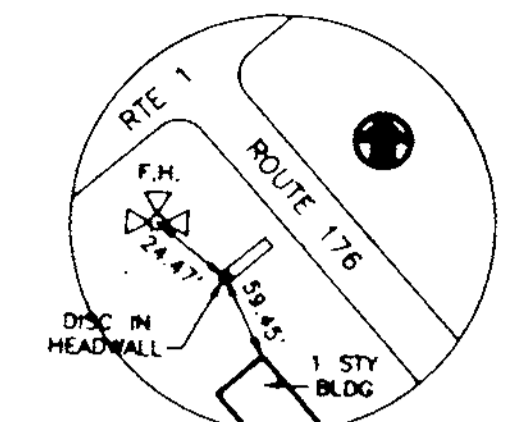


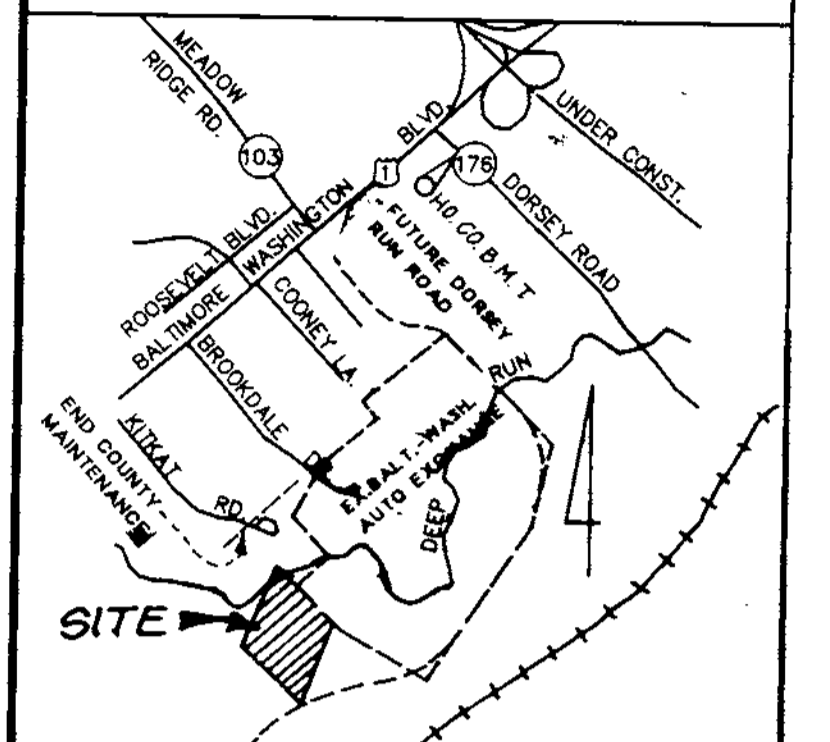
ADDITION TO BALTIMORE — WASHINGTON AUTO EXCHANGE, INC.



"WESELY Az. 1962"
N 492468.27 E 868676.61
BENCH MARK REFERENCE
HO. CO. B.M. T-25 1957 EL. 276.958
SITE DEVELOPMENT GENERAL NOTES



2868 CONSTELLATION WAY
FINKSBURG, MD 21048-2068
PHONE/FAX: (410) 840-8797



VICINITY MAP
SCALE: 1"=2000'

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING AND ZONING

Joseph J. Smith 9/20/99
DIRECTOR DATE

Charles H. Hester 9/15/99
CHIEF DIVISION OF LAND DEVELOPMENT DATE

John W. Williams 9/13/99
CHIEF DEVELOPMENT ENGINEERING DIVISION DATE

DATE	REVISIONS

BALTIMORE - WASHINGTON
AUTO EXCHANGE STORAGE YARD
VEHICLE STORAGE ADDITIONS
PARCEL 50

FIRST ELECTION DISTRICT
DATE: 1-4-99
HOWARD COUNTY, MD
SCALE: 1"=50' OR AS SHOWN

COVER SHEET

BDP 99-55

SHEET 1 OF 16

BDP-99-55

VEHICLE STORAGE ADDITIONS HOWARD COUNTY, MARYLAND

LEGEND

- 100--- EXISTING CONTOUR
- 100--- PROPOSED CONTOUR
- --- EXISTING CURB
- --- PROPOSED CURB
- --- EXISTING HYDRANT
- --- PROPOSED HYDRANT
- --- WATER VALVE
- --- PROPOSED STORM DRAIN
- --- PROPOSED WATER MAIN
- --- EXISTING MANHOLE
- --- PROPOSED MANHOLE
- --- PROPERTY LINE
- --- EXISTING FENCE
- --- PROPOSED FENCE
- --- SOIL TYPE BOUNDARY

SITE ANALYSIS DATA CHART

GROSS SITE AREA: 15.6 AC. = 679,536 SQ. FT.
LIMIT OF DISTURBANCE: 13.24 AC. = 576,734 SQ. FT.
TREE SAVE AREA: 2.59 AC. = 112,829 SQ. FT.
SITE ZONING: AUTOMOBILE STORAGE
OPEN SPACE ON SITE: 2.35 AC. = 102,366 SQ. FT.
STORMWATER MANAGEMENT PROPOSED:
RETENTION POND

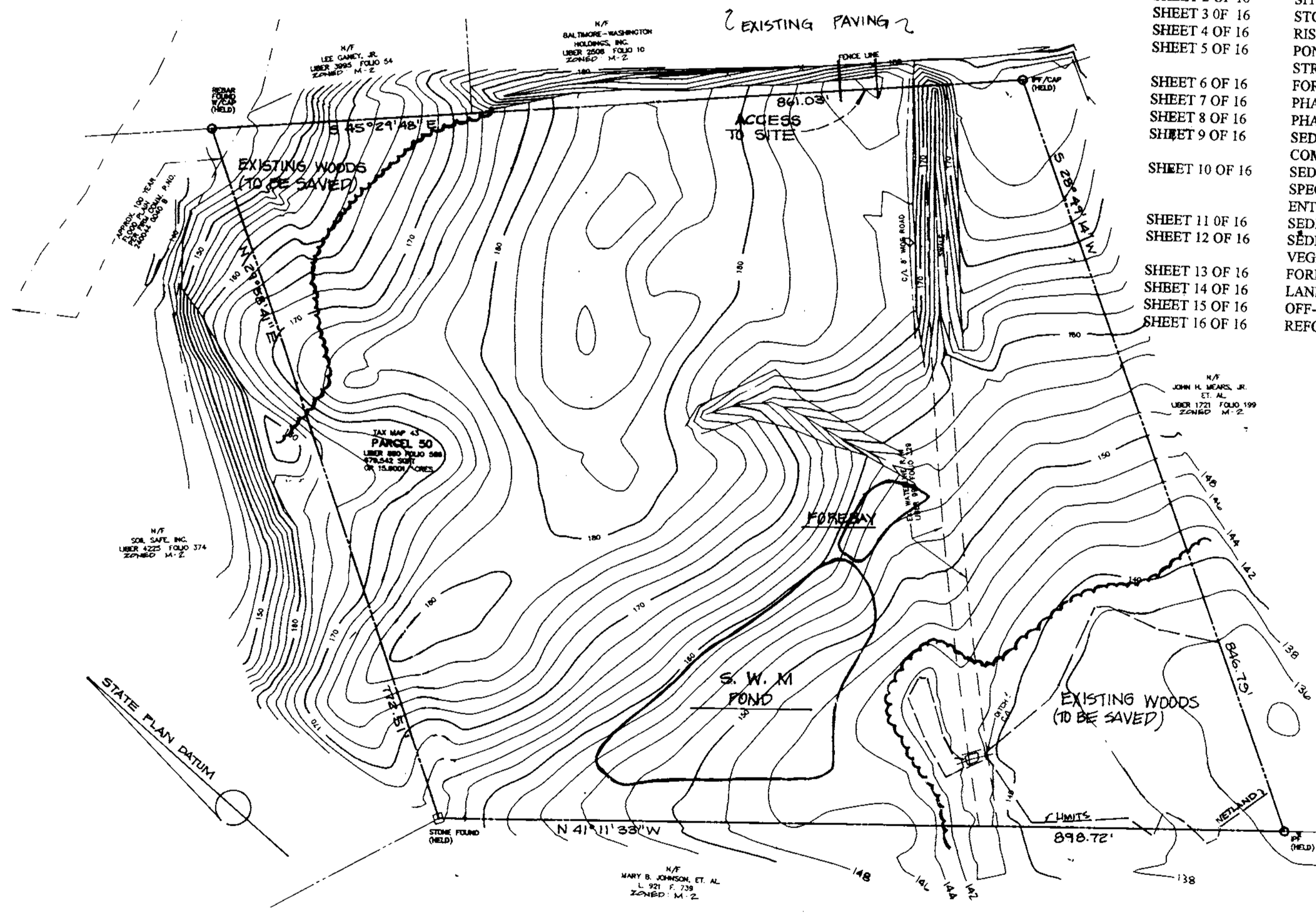
CERTIFICATION BY OWNER
I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THERE ARE NO EXISTING BURIAL GROUNDS OR CEMETERIES ON THE PROPERTY BEING DEVELOPED.

John W. Williams 3-21-99
OWNER DATE

GENERAL SURVEY NOTES:
1. THE BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A FIELD RUN A.L.T.A. BOUNDARY SURVEY AS PREPARED BY CAPITOL DEVELOPMENT DESIGN, INC.
2. ALL UNDERGROUND UTILITIES SHOWN HEREON WERE TAKEN FROM AVAILABLE RECORDS, FIELD CHECKED AND VERIFIED WHERE POSSIBLE.

GENERAL STORM DRAIN NOTES:
1. ALL STORM DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE GENERAL CONDITIONS AND STANDARD SPECIFICATIONS OF HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS AND MARYLAND STATE HIGHWAY ADMINISTRATION (MSHA), UNLESS OTHERWISE NOTED.
2. TYPES OF STRUCTURES REFER TO THE LATEST STANDARD DETAILS OF MSHA AND MDE (SOIL EROSION AND SEDIMENT CONTROL), UNLESS OTHERWISE NOTED.
3. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF THE CLEARANCES ARE LESS THAN SPECIFIED ON THIS PLAN OR TWELVE INCHES (12") WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE OWNER OF THE OTHER INVOLVED UTILITY, BEFORE PROCEEDING WITH THE CONSTRUCTION.
4. ALL STORM DRAINS SHALL HAVE A MINIMUM OF ONE (1) FOOT OF COVER.
5. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

WETLAND NOTE:
It is the applicant's responsibility to obtain any state permits, if required, for any construction activity covered by this plan which impacts a State regulated wetland. Any changes to plans for this development which are required by the State or initiated by the applicant to meet State requirements, must be approved by THE DEPARTMENT OF PLANNING AND ZONING.



EXISTING CONDITION
SITE GRADING MAP
SCALE: 1" = 100'

SHEET INDEX

SHEET 1 OF 16	COVER SHEET
SHEET 2 OF 16	SITE DEVELOPMENT PLAN
SHEET 3 OF 16	STORMWATER MANAGEMENT DETAILS
SHEET 4 OF 16	RISER STRUCTURE DETAILS
SHEET 5 OF 16	POND SPECIFICATION NOTES, PIPE AND STRUCTURE SCHEDULES AND POND DETAILS
SHEET 6 OF 16	FOREBAY DETAILS AND LOCATION MAPS
SHEET 7 OF 16	PHASE I-SEDIMENT CONTROL PLAN
SHEET 8 OF 16	PHASE II-SEDIMENT CONTROL PLAN
SHEET 9 OF 16	SEDIMENT CONTROL BASIN NOTES AND COMPUTATIONS
SHEET 10 OF 16	SEDIMENT CONTROL TRAP NOTES AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ENTRANCE AND TREE PROTECTION
SHEET 11 OF 16	SEDIMENT CONTROL NOTES AND TABLES
SHEET 12 OF 16	SEDIMENT CONTROL NOTES AND TABLES FOR VEGETATIVE STABILIZATION
SHEET 13 OF 16	FOREST STAND DELINEATION PLAN
SHEET 14 OF 16	LANDSCAPE PLAN AND TREE CONSERVATION PLAN
SHEET 15 OF 16	OFF-SITE FOREST MITIGATION PLAN
SHEET 16 OF 16	REFORESTATION PLANTING DETAILS AND SPECIFICATIONS

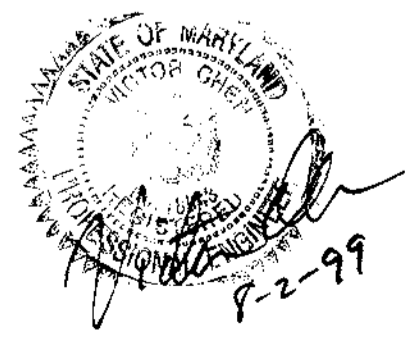
By the Developer
"I certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment 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 shall authorize on-site inspections by the Howard Soil Conservation District."
James Cook 3-24-99
Date

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."
Victor Chen, P.E. 8/2/00
Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
Keogh Summers 9/15/99
USDA National Resources Conservation Service Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Robert W. Juchm 9/1/99
Howard Soil Conservation District Date

OWNER/DEVELOPER
BALTIMORE-WASHINGTON
AUTO EXCHANGE, INC.
7151 BROOKDALE ROAD
BALTIMORE, MD 21227



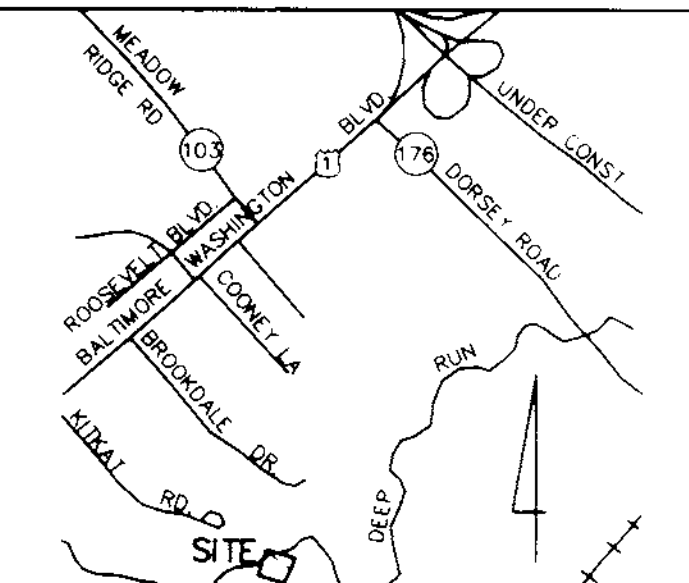
ADDRESS CHART

LOT/PARCEL #	STREET ADDRESS
880/880 - PARCEL 50	7151 BROOKDALE ROAD

SUBDIVISION NAME	SECT AREA	LOT PARCEL #
	1/1	50

PLAT #	DRL/F	BLOCK	ZONE	TAX ZONE	ELECT DIST	CENSUS
880/580	5	M-2	43	1 ST	6012	

WATER CODE	SEWER CODE
801	



VICINITY MAP
SCALE 1"=2000'

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING AND ZONING.

John D. Butler 9/2/99
DIRECTOR DATE

Cynthia K. Hester 9/15/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION OF LAND DEVELOPMENT DATE

Mark J. Gorman 9/15/99
CHIEF, ENGINEERING DIVISION OF LAND DEVELOPMENT DATE

DATE	REVISIONS

BALTIMORE - WASHINGTON
AUTO EXCHANGE STORAGE YARD
VEHICLE STORAGE ADDITIONS

PARCEL "D"

FIRST ELECTION DISTRICT
DATE: 2-26-99
HOWARD COUNTY, MD
SCALE: 1"=50' OR AS SHOWN

SITE DEVELOPMENT
PLAN

SDP 99-55

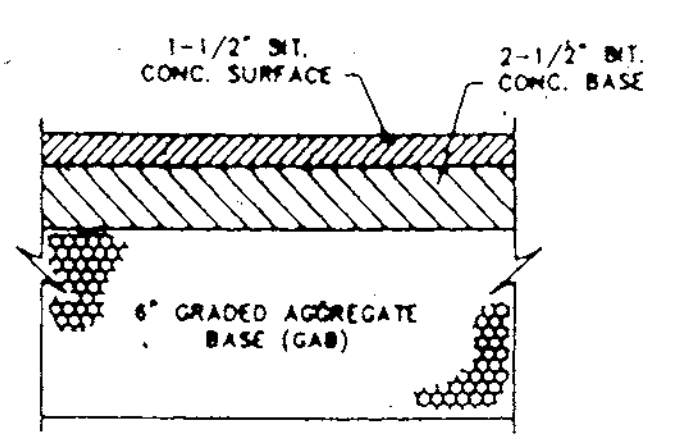
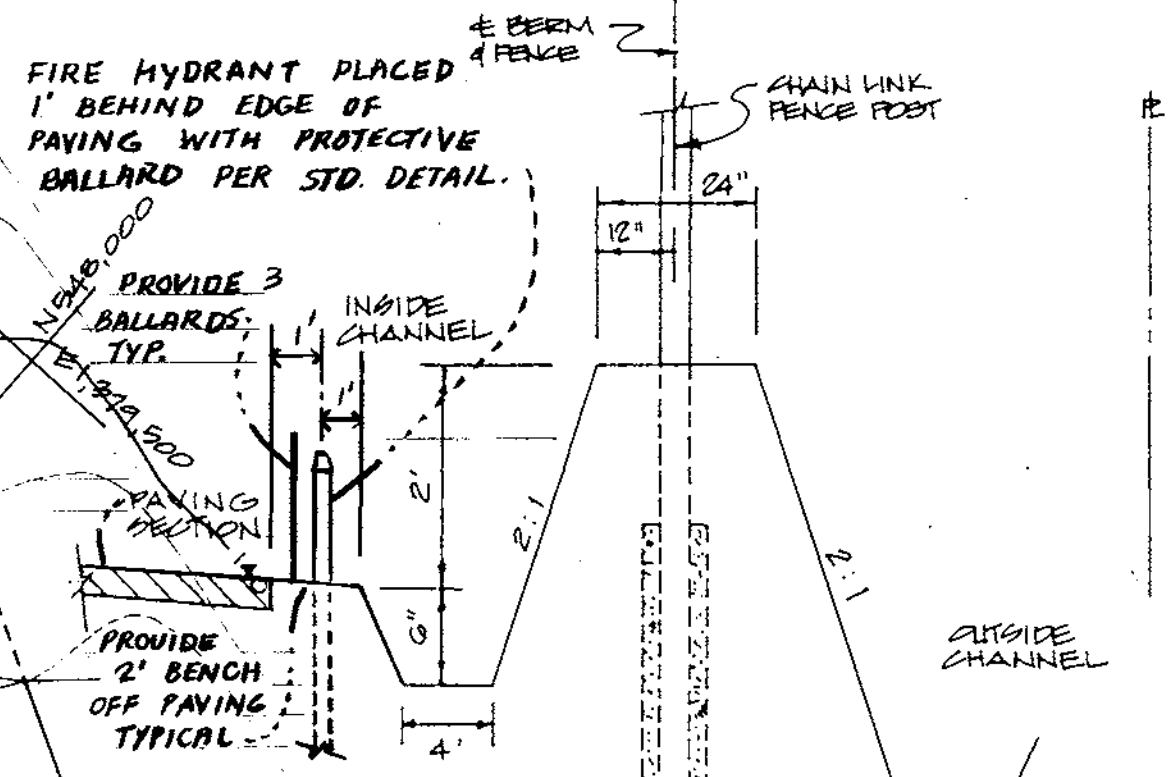
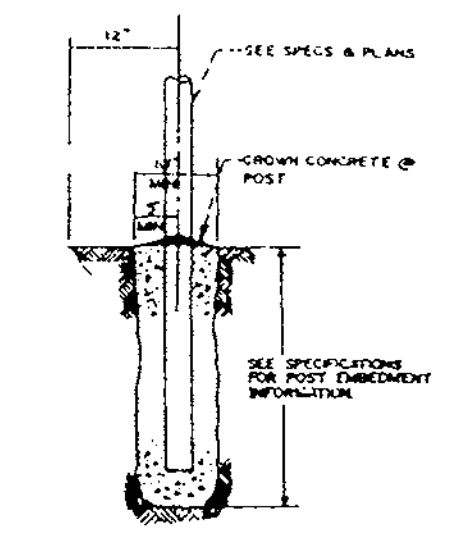
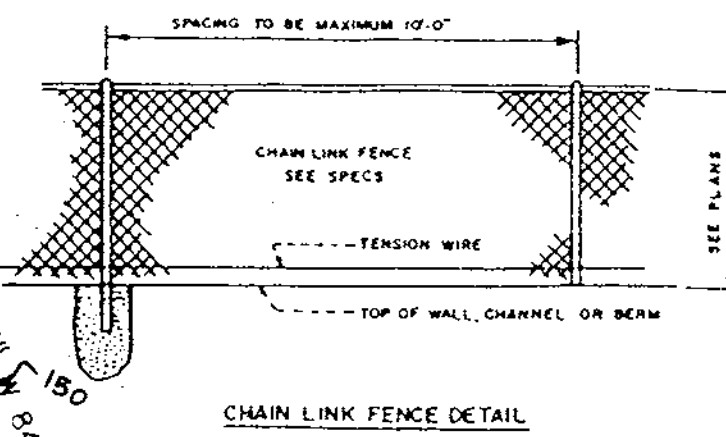
SHEET 2 OF 16

SDA 99-55

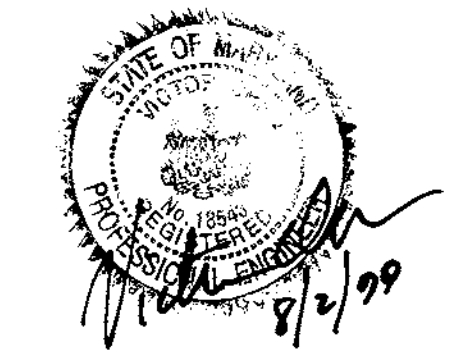
- The contractor or developer shall contact the Construction Inspection Division 24 hours in advance of commencement of work at (410) 313-1899.
- Please be advised that any project which creates a disturbance of five (5) acres or more will require a "Notice of Intent to Comply with General Permit for Construction Activity" (NOI). The NOI is a requirement from the EPA for construction activity for stormwater discharges and is regulated under the Maryland Department of the Environment, Sediment and Stormwater Administration (MDS/SSA). The NOI is to be completely filled out and submitted with the appropriate fees directly to the Maryland Department of the Environment. This regulation became effective April 15, 1994. For more information contact:

Maryland Department of the Environment
Sediment and Stormwater Administration
2500 Broening Highway
Baltimore, MD 21224

- OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY - WET POND
- ROUTINE MAINTENANCE:
- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND AND FOREBAY ARE FUNCTIONING PROPERLY.
 - TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOVED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, MAINTENANCE ACCESS AND BUFFER AREAS SHOULD BE MOVED AS NEEDED.
 - DEBRIS AND LITTER NEXT TO OUTLET STRUCTURES SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
 - VISIBLE SIGNS OF EROSION IN THE POND, RIP-RAP OUTLETS, AND FOREBAY AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
- NON-ROUTINE MAINTENANCE:
- STRUCTURAL COMPONENTS OF THE POND AND FOREBAY POND SUCH AS THE DAM, THE RISER AND PIPES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING THE ROUTINE MAINTENANCE OPERATIONS.
 - SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, UNDERDRAINS, WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.



