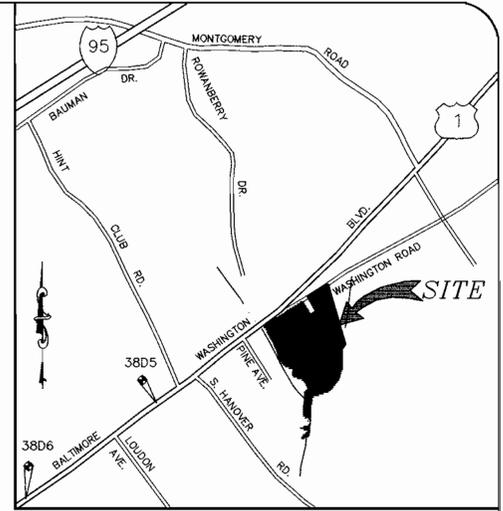


INDEX OF SHEETS

NO	TITLE
1	SITE DEVELOPMENT PLAN
2	GRADING & SEDIMENT CONTROL PLAN - PHASE I
3	GRADING & SEDIMENT CONTROL PLAN - PHASE II
4	SEDIMENT CONTROL NOTES AND DETAILS
5	STORMDRAIN PROFILES & STRUCTURE SCHEDULE
6	DRAINAGE AREA MAP
7	STORMWATER MANAGEMENT DETAILS & SPECIFICATIONS
8	SOIL BORING LOGS
9	LANDSCAPE PLAN
10	FOREST CONSERVATION & REFORESTATION PLAN
11	FOREST CONSERVATION & REFORESTATION PLAN

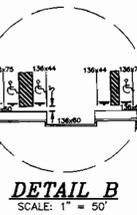
LEGEND

- EXISTING GRADES
- 2' CONTOURS
- 10' CONTOURS
- LIMIT 100 YEAR FLOODPLAIN
- EX. TREELINE
- PARKING OR BUILDING REMOVAL
- SLOPES - 15% TO 24.9%
- SLOPES - 25% +
- FLOW ARROW
- PROP. TREELINE
- TRAFFIC FLOW
- WETLAND LIMIT
- 100 YEAR PUBLIC FLOODPLAIN AND UTILITY EASEMENT
- FOREST CONSERVATION EASEMENT
- EX. GABION WALL (SDP-98-139)
- VEHICLE STORAGE AREA



- ### GENERAL NOTES:
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
 - 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.
 - 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 (410) 725-9976
 - HOWARD COUNTY BUREAU OF UTILITIES (410) 313-4900
 - AT&T CABLE LOCATION DIVISION (410) 393-3533
 - BALTIMORE GAS & ELECTRIC (410) 685-0123
 - STATE HIGHWAY ADMINISTRATION (410) 531-5533
 - HOWARD COUNTY DEPT. OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION (410) 313-1880
 - PROJECT BACKGROUND:
 - LOCATION: 1ST ELECTION DISTRICT, TAX MAP 38, PARCELS 221, 223 & 524.
 - DEED REFERENCE: 1936/0226 & 21731-98.
 - ZONING: M-1 PER 10/18/93 COMPREHENSIVE ZONING PLAN & ZB997M
 - TOTAL TRACT AREA: 17.16 AC±
 - DATE PREVIOUS PLANS APPROVED AND DPZ REFERENCE #: SDP-73-20, SDP-88-103, SDP-98-139.
 - PARCEL 223 IS REZONED TO M-1 PER ZONING CASE # ZB-997M APPROVED ON September 7, 1999.
 - TOPOGRAPHY SHOWN HEREON IS BASED ON APRIL, 1998 & SEP., 1998 FIELD RUN SURVEY BY MILDENBERG, BOENDER AND ASSOCIATES, INC.
 - COORDINATES BASED ON NAD '83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 3805 AND 3806.

STA. No. 3805	N 558,378.5683	E 1,386,524.3031
	EL. = 183.75	
STA. No. 3806	N 557,155.4454	E 1,384,992.3931
	EL. = 175.261	
 - WATER AND SEWER ARE PUBLIC, CONTRACT #S 346-S & 349-W.
 - STORMWATER MANAGEMENT QUANTITY CONTROL IS PROVIDED BY UNDERGROUND DETENTION AND QUALITY CONTROL BY BAYSAYER 3K & 5K SYSTEMS. STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
 - USE BITUMINOUS CURB STD. R-3.03.
 - SITE ANALYSIS DATA CHART:
 - TOTAL PROJECT AREA: 17.16± ACRES
 - LIMIT OF DISTURBED AREA: 7.99 AC± (INCLUDING 3.99 AC± UNDER SDP-98-139)
 - PRESENT ZONING: M-1
 - EX. FLOOR SPACE:
 - WAREHOUSE & DIST. = 60,680 SF± (=21,040 SF±+3,240 SF±+260'x140')
 - 22 SERVICE BAYS = 30,600 SF± (=5,400 SF±+180'x140')
 - PROPOSED FLOOR SPACE REMOVAL: 2,416 SF± (=8'x175.5'+8'x126.5')
 - PROPOSED FLOOR SPACE ADDITION: 24,384 SF± (=14,79'x58.88' + 47'x51'+42.29'x87'+87'x182.29'-2x3'x28'+132'x28')
 - PROPOSED TOTAL FLOOR SPACE: 115,198 SF± (=80,680 SF±+30,600 SF±-2,416 SF±+24,384 SF±)
 - PROPOSED BUILDING COVERAGE ON SITE: 97,448 SF± OR 56.8% OF GROSS AREA
 - PROPOSED USE: MECHANICAL ROOM (871 SF±) & OFFICE (31,550 SF±)
 - VEHICLE SERVICE (38 BAYS) = 47,902 SF± (= 21,040 SF±+ 26,862 SF±)
 - SHOP = 31,550 SF± (= 5,400 SF±+ 26,150 SF±)
 - OFFICE: 34,790 SF± (= 3,240 SF±+ 31,550 SF±)
 - PARKING REQUIREMENT: Ex. Parking = 105 spaces (including 2 handicapped)
 - NUMBER OF PARKING REQUIRED: 90*
 - NUMBER OF PARKING PROVIDED: 110 (9' x 20') 10 (HANDICAP PARKINGS)
 - PARKING REQUIREMENT DOES NOT INCLUDE MECHANICAL ROOM. *NUMBER OF PARKING REQUIRED IS PER THE "PARKING ACCUMULATION ASSESSMENT" BY LEE GUNNINGHAM & ASSOCIATES, INC. DATED FEBRUARY 29, 2000.
 - ALL STORM DRAIN PIPE TO BE REINFORCED CONCRETE PIPE CL. IV UNLESS OTHERWISE SHOWN.
 - 100 YEAR FLOODPLAIN SHOWN IS PER CFP 25-47/97 & CFP 25-46/97 UPDATED BY KCI, INC. IN JANUARY 1997.
 - FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.200 OF HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING OF CONSTRUCTION IS PERMITTED WITHIN THE FOREST EASEMENT, EXCEPT AS SHOWN ON AN APPROVED SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OR CONSERVATION EASEMENT ARE ALLOWED.
 - THE FOREST CONSERVATION OBLIGATIONS INCURRED BY THIS SITE DEVELOPMENT (0.50 ACRES OF REFORESTATION) HAVE BEEN MET BY ON-SITE REFORESTATION AND 4.93 ACRES OF REFORESTATION, AS APPROVED PART OF CFP, ALBAN ENGINE, PARCEL 223.
 - NO NEW CONNECTIONS TO PUBLIC WATER AND SEWER IS PROPOSED.
 - WETLAND LIMIT AS SHOWN IS PER THE "WETLAND INVESTIGATION AND FOREST STAND DELINEATION REPORT" PREPARED BY WILDMAN ENVIRONMENTAL SERVICES DATED MARCH 10, 1998 & JULY 18, 1999.
 - INSTALL THE PROPOSED BAYSAYERS AT INVERTS AND LOCATION PER PLANS.
 - EXISTING STORM DRAIN SYSTEMS IS TO BE REPLACED BY THE PROPOSED STORM DRAIN SYSTEMS.
 - ALL EXTERIOR LIGHTING SHALL BE IN COMPLIANCE WITH SECTION 134 OF THE ZONING REGULATIONS.



PERMIT INFORMATION CHART

NAME	ALBAN TRACTOR CO., INC.	SECTION/AREA	221, 223 & 524	LOT/PARCEL #	221, 223 & 524
PLAT # OR L/F	BLOCK #	ZONE	TAX MAP	ELEC. DIST.	CENSUS TRACT
1036/228 & 2173-98	8	M-1	38	FIRST	6012
WATER CODE	A01	SEWER CODE	2150529		
PARCEL	221, 525 & 223	STREET ADDRESS	6455 WASHINGTON BLVD.		

LINE TABLE

LINE	LENGTH	BEARING
L1	10.00'	S17°41'45"E
L2	22.48'	S28°36'04"W
L3	10.30'	S28°29'04"W
L4	10.00'	S17°41'45"E

APPROVED: DEPARTMENT OF PLANNING AND ZONING

DATE: 3/23/00

DATE: 3/29/00

DATE: 3/29/00



CHARLES W. MILES, JR.
561/690
TAX MAP 38
PARCEL 303
ZONED M-1

W. W. SHIPMAN
413/278
TAX MAP 38
PARCEL 220
ZONED M-1

JACK W. ASTERCOCK
442/526
TAX MAP 38
PARCEL 760
ZONED M-1

PROJECT: 96014.10
DATE: 3/7/00
ILLUSTRATION: MK
FCL
SCALE: 1" = 50'

REMOVE PROPERTY LINE & PARKING AROUND DETAIL "A"
TO DELETE L-10 & STORM DRAIN L-9 & L-10
DATE: 5/18/2000
FCL
SCALE: 1" = 50'

TAX MAP 38, PARCELS 221, 524 & 223
ALBAN ENGINE
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SITE DEVELOPMENT PLAN

