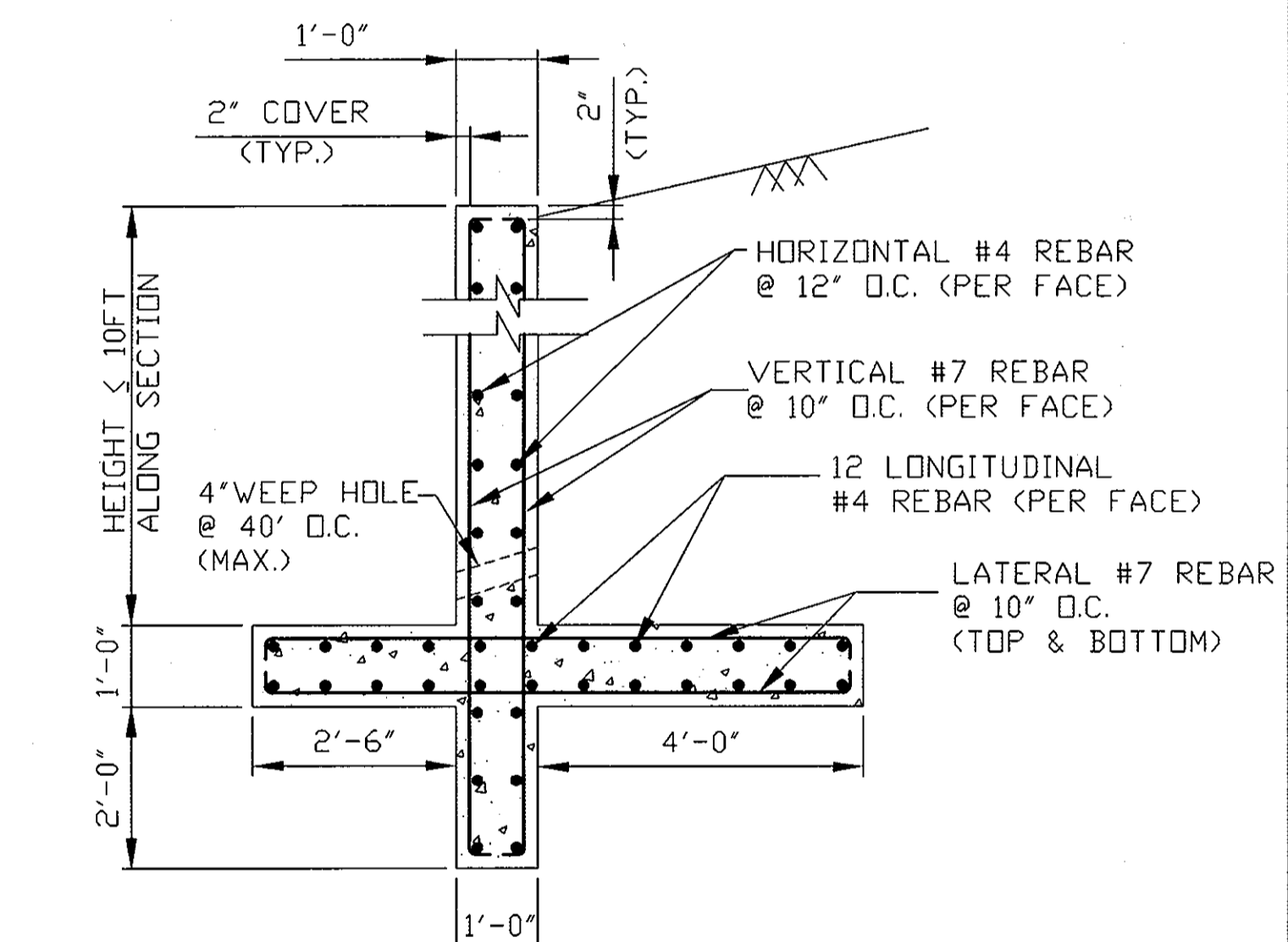
SCALE: 3/16"=1'

TW = TOP OF WALL
 GR = PROPOSED FINISHED GRADE AT BASE OF WALL
 TF = TOP OF WALL FOOTING
 BK = BOTTOM OF KEY
 ST = WALL STATION