LEGEND:
WETLAND DELINEATION
WETLAND BUFFER

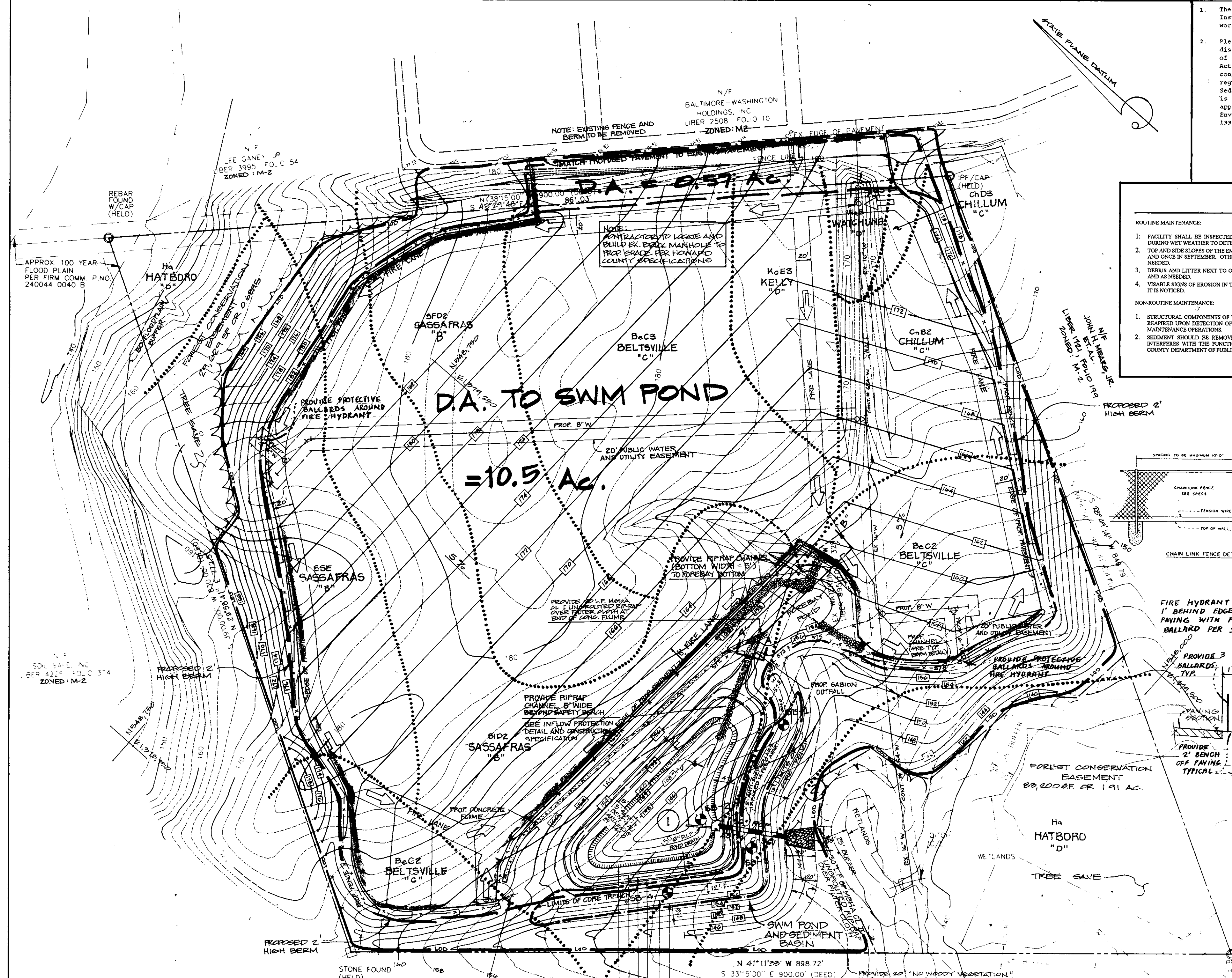


OWNER/DEVELOPER
BALTIMORE-WASHINGTON
AUTO EXCHANGE, INC.
7151 BROOKDALE ROAD
BALTIMORE, MD 21227

SITE DEVELOPMENT PLAN
SCALE: 1"=50'

PERM. POOL ELEV. = 150.00
2 YR. WSEL = 152.6
10 YR. WSEL = 153.8
100 YR. WSEL = 154.8
TOP OF EMBANKMENT (CONST.) = 157.5
TOP OF EMBANKMENT (SETTLED) = 156.5

MARY B. JOHNSON, ET AL.
92' x 739'
ZONED: M-Z



(1) These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
Chief Sumner 9/1/99
USDA-Natural Resources Conservation Service Date

(2) These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Chief Sumner 9/1/99
Howard Soil Conservation District Date

MD 378 CONSTRUCTION SPECIFICATIONS FOR SWM POND

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for Practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other obstructions shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry streambed management ponds, a minimum of 50 percent of the riparian vegetation shall be cleared.

All borrow and grubbed material shall be disposed of outside the limits of the dam and reservoir. When a fill is placed in a borrow area, the quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Fill

Material: The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6" frozen or other objectionable materials. Fill material for the embankment and out-of-trench shall conform to Unified Soil Classification GC, SC, CH, or CL. Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

Placement: Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction: The movement of the hauling and spreading equipment over the fill shall be controlled so

that the entire surface of each lift shall be traversed by not less than one track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within ±2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Out of Trench: The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. Equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Pipe Details

All pipes shall be circular in cross section.

Compacted Metal Pipe

All of the following criteria shall apply for compacted metal pipe:

- Materials - (Steel Pipe) This pipe and its appurtenances shall be galvanized and fully laminated coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any laminated coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Fusion, Plast-Coat, Blue-Koat, and Best-Coat. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

- Materials - (Aluminum Coated Steel Pipe) This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any laminated coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe

All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-381.
- Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.
- Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.
- Backfilling shall conform to "Structure Backfill"
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

ADDITIONAL RECOMMENDATIONS PROVIDED BY GEOTECHNICAL ENGINEER

The following recommendations are made for the satisfactory performance of earthwork, in order to attain the planned grade within the proposed construction of the stormwater management pond. Based on our past experience, if construction of this pond commences between December 1 to April 1, there is a possibility that heavy construction equipment might sink into the loose and wet materials. We would like to suggest, the SWM pond be constructed during dry seasons.

Area designated for embankment and structural work shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stone greater than 3 inches, frozen or other objectionable materials. Fill material for the center of the embankment and out-of-trench shall conform to Unified Soil Classification GC, SC, CH, or CL. Other materials as investigated and approved by geotechnical engineer of record may be used for construction of the embankment.

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Polystyrene (PVC) Pipe

All of the following criteria shall apply for polystyrene (PVC) pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill"
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 905.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct

and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to pumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, pool and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

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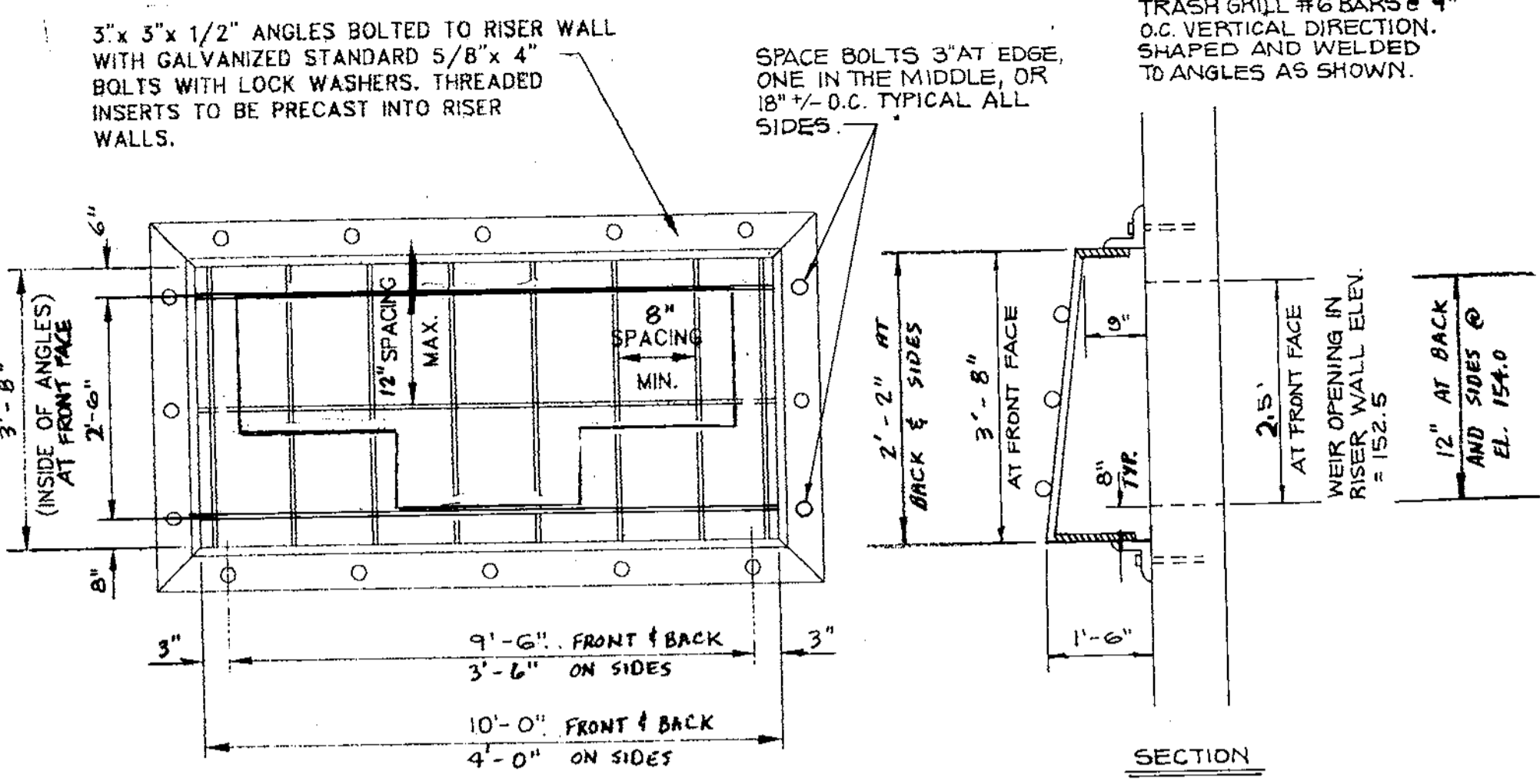
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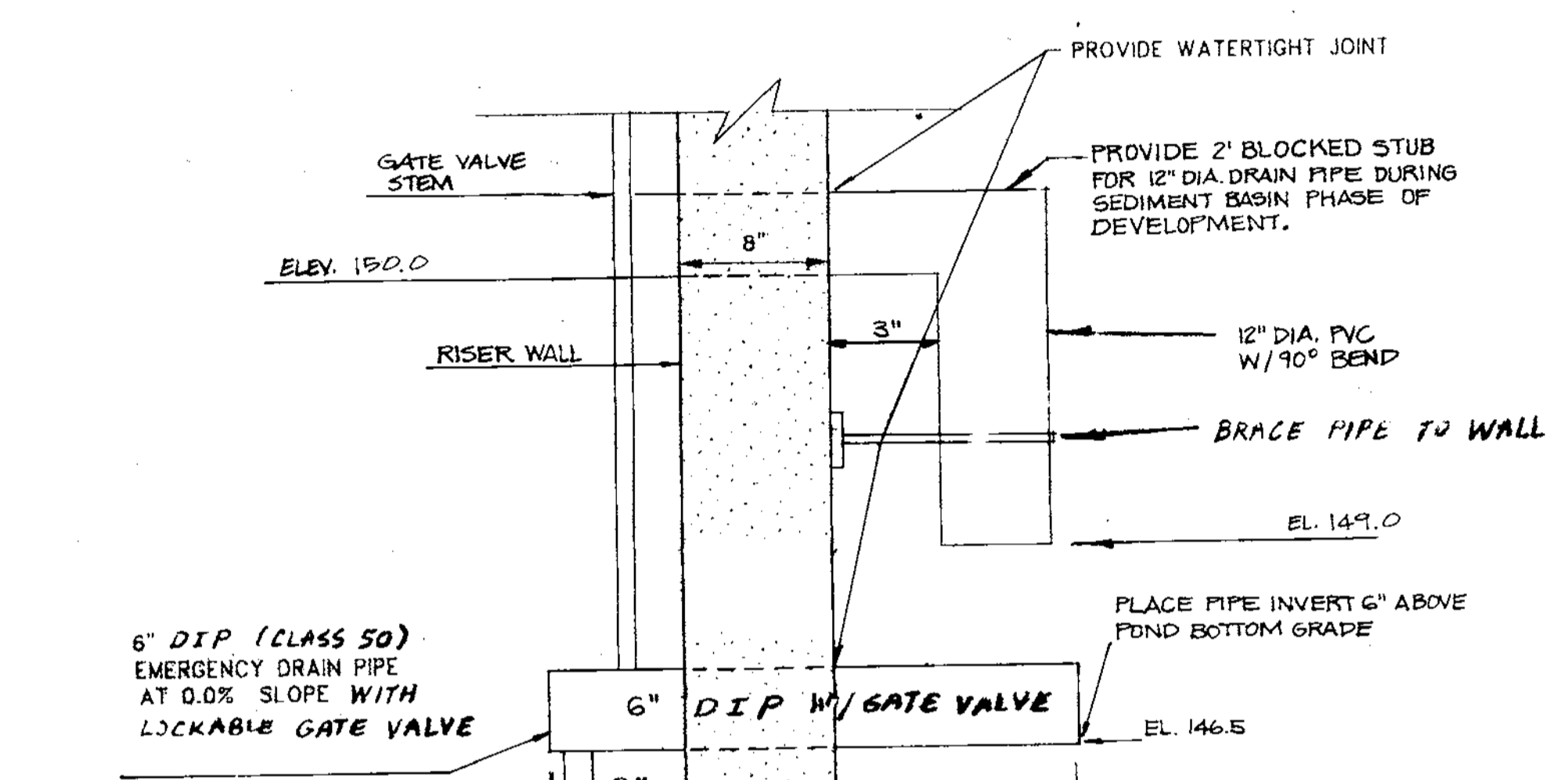
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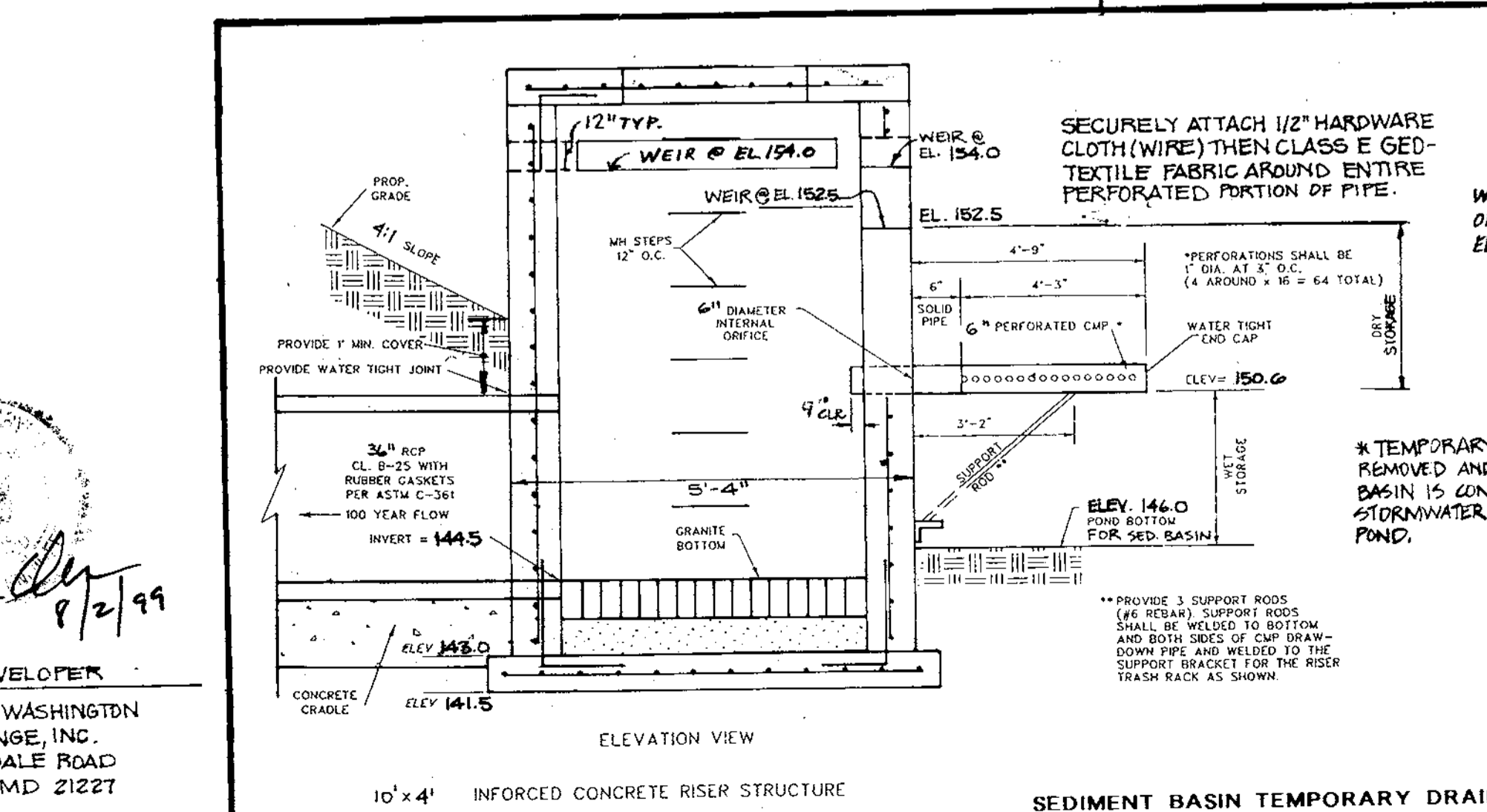
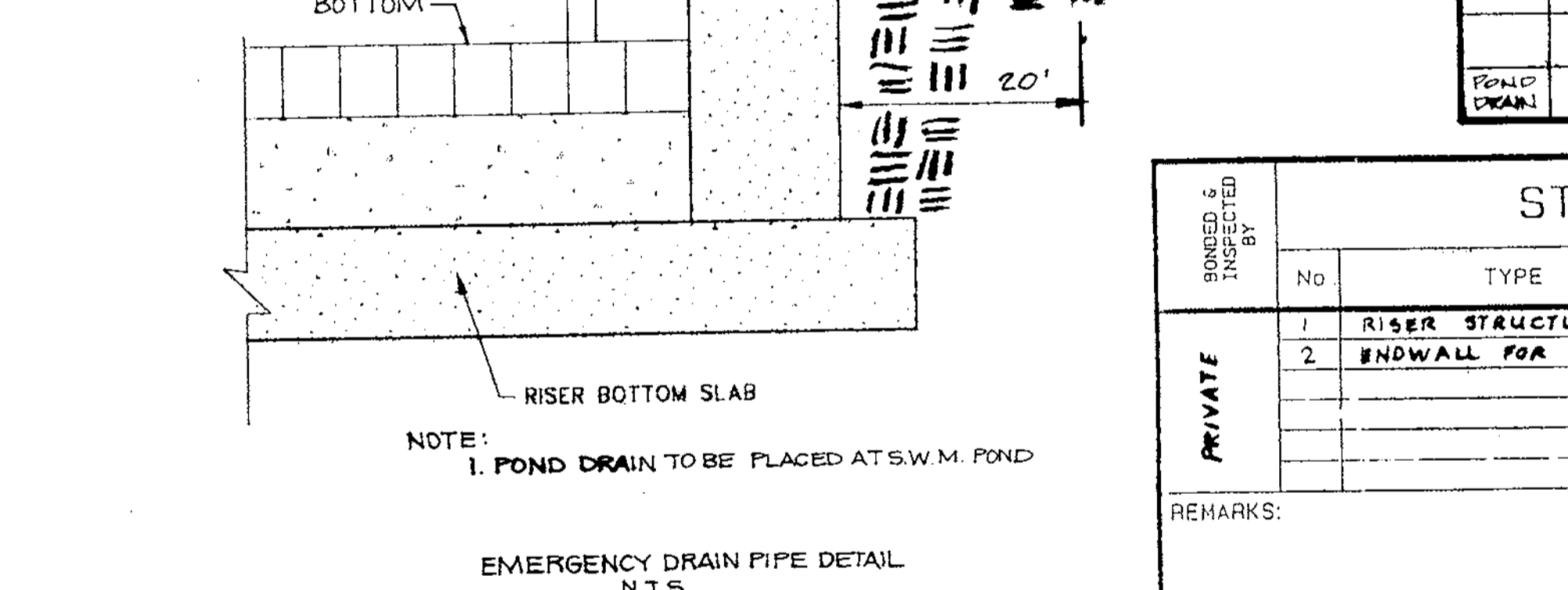
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TRASH RACK DETAIL 4 TRASH RACKS REQ'D 3 - SHORT 1 - LONG AT FRONT



EMERGENCY DRAIN PIPE DETAIL N.T.S.



