

SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE OF ILCHESTER MANOR LANE
3	DRAINAGE AREA MAP, GRADING AND SEDIMENT CONTROL PLAN
4	DETAILS AND PROFILES
5	SEDIMENT CONTROL NOTES AND DETAILS
6	LANDSCAPE PLAN
7	LANDSCAPE NOTES AND TABULATIONS
8	RAINGARDEN DETAILS
9	FOREST CONSERVATION PLAN

# ROADWAYS AND STORM DRAINS

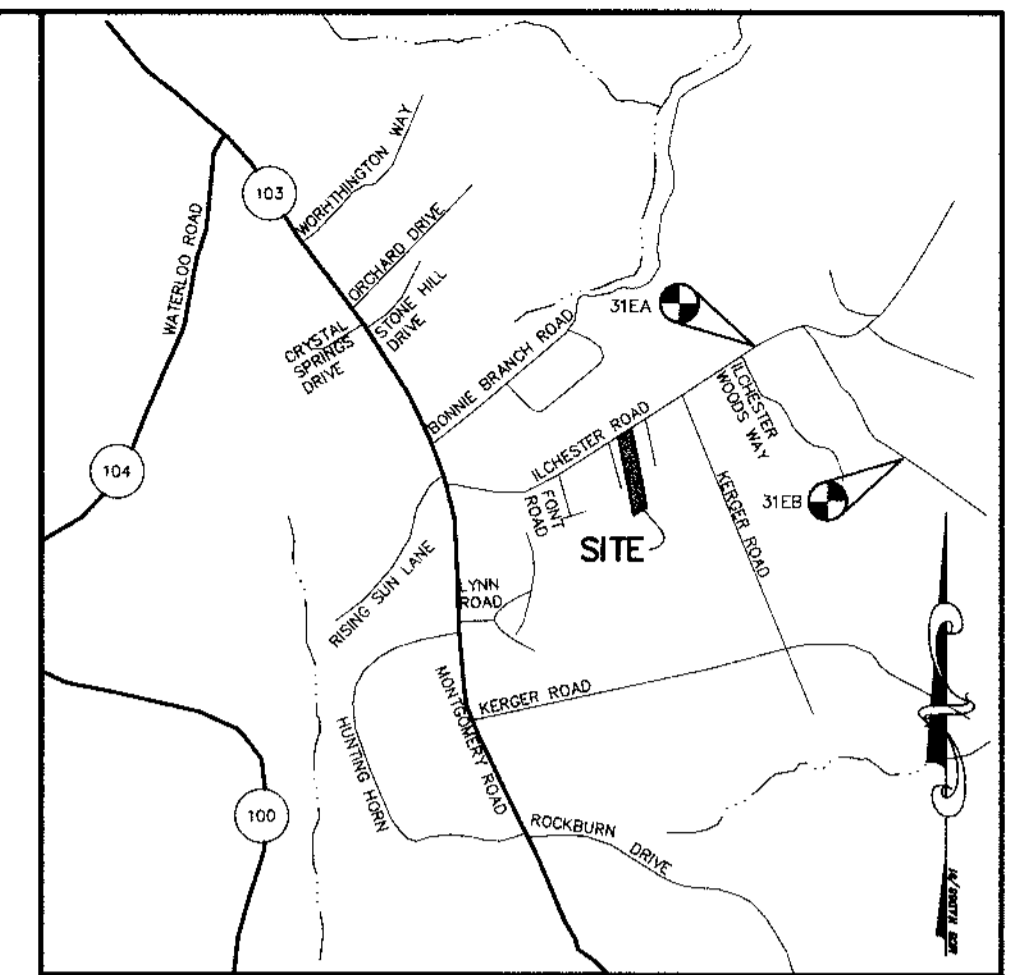
# ILCHESTER MANOR

## A RESUBDIVISION OF LOT 642

## 1st ELECTION DISTRICT

## HOWARD COUNTY, MARYLAND

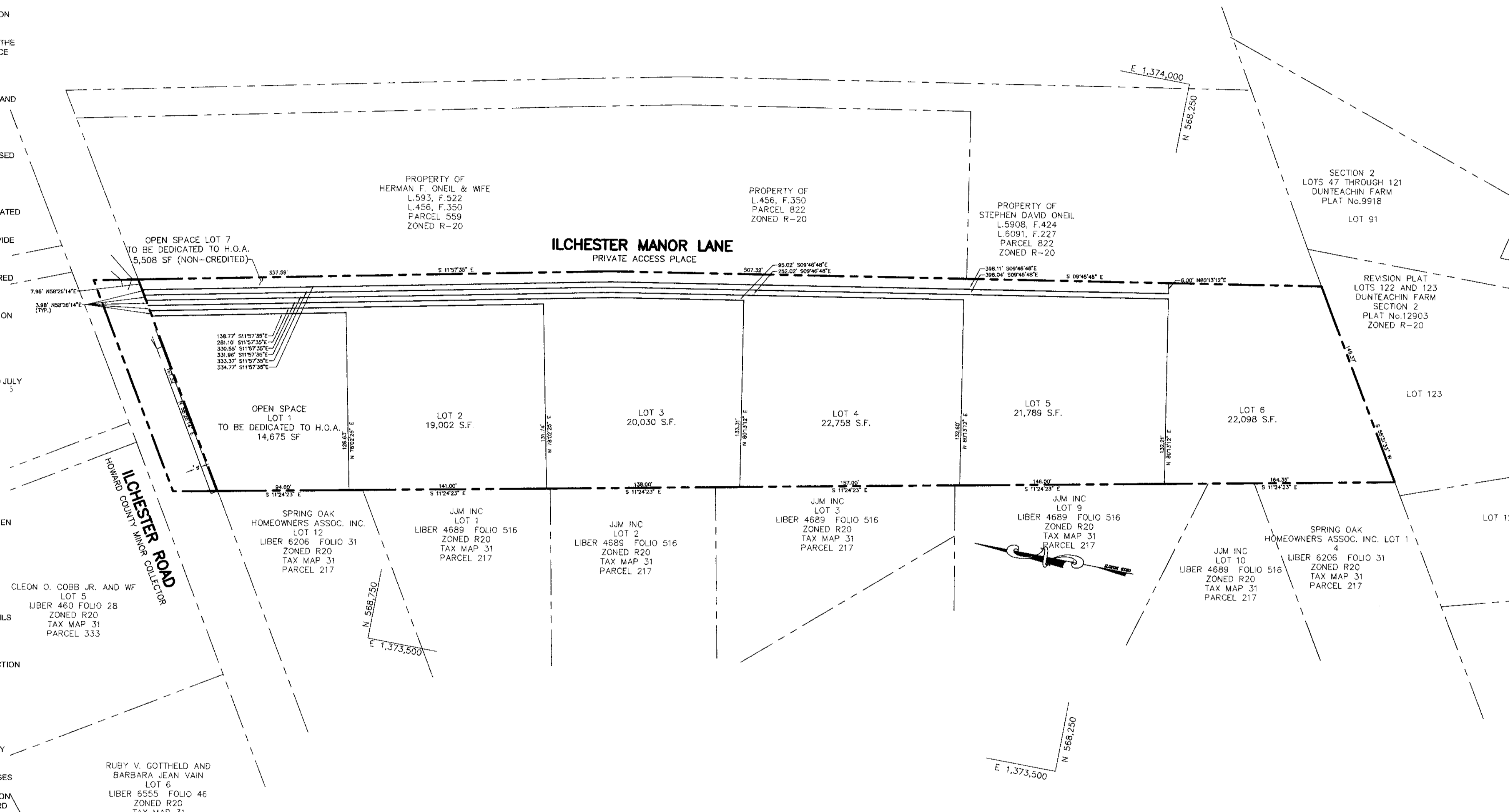
**BENCH MARK**  
 CONTROL STATION 31EA  
 ELEVATION 469.604  
 N 569,641.124  
 E 1,374,815.936  
 CONTROL STATION 37EB  
 ELEVATION 453.398  
 N 568,730.984  
 E 1,376,273.491



**VICINITY MAP**  
 SCALE: 1"=2000'

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-297-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS, (JANUARY 1998)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD STUDY WITH MAXIMUM TWO (2) FOOT CONTOUR INTERVALS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES IN JULY, 2003.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 31EA AND 31EB.
- PUBLIC WATER WILL BE EXTENDED TO THE SITE FROM PUBLIC WATER LOCATED WITHIN ILCHESTER ROAD CONTRACT 208-10.
- SEWER DRAINAGE AREA: PATAPSCO. PUBLIC SEWER WILL BE EXTENDED TO THE SITE FROM PUBLIC SEWER LOCATED WITHIN ILCHESTER ROAD CONTRACT 418-5.
- THE DISCONNECTION OF ROOFTOP AND NON-ROOFTOP RUNOFF CREDIT ALONG WITH RAIN GARDENS WILL PROVIDE THE REQUIRED WATER QUALITY AND RECHARGE VOLUMES FOR THIS DEVELOPMENT.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- NO WETLANDS EXIST ON SITE AS CERTIFIED BY PATTON HARRIS RUST & ASSOCIATES PER FIELD INVESTIGATION ON NOVEMBER 14, 2002.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY MARS GROUP AND APPROVED DATED MAY 15, 2003.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY PATTON HARRIS RUST AND ASSOCIATES DATED JULY 2003.
- SUBJECT PROPERTY ZONED R-20 PER 02-02-04 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL, DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NOS.: S-03-008, P-04-004
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- STORM DRAIN TRENCHES WITHIN ARE PRIVATE ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E. STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T190.
- ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTE.
- STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL, STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993). THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
- TYPE AND NUMBER OF STREET TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS INCLUDING 20' CLEARANCE OF ANY STREET LIGHT AND SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. BOND RELEASE IS CONTINGENT UPON SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING. CHANGES OF SPECIES MUST RECEIVE PRIOR APPROVAL FROM DIVISION OF LAND DEVELOPMENT. CHANGES OF SPECIES MUST RECEIVE PRIOR APPROVAL FROM DIVISION OF LAND DEVELOPMENT.
- THERE ARE THREE EXISTING PERMANENT STRUCTURES ON-SITE. THE EXISTING HOUSE WILL BE RETAINED. ALL OTHER STRUCTURES WILL BE REMOVED.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT AREAS ONCE THEY ARE PLANTED.
- BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- REFUSE COLLECTION, SNOW REMOVAL, AND ROAD MAINTENANCE FOR PIPESTEM LOTS AND PRESERVATION PARCELS ARE PROVIDED TO THE JUNCTION OF THE PUBLIC ROAD AND THE PIPESTEM DRIVEWAY.
- RAINGARDENS ARE PRIVATELY OWNED AND MAINTAINED BY THE OWNER OF EACH INDIVIDUAL LOT.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$10,350.00.
- THE FOREST CONSERVATION OBLIGATION FOR THE PROPOSED SITE DEVELOPMENT WILL BE MET BY AFFORESTATION OF 0.30 ACRES AND BY PAYMENT OF FEE-IN-LIEU IN THE AMOUNT OF \$19,166.40 (31.3328 SF X \$9,500/SF). A SURETY OF 6,467.00 (12.934 X 0.50/SF) WILL BE POSTED FOR THE AFFORESTATION.



**PLAN**  
 SCALE: 1"=50'

**SITE TABULATION**

EXISTING ZONING	R-20
GROSS AREA OF PROPERTY	2.89 AC (125,860 SF)
AREA IN 100 YR. FLOODPLAIN	0.00 AC
AREA OF STEEP SLOPE	0.00 AC
RIGHT OF WAY TO BE DEDICATED	0.00 AC
NET TRACT AREA	2.89 AC (125,860 SF)
AREA OF PROPOSED BUILDABLE LOTS	2.43 AC
MINIMUM LOT SIZE SELECTED	18,000 SF
AREA OF REQUIRED OPEN SPACE (10% OF NET)	0.29 AC (12,452 SF)
AREA OF PROVIDED OPEN SPACE:	
CREDITED	0.34 AC (14,675 SF)
NON-CREDITED (LOT 7)	0.12 AC (5,508 SF)
TOTAL PROVIDED	0.46 AC (20,183 SF)
NUMBER OF BUILDABLE LOTS	5 INCLUDING ONE EXISTING HOUSE TO REMAIN
NUMBER OF OPEN SPACE LOTS	2
PROPOSED WATER AND SEWER	PUBLIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*William Z. White Jr.* 1-26-05  
 CHIEF, BUREAU OF HIGHWAYS vs DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Catherine* 2/7/05  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Chris D...* 2/4/05  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION
<b>OWNER/DEVELOPER</b>		
ILCHESTER MANOR, LLC ATTN: BRIAN BOY 9695 NORFOLK AVENUE LAUREL, MARYLAND 20723 410-792-2565		
<b>PROJECT</b>		
ILCHESTER MANOR A RESUBDIVISION OF LOT 642		
<b>AREA</b>		
TAX MAP 31 PARCEL 642 ZONED R-20 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
<b>TITLE</b>		
TITLE SHEET		
<b>Patton Harris Rust &amp; Associates, pc</b> Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282		
DATE: 1-10-05 DESIGNED BY: C.J.R./A.C.R. DRAWN BY: DAM PROJECT NO: .11819 RD1.DWG DATE: JANUARY 10, 2005 SCALE: AS SHOWN DRAWING NO. 1 OF 9		
CHRISTOPHER J. REID #19949		

KEY	QTY.	IDENTIFICATION	SIZE	ROOT	SPACING
QP	3	Uercus phellos Willow Oak	2.5"-3" cal.	B&B	Plant as shown

**LEGEND**

PROPERTY LINE AND RIGHT OF WAY	---
EXISTING STORM DRAIN	== 15'D
PROPOSED STORM DRAIN	== 15'D
OVERHEAD WIRES	—OHW
EXISTING TREELINE	~~~~~
PROPOSED TREELINE	~~~~~
EXISTING TREE	⊗
PROP.SPOT ELEVATION	13'2
SETBACK LINES	---
P-2 PAVING	▨
P-3 PAVING	▩
PAVEMENT OVERLAY	▧
SIDEWALK	▩
EXISTING WATER	~
PROPOSED WATER	~
EXISTING CURB	---
PROPOSED CURB	---
EXISTING BUILDING	▭

**STREET LIGHT CHART**

SYMBOL	LOCATION	DESCRIPTION
☼	27' RT. CL STA. 108+29 ILLCHESTER ROAD	150 WATT HPS VAPOR "PREMIER" FIXTURE MOUNTED ON A 14" BLACK FIBERGLASS POLE

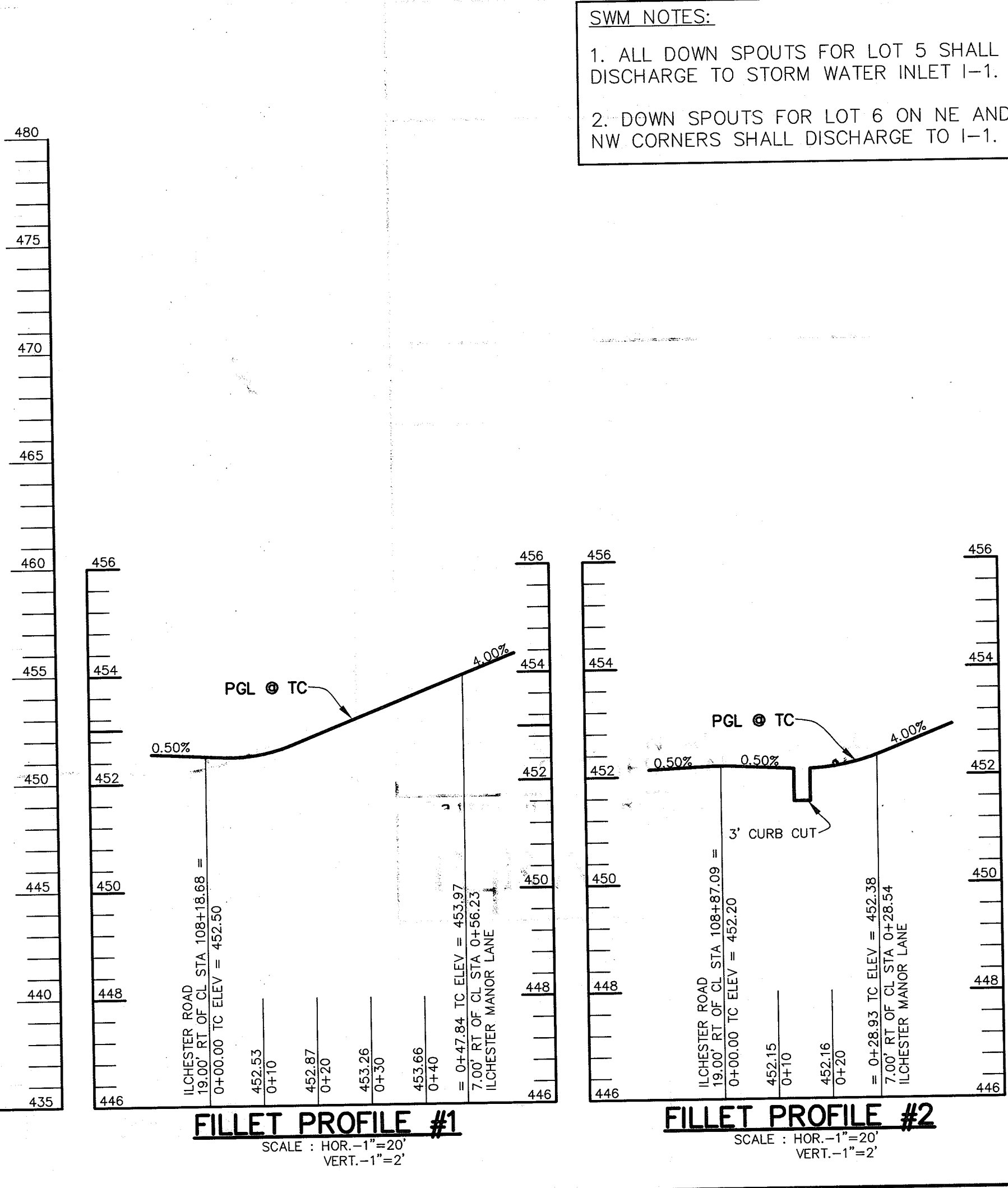
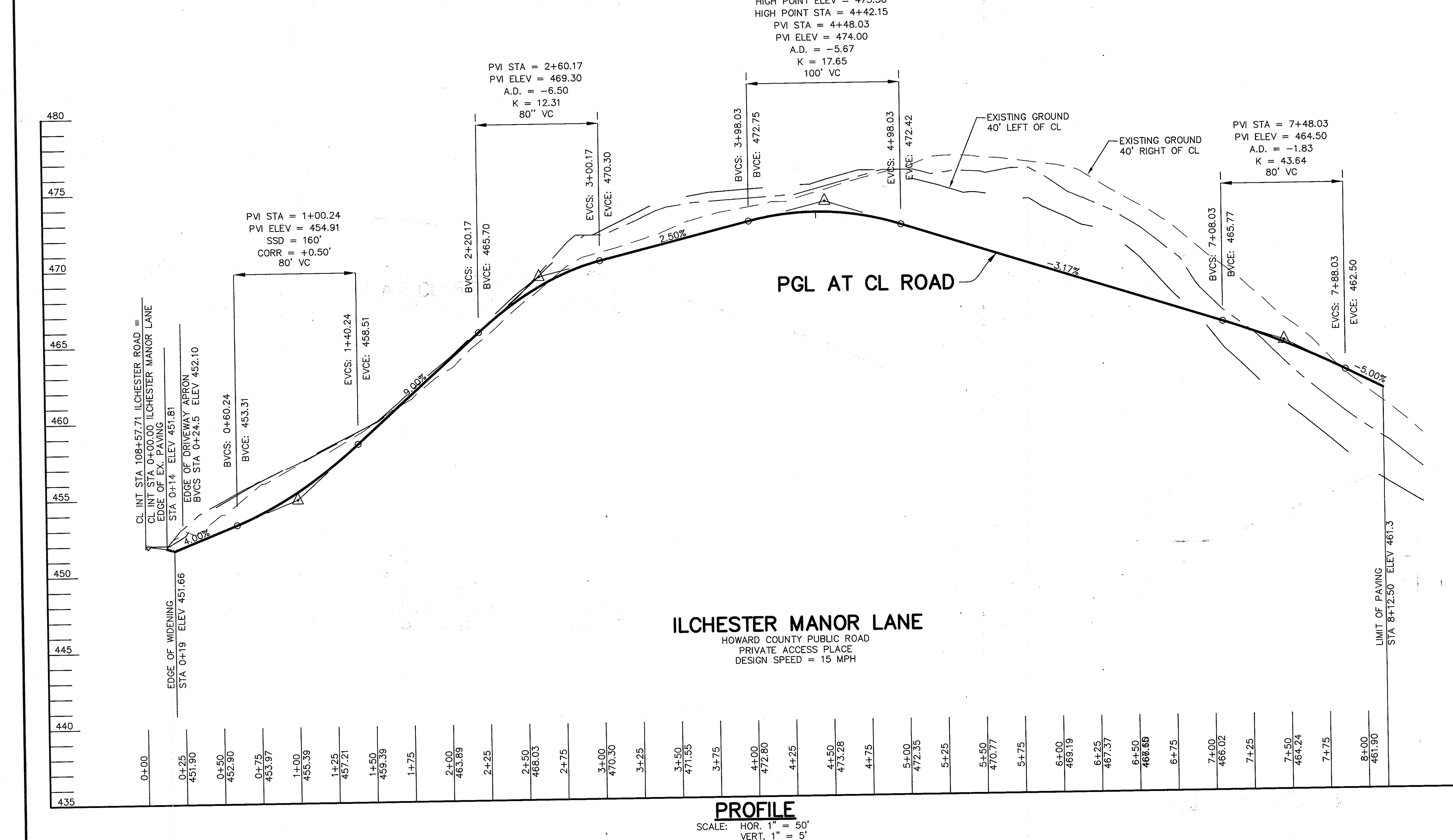
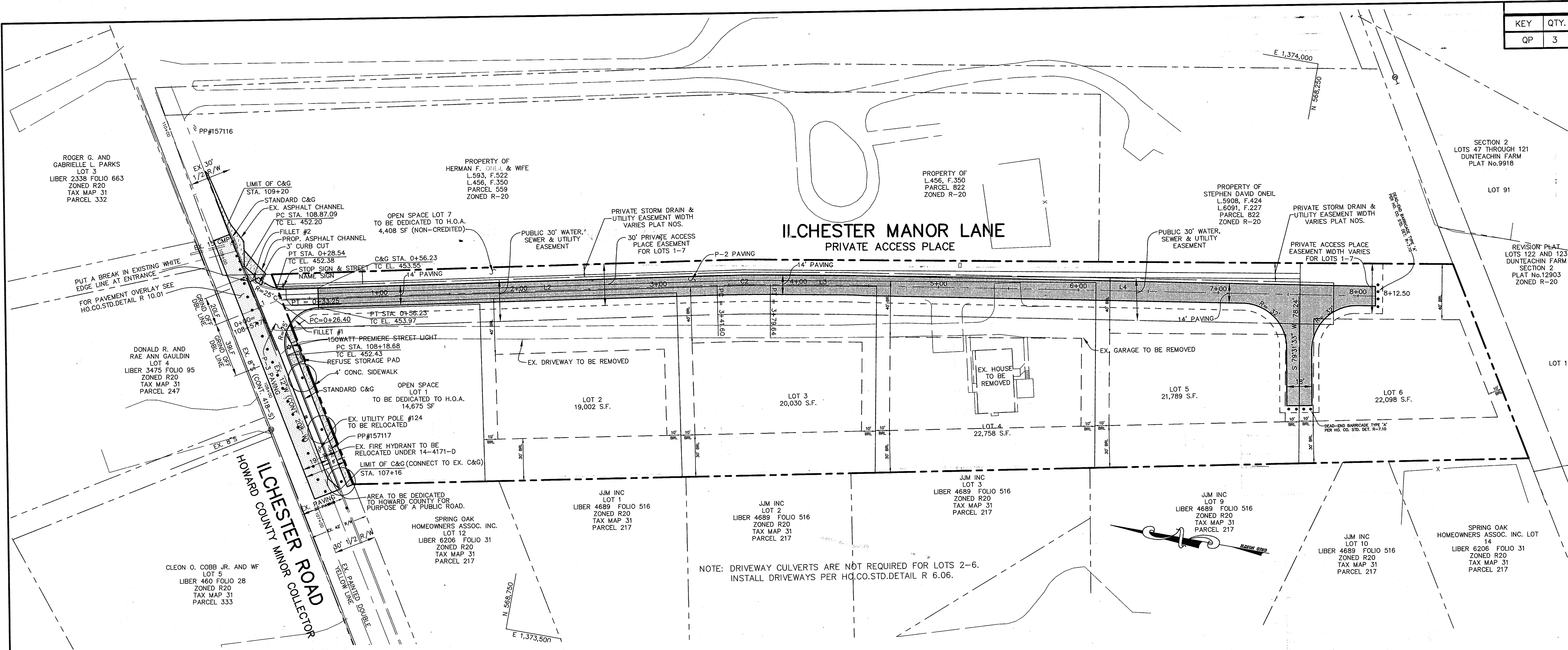
CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C1	6.86	20.00	10°38'28"
C2	38.04	1000.00	21°04'47"

