

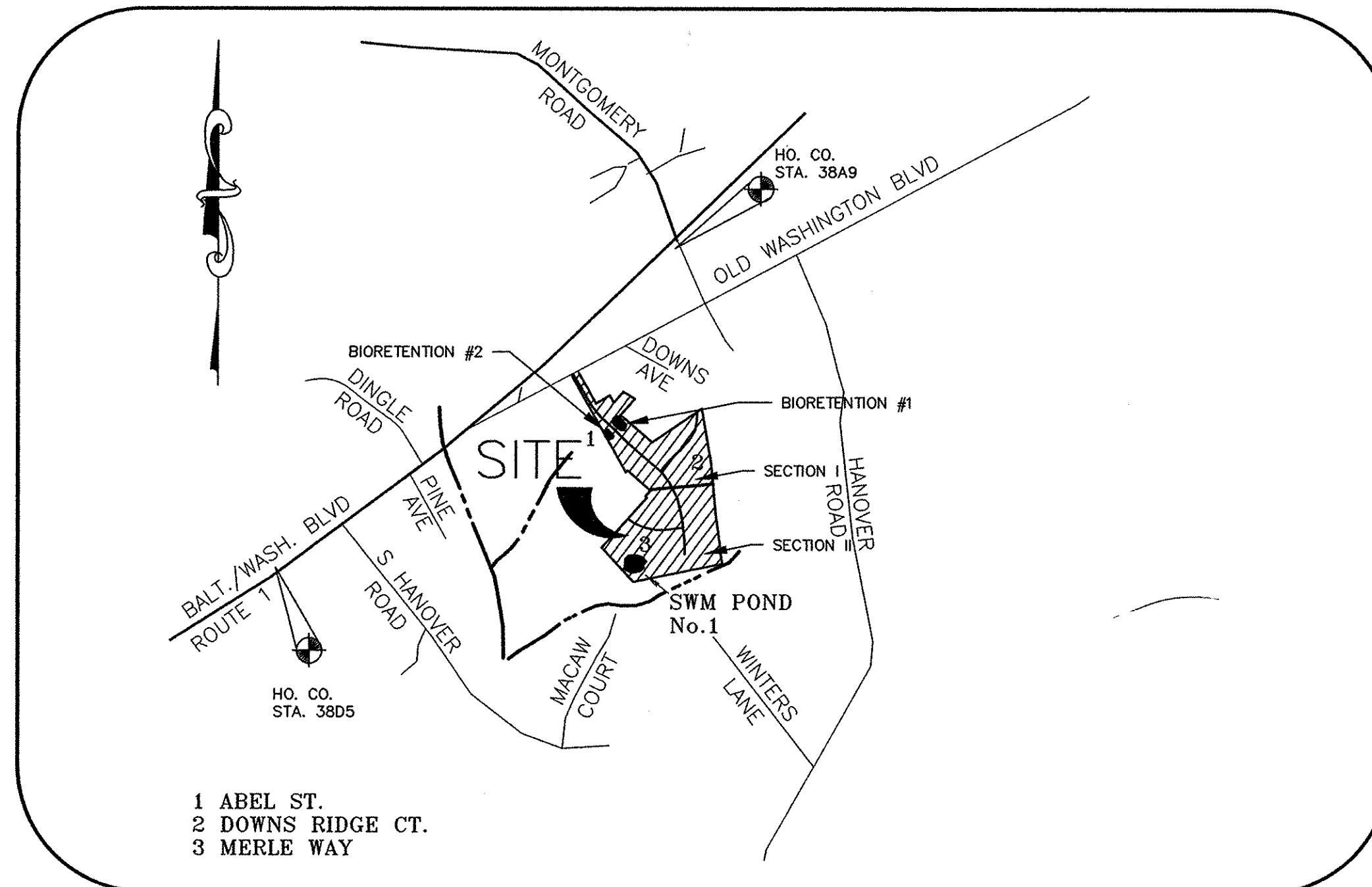
ROAD CONSTRUCTION PLAN WILLIAMS KNOLL SECTION II FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

GENERAL NOTES

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

MISS UTILITY	1-800-257-7777
C&P TELEPHONE COMPANY	725-9976
HOWARD COUNTY BUREAU OF UTILITIES	313-4900
AT&T CABLE LOCATION DIVISION	393-3533
BALTIMORE GAS & ELECTRIC	685-0123
STATE HIGHWAY ADMINISTRATION	531-5533
HOWARD COUNTY DEPT. OF PUBLIC WORKS/ CONSTRUCTION INSPECTION DIVISION	313-1880
4. PROJECT BACKGROUND:
 LOCATION: 1ST ELECTION DISTRICT, TAX MAP 38, PARCELS 229, 230, & 231
 DEED REFERENCE: LIBER 3336, FOLIO 0272, LIBER 1021, FOLIO 482.
 ZONING: R-SC
 TOTAL TRACT AREA: 19.9 AC.±
 NUMBER OF PROPOSED LOTS: 33 (33 BUILDABLE)
 DATE PREVIOUS PLANS APPROVED AND DPZ REFERENCE #:
 - S-95-08, MAY 5, 1995.
 - P-96-20, SEPTEMBER 17, 1996.
 - WP-96-69, FEBRUARY 23, 1996.
 - AA-96-19
 - F-97-110 (WILLIAMS KNOLL SECTION I)
5. TWO FOOT CONTOUR TOPOGRAPHY AND EXISTING CONDITIONS BASED ON AN AERIAL SURVEY BY WINGS AERIAL MAPPING CO., INC. FLOWN IN 1993. DOWNS RIDGE ROAD PLANS F-96-120 WERE ALSO USED FOR EXISTING TOPOGRAPHY, ALSO THE FINAL PLANS FOR WILLIAMS KNOLL SECTION I, F-97-110 WERE USED FOR EXISTING GRADING.
6. HORIZONTAL AND VERTICAL DATUMS BASED ON MARYLAND STATE COORDINATE SYSTEM (NAD 83).

STA No. 3805	N 558,378.5683	EL= 193.750
	E 1,386,524.3031	
STA No. 38A9	N 561,056.3802	EL= 233.455
	E 1,389,634.1843	
7. STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
 100-WATT "TRADITIONAORE" HPS VAPOR POST TOP FIXTURE ON A 14 FOOT BLACK FIBERGLASS POLE AT:
 #1 ABEL ST. STA 15+50, 17' RIGHT
 #2 ABEL ST. LINEAR PROFILE STA 1+66, 3'
 #3 MYRLE WAY. STA 4+50, 15' LEFT
8. WATER AND SEWER ARE PUBLIC, CONTRACT # 14-3637-D
9. STORMWATER MANAGEMENT IS PROVIDED UNDER SECTION I, F-97-110. POND IS A PRIVATE FACILITY, EXTENDED DETENTION. MAINTENANCE: PRIVATE (HOA)
10. FLOODPLAIN DELINEATION BASED ON STUDY BY MILDENBERG, BOENDER & ASSOC. DATED JUNE 26, 1996, AND APPROVED SEPTEMBER 26, 1996.
11. EXISTING UTILITIES LOCATIONS ARE BASED ON AS-BUILT DRAWINGS ON RECORD AT HOWARD COUNTY.
12. 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.
13. HOUSES NOT CONTROLLED BY THE SWM POND WILL HAVE DRY WELLS AT SDP STAGE.
14. COMPACTION IN FILL AREAS TO BE 95% DETERMINED PER AASHTO T-180.
15. SEE F-96-120 FOR THE DOWNS RIDGE (ADJACENT-P197) ROAD PLANS.
16. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES ON SITE PRIOR TO COMMENSING CONSTRUCTION.
17. THE USE OF 25 MPH DESIGN SPEED FOR ABEL STREET APPROVED BY DEVELOPMENT ENGINEERING DIVISION.
18. FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OR CONSERVATION EASEMENT ARE ALLOWED.



VICINITY MAP

SCALE: 1"=1000'

SHEET INDEX

TITLE SHEET	1
ROAD PLANS AND PROFILES	2
ROAD PLANS AND PROFILES	3
GRADING AND SEDIMENT CONTROL PLAN	4
EROSION AND SEDIMENT CONTROL NOTES & DETAILS	5
STORM DRAIN PROFILES	6
LANDSCAPE PLAN	7
DRAINAGE AREA MAP	8
FOREST CONSERVATION PLAN	9

DEVELOPER

JNSD, LC
5570 STERRETT PLACE, SUITE 201
COLUMBIA, MARYLAND 21044
(410) 997-3815, (301) 596-3877



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

Howard Soil Conservation District
DATE: 11/12/97

DEVELOPERS CERTIFICATE

I 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 INSPECTION BY THE NATURAL RESOURCE CONSERVATION SERVICE.

JNSD, LC
By *James L. Newburn* member
SIGNATURE OF DEVELOPER DATE: 10-13-97
James L. Newburn
PRINTED NAME OF DEVELOPER

ENGINEER'S CERTIFICATE

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 NATURAL RESOURCE CONSERVATION SERVICE.

R. Jacob Hikmat
SIGNATURE OF ENGINEER DATE: 10/13/97
R. JACOB HIKMAT
PRINTED NAME OF ENGINEER

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Charles L. Jennings
USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE: 11-12-97

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Dancko
CHIEF BUREAU OF HIGHWAYS DATE: 11-25-97

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Cindy Hammett
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 12/3/97

William P. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 12/2/97

project	95186	date	OCT 97
illustration	S.D.	engineering	S.D.
scale	AS SHOWN	approval	

no.	description	revisions	date

TAX MAP 38, P/O PARCELS 229, 230 & 231, BLOCK 8
 WILLIAMS KNOLL, SECTION II, LOTS 42-84
 A RESUBDIVISION OF BULK PARCEL "A"
 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 TITLE SHEET

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsy Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0296 Fax. (301) 621-5521 Wash. (410) 997-0296 Fax.

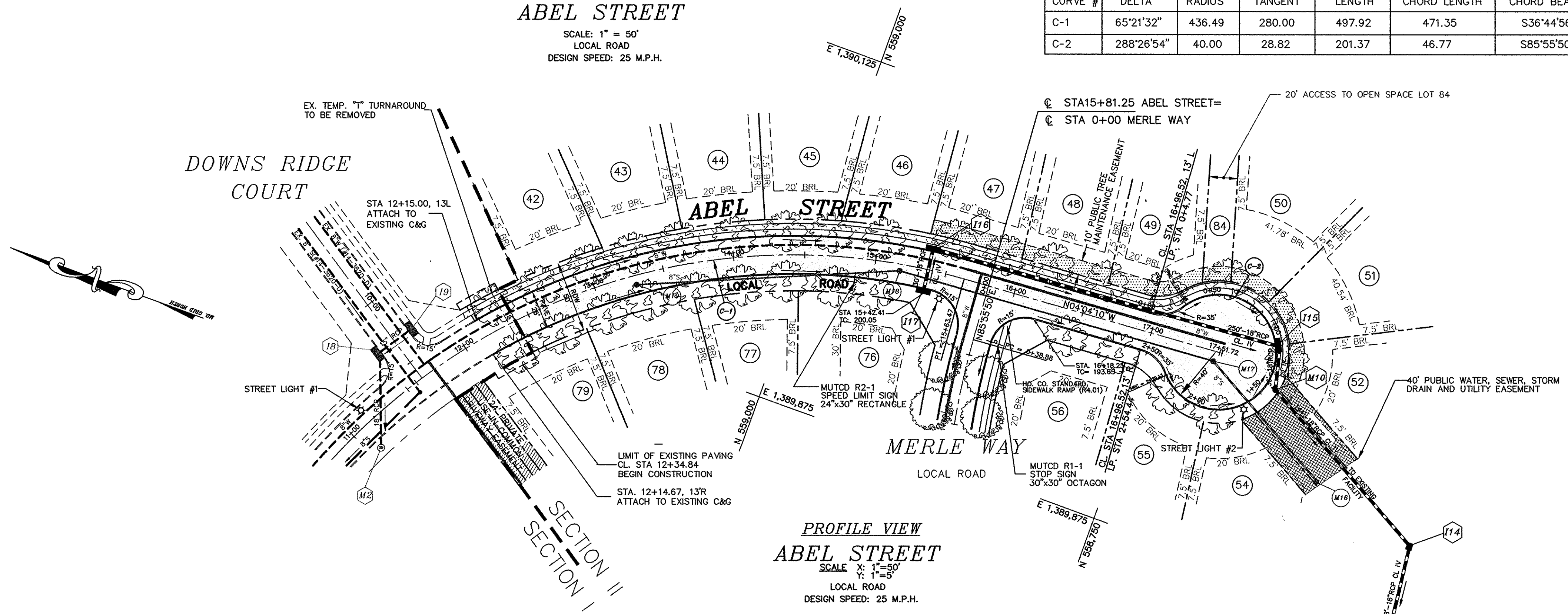
95135 (DWG) FINAL (PHASE2) (ROADS) 38-COVER.DWG

CURVE TABLE

CURVE #	DELTA	RADIUS	TANGENT	LENGTH	CHORD LENGTH	CHORD BEARING
C-1	65°21'32"	436.49	280.00	497.92	471.35	S36°44'56"E
C-2	288°26'54"	40.00	28.82	201.37	46.77	S85°55'50"W