These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Cheryl Simmons 9/11/99
 USDA-Natural Resources Conservation Service
 Date

Robert W. Johnson 9/11/99
 Howard Soil Conservation District
 Date

THAYER & ASSOCIATES INC.

2868 CONSTELLATION WAY
 FINKSBURG, MD 21048-2068
 PHONE/FAX: (410) 840-8797

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Paul S. Smith 9/16/99
 DIRECTOR, DATE

John Dammann 9/16/99
 CHIEF DEVELOPMENT ENGINEERING DIVISION, DATE

David Hemler 9/16/99
 CHIEF DIVISION OF LAND DEVELOPMENT, DATE

FROM	TO	SIZE	TYPE	LENGTH
1	2	36"	REINFORCED CONCRETE PIPE (CLASS B-25 PER ASTM C-361)	70 L.F.
POUND DRAIN		6"	D.I.P. (CLASS 50)	27 L.F.

NO.	TYPE	WIDTH DIAM.	INV. ELEV.	TOP ELEV.		STANDARD DETAIL
				UPPER	LOWER	
1	RISER STRUCTURE	10' x 4'	143.0	156.0		SEE DETAILS ON SHT. 9
2	ENDWALL FOR 36" RCP		143.0			MHA STA. PTL 354.01

BALTIMORE - WASHINGTON AUTO EXCHANGE STORAGE YARD VEHICLE STORAGE ADDITIONS PARCEL 'D'

FIRST ELECTION DISTRICT
 DATE: 1-4-99
 HOWARD COUNTY, MD
 SCALE: 1"=50' OR AS SHOWN

POND SPECIFICATION NOTES, PIPE AND STRUCTURE SCHEDULES AND POND DETAILS

SDP 99-55

OWNER / DEVELOPER
 BALTIMORE-WASHINGTON AUTO EXCHANGE, INC.
 7151 BROOKDALE ROAD
 BALTIMORE, MD 21227

TRAP No. 1
 STONE OUTLET TRAP - ST II
 DRAINAGE AREA = 1.4 AC
 STORAGE REQ'D = 3600 CF/AC x 1.4 AC = 5040 CF
 WET STORAGE PROVIDED = 3600 CF
 DRY STORAGE PROVIDED = 4158 CF
 WET STORAGE SURFACE ELEV. IS AT WEIR CREST
 WEIR CREST ELEV. = 167.0
 TOP OF EMBANKMENT ELEV. = 168.0
 DEPTH OF FREEBOARD = 1 FT
 HEIGHT OF EMBANKMENT = 3 FT
 WET STORAGE SURFACE ELEV. IS AT OUTFALL LEVEL
 WET STORAGE ELEV. = 165.0
 TRAP BOTTOM ELEV. = 163.0
 HEIGHT FROM TOP OF EMBANKMENT TO TRAP BOTTOM = 5 FT
 WEIR LENGTH = 8 FT
 OUTFALL APRON LENGTH = 5 FT
 OUTFALL APRON DEPTH = 1 FT
 OUTFALL ELEV. = 165.0

APPROX. 100 YEAR FLOOD PLAIN PER FIRM COMM. P.NO. 240044 0040 B

UPON INSPECTOR'S APPROVAL THIS SILT FENCE MAY BE REMOVED AFTER SEDIMENT TRAP IS CONSTRUCTED.

N/F SOIL SAFE, INC. LIBER 4225 FOLIO 374

TRAP No. 2
 STONE OUTLET TRAP - ST II
 DRAINAGE AREA = 1.5 AC
 STORAGE REQ'D = 3600 CF/AC x 1.5 AC = 5400 CF
 WET STORAGE PROVIDED = 2700 CF
 DRY STORAGE PROVIDED = 2700 CF
 WET STORAGE SURFACE ELEV. IS AT WEIR CREST
 WEIR CREST ELEV. = 167.0
 TOP OF EMBANKMENT ELEV. = 168.0
 DEPTH OF FREEBOARD = 1 FT
 HEIGHT OF EMBANKMENT = 3 FT
 WET STORAGE SURFACE ELEV. IS AT OUTFALL LEVEL
 WET STORAGE ELEV. = 165.0
 TRAP BOTTOM ELEV. = 163.0
 HEIGHT FROM TOP OF EMBANKMENT TO TRAP BOTTOM = 5 FT
 WEIR LENGTH = 8 FT
 OUTFALL APRON LENGTH = 5 FT
 OUTFALL APRON DEPTH = 1 FT
 OUTFALL ELEV. = 165.0

LIMIT OF DISTURBANCE = 13.2 AC.

NOTE: 1. PHASE II SEDIMENT BASIN TO BE FINAL GRADING FOR SWIM POND.
 2. DO NOT USE FREEBOARD BAND TO CONVEY SEDIMENT TO BASIN.

N/F MARY B. JOHNSON, ET. AL. L. 921 F. 739

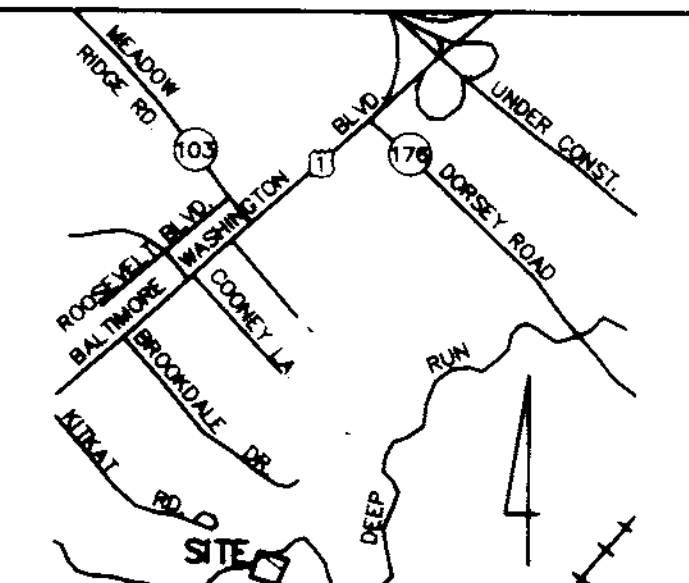
SCALE: 1" = 50'

OWNER/DEVELOPER
 BALTIMORE - WASHINGTON AUTO EXCHANGE, INC.
 7151 BROOKDALE ROAD
 BALTIMORE, MD 21227

LEGEND:
 --- WETLAND DELINEATION
 --- WETLAND BUFFER



2868 CONSTELLATION WAY
 FINKSBURG, MD 21048-2068
 PHONE/FAX: (410) 840-8797



VICINITY MAP
 SCALE: 1" = 2000'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

John H. Mears, Jr. 9/24/99
 DIRECTOR DATE

William J. Johnson 9/1/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Christy Smith 9/1/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	REVISIONS

BALTIMORE - WASHINGTON AUTO EXCHANGE STORAGE YARD VEHICLE STORAGE ADDITIONS

PARCEL "D"

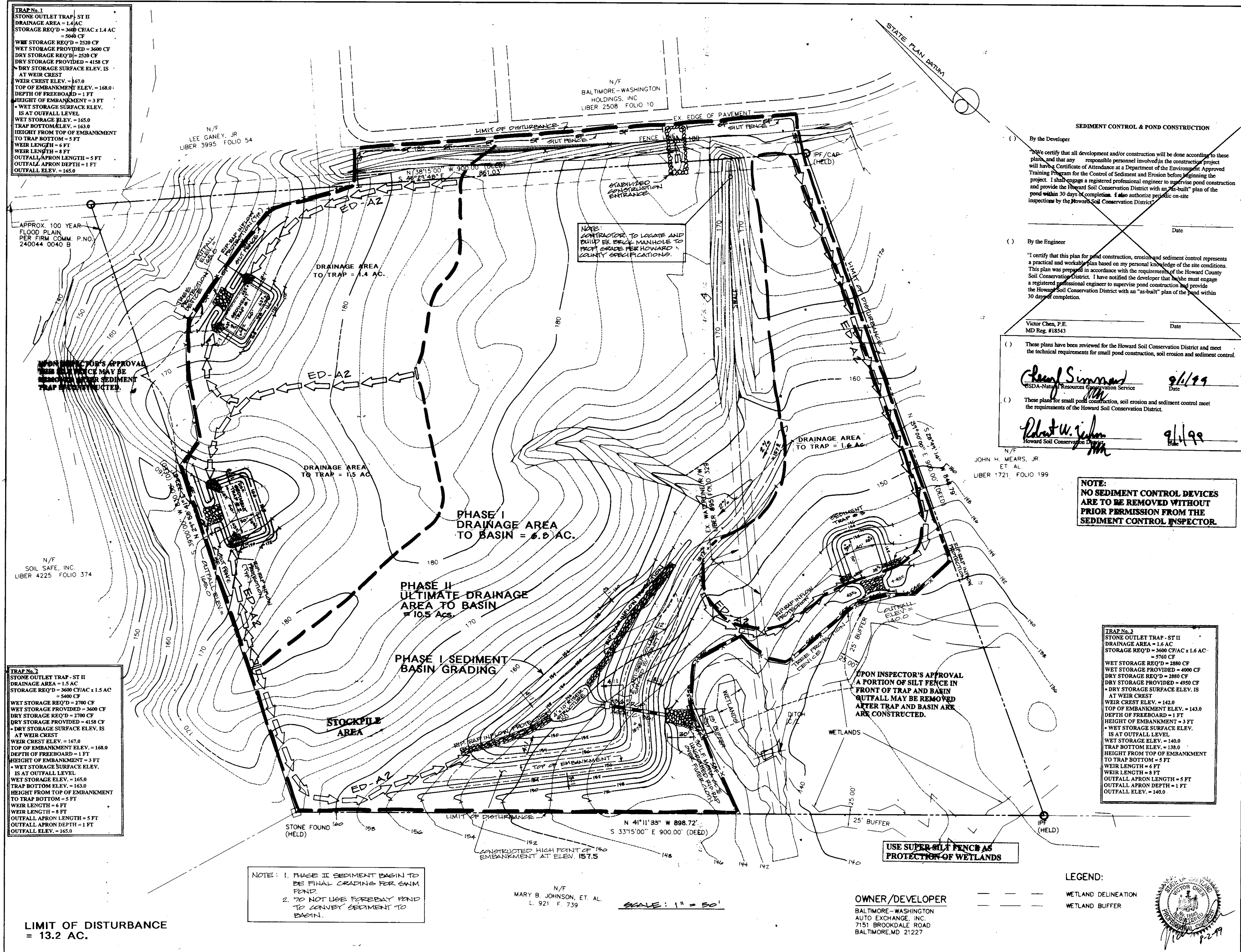
FIRST ELECTION DISTRICT
 DATE: 2-26-99
 HOWARD COUNTY, MD
 SCALE: 1" = 50' OR AS SHOWN

PHASE I
 SEDIMENT CONTROL PLAN

SDP 99-55

SHEET 7 OF 16

SDP 99-55



SEDIMENT CONTROL & POND CONSTRUCTION

By the Developer
 I 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.

Date _____

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 County 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.

Date _____

Victor Chen, P.E.
 MD Reg. #18543

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Clayton Simms 9/1/99
 USDA-Natural Resources Conservation Service DATE

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

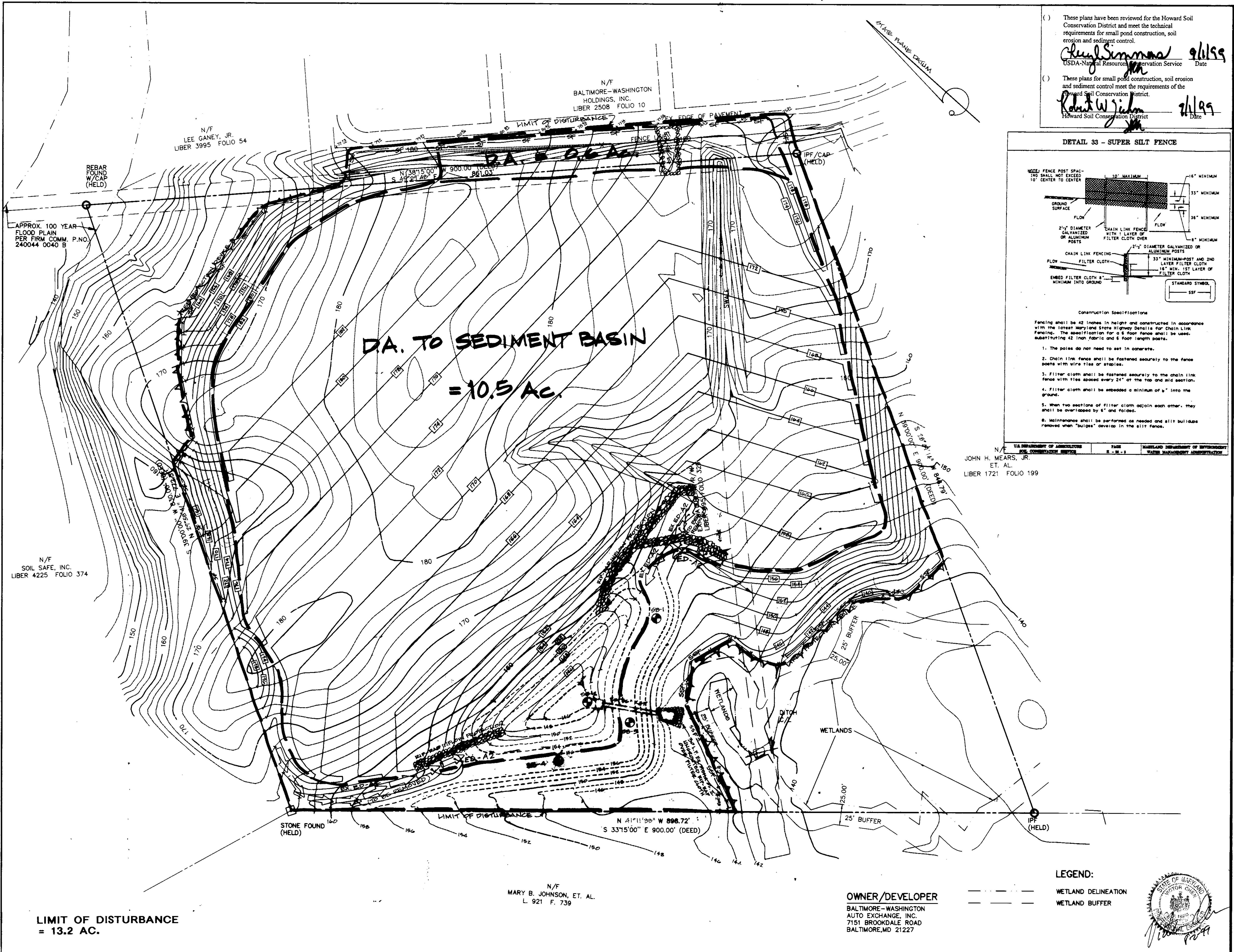
Robert W. Johnson 9/1/99
 Howard Soil Conservation District DATE

N/F JOHN H. MEARS, JR. ET AL. LIBER 1721 FOLIO 199

NOTE:
 NO SEDIMENT CONTROL DEVICES ARE TO BE REMOVED WITHOUT PRIOR PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR.

UPON INSPECTOR'S APPROVAL A PORTION OF SILT FENCE IN FRONT OF TRAP AND BASIN OUTFALL MAY BE REMOVED AFTER TRAP AND BASIN ARE CONSTRUCTED.

USE SUPER SILT FENCE AS PROTECTION OF WETLANDS



(1) These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Royl Simmons 9/1/99
 USDA-Natural Resources Conservation Service Date

(2) These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Robert W. Johnson 9/1/99
 Howard Soil Conservation District Date

DETAIL 33 - SUPER SILT FENCE

Construction Specifications

Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42 inch fabric and 6 foot length posts.

- The poles do not need to set in concrete.
- Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt bulges removed when "bulges" develop in the silt fence.

THAYER & ASSOCIATES INC.

2868 CONSTELLATION WAY
 FINKSBURG, MD 21048-2068
 PHONE/FAX: (410) 840-8797



VICINITY MAP
 SCALE: 1"=2000'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

David S. Smith 9/20/99
 DIRECTOR DATE

Royl Simmons 9/1/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

David S. Smith 9/1/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

N/F
 JOHN H. MEARS, JR.
 ET. AL.
 LIBER 1721 FOLIO 199

DATE	REVISIONS

BALTIMORE - WASHINGTON AUTO EXCHANGE STORAGE YARD VEHICLE STORAGE ADDITIONS

PARCEL "D"

FIRST ELECTION DISTRICT
 DATE: 2-26-99
 HOWARD COUNTY, MD
 SCALE: 1"=50' OR AS SHOWN

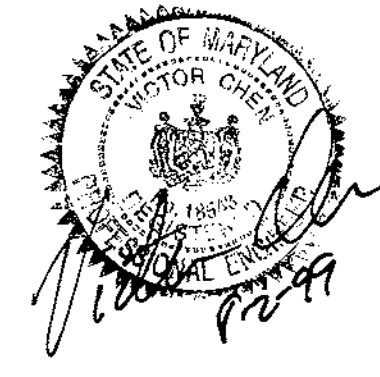
PHASE II SEDIMENT CONTROL PLAN

LIMIT OF DISTURBANCE = 13.2 AC.

N/F
 MARY B. JOHNSON, ET. AL.
 L. 921 F. 739

OWNER/DEVELOPER
 BALTIMORE-WASHINGTON AUTO EXCHANGE, INC.
 7151 BROOKDALE ROAD
 BALTIMORE, MD 21227

LEGEND:
 --- WETLAND DELINEATION
 --- WETLAND BUFFER



10.0 STANDARD AND SPECIFICATIONS

FOR

SEDIMENT BASINS

Definition

A temporary barrier or dam constructed across a drainage way or at other suitable locations to intercept flow and collect runoff. This barrier may be combined with excavation to achieve the required storage.

Purpose

To reduce basin product downstream properties and drainageways by trapping sediment and controlling the rate of discharge.

Wet and Dry Storage

For minimum storage volume requirement for sediment basins is 3600 cubic feet per acre of contributory drainage area. The basin storage volume of 3600 cubic feet per acre shall be divided equally into "dry" or "wet" storage and "wet" or retention storage. Basins shall be dewatered to the wet pool elevation corresponding to 1000 cubic feet of storage per acre of drainage area.

Conditions Where Practice Applies

Basins shall be required to control runoff and sediment from large areas where sediment traps are not appropriate. Stormwater management ponds may be used as sediment basins provided that they meet the requirements of this section and that the construction sequence addresses converting the sediment basin to the permanent stormwater management pond.

Conditions of Use

This standard applies to the installation of temporary sediment basins on sites where: (a) failure of the site would result in loss of life, damage to houses or buildings, or interruption of use or service of public utility facilities; (b) the drainage area does not exceed 100 acres; (c) the maximum embankment height is not greater than 15 feet measured from the natural ground to the embankment top along the centerline of the embankment; and (d) the basin is to be removed within 36 months after the beginning of construction of the site. Where these criteria cannot be met, the structure shall be designed to conform with the National Fire Protection Association, Table 8, Subtable 8, Annotated Code of Maryland or Maryland SCS Standards and Specifications, Table 12, 12B for basins. The total volume of permanent sediment basins shall equal or exceed the volume requirements for temporary basins contained herein.

FIGURE 2. Temporary Sediment Basin Design Data Sheet

Project No: 10 Date: 1-99 Checked by: _____ Date: _____
 By: Auto Exchange Basin #: AT SWM POND
 Location: HOWARD COUNTY, MARYLAND

Total area draining to basin: 9.9 acres (ac)

Basin Volume Design

- Also see Surface Area Design #30, this form.
- To convert ft³ to yd³, divide ft³ by 27. To convert ft³ to yd³, divide ft³ by 9.

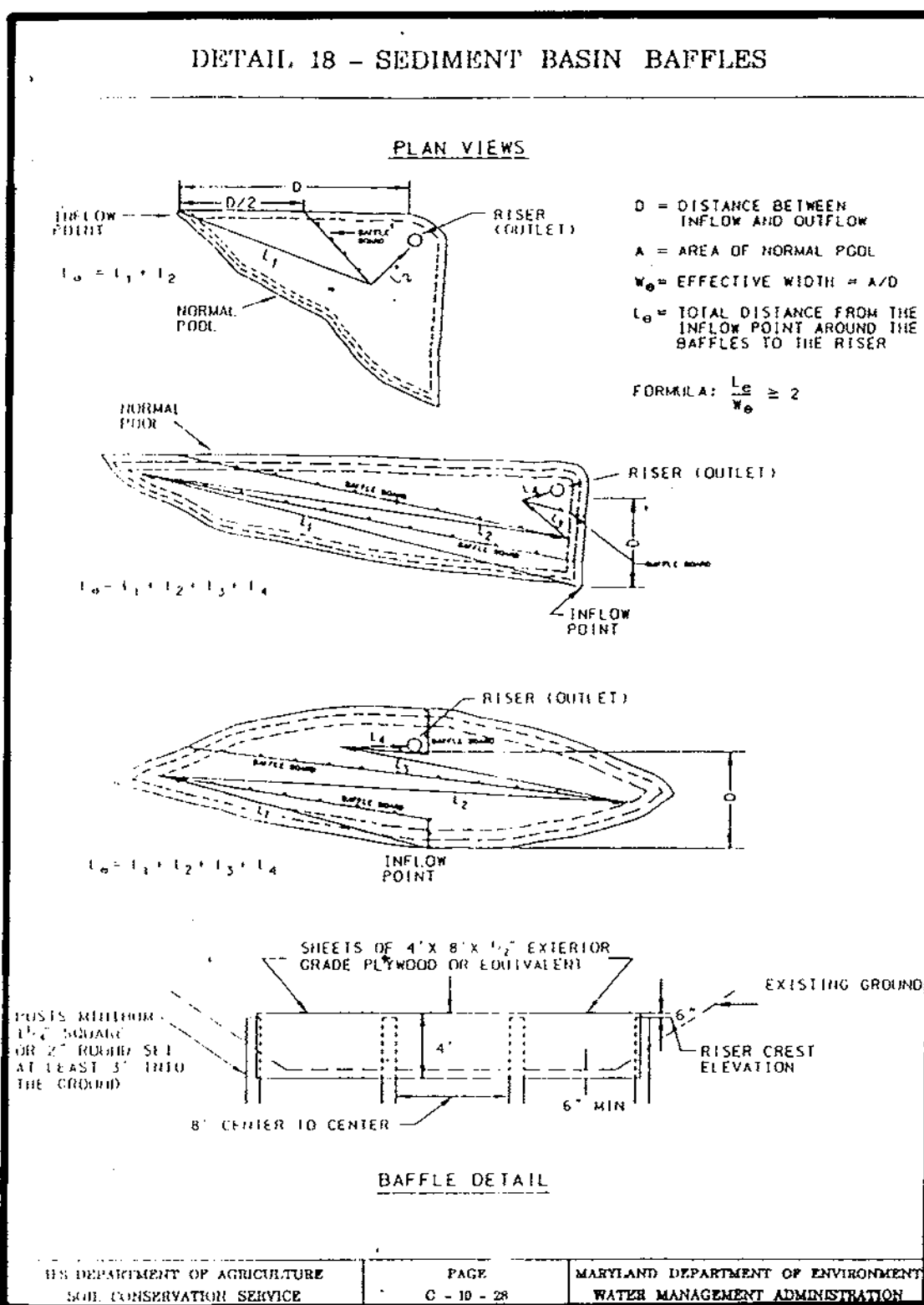
1. Min. required vol. = 3600 ft³/ac x 10.9 ac drainage = 37,800 ft³
2. Actual Volume of basin = 62,246 ft³
3. Excavate 18,000 ft³ (4000 yd³) to obtain required capacity.
4. Vol. at dewatering elev. = 1800 ft³/ac x 10.9 ac = 19,620 ft³
5. Vol. of basin at cleanout = 900 ft³/ac x 10.9 ac = 9,810 ft³
6. Elevation corresponding to min. required volume of basin (riser crest elevation) = 152.5 ft.
7. Permanent pool elevation = 150.6 ft.
8. Distance from riser crest elevation to permanent pool elevation = 2 ft.
9. Basin cleanout elevation = 148.25 ft.
10. Distance from riser crest elevation to cleanout elevation = 4.25 ft.