ROAD WIDENING CHART			
STATION	EP ELEV.	TC ELEV.	
107+14	452.35	452.84	
107+25	452.35	452.80	
107+50	452.40	452.70	
107+75	452.33	452.60	
108+00	452.38	452.50	
108+18.68	452.20	452.43	
108+57.75	451.83	452.28	
108+78	451.67	452.06	

LINE TABLE		
LINE	LENGTH	BEARING
L1	25.40	S 31°38'01"E
L2	308.35	S 11°57'45"E
L3	54.35	S 09°46'51"E
L4	378.52	S 08°57'16"E



**SWM NOTES:**

- ALL DOWN SPOUTS FOR LOT 5 SHALL DISCHARGE TO STORM WATER INLET I-1.
- DOWN SPOUTS FOR LOT 6 ON NE AND NW CORNERS SHALL DISCHARGE TO I-1.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*W. J. White* 7-6-06  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Christy Starnes* 7/12/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*John Williams* 7/12/06  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

05/30/06 1 REVISED ROAD PLAN AND PROFILE, ADDED NOTES  
 DATE NO. REVISION

OWNER/DEVELOPER  
 ILCHESTER MANOR, LLC  
 ATTN: BRIAN BOY  
 9695 NORFOLK AVENUE  
 LAUREL, MARYLAND 20723  
 410-792-2565

PROJECT  
**ILCHESTER MANOR**  
 A RESUBDIVISION OF LOT 642

AREA TAX MAP 31 PARCEL 642 ZONED R-20  
 1st ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

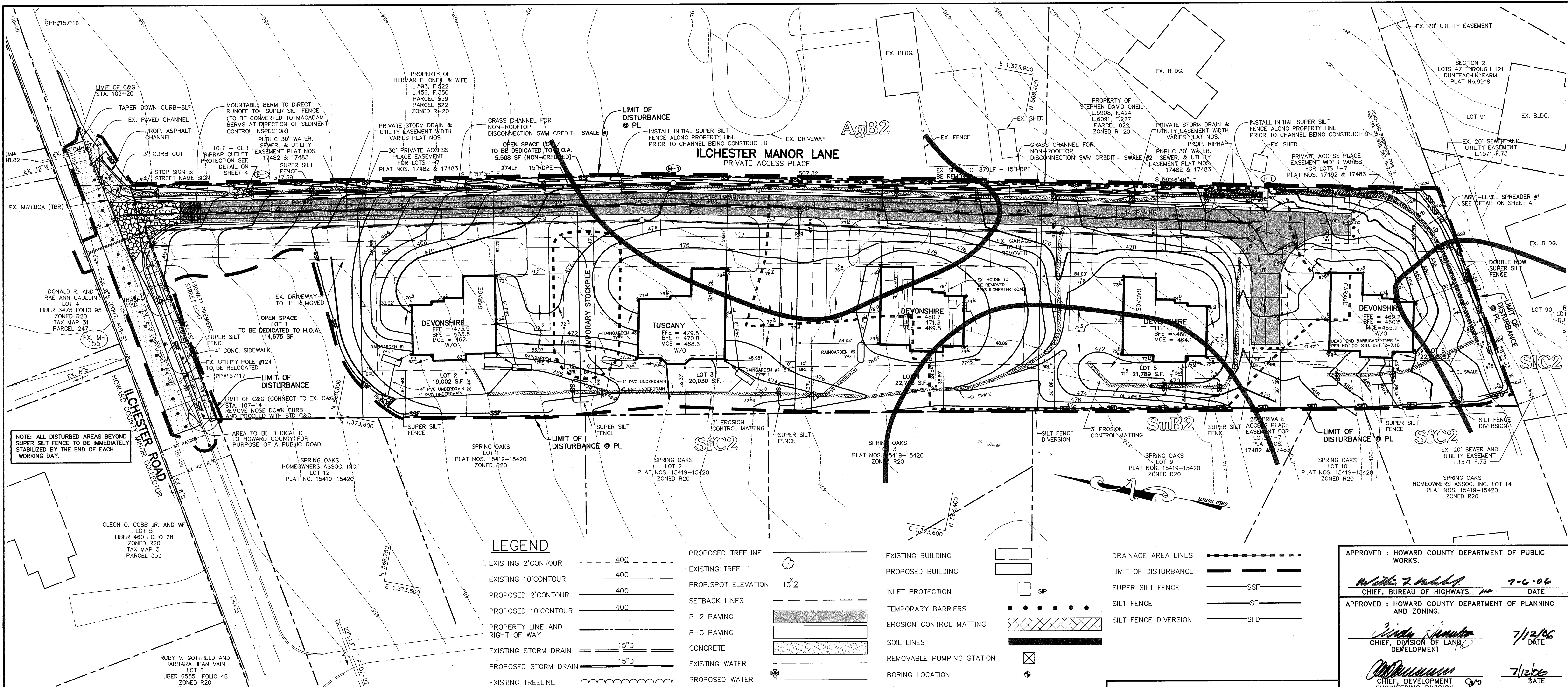
TITLE **REVISED PLAN AND PROFILE OF ILCHESTER MANOR LANE**

Patton Harris Rust & Associates, pc  
 Engineers, Surveyors, Planners, Landscape Architects.  
 8818 Centre Park Drive  
 Columbia, MD 21045  
 T 410.997.8900  
 F 410.997.9282

06/26/06  
 DATE

DESIGNED BY: ACR  
 DRAWN BY: DAM/ACR  
 PROJECT NO.: 11819 RD2.DWG  
 DATE: JANUARY 10, 2005  
 SCALE: 1" = 40'  
 DRAWING NO.: 2 OF 9

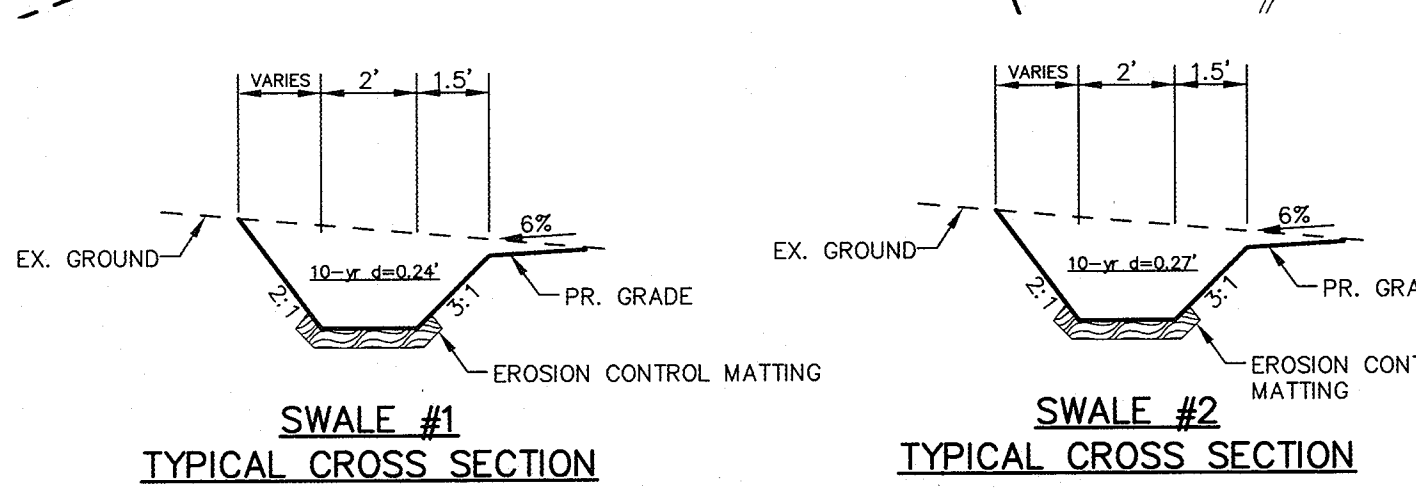
Domenick W. Colangelo #27200  
 PROFESSIONAL ENGINEER



NOTE: ALL DISTURBED AREAS BEYOND SUPER SILT FENCE TO BE IMMEDIATELY STABILIZED BY THE END OF EACH WORKING DAY.

**LEGEND**

- EXISTING 2' CONTOUR 400
- EXISTING 10' CONTOUR 400
- PROPOSED 2' CONTOUR 400
- PROPOSED 10' CONTOUR 400
- PROPERTY LINE AND RIGHT OF WAY
- EXISTING STORM DRAIN 15"D
- PROPOSED STORM DRAIN 15"D
- EXISTING TREELINE
- PROPOSED TREELINE
- PROP. SPOT ELEVATION 13.2
- SETBACK LINES
- P-2 PAVING
- P-3 PAVING
- CONCRETE
- EXISTING WATER
- PROPOSED WATER
- EXISTING BUILDING
- PROPOSED BUILDING
- INLET PROTECTION
- TEMPORARY BARRIERS
- EROSION CONTROL MATTING
- SOIL LINES
- REMOVABLE PUMPING STATION
- BORING LOCATION
- DRAINAGE AREA LINES
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- SILT FENCE
- SILT FENCE DIVERSION

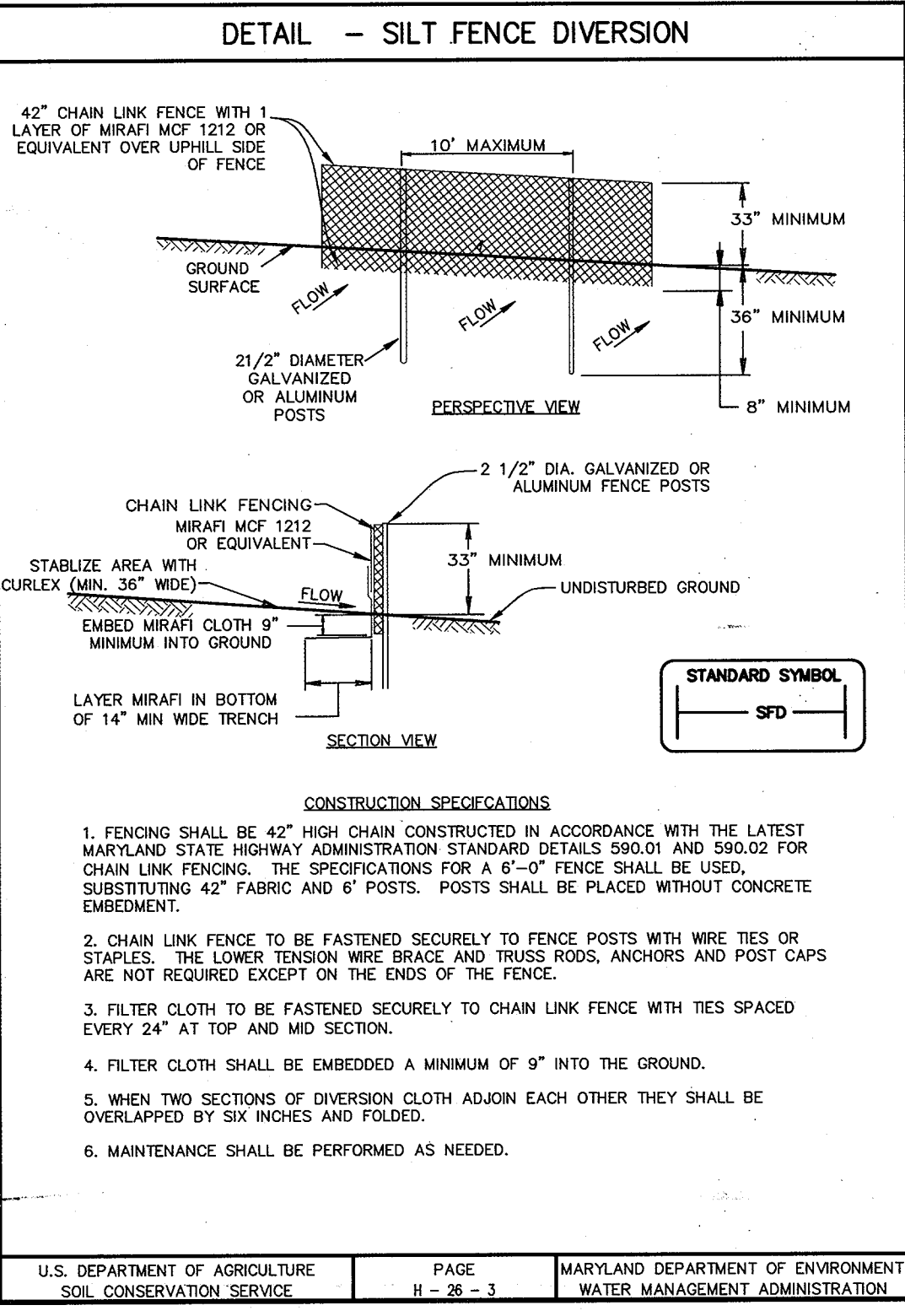
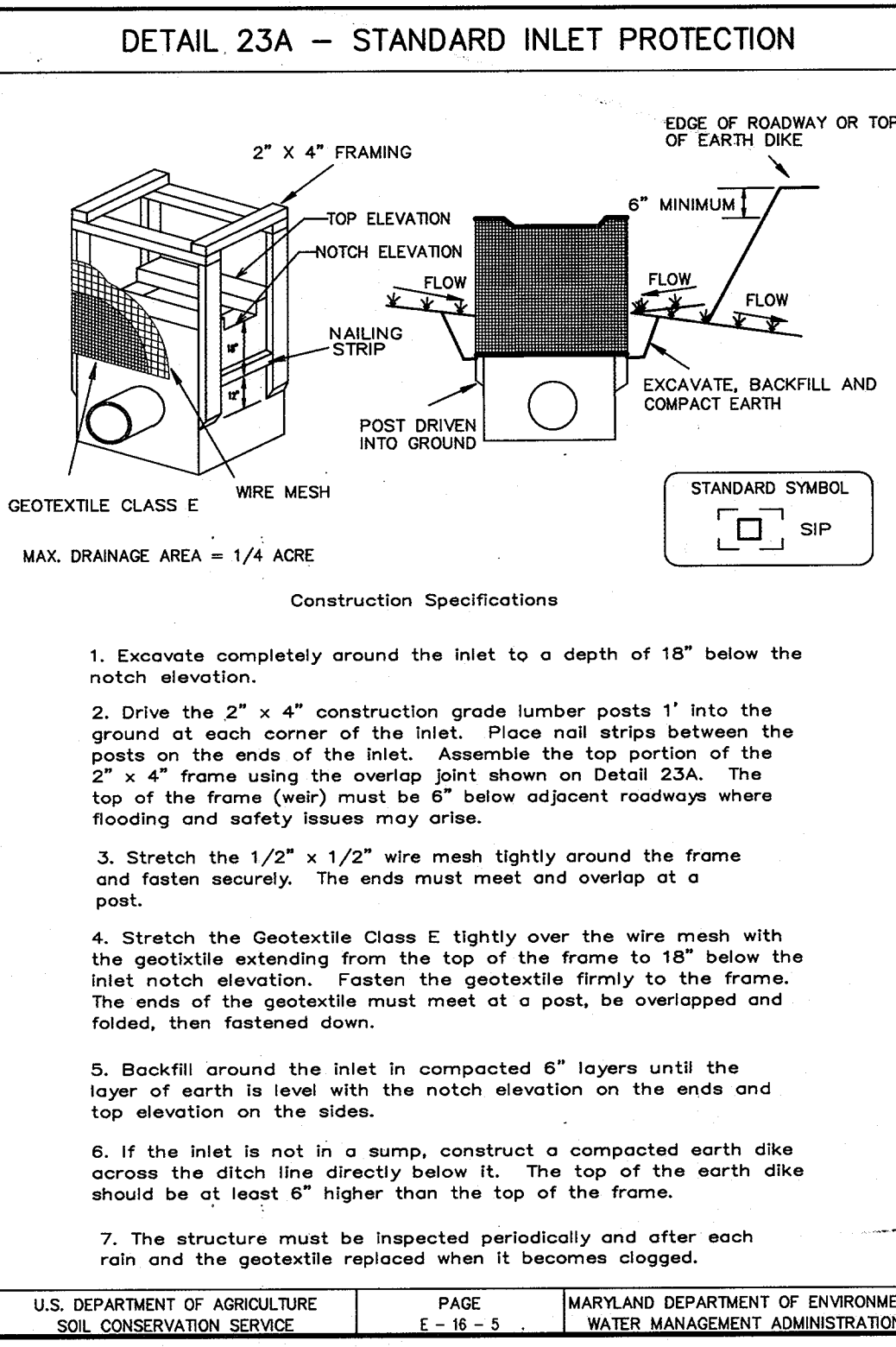


INLET NO.	AREA (AC.)	C	% IMP
I-1	0.65	0.27	25

	DRAINAGE AREA (AC)	W <sub>Q</sub> (CF)	Rev (CF)	C <sub>PV</sub> (AC-FT)	Q <sub>P1</sub> (CFS)	Q <sub>P10</sub> (CFS)	Q <sub>P100</sub> (CFS)	COMMENTS
STUDY POINT 1 (DA1)	1.76	2214	576	N/A	1.24	5.10	8.86	ROOFTOP & NON-ROOFTOP RUNOFF DISCONNECTION CREDIT
DA 2	0.91	1548	403	N/A	-	-	-	ROOFTOP & NON-ROOFTOP RUNOFF DISCONNECTION CREDIT
STUDY POINT 2A	0.35	-	-	-	0.39	1.36	2.25	
STUDY POINT 2B	0.56	-	-	-	0.30	1.52	2.73	

THE ROOFTOP RUNOFF AND NON-ROOFTOP RUNOFF DISCONNECTION CREDITS WILL PROVIDE FOR THE REQUIRED W<sub>Q</sub> AND Rev. SHEET FLOW WILL BE MAINTAINED FOR THE REQUIRED LENGTH AT A 5% OR LESS SLOPE. IF THE REQUIRED ROOFTOP DISCONNECTION LENGTH CANNOT BE MET THEN A RAINGARDEN IS PROVIDED. C<sub>PV</sub> IS NOT REQUIRED BECAUSE THE PROPOSED 1-YEAR STORM EVENT DISCHARGE IS LESS THAN 2 CFS.