CULVERT HEADWALL SECTION C-C

SCALE: 3/8"=1'



CULVERT HEADWALL SECTION D-D

SCALE: 1/2"=1'

OWNERS:
 AUGUSTUS STEPHEN WURTZER
 MARY WURTZER OULLIBER
 4020 OLD COLUMBIA PIKE
 BELLICOTT CITY, MARYLAND 21048
 410-468-4649

DEVELOPER:
 TRINITY QUALITY HOMES, INC.
 3075 PARK AVE., STE. 301
 BELLICOTT CITY, MARYLAND 21048
 (410)-480-0022

TRINITY QUALITY HOMES, INC.
 3075 PARK AVE., STE. 301
 BELLICOTT CITY, MARYLAND
 (410)-480-0022

FINAL ROAD CONSTRUCTION PLAN
THE WOODS OF TIBER BRANCH II
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF REVISION LOT 4 & LOT 5 WURTZER PROPERTY
 SUBDIVISION OF TM PARCEL 881
 RECORDED AS PLAT NO. 17414

TAX MAP 24 BLOCK 18 PARCELS '264'
 2ND ELECTION DISTRICT & A SUBDIVISION OF THE ALBAN PROPERTY, PARCEL 811
 REF.: F-98-130, WP-04-20 HOWARD COUNTY, MARYLAND

REVISIONS			
No.	DATE	BY	DESCRIPTION
1	10/31/06	MH	PER COMMENTS FROM COUNTY DATED 08/30/06

DRAWN BY: DH
 DESIGN BY: MH
 CHECKED BY: MS
 DATE: 04/28/06

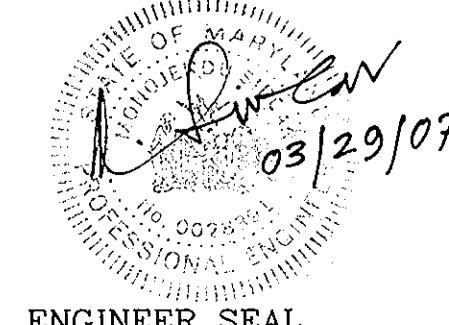
DO NOT SCALE THIS DRAWING.
 DIMENSIONS AND NOTES HAVE
 PRECEDENCE OVER DRAWING.

CLIENT: LONG SPAN BRIDGE & CULVERT, LLC
 OWNER: TRINITY HOMES
 JOB No. 1101-06-01



Ryan & Associates
 A Division of WKR Consulting Inc.
Consulting & Design Engineers
 Structural - Geotechnical - Civil
 Email: info@ryanandassociates.net
 922 North East St. Tel (301) 360-9534
 Frederick, Md. 21701 Fax (301) 360-9574

HEADWALL PROFILES & SECTIONS
 LONG SPAN LOW PROFILE ARCH LA 2706
WOODS OF TIBER BRANCH II
 HOWARD CO. MD


 ENGINEER SEAL
 03/29/07

NOTES & SPECIFICATIONS

1: DEFINITIONS

- 1.01 Owner: Trinity Homes, Ellicott City, MD
- 1.02 Contractor: xxx
- 1.03 Design Engineer: Ryan & Associates, Inc., Frederick, MD
- 1.04 Site Civil Engineer: Vogel Engineering, Inc., Ellicott City, MD

A. If any of the above responsibilities change it is the owner's responsibility to notify LSBC prior to the start of the work. It is the owner's responsibility to make sure all parties listed above are aware of their roles, requirements, responsibilities and final submittals.