Spillway Design

- $Q_p = 21.4$ cfs (peak discharge from 10 yr. 24 hr storm event, attach computations)

Principal Spillway (Q₅₀) (See Detail 11)

- Design Principal Spillway (Barré) discharge, Design Q₅₀ = 19.3 cfs (min. 10% of 10 year peak or 8" Diameter Pipe)
- 11 = 8 ft; Barrel length = 70 ft.
12. Barrel diam. 36 in. Note: Q₅₀ must equal or exceed Design Q₅₀.
13. $Q_p = Q$ (from Table 13 or 14) 62 x (depth correction factor) 1 = 62 cfs.
14. Riser Diameter N/A in.; Riser Height 12.5 ft.; Riser Head (h) = N/A ft.
15. Trash Rack Head N/A in.; Trash Rack Height = N/A in.



Emergency Spillways (Q₅₀)

- Emergency spillway cap, $Q_p = Q_s = \frac{N/A}{N/A}$ cfs
- Width N/A ft; H₁₀ N/A ft
- Entrance channel slope N/A %
- Exit channel slope N/A %

Anti-Slope Collar Design (If Required)

- $y = 9$ ft.; $z = 4$ ft.; pipe slope = 2.14 %; $L_s = 75$ ft.
- USE 2 COLLARS; SIZE AS SHOWN ON SHEET 4 OF 16; PROJECTION = 2'-10"

Design Elevations

- Riser Crest = 152.5 ft. 24. Design High Water = 154.5 ft.
- Emergency Spillway Crest = N/A ft. 26. Min. settled top of dam = 156.5 ft.
- Permanent pool = 150.6 ft. 28. Bottom of Basin = 146.0 ft.
- Draw-down orifice invert = 150.6 ft.

Surface Area Design

- Min. basin surface area, $SA \geq 0.0035 \times Q_p = 0.0035 \times 21.4$ cfs ≤ 0.1 ac

Draw-down Orifice

- Draw-down orifice diameter = 6 in. (From Table 11)
- $A_p =$ Total area of perforations $\geq 4A_p$ 64 HOLES X .005 #
 $A_p =$ (# of perforations/foot)(perforation area ft²)(perforation section length ft)
 $A_p = 0.22$ ft² > 0.2 ft²
 $A_p =$ Internal orifice area (from Table 11 or computed) = 0.2 ft²

15.0 STANDARD AND SPECIFICATIONS

FOR

SILT FENCE

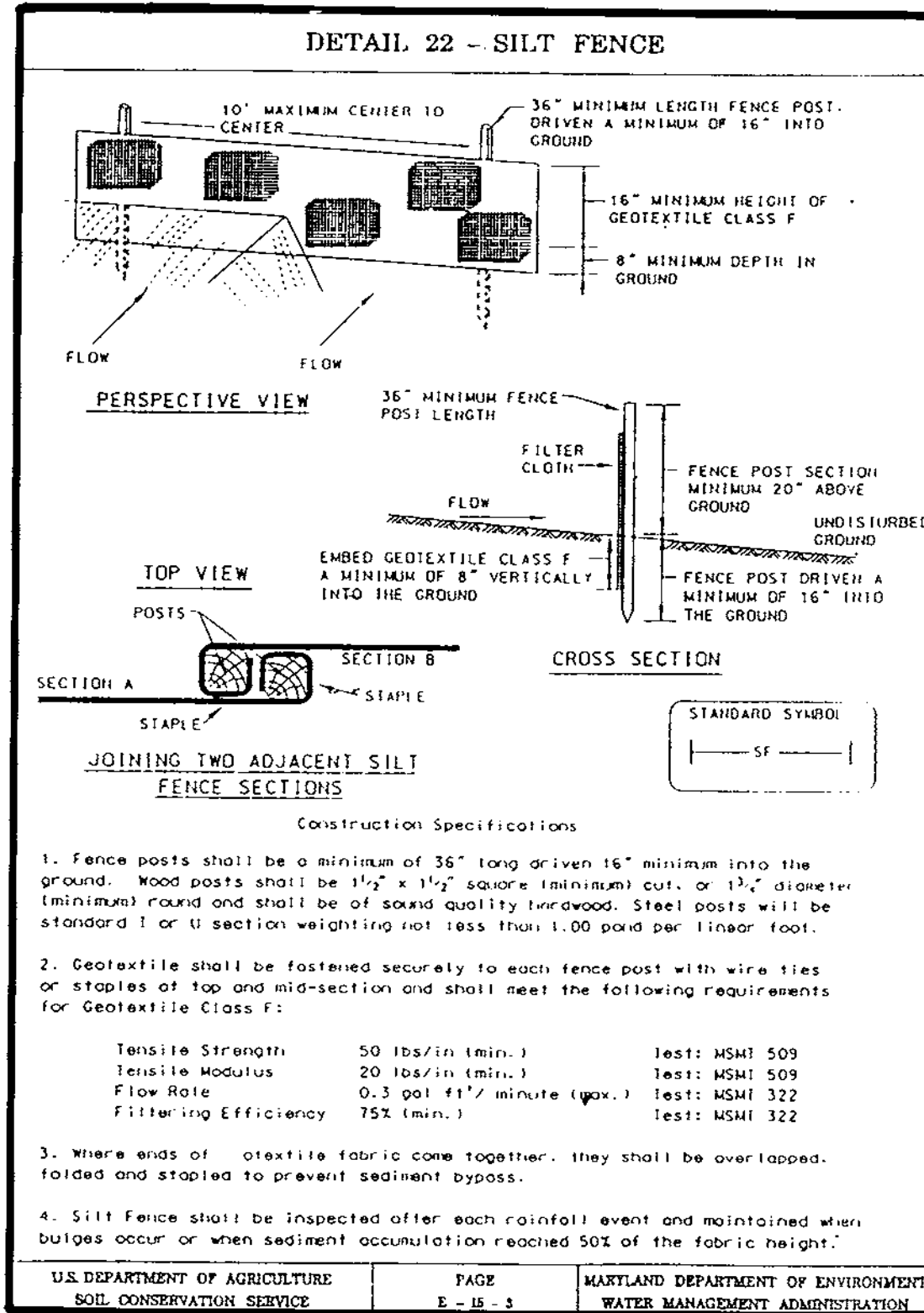
Definition

Temporary barriers of woven geotextile fabric used to intercept, reduce velocity and filter surface runoff from disturbed areas.

Silt fences filter sediment from runoff so that deposition of transported sediment can occur. Silt fences can be used to intercept sheet flow only. They cannot be used as velocity checks in ditches or swales, or placed where they will intercept concentrated flow.

Conditions Where Practice Applies

Silt fence is limited to intercepting sheet flow runoff from limited distances according to slope. Silt fence provides filtering and velocity dissipation to promote gravity settling of sediments.



1.0 STANDARD AND SPECIFICATIONS

FOR

EARTH DIKES

Definition

A temporary berm or ridge of soil, composted, stabilized and located in such a manner as to direct water to a desired location.

Purpose

The purpose of the earth dike is to direct runoff to a sediment trapping device which reduces the potential for erosion and sedimentation. Earth dikes can also be used for diverting clean water away from disturbed areas.

Conditions Where Practice Applies

Earth dikes are often constructed across disturbed areas and around construction sites such as parking lots and subdivisions. The dikes shall remain in place until the disturbed area is permanently stabilized.

Earth Dikes are constructed:

- To divert sediment laden runoff from a disturbed area to a sediment trapping device.
- Across disturbed areas to shorten overland flow distances.
- To direct sediment laden water along the base of slopes to a trapping device.
- To divert clear water from an undisturbed area to a stabilized outlet. Runoff shall be discharged at non-erosive rates.

Construction Specifications

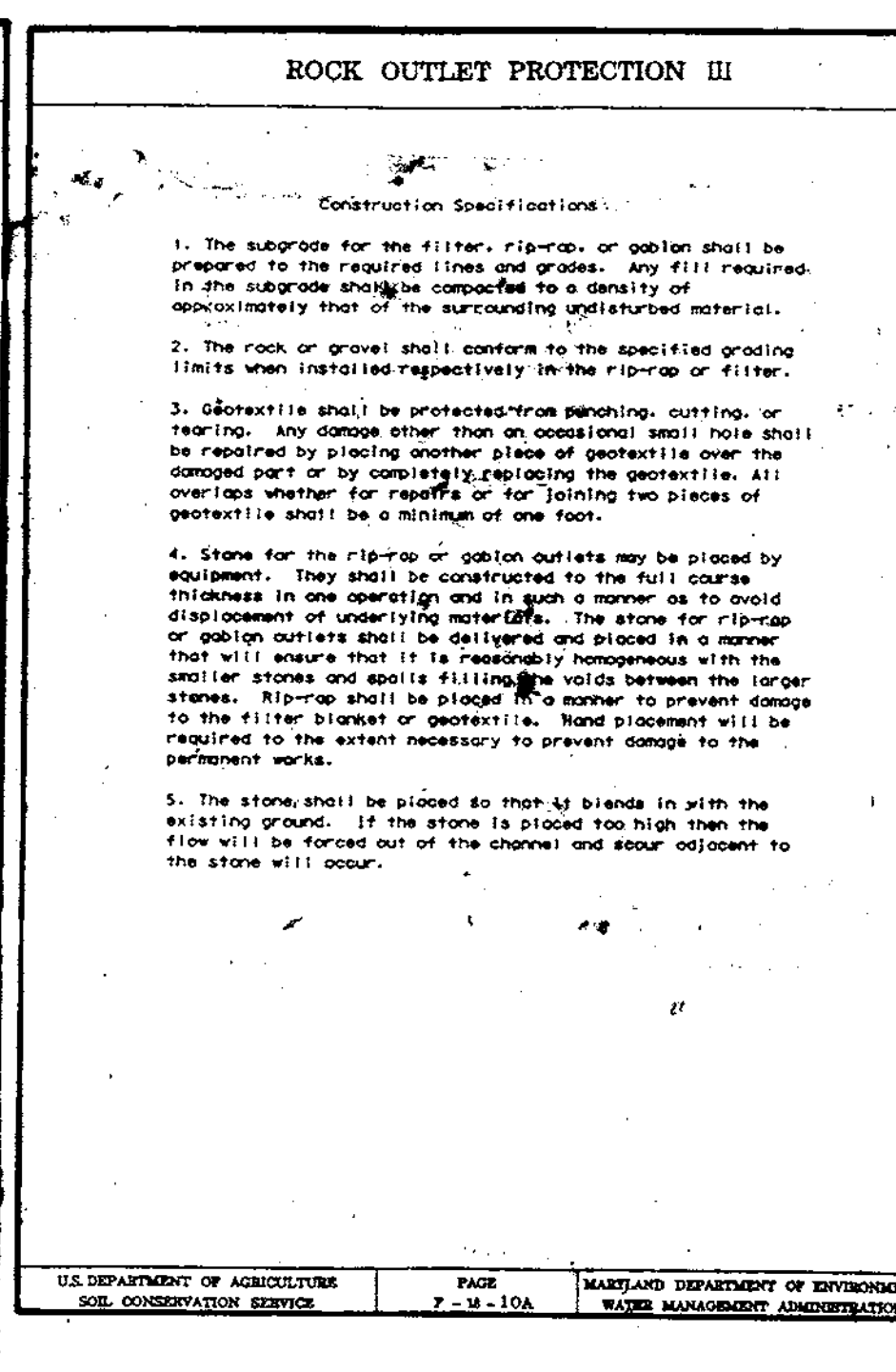
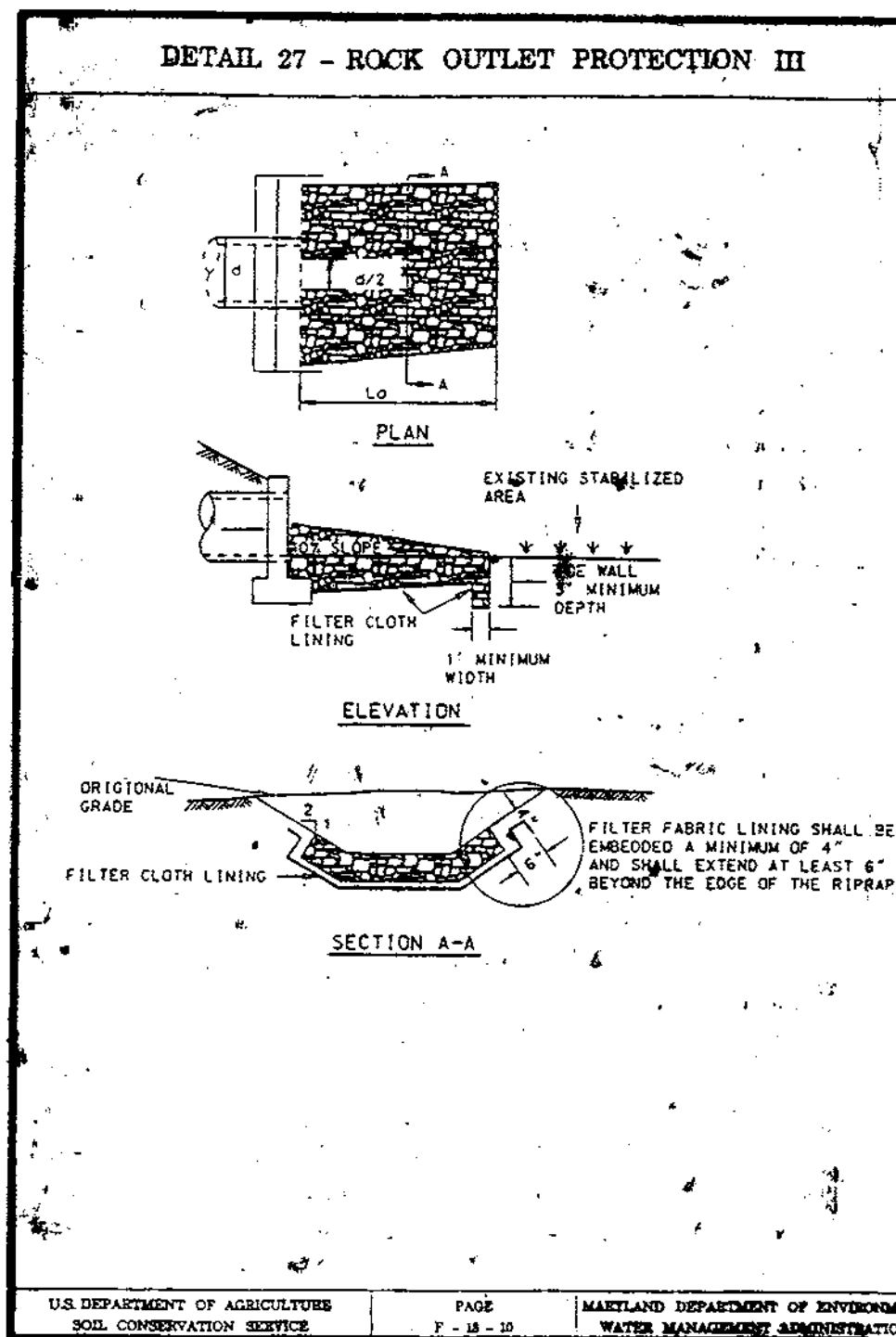
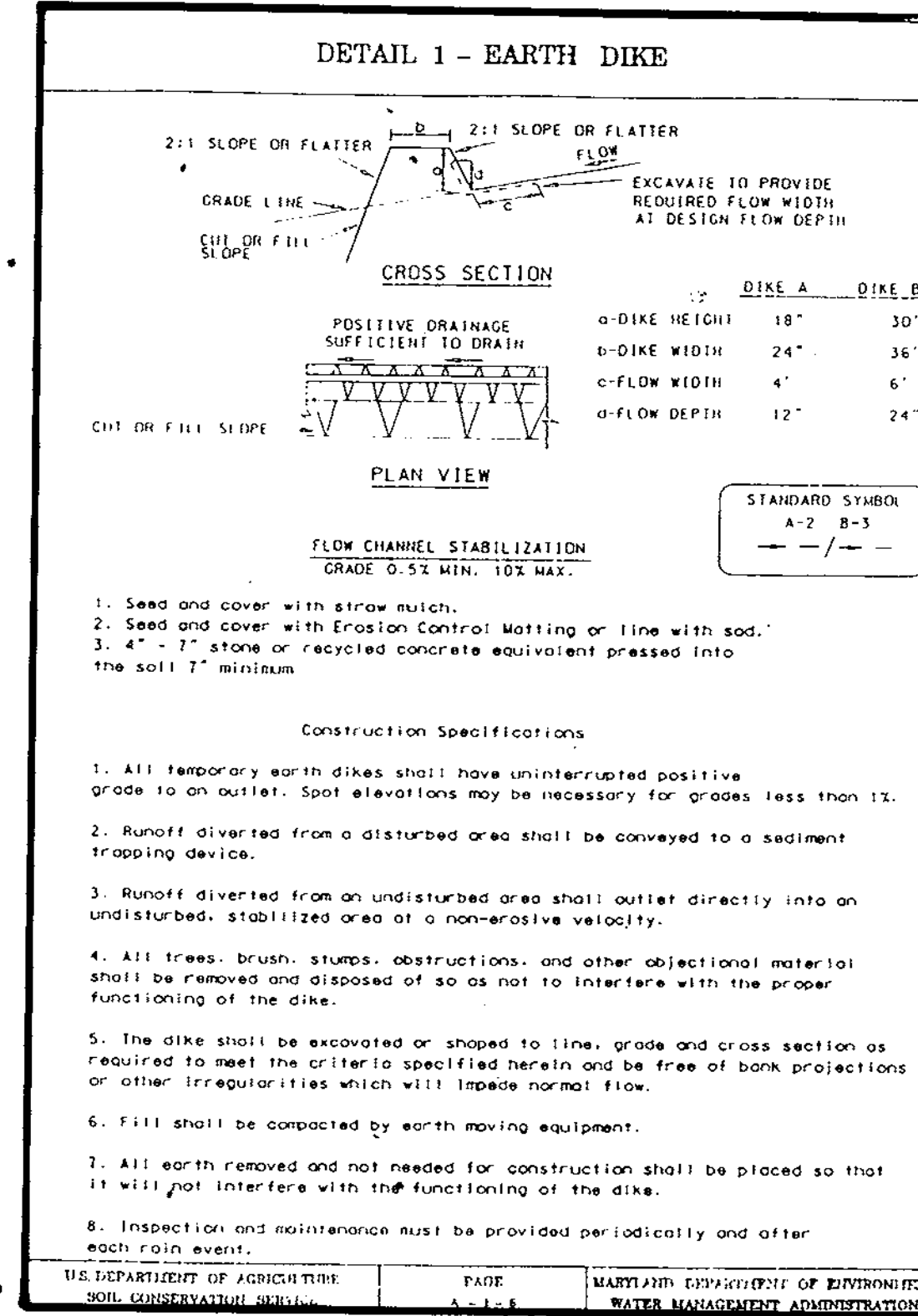
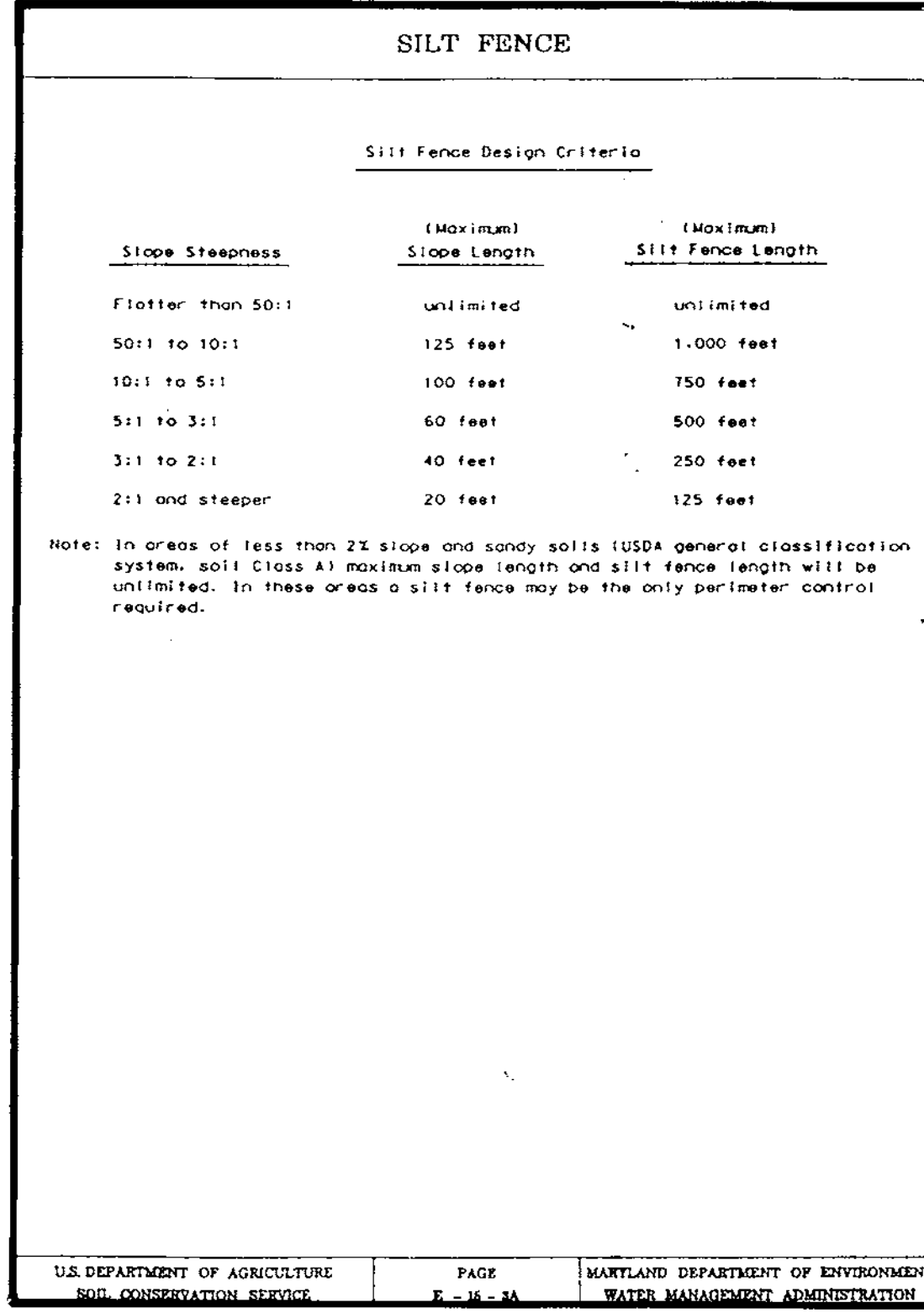
- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Earth dikes having longitudinal slopes flatter than 1% shall have spot elevations along the flow line.
- Diverted runoff from disturbed areas shall be directed to a sediment trapping device.
- Diverted runoff from undisturbed areas shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity (≤ 4 fps for grass).
- All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the earth dike berm and flow channel.
- The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and free of bank projections or other irregularities which will impede normal flow.
- Fill shall be compacted by earth moving equipment.
- All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the earth dike berm and flow channel.
- Inspection and maintenance must be provided periodically and after each rain event.