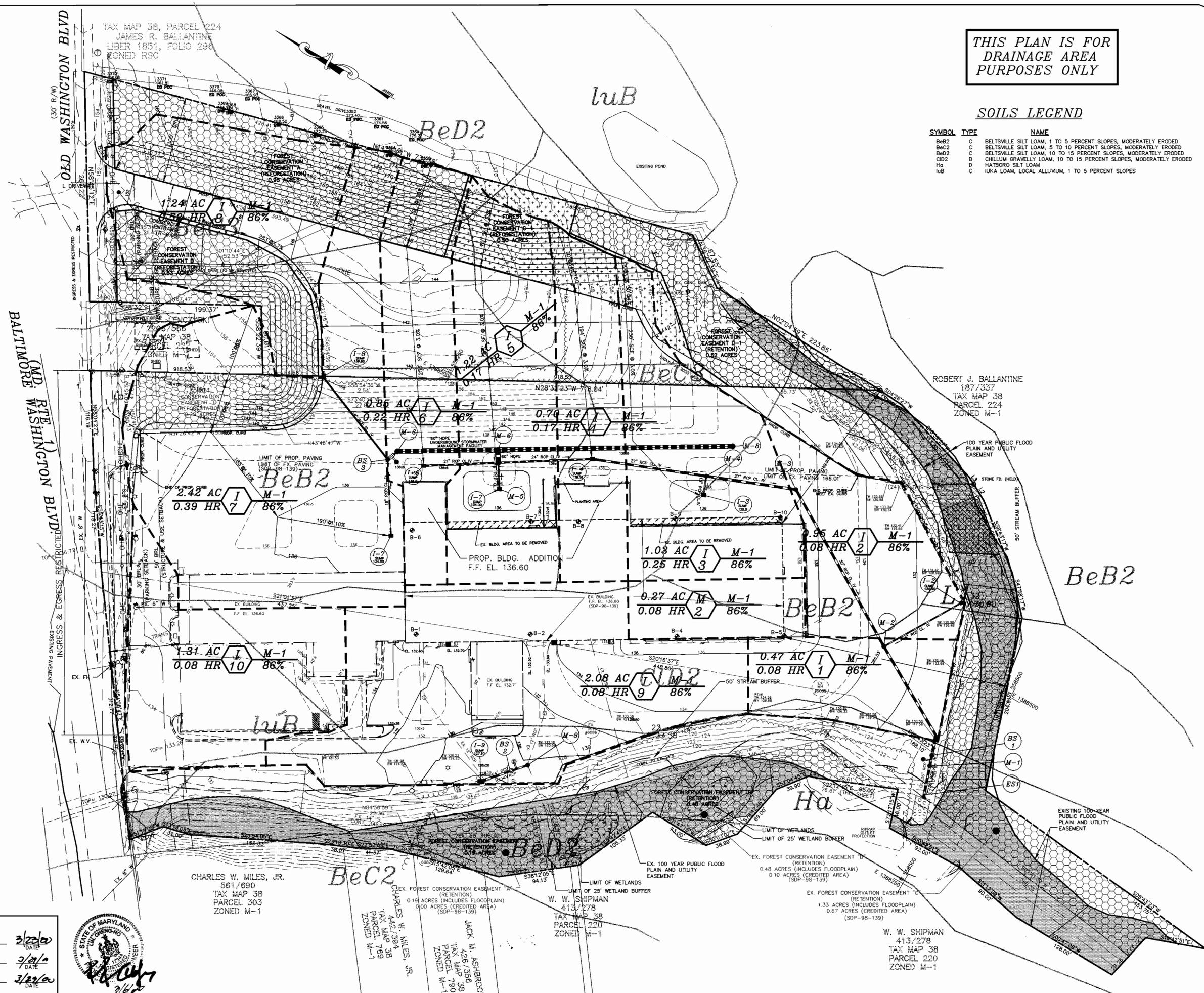
MILDENBERG, BOENDER & ASSOC., INC.
Engineers
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Fax

1 OF 11
SDP-00-19

THIS PLAN IS FOR
DRAINAGE AREA
PURPOSES ONLY

SOILS LEGEND

SYMBOL	TYPE	NAME
BeB2	C	BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED
BeC2	C	BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED
BeD2	C	BELTSVILLE SILT LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED
GD2	B	CHILLUM GRAVELLY LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED
Hg	D	HATBORO SILT LOAM
IuB	C	IUKA LOAM, LOCAL ALLUVIUM, 1 TO 5 PERCENT SLOPES



Project	date	2/28/00
Illustration	engineering	FCL
FCL	scale	1" = 50'
FCL	approval	RJH

8/1/2000	7/28/2000	description	revisions
1	1	TO DELETE 1-10	
2	1	RENAME PROPERTY LINE	

TAX MAP 38, PARCELS 221, 524 & 223
ALBAN ENGINE
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DRAINAGE AREA & SOILS MAP

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

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION MKZ

 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE 3/23/00
 DATE 3/21/00
 DATE 3/23/00

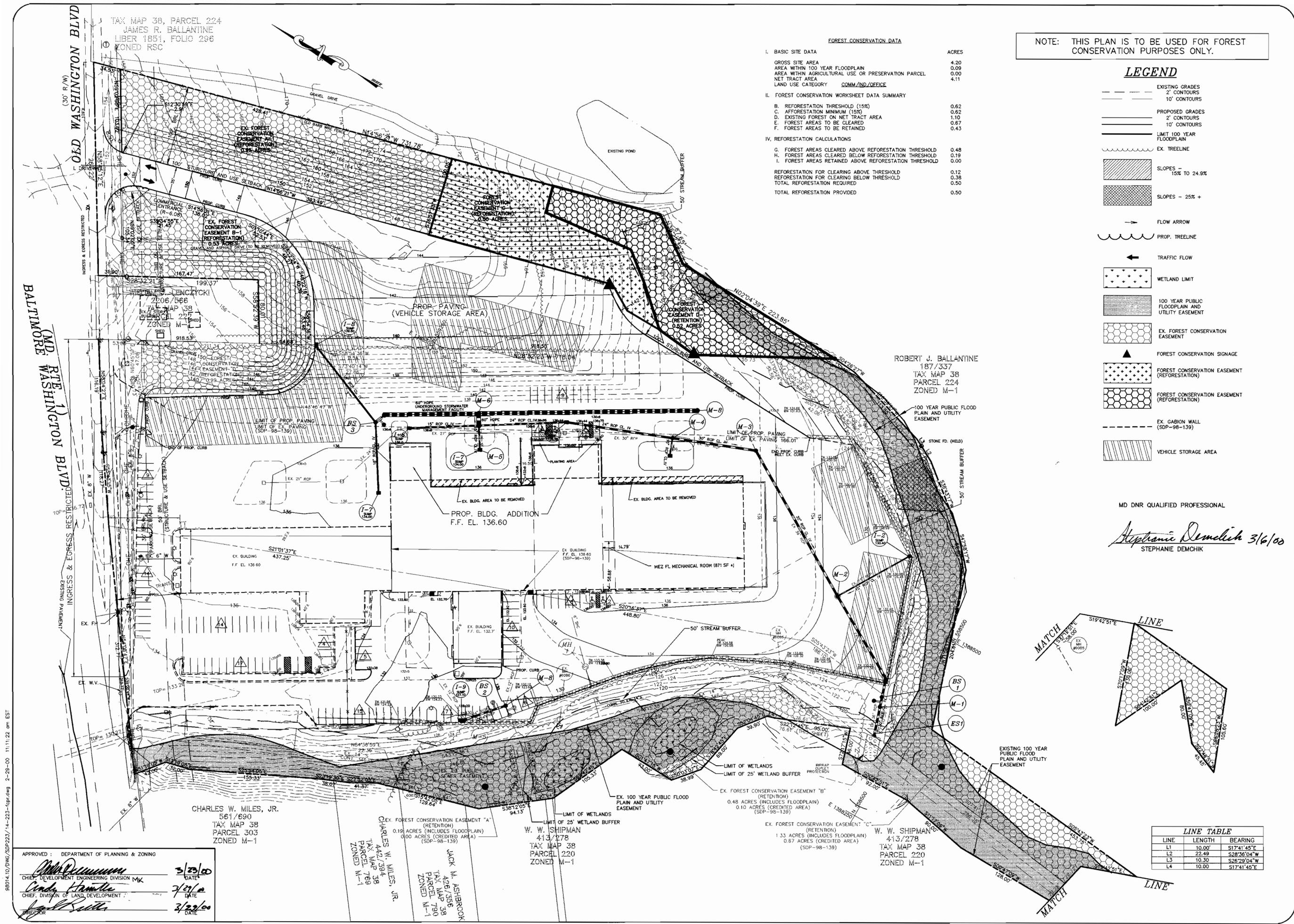


CHARLES W. MILES, JR.
561/690
TAX MAP 38
PARCEL 303
ZONED M-1

CHARLES W. MILES, JR.
442/384
TAX MAP 38
PARCEL 769
ZONED M-1

JACK M. ASHBROOK
426/386
TAX MAP 38
PARCEL 780
ZONED M-1

W. W. SHIPMAN
413/278
TAX MAP 38
PARCEL 220
ZONED M-1



TAX MAP 38, PARCEL 224
 JAMES R. BALLANTINE
 LIBER 1851, FOLIO 296
 ZONED RSC

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

FOREST CONSERVATION DATA

I. BASIC SITE DATA	ACRES
GROSS SITE AREA	4.20
AREA WITHIN 100 YEAR FLOODPLAIN	0.09
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	0.00
NET TRACT AREA	4.11
LAND USE CATEGORY	COMM/IND/OFFICE

II. FOREST CONSERVATION WORKSHEET DATA SUMMARY	
B. REFORESTATION THRESHOLD (15%)	0.62
C. AFFORESTATION MINIMUM (15%)	0.62
D. EXISTING FOREST ON NET TRACT AREA	1.10
E. FOREST AREAS TO BE CLEARED	0.87
F. FOREST AREAS TO BE RETAINED	0.43

IV. REFORESTATION CALCULATIONS	
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	0.48
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0.19
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.00
REFORESTATION FOR CLEARING ABOVE THRESHOLD	0.12
REFORESTATION FOR CLEARING BELOW THRESHOLD	0.38
TOTAL REFORESTATION REQUIRED	0.50
TOTAL REFORESTATION PROVIDED	0.50

LEGEND

- EXISTING GRADES
2' CONTOURS
10' CONTOURS
- PROPOSED GRADES
2' CONTOURS
10' CONTOURS
- LIMIT 100 YEAR FLOODPLAIN
- EX. TREELINE
- SLOPES - 15% TO 24.9%
- SLOPES - 25% +
- FLOW ARROW
- PROP. TREELINE
- TRAFFIC FLOW
- WETLAND LIMIT
- 100 YEAR PUBLIC FLOODPLAIN AND UTILITY EASEMENT
- EX. FOREST CONSERVATION EASEMENT
- FOREST CONSERVATION SIGNAGE
- FOREST CONSERVATION EASEMENT (REFORESTATION)
- FOREST CONSERVATION EASEMENT (REFORESTATION)
- EX. GABION WALL (SDP-98-139)
- VEHICLE STORAGE AREA

MD DNR QUALIFIED PROFESSIONAL
Stephanie Demchik 3/6/00
 STEPHANIE DEMCHIK

LINE TABLE

LINE	LENGTH	BEARING
L1	10.00'	S17°41'45"E
L2	22.49'	S28°36'04"W
L3	10.30'	S28°29'04"W
L4	10.00'	S17°41'45"E

98014.10/DWG/SDP/223/14-223-csp.dwg 2-29-00 11:11:22 am EST

APPROVED: DEPARTMENT OF PLANNING & ZONING
 [Signature] 3/23/00
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 [Signature] 3/21/00
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature] 3/22/00

CHARLES W. MILES, JR.
 561/690
 TAX MAP 38
 PARCEL 303
 ZONED M-1

EX. FOREST CONSERVATION EASEMENT "A"
 (RETENTION)
 0.19 ACRES (INCLUDES FLOODPLAIN)
 0.00 ACRES (CREDITED AREA)
 (SDP-98-139)

W. W. SHIPMAN
 413/278
 TAX MAP 38
 PARCEL 220
 ZONED M-1

EX. FOREST CONSERVATION EASEMENT "C"
 (RETENTION)
 1.33 ACRES (INCLUDES FLOODPLAIN)
 0.87 ACRES (CREDITED AREA)
 (SDP-98-139)