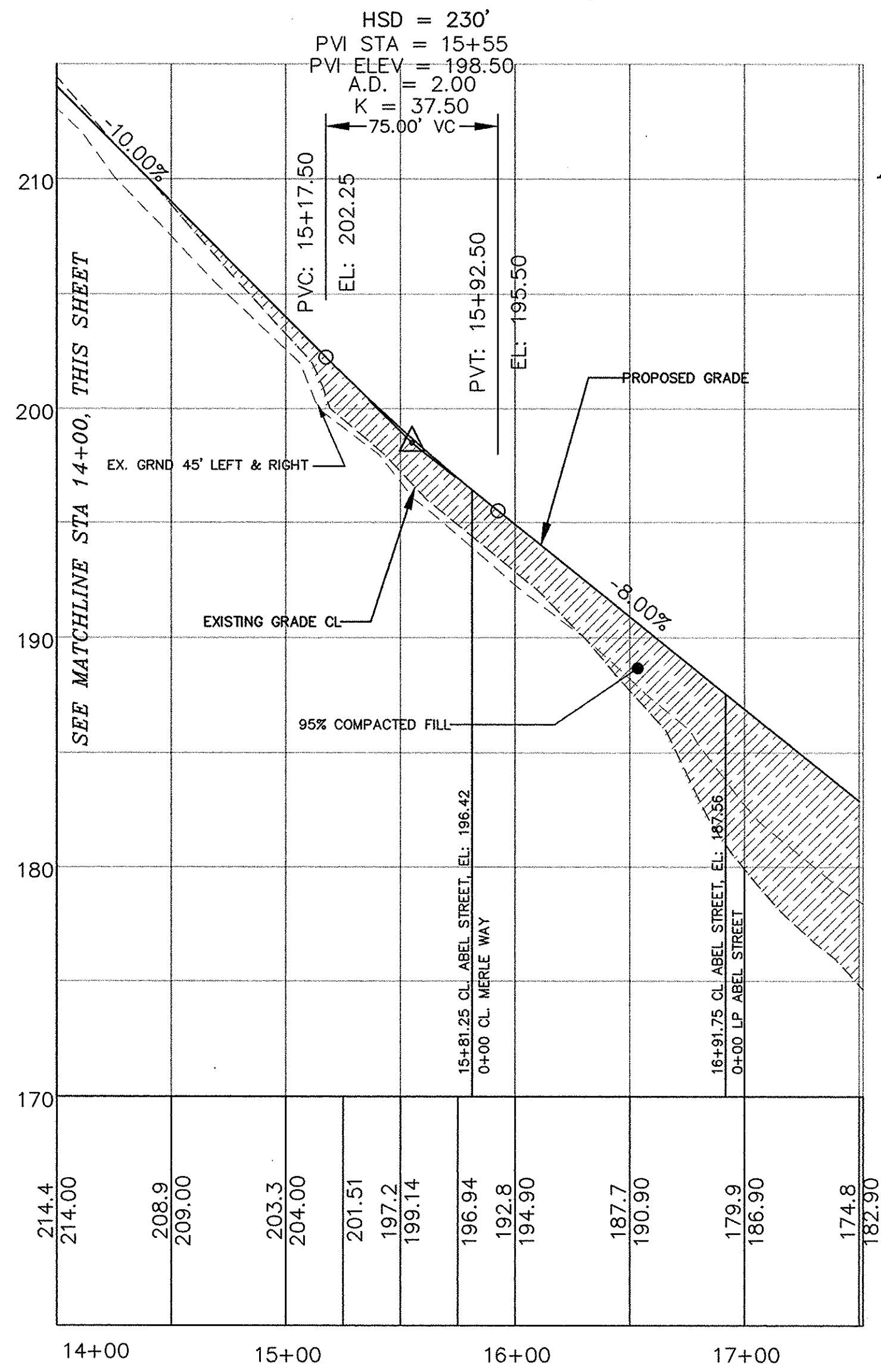
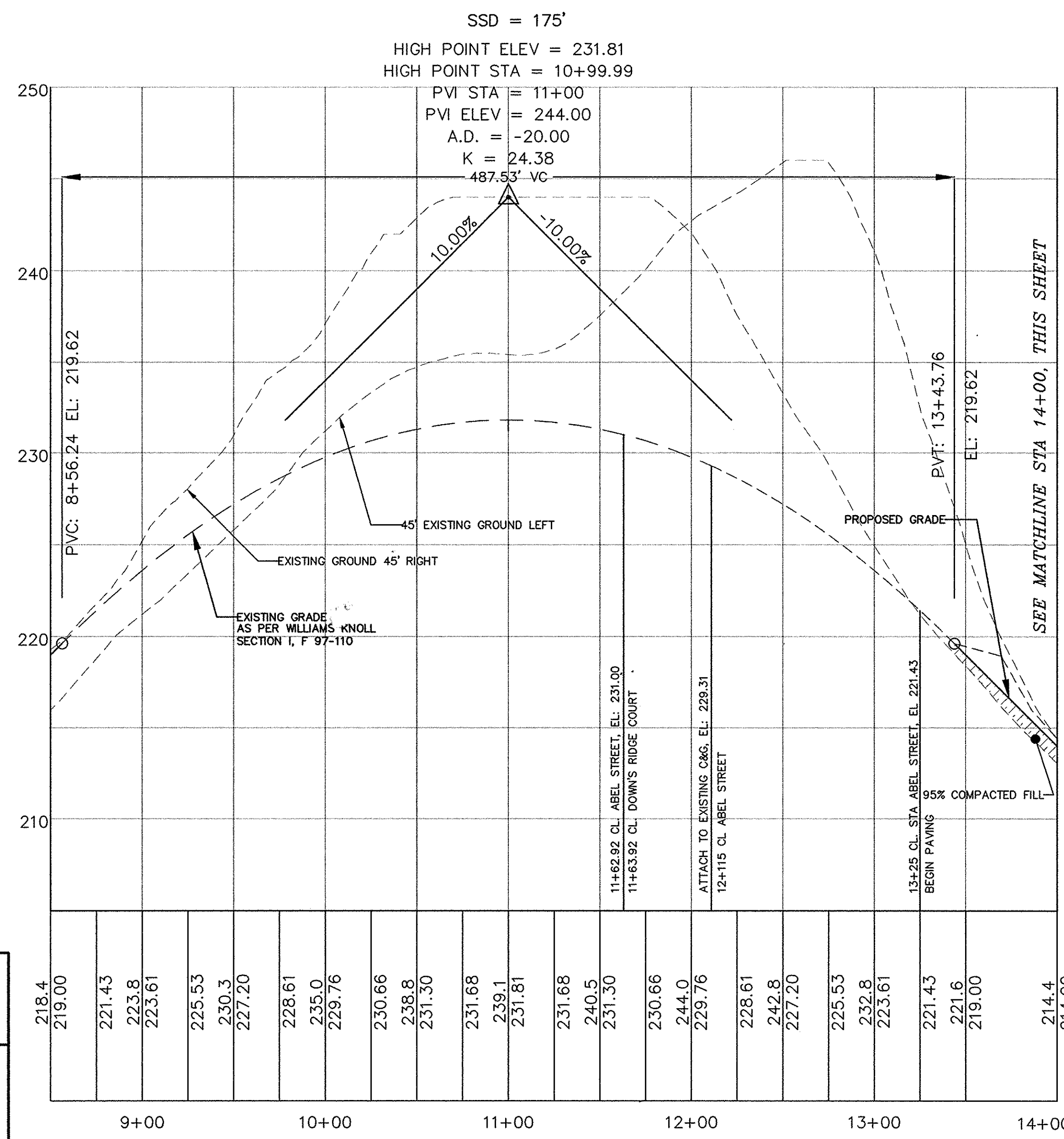
**PLAN VIEW
ABEL STREET**

SCALE: 1" = 50'
LOCAL ROAD
DESIGN SPEED: 25 M.P.H.



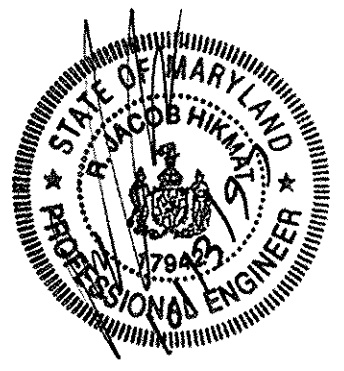
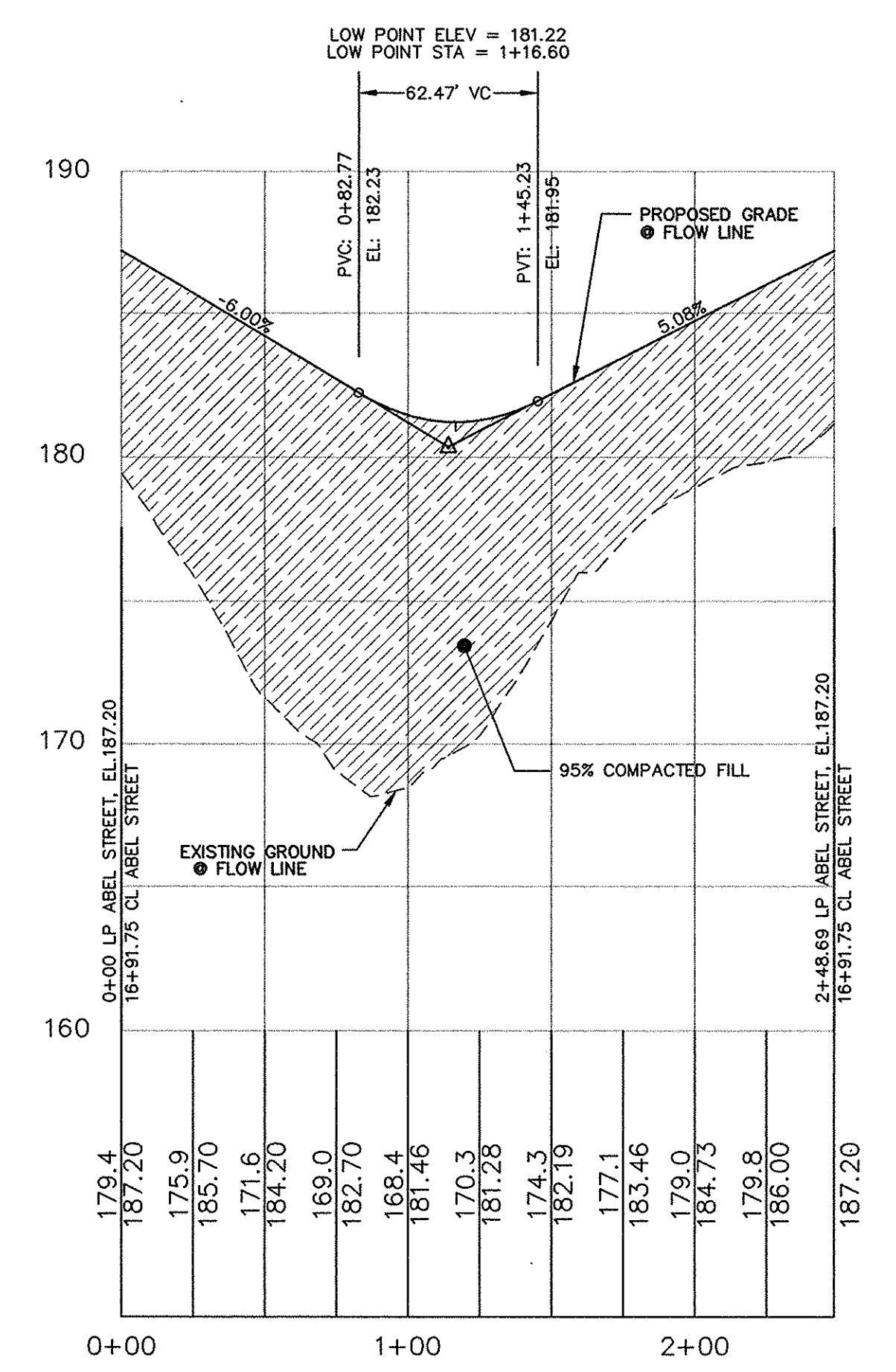
**PROFILE VIEW
ABEL STREET**

SCALE: 1" = 50'
LOCAL ROAD
DESIGN SPEED: 25 M.P.H.