Stabilization

Stabilization of the earth dike shall be completed within 7 days of installation in accordance with the standards and specifications for Vegetative Practices (Section G). The earth dike flow channel shall be stabilized in accordance with Table 2, and the following criteria:

Flow Channel Stabilization

- Seed and cover with straw mulch.
- Seed and cover with Erosion Control Matting or line with sod.
- 4" - 7" stone or recycled concrete equivalent pressed into the soil in a minimum 7" layer.



2868 CONSTELLATION WAY
 FINKSBURG, MD 21048-2068
 PHONE/FAX: (410) 840-8797

APPROVED: HOWARD COUNTY
 DEPARTMENT OF PLANNING AND ZONING

Joseph Scutella 9/20/99
 DIRECTOR DATE

John W. Korman 9/15/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Clayton H. Hester 9/15/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	REVISIONS

BALTIMORE - WASHINGTON
 AUTO EXCHANGE STORAGE YARD
 VEHICLE STORAGE ADDITIONS
 PARCEL 1D

FIRST ELECTION DISTRICT
 DATE: 1-4-99
 HOWARD COUNTY, MD
 SCALE: 1"=50' OR AS SHOWN

SEDIMENT CONTROL
 BASIN NOTES AND
 COMPUTATIONS

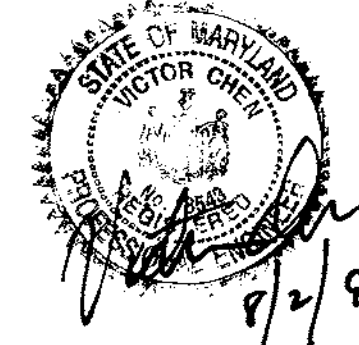
SDP 99-55

SHEET 9 OF 16

SDP 99-55

GENERAL NOTE:
 FOR ADDITIONAL GEOTECHNICAL
 INFORMATION SEE REPORT PREPARED
 BY MAFI ASSOCIATES, INC. (DATED
 MAY 1999)

- These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
- These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.



OWNER/DEVELOPER
 BALTIMORE-WASHINGTON
 AUTO EXCHANGE, INC.
 7151 BROOKDALE ROAD
 BALTIMORE, MD 21227

Clayton H. Hester 9/15/99
 DATE

19.0 STANDARDS AND SPECIFICATIONS

FOR
LAND GRADING

Definition

Reshaping of the existing land surface in accordance with a plan as determined by engineering survey and layout.

Purpose

The purpose of a land grading specification is to provide for erosion control and vegetative establishment on those areas where the existing land surface is to be reshaped by grading according to plan.

Design Criteria

The grading plan should be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, effect on adjacent properties and drainage patterns, measures for drainage and water removal and vegetative treatment, etc.

Many counties have regulations and design procedures already established for land grading and cut and fill slopes. Where these requirements exist, they shall be followed. The plan must show existing and proposed contours of the area(s) to be graded. The plan shall also include practices for erosion control, slope stabilization, safe disposal of runoff water and drainage, such as waterways, lined ditches, reverse slope benches (include grade and cross section), grade stabilization structures, retaining walls, and surface and subsurface drains. The plan shall also include planting of these practices. The following shall be incorporated into the plan:

1. Provisions shall be made to safely conduct surface runoff to storm drains, protected outlets or to stable water courses to insure that surface runoff will not damage slopes or other graded areas.

2. Cut and fill slopes that are to be stabilized with grasses shall not be steeper than 2:1. (Where the slope is to be mowed the slope should be no steeper than 3:1; 4:1 is preferred because of safety factors related to mowing steep slopes). Slopes exceeding 2:1 shall require special design and stabilization considerations that shall be adequately shown on the plans.

3. Reverse benches shall be provided whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slope it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slope face as equally as possible and shall convey the water to a stable outlet. Soils, seeps, rock outcrops, etc., shall also be taken into consideration when designing benches.

a. Benches shall be a minimum of six-foot wide to provide for ease of maintenance.

b. Benches shall be designed with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Bench gradient to the outlet shall be between 2 percent and 3 percent, unless accompanied by appropriate design and computations.

c. The flow length within a bench shall not exceed 800' unless accompanied by appropriate design and computations. For flow channel stabilization see temporary swale.

4. Surface water shall be diverted from the face of all cut and/or fill slopes by the use of earth dikes, ditches and swales or coeverted downslope by the use of a designed structure, except where:

a. The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected from surface runoff until they are stabilized.

b. The face of the slope shall not be subject to any concentrated flows of surface water such as from natural drainageways, graded swales, downspouts, etc.

c. The face of the slope will be protected by special erosion control materials, to include, but not limited to: approved vegetative stabilization practices (see section O), rip-rap or other approved stabilization methods.

5. Cut slopes occurring in ripable rock shall be serrated as shown on the following diagram. These serrations shall be made with conventional equipment as the excavation is made. Each step or serration shall be constructed on the contour and will have steps cut at nominal two-foot intervals with nominal three-foot horizontal shelves. These steps will vary depending on the slope ratio or the cut slope. The nominal slope line is 1:1. These steps will weather and act to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization. Overland flow shall be diverted from the top of all serrated cut slopes and carried to a suitable outlet.

6. Subsurface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.

7. Slopes shall not be created so close to property lines as to endanger adjoining properties without adequately protecting such properties against sedimentation, erosion, slippage, settlement, subsidence or other related damages.

8. Fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris, and other objectionable material. It should be free of stones over two (2) inches in diameter where compacted by hand or mechanical tampers or over eight (8) inches in diameter where compacted by rollers or other equipment. Frozen material shall not be placed in the fill nor shall the fill material be placed on a frozen foundation.

9. Stockpiles, borrow areas and spoil shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

10. All disturbed areas shall be stabilized structurally or vegetatively in compliance with 20.0 Standards and Specifications for Vegetative Stabilization.

Table 27 Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. MIN.
A	0.30	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

US Std Sieve CW-02215

Table 28 Stone Size

	SIZE RANGE	D ₅₀	D ₁₀₀	AASHTO	WEIGHT
NUMBER 57*	3/8" - 1 1/2"	1/2"	1 1/2"	M-43	N/A
NUMBER 1	2" - 3"	2 1/2"	3"	M-43	N/A
RIP-RAP**	4" - 7"	5 1/2"	7"	N/A	N/A
CLASS I	N/A	9.5"	15"	N/A	150lb max
CLASS II	N/A	16"	24"	N/A	700lb max
CLASS III	N/A	23"	34"	N/A	2000lb max

* This classification is to be used on the inside face of stone outlets and check dams.

** This classification is to be used when ever small rip-rap is required. The State Highway Administration designation for this stone is Stone For Gabions (#905.01.04).

21.0 STANDARD AND SPECIFICATIONS

FOR
TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. 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 containing 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.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. 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 clods, 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, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.

III. 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.

IV. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:

- pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
- Organic content of topsoil shall be not less than 1.5 percent by weight.
- Topsoil having soluble salt content greater than 500 parts per million shall not be used.
- No 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 phytotoxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

VI. Topsoil Application

i. When topsoiling, maintain seeded erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VII. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendment and for sites having disturbed areas under 5 acres shall conform to the following requirements:

- Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
- Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
- 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.

6.0 STANDARDS AND SPECIFICATIONS

FOR
RIP-RAP INFLOW PROTECTION

Definition

A temporary or permanent, lined drainage way installed to convey concentrated runoff into sediment traps and basins or down steep slopes as applicable. Rip-rap Inflow Protection consists of the installation of rock or recycled concrete equivalent in a flow channel for stabilization.

Purpose

The purpose of Rip-rap Inflow Protection is to provide stable conveyance of concentrated runoff down steep slopes, (i.e. into temporary sediment traps and basins) thereby preventing erosion of the flow channel.

Conditions Where Practice Applies

Rip-rap Inflow Protection is required where the slope of a drainage way contributing to a sediment trap or basin exceeds 10:1 but is less than 4:1. Runoff may be directed to the inflow device by means of dikes or swales.

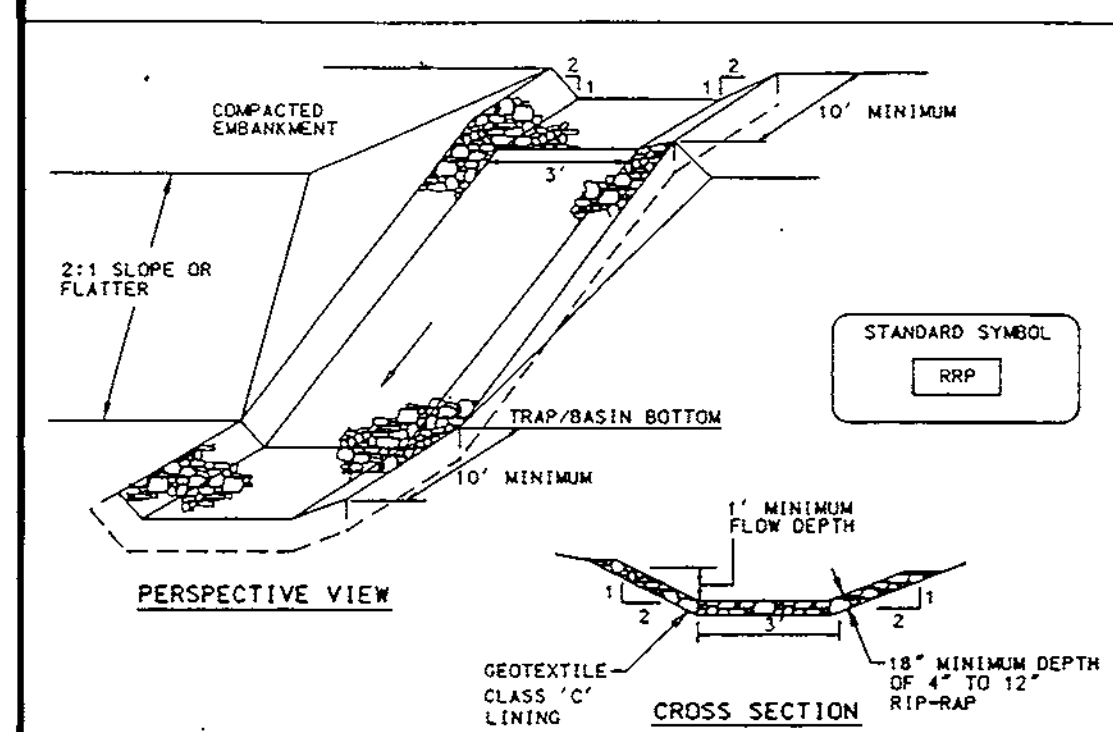
Design Criteria

Rip-rap Inflow Protection shall be 4" - 12" rip-rap (min), underlaid with Geotextile Class C* and placed from the ditch overfall elevation to the bottom of the trap or basin when the inflow slope is between 4:1 and 10:1. Slopes flatter than 10:1 shall be stabilized in accordance with Temporary Swale or Earth Dike criteria as applicable. For slopes steeper than 4:1, see Gabion Inflow Protection.

Construction Specifications

- Rip-rap Inflow Protection shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and a 3' minimum bottom width. The channel shall be lined with 4" - 12" rip-rap or SHA Class I* to a depth of 18".
- Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
- Entrance and exit sections shall be installed as shown on the detail section.
- Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
- Gabion Inflow Protection may be substituted for Rip-rap Inflow Protection.
- Rip-rap shall blend into existing ground.
- Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1. For slopes flatter than 10:1 use Earth Dike or Temporary Swale.

DETAIL 5 - RIP-RAP INFLOW PROTECTION



Construction Specifications

- Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" - 12" rip-rap to a depth of 18".
- Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
- Entrance and exit sections shall be installed as shown on the detail section.
- Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
- Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.
- Rip-rap should blend into existing ground.
- Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 3-4-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



2868 CONSTELLATION WAY
FINKSBURG, MD 21048-2068
PHONE/FAX: (410) 840-8797

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING AND
ZONING.

James R. Smith 9/20/99
DIRECTOR, DATE

Chris DeMunn 9/13/99
CHIEF, DEVELOPMENT DATE
ENGINEERING DIVISION

Chris Hamilton 9/15/99
CHIEF, DIVISION OF DATE
LAND DEVELOPMENT

DATE REVISIONS

BALTIMORE - WASHINGTON
AUTO EXCHANGE STORAGE YARD
VEHICLE STORAGE ADDITIONS
PARCEL 'D'

FIRST ELECTION DISTRICT
DATE: 1-4-99
HOWARD COUNTY, MD
SCALE: 1"=50' OR AS SHOWN

SEDIMENT CONTROL
NOTES AND TABLES

SDP 99-55

SHEET 11 OF 16

SDP 99-55



These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Chris Semmas 9/6/99
USDA-Natural Resources Conservation Service Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Chris Hamilton 9/11/99
Howard Soil Conservation District Date

20.0 STANDARDS AND SPECIFICATIONS

FOR
VEGETATIVE STABILIZATION

Definition

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

Purpose

Vegetative Stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and improving wildlife habitat and visual resources.

Conditions Where Practice Applies

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or erodibly existing areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding. For long term vegetative cover, Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

Effects on Water Quality and Quantity

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

Section I - Vegetative Stabilization Methods and Materials

A. Site Preparation

1. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
3. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.

2. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.

3. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98 - 100% will pass through a #20 mesh sieve.

4. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

C. Seedbed Preparation

i. Temporary Seeding

1. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be treated leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.

2. Apply fertilizer and lime as prescribed on the plans.

3. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

ii. Permanent Seeding

1. Minimum soil conditions required for permanent vegetative establishment:

1. Soil pH shall be between 6.0 and 7.0
2. Soluble salts shall be less than 200 parts per million (ppm)
3. The soil shall contain less than 40% clay but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if loess or silt loess is to be planted, then a sandy silt (< 30% silt plus clay) would be acceptable.
4. Soil shall contain 1.5% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

2. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.

3. Apply soil amendments as per soil test or as included on the plans.

4. Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

1. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.

Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.

2. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding

1. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.

2. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P2O5 (phosphorus); 200 lbs/acre; K2O (potassium); 200 lbs/acre.

3. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.

4. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.

ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

1. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.

2. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

1. Cultipacker seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.

F. Mulch Specifications (In order of preference)

1. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be moist, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.

ii. Wood Cellulose Fiber Mulch (WCFM)

1. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.

2. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.

3. WCFM, including dye, shall contain no germination or growth inhibiting factors.

4. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

5. WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.

6. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.

Note: Only sterile straw mulch should be used in areas where one species of grass is desired.

Section II - Temporary Seeding

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed Mixtures - Temporary Seeding

1. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary Seeding Summary below, along with application rates, seeding dates and seeding depths. If this Summary is not put on the plans and completed, then Table 26 must be put on the plans.

2. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Section III: Permanent Seeding

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

A. Seed Mixtures - Permanent Seeding

1. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintenance areas, see Sections IV Soil and V Turfgrass.

2. For sites having disturbed area over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.

3. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/acre), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Table 21 Recommended Varieties of Grasses and Legumes for Disturbed Areas

Areas Receiving Low Maintenance/		Table 22 Quality of Seed	
Grasses	Varieties	Minimum Seed Purity (%)	Minimum Germination (%)
Tall Fescue	Adventure, Apache, Arid, Bonanza, Falcon, Clemfina, Finelawn I, Hounddog, Jaguar, Kentucky 31V, Mustang, Olympic, Rebel II, Tritone	97	85
		98.5	80
		98	85
		98	80
Perennial Ryegrass	All-Star, Blazer, Manhattan, Palmer, Pennant, Penfina, Premier, Prelude, Regal, Repel	98	80
		98	80
Kentucky Bluegrass	"Common", Kenblue, Victa, Ram I, Monopoly	90	80
		90	80
Creeping Red Fescue	Penlawn, Flyer	98.5	85
		98	85
Hard Fescue	Auroca, Biljart, Reliant, Scalds, Spartan, Waldina	98	85
		98	85
Chewings Fescue	Lougfellow, Victory, Jamestown	98	80
		92	80
Canada Bluegrass	Reubens	96	80
		95	85
Redtop	Streaker	98	80
		96	80
Poa Trivialis	Laser, Sabre	96	80
		95	85
Reed Canarygrass	Isored, Palaton, Rise	98	80
		99	80
Weeping Lovegrass	Morpa, "Common"	99	80
		95	85
Legumes Variety		98.5	85
Crownvetch	Penngift, Chemung		
Sericia Lespedeza	Interstate, Interstate 76, Appalaw		
Flatopa	Lathco		
Birdsfoot Trifolium	Empire, Norcon, Viking		

Table 25 Permanent Seeding for Low Maintenance Areas

MIX	SEED MIX (USE CERTIFIED MATERIAL IF AVAILABLE)	PLANTING RATE		SITE CONDITIONS	USDA HARDINESS ZONES	RECOMMENDED PLANTING DATES*								N O T E S
		LS/AC	LS/1000 SQ FT			3/1-3/15	3/16-3/31	4/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	
1	TALL FESCUE (80%), CANADA BLUEGRASS (10%), KENTUCKY BLUEGRASS (10%), REDTOP (10%)	150	3.4	MOIST TO DRY	5b	3/1-3/15	3/16-3/31	4/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	
						7a	7b	7c	7d	7e	7f	7g	7h	
						7i	7j	7k	7l	7m	7n	7o	7p	
						7q	7r	7s	7t	7u	7v	7w	7x	
2	KENTUCKY BLUEGRASS (90%), CREEPING RED FESCUE OR A HARD FESCUE (10%), REDTOP (10%)	100	3.4	MOIST TO MODERATELY DRY TO DRY	5b	3/1-3/15	3/16-3/31	4/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	
						7a	7b	7c	7d	7e	7f	7g	7h	
						7i	7j	7k	7l	7m	7n	7o	7p	
						7q	7r	7s	7t	7u	7v	7w	7x	
3	TALL FESCUE (80%), PERENNIAL RYEGRASS (10%), KENTUCKY BLUEGRASS (10%)	125	2.9	MOIST TO DRY	5b	3/1-3/15	3/16-3/31	4/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	
						7a	7b	7c	7d	7e	7f	7g	7h	
						7i	7j	7k	7l	7m	7n	7o	7p	
						7q	7r	7s	7t	7u	7v	7w	7x	
4	RED FESCUE OR CHEWINGS FESCUE (80%), PERENNIAL RYEGRASS (20%)	60	.92	MOIST TO DRY	5b	3/1-3/15	3/16-3/31	4/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	
						7a	7b	7c	7d	7e	7f	7g	7h	
						7i	7j	7k	7l	7m	7n	7o	7p	
						7q	7r	7s	7t	7u	7v	7w	7x	
5	TALL FESCUE (80%) OR PERENNIAL RYEGRASS (10%) PLUS CROWN VETCH OR FLATOPA	110	2.5	MOIST TO DRY	5b	3/1-3/15	3/16-3/31	4/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	
						7a	7b	7c	7d	7e	7f	7g	7h	
						7i	7j	7k	7l	7m	7n	7o	7p	
						7q	7r	7s	7t	7u	7v	7w	7x	
6	WEAVING LOVEGRASS (75%), SERICIA LESPEDEZA (25%)	4	.09	DRY TO VERY DRY	5b	3/1-3/15	3/16-3/31	4/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	
						7a	7b	7c	7d	7e	7f	7g	7h	
						7i	7j	7k	7l	7m	7n	7o	7p	
						7q	7r	7s	7t	7u	7v	7w	7x	

NOTES: A) USED BY SMA ON SLOPED AREAS. ADD A LEGUME FOR SLOPES > THAN 3:1.
B) USED IN MEDIAN AREAS BY SIAL. SHADE TOLERANT.
C) POPULAR MIX - PRODUCES PERMANENT GROUND COVER QUICKLY. BLUEGRASS THICKENS STAND.
D) BEST USE ON HEAVY SLOPES NOT ON POORLY DRAINED CLAYS.
E) USE ON LOW MAINTENANCE, STEEP SLOPES. USE TALL FESCUE IN DAUGHTER COND. CROWN VETCH BEST FOR 5b, 6b, 6c.
F) SUITABLE FOR SEEDING IN MID-SUMMER.