2: GENERAL

- 2.01 Contractor shall notify site engineer of any discrepancies, omissions, or conflicts between the various elements of the working drawings and/or specifications before proceeding with any work involved. In all cases, unless otherwise directed, the most stringent requirements shall govern and be performed.
- 2.02 Contractor shall verify all conditions, dimensions and elevations, etc., at the site and shall coordinate work performed by all trades. Do not scale drawings.
- 2.03 Shop drawings shall be reviewed and approved by the civil engineer prior to fabrication.
- 2.04 Sizes, locations, loads, and anchorage of equipment shall be verified in the field with equipment manufacturers (suppliers) prior to fabrication or installation of supporting structures.
- 2.05 Temporary bracing shall be provided wherever necessary to take care of all loads to which the structure may be subjected, including wind. Such bracing shall be left in place as long as may be required for safety or until all the structure elements are complete.
- 2.06 During and after construction the contractor and/or owner shall keep loads on the structure within the limits of the design load.
- 2.07 Contractor shall be responsible for safety and protection within and adjacent to the job site.
- 2.08 Civil engineer is responsible for erosion and sediment control design.
- 2.09 Road pavement design and its appurtenance structure are civil engineer's responsibility. Refer all pavement and roadway drainage system to civil drawing(s).

3: CONCRETE

- 3.01 All foundation concrete (footings, walls etc.) shall be normal weight concrete with a compressive strength equal to at least 4,000 psi within 28 days after casting. The water/cement ratio shall be no greater than 0.50 and slump shall be 2-4 inches.
- 3.02 All concrete work shall be placed, cured, stripped and protected as directed by these specifications and ACI standards and practices.
- 3.03 Contractor is responsible for all shoring and formwork.
- 3.04 Concrete design and detailing shall conform to the requirements of ACI 318-02. Contractor shall submit mix designs to the site engineer accompanied by appropriate graphs and background data for approval. Mix design shall indicate 7 and 28-day strengths, cement content, air content, water-cement ratio, amount of fine and coarse aggregates and admixtures.

a. Minimum ultimate compressive strength of concrete at 28 days shall be as follows, unless noted otherwise:	
Footings and other concrete:	4000 PSI
Unreinforced concrete:	2000 PSI

- 3.05 All exterior concrete and concrete exposed to weather shall be air-entrained.
- 3.06 Use of additives shall not be permitted unless specifically approved by the site engineer.
- 3.07 The concrete subcontractor shall not reproduce any portion of the structural contract drawings for utilization as shop drawings.
- 3.08 Concrete shall be consolidated by means of mechanical vibration. Vibrators shall be inserted and removed vertically at regular intervals not to exceed 18" to ensure uniform consolidation. In no case shall vibrators be used to transport the concrete inside the forms.
- 3.09 Formwork shall follow ACI 347. "Recommended practice for concrete form work". Forms shall conform to the working drawing to shape, line and dimensions members and shall be substantially free from surface defects and sufficiently tight to prevent leakage. They shall be properly braced and tied to maintain position and shape.
- 3.10 Fresh concrete will be protected from rain, flowing water and mechanical injury, sun, drying winds and freezing for a period of 7 days. The temperature of the concrete must be kept above 50 degrees F for at least 7 days.
- 3.11 Ground water and surface water within the subgrade excavation area must be maintained below the bottoms of the footer elevation and the bottoms of the excavation during preparation of the subgrade.

4: GEOTECHNICAL NOTES

- 4.01 Geotechnical site information provided by others.
- 4.02 All structural fill soils will have a minimum dry density of 105PCF. Fill shall be compacted to at least 95% of the maximum dry density as determined by the standard proctor ASTM D698 (AASHTO T-99) with the exception of the top foot, which will be 100% of the maximum dry density.
- 4.03 All structural fill material will be placed in layers, which, before compaction, will not exceed eight inches. Each layer shall be spread to ensure conformity of materials in each layer.
- 4.04 Virgin/undisturbed soils are defined as soils with a minimum SPT "N" value of 12.

5: FOOTINGS

- 5.01 All footings are based on an allowable soil bearing pressure of 6,000 PSF. Any soil condition encountered during excavation that is contrary to those used for design of footings as outlined in these drawings shall be brought to the attention of the site Geotechnical Engineer for direction before proceeding.
- 5.02 Bottom of footings shall be a minimum of 3'-0" below finished grade, unless a lower elevation is noted. Footing elevations noted are estimated based on available geotechnical and grading information. All footings adjacent to existing footings shall be lowered to match existing footing elevation.
- 5.03 All foundation subgrades shall be inspected and approved under the supervision of the registered professional site Geotechnical Engineer or their representative prior to pouring concrete. Footings may be lowered to achieve the minimum footing subgrade bearing capacity of 6,000 PSF.