**LINEAR PROFILE VIEW
ABEL STREET CUL-DE-SAC**

SCALE: 1" = 50'
V: 1" = 5'



DEVELOPER
JNSD, LC
5570 STERRETT PLACE, SUITE 201
COLUMBIA, MARYLAND 21044
(410) 997-3815, (301) 596-3877

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Dangler 11-25-97
CHIEF BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Candy Hamilton 12/3/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

M. J. ... 12/3/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

project	date	illustration	engineering	approval
95136	OCT 1997	SD	SD	AS SHOWN

no.	description	revisions	date

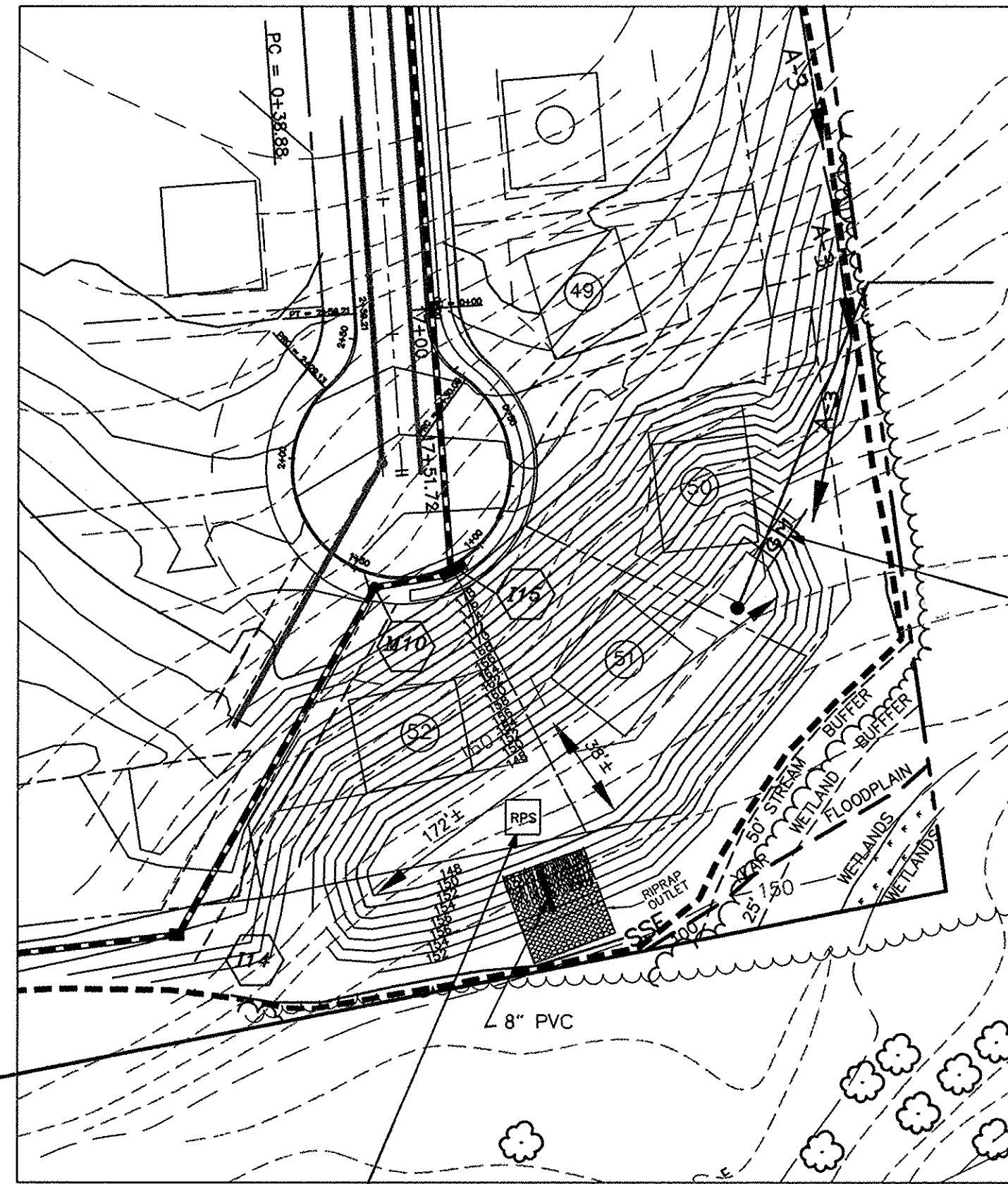
TAX MAP 88, P/O PARCELS 229, 230 & 231, BLOCK 8
WILLIAMS KNOLL, SECTION II, LOTS 42-84
RESUBDIVISION OF BULK PARCEL "A"
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
ROAD CONSTRUCTION PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Elkton City, Maryland 21042
(410) 997-0296 Fax. (301) 621-5521 Wash. (410) 997-0298 Fax.

SED. TRAP #1 DETAIL

SCALE: 1"=50'

THIS PLAN IS FOR GRADING AND SEDIMENT CONTROL PURPOSES ONLY



SED. TRAP #1 DATA

TYPE: ST-IV
 EX. DRAINAGE AREA: 8.0 ACRES
 PR. DRAINAGE AREA: 6.5 ACRES
 STORAGE REQ'D: 28,800 CU. FT.
 BOTTOM DIMENSIONS: 38'x172'
 SLOPE: 2:1
 WEIR CREST ELEV.: 155.75
 STORAGE PROVIDED: 46,000 CU. FT.
 TOP OF EMBANK.: 156.75
 WEIR LENGTH: 32 FT.
 EXIST. ELEV. AT WEIR: 152.0
 BOTTOM ELEV.: 148.0
 NET STORAGE DEPTH: 4.00 FT.
 NET STORAGE VOL.: 26,400 CU. FT.
 CLEANOUT ELEV.: 150.0'
 DRY STORAGE DEPTH: 2.5 FT.
 DRY STORAGE VOL.: 17,850 CU. FT., EL. = 153.5
 2 YR TNSFL.: 256.0
 8" PVC PIPE INVERT: 153.5
 RIPRAP OUTLET (LENGTH) 32'
 OUTLET EL.: 152.0'
 MET FOOL EL.=152.0'

GABION INFLOW PROTECTION TO BE INSTALLED IN ACCORDANCE WITH 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL STD. DTL. 6.

REMOVABLE PUMPING STATION TO BE INSTALLED IN ACCORDANCE WITH 1984 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL STD. DTL. 20A.

EX. SEDIMENT BASIN #1 DATA (F-97-110)

Q (10): 19.3
 Q (BARREL): 19.3
 NORM INSEL: 126.00
 RISER CREST: 135.00
 ES. CREST: 136.30
 ES. WIDTH: 16'
 SETTLED T.O.D.: 138.3
 WET VOL. (REQ.): 44,856
 (PRO.): 44,856
 DRY VOL. (REQ.): 44,856
 (PRO.): 110,671

EXISTING POND DATA

HAZARD CLASSIFICATION "A"
 DRAINAGE AREA = 24.92 AC
 Tc = 0.27 HRS
 1 YEAR - Q(N) = 18.7 CFS, Q(OUT) = 0.5 CFS, EL. = 133.6' VOL = 1.0 AC-FT
 2 YEAR - Q(N) = 30.6 CFS, Q(OUT) = 0.5 CFS, EL. = 134.83' VOL = 1.7 AC-FT
 10 YEAR - Q(N) = 73 CFS, Q(OUT) = 19.3 CFS, EL. = 135.76' VOL = 2.3 AC-FT
 100 YEAR - Q(N) = 132 CFS, Q(OUT) = 107 CFS, EL. = 136.93' VOL = 3.0 AC-FT
 OWNERSHIP & MAINTENANCE: PRIVATE (H.O.A.)
 TYPE: EXTENDED DETENTION

EXISTING SEDIMENT BASIN F-97-110 (TO BE USED FOR THIS DEVELOPMENT)

LEGEND

- REMOVABLE PUMPING STATION
- PROPOSED TREELINE
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- EARTH DIKE
- STABILIZED CONSTRUCTION ENTRANCE
- GABION INFLOW PROTECTION
- TREE PROTECTION SIGNAGE
- TREE PROTECTION FENCE
- RIP-RAP INFLOW PROTECTION

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

HOWARD SOIL CONSERVATION DISTRICT 11/12/97
DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

USDA - NATURAL RESOURCE CONSERVATION SERVICE 11-12-97
DATE

DEVELOPER'S CERTIFICATE

I 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 INSPECTION BY THE NATURAL RESOURCE CONSERVATION SERVICE.

JNSD, LC
 Signature of Developer 10-13-97
DATE
 James L. Newburn
 PRINTED NAME OF DEVELOPER

ENGINEER'S CERTIFICATE

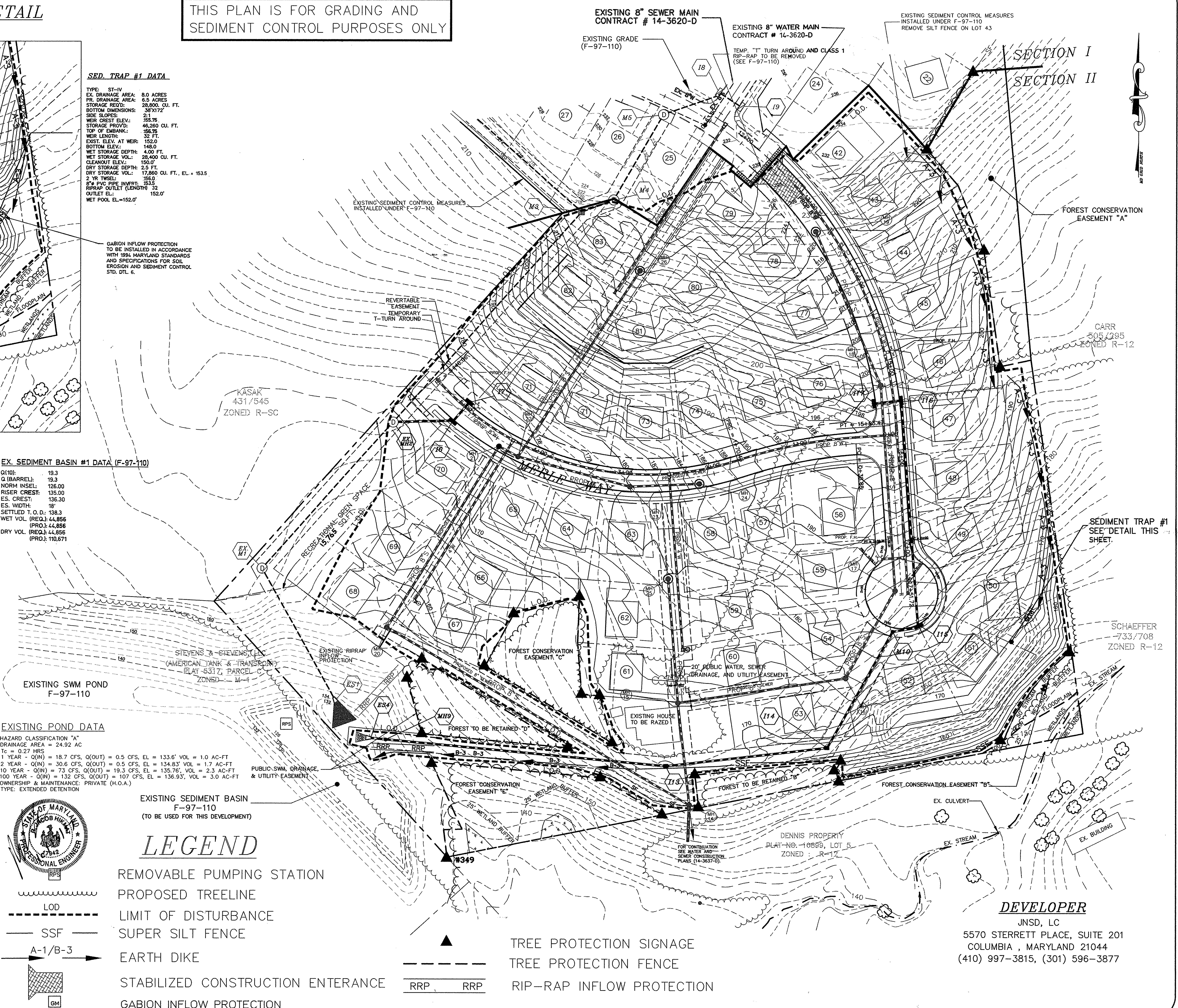
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATURAL RESOURCE CONSERVATION SERVICE.

Signature of Engineer 10/13/97
DATE
 PRINTED NAME OF ENGINEER

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Andrew M. Dangler 11-25-97
DATE
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Andy Hamilton 12/3/97
DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

Signature of Chief, Development Engineering Division 12/2/97
DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



DEVELOPER
 JNSD, LC
 5570 STERRETT PLACE, SUITE 201
 COLUMBIA, MARYLAND 21044
 (410) 997-3815, (301) 596-3877

Project	date	description	revisions
95136	MAR 1997		
Illustration	scale	SD	approval
	1"=50'		

TAX MAP 38, P/O PARCELS 229, 230 & 231, BLOCK 8
 WILLIAMS KNOLL, SECTION II, LOTS 42-84
 RESUBDIVISION OF BULK PARCEL "A"
 FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

MILDENBERG, BOENDER & ASSOC., INC.
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 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
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GRADING AND SEDIMENT CONTROL PLAN

4 OF 9
 F-97-154

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT. NO DISTURBANCE SHALL COMMENCE UNTIL THE BASIN DESIGNED UNDER F-96-110 IS FULLY OPERABLE, AND SEDIMENT CONTROL INSPECTOR ISSUES A NOTICE TO PROCEED.
- INSTALL ALL TREE PROTECTION DEVICES. (1 DAYS)
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE. (1 DAYS)
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE. (1 DAYS)
- CLEAR AND GRUB AREAS FOR ONLY SEDIMENT CONTROL FEATURES. (2 DAYS)
- CONSTRUCT SILT FENCE, EARTH DIKS, AND SEDIMENT TRAP #1 & STABILIZE EARTH DIKS WITH TEMPORARY SEEDING. (3 DAYS)
- CLEAR SITE PER LIMIT INDICATED. (10 DAYS)
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
 - 7 CALENDAR DAYS FOR ALL PERIMETER SLOPES AND GREATER THAN 3:1
 - 14 DAYS FOR ALL OTHER DISTURBED GRADED AREAS ON THE PROJECT SITE.
- CONSTRUCT SITE TO GRADES INDICATED ON THE PLANS. CONSTRUCT AREA AROUND SEDIMENT TRAP #1 AS INDICATED IN DETAIL ON SEDIMENT CONTROL PLAN. CONSTRUCT STORM DRAIN SYSTEM, DRAINING TO SWM POND, AND UTILITIES. (14 DAYS)
- CONSTRUCT REMAINDER OF STORM DRAIN SYSTEM. (15 DAY)
- SPREAD TOPSOIL AS PER SPECIFICATIONS THIS PAGE.
- UPON STABILIZATION OF GRADED AREAS, ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE STORM DRAIN SYSTEM. (1 DAY)
- STABILIZE ALL RIGHT OF WAY AREAS WITH PERMANENT SEEDING. (1 DAY)
- INSPECT ALL SEDIMENT CONTROL DEVICES DAILY AND AFTER EACH RAINFALL, REPAIR AS NECESSARY.
- CONTRACTOR SHALL REMOVE SEDIMENT AND FLUSH STORM DRAIN SYSTEM AT END OF CONSTRUCTION PERIOD.
- WHEN ALL CONTRIBUTING AREAS TO SEDIMENT CONTROL DEVICES HAVE BEEN PERMANENTLY STABILIZED, AND AFTER THE APPROVAL OF THE INSPECTOR, CONSTRUCT AREA AROUND SEDIMENT TRAP #1 TO PERMANENT GRADES AND STABILIZE. (7 DAYS)
- UPON APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES, GRADE AREAS DISTURBED, AND PROVIDE PERMANENT SEED AND MULCH AND REFURBISH POND APPROVED UNDER F-97-110 TO FINAL GRADE.

**HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES**

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

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

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

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

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE 1.4 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 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 OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 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 GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.)

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

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

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

**HOWARD SOIL CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES**

- 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 MAY CONSTRUCTION, (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKS, PERIMETER 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 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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 OF SITE:	10.73± ACRES
AREA DISTURBED:	9.30± ACRES
AREA TO BE ROOFED OR PAVED:	1.97± ACRES
AREA TO BE VEGETATIVELY STABILIZED:	7.33± ACRES
TOTAL CUT:	18,500± CU. YDS.
TOTAL FILL:	16,500± CU. YDS.
TOTAL WASTE/BORROW AREA LOCATION:	0
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY 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 PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

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

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

- 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.

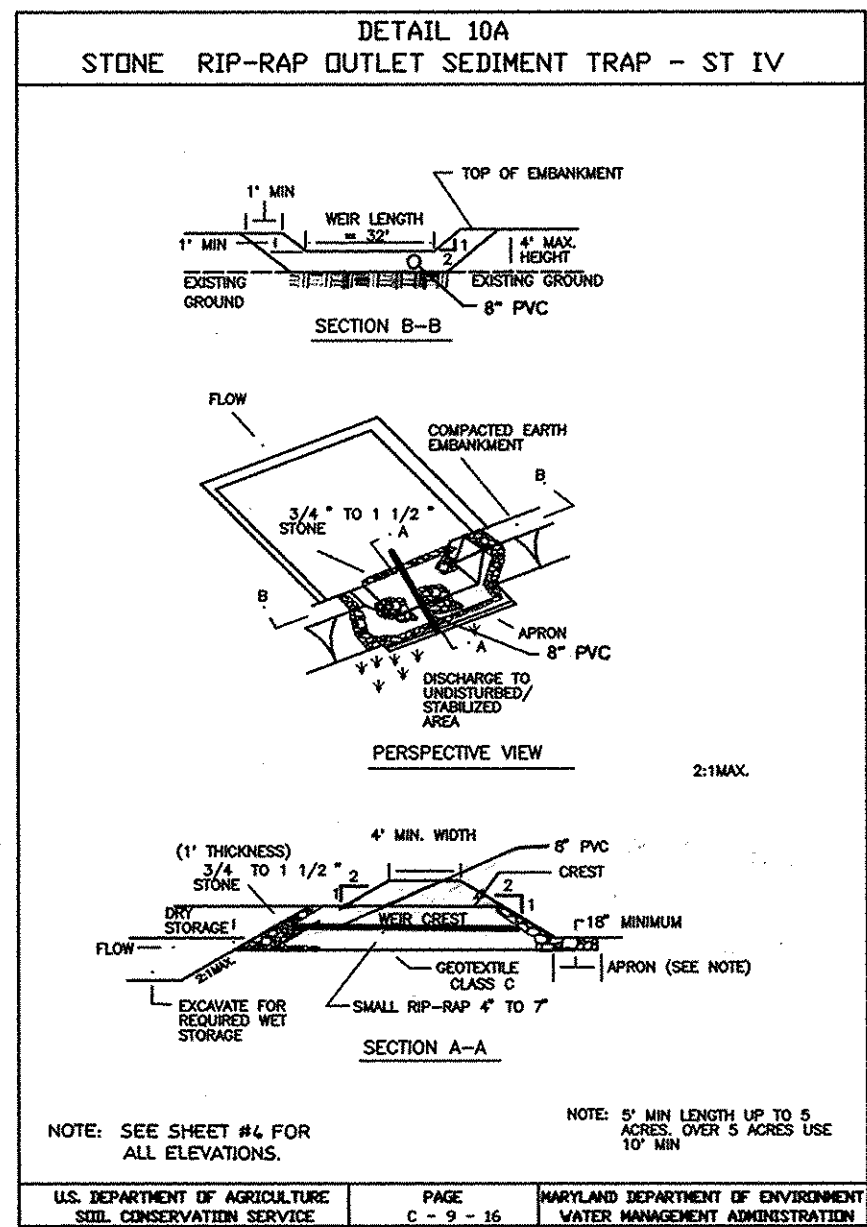
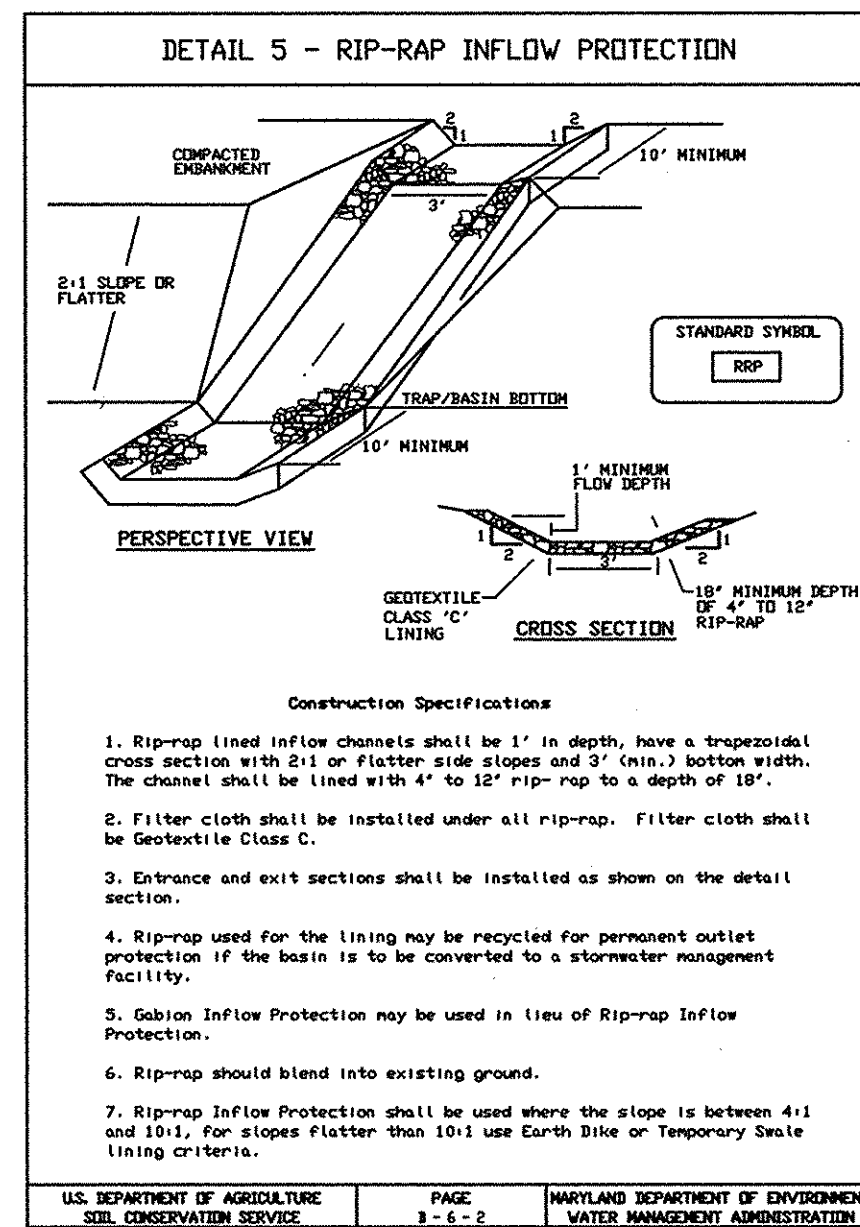
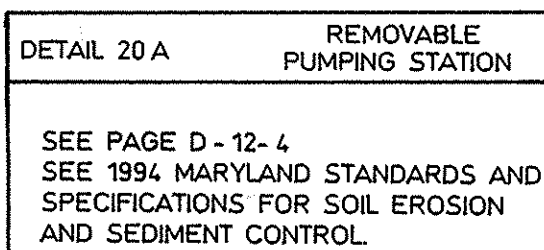
CONSTRUCTION AND MATERIAL SPECIFICATIONS

- 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 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 CONDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
 - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSONSON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 - ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - pH FOR TOPSOILS SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A pH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PERSCRIBED TO RAISE THE pH TO 6.5 OR HIGHER.
 - 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 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.
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0 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 DIKS, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
 - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN 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 DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
 - 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:
 - 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 SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
 - COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOROUS, 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.
 - COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
 - 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.

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 AS SPECIFIED IN 2.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- TOPSOIL APPLICATION
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REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VIA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