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

1. **Desired** - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/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/acre 0-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
2. **Acceptable** - Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/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 - April 30, and August 1 - October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 - July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (0.5 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 - February 28, protect site by: **Option 1** - Two 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 grain 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 slope 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance - Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed 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, if not previously loosened.

Soil Amendments: - Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.)

Seeding: - For periods March 1 - April 30 and from August 15 - October 15, seed with 2 1/2 bushel per acre of annual eye (3.2 lbs/1000 sq. ft.) For the period May 1 - August 14, seed with 3 lbs/acre of weeping lovegrass (0.7 lbs/1000 sq. ft.) For the period November 16 - February 28, protect site by applying 2 tons/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/acre (70 to 90 lbs/1000 sq. ft.) of unrotted wood-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slope 8 ft or higher, use 348 gal per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

Table 25 Permanent Seeding for Low Maintenance Areas (Cont'd)

MIX	SEED MIX (USE CERTIFIED MATERIAL IF AVAILABLE)	PLANTING RATE		SITE CONDITIONS	USDA HARDINESS ZONES	RECOMMENDED PLANTING DATES*								N O T E S
		LS/AC	LS/1000 SQ FT			3/1-3/15	3/16-3/31	4/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	
7	TALL FESCUE (80%), WEAVING LOVEGRASS (10%), SERICIA LESPEDEZA (10%)	110	2.9	DRY TO VERY DRY	5b	3/1-3/15	3/16-3/31	4/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	
						7a	7b	7c	7d	7e	7f	7g	7h	
						7i								

Developer's/Builders Certificate

I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a Certification of Landscape Installation accompanied by an executed one year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Name of Owner - James Cook Date 3-24-99
 Name of Preparer - GARY R. BUTSON Date MAY 3, 1999

- a. "This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual.
- b. "Financial surety for the required landscaping has been posted as part of the DPW Developer's Agreement in the amount of \$ 6,900.00 (\$ 300.00 X 23)

HOWARD COUNTY FOREST CONSERVATION WORKSHEET

I. BASIC SITE DATA
 GROSS SITE AREA 15.00
 AREA WITHIN 100 YEAR FLOODPLAIN 15.00
 AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE) 15.00
 NET TRACT AREA 15.00
 LAND USE CATEGORY (R-1RD, R-2RD, R-3, CR/O, I)

II. INFORMATION FOR CALCULATIONS
 A. NET TRACT AREA 15.00
 B. REFORESTATION THRESHOLD (15% x A) 2.25
 C. AFFORESTATION MINIMUM (15% x A) 2.25
 D. EXISTING FOREST ON NET TRACT AREA 15.00
 E. FOREST AREAS TO BE CLEARED 15.00
 F. FOREST AREAS TO BE RETAINED 2.25

III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

1. Reforestation
 If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.

GO TO SECTION IV
 If existing forests exceed the afforestation minimum (if D equals or is more than C) and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

2. Afforestation
 If existing forest area are less than the afforestation minimum (if D is less than C), afforestation requirements apply.

IV. REFORESTATION CALCULATIONS

A. NET TRACT AREA 15.00
 B. REFORESTATION THRESHOLD (15% x A) 2.25
 C. EXISTING FOREST ON NET TRACT AREA 15.00
 D. FOREST AREAS TO BE CLEARED 15.00
 E. FOREST AREAS TO BE RETAINED 2.25
 F. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D - B, if F equals or is greater than B, Alternate 1) 12.75
 G. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (D - B, if F is less than B, Alternate 2) 0
 H. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (B - F, if applicable) 0
 I. FOREST AREAS RETAINED ABOVE REFORESTATION THRESHOLD (F - B, Retention Credit, if applicable) 0

Select the alternative that applies:

1. Clearing above the threshold only
 If forest areas to be retained are equal to or greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

REFORESTATION FOR CLEARING ABOVE THRESHOLD 2.25
 CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD 0
 TOTAL REFORESTATION REQUIRED (G x 1/4) - I 2.25

If the total reforestation requirement is equal to or less than 0, no reforestation is required.

2. Clearing below the threshold

If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:

REFORESTATION FOR CLEARING ABOVE THRESHOLD 0
 G x 1/4 0
 REFORESTATION FOR CLEARING BELOW THRESHOLD 0
 TOTAL REFORESTATION REQUIRED (G x 1/4) + (H x 2) 0

Since clearing occurs below the threshold, no forest retention credit is possible.

V. AFFORESTATION CALCULATIONS

A. NET TRACT AREA 15.00
 C. AFFORESTATION MINIMUM (15% x A) 2.25
 D. EXISTING FOREST ON NET TRACT AREA 15.00
 E. FOREST AREAS TO BE CLEARED 15.00
 F. FOREST AREAS TO BE RETAINED 2.25

Select the alternative that applies:

1. No clearing below the minimum
 If existing forests are less than the afforestation minimum (if D is less than C) and no clearing is proposed, the following calculations apply:

TOTAL AFFORESTATION REQUIRED C - D 0
 Afforestation must make total forest area equal the minimum required.

2. Clearing below the minimum

If existing forests are less than the afforestation minimum (if D is less than C) and clearing is proposed, the following calculations apply:

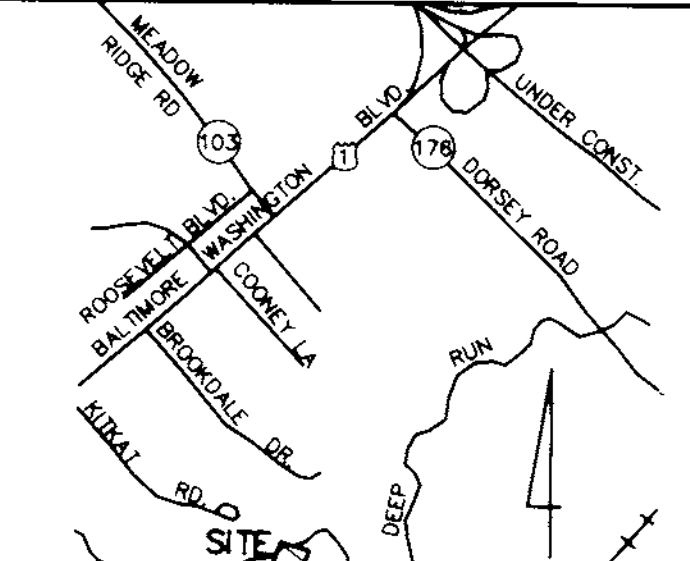
AFFORESTATION FOR UNFORESTED AREAS BELOW MINIMUM C - D 0
 AFFORESTATION FOR CLEARING BELOW MINIMUM E x 2 0
 TOTAL AFFORESTATION REQUIRED (C - D) + (E x 2) 0

Afforestation requires the total forest area be equal to the minimum and it requires compensation for clearing.

NOTE: THIS WORKSHEET IS A REFINEMENT OF THE WORKSHEET APPROVED BY RESOLUTION 48. THIS WORKSHEET MUST ACCOMPANY ALL FOREST STAND DELINEATION AND FOREST CONSERVATION PLAN SUBMISSIONS.



2868 CONSTELLATION WAY
 FINKSBURG, MD 21048-2068
 PHONE/FAX: (410) 840-8797



VICINITY MAP
 SCALE: 1"=2000'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Paul S. Smith 9/20/99
 DIRECTOR DATE

John H. Meers, Jr. 9/10/99
 CHIEF DEVELOPMENT ENGINEERING DIVISION DATE

Chris Hamilton 9/15/99
 CHIEF DIVISION OF LAND DEVELOPMENT DATE

BALTIMORE - WASHINGTON AUTO EXCHANGE STORAGE YARD VEHICLE STORAGE ADDITIONS

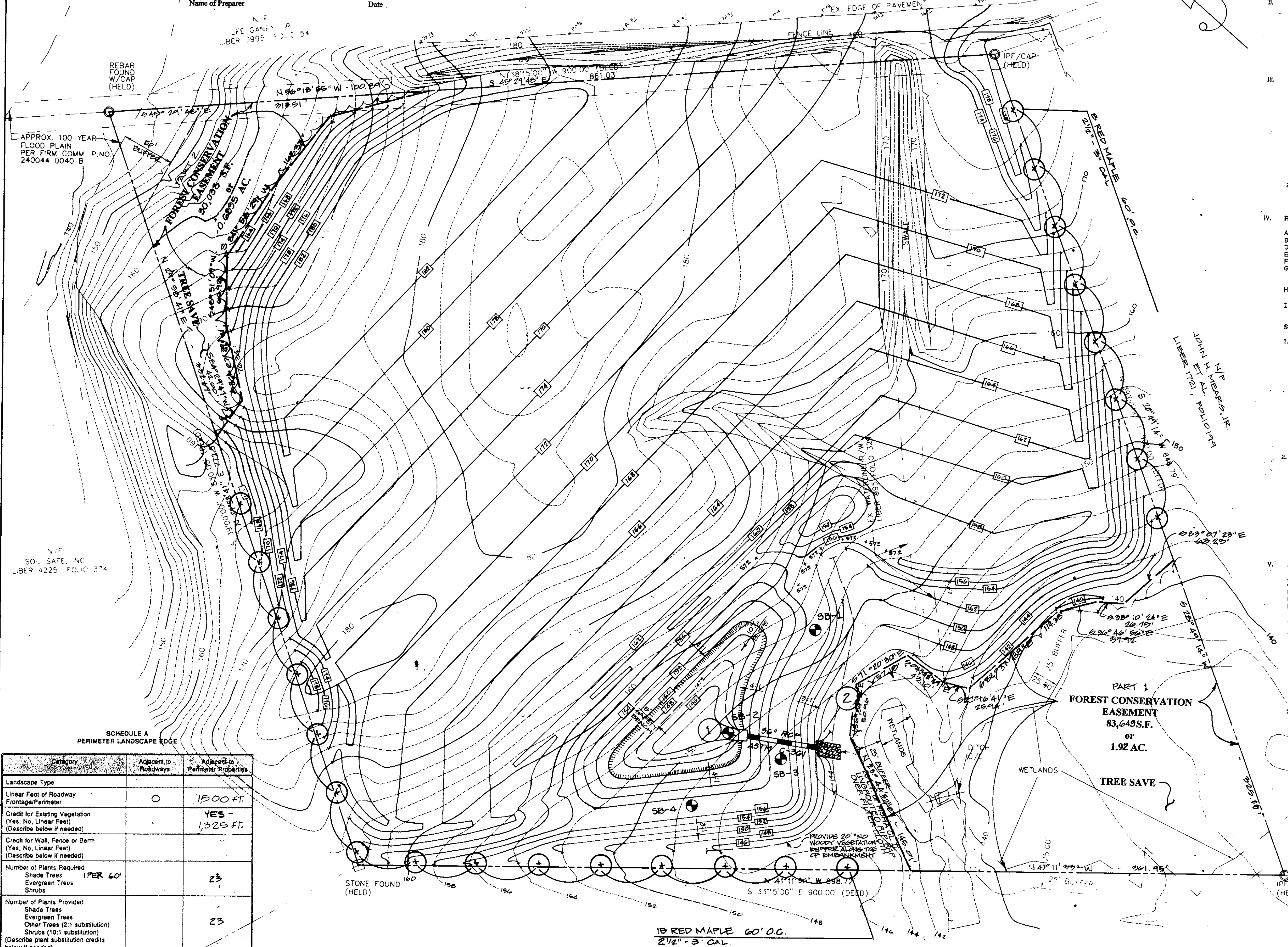
PARCEL "D"

FIRST ELECTION DISTRICT
 DATE: 2-26-99
 HOWARD COUNTY, MD
 SCALE: 1"=50' OR AS SHOWN

LANDSCAPE PLAN AND TREE CONSERVATION PLAN

LEGEND:

--- WETLAND DELINEATION
 --- WETLAND BUFFER



SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type		
Linear Feet of Roadway Frontage/Perimeter	0	1500 FT.
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)		YES - 1,325 FT.
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)		
Number of Plants Required		
Shade Trees		23
Evergreen Trees		
Shrubs		
Number of Plants Provided		
Shade Trees		23
Evergreen Trees		
Other Trees (2:1 substitution)		
Shrubs (10:1 substitution)		
(Describe plant substitution credits below if needed)		

The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.

PLANT LIST

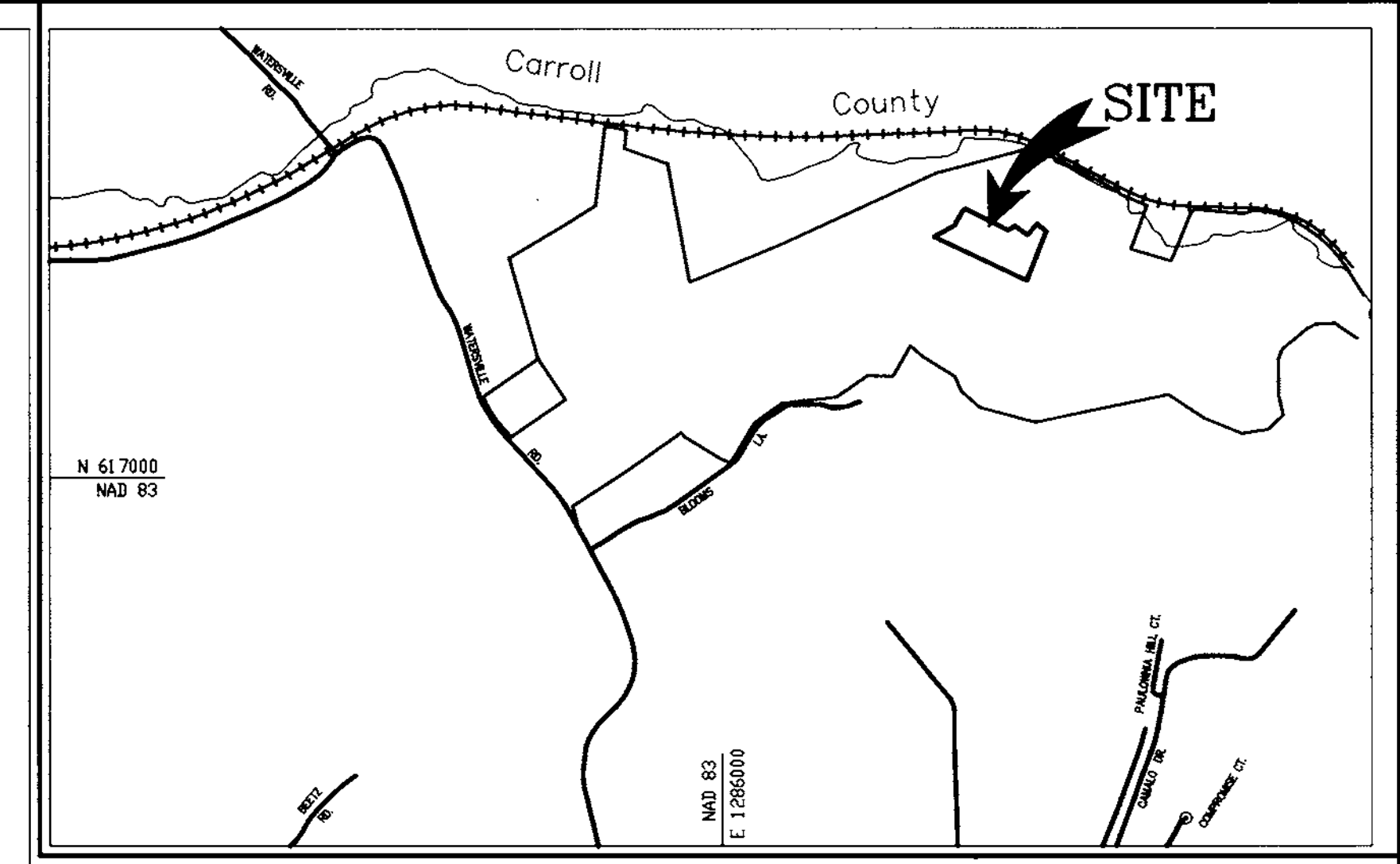
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING/METHOD	QUANTITY
AR	ACER RUBRUM	RED MAPLE 'OCT. GLORY'	2 1/2" - 3" CAL.	60' O.C.	23

OWNER/DEVELOPER

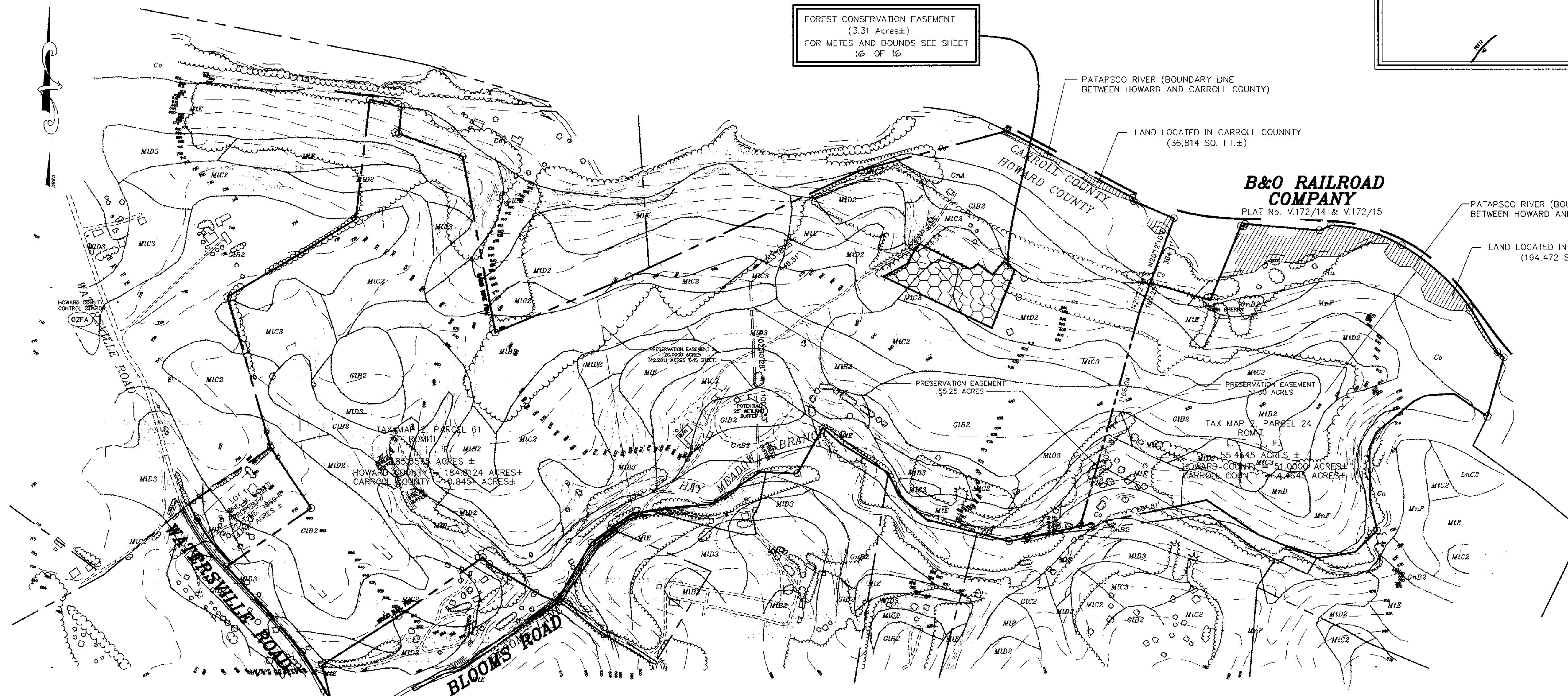
BALTIMORE - WASHINGTON AUTO EXCHANGE, INC.
 7151 BROOKDALE ROAD
 BALTIMORE, MD 21227

SDP 99-55

14 16
 SDP 99-55



FOREST CONSERVATION EASEMENT
(3.31 Acres±)
FOR METES AND BOUNDS SEE SHEET
16 OF 16



VICINITY MAP
SCALE: 1"=1200'

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING AND
ZONING.