6: REINFORCING STEEL

- 6.01 Reinforcing bars shall be deformed billet steel conforming to ASTM A615, grade 60. All welded wire fabric shall conform to ASTM A185. Bars shall be branded by the manufacturer with bar size and grade of steel and certified mill reports shall be submitted to Site Engineer for record. Reinforcing steel shall be detailed in accordance with the ACI "manual of standard practice for detailing reinforced concrete structures", latest edition. Provide corner bars at junctions of concrete walls and wall footings and lap 48 x bar diameters.
- 6.02 With wall reinforcing as shown in typical details, size and spacing of corner bars to be same as horizontal wall reinforcing, unless shown otherwise. Where continuous bars are called for, they shall run continuously around corners and lapped as necessary min. 48 x bar diameters. Provide standard hooks at discontinuous ends. Tension and compression lap splices shall not be less than the splice lengths as given in ACI 318. Generally lap top bars at mid span and bottom bars at supports. Provide placing accessories in accordance with ACI recommendations.
- 6.03 Provide the following minimum concrete cover for reinforcement:
 - a. Concrete cast against and permanently exposed to earth ...3"
 - b. Concrete exposed to earth or weather:
 - No. 6 through No. 18 bars ...2"
 - No. 5 bar, W31 or D31 wire, and smaller ...1 1/2"
 - c. Concrete slabs, walls and joists not exposed to the earth or weather:
 - No. 14 and No. 18 bars ...1 1/2"
 - No. 11 bar and smaller ...3/4"
 - d. Beams, columns:
 - Primary reinforcement, ties, stirrups and spirals ... 1 1/2"

7: EARTHWORK SPECIFICATIONS

- 7.01 The contractor shall furnish all labor, material and equipment for the earthwork. The contractor shall perform all work and services except those set out and furnished by Long Span Bridge & Culvert, LLC. (LSBC)
- 7.02 This work shall consist of all clearing and grading, preparation of the land to be filled, filling of the land, spreading and compaction of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the project lines, grades, slopes and specifications.
- 7.03 This work is to be accomplished under the observation of the Site Engineer or their representative. Placement of the backfill material will not be permitted unless the Engineer or their representative is on site.
- 7.04 Prior to bidding the work, the contractor shall examine, investigate and inspect the construction site as to the nature and location of the work and local conditions at the construction site including, without limitation, the character of the surface or subsurface conditions and obstacles to be encountered on and around the construction site; and shall make such additional investigation as they may deem necessary for the planning and proper execution of the work.
- 7.05 The professional Site Geotechnical Engineer or their representative in the field shall verify the subgrade soil condition, gravel, and the rock quality. All stone subgrade shall be compacted with a vibratory plate compactor in no more than 8" lifts and verified by the professional Site Geotechnical Engineer or their representative.
- 7.06 If conditions other than those indicated by the confirmatory subsurface boring program are encountered by the contractor, Long Span Bridge & Culvert, LLC (LSBC) should be notified immediately. The material, which the contractor believes to be a changed condition, should not be disturbed so that LSBC and/or their designated representative can investigate the condition.
- 7.07 The work for clearing and grubbing includes furnishing all labor, materials, transportation, supervision, tools and construction machinery, which may be necessary to accomplish the clearing and grubbing for this project area.
- 7.08 All trees, bushes, etc., shall be removed from the limits of the proposed areas to receive fill or other engineered structures. The areas may be extended outside the actual lines of construction only to the distance required to provide the contractor with sufficient space to perform the work.
- 7.09 All stumps, vegetation, brush, debris or deleterious materials shall be removed from the limits of the fill or other engineered structures.
- 7.10 The work for stripping includes furnishing all labor, materials, transportation, supervision, tools and construction machinery, which may be necessary to be provided by the contractor.
- 7.11 When the construction/operation sequence requires, the area of fill or other engineered structures shall be properly stripped. This stripping shall include topsoil and other deleterious materials. Topsoil shall be removed to its full depth and stockpiled for use in the final cover. Any rubbish, organic and objectionable soils and other deleterious material shall be properly disposed of at a site approved by owner or LSBC.
- 7.12 The lines and grades shall be established by using control benchmarks provided by licensed surveyors.
- 7.13 Soft or spongy cohesive or silty materials encountered at the base of the excavation shall be removed at the direction of the Site Geotechnical Engineer or their representative. The excavation for the footing wall foundations shall be observed and subgrade-bearing capacity certified by the Site Geotechnical Engineer upon completion of this task. At the direction of the Site Geotechnical Engineer or their representative, soft material will be removed to a depth directed by the Site Geotechnical Engineer or their representative, and replaced with granular backfill compacted at least 100% of the maximum dry unit weight density at a moisture content within 2% of optimum as determined by AASHTO T-99 method / ASTM D698.
- 7.14 If a shape control technician is supplied by LSBC, no select granular backfill may be placed, without being observed by LSBC's shape control technician.
- 7.15 Ground water and surface water within the subgrade excavation area must be maintained at least 3 feet below the footer elevation during preparation of the subgrade if additional excavation is required to remove unsuitable materials, the water must be maintained 3 feet below the deepest excavation elevation.
- 7.16 The subgrade shall be compacted with a soil vibratory compactor or equivalent with a dynamic force of 50,000 pounds (min.). The top 1 foot of the subgrade soil shall be compacted to at least 100% of the maximum dry unit weight at a moisture content within 2% of optimum as determined by AASHTO T-99 method (standard proctor). All compaction and subgrade bearing capacity to be verified by the site geotechnical engineer or representative.