- SWM NOTES:**
- RAINGARDEN DESIGN AND DETAILS WILL BE PROVIDED AT ON THESE PLANS. RAINGARDEN CONSTRUCTION WILL BE PERFORMED AT SDP PHASE.
  - RAINGARDEN SIZES SHOWN ARE ACTUAL
  - RAINGARDEN TYPE 2 IS A TERRACED RAINGARDEN FOR STEEP SLOPES.
  - ALL DOWN SPOUTS FOR LOT 5 SHALL DISCHARGE TO STORM WATER INLET 1-1.
  - DOWN SPOUTS FOR LOT 6 ON NE AND NW CORNERS SHALL DISCHARGE TO I-1.
  - THE OWNER OF LOT 6 SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE LEVEL SPREADER.



BY THE DEVELOPER:

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

DEVELOPER: *B. B. B.* 6/26/05 DATE

BY THE ENGINEER:

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

ENGINEER: *Jim Meyer* 6/30/06 DATE

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

HOWARD SOIL CONSERVATION DISTRICT 6/30/06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. *W. G. G.* 7-6-06 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. *J. S.* 7/12/06 DATE

APPROVED: *[Signature]* 7/12/06 DATE

REVISION ROAD PLAN, GRADING, REMOVED RAINGARDENS, ADDED INLET, STORM DRAIN, LEVEL SPREADERS. 05/30/06 1

OWNER/DEVELOPER: ILCHESTER MANOR, LLC ATTN: BRIAN BOY 9695 NORFOLK AVENUE LAUREL, MARYLAND 20723 410-792-2565

PROJECT: ILCHESTER MANOR A RESUBDIVISION OF LOT 642

AREA: TAX MAP 31 PARCEL 642 ZONED R-20 1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: REVISD DRAINAGE AREA MAP, GRADING AND SEDIMENT CONTROL PLAN

Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282

DESIGNED BY: ACR

DRAWN BY: DAM/ACR

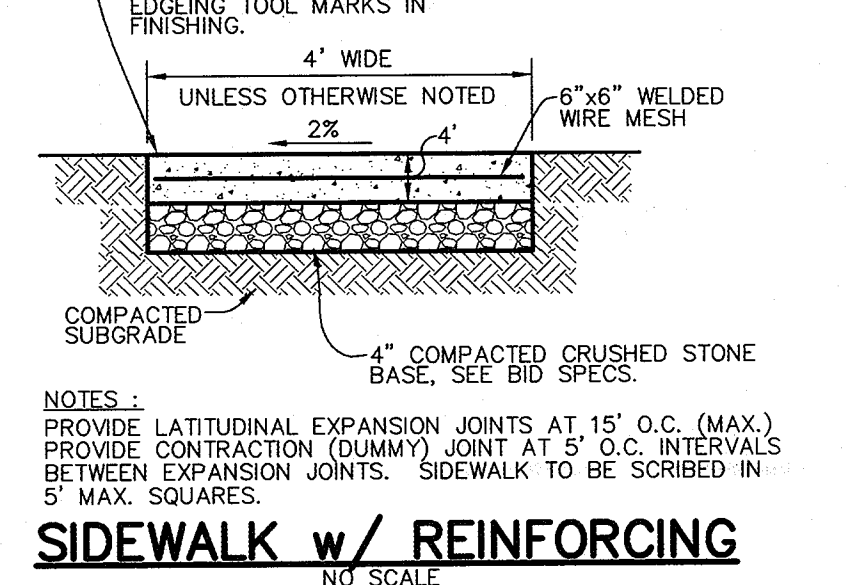
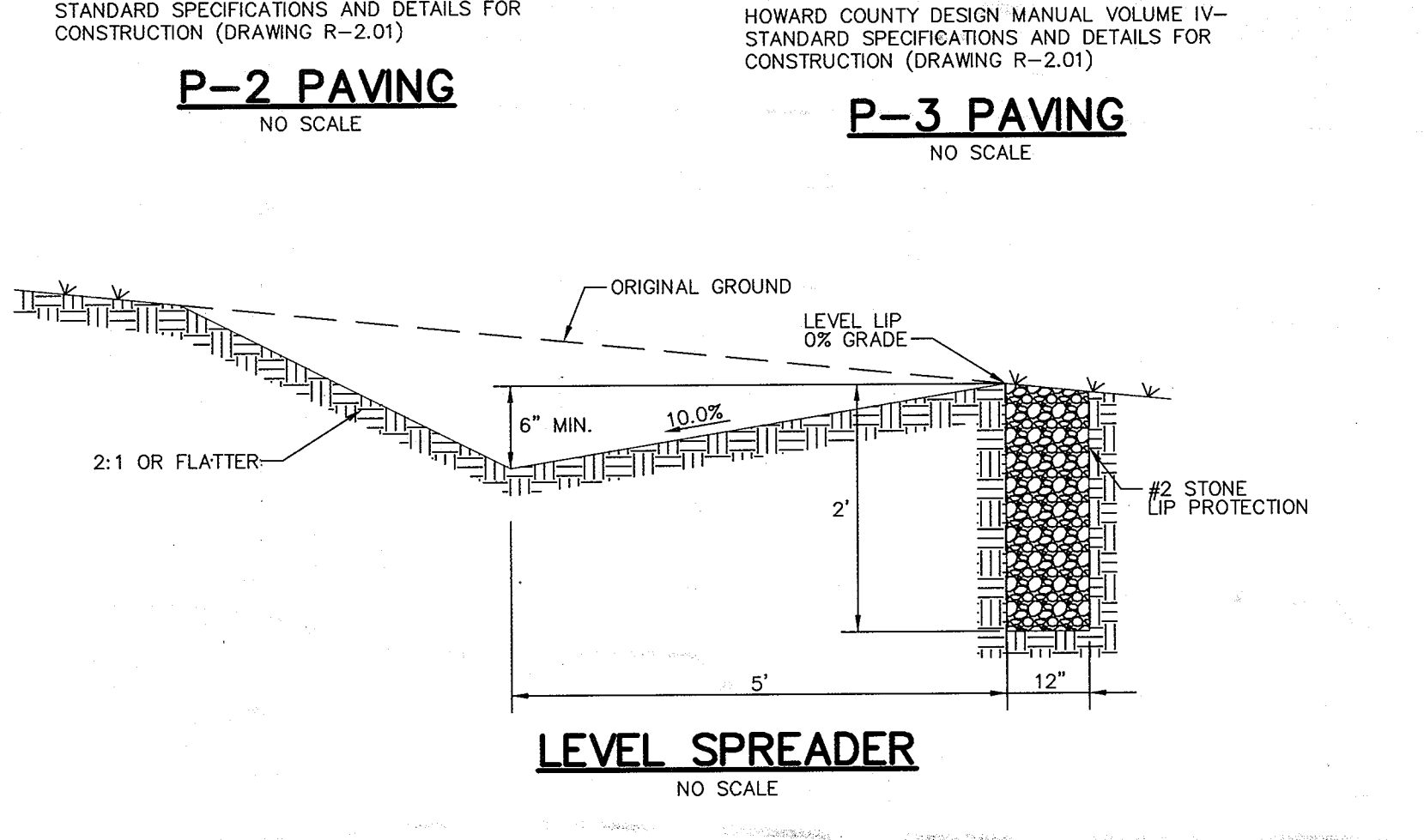
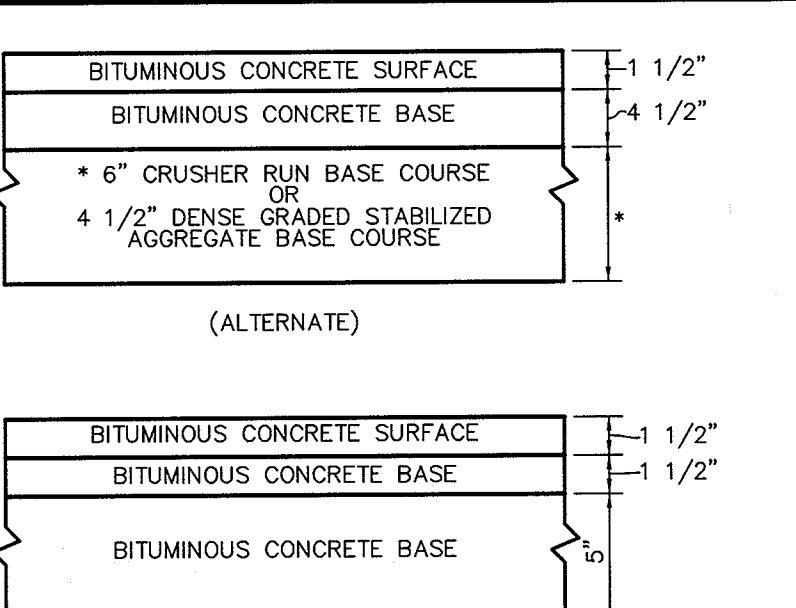
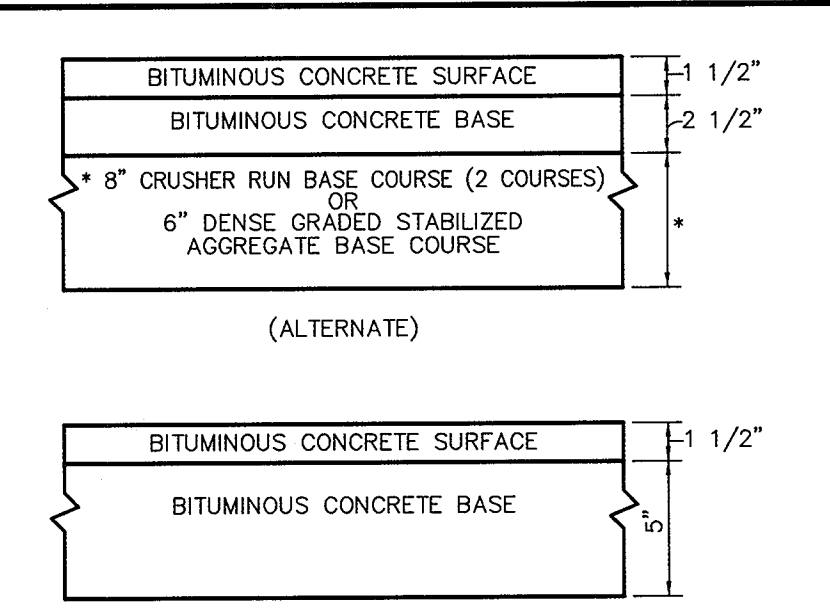
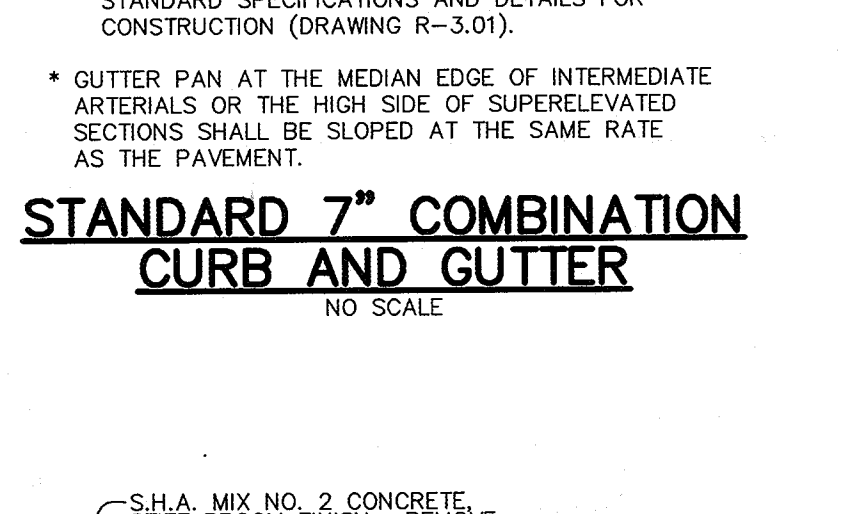
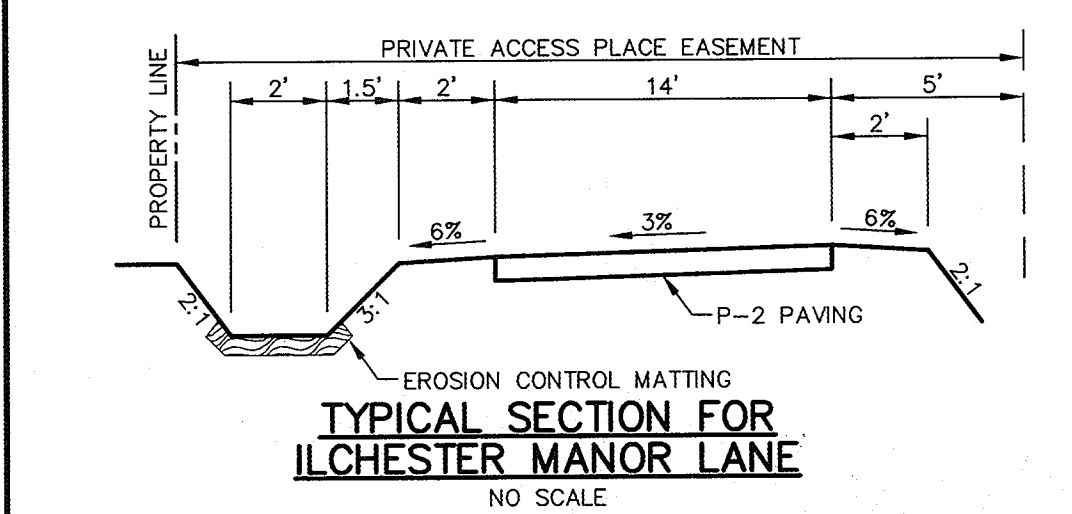
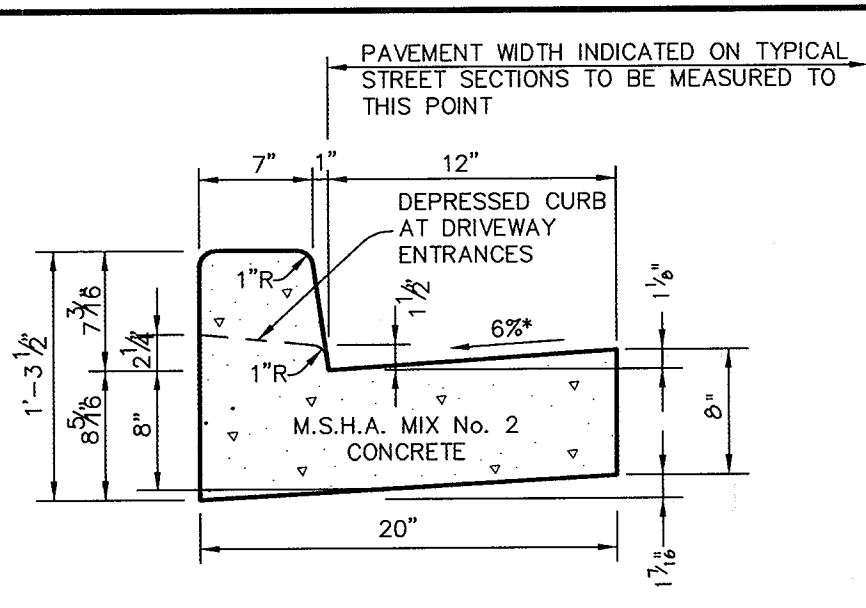
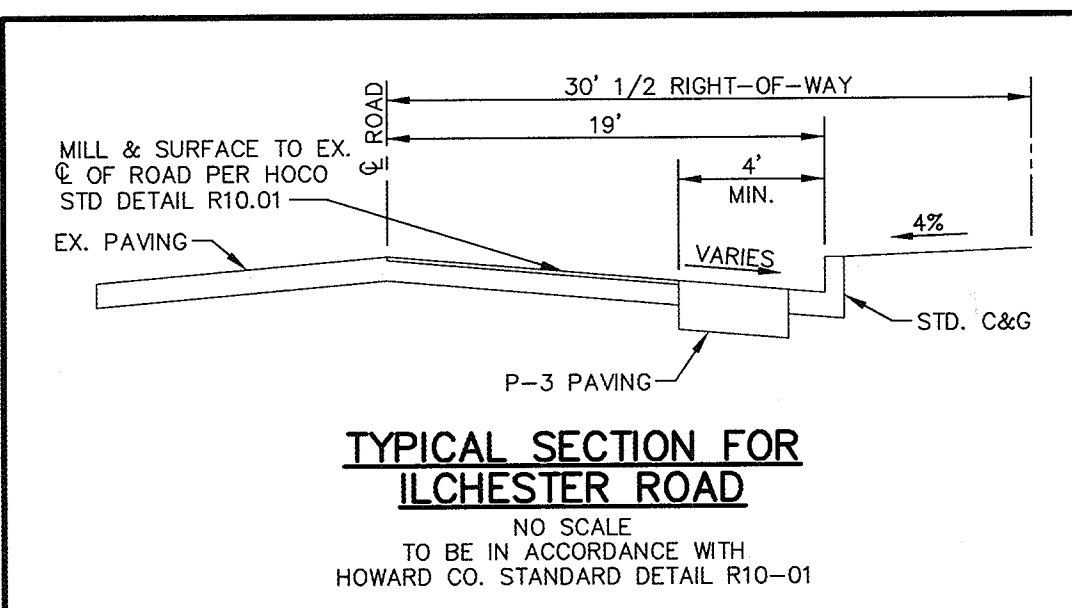
PROJECT NO.: 11819 RD3.DWG

DATE: JANUARY 10, 2005

SCALE: 1" = 30'

DRAWING NO. 3 OF 9

F-04-151

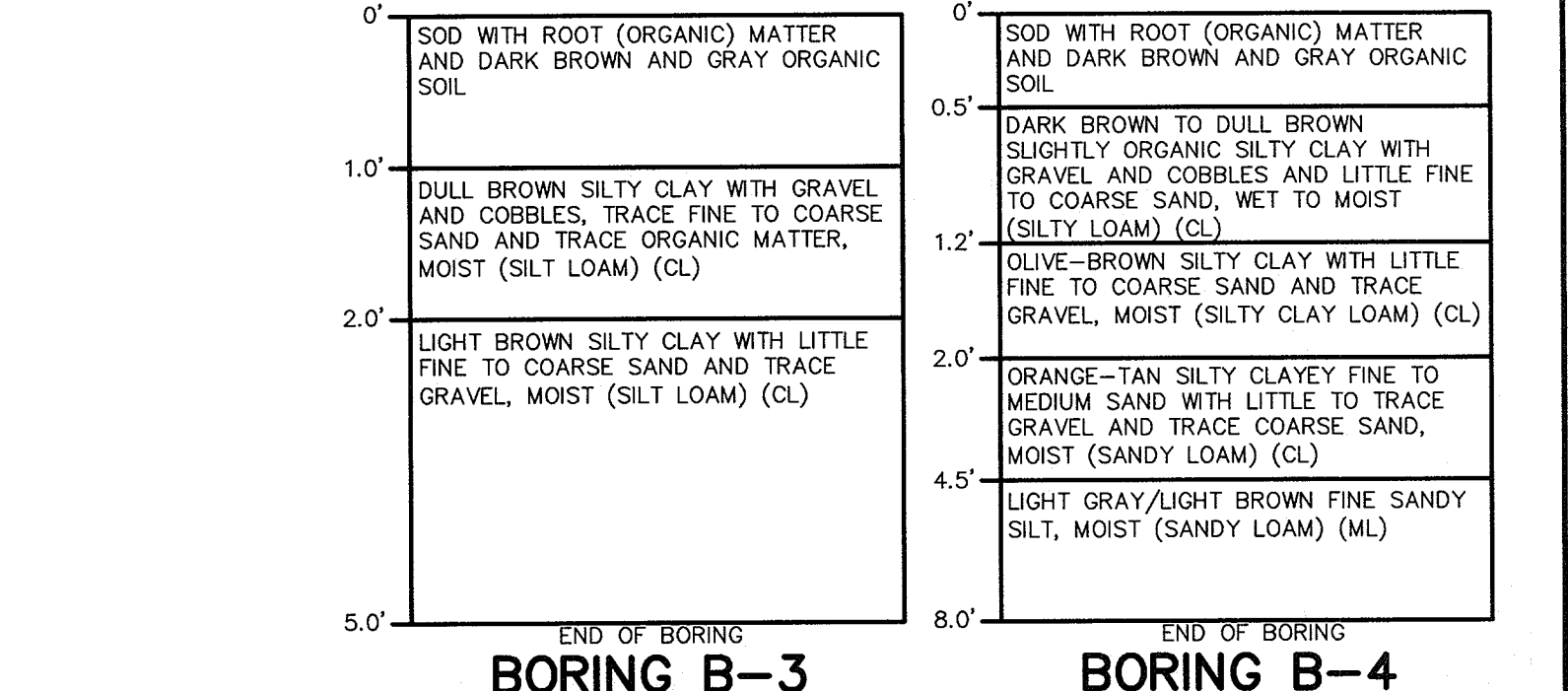
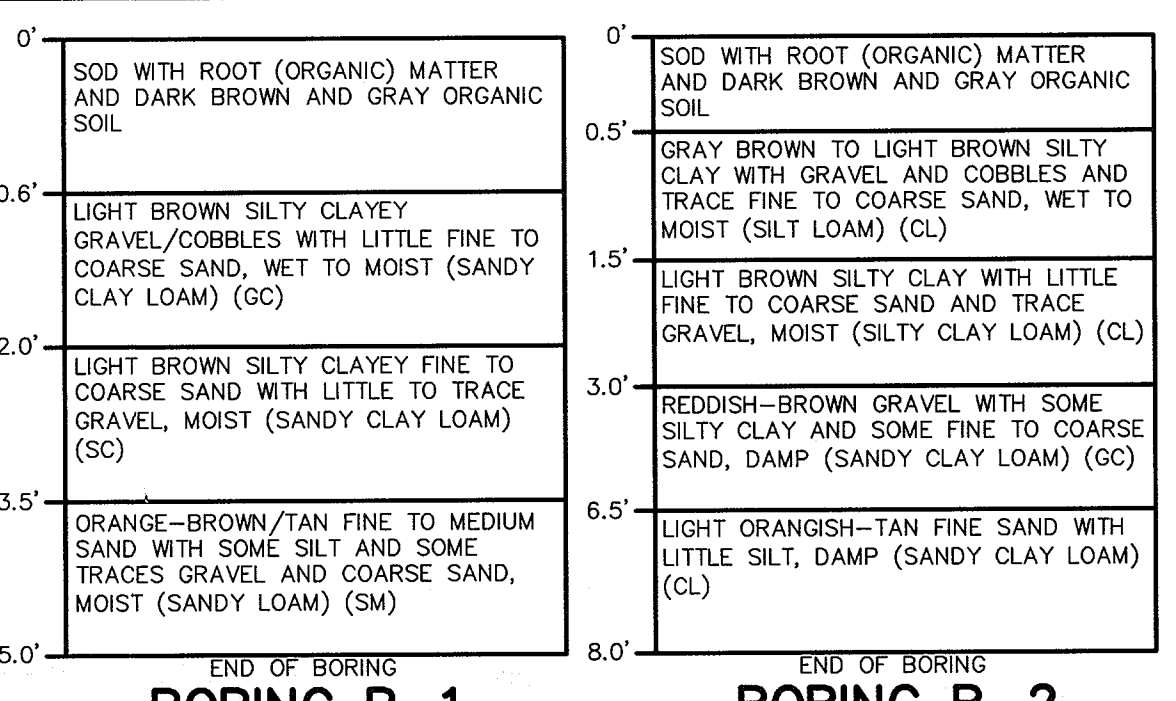