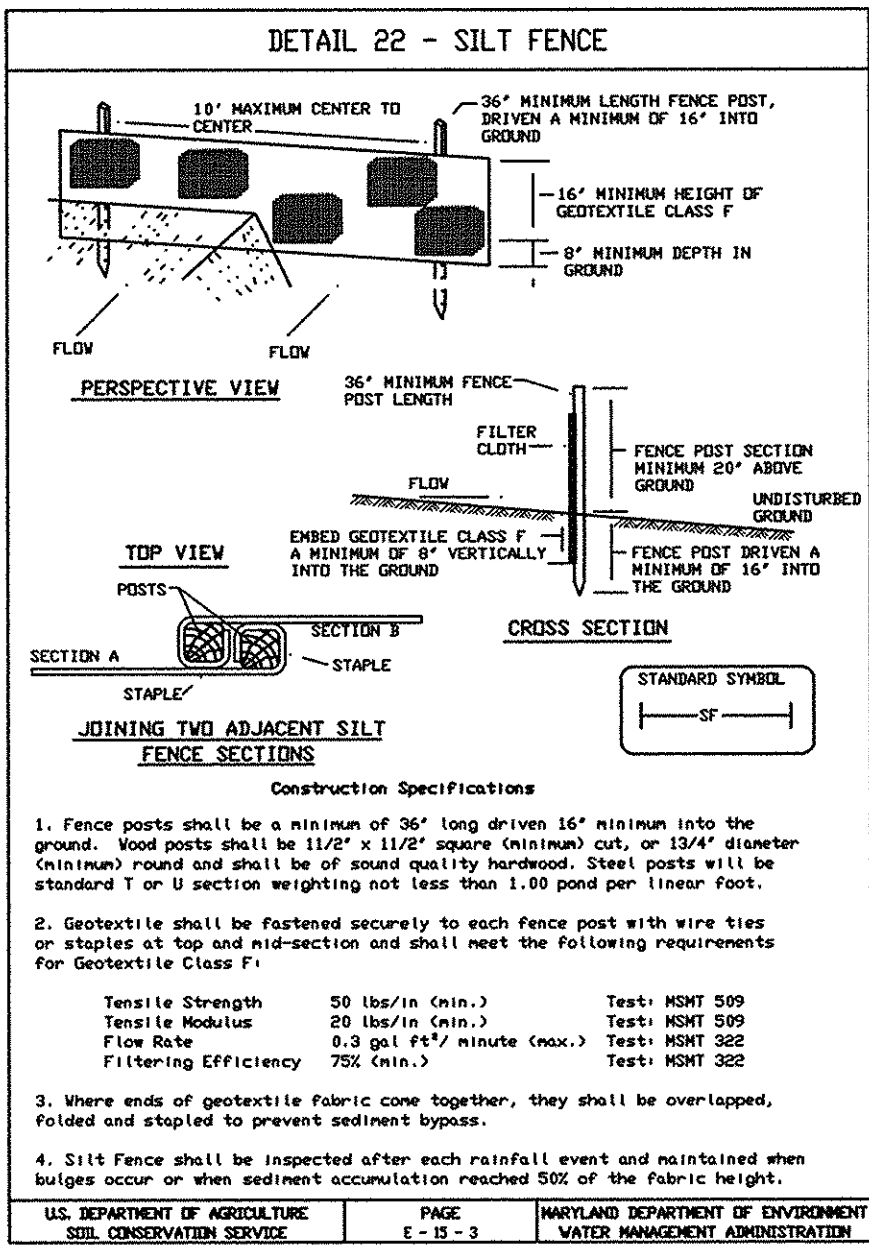
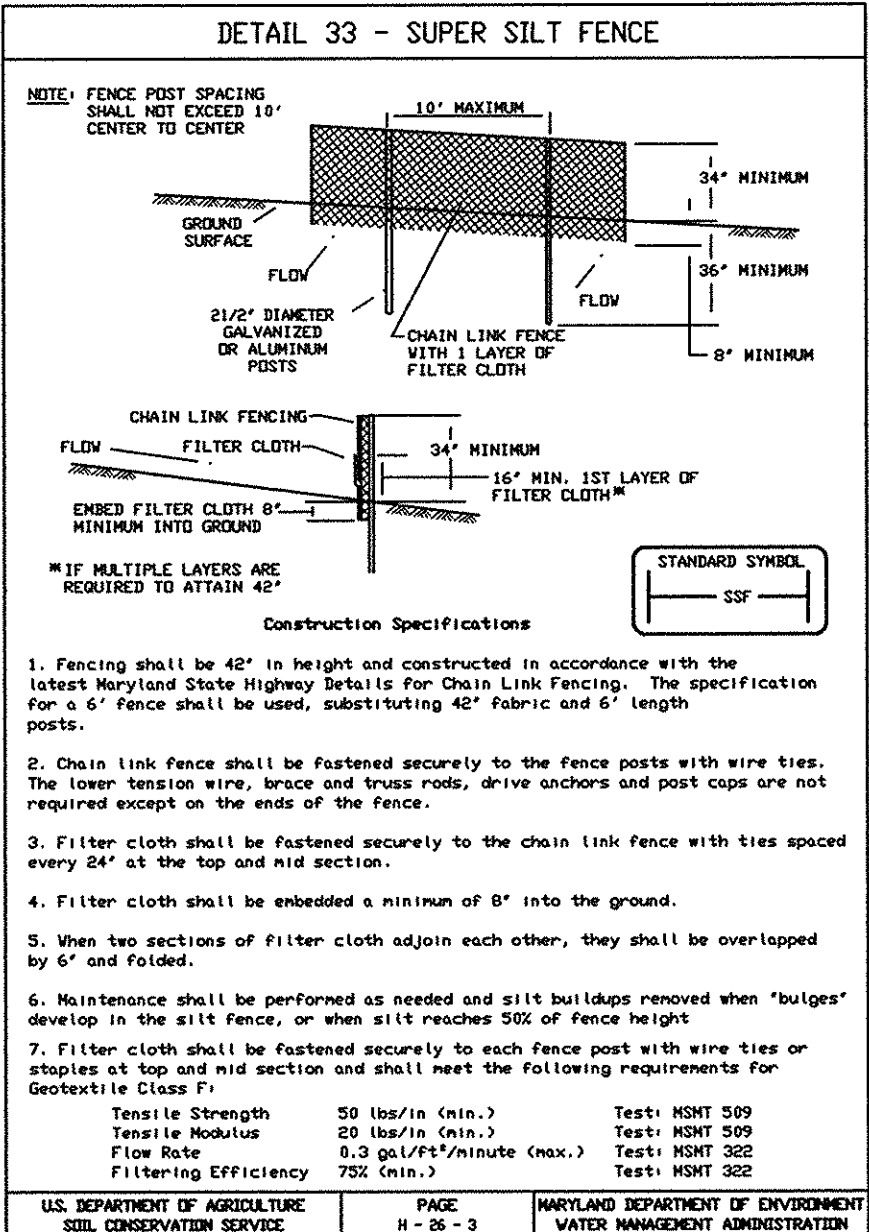
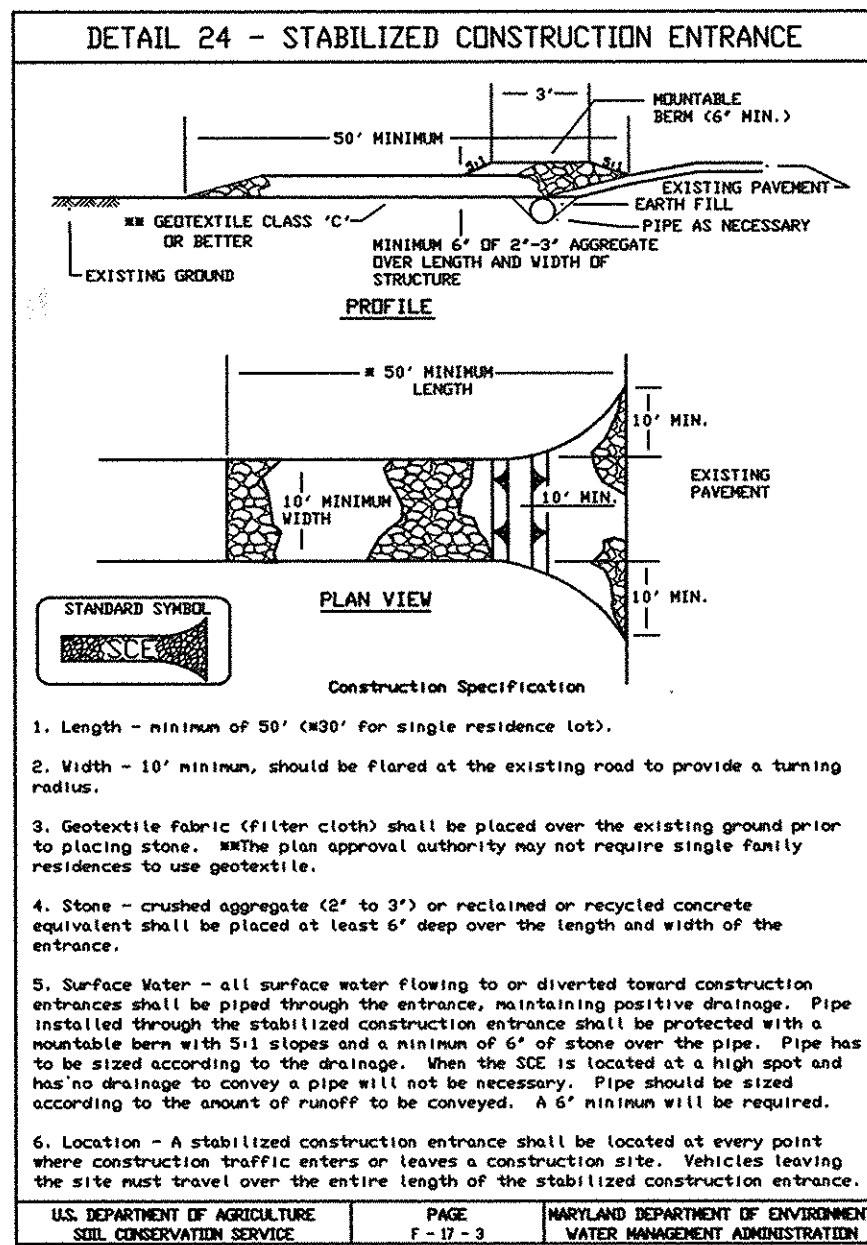
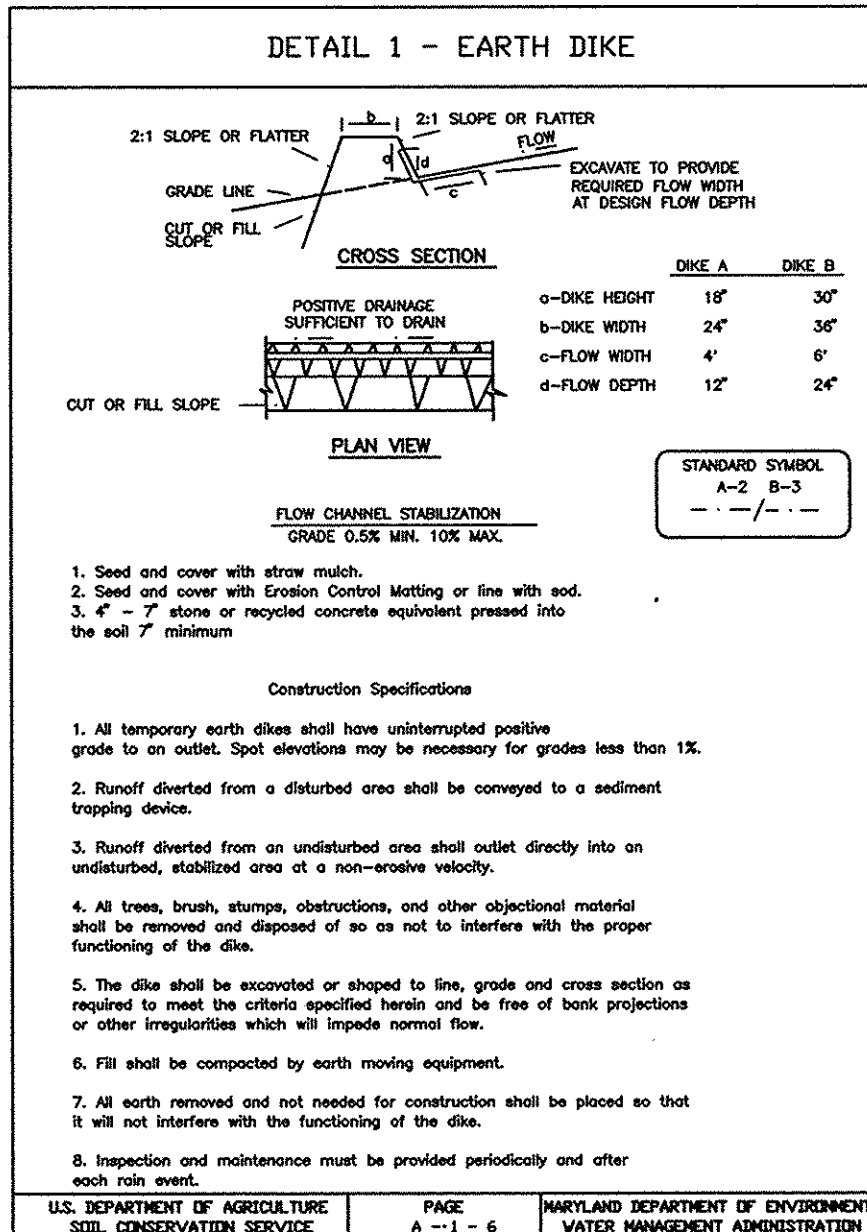


OWNERS
PARCEL 229
JNSD, I.C.
2575 STERRETT PLAC, SUITE 201
COLUMBIA, MARYLAND 21044
(410) 997-3815, (301) 596-3877

DEVELOPER
JNSD, LC
2575 STERRETT PLAC, SUITE 201
COLUMBIA, MARYLAND 21044
(410) 997-3815, (301) 596-3877

NOTE

SWM POND APPROVED FOR SECTION I (F-97-110) TO REMAIN AS A SEDIMENT TRAP FOR THE DURATION OF THIS SECTION AS INDICATED IN THE SEQUENCE OF CONSTRUCTION.



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

James L. Newburn 11/12/97
HOWARD SOIL CONSERVATION DISTRICT DATE

DEVELOPERS CERTIFICATE

I CERTIFY THAT ALL GRADING 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 INSPECTION BY THE NATURAL RESOURCE CONSERVATION SERVICE.

James L. Newburn 10-15-97
SIGNATURE OF DEVELOPER DATE

PRINTED NAME OF DEVELOPER
James L. Newburn

ENGINEER'S CERTIFICATE

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 NATURAL RESOURCE CONSERVATION SERVICE.

R. Jacob Hikmat 6/13/97
SIGNATURE OF ENGINEER DATE

PRINTED NAME OF ENGINEER
R. JACOB HIKMAT

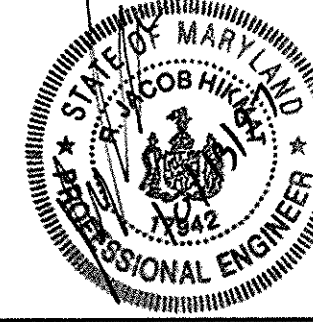
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Cheryl J. Simmons 11-12-97
USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS
Andrew M. Daniels 11-25-97
CHIEF BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Sandy Hamilton 12/3/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John Williamson 12/2/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