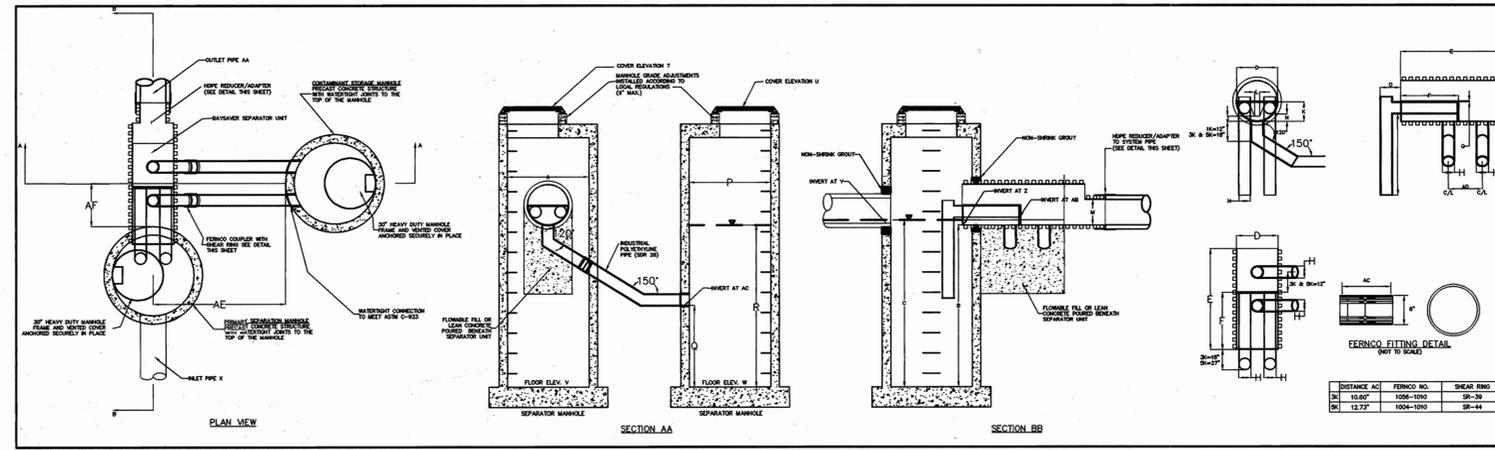
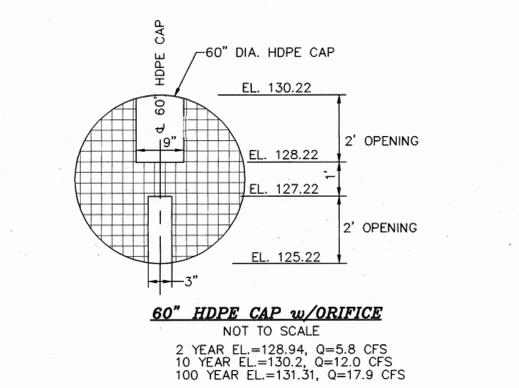
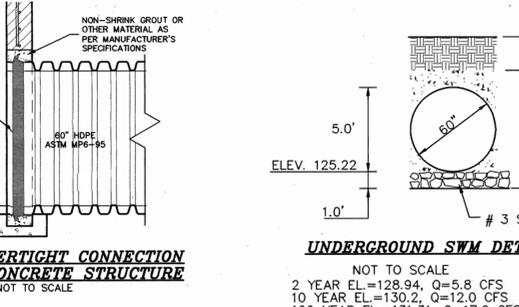
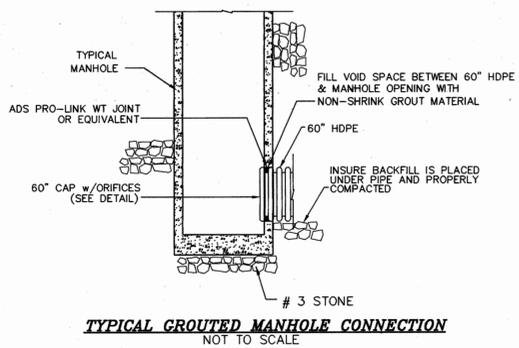
W. W. SHIPMAN
 413/278
 TAX MAP 38
 PARCEL 220
 ZONED M-1

Project	date	illustration	scale	approval
98014.10	3/7/00	FCL/STD	1" = 60'	

no.	description	revisions	date
1	REPLACE PROPERTY LINE & PARKING HOODING DATA BY DELETE E-10 & STRIPAWAY BETWEEN E-1 & E-10		3/16/00
2			3/22/00

TAX MAP 38, PARCELS 221, 524 & 223
ALBAN ENGINE
 HOWARD COUNTY, MARYLAND
 FIRST ELECTION DISTRICT
FOREST CONSERVATION & REFORESTATION PLAN

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
 (410) 987-0296 Balt. (301) 821-5521 Wash. (410) 987-0298 Fax



BAYSAYER SEPARATION SYSTEM - BS1 SEPARATOR UNIT ORDER FORM	
PROJECT: ALBAN ENGINE	DESIGNER: MILDENBERG, BOENDER & ASSOC., INC.
ADDRESS: _____	CONTACT: FRANK C. LIN
_____	PHONE: (410) 997-0298
_____	FAX: (410) 997-0298
DELIVERY DATE: _____	CONTRACTOR: _____
OWNER: _____	CONTACT: _____
ADDRESS: _____	PHONE: _____
_____	FAX: _____
SEPARATOR UNIT MODEL: 5K □	
MANHOLE SPECIFICATIONS:	
PRIMARY MANHOLE DIAMETER: 72"	STORAGE MANHOLE DIAMETER: 72"
FLOOR ELEVATIONS	PRIMARY MANHOLE: 177.38
STORAGE MANHOLE: 177.30	
PRIMARY MANHOLE INVERT ELEVATIONS	SEPARATOR UNIT: 177.38
SEPARATOR UNIT: 177.38	
INLET PIPE(S):	30" RCP (IN)
	30" RCP (OUT)
MANHOLE COVER ELEVATIONS	PRIMARY MANHOLE: 178.80
STORAGE MANHOLE: 178.90	

BAYSAYER SEPARATION SYSTEM - BS2 SEPARATOR UNIT ORDER FORM	
PROJECT: ALBAN ENGINE	DESIGNER: MILDENBERG, BOENDER & ASSOC., INC.
ADDRESS: _____	CONTACT: FRANK C. LIN
_____	PHONE: (410) 997-0298
_____	FAX: (410) 997-0298
DELIVERY DATE: _____	CONTRACTOR: _____
OWNER: _____	CONTACT: _____
ADDRESS: _____	PHONE: _____
_____	FAX: _____
SEPARATOR UNIT MODEL: 3K □	
MANHOLE SPECIFICATIONS:	
PRIMARY MANHOLE DIAMETER: 60"	STORAGE MANHOLE DIAMETER: 60"
FLOOR ELEVATIONS	PRIMARY MANHOLE: 123.00
STORAGE MANHOLE: 122.90	
PRIMARY MANHOLE INVERT ELEVATIONS	SEPARATOR UNIT: 123.00
SEPARATOR UNIT: 123.00	
INLET PIPE(S):	24" RCP IN
	24" RCP OUT
MANHOLE COVER ELEVATIONS	PRIMARY MANHOLE: 128.50
STORAGE MANHOLE: 128.70	

BAYSAYER SEPARATION SYSTEM - BS3 SEPARATOR UNIT ORDER FORM	
PROJECT: ALBAN ENGINE	DESIGNER: MILDENBERG, BOENDER & ASSOC., INC.
ADDRESS: _____	CONTACT: FRANK C. LIN
_____	PHONE: (410) 997-0298
_____	FAX: (410) 997-0298
DELIVERY DATE: _____	CONTRACTOR: _____
OWNER: _____	CONTACT: _____
ADDRESS: _____	PHONE: _____
_____	FAX: _____
SEPARATOR UNIT MODEL: 3K □	
MANHOLE SPECIFICATIONS:	
PRIMARY MANHOLE DIAMETER: 60"	STORAGE MANHOLE DIAMETER: 60"
FLOOR ELEVATIONS	PRIMARY MANHOLE: 129.52
STORAGE MANHOLE: 129.42	
PRIMARY MANHOLE INVERT ELEVATIONS	SEPARATOR UNIT: 129.52
SEPARATOR UNIT: 129.52	
INLET PIPE(S):	24" RCP IN
	24" RCP OUT
MANHOLE COVER ELEVATIONS	PRIMARY MANHOLE: 136.00
STORAGE MANHOLE: 136.00	

BAYSAYER SYSTEM DIMENSIONS		
DESCRIPTION	3K SYSTEM	5K SYSTEM
SEPARATOR MANHOLE DIMENSIONS		
A PRIMARY MANHOLE DIAMETER	60"	72"
B MANHOLE DEPTH BELOW OUTLET	8' - 0"	8' - 0"
C MINIMUM FLUID DEPTH	8' - 4 1/2"	8' - 6"
STANDARD SEPARATOR UNIT DIMENSIONS		
D SEPARATOR UNIT ID	36"	48"
E SEPARATOR UNIT LENGTH	78.2"	75.4"
F BYPASS PLATE LENGTH	45"	45"
G WEIR/BYPASS PLATE THICKNESS	3/4"	3/4"
H ELBOW AND CONNECTING PIPE OD	10.75"	12.75"
I ELBOW LENGTH	48"	48"
J WEIR EIGHT ABOVE INVERT	2"	6"
K BYPASS PLATE HEIGHT ABOVE INVERT	18"	24"
L WIDTH OF WEIR AT BASE	4 1/2"	6"
M OUTLET PIPE DIAMETER	M	M
N ELBOW INVERT HEIGHT ABOVE UNIT INVERT	7 1/2"	11"
O ELBOW PIPE OVERHANG	18"	24"
STORAGE MANHOLE DIMENSIONS		
P STORAGE MANHOLE DIAMETER	60"	72"
Q MANHOLE DEPTH BELOW INLET/OUTLET	48"	48"
R FLUID DEPTH	8' - 0"	8' - 0"
S TOTAL STORAGE VOLUME	300 CF	450 CF
SYSTEM DIMENSIONS AND ELEVATIONS		
T SEPARATOR MANHOLE COVER ELEVATION	T	T
U STORAGE MANHOLE COVER ELEVATION	U	U
V SEPARATOR MANHOLE FLOOR ELEVATION	V	V
W STORAGE MANHOLE FLOOR ELEVATION	W	W
X INLET PIPE ID AND MATERIAL	X1	X1
	X2	X2
Y INLET PIPE INVERT	Y1	Y1
	Y2	Y2
Z SEPARATOR UNIT INVERT	Z	Z
AA OUTLET PIPE ID AND MATERIAL	AA	AA
AB ELBOW INVERT ELEVATION	AB	AB
AC CONNECTING PIPE INVERT ELEVATION	AC	AC
AD CONNECTION PIPE SPACING	24"	24"
AE STORAGE MANHOLE SIDE OFFSET	72 ± 6"	72 ± 6"
AF STORAGE MANHOLE DOWNSTREAM OFFSET	31"	25"

OPERATIONS & MAINTENANCE SCHEDULE FOR BAYSAYER WATER QUALITY DEVICE

BAYSAYER MAINTENANCE
BAYSAYER SYSTEMS MUST BE INSPECTED AND MAINTAINED PERIODICALLY. INSPECTION IS MADE BY CHECKING THE DEPTH OF SEDIMENT IN EACH MANHOLE WITH A GRADE STICK OR SIMILAR DEVICE. MAINTENANCE IS REQUIRED WHEN THE DEPTH IN EITHER MANHOLE EXCEEDS 2 FEET. MINIMUM INSPECTION IS REQUIRED TWICE A YEAR TO MAINTAIN OPERATION AND FUNCTION OF BAYSAYER.

MAINTENANCE CONSISTS OF THE FOLLOWING:

- A. CONTAMINANT STORAGE MANHOLE**
 - REMOVE THE ENTIRE VOLUME OF THE CONTAMINATED WATER BY VACUUM TRUCK.
 - CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
- B. PRIMARY SEPARATION MANHOLE**
 - USING A SUBMERSIBLE PUMP, PUMP THE CLEAN WATER FROM THE CENTER OF THE MANHOLE DIRECTLY INTO THE EMPTY STORAGE MANHOLE UNTIL THE WATER LEVEL FALLS TO 1 FOOT ABOVE THE SEDIMENT LAYER.
 - REMOVE THE SETTLED SEDIMENT AND REMAINING WATER BY VACUUM TRUCK.
 - CLEAN THE MANHOLE WALLS AND FLUSH OUT THE MANHOLE USING A HIGH PRESSURE HOSE AND REMOVE FLUSHING WATER BY VACUUM TRUCK. MAKE CERTAIN MANHOLE IS CLEAN.
 - CONTAMINATED MATERIAL REMOVED FROM THE MANHOLES MUST BE DISPOSED OF RESPONSIBLY AND LEGALLY BY THE OPERATOR OF THE VACUUM TRUCK.