**PIPE SCHEDULE**

PIPE LENGTH	SIZE	TYPE
653'	15"	HDPE

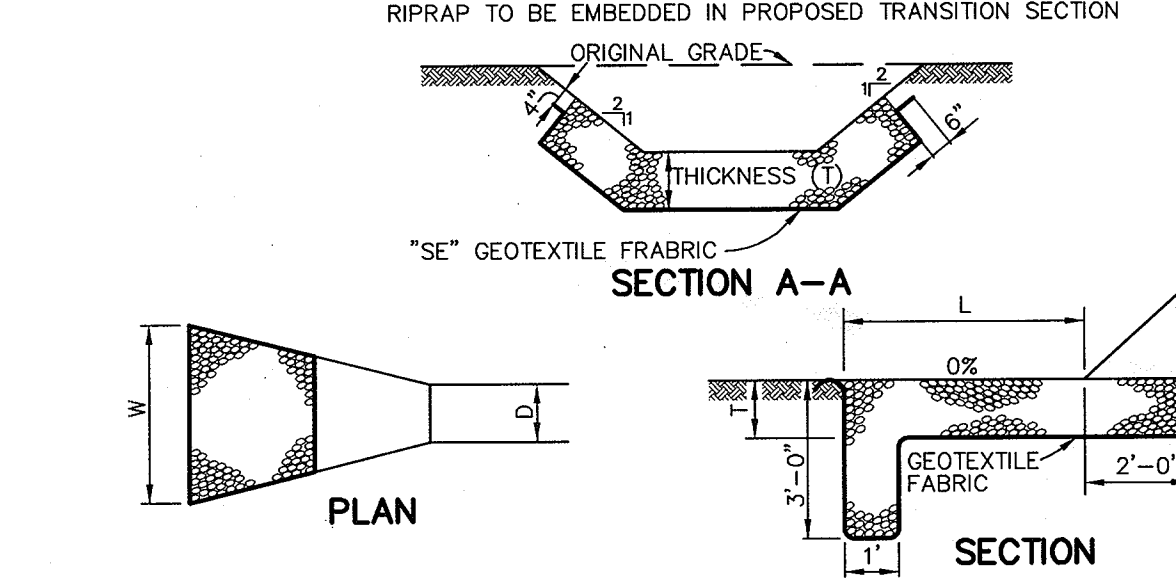
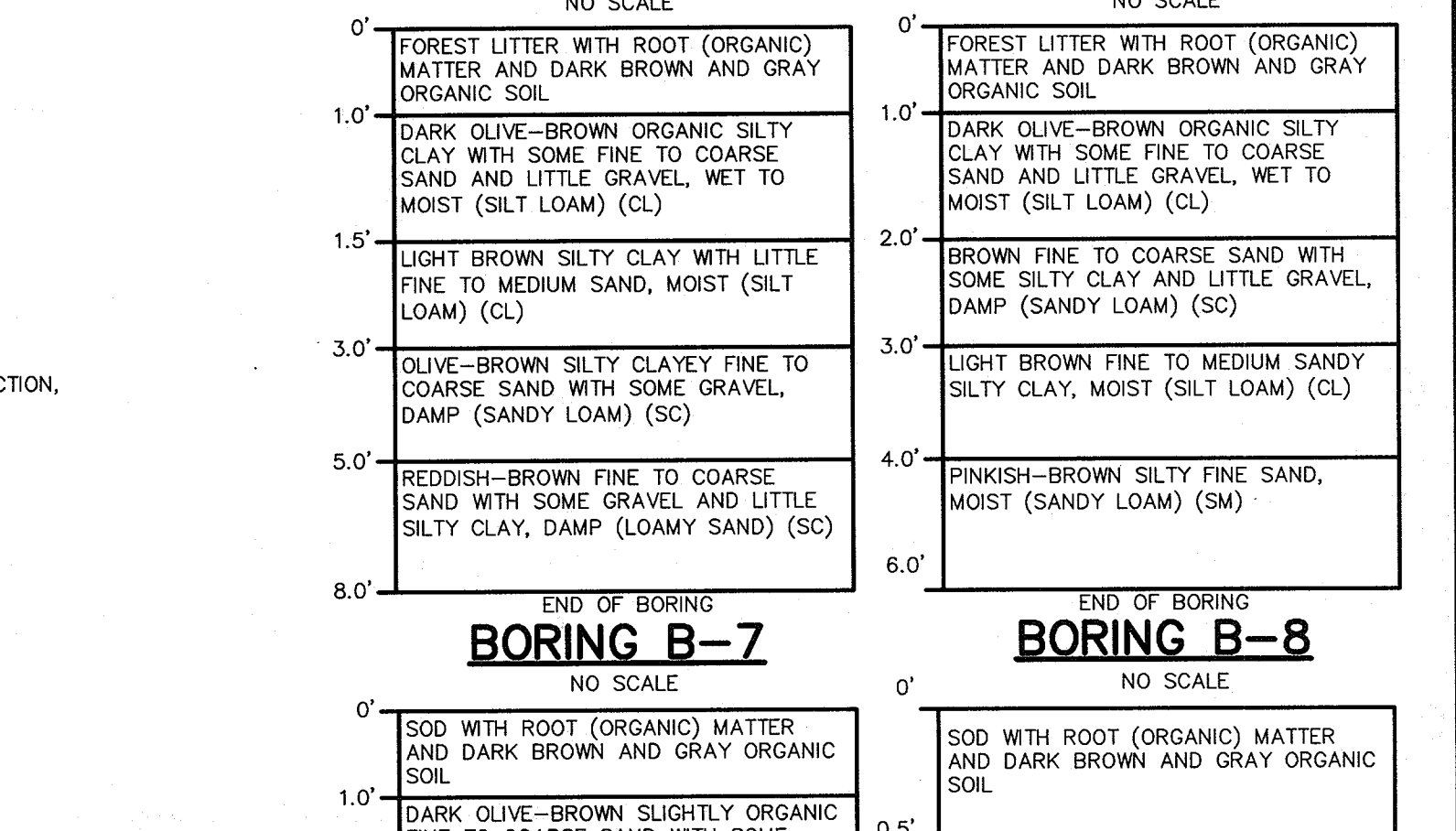
**STRUCTURE SCHEDULE**

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	'K'	N 568242 E 1373853	-	457.50 (15')	460.0	HOCO STD. DETAIL SD-4.12
M-1	4" DIAM.	N 568615 E 1373788	455.60 (15')	455.50 (15')	472.3	HOCO STD. DETAIL G-5.01
E-1	15" CMP	N 568883 E 1373730	454.10 (15')	-	-	HOCO STD. DETAIL SD-5.61



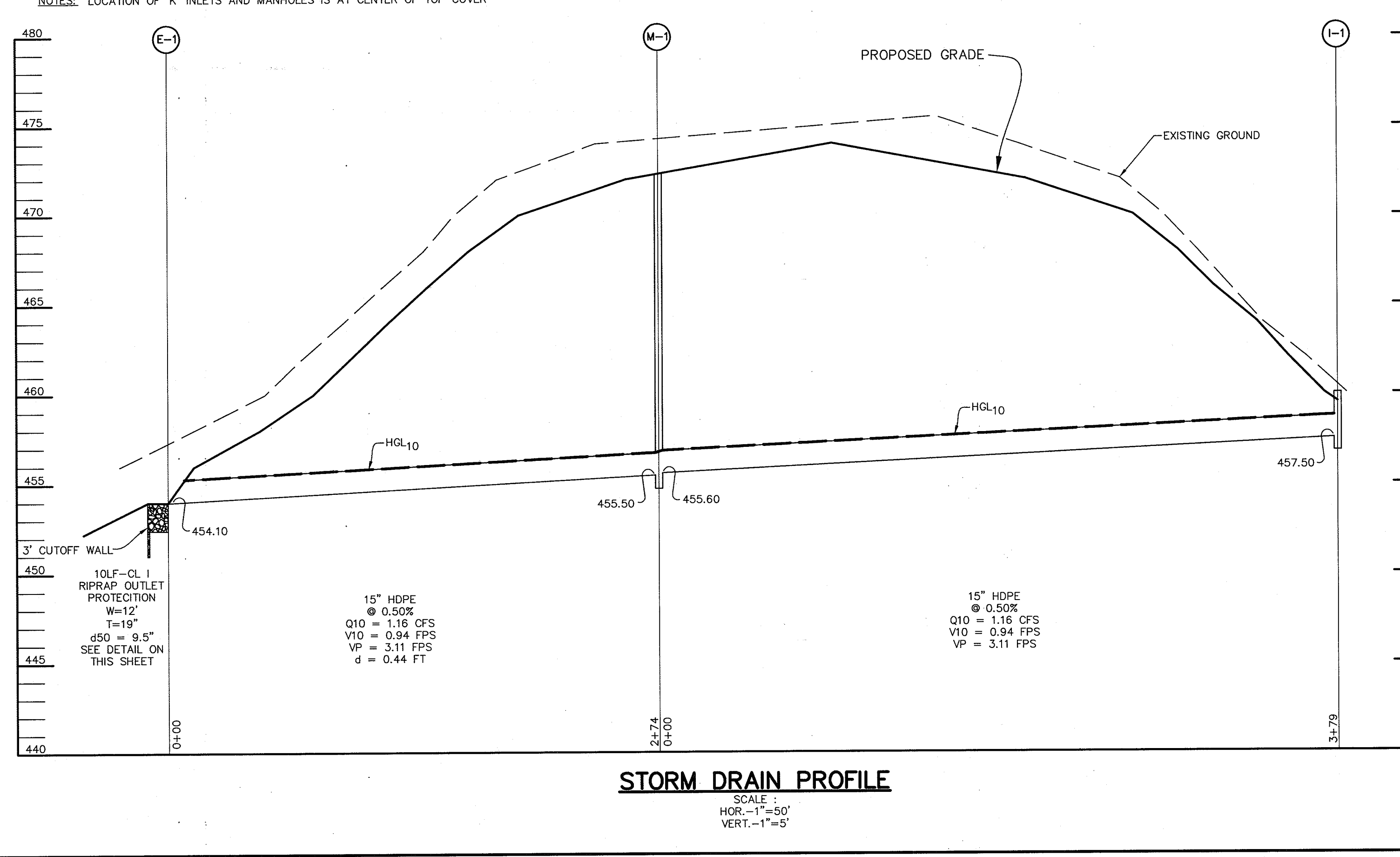
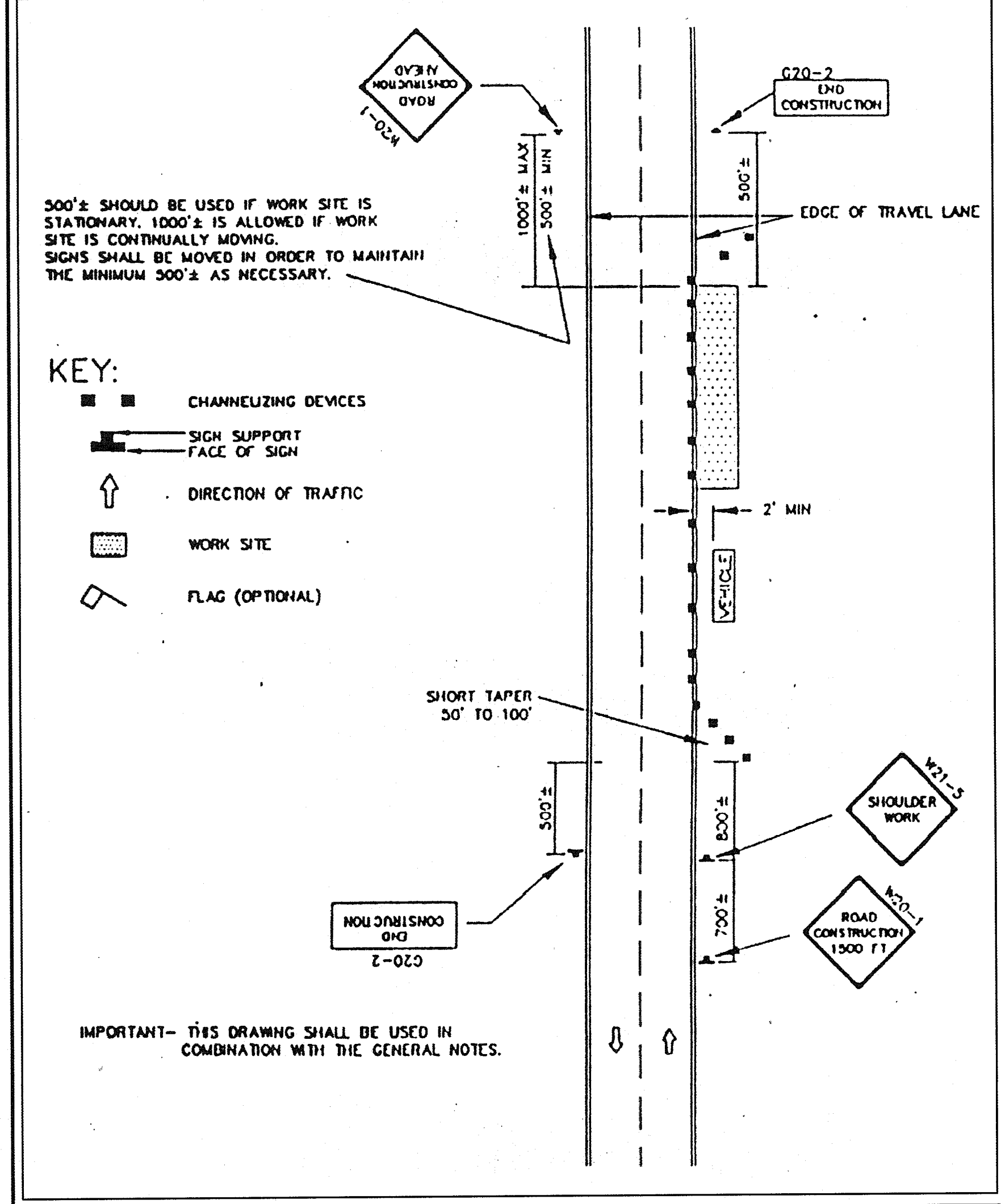
**CONSTRUCTION SPECIFICATIONS**

- THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
- "SE" GEOTEXTILE OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED SECTION, WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC, IT SHALL BE A MINIMUM OF ONE FOOT.
- STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
- THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.



NOTE:  $Q_{10}$ , V & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)	$Q_{10}$	Vp	DEPTH
E-1	9.5" CL 1	10'	12'	19"	1.16	3.11	0.44



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.  
*Wade J. ...* 7-6-06  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.  
*Cindy ...* 7/2/06  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*...* 7/12/06  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

05/30/06 1 ADDED PROFILE, PIPE & STRUCTURE SCHEDULE, RIPRAP DETAIL, & LEVEL SPREADER DETAIL.  
DATE NO. REVISION

OWNER/DEVELOPER  
ILCHESTER MANOR, LLC  
ATTN: BRIAN BOY  
9695 NORFOLK AVENUE  
LAUREL, MARYLAND 20723  
410-792-2565

PROJECT  
**ILCHESTER MANOR**  
A RESUBDIVISION OF LOT 642

AREA TAX MAP 31 PARCEL 642 ZONED R-20  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**REVISED DETAILS AND PROFILES**

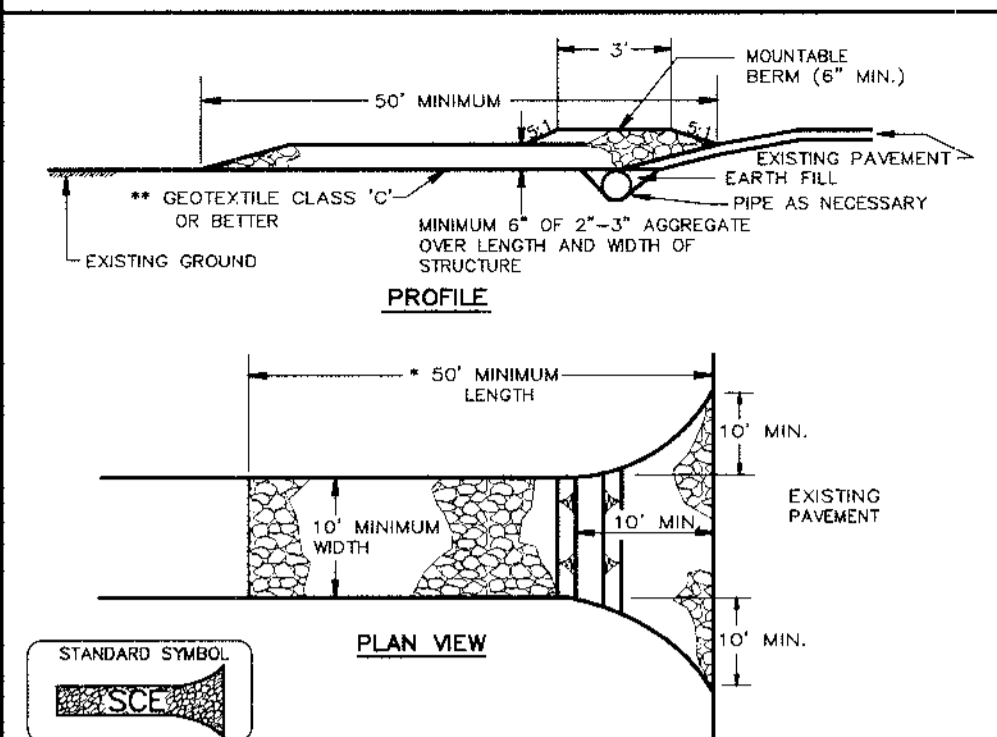
Patton Harris Rust & Associates, p.c.  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

6/21/06  
DATE  
DOMENICK W. COLANGELO #27200  
PROFESSIONAL ENGINEER

DESIGNED BY: ACR  
DRAWN BY: DAM/ACR  
PROJECT NO: 11819  
RD4.DWG  
DATE: JANUARY 10, 2005  
SCALE: AS SHOWN  
DRAWING NO. 4 OF 9

F-04-151

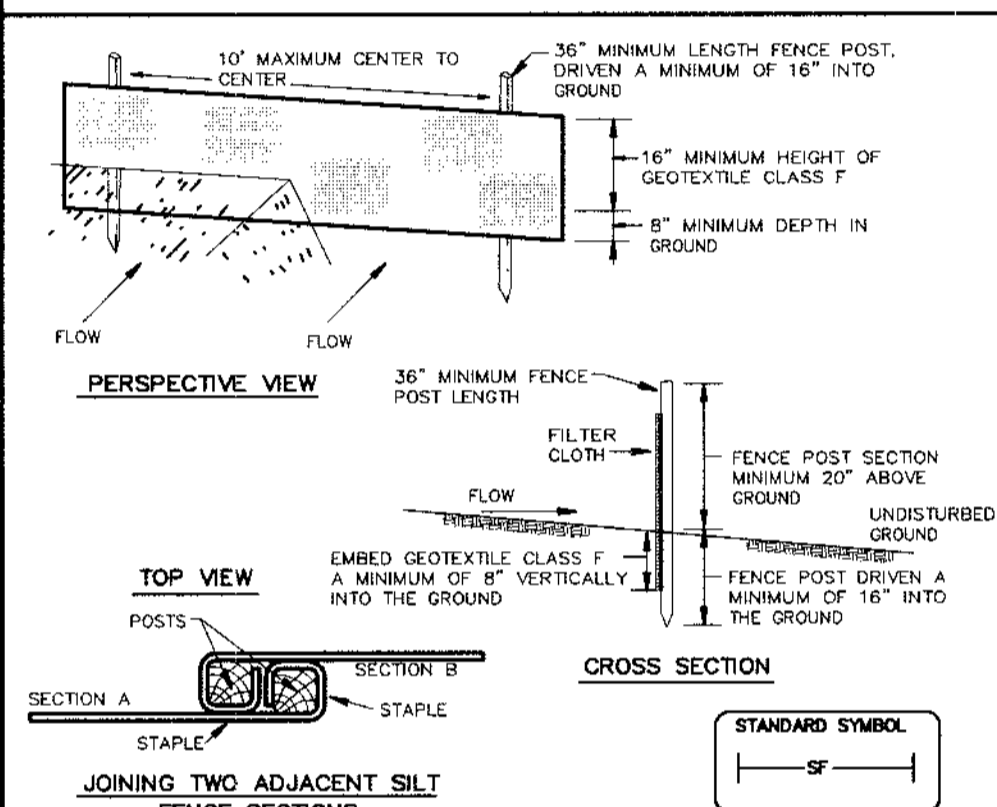
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- 1. Length - minimum of 50' (+30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone...