- 7.17 All select granular backfill material around the culvert and above the footing shall consist of AASHTO M 145 A-1-a. Recycled concrete material shall not be allowed. The select backfill material shall have fines (pass no. 200 sieve material) maximum 15% by weight. See typical select backfill chart this sheet.
- 7.18 The select granular backfill material and site soil backfill for the adjoining embankment material shall be tested in the laboratory for grain size distribution (AASHTO T-27 for granular material; AASHTO T-88 for soil material) and moisture-density relationship (AASHTO T-99). The testing described above is for purposes of verification of site soil backfill parameters and is in addition to the general project specifications for the embankment backfill, but does not supersede project specifications that may be more stringent.
- 7.19 All backfill operations shall place the material evenly on both sides of the plate arch and each lift shall extend for the entire length of the plate arch prior to placement of the next sequential lift. Fill placement shall begin in the middle of the plate arch length and extend equally on both sides in the upstream and downstream directions.
- 7.20 The select granular backfill shall be placed in horizontal layers not to exceed 8" loose depth. The lift thickness may be reduced by the Site Geotechnical Engineer or their representative to obtain the required compaction, fill all the voids, achieve the proper seating of the backfill material and achieve the stability of the backfill material and the plate arch. The granular backfill shall be compacted to 95% of the maximum dry unit weight as determined by the standard proctor test (AASHTO T-99). Field nuclear density tests shall be performed at a minimum frequency of two tests per lift and every 25' on each side of the structure. Greater emphasis shall be given to a uniform degree of compaction throughout each lift than to achieving a select granular backfill. Site Geotechnical Engineer shall do testing of degree granular backfill.
- 7.21 All granular material shall be compacted using mechanical devices, vibrating plates or other equipment approved by the Site Geotechnical Engineer. Compaction equipment weighing more than 24,000 pounds shall not be used within 2.5' of the corrugated metal structure. The compaction equipment shall be capable of compacting the material under the haunch of the plate arch (I.E.; below the spring line of the plate arch).
- 7.22 The soil backfill (compacted normal backfill) within 16'-0" or to natural undisturbed embankment backfill on each side shall be placed in layers not of the selected granular to exceed 8" loose depth. The lift thickness may be reduced by the Site Geotechnical Engineer to obtain the required compaction. The soil backfill shall be compacted to a minimum of 95% of the maximum dry unit weight as determined by the standard proctor test (AASHTO T-99) and to a moisture content within 2% of the optimum moisture content as determined by the same test. Field nuclear density test shall be performed at a minimum frequency of four tests per every other lift and every 25' on the soil backfill on each side of the structure. The testing described above is in addition to the general project specifications for the embankment backfill, but does not supersede project specifications that may be more stringent than those requirements. The Site Geotechnical Engineer is responsible for testing and recording measurements of the soil backfill.