BAYSAYER INSTALLATION INSTRUCTIONS

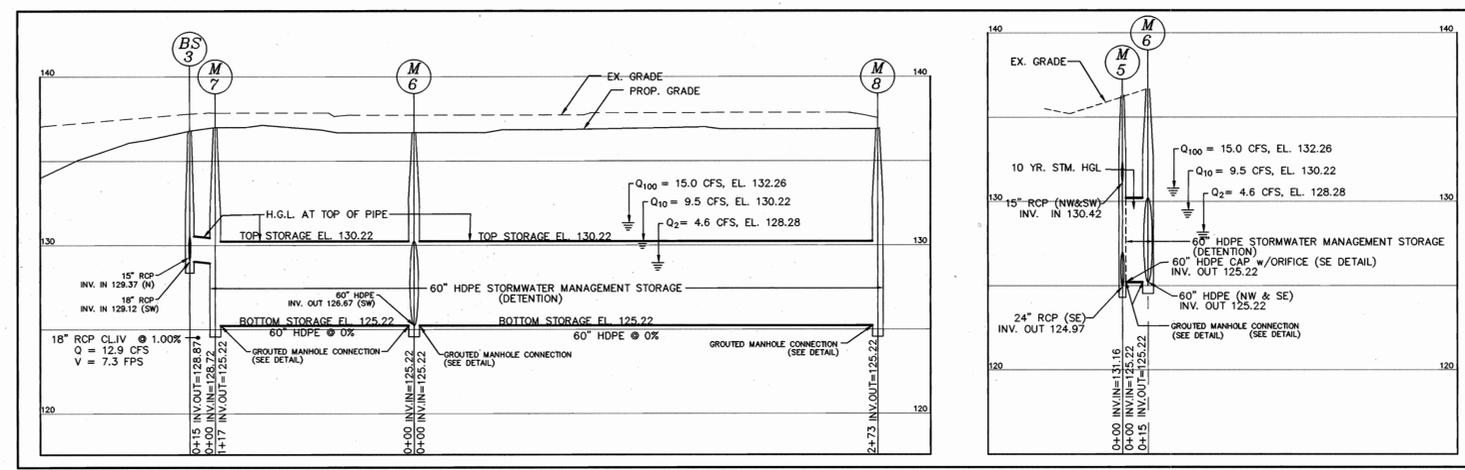
- EXCAVATION MUST PROVIDE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO SEPARATOR MANHOLE AND BAYSAYER UNIT. INSTALL PRECAST DROP STRUCTURES ON SOLID GROUND AS VERIFIED BY A GEOTECHNICAL ENGINEER.
- VERIFY THE SUBGRADE ELEVATION AGAINST THE MANHOLE DIMENSIONS AND CONNECTING STORM DRAIN INVERTS.
- MAKING SURE THE BASES ARE LEVEL AND THE STORAGE MANHOLE OPENINGS ARE ALIGNED WITH THE SEPARATOR UNIT. INSTALL PRIMARY AND STORAGE MANHOLES. INSTALL RUBBER GASKETS ON BASE UNITS AND COAT WITH LUBRICATING GREASE. INSTALL ADDITIONAL MANHOLE SECTIONS AS REQUIRED. SEAL LIFT HOLES WITH NON-SHRINK GROUT.
- BACKFILL BASE SECTIONS OF MANHOLES TO INVERT OF STORAGE MANHOLE CONNECTING PIPES. USING APPROVED BACKFILL MATERIAL. BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL AND COMPACTION SHOULD BE MONITORED BY A GEOTECHNICAL ENGINEER.
- INSTALL BAYSAYER SEPARATOR UNIT AND CONNECTING PIPES. SEAL ALL CONNECTING JOINTS AND INSTALL SEPARATOR UNIT/STORM DRAIN JOINT COLLAR. CUT EXCESS LENGTH OFF CONNECTING PIPES INSIDE STORAGE MANHOLE.
- BACKFILL SEPARATOR UNIT AND MANHOLES. AREAS NOT ACCESSIBLE TO COMPACTION EQUIPMENT MUST BE BACKFILLED WITH LEAN CONCRETE OR FLOWABLE FILL.
- INSTALL AND SET MANHOLE COVER GRADE ADJUSTMENT RINGS AS NECESSARY.
- INSTALL AND SET MANHOLE FRAME AND COVER UNITS.

BAYSAYER GENERAL CONSTRUCTION NOTES

- ALL WORK MUST BE DONE WITH REGARD FOR THE SAFETY OF THE CONSTRUCTION CREW.
- ALL WORK AND MATERIALS MUST COMPLY WITH APPLICABLE STATE AND LOCAL REGULATIONS.
- KNOW THE LOCATION AND DEPTH OF ANY UNDERGROUND UTILITIES BEFORE EXCAVATION BEGINS.

MAINTENANCE SCHEDULE

- REMOVE THE INLET GRATES AND INSPECT FOR DEBRIS EACH JANUARY 1, APRIL 1, JULY 1, SEPTEMBER 30, AND NOVEMBER 30. REMOVE ACCUMULATED LEAVES, TWIGS, SEDIMENT AND OTHER DEBRIS AS REQUIRED TO KEEP THE INLETS CLEAN.
- ON A SEMI-ANNUAL BASIS, INSPECT CONTROL STRUCTURES FOR ANY ACCUMULATED DEBRIS AT THE TRASH RACK. REMOVE ANY DEBRIS FOUND DURING THE INSPECTION.
- ON AN ANNUAL BASIS, INSPECT THE DETENTION SYSTEM PIPING FOR DEBRIS OR SEDIMENT ACCUMULATION AND FOR SYSTEM INTEGRITY. REMOVE ANY ACCUMULATED FOREIGN MATERIALS.
- NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS OF ANY PROBLEMS OR FAILURES OBSERVED IN THIS SYSTEM.



NOTE: TYPICAL WATER TIGHT CONNECTION TO BE APPLIED BETWEEN MANHOLE STRUCTURE AND 60\"/>

OPERATION AND MAINTENANCE SCHEDULE FOR UNDERGROUND STORMWATER MANAGEMENT SYSTEM

MAINTENANCE REQUIREMENTS:

- REMOVAL OF SILT WHEN ACCUMULATION EXCEEDS SIX (6) INCHES. REMOVAL SHALL BE ACCOMPLISHED BY PRESSURE WASHING OF FACILITY.
- REMOVE ACCUMULATED PAPER AND DEBRIS, AS REQUIRED, AT ALL MANHOLES.
- INSPECT SYSTEM TO ENSURE THAT OUTLET IS FUNCTIONING AND NOT BLOCKED.

ROUTINE MAINTENANCE:

- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE FACILITY IS FUNCTIONALLY PROPERLY.
- REMOVE ACCUMULATED PAPER, TRASH AND DEBRIS AS NECESSARY.

NON-ROUTINE MAINTENANCE:

- STRUCTURAL COMPONENTS OF THE FACILITY, SUCH AS THE MANHOLES, PIPES, TRASH RACKS, AND ORIFICE PLATES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE.
- SEDIMENT SHOULD BE REMOVED FROM THE FACILITY WHENEVER AN ACCUMULATION OF SIX (6) INCHES OR MORE IS OBSERVED IN THE OBSERVATION MANHOLES, OR WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
- SURFACE CONDITIONS OVER THE FACILITY SHOULD BE INSPECTED MONTHLY TO DETERMINE IF STRUCTURAL FAILURES HAVE OCCURRED. REPAIR AND REPLACE DAMAGED PIPES AND STONE AREAS AS NECESSARY.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK *[Signature]* 3/23/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 3/23/00 DATE

[Signature] 3/23/00 DATE

STATE OF MARYLAND PROFESSIONAL ENGINEER

NOTES: 1. STORMWATER MANAGEMENT FACILITY IS TO BE PRIVATELY OWNED AND MAINTAINED.
2. ALL DEBRIS IS TO BE KEPT OUT OF THE FACILITY DURING AND AFTER CONSTRUCTION.

DATE: 12/17/99 PROJECT: 98014.10
 ILLUSTRATION: FCL ENGINEERING
 APPROVAL: FCL
 SCALE: 1" = 50'
 REVISIONS: NO. DESCRIPTION

TAX MAP 38, PARCELS 221, 524 & 223
 ALBAN ENGINE
 HOWARD COUNTY, MARYLAND
 FIRST ELECTION DISTRICT
 STORMWATER MANAGEMENT DETAILS & SPECIFICATIONS

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0298 Fax: (410) 997-0298

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 SDP-00-19

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. Page 1 of 1
 RECORD OF SOIL EXPLORATION

Project Name Alban Tractor Location Elkridge, Maryland Boring # B-6 Job # 98510B

Datum Surf. Elev. 138* Hammer Wt. 140 Lbs. Hole Diameter 6" Foreman Palmer Stephens
 Date Started 12-21-98 Hammer Drop 30 Inches Rock Core Dia. Inspector Date Completed 12-21-98
 Date Started 12-21-98 Pipe Size 2.0 Inches OD Boring Method HSA

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	CON.	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
SURFACE	Color:Moisture:Density:Size:Proportion	0.0						
	Brown and gray, loose to dense, clayey sand and gravel (SC-GC) (Possible Fill)			D	2-3-3	1	8"	Offset 5' toward bldg.
				D	10-20-15	2	8"	5" Concrete 2" Gravel
								No groundwater encountered while drilling
5.0	Yellowish brown to dark green, dry very stiff to hard fine sandy silt (MH) mica and weathered rock fragments (SM) (Loamy Sand)		5	I	6-8-14	3	14"	Caved in at 14' at completion
				I	7-14-17	4	12"	Backfilled at completion and patched. Removed excess soil
			10	I	7-12-18	5	18"	* Surface elevation estimated from site plan
			15					
			20					
	Yellowish brown to dark green, dry very stiff to hard fine sandy silt (MH)		21.5	I	16-30-51	7	18"	
	Bottom of Test Hole at 21.5'							

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE. CA-CONTINUOUS FLIGHT AUGER. RC-ROCK CORE. STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

SAMPLE CONDITIONS: D-DISINTEGRATED. I-INTACT. U-UNDISTURBED. L-LOST.

GROUND WATER DEPTH: AT COMPLETION. Dry. FT. AFTER. FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS. CFA-CONT. FLIGHT AUGERS. DC-DRIVING CASING. MO-MUD DRILLING.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. Page 1 of 1
 RECORD OF SOIL EXPLORATION

Project Name Alban Tractor Location Elkridge, Maryland Boring # B-7 Job # 98510A

Datum Surf. Elev. 137.5* Hammer Wt. 140 Lbs. Hole Diameter 6" Foreman Palmer Stephens
 Date Started 12-18-98 Hammer Drop 30 Inches Rock Core Dia. Inspector Date Completed 12-18-98
 Date Started 12-18-98 Pipe Size 2.0 Inches OD Boring Method HSA

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	CON.	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
SURFACE	Color:Moisture:Density:Size:Proportion	0.0						
	Brown and gray, dry medium dense, clayey sand, gravel and roots (SC) (Fill)		2.0	D	2-4-12	1	14"	1" Topsoil 0" Asphalt
				D	6-8-10	2	15"	Boring offset to east side of the fence line
	Yellowish brown and gray, dry, medium dense silt, little sand (ML)		4.0	D	6-8-10	2	15"	No groundwater encountered while drilling
			5	D	5-10-11	3	18"	Caved in at 18' at completion
	Gray to greenish brown, dry silty fine sand, some weathered rock fragments (SM)			D	7-12-17	4	18"	Very hard augering 17.0 to 19.5
			10	D	18-16-21	5	18"	Caved in at 15' at completion
								* Surface elevation estimated from site plan
			15	D	11-20-34	6	18"	
	Gray to greenish brown, dry silty fine sand, some weathered rock fragments (SM)		20	D	21-39-51/5"	7	17"	
	Bottom of Test Hole at 20'-11"		20'-11"					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE. CA-CONTINUOUS FLIGHT AUGER. RC-ROCK CORE. STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

SAMPLE CONDITIONS: D-DISINTEGRATED. I-INTACT. U-UNDISTURBED. L-LOST.