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

DETAIL 22 - SILT FENCE



- 1. Fence posts shall be a minimum of 36" long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

30.0 - DUST CONTROL

DEFINITION: CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.
PURPOSE: TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.
CONDITIONS WHERE PRACTICE APPLIES: THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.
TEMPORARY METHODS: 1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE, THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS...

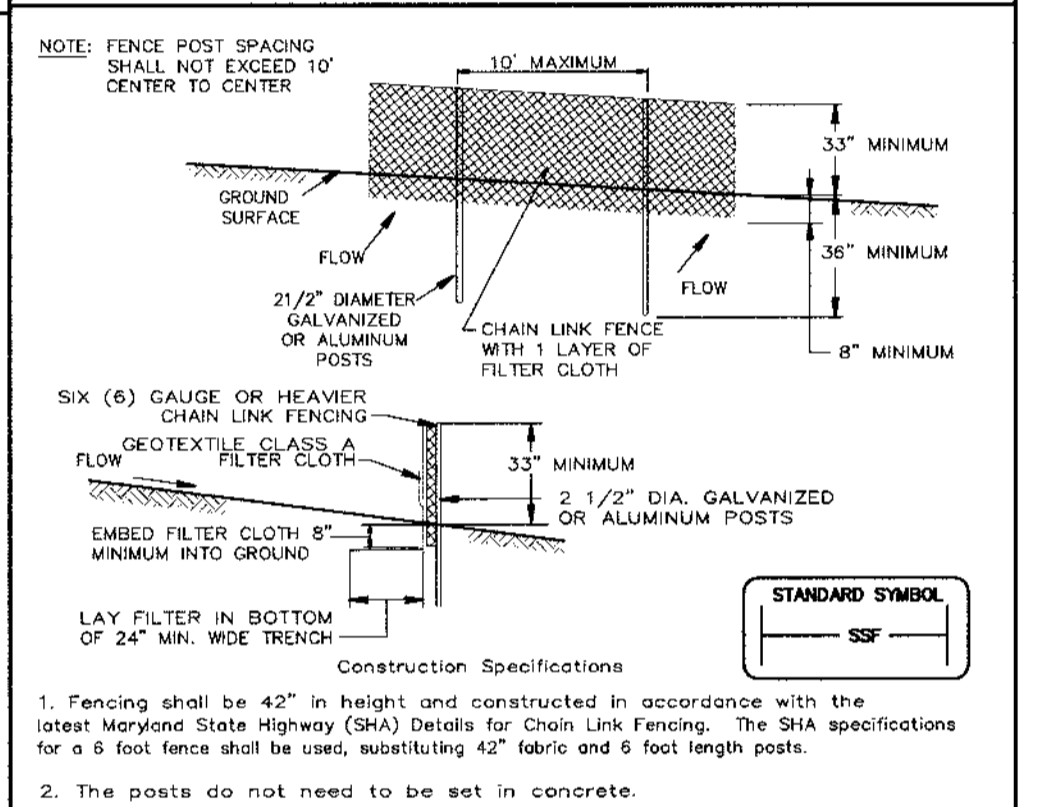
Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

STANDARD SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 37 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

DETAIL 33 - SUPER SILT FENCE



- 1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The SHA specifications for a 6 foot fence shall be used, substituting 42" fabric and 6 foot length posts.
2. The posts do not need to be set in concrete.
3. Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and true rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fencing shall be six (6) gauge or heavier, every 24" at the top and mid section.
4. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
5. Filter cloth shall be embedded a minimum of 8" into the ground.
6. When two sections of geotextile fabric adjoin each other, they shall be overlapped by 6" and folded.
7. Maintenance shall be performed as needed and silt buildup removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

DETAIL 30 - EROSION CONTROL MATTING

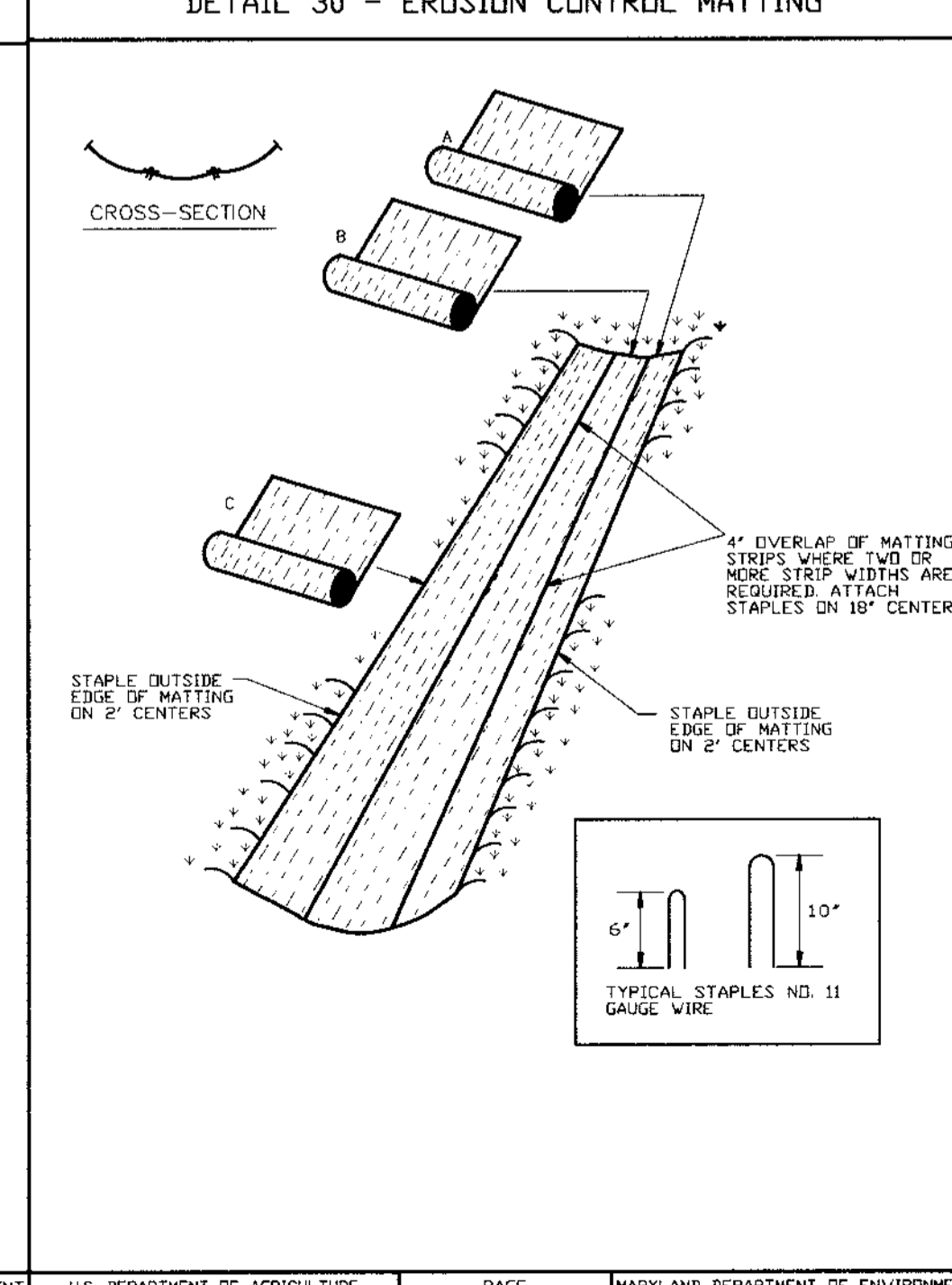


Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

21.0 STANDARD 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 VEGETATIVE 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: 1. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
--a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
--b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
--c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
--d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
II. 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: I. 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-SOCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTATION STATION.
II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
--I. 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 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 CHINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1-1/2" IN DIAMETER.
--II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
--III. WHERE 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.
III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
--I. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
III. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
--I. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
--a. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
--b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
--c. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
--d. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
NOTE: TOPSOIL SUBSTITUTES TO 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.
--II. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
V. TOPSOIL APPLICATION
--I. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
--II. GRASSES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
--III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
--IV. 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 DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
--I. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITE HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
--a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
--b. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
--c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
--d. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE. REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.
--II. TOPSOIL SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITE HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
--a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
--b. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
--c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
--d. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE. REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.
--III. TOPSOIL SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITE HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
--a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
--b. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
--c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
--d. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE. REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING, MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

TEMPORARY SEEDING NOTES

- APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM 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 - APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.).
SEEDING - FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS. PER 1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (0.07 LBS. PER 1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.
MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING.
REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

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:
1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS. PER 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS. PER 1000 SQ.FT.).
2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS. PER 1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS. PER 1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.
SEEDING - FOR THE PERIOD MARCH 1 THRU APRIL 30 AND FROM AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS. PER 1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. PER ACRE OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (0.05 LBS. PER 1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY ONE OF THE FOLLOWING OPTIONS:
1) 2 TONS PER ACRE OF WELL-ANCHORED MULCH STRAW AND SEED AS SOON AS POSSIBLE IN THE SPRING.
2) USE SOD.
3) SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW.
MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS. PER 1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL. PER 1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 347 GAL. PER ACRE (8 GAL. PER 1000 SQ.FT.) FOR ANCHORING.
MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN GRADING PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE AND SILT FENCE. (2 DAYS)
3. UPON PERMISSION OF SEDIMENT CONTROL INSPECTOR BEGIN ROUGH GRADING. (1 WEEK)
4. AS SUBGRADE ELEVATIONS ARE ESTABLISHED INSTALL WATER AND SEWER. (3 WEEKS)
5. INSTALL CURB AND GUTTER AND PAVE. (1 WEEK)
6. PERFORM FINE GRADING AND LANDSCAPING. (1 WEEK)
7. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 DAYS)
8. INSTALL RAINGARDENS. (1 WEEK)
9. UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED OPEN CHANNEL SYSTEMS

- 1. THE OPEN CHANNEL SYSTEM SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONING PROPERLY.
2. THE OPEN CHANNEL SHALL BE MOWED AS NEEDED DURING THE GROWING SEASON TO MAINTAIN A MAXIMUM GRASS HEIGHT OF LESS THAN 6 INCHES.
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE OPEN CHANNEL SYSTEM SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
5. REMOVE SILT IN THE OPEN CHANNEL SYSTEM WHEN IT EXCEEDS 25% OF THE ORIGINAL WQ.

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

BY THE DEVELOPER:

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

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

BY THE ENGINEER:

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

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Approval stamps and signatures from Howard County Department of Public Works, Department of Planning and Zoning, and Department of Land Development. Includes dates like 2/1/05 and 2/4/05.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Approval stamp and signature from Howard County Department of Planning and Zoning. Includes date 2/1/05.

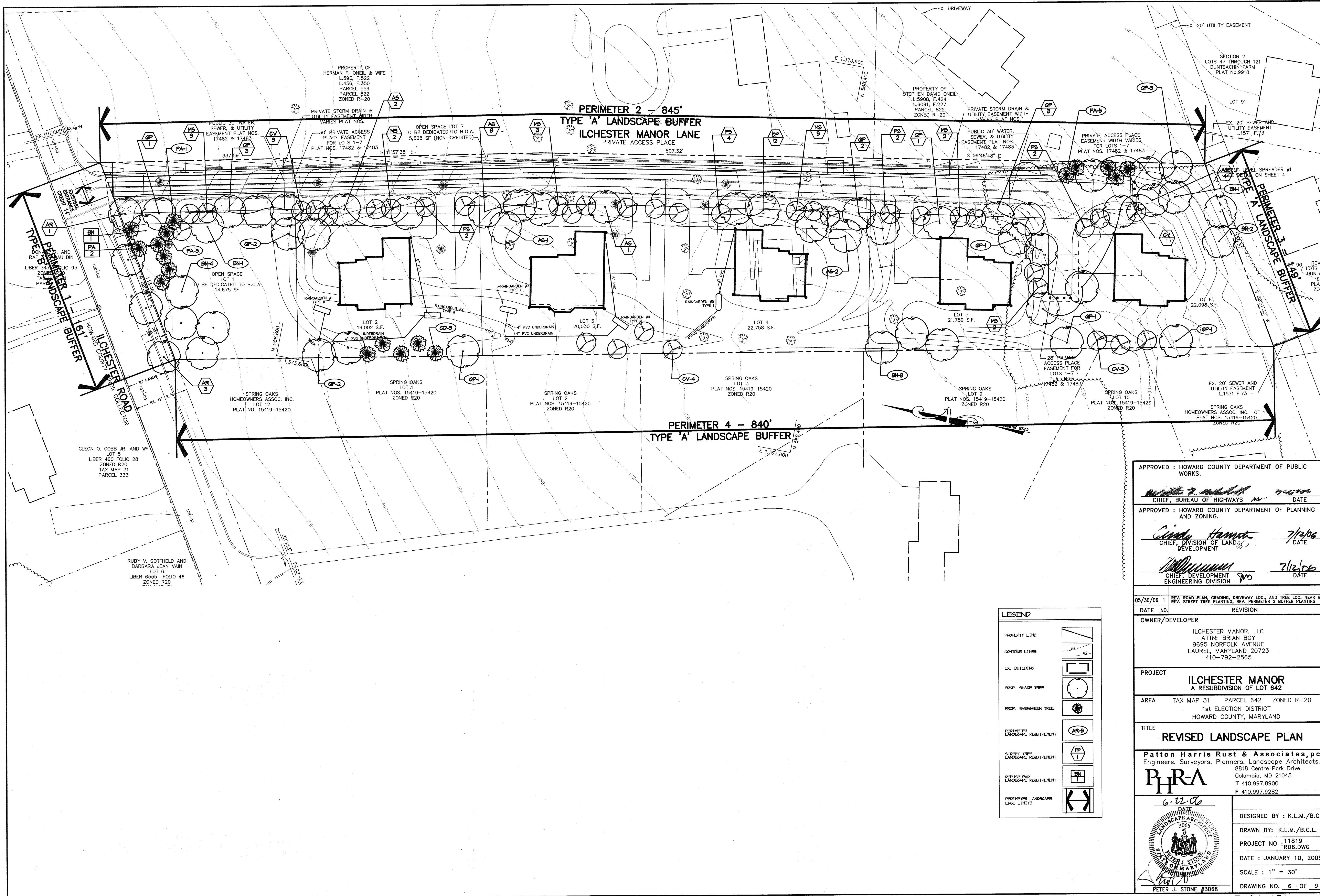
APPROVED: HOWARD COUNTY DEPARTMENT OF LAND DEVELOPMENT.

Approval stamp and signature from Howard County Department of Land Development. Includes date 2/4/05.

DATE NO. REVISION

Project information block including: PROJECT: ILCHESTER MANOR A RESUBDIVISION OF LOT 642; AREA: TAX MAP 31 PARCEL 642 ZONED R-20; TITLE: SEDIMENT CONTROL NOTES AND DETAILS; ENGINEER: PHRA; DESIGNED BY: C.J.R./A.C.R.; DRAWN BY: DAM; PROJECT NO: 11819 RDS.DWG; DATE: JANUARY 10, 2005; SCALE: AS SHOWN; DRAWING NO: 5 OF 9.

Table with 4 columns: U.S. DEPARTMENT OF AGRICULTURE, PAGE, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION.



STREET TREE CALCULATIONS ILCHESTER MANOR LANE*		
LENGTH= 1,788'	1788'/40	45 LARGE TREES
TOTAL TREES REQUIRED		45 LARGE TREES
TOTAL TREES PROVIDED		45 LARGE TREES

NOTE: STREET TREES BONDED WITH ROAD PLANS AND STORM WATER MANAGEMENT PLANTINGS.  
\* LANDSCAPE TREES ALONG PRIVATE ACCESS PLACE.

STREET TREE CALCULATIONS MONTGOMERY ROAD*		
LENGTH= 121'	121'/40	3 LARGE TREES
TOTAL TREES REQUIRED		3 LARGE TREES
TOTAL TREES PROVIDED		3 LARGE TREES

NOTE: STREET TREES BONDED WITH ROAD PLANS AND STORM WATER MANAGEMENT PLANTINGS.

SCHEDULE A - PERIMETER LANDSCAPE EDGE				
PERIMETER	ADJACENT TO ROADWAYS		ADJACENT TO PERIMETER PROPERTIES	
	1	2	3	4
LANDSCAPE TYPE	B	A	A	A
LINEAR FEET OF ROADWAY FRONTAGE/ PERIMETER	161'±	845'±	149'±	840'±
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO
CREDIT FOR DRIVE ENTRANCES (YES, NO, LINEAR FEET)	YES 14'	NO	NO	NO
LINEAR FEET REMAINING	147'±	845'±	149'±	840'±
CREDIT FOR WALL, FENCE, OR BERM (YES/NO/LINEAR FEET)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED				
SHADE TREES	4	14	2	14
EVERGREEN TREES	5	0	0	0
SHRUBS	0	0	0	0
NUMBER OF PLANTS PROPOSED				
SHADE TREES	4	6	2	8
EVERGREEN TREES	5	0	0	12
ORNAMENTAL TREES	0	0	0	0
SHRUBS	0	0	0	0

SUBSTITUTION NOTES:  
PERIMETER 2: 16 EVERGREEN TREES WERE SUBSTITUTED FOR 8 SHADE TREES.  
PERIMETER 4: 2 EVERGREEN TREES AND 7 ORNAMENTAL TREES WERE SUBSTITUTED FOR 8 SHADE TREES.

PERIMETER PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
BN	10	Betula nigra 'Heritage' Heritage River Birch	2.5"-3" cal.	B4B	Plant as shown
QP	10	Quercus phellos Willow Oak	2.5"-3" cal.	B4B	Plant as shown
CV	7	Cornus virginica 'Winter King' Winter King Dogwood	1.5"-2" cal.	B4B	Plant as shown
CD	11	Cedrus deodara Deodar Cedar	6"-8" ht.	B4B	Plant as shown
PA	15	Picea canadensis Norway Spruce	6"-8" ht.	B4B	Plant as shown

STREET TREE PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
AR	5	Acer rubrum 'Red Sunset' Red Sunset Red Maple	2.5"-3" cal.	B4B	Plant as shown
AS	16	Acer saccharum Green Mountain Sugar Maple	2.5"-3" cal.	B4B	Plant as shown
QP	21	Quercus phellos Willow Oak	2.5"-3" cal.	B4B	Plant as shown

REFUSE PAD PLANT LIST					
SYMBOL	QTY.	SCIENTIFIC/COMMON NAME	SIZE	ROOT	REMARKS
BN	1	Betula nigra 'Heritage' Heritage River Birch	2.5"-3" cal.	B4B	Plant as shown
PA	2	Picea canadensis Norway Spruce	6"-8" ht.	B4B	Plant as shown

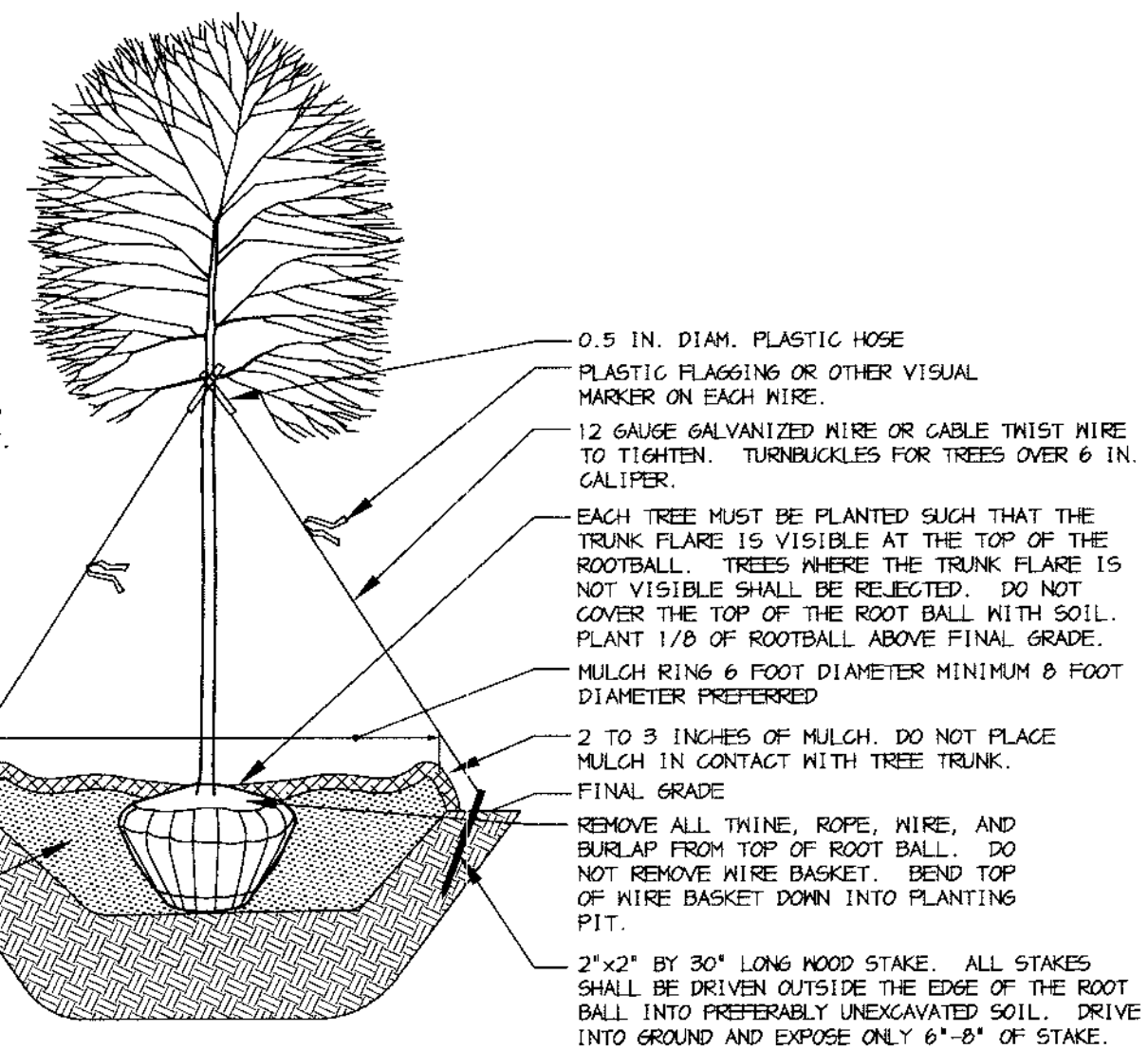
PLANTINGS BASED ON LOADING AREA BUFFER REQUIREMENTS OF THE HOWARD COUNTY LANDSCAPE MANUAL. A TREE 0' BUFFER @ 24" REQUIRES 1 SHADE TREE AND 2 EVERGREEN TREES.

### PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein. Where discrepancies exist between Standards & Guidelines referenced within these specifications and the Howard County Landscape Manual, the latter takes precedence.
- All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Association of Nurserymen (AAN) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, sunscald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements will be rejected. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will be rejected. All B & B plants shall be freshly dug; no healed-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the "Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, & VA", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.
- Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
- Contractor shall be responsible for notifying all relevant and appropriate utility companies, utility contractors, and "Miss Utility" a minimum of 48 hours prior to the beginning of any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant Pinus strobus or Xcupressocyparis leylandii between November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual site conditions differing from those indicated on drawings and specifications.
- Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
- All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified, unless otherwise indicated on plans. (See Specification 13). Beds to be mulched with minimum 2" and maximum 3" of composted, double-shredded hardwood mulch throughout.
- Positive drainage shall be maintained on planting beds (minimum 2 percent slope).
- Bed preparation shall be as follows: Till into a minimum depth of 6" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 5-10-5 fertilizer per cubic yard of planting mix and till. Ericaceous plants (Azaleas, Rhododendrons, etc.); top dress after planting with iron sulfate or comparable product according to package directions. Taxus baccata 'Repandens' (English weeping yew); Top dress after planting with 1/4 to 1/2 cup lime each.
- Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
- Seed & insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing chlorpyrifos to be used as a means of pest control.
- Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid desiccation.
- Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.

### NOTES:

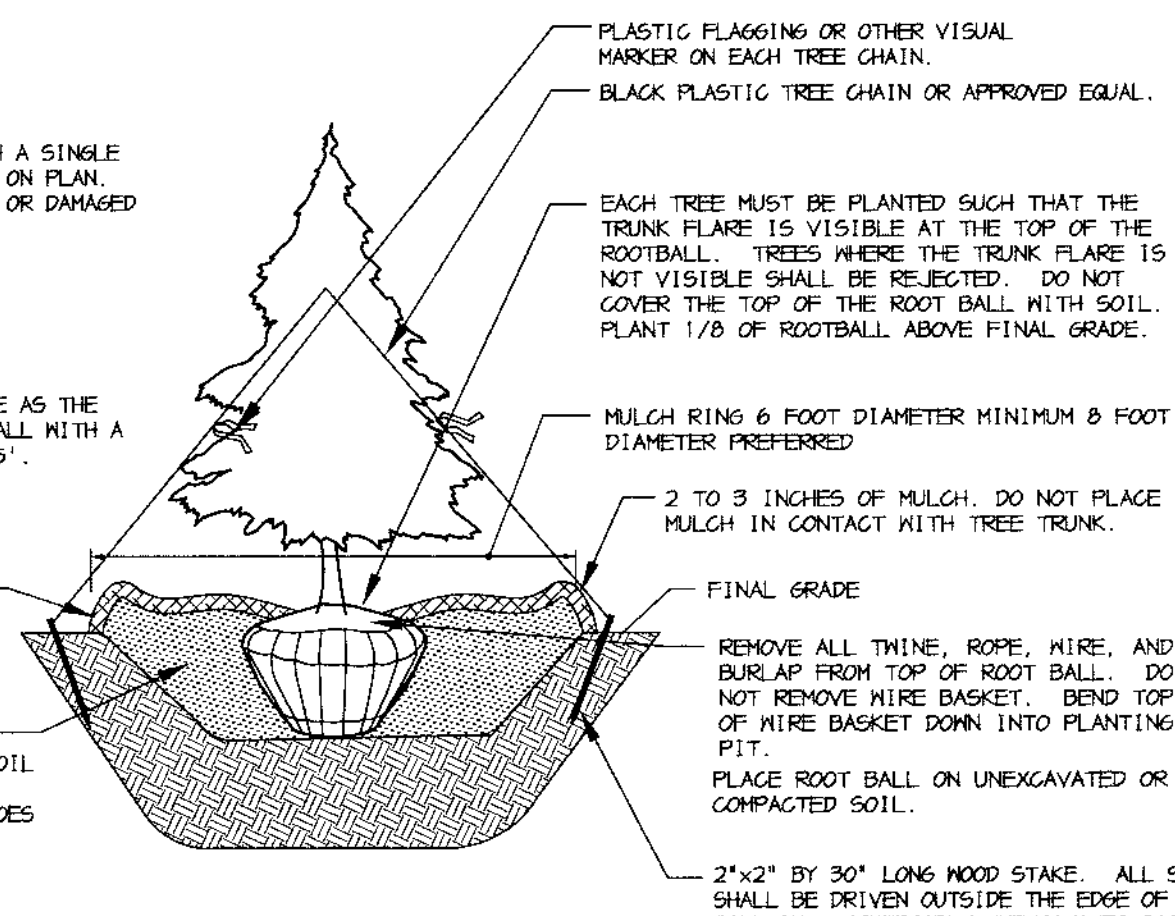
- DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY OVERGROWN LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR THIGS AND LATERAL BRANCHES MAY BE PRUNED; HOWEVER, DO NOT REMOVE THE TERMINAL BUDDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
- STAKE TREES AS SHOWN.
- DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.
- PLACE ROOT BALL ON UNEXCAVATED OR COMPACTED SOIL.
- TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 IN. OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.
- TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.
- INSTALL THREE GUY WIRES PER TREE, SPACED EVENLY AROUND THE TRUNK.
- ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 0.5 IN. REMOVE STAKES AFTER ONE YEAR.



DECIDUOUS B4B TREE PLANTING DETAIL (TREES 3" CAL. OR LARGER)  
NOT TO SCALE

### NOTES:

- SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSING, OR DAMAGED LEADERS SHALL BE REJECTED.
- STAKE TREES AS SHOWN.
- DIG PLANTING PIT TWICE AS WIDE AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5'.



EVERGREEN B4B TREE PLANTING DETAIL  
NOT TO SCALE

### GENERAL NOTES

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$10,350.  
18 SHADE TREES @ \$300 = \$5,400  
0 ORNAMENTAL TREES @ \$150 = \$0  
33 EVERGREEN TREES @ \$150 = \$4,950  
0 SHRUBS @ \$30 = \$0
- THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
- AT THE TIME OF INSTALLATION, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN MAY RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN(S) AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.

### DEVELOPER'S/BUILDER'S CERTIFICATE

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

Signature: Brian Boy  
DATE: 1-10-05

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Signature: William F. McCall  
DATE: 1-26-05  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Signature: Linda Hamner  
DATE: 2/7/05  
CHIEF, DIVISION OF LAND DEVELOPMENT

Signature: Chad Daneman  
DATE: 2/4/05  
CHIEF, DEVELOPMENT AND ENGINEERING DIVISION

DATE NO. REVISION

OWNER/DEVELOPER

ILCHESTER MANOR, LLC  
ATTN: BRIAN BOY  
9695 NORFOLK AVENUE  
LAUREL, MARYLAND 20723  
410-792-2565

PROJECT: ILCHESTER MANOR  
A RESUBDIVISION OF LOT 642

AREA: TAX MAP 31 PARCEL 642 ZONED R-20  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE NOTES AND TABULATIONS

Patton Harris Rust & Associates, pc  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

DATE: 1-10-05

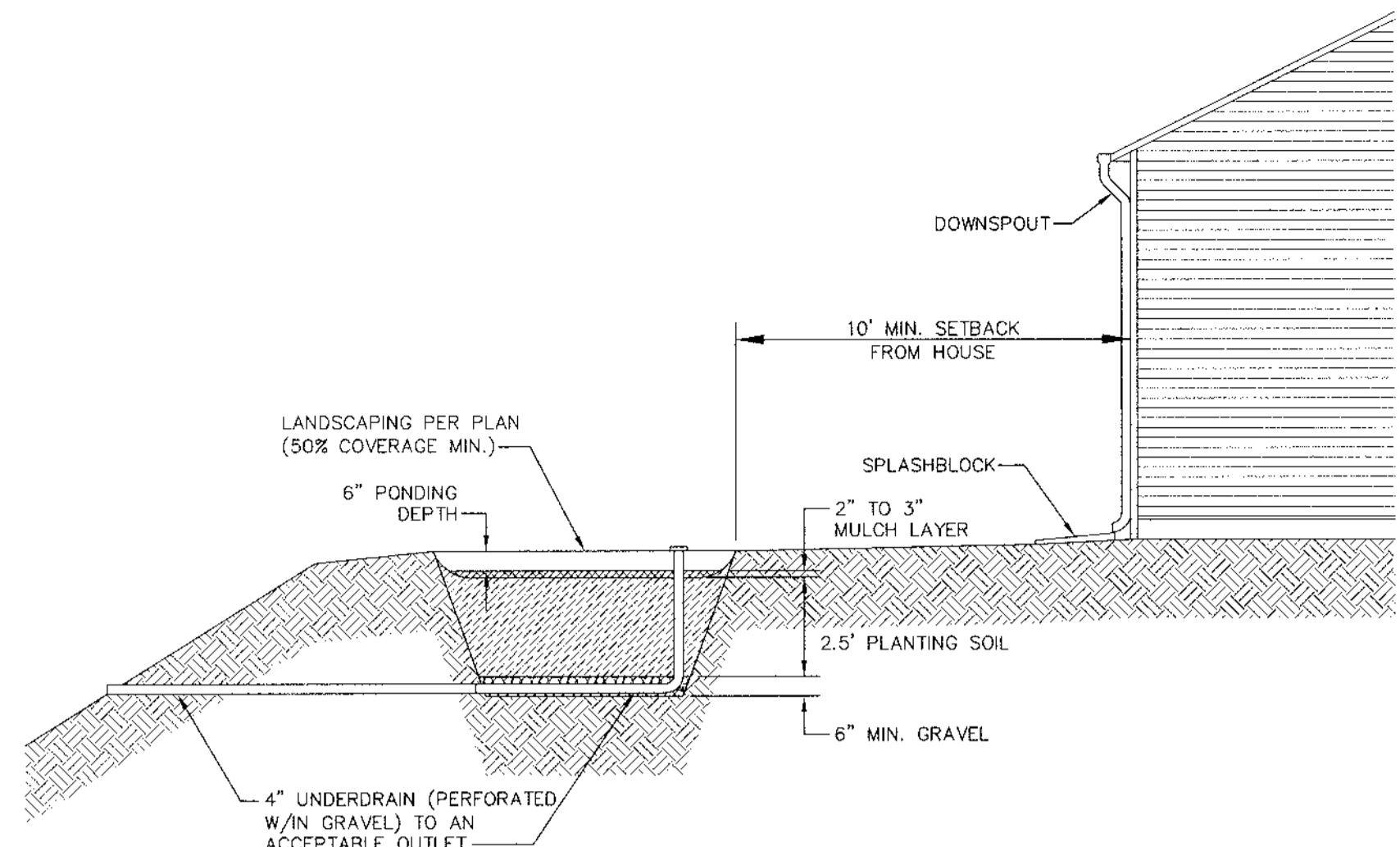
DESIGNED BY: K.L.M.

DRAWN BY: K.L.M.  
PROJECT NO.: 11819  
RD7.DWG

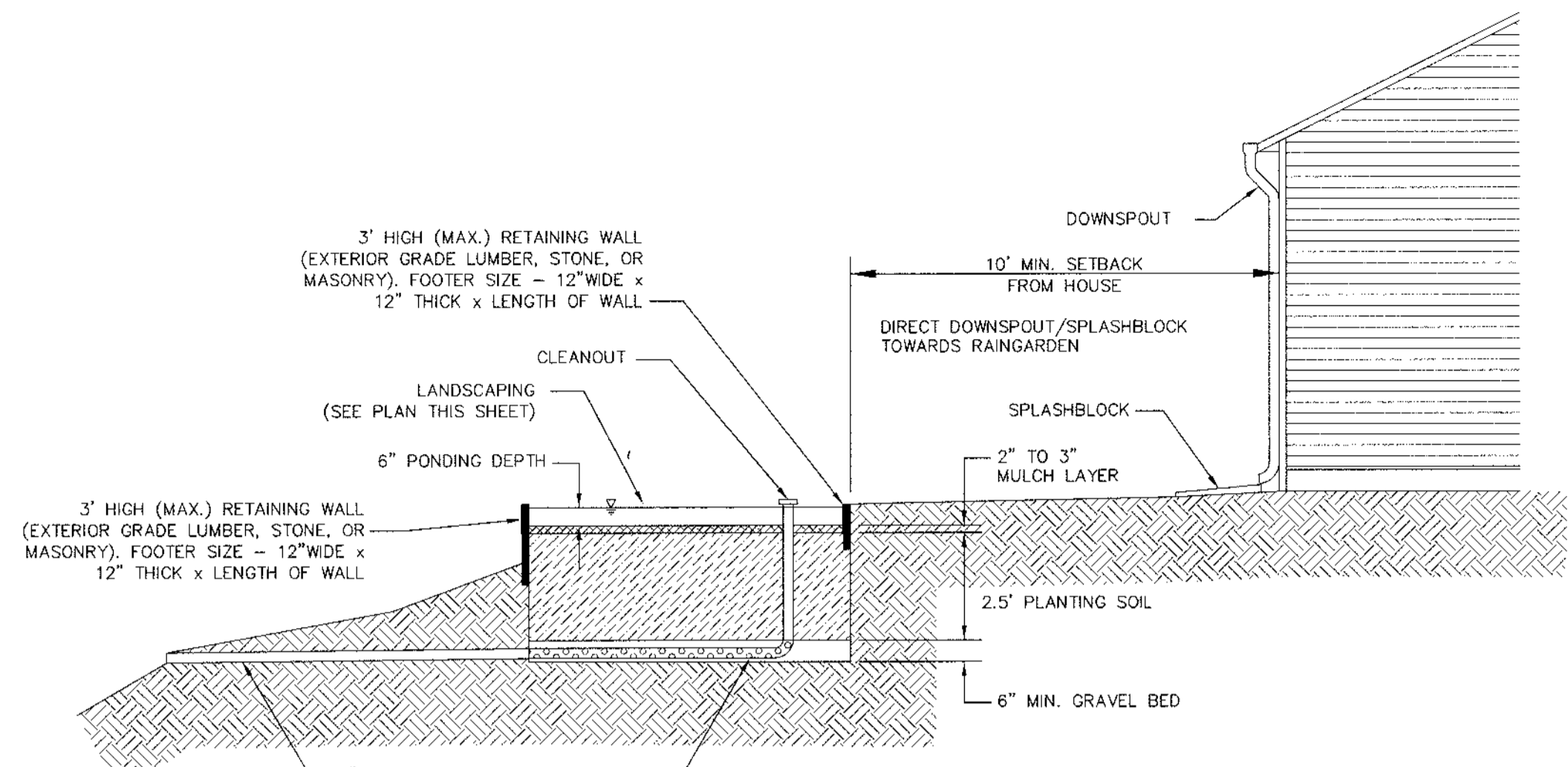
DATE: JANUARY 10, 2005

SCALE: AS SHOWN  
DRAWING NO. 7 OF 9

SCOTT R. WOLFORD #797



**TYPE I RAINGARDEN PROFILE**  
NOT TO SCALE



**TYPE II (TERRACE) RAINGARDEN PROFILE**  
NOT TO SCALE

MATERIAL SPECIFICATIONS FOR RAINGARDENS			
MATERIAL	SPECIFICATION	SIZE	NOTES
PLANTING SOIL	SAND: 30% TO 60% SILT: 30% TO 55% CLAY: 0% TO 25%	N/A	USDA SOIL TYPES LOAMY SAND, SANDY LOAM, OR LOAM
MULCH	SHREDDED HARDWOOD	N/A	AGED SIX MONTHS MINIMUM
GEOTEXTILE	CLASS "C" (ASTM D-4751) GRAB TENSILE STRENGTH (ASTM D-4832) PUNCTURE RESISTANCE (ASTM D-4833)	N/A	USE AS NECESSARY BENEATH UNDERDRAINS ONLY.
GRAVEL	AASHTO M-43 #57 OR #67	3/8" TO 3/4"	
UNDERDRAIN PIPING	F 758, TYPE PS 28 OR AASHTO M-278	4" RIGID SCHEDULE 40 PVC, SDR 35, OR HDPE	3/8" PERF. @ 6" ON CENTER, 4 HOLES PER ROW, MIN. OF 2" GRAVEL OVER PIPES; GRAVEL NOT NECESSARY BENEATH PIPES.

**RAINGARDEN SPECIFICATIONS**

PLANTING SOIL SHOULD BE SANDY LOAM, LOAMY SAND, OR A LOAM/SAND MIX AND SHOULD CONTAIN A MINIMUM 35 TO 60 % SAND BY VOLUME. THE CLAY CONTENT SHOULD BE LESS THAN 25%. THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. ONE SIMPLE METHOD OF FOR PRODUCING SUITABLE PLANTING SOIL IS TO MIX THREE PARTS OF COMMERCIALY AVAILABLE WASHED SAND WITH TWO PARTS TOPSOIL TO PRODUCE A HOMOGENEOUS SOIL. PLANTING SOIL SHOULD BE PLACED IN 12" TO 18" LAYERS THAT ARE LOOSELY COMPACTED (TAMPED LIGHTLY WITH A BACKHOE BUCKET) TO A DEPTH OF 2 1/2 FEET.

RAINGARDEN MULCH SHOULD BE STANDARD LANDSCAPE STYLE, SINGLE OR DOUBLE SHREDDED HARDWOOD MULCH. THE MULCH SHOULD BE WELL AGED, UNIFORM IN COLOR, AND FREE OF OTHER MATERIALS SUCH AS WEEDS OR ROOTS. GRASS CLIPPINGS ARE UNACCEPTABLE AS A MULCH MATERIAL. MULCH SHOULD BE APPLIED TO A MAXIMUM DEPTH OF THREE INCHES. RAINGARDENS SHOULD BE REMULCHED ON AN ANNUAL BASIS.

UNDERDRAINS SHALL CONSIST OF A 4" DIAMETER RIGID SCHEDULE 40 (OR SDR 35) PVC PIPE (SLOTTED HDPE IS ALSO ACCEPTABLE) THAT IS PERFORATED WITHIN THE RAINGARDEN. PERFORATIONS SHALL BE 3/8" DIAMETER MINIMUM AT 6" ON CENTER WITH A MINIMUM OF 4 HOLES PER ROW. UNDERDRAINS SHALL BE PLACED ON A 3' WIDE SECTION OF FILTER CLOTH (CLASS "C" GEOTEXTILE). THE PIPE IS PLACED NEXT, FOLLOWED BY THE GRAVEL BEDDING. THE MAIN COLLECTOR PIPE FOR UNDERDRAIN SYSTEMS SHALL BE CONSTRUCTED AT A MINIMUM SLOPE OF 0.5%. AT LEAST ONE OBSERVATION WELL/CLEANOUT MUST BE PROVIDED PER RAINGARDEN. A RODENT GUARD SHOULD BE INSTALLED AT THE DOWNSTREAM END OF UNDERDRAINS TO PREVENT MICE AND LARGER RODENTS FROM ENTRY. A TYPICAL RODENT GUARD CONSISTS OF A 3/8" HEX-HEAD BOLT THROUGH THE PIPE HORIZONTALLY. NUTS ARE PLACED ON BOTH THE INSIDE AND OUTSIDE OF THE PIPE.