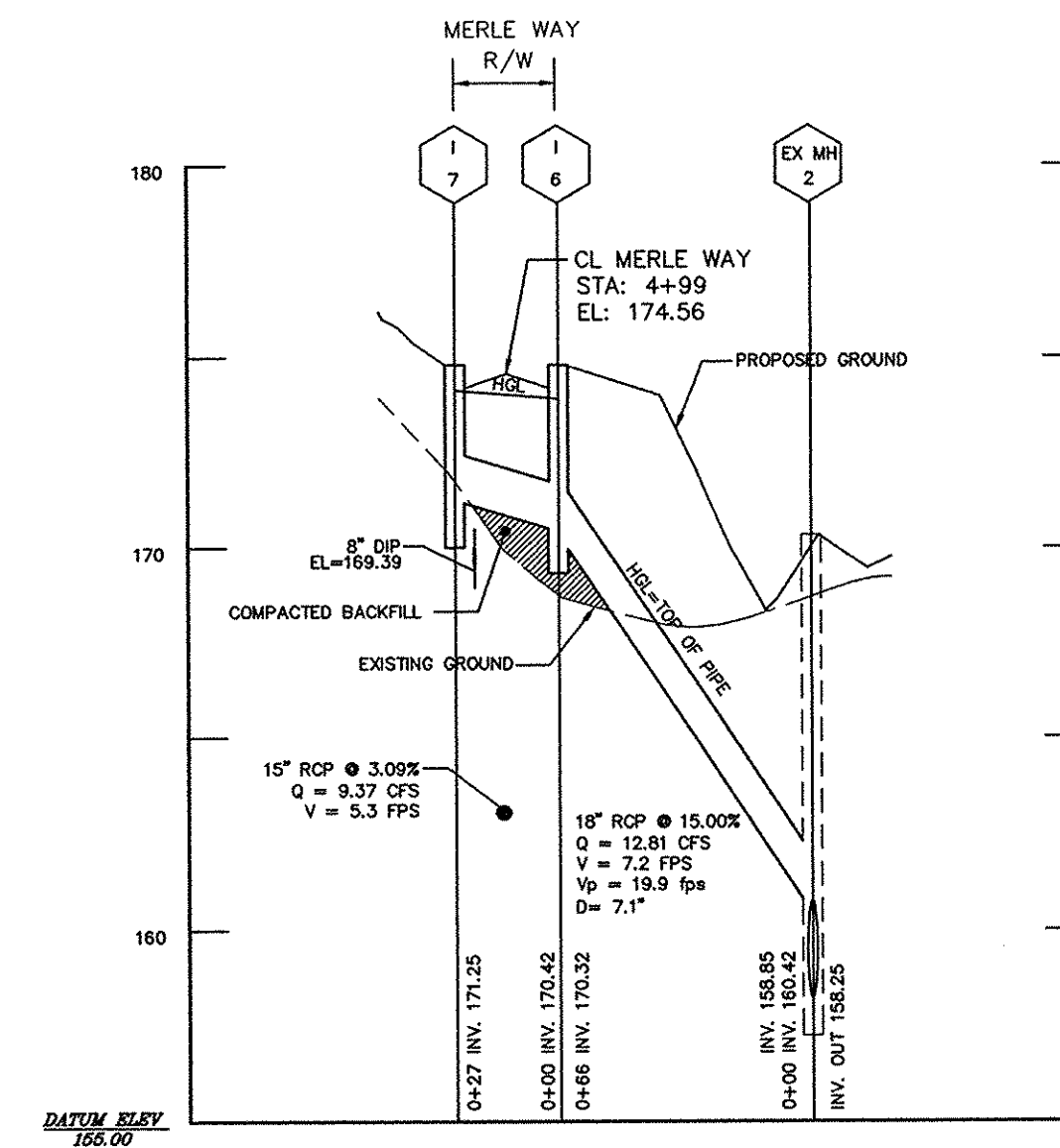
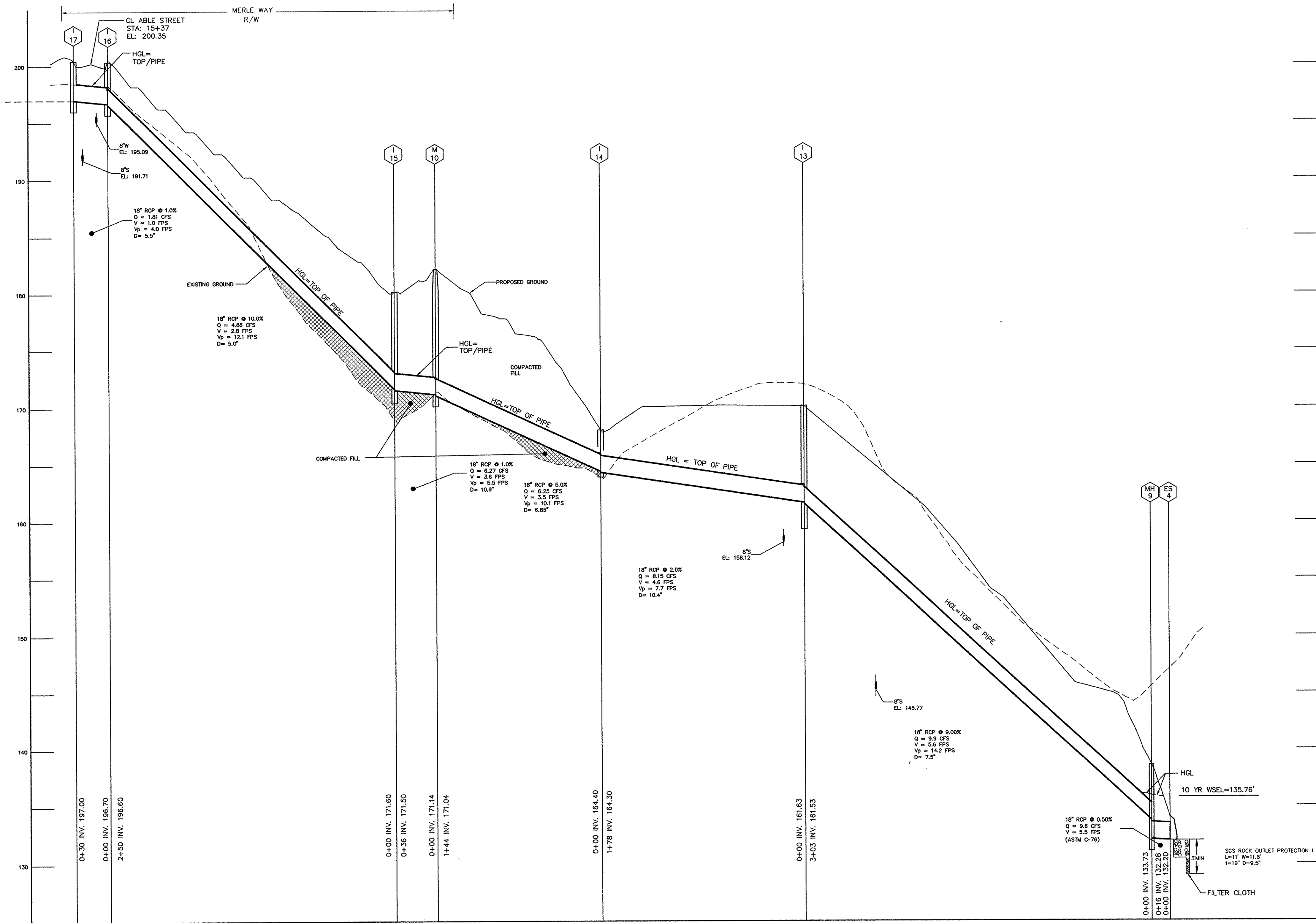


Project	95198	date	OCT 1997
Illustration	SD	approval	engineering
scale	SD	revision	AS SHOWN
description		revisions	
no.			

DATE	DESCRIPTION

TAX MAP 38, P/O PARCELS 229, 230 & 231, BLOCK 8
WILLIAMS KNOLL, SECTION II LOTS 42-84
A RESUBDIVISION OF BULK PARCEL "A"
HOWARD COUNTY, MARYLAND
FIRST ELECTION DISTRICT

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, State 202, Ellicott City, Maryland 21042
(410) 997-0286 Fax. (301) 621-5521 Wash.



SCALE: 1"=50' HOR
1"=5' VER

SCALE: 1"=50' HOR
1"=5' VER

ALL RCP PIPES TO BE CLASS IV UNLESS OTHERWISE NOTED

NO.	LOCATION	TOP ELEV.	INV. IN	INV. OUT	COMMENTS
16	CL STA 4+99 MERLE WAY -13.25 RT.	TC=174.80	171.81	171.46	A-5 INLET SEE HO. CO. STD SD 4.01, W=2.5'
17	CL STA 4+99 MERLE WAY -13.25 LT.	TC=174.80	---	172.84	A-10 INLET SEE HO. CO. STD SD 4.02, W=2.5'
113	CL STA 2+64.54 MERLE WAY-315.98 LEFT	171.0	161.63	161.53	YARD INLET - HO. CO. STD. DETAIL SD-4.14
114	CL STA 1+75.46 MERLE WAY-325.80 LEFT	167.0	164.40	164.30	YARD INLET - HO. CO. STD. DETAIL SD-4.14
115	CL STA 1+16.8 LP ABEL STREET-1.25 LEFT	181.82	171.60	171.50	A-5 INLET - HO. CO. STD SD 4.01, W=2.5'
116	CL STA 15+37 ABEL STREET-14.25' LEFT	TC=200.56	196.70	196.60	15' COG INLET - SEE MSHA STD 214.5!
117	CL STA 15+37 ABEL STREET-14.25' RIGHT	TC=200.56	---	197.00	A-10 INLET - HO. CO. STD SD 4.02, W=2.5'
M9	CL STA 4+13.54 MERLE AVE' - 350.66' LEFT	136.0	133.73	132.28	MH HO. CO. STD DTL GS.01
M10	CL STA 1+45.27 LP ABEL STREET - 8.93' LEFT	182.0	171.14	171.04	MH HO. CO. STD. DTL. GS.01
ES4	CL STA 4+23.84 MERLE WAY - 358.47' LEFT	---	132.20	132.20	HO. CO. STD. DTL. SD 5.61

NOTES: ALL DISTANCES AND ELEVATIONS ARE MEASURED TO THE CENTER OF STRUCTURE.
TOP ELEV. REFERS TO TOP OF CURB FOR "A" AND YARD INLETS AND INVERT OF THROAT FOR "K" INLETS

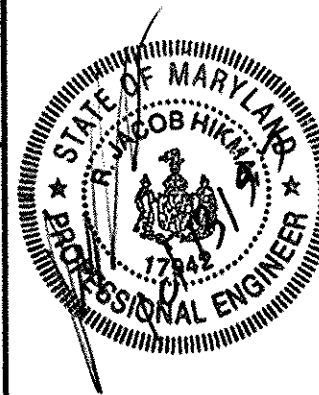
APPROVED: DEPARTMENT OF PUBLIC WORKS

Andrew M. Demko 11-25-97
CHIEF BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Andy Hamstra 12/3/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark [Signature] 12/2/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

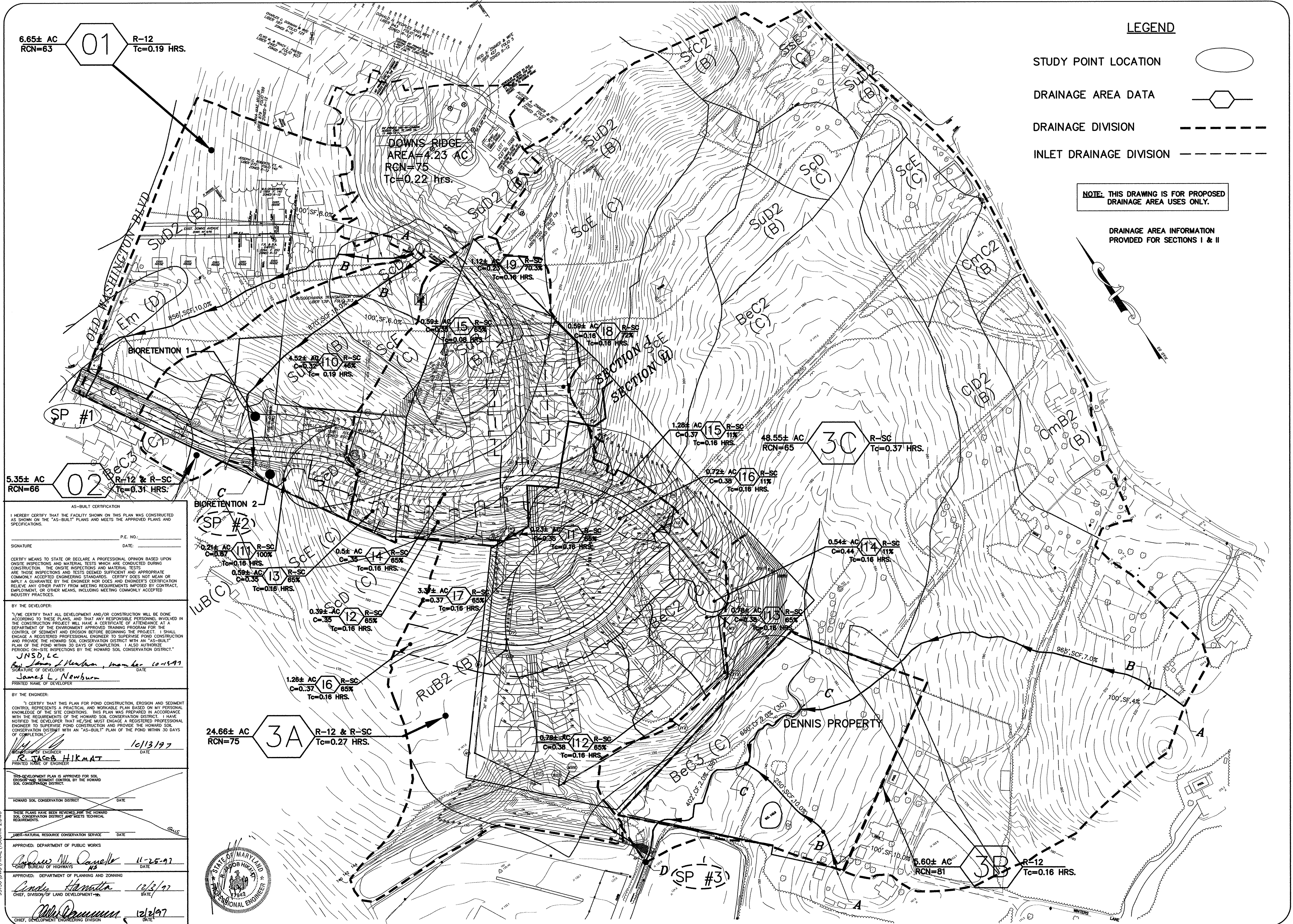


date	OCT 1997
project	95136
illustration	SD
scale	AS SHOWN
approval	SD

no.		description	revisions	date

TAX MAP 38, P/O PARCELS 229, 230 & 231, BLOCK 8
WILLIAMS KNOLL, SECTION II, LOTS 42-84
RESUBDIVISION OF BULK PARCEL 'A'
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
STORM DRAIN PROFILES

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 987-0296 Fax: (301) 821-5551 Wash. (410) 987-0288 Fax.



LEGEND

- STUDY POINT LOCATION
- DRAINAGE AREA DATA
- DRAINAGE DIVISION
- INLET DRAINAGE DIVISION

NOTE: THIS DRAWING IS FOR PROPOSED DRAINAGE AREA USES ONLY.

DRAINAGE AREA INFORMATION PROVIDED FOR SECTIONS I & II

6.65± AC
RCN=63
01 R-12
Tc=0.19 HRS.

5.35± AC
RCN=66
02 R-12 & R-SC
Tc=0.31 HRS.

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.