[Signature] 9/20/99
DIRECTOR DATE

[Signature] 9/20/99
CHIEF, DEVELOPMENT DATE
ENGINEERING DIVISION

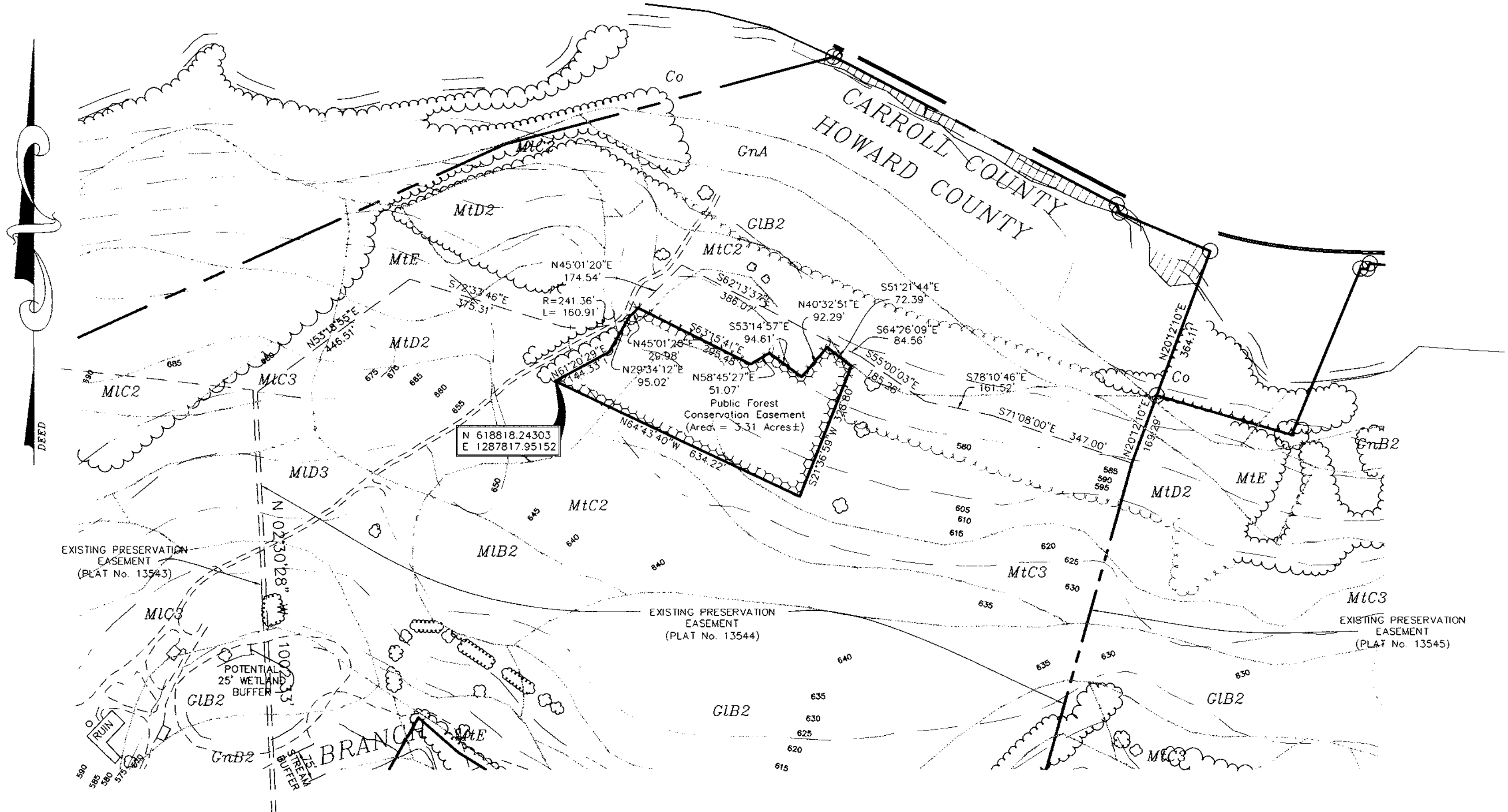
[Signature] 9/20/99
CHIEF, DIVISION OF DATE
LAND DEVELOPMENT

SDP 99-55

DATE	NO.	REVISION
PROJECT: BALTIMORE - WASHINGTON AUTO EXCHANGE STORAGE YARD VEHICLE STORAGE ADDITIONS PARCEL "D" FIRST ELECTION DISTRICT HOWARD COUNTY, MD.		
TITLE: OFF-SITE FOREST MITIGATION PLAN		
AREA: ROMITI FARM TAX MAP, 2 PARCEL 24 HOWARD COUNTY MARYLAND LIBER, FOLIO		
TITLE: REFORESTATION PLANTING PLAN COVER SHEET		
		WILDMAN ENVIRONMENTAL SERVICES 4747 BONNIE BRANCH RD. ELLCOTT CITY, MD. 21043 PHONE: (410) 313-9999 FAX: (410) 313-9099 <i>[Signature]</i> 9/20/99
DESIGNED BY: R.E.W.		
DRAWN BY: J.E.P.		
PROJECT NO. 99301		
DATE: 6/21/99		
SCALE: 1"= 300'		
SHEET NO.		SHEET 15 OF 16

DEVELOPER
BALTIMORE-WASHINGTON
AUTO EXCHANGE, INC.
7151 BROOKDALE ROAD
BALTIMORE, MD. 21227

OWNER/GRANTOR
MR. ROBERT ROMITI
MR. LORENZO ROMITI
MS. THERESA ROMITI
6723 HOLBIRD AVENUE
BALTIMORE, MARYLAND 21222



PLANTING SPECIFICATIONS AND NOTES

SITE PREPARATION AND SOILS

1. PROTECTION FENCING AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
2. DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN IN THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
3. 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.
4. 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

1. FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
2. FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
3. 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.
4. UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL AND MOISTENED ENVIRONMENT.

PLANT INSTALLATION

1. 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.
2. 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.
3. 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.
4. CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENEED 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.
5. 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.
6. 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.
7. 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.
8. 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 SOILS FOUND 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

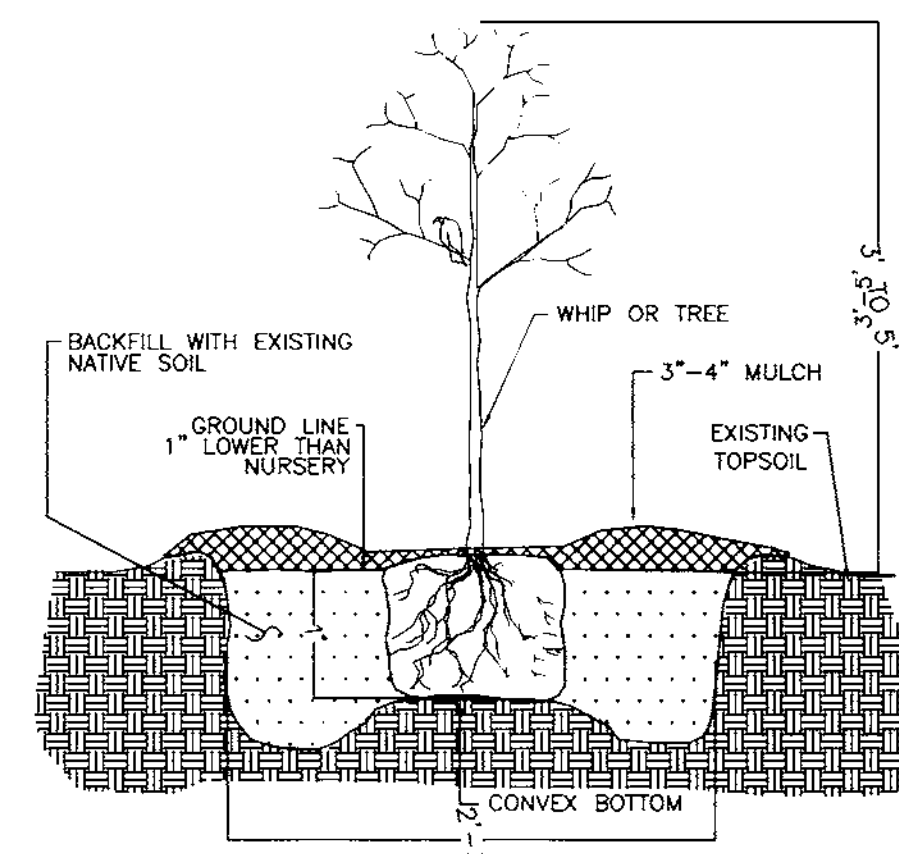
1. DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
2. NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
3. 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

1. ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
2. ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
3. 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.
4. 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.
5. 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.
6. 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

1. 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.



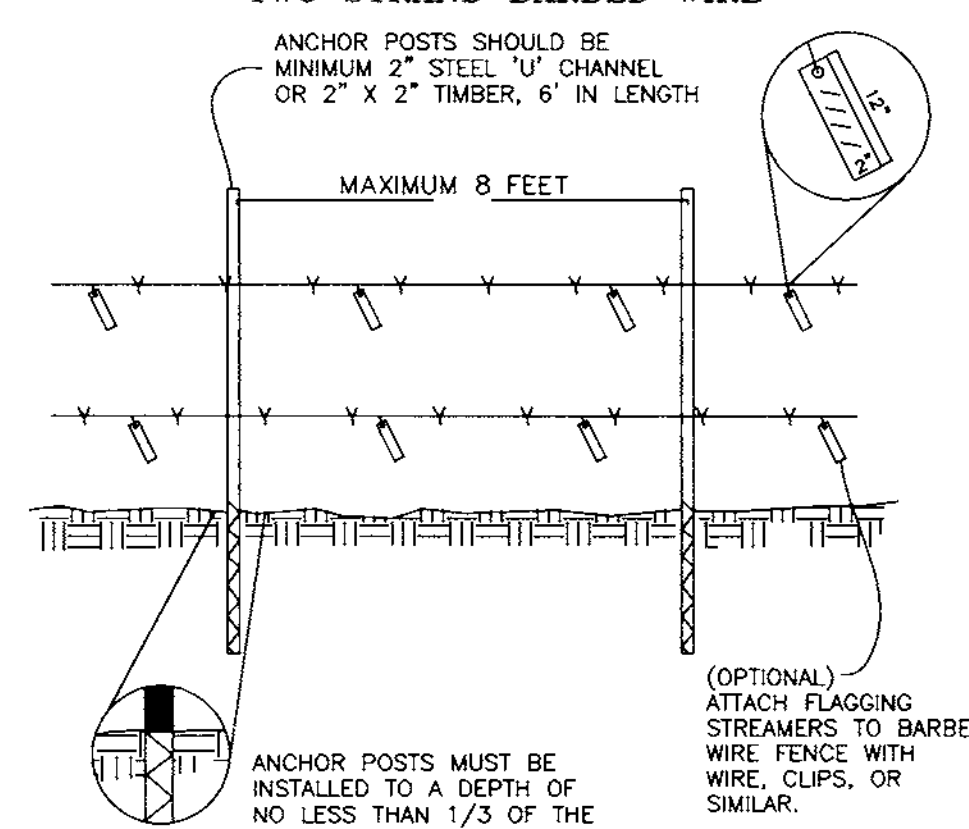
TREE PLANTING DETAIL
CONTAINER GROWN

REFORESTATION PLANT LISTS

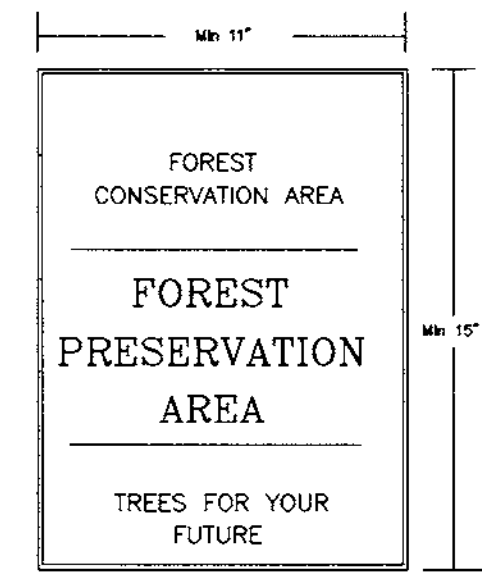
QTY.	SPECIES	SHADE	MOIST. TOL.	WET. REGIME	MIN.O.C.	SIZE & SPACING	REMARKS
125	Prunus serotina Wild Black Cherry	I	M	FACU	10'	CONT/BROOT 3'-5' HEIGHT	
125	Robinia pseudoacacia Black Locust	VI	D-M	FACU	10'	CONT/BROOT 3'-5' HEIGHT	
125	Quercus alba White Oak	MT	D-M	FACU	10'	CONT/BROOT 3'-5' HEIGHT	
125	Quercus rubra Red Oak	MT	D-M	UPL	10'	CONT/BROOT 3'-5' HEIGHT	
125	Fraxinus americana White Ash	MT	D-M	FACU	10'	CONT/BROOT 3'-5' HEIGHT	
125	Nyssa sylvatica Black Gum	T	M-W	FAC	10'	CONT/BROOT 3'-5' HEIGHT	
125	Juglans nigra Black Walnut	VT	M	FACU	10'	CONT/BROOT 3'-5' HEIGHT	
125	Cornus florida Flowering Dogwood	VT	D-M	FACU	10'	CONT/BROOT 3'-5' HEIGHT	
125	Acer rubrum Red Maple	VT	D-W	FAC	10'	CONT/BROOT 3'-5' HEIGHT	
125	Cercis canadensis Eastern Redbud	I	M	UPL	10'	CONT/BROOT 3'-5' HEIGHT	
125	Carya glabra Pignut Hickory	I	D-M	UPL	10'	CONT/BROOT 3'-5' HEIGHT	
125	Diospyros virginiana Persimmon	I	D-M	UPL	10'	CONT/BROOT 3'-5' HEIGHT	

Quantities Of Individual Species And Species Composition May Change Depending On Availability At Time Of Planting. Total Quantity Of Trees For Entire Easement Area Will Not Change.

PROTECTIVE FENCE DETAIL
TWO STRAND BARBED WIRE



1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.
7. BARBED WIRE SHOULD BE ATTACHED SECURELY TO POSTS.



SIGNAGE DETAIL
NOT TO SCALE

GENERAL NOTES:

1. SUBJECT PROPERTY ZONED M-2 PER THE 10/18/93 COMPREHENSIVE ZONING PLAN. THIS PLAN IS BASED ON A FIELD RUN SURVEY ON OR ABOUT AUGUST 17, 1998 BY THIS OFFICE.
2. THIS PROPERTY IS ENCUMBERED BY A FOREST CONSERVATION EASEMENT AND IS RESTRICTED BY AN ACCOMPANYING EASEMENT AGREEMENT. THE EASEMENT AGREEMENT ENTERED INTO BY THE PROPERTY OWNER AND DEVELOPER, OUTLINES THE MAINTENANCE RESPONSIBILITIES OF THE PROPERTY OWNER AND ENUMERATES THE USES PERMITTED ON THE PROPERTY.
3. THE FOREST CONSERVATION EASEMENT ESTABLISHED ON THE PROPERTY CONSTITUTES A "RESTRICTIVE EASEMENT" AS NOTED IN SECTION 106.8.I.C OF THE HOWARD COUNTY ZONING REGULATIONS AND LIMITS THE FURTHER DEVELOPMENT OF THE PROPERTY, INCLUDING THE SENDING DEVELOPMENT RIGHTS.
4. ~~THE FOREST CONSERVATION EASEMENT ESTABLISHED ON THE PROPERTY CONSTITUTES A "RESTRICTIVE EASEMENT" AS NOTED IN SECTION 106.8.I.C OF THE HOWARD COUNTY ZONING REGULATIONS AND LIMITS THE FURTHER DEVELOPMENT OF THE PROPERTY, INCLUDING THE SENDING DEVELOPMENT RIGHTS.~~
5. ~~THE FOREST CONSERVATION EASEMENT ESTABLISHED ON THE PROPERTY CONSTITUTES A "RESTRICTIVE EASEMENT" AS NOTED IN SECTION 106.8.I.C OF THE HOWARD COUNTY ZONING REGULATIONS AND LIMITS THE FURTHER DEVELOPMENT OF THE PROPERTY, INCLUDING THE SENDING DEVELOPMENT RIGHTS.~~ DENOTES AREA OF FOREST CONSERVATION EASEMENT AND MITIGATION BANK. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED AS A FOREST MITIGATION BANK, PER SECTION 16.1216 OF THE HOWARD COUNTY 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.
6. THE PURPOSE OF THIS PLAN IS TO ESTABLISH A FOREST CONSERVATION MITIGATION BANK. THIS PLAN IS SUBJECT TO A DEVELOPER'S AGREEMENT EXECUTED BETWEEN AA PROPERTY HOLDINGS, INC. AND HOWARD COUNTY, MARYLAND FOR SDP 99-55, ON AUGUST 26, 1999.

DEVELOPER

BALTIMORE-WASHINGTON
AUTO EXCHANGE, INC.
7151 BROOKDALE ROAD
BALTIMORE, MD. 21227

OWNER/GRANTOR

MR. ROBERT ROMITI
MR. LORENZO ROMITI
MS. THERESA ROMITI
6723 HOLIBIRD AVENUE
BALTIMORE, MARYLAND 21222

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING AND
ZONING

[Signature] 9/20/99
DIRECTOR DATE

[Signature] 9/15/99
CHIEF, DEVELOPMENT
ENGINEERING DIVISION DATE

[Signature] 9/15/99
CHIEF, DIVISION OF LAND
DEVELOPMENT DATE

SENDING PARCEL INFORMATION	FIRST EXCHANGE
Total Parcel Acreage	15.6 AC. ±
Forest Mitigation Credits Created	3.31 AC. ±
Forest Mitigation Credits Expended	3.31 AC. ±
Receiving Parcel (File #, Tax Map, Parcel No. And Subdivision Name)	SDP-99-55, TM 43, BLK 5, Parcel 50
Remaining Forest Conservation Mitigation Credits	0.0 AC. ±

THIS PLAN IS FOR
FOREST CONSERVATION EASEMENT
PLANTING PURPOSES ONLY

SDP 99-55

DATE	NO.	REVISION

PROJECT: BALTIMORE - WASHINGTON
AUTO EXCHANGE STORAGE YARD
VEHICLE STORAGE ADDITIONS
PARCEL "D"
FIRST ELECTION DISTRICT
HOWARD COUNTY, MD.

TITLE: OFF-SITE FOREST MITIGATION PLAN

AREA: ROMITI FARM
TAX MAP, 2 PARCEL 24
HOWARD COUNTY MARYLAND
LIBER 4504, FOLIO 0032

TITLE: REFORESTATION PLANTING PLAN
DETAILS AND SPECIFICATIONS

WILDMAN
ENVIRONMENTAL SERVICES
4747 BONNIE BRANCH RD.
ELLCOTT CITY, MD. 21043
PHONE: (410) 313-9999
FAX: (410) 313-9099

DESIGNED BY: R.B.W.
DRAWN BY: J.E.P.
PROJECT NO. 99301
DATE: 6/21/99
SCALE: 1" = 200'
SHEET NO. SHEET 16 OF 16

Developer's/Builder's Certificate

I/We certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County Code and the Howard County Landscape Manual. I/We further certify that upon completion a Certification of Landscape Installation accompanied by an executed one-year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Name of Owner: LAMES LOOK Date: 3-24-99
 Name of Preparer: GARY R. BUTSON Date: MAY 3, 1999

- a. "This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and the Landscape Manual.
- b. "Financial surety for the required landscaping has been posted as part of the DPW Developer's Agreement in the amount of \$ 6,900.00 (\$300.00 x 23)

N/F
 BALTIMORE-WASHINGTON HOLDINGS, INC.
 LIBER 2508 FOLIO 10

N/F
 LEE GANEY, JR.
 LIBER 3995 FOLIO 54

REBAR FOUND W/CAP (HELD)
 APPROX. 100 YEAR FLOOD PLAIN PER FIRM COMM. P.NO. 240044 0040 B

N/F
 SOIL SAFE, INC.
 LIBER 4225 FOLIO 374

SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type		
Linear Feet of Roadway Frontage/Perimeter	0	1500 FT.
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)		YES - 1,325 FT.
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)		
Number of Plants Required		
Shade Trees	1 PER 60'	23
Evergreen Trees		
Shrubs		
Number of Plants Provided		
Shade Trees		23
Evergreen Trees		
Other Trees (2:1 substitution)		
Shrubs (10:1 substitution)		
(Describe plant substitution credits below if needed)		

The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.

N/F
 MARY B. JOHNSON, ET AL
 921 E. 730

PLANT LIST

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING/METHOD	QUANTITY
AR	ACER PUBRUM	FRED MAPLE/OCT. GLORY	2 1/2" - 3" CAL.	60' O.C.	23

OWNER/DEVELOPER
 BALTIMORE-WASHINGTON AUTO EXCHANGE, INC.
 7151 BROOKDALE ROAD
 BALTIMORE, MD 21227

HOWARD COUNTY FOREST CONSERVATION WORKSHEET

I. BASIC SITE DATA
 GROSS SITE AREA: 15.00
 AREA WITHIN 100 YEAR FLOODPLAIN: 0.00
 AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE): 0.00
 NET TRACT AREA: 15.00
 LAND USE CATEGORY (R-RLD, R-RMD, R-S, CMO, I):

II. INFORMATION FOR CALCULATIONS
 A. NET TRACT AREA: 15.00
 B. REFORESTATION THRESHOLD (15% x A): 2.25
 C. AFFORESTATION MINIMUM (15% x A): 2.25
 D. EXISTING FOREST ON NET TRACT AREA: 13.00
 E. FOREST AREAS TO BE CLEARED: 13.00
 F. FOREST AREAS TO BE RETAINED: 2.25

III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION

1. **Reforestation**
 If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.

GO TO SECTION IV
 If existing forests exceed the afforestation minimum (if D equals or is more than C) and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

2. **Afforestation**
 If existing forest area are less than the afforestation minimum (if D is less than C), afforestation requirements apply.

IV. REAFFORESTATION CALCULATIONS
 A. NET TRACT AREA: 15.00
 B. REFORESTATION THRESHOLD (15% x A): 2.25
 C. EXISTING FOREST ON NET TRACT AREA: 13.00
 D. FOREST AREAS TO BE CLEARED: 13.00
 E. FOREST AREAS TO BE RETAINED: 2.25
 F. FOREST AREAS CLEARED ABOVE REAFFORESTATION THRESHOLD (D - B, if F equals or is greater than B, Alternate 1) (D - B, if F is less than B, Alternate 2): 0
 G. FOREST AREAS CLEARED BELOW REAFFORESTATION THRESHOLD (B - F, if applicable): 0
 H. FOREST AREAS RETAINED ABOVE REAFFORESTATION THRESHOLD (F - B, Retention Credit, if applicable): 0

Select the alternative that applies:

1. **Clearing above the threshold only**
 If forest areas to be retained equal or are greater than the reforestation threshold (if F equals or is greater than B), the following calculations apply:

REAFFORESTATION FOR CLEARING ABOVE THRESHOLD: 2.25
 CREDIT FOR FOREST AREAS RETAINED ABOVE THRESHOLD: 0
 X = Retention Credit
 TOTAL REAFFORESTATION REQUIRED: 2.25
 (G x 1/4) - X

If the total reforestation requirement is equal to or less than 0, no reforestation is required.

2. **Clearing below the threshold**
 If forest areas to be retained are less than the reforestation threshold (if F is less than B), the following calculations apply:

REAFFORESTATION FOR CLEARING ABOVE THRESHOLD: 0
 G x 1/4
 REAFFORESTATION FOR CLEARING BELOW THRESHOLD: 0
 H x 2
 TOTAL REAFFORESTATION REQUIRED: 0
 (G x 1/4) + (H x 2)

Since clearing occurs below the threshold, no forest retention credit is possible.

V. AFFORESTATION CALCULATIONS

A. NET TRACT AREA: 15.00
 C. AFFORESTATION MINIMUM (15% x A): 2.25
 D. EXISTING FOREST ON NET TRACT AREA: 13.00
 E. FOREST AREAS TO BE CLEARED: 13.00
 F. FOREST AREAS TO BE RETAINED: 2.25

Select the alternative that applies:

1. **No clearing below the minimum**
 If existing forests are less than the afforestation minimum (if D is less than C) and no clearing is proposed, the following calculations apply:

TOTAL AFFORESTATION REQUIRED: 0
 C - D

Afforestation must make total forest area equal the minimum required.