GROUND WATER DEPTH: AT COMPLETION. Dry. FT. AFTER 24 hr. FT. 11.0. FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS. CFA-CONT. FLIGHT AUGERS. DC-DRIVING CASING. MO-MUD DRILLING.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. Page 1 of 1
 RECORD OF SOIL EXPLORATION

Project Name Alban Tractor Location Elkridge, Maryland Boring # B-8 Job # 98510B

Datum Surf. Elev. 138* Hammer Wt. 140 Lbs. Hole Diameter 6" Foreman Palmer Stephens
 Date Started 12-18-98 Hammer Drop 30 Inches Rock Core Dia. Inspector Date Completed 12-18-98
 Date Started 12-18-98 Pipe Size 2.0 Inches OD Boring Method HSA

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	CON.	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
SURFACE	Color:Moisture:Density:Size:Proportion	0.0						
	Gray, dry, medium dense clayey sand and quartz gravel (SC-GC)			D	2-5-17	1	14"	2" Topsoil
			2.5	D	30-21-12	2	14"	No groundwater encountered while drilling
	Brown and gray, dry, dense, silty fine to medium sand with some mica (SM)		5	D	7-12-16	3	18"	Caved in at 17.5' at completion
			10	D	11-12-20	4	18"	Very hard augering 17.0 to 19.5
			13.0	D	11-16-27	5	18"	* Surface elevation estimated from site plan
			15	D	11-20-34	6	18"	
	Greenish gray, dry, very dense silty fine to medium sand with some mica and weathered rock fragments (SM) (Decomposed Rock)			D	23-51/6"	7	12"	
	Bottom of Test Hole at 20'-11"		20'-11"					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE. CA-CONTINUOUS FLIGHT AUGER. RC-ROCK CORE. STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

SAMPLE CONDITIONS: D-DISINTEGRATED. I-INTACT. U-UNDISTURBED. L-LOST.

GROUND WATER DEPTH: AT COMPLETION. Dry. FT. AFTER 24 hr. FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS. CFA-CONT. FLIGHT AUGERS. DC-DRIVING CASING. MO-MUD DRILLING.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. Page 1 of 1
 RECORD OF SOIL EXPLORATION

Project Name Alban Tractor Location Elkridge, Maryland Boring # B-9 Job # 98510A&B

Datum Surf. Elev. 137* Hammer Wt. 140 Lbs. Hole Diameter 6" Foreman Palmer Stephens
 Date Started 12-18-98 Hammer Drop 30 Inches Rock Core Dia. Inspector Date Completed 12-18-98
 Date Started 12-18-98 Pipe Size 2.0 Inches OD Boring Method HSA

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	CON.	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
SURFACE	Color:Moisture:Density:Size:Proportion	0.0						
	Reddish brown, dry, medium dense, clayey sand, gravel and cobbles (SC-GC) (Possible Fill)		2.0	D	4-11-13	1	12"	0" Topsoil 0" Asphalt
	Yellowish brown to gray and brown, dry, medium dense to dense, micaceous silty fine to medium sand (SM)			D	9-9-12	2	14"	No groundwater encountered while drilling
			5	D	7-9-11	3	18"	Caved in at 18' at completion
				D	5-7-10	4	18"	Caved in at 18' after 24 hours
			10	D	3-10-10	5	18"	* Surface elevation estimated from site plan
			18.5	D	13-22-23	6	16"	
	Green, dry, very dense silty fine sand and weathered rock fragments (SM) (Decomposed Rock)		20	D	35-51/5"	7	10"	
	Bottom of Test Hole at 20'-11"		20.5					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE. CA-CONTINUOUS FLIGHT AUGER. RC-ROCK CORE. STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

SAMPLE CONDITIONS: D-DISINTEGRATED. I-INTACT. U-UNDISTURBED. L-LOST.

GROUND WATER DEPTH: AT COMPLETION. Dry. FT. AFTER 24 hr. FT. 18.0. FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS. CFA-CONT. FLIGHT AUGERS. DC-DRIVING CASING. MO-MUD DRILLING.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC. Page 1 of 1
 RECORD OF SOIL EXPLORATION

Project Name Alban Tractor Location Elkridge, Maryland Boring # B-10 Job # 98510B

Datum Surf. Elev. 136* Hammer Wt. 140 Lbs. Hole Diameter 6" Foreman Palmer Stephens
 Date Started 12-18-98 Hammer Drop 30 Inches Rock Core Dia. Inspector Date Completed 12-18-98
 Date Started 12-18-98 Pipe Size 2.0 Inches OD Boring Method HSA

ELEV.	SOIL DESCRIPTION	STRA. DEPTH	DEPTH SCALE	CON.	SAMPLE BLOWS 6"	NO.	REC.	BORING & SAMPLING NOTES
SURFACE	Color:Moisture:Density:Size:Proportion	0.0						
	Brown, dry, dense, clayey sand and gravel (SC-GC) (Fill)			D	2-9-30	1	13"	1" Topsoil
			4.0	D	15-15-18	2	14"	No groundwater encountered while drilling
	Brown, dry, dense, micaceous dense, micaceous silty fine to medium sand (SM)		5	D	23-19-15	3	6"	Caved in at 17.5' at completion
	Purple and dark gray, moist, medium dense micaceous silt (ML)		6.5	D	6-9-14	4	18"	Caved in at 17.5' after 24 hours
			10	D	4-7-13	5	18"	* Surface elevation estimated from site plan
	Brown to green, dry, medium dense micaceous silt sand (SM)		12.5	D	6-11-17	6	15"	
	Green, dry, very dense micaceous silty sand and weathered rock fragments (SM) (Decomposed Rock)		18.5	D	19-36-51/5"	7	15"	
	Bottom of Test Hole at 20'-11"		20'11"					

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED. PT-PRESSED SHELBY TUBE. CA-CONTINUOUS FLIGHT AUGER. RC-ROCK CORE. STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1" WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

SAMPLE CONDITIONS: D-DISINTEGRATED. I-INTACT. U-UNDISTURBED. L-LOST.

GROUND WATER DEPTH: AT COMPLETION. Dry. FT. AFTER 24 hr. FT.

BORING METHOD: HSA-HOLLOW STEM AUGERS. CFA-CONT. FLIGHT AUGERS. DC-DRIVING CASING. MO-MUD DRILLING.

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE 3/23/00
 DATE 3/23/00
 DATE 3/23/00



3/16/00

Project 98014-10
 Date 10/10/99
 Illustration FCL
 FCL
 PCL
 JH

Project 98014-10
 Date 10/10/99
 Illustration FCL
 FCL
 PCL
 JH

TAX MAP 38, PARCELS 221, 524 & 223
 ALBAN ENGINE
 HOWARD COUNTY, MARYLAND
 FIRST ELECTION DISTRICT
 SOIL BORING LOGS

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsej Hill Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 987-0256 Bait. (301) 621-5521 Wash. (410) 997-0298 Fax.

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 SDP-00-19

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

PLANTING SPECIFICATIONS AND NOTES

SITE PREPARATION AND SOILS

- PROTECTION FENCING AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
- DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
- 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, VIGOR, 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, GENEROUSLY, 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 THRU LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.
- CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS ENCIRCLE 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 GENEROUSLY.
- FOR TREES PLANTED IN THE AFFORESTATION AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FOUR (4), PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED ON PLANT LIST.
- AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LISTS 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 WELL DRAINED 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.

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 ITS NEEDS.
- 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 THREE YEAR PERIOD.
- ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
- VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEGATIVELY EFFECTING THE PLANTED STOCK.
- REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
- REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK.
- A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.

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.

STANDARD NON-DISTURBANCE 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."

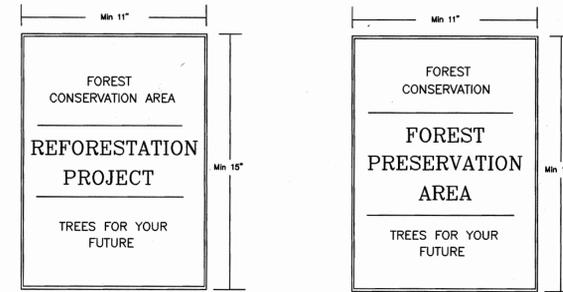
GENERAL NOTES

FOREST PROTECTION

- ALL FOREST RETENTION AREAS AND ISOLATED POTENTIAL SPECIMEN TREES SHALL BE TEMPORARILY PROTECTED BY WELL ANCHORED, BLAZE ORANGE PLASTIC MESH FENCING AND SIGNAGE AS INDICATED ON THE PLANS. THE DEVICES SHALL BE INSTALLED ALONG THE FOREST RETENTION BOUNDARY AND AROUND ISOLATED POTENTIAL SPECIMEN TREES 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. IT IS UNDERSTOOD THAT THE INSTALLATION OF THE FENCING IN THIS MANNER WILL CREATE AN IRREGULAR EDGE.
- ALL PROTECTION DEVICES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. ALL DEVICES SHALL REMAIN IN PLACE UNTIL ALL CONSTRUCTION HAS CEASED IN THE IMMEDIATE VICINITY.
- ATTACHMENT OF SIGNS, OR ANY OTHER OBJECTS TO TREES IS PROHIBITED. NO EQUIPMENT, MACHINERY, VEHICLES, MATERIALS OR EXCESSIVE PEDESTRIAN TRAFFIC SHALL BE ALLOWED WITHIN THE 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 STOCKPIILING 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 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 FORESTED AREAS. PLEASE REFER TO ROOT PRUNING DETAIL THIS SHEET.

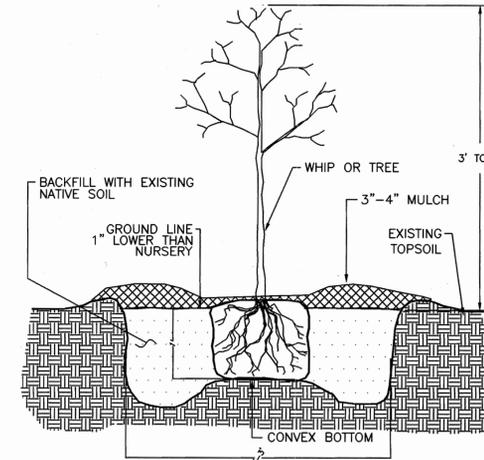
- AFTER THE BOUNDARIES OF THE FOREST RETENTION AREAS HAVE BEEN FIELD LOCATED AND MARKED, AND AFTER THE FOREST PROTECTION DEVICES HAVE BEEN INSTALLED, BUT BEFORE ANY OTHER DISTURBANCE HAS TAKEN PLACE ON SITE, A PRE-CONSTRUCTION MEETING SHALL TAKE PLACE ON SITE. THE DEVELOPER, CONTRACTOR OR PROJECT MANAGER, 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 REMEDIED IMMEDIATELY USING APPROPRIATE MEASURES. SEVERE PROBLEMS MAY REQUIRE CONSULTATION WITH A PROFESSIONAL ARBORIST.
 - LIMITS OF WORK
- 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.