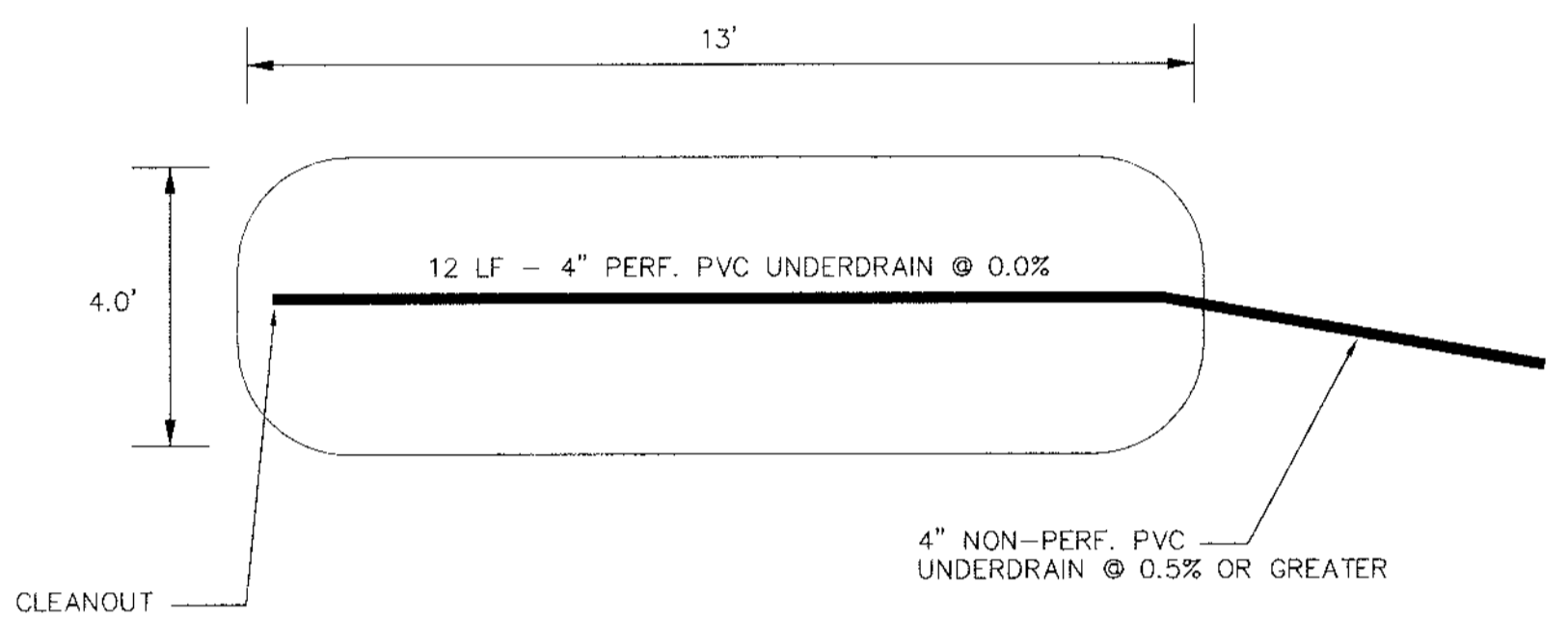
RAINGARDENS SHALL NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

FOR PLANT INSTALLATION ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT AND ON-SITE STORAGE. THE PLANT ROOT BALL SHOULD BE PLANTED SO THAT 1/8 OF THE BALL IS ABOVE THE FINAL GRADE SURFACE. THE DIAMETER OF THE PLANTING PIT SHOULD BE AT LEAST SIX INCHES LARGER THAN THE DIAMETER OF THE PLANTING BALL. SET AND MAINTAIN THE PLANT STRAIGHT (UPRIGHT) DURING THE PLANTING PROCESS. THOROUGHLY WATER GROUND BED COVER AFTER INSTALLATION. GRASSES AND LEGUME SEED SHOULD BE DRILLED INTO THE SOIL TO A DEPTH OF AT LEAST ONE INCH. GRASS AND LEGUME PLUGS SHALL BE PLANTED FOLLOWING THE NON-GRASS GROUND COVER SPECIFICATIONS.

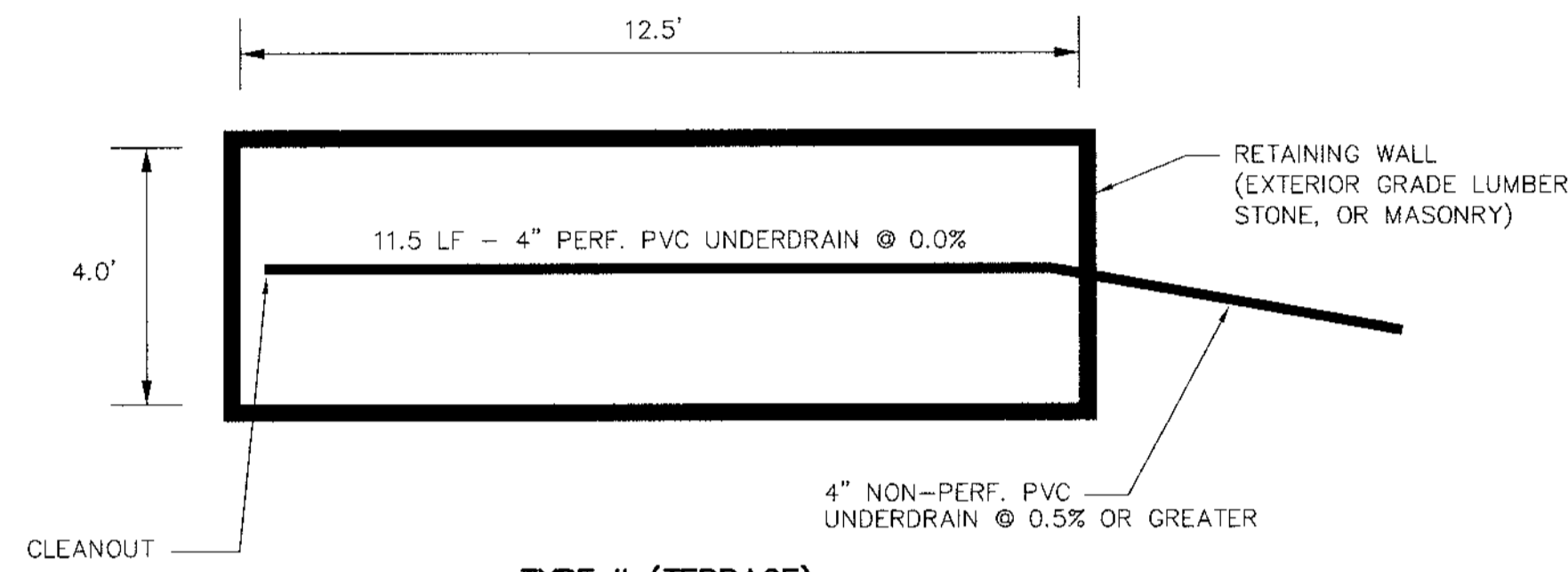
THE TOPSOIL SPECIFICATIONS PROVIDE ENOUGH ORGANIC MATERIAL TO ADEQUATELY SUPPLY NUTRIENTS FROM NATURAL CYCLING. THE PRIMARY FUNCTION OF THE RAINGARDEN IS TO IMPROVE WATER QUALITY. ADDING FERTILIZERS DEFEATS, OR AT A MINIMUM, IMPEDES THIS GOAL. ONLY ADD FERTILIZER IF WOOD CHIPS OR MULCH IS USED TO AMEND THE SOIL.

**SEQUENCE OF CONSTRUCTION**

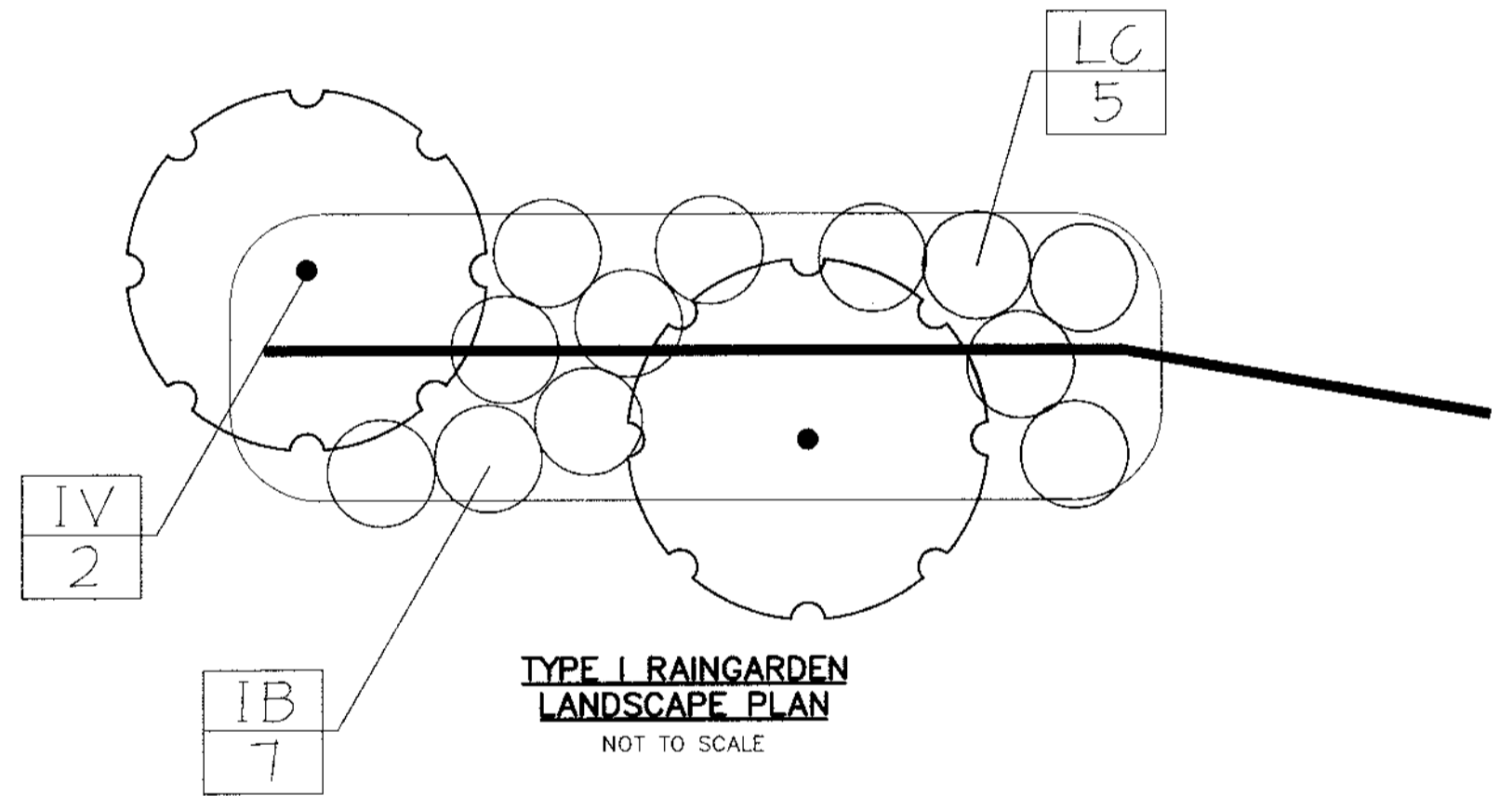
- SUBSEQUENT TO FINAL GRADING AND STABILIZATION OF LOT, EXCAVATE RAINGARDEN AREA TO PROPER DIMENSIONS.
- INSTALL GRAVEL ENVELOPE, GEOTEXTILE, UNDERDRAIN, AND OBSERVATION WELL.
- PLACE AND LOOSELY COMPACT PLANTING SOIL.
- INSTALL PLANTS AT PROPER DEPTH AND LOCATION ACCORDING TO PLANTING PLAN.
- MULCH THE SURFACE OF THE RAINGARDEN TO A THICKNESS OF 3".
- WATER AS NECESSARY.



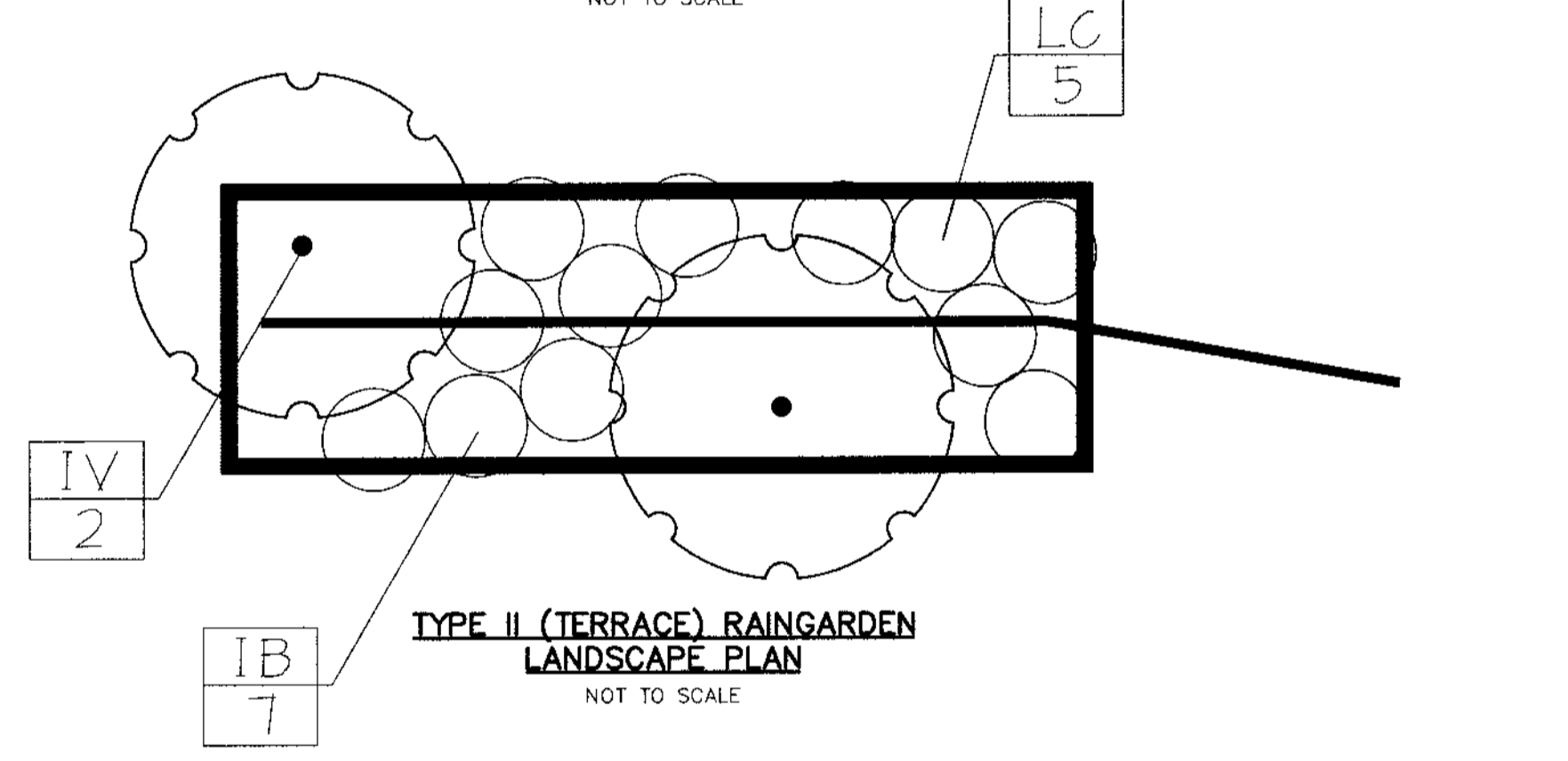
**TYPE I RAINGARDEN PLAN**  
NOT TO SCALE



**TYPE II (TERRACE) RAINGARDEN PLAN**  
NOT TO SCALE



**TYPE I RAINGARDEN LANDSCAPE PLAN**  
NOT TO SCALE

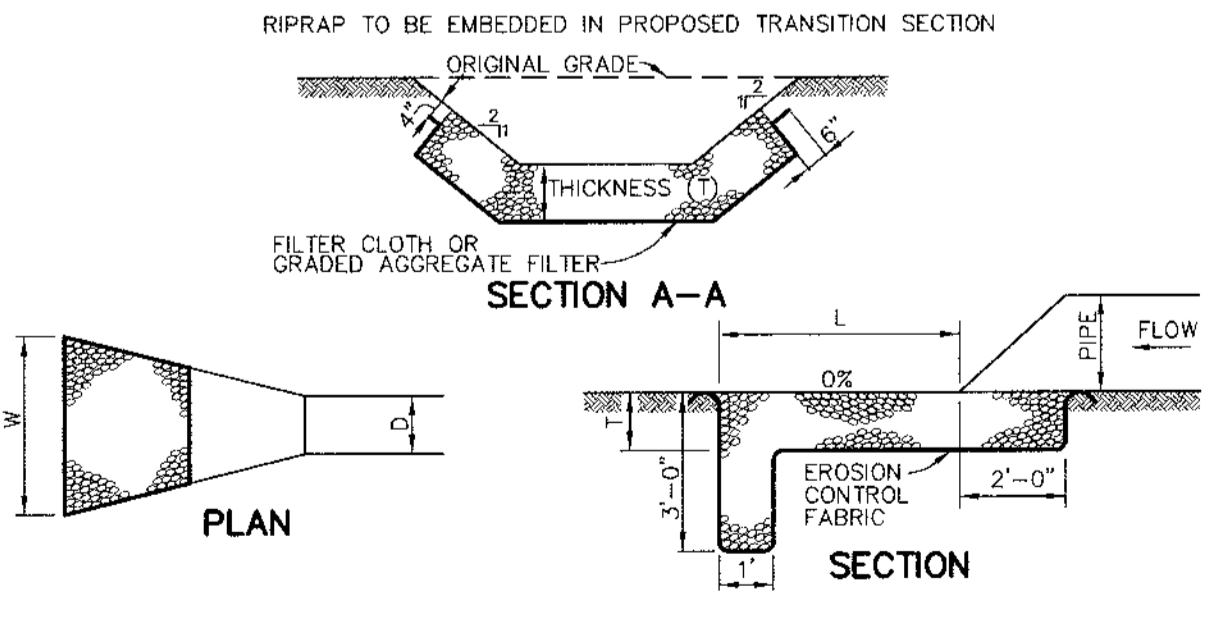


**TYPE II (TERRACE) RAINGARDEN LANDSCAPE PLAN**  
NOT TO SCALE

RAINGARDEN SCHEDULE						
LOT	#	SIZE	TYPE	TOP EL. AT MULCH LAYER	4" PERF. PIPE INV.	4" PIPE NON-PERF. LINEAR FEET
2	1	50 SF	II	467.0	463.75	17
2	2	50 SF	I	468.0	464.75	90
3	3	50 SF	II	473.5	470.25	33
3	4	50 SF	I	474.0	470.75	90
5	5	50 SF	I	467.5	464.25	108
5	6	50 SF	II	466.5	463.25	25
6	7	50 SF	I	461.5	458.25	126
6	8	50 SF	II	460.5	456.25	31

RAINGARDEN PLANT LIST						
KEY	QTY. PER GARDEN	SCIENTIFIC/COMMON NAME	SIZE	ROOT	SPACING	ZONE*
IV	2	ITEA VIRGINICA "HENRY'S GARNET"	2.5' - 3' HT.	CONT.	PLANT AS SHOWN	***
LC	5	LOBELIA CARDINALIS CARDINAL FLOWER	1 GAL.	CONT.	18" SPACING	1, (2, 3), 4
IB	7	IRIS VERSICOLOR "BLUE FLAG" BLUE FLAG IRIS	1 GAL.	CONT.	18" SPACING	(1, 2), 3

**RAINGARDEN LIST NOTES:**  
 \* HYDROLOGIC ZONES ACCORDING TO APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.  
 \*\*\* KNOWN TO TOLERATE INUNDATION AS WELL AS DRY AREAS ACCORDING TO DIRR, MICHAEL A., MANUAL OF WOODY LANDSCAPE PLANTS.  
 \*\*\*\* COMMONLY USED BIOTRETENTION SPECIES ACCORDING TO TABLE A.4 IN APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.



**RIPRAP OUTLET PROTECTION DETAIL**  
NO SCALE

- CONSTRUCTION SPECIFICATIONS**
- THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
  - THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
  - GEOTEXTILE CLASS C OR BETTER SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE FABRIC OVER THE DAMAGED WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE FABRIC SHALL BE A MINIMUM OF ONE FOOT.
  - STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE FABRIC. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
  - THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

BY THE DEVELOPER :

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

*B. O. By* 1.10.05  
DEVELOPER *B. O. By* DATE

BY THE ENGINEER :

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

*Chris J. Reid* 1.10.05  
ENGINEER DATE

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

*Jim Myrland* 1/18/05  
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Christopher J. Reid* 1/18/05  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

*William Z. Mabe Jr.* 1-26-05  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*Inda Hambley* 2/7/05  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*David Munn* 2/14/05  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION

OWNER/DEVELOPER

ILCHESTER MANOR, LLC  
ATTN: BRIAN BOY  
9695 NORFOLK AVENUE  
LAUREL, MARYLAND 20723  
410-792-2565

PROJECT

**ILCHESTER MANOR**  
A RESUBDIVISION OF LOT 642

AREA TAX MAP 31 PARCEL 642 ZONED R-20  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE

**RAINGARDEN DETAILS**

**Patton Harris Rust & Associates, pc**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

1.10.05  
DATE

DESIGNED BY : C.J.R./A.C.R.