7.23 If at any time longitudinal cracks develop in the backfill surrounding the pipe to a distance of 30' from the spring line of the plate arch, these features must be brought to the immediate attention of the field QA/QC personnel and the Site Geotechnical Engineer.

7.24 While compacting granular backfill material with a vibrator compactor and adjacent to the plate arch, the opposite side of the plate arch should be observed to note if vibrations are loosening the granular material on that side. This may be more prevalent at higher elevations of the backfill with respect to the plate arch. If this condition occurs, the field QA/QC technician and Site Geotechnical Engineer should be notified prior to placement of a sequential lift on either side.

7.25 The structure should not be crossed with equipment heavier than a D4 dozer. No other equipment or highway (HS25) loading shall be allowed to cross the structure until the asphalt pavement is placed unless there is a minimum of 12" of soil cover or span/8 inches of soil cover whichever is greater, covering the plate arch. Top filling should begin at the middle of the structure (lengthwise) with the backfill being pushed up and over the structure with a D4 or preferably smaller type dozer. The fill should be pushed over the structure in a manner 45 to 90 degrees to the axis of the structure. Field nuclear density test shall be performed at a minimum frequency of four tests per every lift on the soil backfill on each side of the structure. The testing described above is in addition to the general project specifications for the embankment backfill, but does not supersede project specifications that may be more stringent than those requirements. The contractor shall submit to the owner samples of all proposed soil backfill material for laboratory testing to verify moisture and density relationships (AASHTO T-99/ASTM D698) and grain size relationships (AASHTO T-27/ASTM C136).

7.26 All construction to be certified at the end of the job by a Professional Engineer (Civil Engineer or Site Geotechnical Engineer) that all work performed by contractor meets these design requirements and specifications. Certification to be submitted to LSBC and the local jurisdiction for record file.

8: REQUIRED SUBMITTALS

- 8.01 The contractor must submit the following items to the Site Civil Engineer for approval in writing at least 2 weeks prior to use:
 - a. Manufacture certification for yield strength of reinforcing steel.
 - b. Manufacture certification for concrete design.
 - c. Shop drawings of all concrete work.

BACKFILL CHART

AASHTO M 145- TABLE 2 (MODIFIED*)				
GROUP CLASSIFICATION	A-1		A-2 (MODIFIED)	
	A-1-a	A-1-b	A-2-4	A-2-5
NO. 10 (200 mm)	50 max	----	----	----
NO. 40 (.425 mm)	30 max	50 max	----	----
NO. 100 (.150 mm)	----	----	50 max	50 max
NO. 200 (.075 mm)	15 max	25 max	20 max	20 max
Characteristics of fraction passing No. 40 (.425 mm)				
Liquid Limit	----	----	40 max	41 max
Plasticity Index	6 max	6 max	10 max	10 max
Usual Material Types	Stone Fragments Gravel and Sand		Silty or Clayey Gravel and Sand	

*Modified to be more select than M-145

9: CONSTRUCTION OVERSIGHT CERTIFICATIONS

- 9.01 The plate arch construction requires engineering oversight and inspection. The Site, Civil and Geotechnical Engineers must provide LSBC certification reports of all footings and retaining wall/headwalls reinforcing placement and the following items:
 - a. Subgrade bearing capacity and backfill (select granular and compacted normal backfill) compaction testing, field reports, testing results, testing locations, and registered professional engineer's certification.
 - b. Field reports of concrete placement review, laboratory test results of concrete cylinder breaks at 7 and 28 days and certified by a Registered Professional Engineer.
 - c. Final report of construction certification that the construction was performed in accordance with the design and the material testing and inspection verifying the same, stamped by a Registered Professional Engineer.

10: ENVIRONMENTAL PERMITTING

10.01 These plans do not address environmental permitting requirements, which must be addressed and applied for with the state and Army Corp of Engineers, if the plate arch culvert lies within the stream buffer.