SIGNAGE DETAIL

NOT TO SCALE

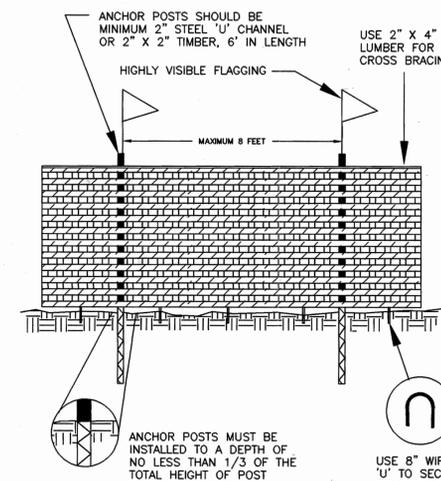


TREE PLANTING DETAIL

CONTAINER GROWN

PROTECTIVE FENCE DETAIL

BLAZE ORANGE PLASTIC MESH



- NOTES
- FOREST PROTECTION DEVICE ONLY.
 - RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - ROOT DAMAGE SHOULD BE AVOIDED.
 - PROTECTIVE SIGNAGE MAY ALSO BE USED.
 - DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

REFORESTATION PLANT LIST

QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN.O.C. SPACING	SIZE & REMARKS
14	Acer rubrum Red Maple	VT	D-W	FAC	15'	CONT/B & B 1" CALIPER
19	Cornus florida Flowering Dogwood	VT	D-M	FACU-	8'	CONT/B & B 3'-5' HEIGHT
20	Nyssa sylvatica Black Gum	T	M-W	FAC	11'	CONT/B & B 1" CALIPER
19	Prunus serotina Wild Black Cherry	I	M	FACU	11'	CONT/B & B 3'-5' HEIGHT
14	Quercus palustris Pin Oak	I	M-W	FACW	15'	CONT/B & B 1" CALIPER
14	Quercus rubra Red Oak	MT	D-M	UPL	15'	CONT/B & B 1" CALIPER
TOTAL						
100 TREES						

NOTE: WHIPS OR SEEDLINGS MAY BE SUBSTITUTED FOR THE 1" CALIPER OR 3' - 5' TREES. IF WHIPS OR SEEDLINGS ARE TO BE USED, MULTIPLY THE QUANTITIES BY 3.5 TO DETERMINE THE NUMBER OF TREES REQUIRED.

APPROVED: DEPARTMENT OF PLANNING & ZONING

Mr. Danman 3/23/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

Ms. Harrel 3/21/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mr. Smith 3/23/00
DIRECTOR DATE

MD DNR QUALIFIED PROFESSIONAL

Stephanie Demchik 3/6/00
STEPHANIE DEMCHIK

date	OCT 99
project	98014.10
illustration	SJD
scale	NTS
approval	SJD

date	
description	
revisions	
no.	

TAX MAP 38, PARCELS 221, 524 & 223
ALBAN ENGINE
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
FOREST CONSERVATION & REFORESTATION PLAN

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

Soil Series

LnC2 Linganore Channery loam 8-15% moderately eroded.
 LoE Linganore Channery silt loam 25-45%.
 GnB2 Glenelg loam 3-8% slope moderately eroded.
 GnB2 Glenelg silt loam 3-8% slope moderately eroded.
 MtC2 Mt Airy channery loam 8-15% slope moderately eroded.
 MtC3 Mt Airy channery loam 8-15% slope severely eroded.
 MtD2 Mt Airy channery 15-25% slope moderately eroded.

Forest Stand Analysis

Stand No. 1
 Forest Type Oak-Poplar (Early Successional Phase)
 Area 6.0 Acres
 Dominate Size Class 10"-17.9" dbh
 Age ~30 years
 Forest Structure Index 7-12 Good
 Soil Habitat Index 1-3 Poor-Good
 Sensitive environments steep slopes >25%

- Legend**
- Area included in FSD
 - Soil Series
 - Forest Edge
 - Steep Slope >25%
 - FSD Sample Location
 - Forest Conservation Area
 - Forest Retention Sign Locations

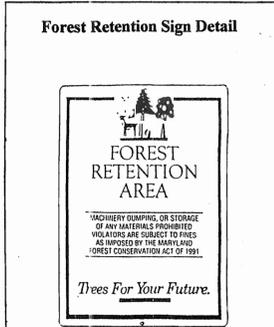
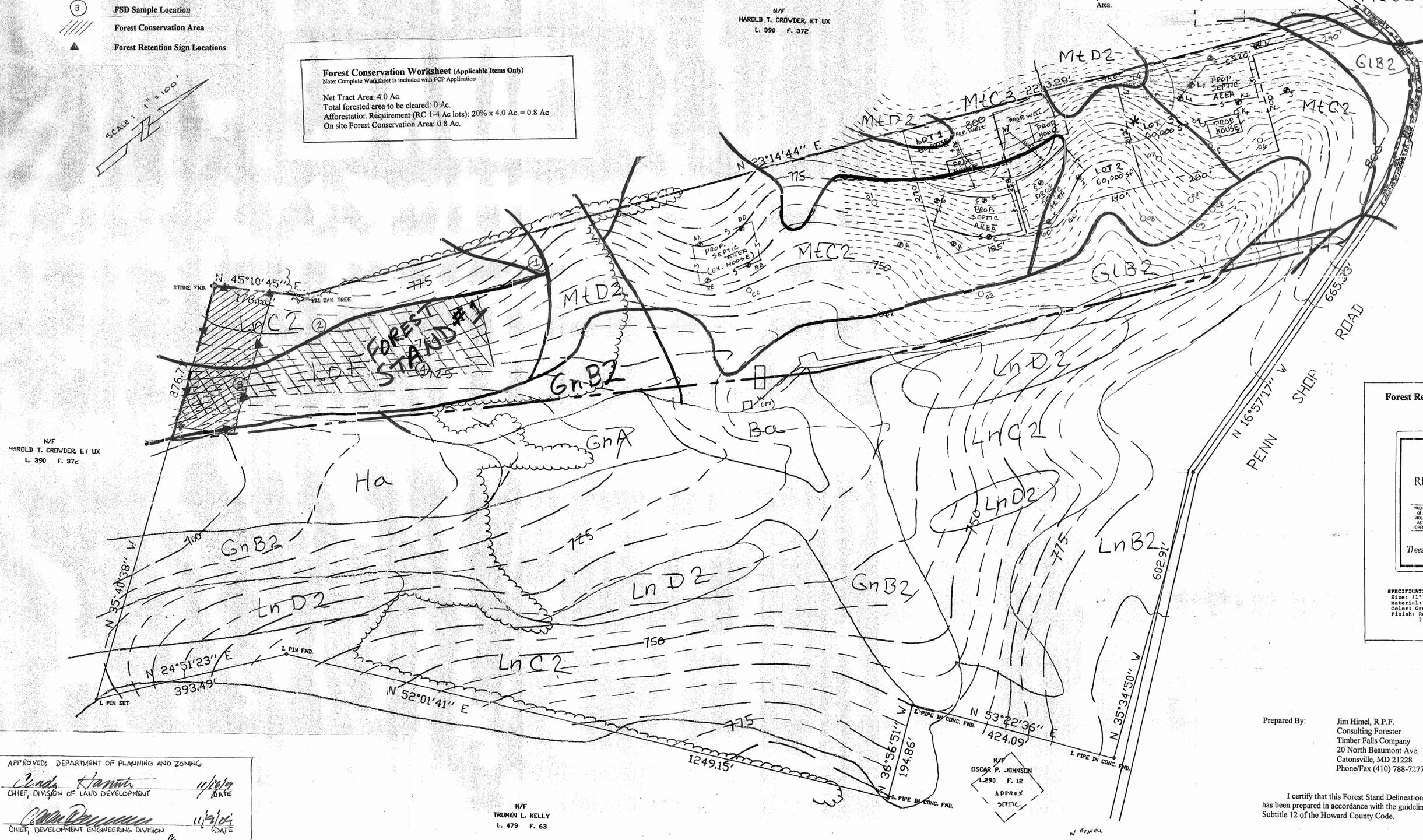
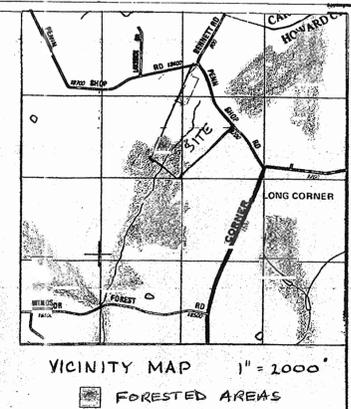
Forest Conservation Worksheet (Applicable Items Only)
 Note: Complete Worksheet is included with FCP Application

Net Tract Area: 4.0 Ac.
 Total forested area to be cleared: 0 Ac.
 Afforestation Requirement (RC 1-4 Ac lots): 20% x 4.0 Ac. = 0.8 Ac.
 On site Forest Conservation Area: 0.8 Ac.

- General Notes:**
- The proposed minor subdivision (cluster) consists of 3 lots totaling 4.0 Acres and 1 preservation parcel totaling 52 Acres.
 - The subject property and adjacent properties are zoned RC. Land uses are medium density residential and agricultural.

- FSD Notes:**
- There are no 100 year flood plains on this site.
 - There are no critical animal habitats or plants specimens of rare, threatened, or endangered species on this site.
 - There are no State Champion trees, or specimen trees on this site.
 - There are no wetlands or hydric soils on this site.
 - There are no historic structures, or resources on this site.
 - There are no significant natural or man-made features on this site.

- FCP Notes:**
- The Net Tract Area for the proposed minor subdivision (cluster) is: 4.0 Acres and includes no forested area.
 - A Forest Conservation Area easement of 0.8 Acres has been established on the preservation parcel based on an afforestation requirement equal to 20% of the Net Tract Area.
 - A Forest Conservation Easement has been established to fulfill the requirements of Section 16.1200 of the Howard County Code and Forest Conservation Act. No clearing, grading or construction is permitted within the Forest Conservation Easement; however, Forest Management Practices as defined in the Deed of Forest Conservation Easement are allowed.
 - Reservation of Forest Conservation Easements:** Developer reserves unto itself, its successors and assigns, all easements shown on this plan for forest conservation (designated as "Forest Conservation Area"), located in and on lots/parcels, any conveyances of the aforesaid lots/parcels shall be subject to the easements herein reserved, whether or not expressly stated in the deed(s) conveying said lot(s)/parcels. Developer shall execute and deliver deeds of easements herein reserved to Howard County with a metes and bounds description of the Forest Conservation Area. Upon completion of the developer's obligations under the forest conservation installation and maintenance agreement executed by the developer and the County, and the release of developer's surety posted with said agreement, the County shall accept the easements and record the deed(s) of easement in the Land Records of Howard County.
 - This plan complies with the requirements of Section 16.1200 of the Howard County Code for Forest Conservation by establishing a Forest Conservation Area of 0.8 Acres in accordance with the County Interpretation Memo dated October 26, 1999 (Revised February 8, 2000) regarding "net Tract Area" for minor subdivisions.
 - The Forest Protection Plan for the Forest Conservation Area consists of forest conservation signs as specified on the plan erected on metal or wood posts at 100 foot intervals around the perimeter of the Forest Conservation Area.