P.E. NO.: _____
DATE: _____
SIGNATURE: _____

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER FOR HIS OR HER DESIGN OR ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

BY THE DEVELOPER:

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

JNSD, LC
Signature of Developer: *James L. Newburn*, member 10-15-97
DATE: _____
PRINTED NAME OF DEVELOPER: **James L. Newburn**

BY THE ENGINEER:

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

Signature of Engineer: *R. Jacob Hikmat*
DATE: 10/13/97
PRINTED NAME OF ENGINEER: **R. JACOB HIKMAT**

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

HOWARD SOIL CONSERVATION DISTRICT DATE: _____

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

UDNR - NATURAL RESOURCE CONSERVATION SERVICE DATE: _____

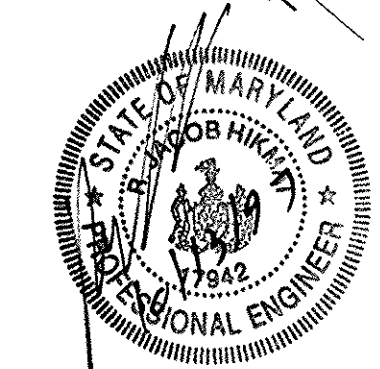
APPROVED: DEPARTMENT OF PUBLIC WORKS

Signature: *Andrew M. Daniels*
DATE: 11-25-97
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: *Andy Hamilton*
DATE: 12/3/97
CHIEF, DIVISION OF LAND DEVELOPMENT

Signature: *William D. ...*
DATE: 12/2/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION



project	95136	date	OCT 1997
illustration	SD	engineering	SD
scale	1"=100'	approval	SD

no.	description	date

TAX MAP 38, P/O PARCELS 229, 230 & 231, BLOCK 8
WILLIAMS KNOLL, SECTION II, LOTS 42-84
RESUBDIVISION OF BULK PARCEL "A"
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DRAINAGE AREA MAP

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hill Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0286 Fax: (301) 621-5521 Wash. (410) 997-0288 Fax.

NOTE: THIS PLAN IS TO BE USED FOR FOREST CONSERVATION PURPOSES ONLY.

NOTE: FEE-IN-LIEU OF REFORESTATION HAS BEEN REQUESTED FOR THE REMAINING AREA REQUIRED TO BE REFORESTED BY THE HOWARD COUNTY FOREST CONSERVATION MANUAL. SEE FOREST CONSERVATION CALCULATIONS THIS SHEET. (9.15 ACRES OF REFORESTATION IS REQUIRED. 0.48 ACRES OF REFORESTATION HAS BEEN SHOWN ON-SITE. THE REMAINING 8.67 ACRES WILL BE A PART OF THE FEE-IN-LIEU REQUEST.)

BASIC SITE DATA

GROSS SITE AREA.....	20.67 ACRES
POWER LINE RIGHT-OF-WAY.....	0.67 ACRES
AREA WITHIN 100 YEAR FLOODPLAIN.....	0.06 ACRES
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL.....	---
NET TRACT AREA.....	19.94 ACRES
LAND USE CATEGORY (R-RLD, R-RMD, R-SC, C1/0, I).....	R-SC

INFORMATION FOR CALCULATIONS

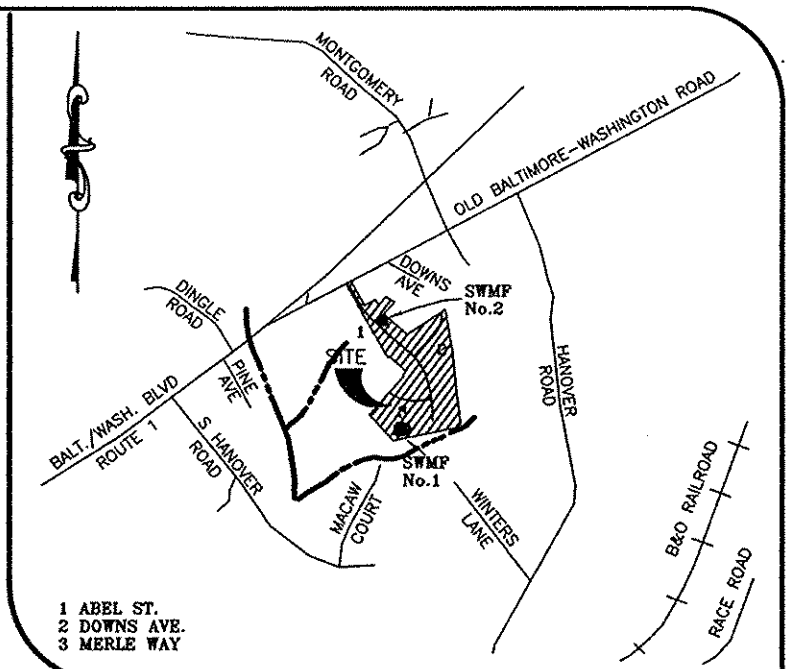
A. NET TRACT AREA.....	19.94 ACRES
B. REFORESTATION THRESHOLD (20% X A).....	3.99 ACRES
C. AFFORESTATION MINIMUM (15% X A).....	2.99 ACRES
D. EXISTING FOREST ON NET TRACT AREA.....	18.14 ACRES
E. FOREST AREAS TO BE CLEARED.....	18.14 ACRES
F. FOREST AREAS TO BE RETAINED.....	1.33 ACRES

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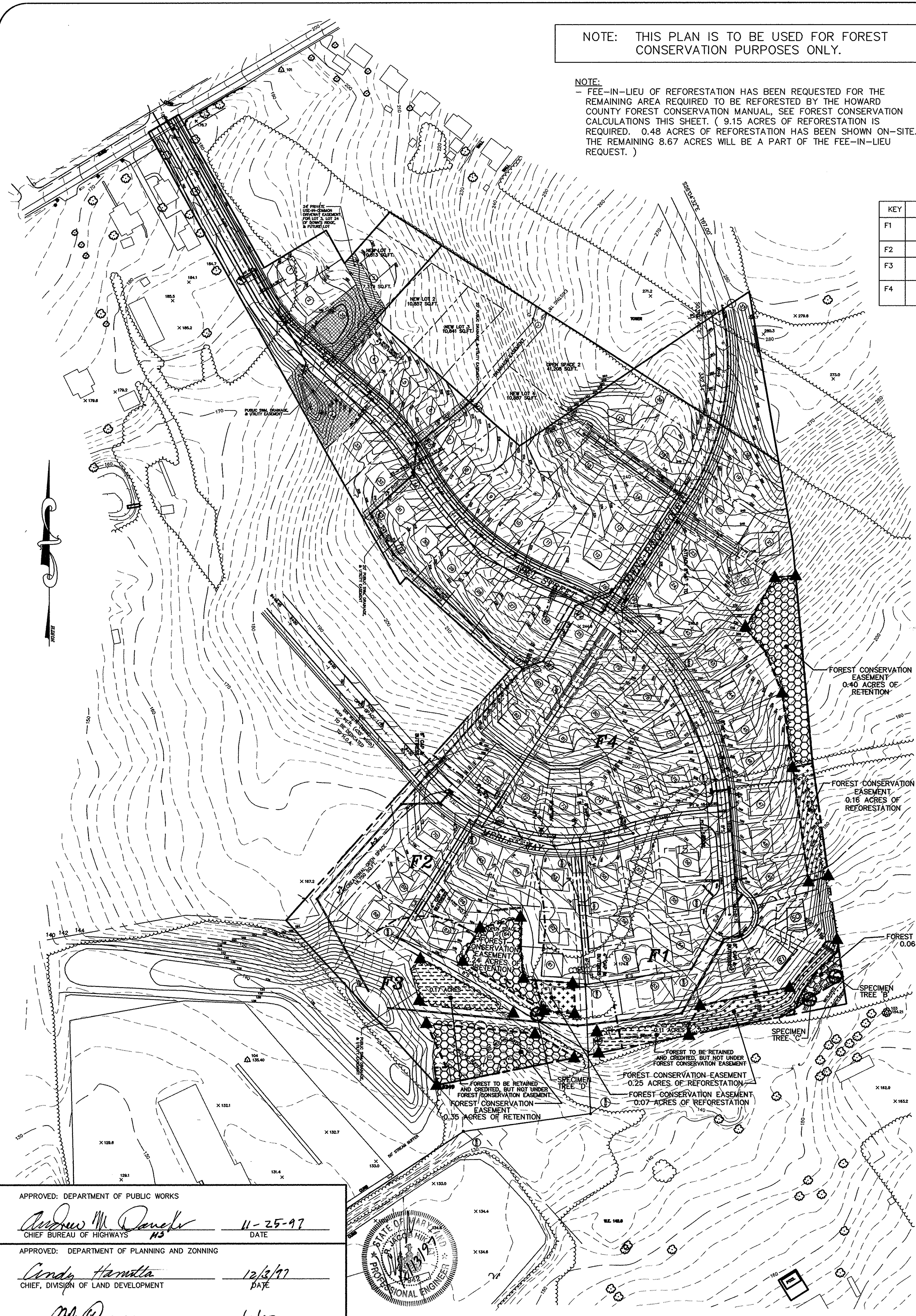
2. CLEARING BELOW THE THRESHOLD

REFORESTATION FOR CLEARING ABOVE THRESHOLD.....	3.87 ACRES
REFORESTATION FOR CLEARING BELOW THE THRESHOLD.....	1.32 ACRES
TOTAL REFORESTATION REQUIRED.....	9.19 ACRES



project	date
951536	MAR 1997
illustration	engineering
SD	SD/SJD
scale	approval
1"=100'	

description	date
revisions	
no.	



FOREST STAND / VEGETATIVE COVER

KEY	COMMUNITY TYPE	ACREAGE	DOMINANT VEGETATION	GENERAL CONDITION
F1	VIRGINIA PINE	2.2	PINUS VIRGINIANA, ACER RUBRUM, LIRIODENDRON TULIPIFERA	GOOD
F2	TULIP POPLAR	3.2	LIRIODENDRON TULIPIFERA, ACER RUBRUM	GOOD
F3	OAK-PINE	1.7	PINUS VIRGINIANA, QUERCUS FALCATA, QUERCUS ALBA, QUERCUS RUBRA	GOOD
F4	CHESTNUT OAK	12.4	QUERCUS PRINUS, QUERCUS RUBRA, QUERCUS ALBA	GOOD

SPECIMEN TREES TO REMAIN

KEY	DBH	DESCRIPTION	CONDITION
B	32"	TULIP POPLAR	GOOD
C	40"	TULIP POPLAR	GOOD
D	36"	RED OAK	FAIRLY GOOD

- GENERAL NOTES**
- FOREST PROTECTION**
- ALL FOREST RETENTION AREAS SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED BLAZE ORANGE PLASTIC FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY PRIOR TO ANY LAND CLEARING, GRUBBING, OR GRADING ACTIVITIES.
 - THE FOREST PROTECTION DEVICES SHALL BE INSTALLED SUCH THAT THE CRITICAL ROOT ZONES OF ALL TREES WITHIN THE RETENTION AREA NOT OTHERWISE PROTECTED WILL BE WITHIN FOREST PROTECTION DEVICES.
 - ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION, INCLUDING SILT FENCE BEING USED AS PROTECTIVE FENCING. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY TO THE DEVICES.
 - ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED IN THESE PROTECTED AREAS.
 - INSTALLATION AND MAINTENANCE OF PROTECTIVE FENCING AND SIGNAGE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL TAKE THE UTMOST CARE TO PROTECT TREE ROOT SYSTEMS DURING ALL CONSTRUCTION ACTIVITIES. TREE ROOT SYSTEMS SHALL BE PROTECTED FROM SMOTHERING, FLOODING, EXCESSIVE WETTING FROM DE-WATERING OPERATIONS, OFF-SITE RUN OFF, SPILLAGE AND DRAINING OF MATERIALS THAT MAY BE HARMFUL TO TREES.
 - THE GENERAL CONTRACTOR SHALL PREVENT PARKING OF CONSTRUCTION VEHICLES AND EQUIPMENT, AND THE STORING OF BUILDING SUPPLIES OR STOCKPILING OF EARTH WITHIN FOREST CONSERVATION EASEMENTS. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PRESERVATION AREA SHALL BE PROHIBITED.
 - THE GENERAL CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY TREES DAMAGED OR DESTROYED WITHIN THE FOREST CONSERVATION EASEMENTS.
 - ROOT PRUNING SHALL BE USED AT THE LIMIT OF DISTURBANCE OR LIMIT OF GRADING WITHIN AND ADJACENT TO ALL PRESERVATION AREAS, AS NECESSARY.
- PRE-CONSTRUCTION MEETING**
- AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, AND HOWARD COUNTY INSPECTORS SHALL ATTEND. THE PURPOSE OF THIS MEETING WILL BE:
 - TO IDENTIFY THE LOCATIONS OF THE FOREST RETENTION AREAS, SPECIMEN TREES WITHIN 50 FEET OF THE LIMIT OF DISTURBANCE, LIMITS OF CONSTRUCTION, EMPLOYEE PARKING AREAS AND EQUIPMENT STAGING AREAS;
 - INSPECT ALL FLAGGED BOUNDARIES AND PROTECTION DEVICES;
 - MAKE ALL NECESSARY ADJUSTMENTS;
 - ASSIGN RESPONSIBILITIES AS APPROPRIATE AND DISCUSS PENALTIES.
- CONSTRUCTION MONITORING**
- THE SITE SHALL BE INSPECTED PERIODICALLY DURING THE CONSTRUCTION PHASE OF THE PROJECT. A QUALIFIED PROFESSIONAL SHALL BE RESPONSIBLE FOR IDENTIFYING DAMAGE TO PROTECTED FOREST AREAS OR INDIVIDUAL TREES WHICH MAY HAVE BEEN CAUSED BY CONSTRUCTION ACTIVITIES, SUCH AS SOIL COMPACTION, ROOT INJURY, TRUNK WOUNDS, LIMB INJURY, OR STRESS CAUSED BY FLOODING OR DROUGHT CONDITIONS. ANY SUCH DAMAGE THAT MAY OCCUR SHALL BE REMEDIATED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
 - THE CONSTRUCTION PROCEDURE SHALL NOT DAMAGE AREAS OUTSIDE OF THE LIMITS OF DISTURBANCE AS DESIGNATED ON THE PLANS. ANY DAMAGE SHALL BE RESTORED BY THE CONTRACTOR AT HIS EXPENSE AND TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.