DRAWN BY: DAM

PROJECT NO : 11819  
RDB.DWG

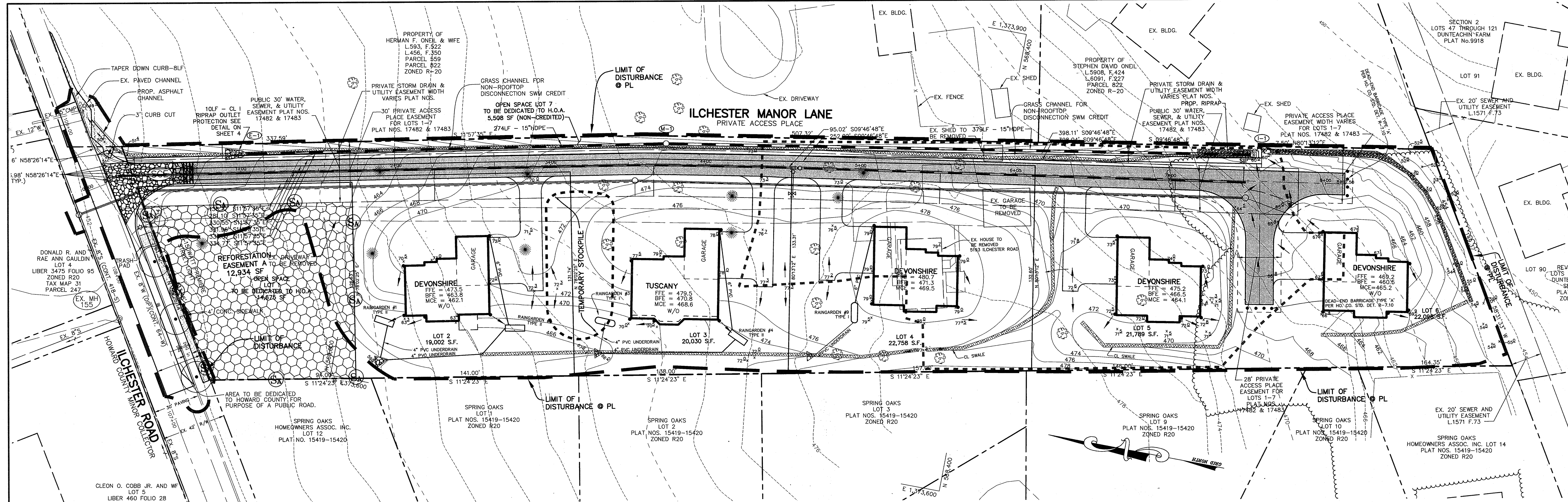
DATE : JANUARY 10, 2005

SCALE : AS SHOWN

DRAWING NO. 8 OF 9

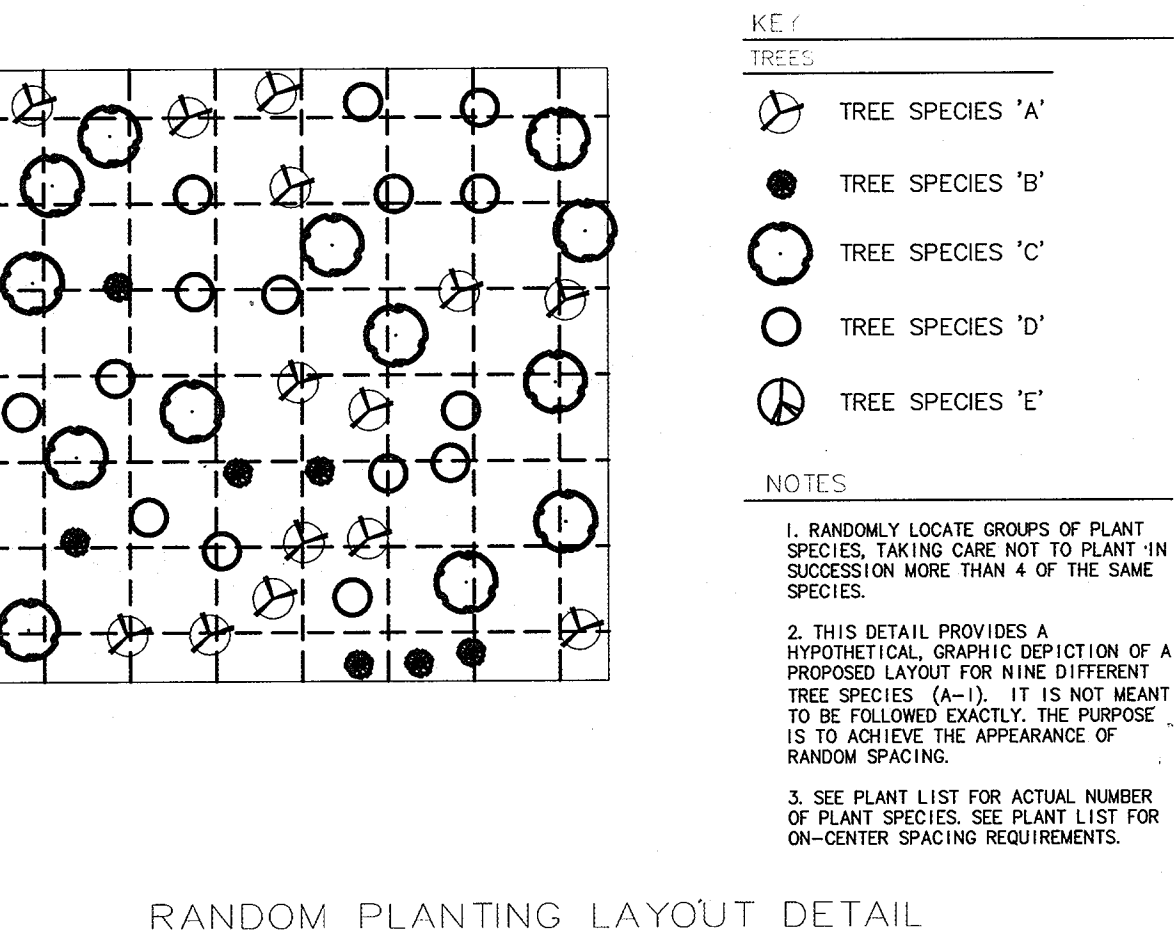
CHRISTOPHER J. REID #19949





**GENERAL NOTES:**

- THE SITE IS LOCATED ON ILCHESTER ROAD. THE SITE CONSISTS OF ONE LOT WHICH IS 2.88% ACRES.
- BOUNDARY AND TOPOGRAPHIC INFORMATION IS FROM A FIELD SURVEY PREPARED BY PATTON HARRIS RUST & ASSOCIATES.
- THE SOILS ON SITE ARE AURA GRAVELLY LOAM (MAPPING UNIT Ag2), SASSAPARRAS GRAVELLY SANDY LOAM (MAPPING UNIT Sg2), SASSAPARRAS LOAM (MAPPING UNIT Sg2), AND SANDY-SILT FINE SANDY SILTY CLAY (MAPPING UNIT Sg2). ACCORDING TO THE SOIL SURVEY FOR HOWARD COUNTY, MARYLAND. STEEP SLOPES ARE NOT PRESENT ON THE SITE.
- THE SITE IS ZONED R-20 (RESIDENTIAL - 20,000 SF LOTS).
- THE SITE IS LOCATED IN THE PATUXENT WATERSHED, LITTLE PATUXENT RIVER SUBWATERSHED.
- NO STREAMS OR FLOODPLAINS ARE LOCATED ON SITE.
- THERE IS ONE EXISTING FOREST STAND LOCATED ON SITE, WHICH WILL BE IMPACTED BY THE PROPOSED DEVELOPMENT.
- THE SITE HAS A FOREST CONSERVATION THRESHOLD OF 20% AND AN AFFORESTATION THRESHOLD OF 15%.
- NO CEMETERIES OR HISTORIC STRUCTURES ARE LOCATED ON-SITE.
- NO RARE, THREATENED, OR ENDANGERED PLANTS OR ANIMALS OR CRITICAL HABITATS WERE OBSERVED IN THE FIELD.
- THE FSD, DATED FEBRUARY 26, 2003, HAS BEEN PREPARED BY PATTON HARRIS RUST & ASSOCIATES IN CONJUNCTION WITH THIS PROJECT. FIELD WORK FOR THIS INVENTORY WAS CONDUCTED ON NOVEMBER 14, 2002 BY GRAHAM HERBARD, ENVIRONMENTAL TECHNICIAN AND KELLY SEEDOR, PLANNER OF PATTON HARRIS RUST & ASSOCIATES, PC.
- THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
- THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION.
- THE FOREST CONSERVATION OBLIGATION FOR THE PROPOSED SITE DEVELOPMENT WILL BE MET BY AFFORESTATION ON .30 ACRES OF THE SITE. SURETY WILL BE POSTED IN THE AMOUNT OF \$6,467.00 (12,934 SF X \$0.50). A FEE-IN-LIEU IN THE AMOUNT OF \$19,166.4 (38,332.8 SF X \$0.50/SF) WILL BE PAID FOR THE REMAINING .88 ACRES OF OBLIGATION.



**Howard County Forest Conservation Worksheet**

Project Name: Ilchester Manor  
County File #: 04-11-0000  
Date: April 5, 2004

Category	Value
Net Tract Area	A = 2.88
Other Deductions	B = 2.88
Net Tract Area (Net Tract Area - B)	C = 0.00
Land Use Category: Residential	D = 0.00
Afforestation Threshold (Net Tract Area x 20%)	E = 0.58
Conservation Threshold (Net Tract Area x 15%)	F = 0.43
Existing Forest Cover	G = 0.12
Area of Forest Above Conservation Threshold	H = 0.00
Area of Forest Above Conservation Threshold (G) - Area of Forest Above Conservation Threshold (H)	I = 0.12
Proposed Forest Clearing	J = 0.72
Area of Forest to be Cleared	K = 0.00
Area of Forest to be Cleared (J) - Area of Forest to be Cleared (K)	L = 0.04
Area of Forest to be Cleared (L) - Area of Forest to be Cleared (I)	M = 1.14
Area of Forest to be Cleared (M) - Area of Forest to be Cleared (F)	N = 0.00
Area of Forest to be Cleared (N) - Area of Forest to be Cleared (G)	O = 0.00
Area of Forest to be Cleared (O) - Area of Forest to be Cleared (E)	P = 1.18

**AFFORESTATION PLANTING LISTS**

**UPLAND PLANT LIST**

QUANTITY	SCIENTIFIC / COMMON NAME	HEIGHT	ROOT	REMARKS
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.
3	LIQUIDAMBAR STYRACIA / FLORIDANA	2" - 2 1/2" CAL.	B & B	FULL CROWN PLANT 20" O.C.

**FOREST CONSERVATION PROGRAM**

**OBJECTIVE:** IT IS THE OBJECTIVE OF THE AFFORESTATION PORTION OF THE PROPOSED ILCHESTER MANOR DEVELOPMENT TO PLANT IN THE OPEN SPACE PARCELS, FOR MAXIMUM ENVIRONMENTAL BENEFIT.

**II. PRESERVATION:** AFFORESTATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.

**III. POST-CONSTRUCTION MANAGEMENT PRACTICE:** A TWO (2) YEAR POST-CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE PROBABILITY OF A HIGH SURVIVAL RATE INCLUDES THE FOLLOWING:

- MAINTENANCE OF SIGNS, FENCES AND TREE PROTECTION DEVICES TO PREVENT UNWARRANTED INTRUSIONS AND DAMAGE.
- Upon completion of planting, a 2 year (24 month) maintenance and replacement program shall begin, as noted in the specifications.
- ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.
- MAINTENANCE OF PLANT MATERIAL TO ENSURE A MINIMUM OF 75% SURVIVAL.

**PLANTING SPECIFICATIONS**

**AFFORESTATION OR REFORESTATION MAINTENANCE AND REPLACEMENT REQUIREMENTS**

A two year (24) month maintenance and replacement warranty period is required for all newly planted materials. The maintenance and replacement warranty period shall commence upon the date of the written acceptance by the Owner of the planted areas. A written warranty will be delivered to the Owner upon acceptance of the planted areas. Maintenance and replacement shall be provided by the Contractor responsible for the initial planting operations and related work. All landscape plant material included as forest conservation credits shall be covered under the maintenance and replacement warranty period.

**I. MAINTENANCE:** The Contractor shall field check the newly planted area(s) and shall provide the following maintenance items in accordance with the following schedule which shall begin after the completion and acceptance of the initial Afforestation or Reforestation planting.

**II. MAINTENANCE ITEMS:**

- Watering: Watering of all newly planted materials once per week as weather permits during the entire initial growing season. Following the initial growing season, watering shall be done on an "as needed" basis depending on the frequency of natural rainfall. During the months of July and August and periods of severe drought, all newly planted materials shall be watered thoroughly once every week. Watering shall be done deeply and slowly using an open end hose or watering probe, at low pressure, allowing the water to be absorbed into the soil until thoroughly saturated. The watered area shall include the whole root zone as the tree becomes more established.
- Fertilizing: Fertilizing shall be applied only after the soil has been tested to determine its needs. Organic fertilizer shall be applied in accordance with the amounts recommended in the soil analysis report. No fertilizing of newly planted trees shall be done within the first growing season after initial planting. Following the first growing season, apply fertilizer as recommended either in late fall or early spring.
- Supplemental Mulch: To control undesirable vegetation adjacent to the newly planted materials and to prevent tree roots from drying out, additional mulch shall be placed over the existing mulch field where required. Carefully remove any invasive plants (including the root system) within the mulch fields. Do not damage trees in any way during removal of invasive plants or remaining operations.
- Pruning: Remove dead, diseased, dying and broken branches from all plant materials. Pruning shall be done cleanly leaving no ragged ends.
- REPLACEMENT OF DEAD OR DYING MATERIALS:

**I. Replacement:** Any plant materials which are 25% dead or more shall be replaced during the appropriate spring or fall planting seasons in accordance with the methods indicated in the Planting Specifications. A tree shall be considered dead when the main leader has died back.

**II. All replacements shall be plants of the same genus, species and size as specified on the plant list.**

**3. Contractor shall schedule an inspection of the Afforestation or Reforestation area(s) by a qualified representative of the DPZ and by the qualified professional who prepared the plan, at the beginning and at the end of the growing season to observe any problems, monitor survival rate and specify necessary remedial actions needed to correct existing problems. The inspection should focus on the following items when determining survival potential:**

- Vigor and threat of competing vegetation
- Plant structure
- Growth rate
- Crown development
- Trunk conditions and health

**IV. PLANT CONDITION CHECK SHEETS**

The Contractor shall maintain accurate records on appropriate field data check sheets which shall include all conditions observed relative to the health and potential survival of the plant materials. Such check sheets shall be completed during each scheduled maintenance session during the 24 month management and maintenance program. One copy of the check sheets shall be sent to the Client, one copy to PHRA, and one copy shall be sent to the Howard County Department of Planning and Zoning.

**V. SURVIVAL REQUIREMENT**

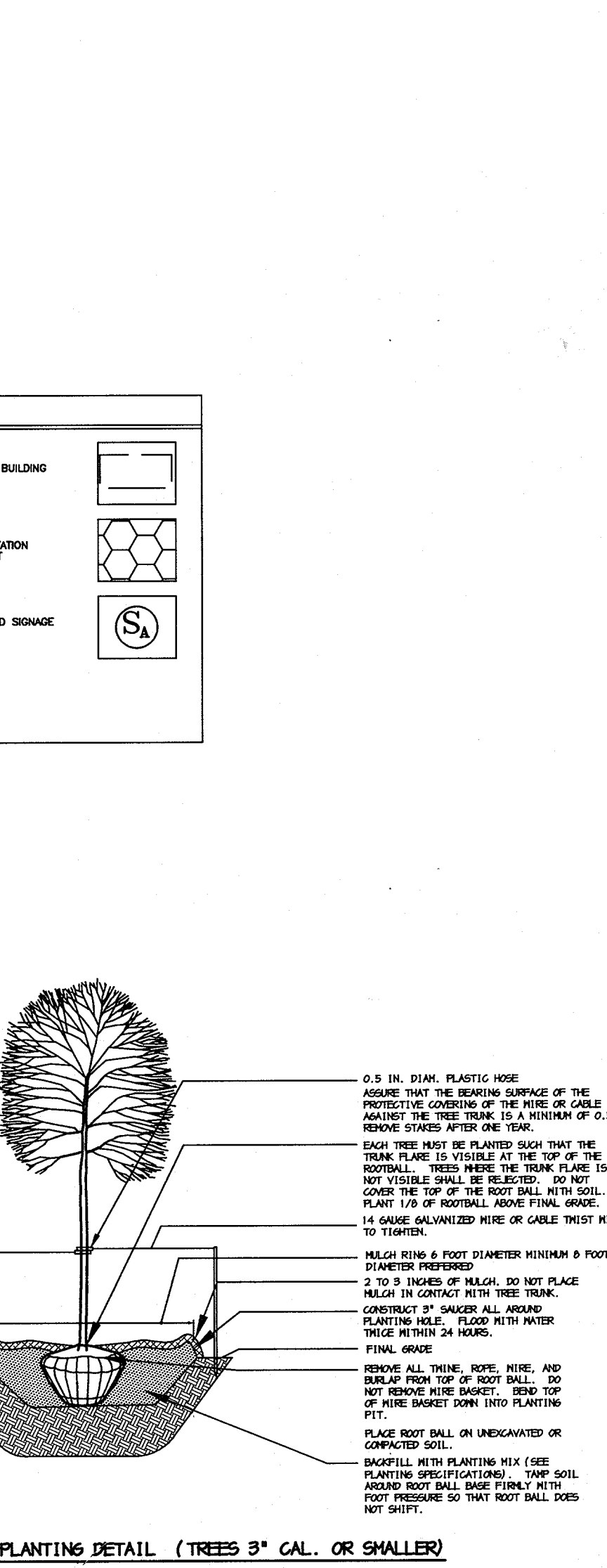
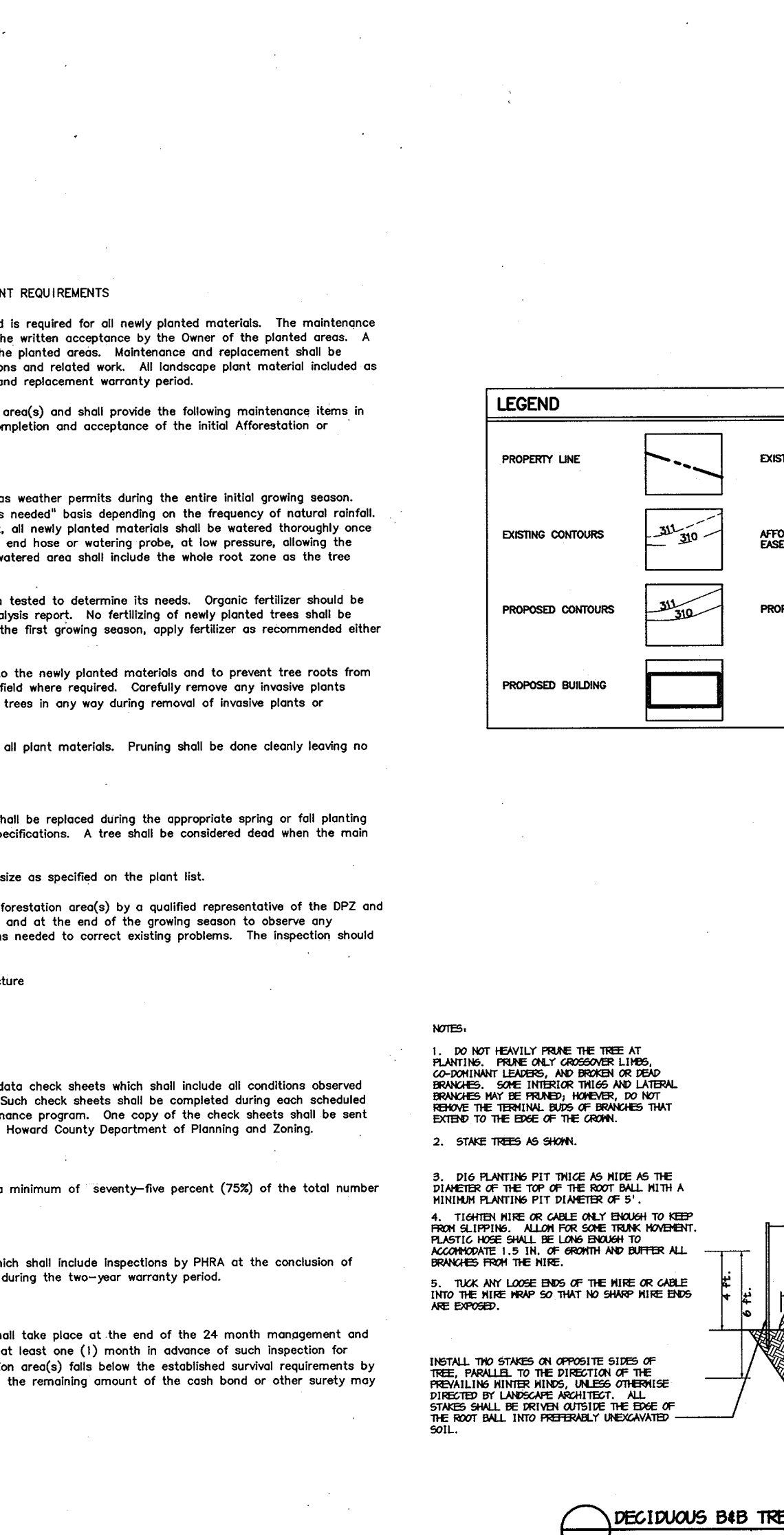
The survival rate for Afforestation and Reforestation areas shall be a minimum of seventy-five percent (75%) of the total number of trees required to be planted per acre under the approved plan.

**VI. INSPECTION/CERTIFICATION SCHEDULE**

The Contractor shall submit with his bid, a schedule for the work which shall include inspections by PHRA at the conclusion of installation and at the start and conclusion of each growing season during the two-year warranty period.

**VII. PENALTY FOR VIOLATION**

A site inspection by the Contractor and a representative of PHRA shall take place at the end of the 24 month management and maintenance agreement period. The Contractor shall contact PHRA at least one (1) month in advance of each inspection for coordination. If the survival rate of the Afforestation or Reforestation area(s) falls below the established survival requirements by the end of the 24-month management and maintenance agreement, the remaining amount of the cash bond or other surety may be subject to forfeiture, or other penalties may be imposed.



**APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.**

*Walter J. ...*  
CHIEF, BUREAU OF HIGHWAYS  
DATE

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.**

*Cindy ...*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE

*...*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE

**05/30/06** | **REVISED ROAD PLAN, GRADING, DRIVEWAY LOCATIONS, AND TREE LOCATIONS NEAR ROAD**

**OWNER/DEVELOPER**

ILCHESTER MANOR, LLC  
ATTN: BRIAN BOY  
9695 NORFOLK AVENUE  
LAUREL, MARYLAND 20723  
410-792-2565

**PROJECT**

ILCHESTER MANOR  
A RESUBDIVISION OF LOT 642

**AREA** TAX MAP 31 PARCEL 642 ZONED R-20  
1st ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**TITLE**

REVISED FOREST CONSERVATION PLAN

**Patton Harris Rust & Associates, PC**  
Engineers, Surveyors, Planners, Landscape Architects.  
8818 Centre Park Drive  
Columbia, MD 21045  
T 410.997.8900  
F 410.997.9282

**PHRA**  
PETER J. STONE #3068  
DATE: 6-22-06

**DESIGNED BY:**

**DRAWN BY:**

**PROJECT NO:** 11819 RD9.DWG

**DATE:** JANUARY 10, 2005

**SCALE:** 1" = 30'

**DRAWING NO. 9 OF 9**