SPECIFICATIONS:
 Size: 11" x 15"
 Material: HDPE Plastic (.050g)
 Color: Green on white Background
 Finish: Rounded Corners,
 2 Mounting Holes

Prepared By: Jim Himel, R.P.F.
 Consulting Forester
 Timber Falls Company
 20 North Beaumont Ave.
 Catonsville, MD 21228
 Phone/Fax (410) 788-7277



I certify that this Forest Stand Delineation and Forest Conservation Plan has been prepared in accordance with the guidelines pursuant to Title 16, Subtitle 12 of the Howard County Code.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Leads Hamer 11/21/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris DeWitt 11/21/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

N/F
 TRUMAN L. KELLY
 L. 479 F. 63

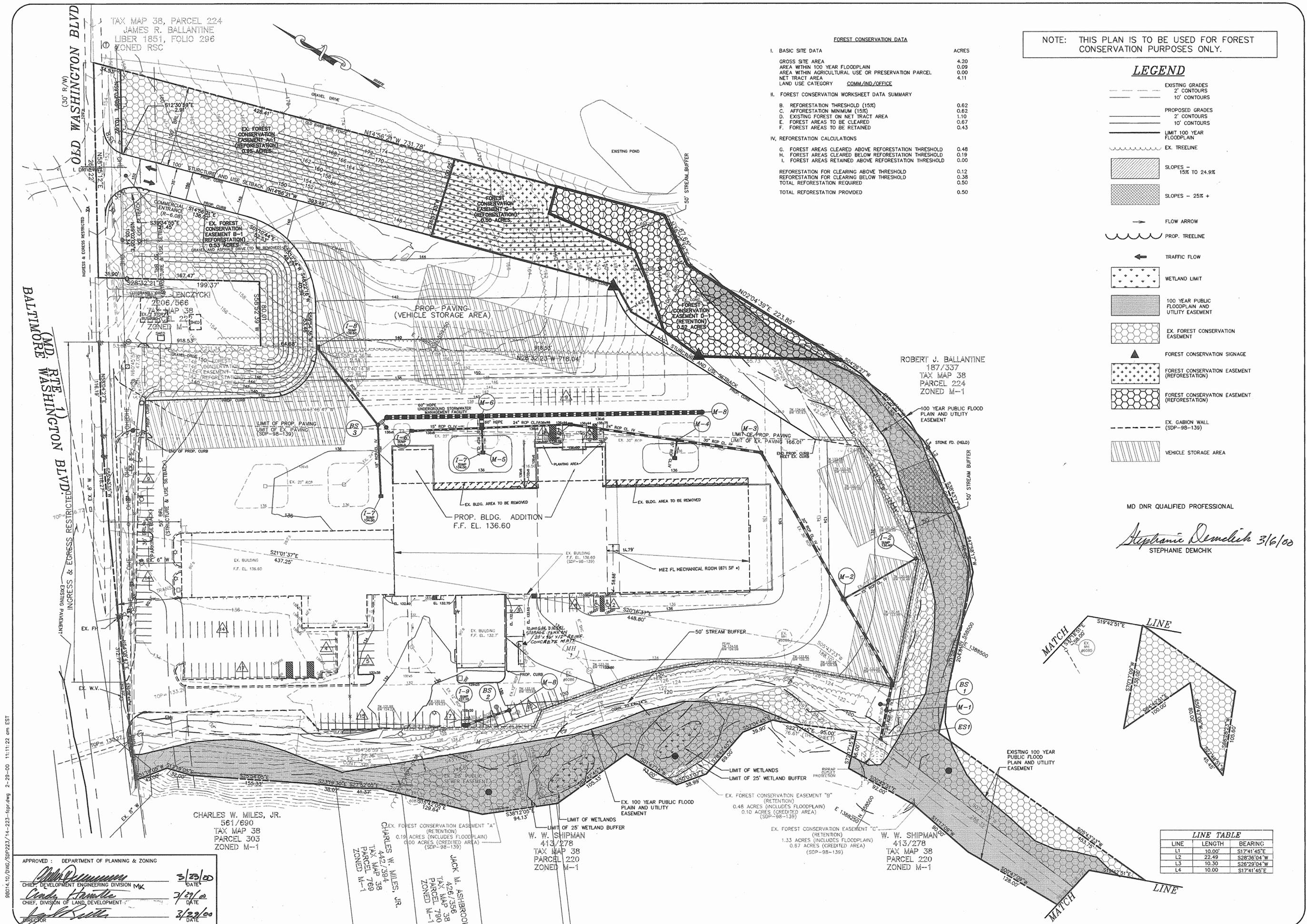
DATE	DESCRIPTION	BY
12/27/01	FCP	
2/26/02	FCP	

PROJECT NO. 9901-821-22716
 SHEET NO. 1 OF 1
 SCALE: 1" = 100'

NH NASSAUX - HEMSLEY, INC.
 ENGINEERING CONSULTANTS
 204 SOUTH MAIN STREET
 MOUNT AIRY, MARYLAND

Forest Stand Delineation & Forest Conservation Plan
 Harrison Farm
 Situated on Penn Shop Road
 Fourth Election District, Howard County, Maryland

Jeff Harrison Property



FOREST CONSERVATION DATA

DESCRIPTION	ACRES
I. BASIC SITE DATA	
GROSS SITE AREA	4.20
AREA WITHIN 100 YEAR FLOODPLAIN	0.09
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	0.00
NET TRACT AREA	4.11
LAND USE CATEGORY	COMM/IND/OFFICE
II. FOREST CONSERVATION WORKSHEET DATA SUMMARY	
B. REFORESTATION THRESHOLD (15%)	0.62
C. AFFORESTATION MINIMUM (15%)	0.62
D. EXISTING FOREST ON NET TRACT AREA	1.10
E. FOREST AREAS TO BE CLEARED	0.67
F. FOREST AREAS TO BE RETAINED	0.43
IV. REFORESTATION CALCULATIONS	
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD	0.48
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD	0.19
I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD	0.00
REFORESTATION FOR CLEARING ABOVE THRESHOLD	0.12
REFORESTATION FOR CLEARING BELOW THRESHOLD	0.38
TOTAL REFORESTATION REQUIRED	0.50
TOTAL REFORESTATION PROVIDED	0.50

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

LEGEND

- EXISTING GRADES
 - 2' CONTOURS
 - 10' CONTOURS
- PROPOSED GRADES
 - 2' CONTOURS
 - 10' CONTOURS
- LIMIT 100 YEAR FLOODPLAIN
- EX. TREELINE
- SLOPES - 15% TO 24.9%
- SLOPES - 25% +
- FLOW ARROW
- PROP. TREELINE
- TRAFFIC FLOW
- WETLAND LIMIT
- 100 YEAR PUBLIC FLOODPLAIN AND UTILITY EASEMENT
- EX. FOREST CONSERVATION EASEMENT
- FOREST CONSERVATION SIGNAGE
- FOREST CONSERVATION EASEMENT (REFORESTATION)
- FOREST CONSERVATION EASEMENT (REFORESTATION)
- EX. GABION WALL (SDP-98-139)
- VEHICLE STORAGE AREA

MD DNR QUALIFIED PROFESSIONAL
Stephanie Demchik 3/16/00
 STEPHANIE DEMCHIK

LINE TABLE

LINE	LENGTH	BEARING
L1	10.00	S17°41'45"E
L2	22.49	S28°36'04"W
L3	10.30	S28°29'04"W
L4	10.00	S17°41'45"E

98014.10/DWG/SDP/221/14-223-fcpr.dwg 2-29-00 11:11:22 am EST
 APPROVED: DEPARTMENT OF PLANNING & ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK 3/23/00
 CHIEF, DIVISION OF LAND DEVELOPMENT 3/23/00
 DIRECTOR 3/23/00

TAX MAP 38, PARCEL 224
 JAMES R. BALLANTINE
 LIBER 1851, FOLIO 286
 ZONED R3C

OLD WASHINGTON BLVD
 BALTIMORE AND RTE 1 WASHINGTON BLVD

CHARLES W. MILES, JR.
 561/690
 TAX MAP 38
 PARCEL 303
 ZONED M-1

W. W. SHIPMAN
 413/278
 TAX MAP 38
 PARCEL 220
 ZONED M-1

JACK W. ASHEROCK
 426/356
 TAX MAP 38
 PARCEL 150
 ZONED M-1

GRAVEL DRIVE
 EX. FOREST CONSERVATION EASEMENT A-1 (REFORESTATION) 0.35 ACRES
 EX. FOREST CONSERVATION EASEMENT B-1 (REFORESTATION) 0.53 ACRES
 EX. FOREST CONSERVATION EASEMENT C (REFORESTATION) 0.80 ACRES
 EX. FOREST CONSERVATION EASEMENT D (REFORESTATION) 0.62 ACRES
 EX. FOREST CONSERVATION EASEMENT E (REFORESTATION) 0.67 ACRES
 EX. FOREST CONSERVATION EASEMENT F (REFORESTATION) 0.43 ACRES
 PROP. PAVING (VEHICLE STORAGE AREA)
 PROP. BLDG. ADDITION F.F. EL. 136.60
 EX. BLDG. AREA TO BE REMOVED
 MEZ FL MECHANICAL ROOM (871 SF ±)
 1000 GAL DIESEL STORAGE TANK ON 25'x17'x7' REINFC. CONCRETE M/BT
 50' STREAM BUFFER
 LIMIT OF WETLANDS
 LIMIT OF 25' WETLAND BUFFER
 EX. 100 YEAR PUBLIC FLOOD PLAN AND UTILITY EASEMENT
 EX. FOREST CONSERVATION EASEMENT "B" (RETENTION) 0.48 ACRES (INCLUDES FLOODPLAIN) 0.10 ACRES (CREDITED AREA) (SDP-98-139)
 EX. FOREST CONSERVATION EASEMENT "C" (RETENTION) 1.33 ACRES (INCLUDES FLOODPLAIN) 0.67 ACRES (CREDITED AREA) (SDP-98-139)

ROBERT J. BALLANTINE
 187/337
 TAX MAP 38
 PARCEL 224
 ZONED M-1

100 YEAR PUBLIC FLOOD PLAN AND UTILITY EASEMENT

50' STREAM BUFFER

EXISTING 100 YEAR PUBLIC FLOOD PLAN AND UTILITY EASEMENT

VEHICLE STORAGE AREA

MATCH LINE

PROJECT: 98014.10
 DATE: 3/7/00
 ILLUSTRATION: MK
 FCL/SDP: MK
 SCALE: 1" = 50'

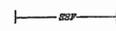
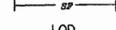
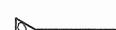
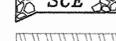
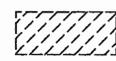
TAX MAP 38, PARCELS 221, 524 & 223
ALBAN ENGINE
 HOWARD COUNTY, MARYLAND
 FIRST ELECTION DISTRICT
FOREST CONSERVATION & REFORESTATION PLAN

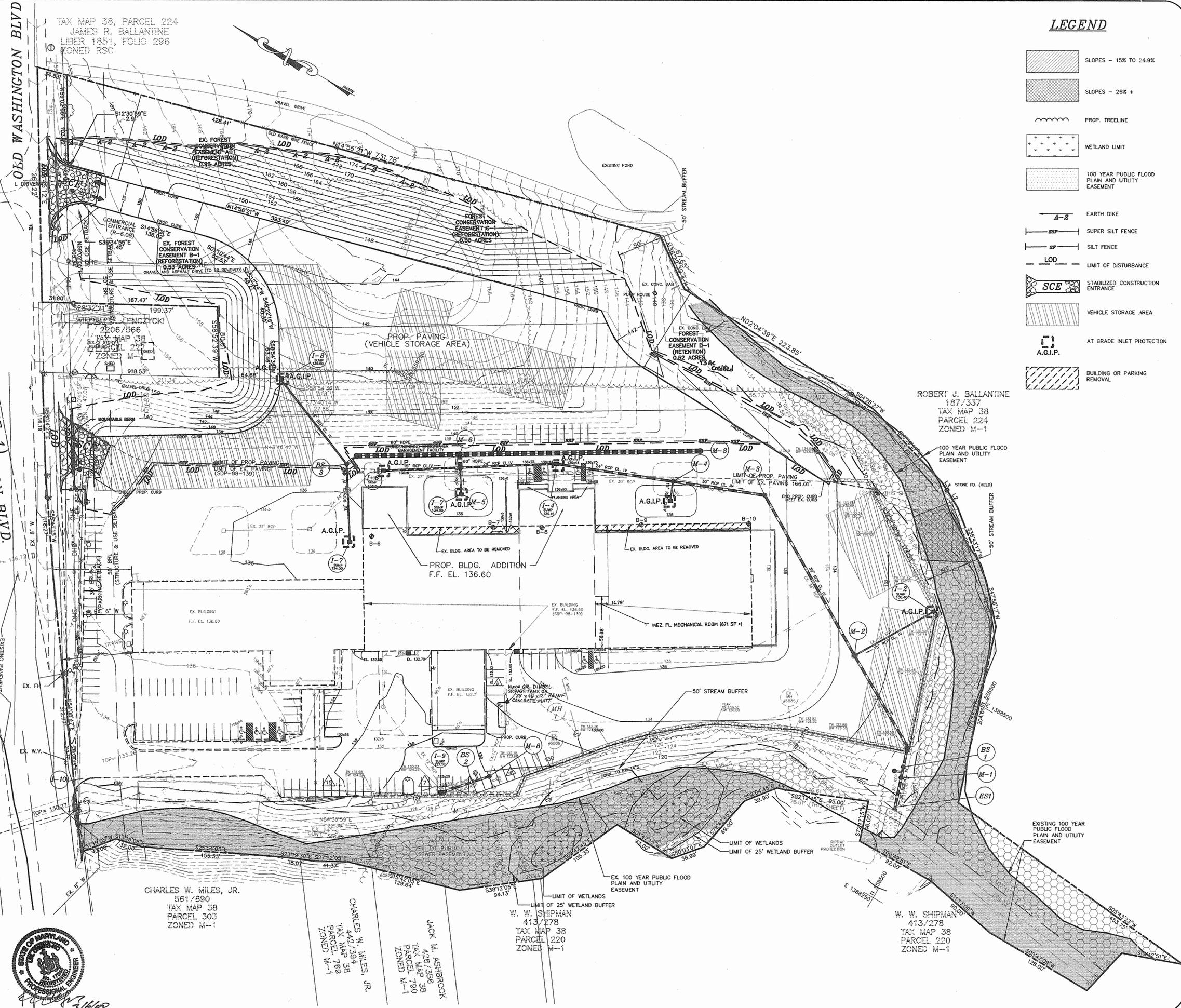
MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Drexel Hill Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0288 Fax: (301) 621-5521 Wash. (410) 997-0288 Fax.