11: SAFETY

11.01 All contractors (and owners), their representatives and their crew must be qualified/certified to perform all works within their scope. They must adhere to OSHA's health and safety laws. The contractor is solely responsible for all site safety.

12: RA'S RESPONSIBILITY

12.01 RA's scope of works for this project are design of footing, headwall and plate arch culvert, and RA is responsible for that only. Acceptance of the plan drawings by our client & the owner means they agree to our scope and responsibilities.

13: LONG SPAN BRIDGE & CULVERT, LLC SCOPE OF WORK

13.01 Long Span Bridge & Culvert, LLC (LSBC) will deliver, furnish and assemble the Long Span low profile arch on footings designed by Ryan & Associates and prepared by Site Contractor. The base channel will be furnished by LSBC and installed in the concrete foundations by the Site Contractor in accordance with the plans.

13.02 LSBC will conduct a pre-construction meeting prior to foundation preparation and arch assembly. Attendance at the pre-construction meeting is mandatory for the owner or the owner's representative (e.g. Site Civil Engineer, Site Contractor and Concrete Contractor) and Site Geotechnical Engineer. It is the owner's responsibility to have each party in attendance. If a party is not in attendance it is the owner's responsibility to inform that entity of its responsibilities and duties prior to the start of work.

13.03 LSBC will provide a shape control technician to monitor structure's shape and observe the proper placement and compaction of the select fill material.

13.04 LSBC will require the Site Contractor to unload the structure plates and base channel. LSBC will require the Site Contractor to provide access to the structure for a rubber-tired crane. Parallel access roads shall be within 30' of the centerline of the structure on each side.

OWNERS
 AUGUSTUS STEPHEN WURTZER
 MAKRY WURTZER OULLIBEE
 4620 OLD COLUMBIA PIKE
 ELLICOTT CITY, MARYLAND 21043
 (410) 468-4649

TRINITY QUALITY HOMES, INC.
 3075 PARK AVE., STE. 301
 ELLICOTT CITY, MARYLAND 21043

DEVELOPER
 TRINITY QUALITY HOMES, INC.
 3075 PARK AVE., STE. 301
 ELLICOTT CITY, MARYLAND 21043
 (410) 480-0023

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>William R. ...</i>	6-25-07
CHIEF, BUREAU OF HIGHWAYS	DATE
APPROVED: DEPARTMENT OF PLANNING & ZONING	
<i>...</i>	6/26/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>Cindy Hamilton</i>	7/2/07
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

FINAL ROAD CONSTRUCTION PLAN
THE WOODS OF TIBER BRANCH II
 A RESUBDIVISION OF LOT 4 AS SHOWN ON A PLAT ENTITLED
 PLAT OF REVISION LOT 4 & LOT 5 WURTZER PROPERTY
 SUBDIVISION OF TM PARCEL 881
 RECORDED AS PLAT NO. 174.14

TAX MAP 24 BLOCK 18 PARCELS 264
 2ND ELECTION DISTRICT & A SUBDIVISION OF THE ALBAN PROPERTY, PARCEL 811
 REF.: F-98-130, WP-04-20

REVISIONS			
No.	DATE	BY	DESCRIPTION
1	10/31/06	MH	PER COMMENTS FROM COUNTY DATED 08/30/06

DRAWN BY: DH
 DESIGN BY: MH
 CHECKED BY: MS
 DATE: 04/28/08

DO NOT SCALE THIS DRAWING
 DIMENSIONS AND NOTES HAVE
 PRECEDENCE OVER DRAWING

CLIENT: LONG SPAN BRIDGE & CULVERT, LLC
 OWNER: TRINITY HOMES
 JOB No: 1101-06-01

Ryan & Associates
 A Division of WKR Consulting Inc.
Consulting & Design Engineers
 Structural - Geotechnical - Civil
 Email: info@ryanandassociates.net
 922 North East St. Frederick, Md. 21701
 Tel (301) 360-9534 Fax (301) 360-9574

NOTES AND SPECIFICATIONS
 LONG SPAN LOW PROFILE ARCH LA 2706
WOODS OF TIBER BRANCH II
 HOWARD CO. MD

ENGINEER SEAL
... 03/29/07