- NOTE :**
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENTS EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.
- THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION, SOIL COMPACTION, OR EXCAVATION, INTRODUCTION OF TOXIC CHEMICALS OR OTHER DISTURBANCES DETERMINED TO BE HARMFUL TO THE LIVE SPECIMEN TREES OR CRITICAL ROOT ZONES FOR THESE TREES EXCEPT AS PERMITTED BY THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.

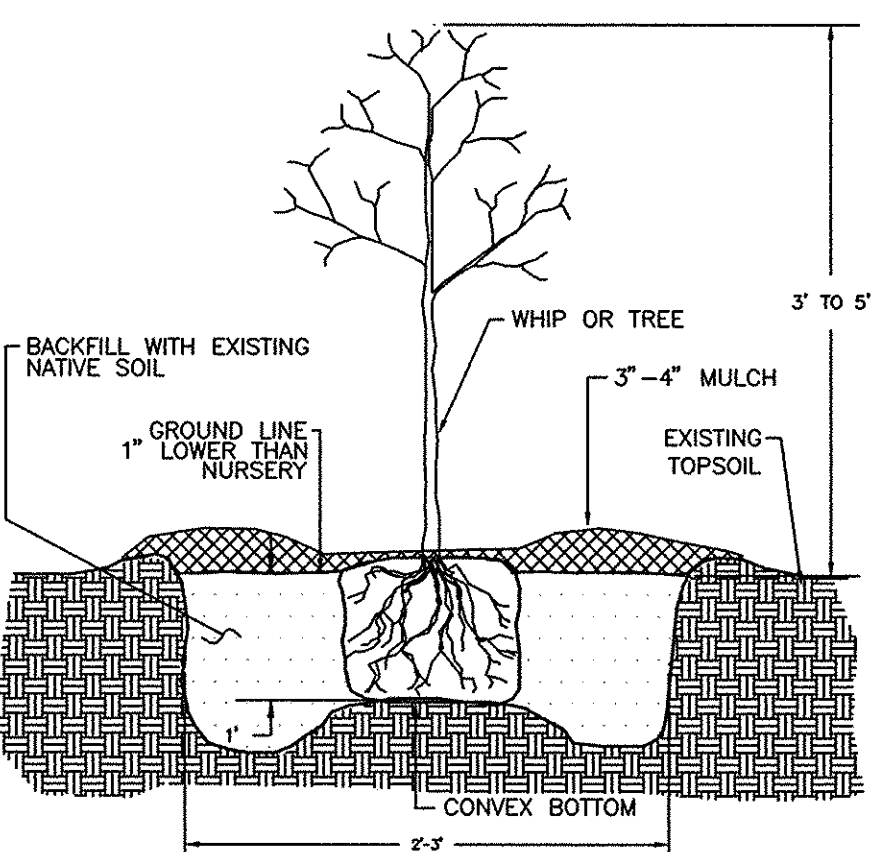
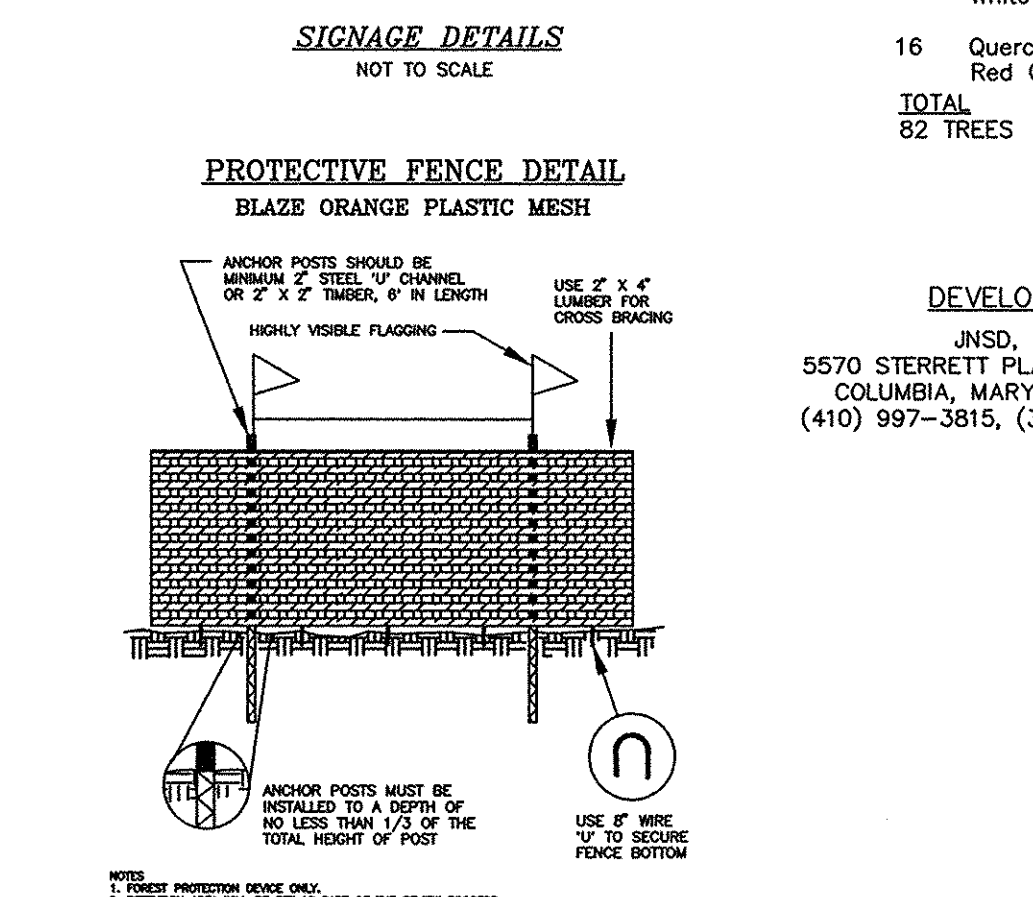
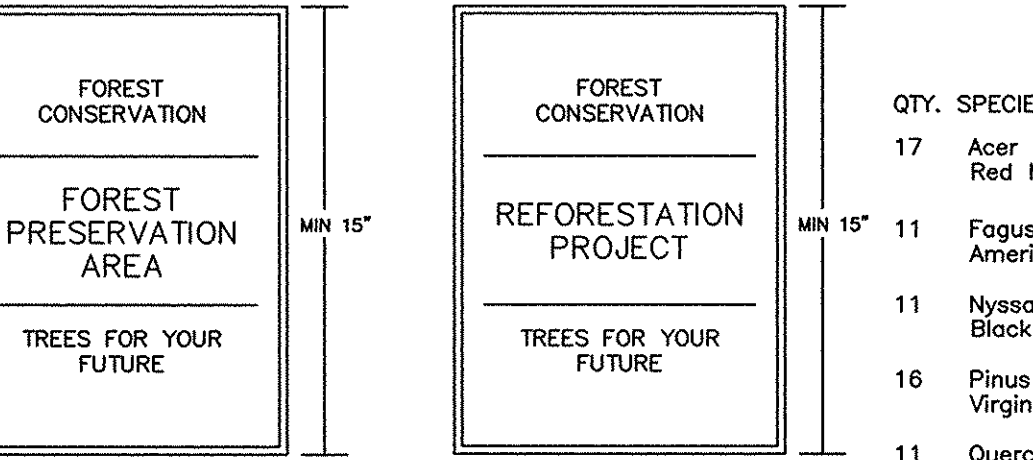
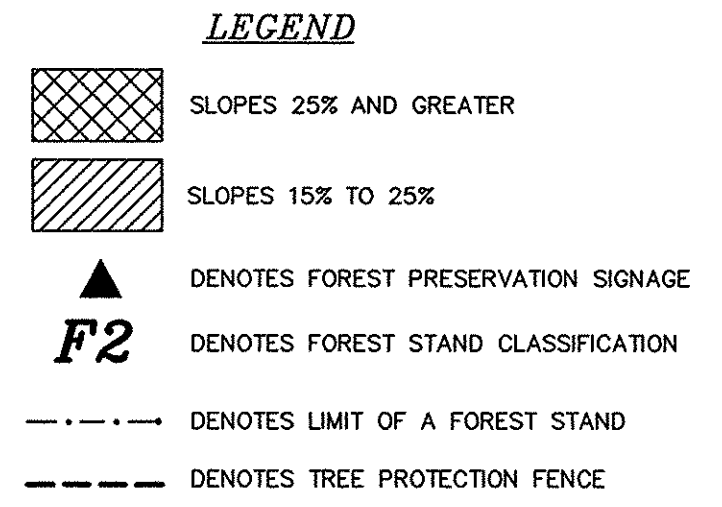
- PLANTING SPECIFICATIONS AND NOTES**
- SITE PREPARATION AND SOILS**
- PROTECTIVE FENCING IS TO BE INSTALLED AS A FIRST ORDER OF BUSINESS PER PLAN LOCATIONS. PROTECTIVE FENCING WILL NOT NECESSARILY ALONG THOSE PERIMETERS WHERE SILT FENCE HAS BEEN INSTALLED FOR SEDIMENT CONTROL.
 - DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT.
 - SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLUDGE.
 - SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME PEAT MOSS.
 - ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONFINED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.
- PLANT STORAGE AND INSPECTION**
- FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
 - FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
 - PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, WOOD, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
 - UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT.
- PLANT INSTALLATION**
- THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING FIELD. AFTER PLANT INSTALLATION, RAKE SOILS EVENLY OVER THE PLANTING FIELD AND COVER WITH AT LEAST 4 INCHES OF MULCH. WATER, GENTLY, TO SETTLE SOIL BACKFILLED AROUND TREES.
 - PLANTING FIELD DIAMETERS SHOULD BE REDUCED OR PLANTING FIELD MOVED IF IT APPEARS THAT EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.
 - CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THROUGH LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES.

- CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS ENIRCLE THE ROOT BALL SUBSTITUTION IS STRONGLY RECOMMENDED. J-SHAPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF SOIL BORNE DISEASES.
- FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL THEN PEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENTLY.
- THE CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FIVE (5) PER SPECIES OVER THE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED IN THE PLANT LIST. **
- A STRAIGHT GRID PATTERN SPACING IS TO BE AVOIDED. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED IN THE PLANT LIST TO OBTAIN A MORE NATURAL APPEARANCE.
- NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONCE A WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE VERY DEEP WELL DRAINED NATURE OF THE NATIVE SOILS FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. THE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR DURING SUMMER AND DRY MONTHS. AFTER THAT PERIOD, TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. ANY WATERING PLAN SHOULD COMPENSATE FOR RECENT RAINFALL PATTERNS.
- IN AREAS WHERE REFORESTATION IS ADJACENT TO PROJECT BOUNDARIES, PLANT MATERIAL MUST BE INSTALLED MUST BE INSTALLED FIRST, IN ORDER TO SATISFY PERIMETER BUFFER REQUIREMENTS.

- FERTILIZING**
- DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
 - NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE WHAT IS NEEDED.
 - IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED BASED PRODUCTS ARE AVAILABLE COMMERCIALY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.
- MAINTENANCE SCHEDULE**
- ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A MINIMUM OF TWO (2) YEAR PERIOD.
 - INSPECT PLANTED STOCK FOR MORTALITY. REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
 - EXPECT VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION TO OCCUR. DO NOT DISCOURAGE THIS GROWTH UNLESS IT NEGATIVELY AFFECTS THE PLANTED STOCK.
 - MANUALLY REMOVE AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
 - REMOVE AND DISPOSE OF ANY MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN THE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK OR INTERFERES WITH THE REFORESTATION PLANTING.
 - A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTING WILL BE REQUIRED TO BRING THE PLANTED STOCK SURVIVAL RATE UP TO 75%.
- SUPERVISION**
- ALL FOREST CONSERVATION ACTIVITIES SHALL BE DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER "QUALIFIED PROFESSIONAL" AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

REFORESTATION PLANT LIST

QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN. O.C.	SPACING	SIZE & REMARKS
17	Acer rubrum	VT	D-W	FAC	20'	CONT/B & B 1" CAL.	
11	Fagus grandifolia	VT	M	FACU	20'	CONT/B & B 1" CAL.	
11	Nyssa sylvatica	T	M-W	FAC	20'	CONT/B & B 1" CAL.	
16	Pinus virginiana	MT	M	-	15'	CONT/B & B 8"-10" HT.	
11	Quercus alba	I	M-W	FAC+	20'	CONT/B & B 1" CAL.	
16	Quercus rubra	MT	D-M	UPL	20'	CONT/B & B 1" CAL.	
TOTAL							82 TREES



DEVELOPER

JNSD, LC
5570 STERRETT PLACE, SUITE 201
COLUMBIA, MARYLAND 21042
(410) 997-3815, (301) 596-3877

MD DNR QUALIFIED PROFESSIONAL

Stephanie Demchik
STEPHANIE DEMCHIK

APPROVED: DEPARTMENT OF PUBLIC WORKS

Andrew M. Douch 11-25-97
CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Candy Hamata 12/2/97
CHIEF, DIVISION OF LAND DEVELOPMENT

Mike Douch 12/2/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION

TAX MAP 38, P/O PARCELS 229, 230 & 231, BLOCK 8
WILLIAMS KNOLL, SECTION I AND II
HOWARD COUNTY, MARYLAND
FIRST ELECTION DISTRICT
FOREST CONSERVATION AND REFORESTATION PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, State 202, Ellicott City, Maryland 21042
(410) 997-0286 Ext. (301) 621-5521 Wash.