10 OF 11
 SDP-00-19

THIS PLAN IS FOR THE PURPOSE OF GRADING & SEDIMENT CONTROL ONLY

LEGEND

-  SLOPES - 15% TO 24.9%
-  SLOPES - 25% +
-  PROP. TREELINE
-  WETLAND LIMIT
-  100 YEAR PUBLIC FLOOD PLAIN AND UTILITY EASEMENT
-  EARTH DIKE
-  SUPER SILT FENCE
-  SILT FENCE
-  LIMIT OF DISTURBANCE
-  SCE STABILIZED CONSTRUCTION ENTRANCE
-  VEHICLE STORAGE AREA
-  AT GRADE INLET PROTECTION
-  BUILDING OR PARKING REMOVAL



TAX MAP 38, PARCEL 224
JAMES R. BALLANTINE
LIBER 1851, FOLIO 296
ZONED RSC

ROBERT J. BALLANTINE
187/337
TAX MAP 38
PARCEL 224
ZONED M-1

CHARLES W. MILES, JR.
561/690
TAX MAP 38
PARCEL 303
ZONED M-1

W. W. SHIPMAN
413/278
TAX MAP 38
PARCEL 220
ZONED M-1

W. W. SHIPMAN
413/278
TAX MAP 38
PARCEL 220
ZONED M-1

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.

Michael E. Lewis 3/6/00
SIGNATURE OF DEVELOPER DATE
MICHAEL E. LEWIS
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] 3/7/00
SIGNATURE OF ENGINEER DATE
[Name]
PRINTED NAME OF ENGINEER

CHENQ-NO. 104
PRINTED NAME OF ENGINEER

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

Paul Simmons 3/15/00
USDA - NATURAL RESOURCE CONSERVATION SERVICE DATE

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

John R. Robertson 3/15/00
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 3/23/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION (MK) DATE
[Signature] 3/21/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
[Signature] 3/23/00
DIRECTOR DATE



Project	96014.10	Date	3/7/00
Illustration	FCL	Engineering	FCL
Scale	1" = 50'	Approval	RJH

ADD'D: FULL TIME AND REVISED PAVING	1/1/00	DATE	
REMOVE PROPERTY LINE & PARKING AROUND ASPHALT	6/15/00	REVISIONS	
1. TO DELETE F.L.O. 1. DIMENSIONAL BETWEEN E.T. 1.1.2.0	7/27/00		

TAX MAP 38, PARCELS 221, 524 & 223
ALBAN ENGINE
FIRST ELECTION DISTRICT
GRADING & SEDIMENT CONTROL PLAN - PHASE II
HOWARD COUNTY, MARYLAND

MILDENBERG & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Beltsville, Maryland 20842
(410) 997-0286 Fax (301) 621-5521 Wash. (410) 997-0288 Fax

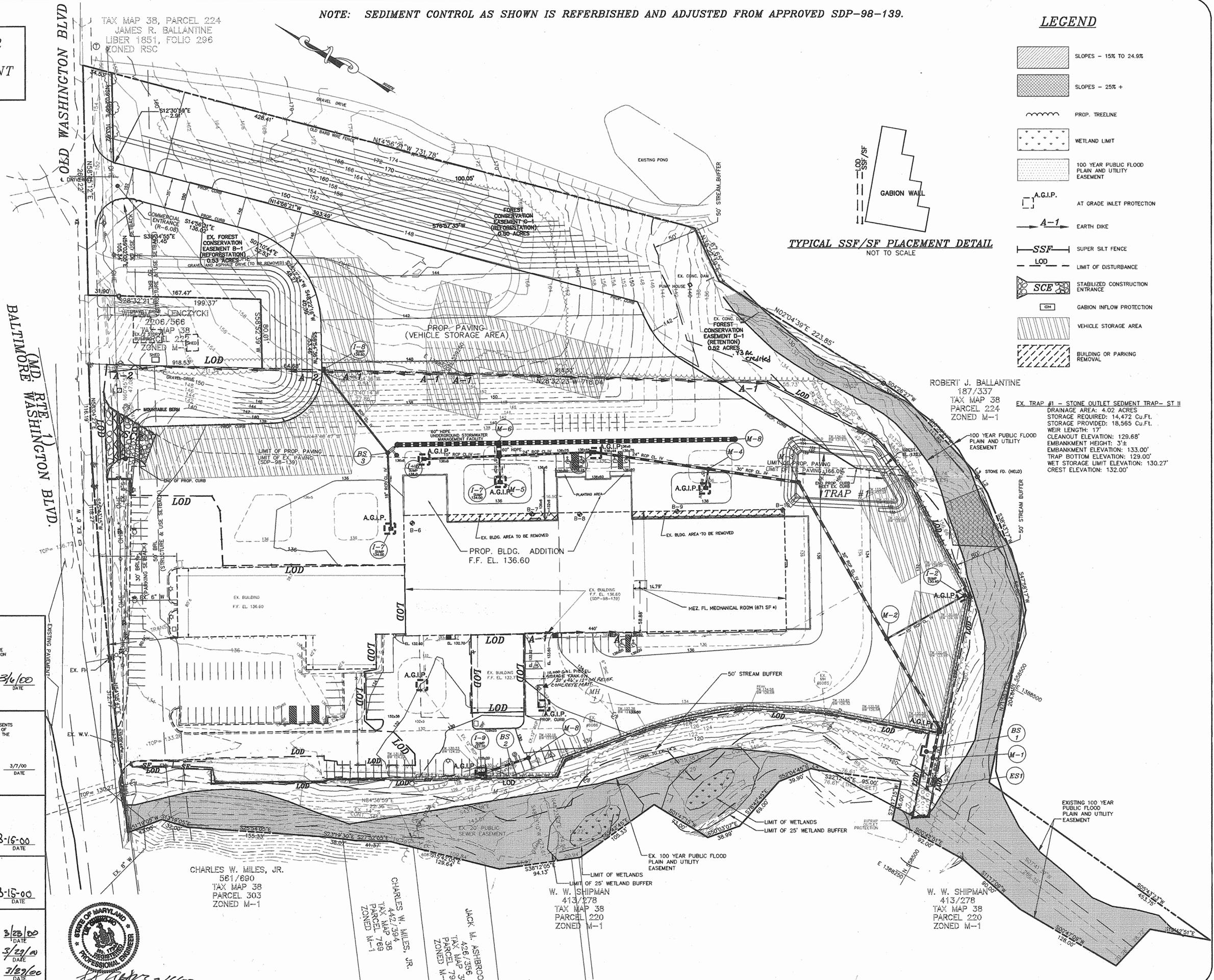
THIS PLAN IS FOR THE PURPOSE OF GRADING & SEDIMENT CONTROL ONLY

NOTE: SEDIMENT CONTROL AS SHOWN IS REFERBISHED AND ADJUSTED FROM APPROVED SDP-98-139.

LEGEND

- SLOPES - 15% TO 24.9%
- SLOPES - 25% +
- PROP. TREELINE
- WETLAND LIMIT
- 100 YEAR PUBLIC FLOOD PLAIN AND UTILITY EASEMENT
- A.G.I.P.
AT GRADE INLET PROTECTION
- A-1
EARTH DIKE
- SSF
SUPER SILT FENCE
- LOD
LIMIT OF DISTURBANCE
- SCE
STABILIZED CONSTRUCTION ENTRANCE
- GM
GABION INFLOW PROTECTION
- VEHICLE STORAGE AREA
- BUILDING OR PARKING REMOVAL

TYPICAL SSF/SF PLACEMENT DETAIL
NOT TO SCALE



EX. TRAP #1 - STONE OUTLET SEDIMENT TRAP - ST II
DRAINAGE AREA: 4.02 ACRES
STORAGE REQUIRED: 14,472 Cu.Ft.
STORAGE PROVIDED: 18,565 Cu.Ft.
WEIR LENGTH: 17'
CLEANOUT ELEVATION: 129.68'
EMBANKMENT ELEVATION: 133.00'
TRAP BOTTOM ELEVATION: 129.00'
WET STORAGE LIMIT ELEVATION: 130.27'
CREST ELEVATION: 132.00'

ROBERT J. BALLANTINE
187/337
TAX MAP 38
PARCEL 224
ZONED M-1

TAX MAP 38, PARCEL 224
JAMES R. BALLANTINE
LIBER 1851, FOLIO 298
ZONED RSC

CHARLES W. MILES, JR.
581/890
TAX MAP 38
PARCEL 303
ZONED M-1

W. W. SHIPMAN
413/278
TAX MAP 38
PARCEL 220
ZONED M-1

W. W. SHIPMAN
413/278
TAX MAP 38
PARCEL 220
ZONED M-1

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.

Signature: Michael E. Lewis
Date: 3/6/00

Signature: Michael E. Lewis
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: [Handwritten]
Date: 3/7/00

Signature: [Handwritten]
Printed Name of Engineer

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

Signature: Cheryl Simmons
Date: 3-15-00
USDA - NATURAL RESOURCE CONSERVATION SERVICE

Signature: [Handwritten]
Date: 3-15-00
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Signature: [Handwritten]
Date: 3/28/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK

Signature: [Handwritten]
Date: 3/23/00
CHIEF, DIVISION OF LAND DEVELOPMENT

Signature: [Handwritten]
Date: 3/22/00



98014.DWG/SDP223.DA

Project: 98014.10
Date: 3/7/00
Illustration: FCL
Approval: R/H
Scale: 1" = 50'

Project: 98014.10
Date: 3/7/00
Illustration: FCL
Approval: R/H
Scale: 1" = 50'

REVISIONS

NO. 1
DATE: 3/7/00
DESCRIPTION: REVISIONS

TAX MAP 38, PARCELS 221, 524 & 223
ALBAN ENGINE
HOWARD COUNTY, MARYLAND
FIRST ELECTION DISTRICT
GRADING & SEDIMENT CONTROL PLAN - PHASE I

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5092 Dorsy Hill Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 997-0286 Fax: (301) 621-5521 Wash. (410) 997-0288 Fax.

2 OF 11

SDP-00-19