2. **Clearing below the minimum**
 If existing forests are less than the afforestation minimum (if D is less than C) and clearing is proposed, the following calculations apply:

AFFORESTATION FOR UNFORESTED AREAS BELOW MINIMUM: 0
 C - D
 AFFORESTATION FOR CLEARING BELOW MINIMUM: 0
 E x 2
 TOTAL AFFORESTATION REQUIRED: 0
 (C - D) + (E x 2)

Afforestation requires the total forest area be equal to the minimum and it requires compensation for clearing.

NOTE: THIS WORKSHEET IS A REFINEMENT OF THE WORKSHEET APPROVED BY RESOLUTION 48. THIS WORKSHEET MUST ACCOMPANY ALL FOREST STAND DELINEATION AND FOREST CONSERVATION PLAN SUBMISSIONS.

DATE: 11-01
 PROFESSIONAL ENGINEER

FOR 12/24/06 REVISION

LEGEND:
 --- WETLAND DELINEATION
 --- WETLAND BUFFER

ACRES (1/16 = 0.0625)

15.00
 0.00
 15.00
 13.00
 2.25

15.00
 2.25
 13.00
 13.00
 2.25
 0
 0

2.25
 0
 2.25

15.00
 2.25
 13.00
 13.00
 2.25

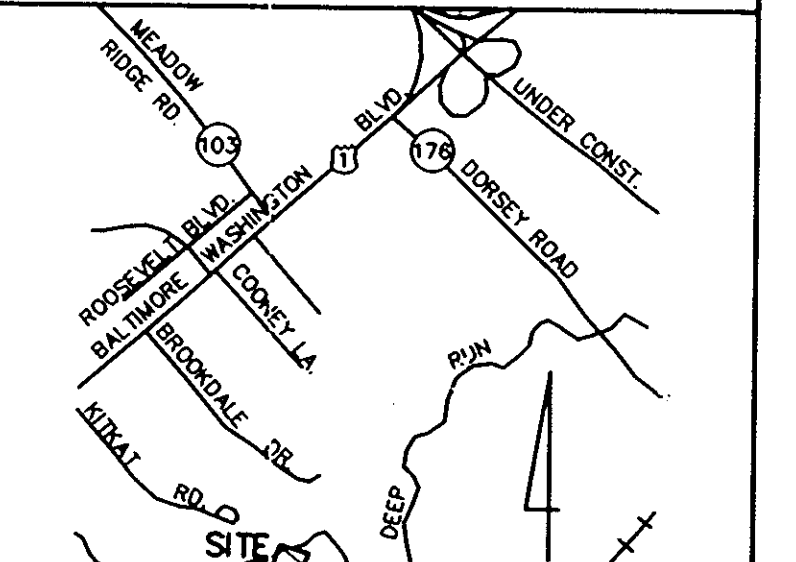
0
 0
 0

0
 0
 0

0
 0



2868 CONSTELLATION WAY
 FINKSBURG, MD 21048-2068
 PHONE/FAX: (410) 840-8797



VICINITY MAP
 SCALE: 1"=2000'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

DIRECTOR: [Signature] DATE: 9/20/99

CHIEF DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 9/10/99

CHIEF DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 9/15/99

12-24-06 REDEFINE POSITION #1-ROAD WIDENING
 DATE: REVISIONS:

BALTIMORE - WASHINGTON AUTO EXCHANGE STORAGE YARD VEHICLE STORAGE ADDITIONS

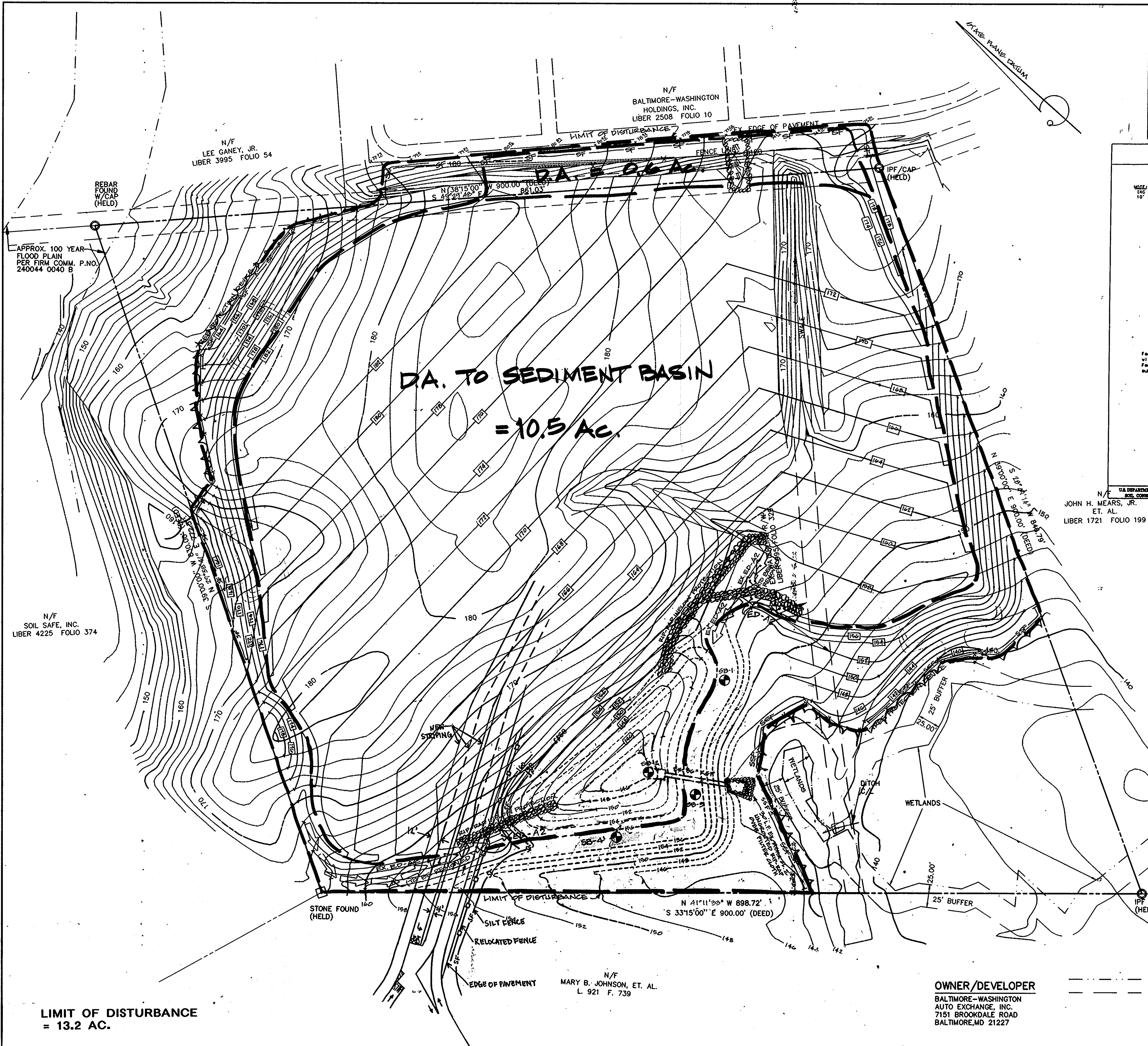
PARCEL "D"

FIRST ELECTION DISTRICT
 DATE: 2-26-99
 HOWARD COUNTY, MD
 SCALE: 1"=50' OR AS SHOWN

LANDSCAPE PLAN AND TREE CONSERVATION PLAN

SDP 99-55

SHEET 14 OF 16
 SDP 99-55

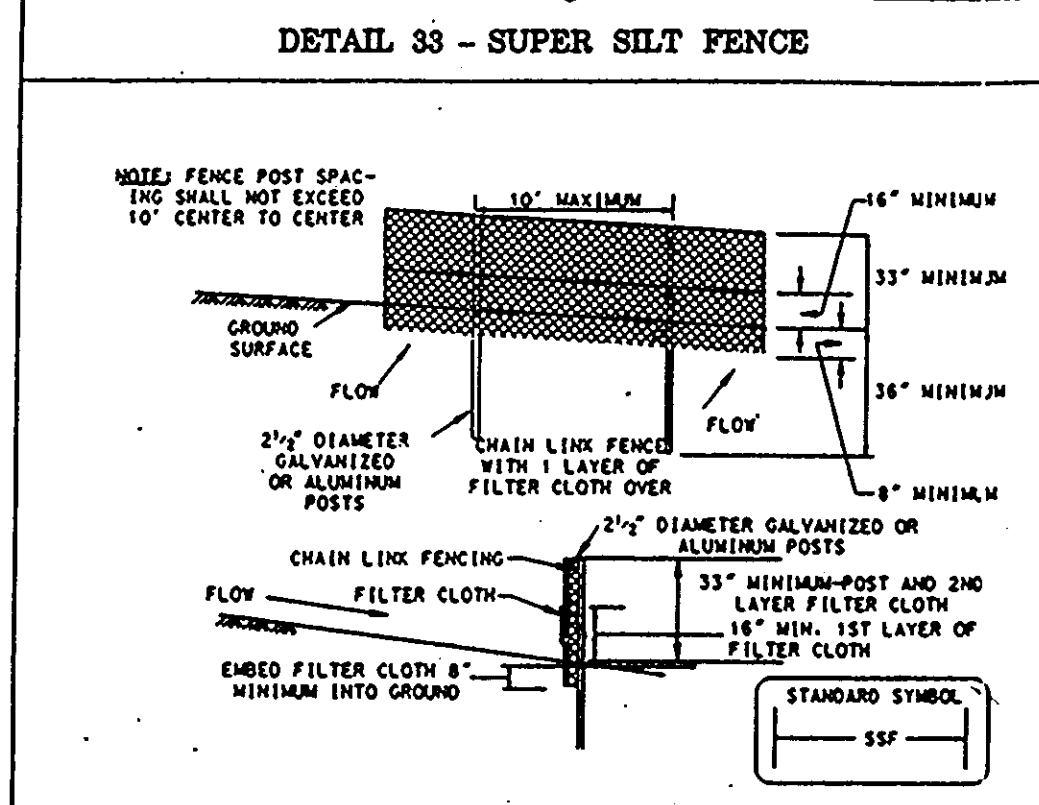
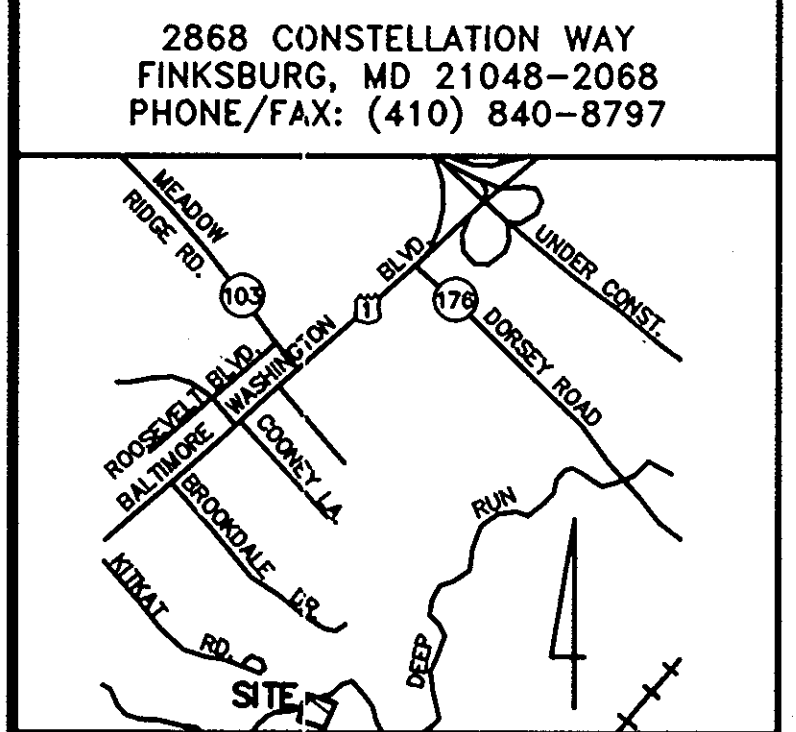


() These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
Cheryl Simmons 9/1/99
 USDA-Natural Resources Conservation Service Date

() These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Robert W. Johnson 9/1/99
 Howard Soil Conservation District Date

THAYER & ASSOCIATES INC.

2868 CONSTELLATION WAY
 FINKSBURG, MD 21048-2068
 PHONE/FAX: (410) 840-8797



- Construction Specifications
- Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.
- The poles do not need to set in concrete.
 - Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
 - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" on the top and mid section.
 - Filter cloth shall be embedded a minimum of 8" into the ground.
 - When two sections of filter cloth adjoin each other, they shall be overlapped by 1' and fastened.
 - Maintenance shall be performed as needed and silt buildup removed when "bumps" develop in the silt fence.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 2 OF 2 MARYLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES WATER MANAGEMENT ADMINISTRATION

N/E JOHN H. MEARS, JR. ET. AL. LIBER 1721 FOLIO 199

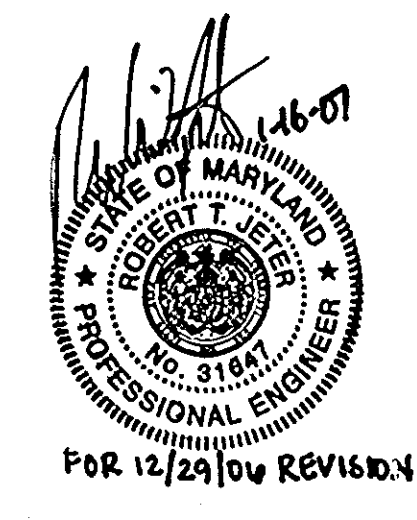
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

James B. Smith 9/20/99
 DIRECTOR DATE

Cheryl Simmons 9/1/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Robert W. Johnson 9/1/99
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	REVISIONS
12-29-06	REDLINE REVISION #1-ROAD WIDENING



BALTIMORE - WASHINGTON AUTO EXCHANGE STORAGE YARD VEHICLE STORAGE ADDITIONS

PARCEL "D"

FIRST ELECTION DISTRICT
 DATE: 2-26-99
 HOWARD COUNTY, MD
 SCALE: 1"=50' OR AS SHOWN

LIMIT OF DISTURBANCE = 13.2 AC.

N/F MARY B. JOHNSON, ET. AL. L. 921 F. 739

OWNER/DEVELOPER
 BALTIMORE-WASHINGTON AUTO EXCHANGE, INC.
 7151 BROOKDALE ROAD
 BALTIMORE, MD 21227

LEGEND:
 --- WETLAND DELINEATION
 --- WETLAND BUFFER

PHASE II SEDIMENT CONTROL PLAN

SDP 99-55

SHEET 8 OF 16
 SDP-99-55

TRAP No. 1
 STONE OUTLET TRAP - ST II
 DRAINAGE AREA = 1.4 AC
 STORAGE REQ'D = 3600 CF/AC ± 1.4 AC
 = 5040 CF
 WET STORAGE REQ'D = 2520 CF
 WET STORAGE PROVIDED = 3600 CF
 DRY STORAGE REQ'D = 2520 CF
 DRY STORAGE PROVIDED = 4158 CF
 DRY STORAGE SURFACE ELEV. IS AT WEIR CREST
 WEIR CREST ELEV. = 167.0
 TOP OF EMBANKMENT ELEV. = 168.0
 DEPTH OF FREEBOARD = 1 FT
 HEIGHT OF EMBANKMENT = 3 FT
 WET STORAGE SURFACE ELEV. IS AT OUTFALL LEVEL
 WET STORAGE ELEV. = 165.0
 TRAP BOTTOM ELEV. = 163.0
 HEIGHT FROM TOP OF EMBANKMENT TO TRAP BOTTOM = 5 FT
 WEIR LENGTH = 6 FT
 OUTFALL APRON LENGTH = 5 FT
 OUTFALL APRON DEPTH = 1 FT
 OUTFALL ELEV. = 165.0

APPROX. 100 YEAR FLOOD PLAIN PER FIRM COMM. P.NO. 240044 0040 B

UPON INSPECTOR'S APPROVAL THIS SILT FENCE MAY BE REMOVED AFTER SEDIMENT TRAP IS CONSTRUCTED.

N/F SOIL SAFE, INC. LIBER 4225 FOLIO 374

TRAP No. 2
 STONE OUTLET TRAP - ST II
 DRAINAGE AREA = 1.5 AC
 STORAGE REQ'D = 3600 CF/AC ± 1.5 AC
 = 5400 CF
 WET STORAGE REQ'D = 2700 CF
 WET STORAGE PROVIDED = 3600 CF
 DRY STORAGE REQ'D = 2700 CF
 DRY STORAGE PROVIDED = 4158 CF
 DRY STORAGE SURFACE ELEV. IS AT WEIR CREST
 WEIR CREST ELEV. = 167.0
 TOP OF EMBANKMENT ELEV. = 168.0
 DEPTH OF FREEBOARD = 1 FT
 HEIGHT OF EMBANKMENT = 3 FT
 WET STORAGE SURFACE ELEV. IS AT OUTFALL LEVEL
 WET STORAGE ELEV. = 165.0
 TRAP BOTTOM ELEV. = 163.0
 HEIGHT FROM TOP OF EMBANKMENT TO TRAP BOTTOM = 5 FT
 WEIR LENGTH = 6 FT
 OUTFALL APRON LENGTH = 5 FT
 OUTFALL APRON DEPTH = 1 FT
 OUTFALL ELEV. = 165.0

NOTE: 1. PHASE II SEDIMENT BASIN IS TO BE FINAL GRADING FOR SUMMER FLOOD.
 2. DO NOT USE FORESLAY POND TO CONVEY SEDIMENT TO BASIN.

N/F BALTIMORE-WASHINGTON HOLDINGS, INC. LIBER 2508 FOLIO 10

NOTE: CONTRACTOR TO LOCATE AND BUILD EX. DRAIN MANHOLE TO PROF. GRADE PER HOWARD COUNTY SPECIFICATIONS.

SEDIMENT CONTROL & POND CONSTRUCTION

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.

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 County 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.

Victor Chen, P.E. MD Reg. #18543

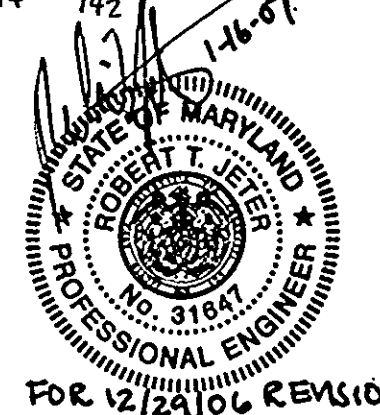
These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
Cleop Simons 9/1/99
 USDA-Natural Resources Conservation Service
 These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Robert W. Fisher 9/1/99
 Howard Soil Conservation District

NOTE: NO SEDIMENT CONTROL DEVICES ARE TO BE REMOVED WITHOUT PRIOR PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR.

TRAP No. 3
 STONE OUTLET TRAP - ST II
 DRAINAGE AREA = 1.6 AC
 STORAGE REQ'D = 3600 CF/AC ± 1.6 AC
 = 5760 CF
 WET STORAGE REQ'D = 2880 CF
 WET STORAGE PROVIDED = 4000 CF
 DRY STORAGE REQ'D = 2880 CF
 DRY STORAGE PROVIDED = 4950 CF
 DRY STORAGE SURFACE ELEV. IS AT WEIR CREST
 WEIR CREST ELEV. = 142.0
 TOP OF EMBANKMENT ELEV. = 143.0
 DEPTH OF FREEBOARD = 1 FT
 HEIGHT OF EMBANKMENT = 3 FT
 WET STORAGE SURFACE ELEV. IS AT OUTFALL LEVEL
 WET STORAGE ELEV. = 140.0
 TRAP BOTTOM ELEV. = 138.0
 HEIGHT FROM TOP OF EMBANKMENT TO TRAP BOTTOM = 5 FT
 WEIR LENGTH = 6 FT
 OUTFALL APRON LENGTH = 5 FT
 OUTFALL APRON DEPTH = 1 FT
 OUTFALL ELEV. = 140.0

USE SUPER SILT FENCE AS PROTECTION OF WETLANDS

LEGEND:
 --- WETLAND DELINEATION
 --- WETLAND BUFFER



OWNER/DEVELOPER
 BALTIMORE-WASHINGTON AUTO EXCHANGE, INC.
 7151 BROOKDALE ROAD
 BALTIMORE, MD 21227

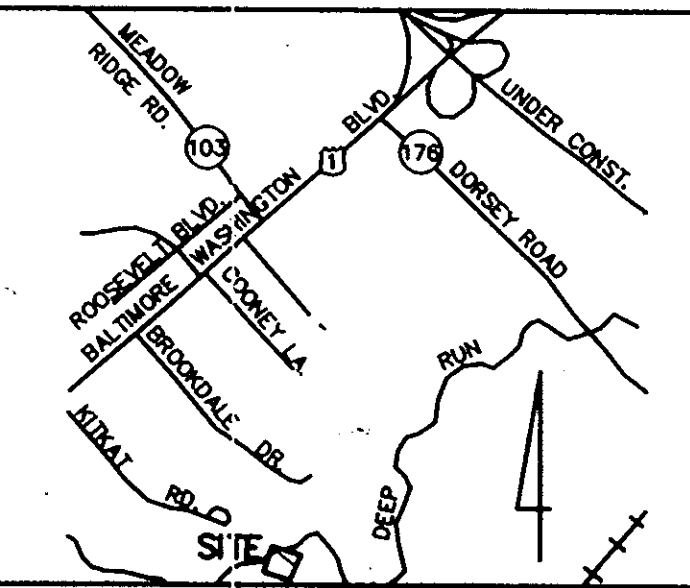
LIMIT OF DISTURBANCE = 13.2 AC.

SCALE: 1" = 50'

FOR 12/24/06 REVISION



2868 CONSTELLATION WAY
 FINKSBURG, MD 21048-2068
 PHONE/FAX: (410) 840-8797



VICINITY MAP
 SCALE: 1" = 2000'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

John S. Rutter 9/20/99
 DIRECTOR
William Dammann 9/1/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
Leahy Shantz 9/1/99
 CHIEF, DIVISION OF LAND DEVELOPMENT

12-29-06 REVISION #1 - ROAD WIDENING
 DATE REVISIONS

BALTIMORE - WASHINGTON AUTO EXCHANGE STORAGE YARD VEHICLE STORAGE ADDITIONS
 PARCEL "D"

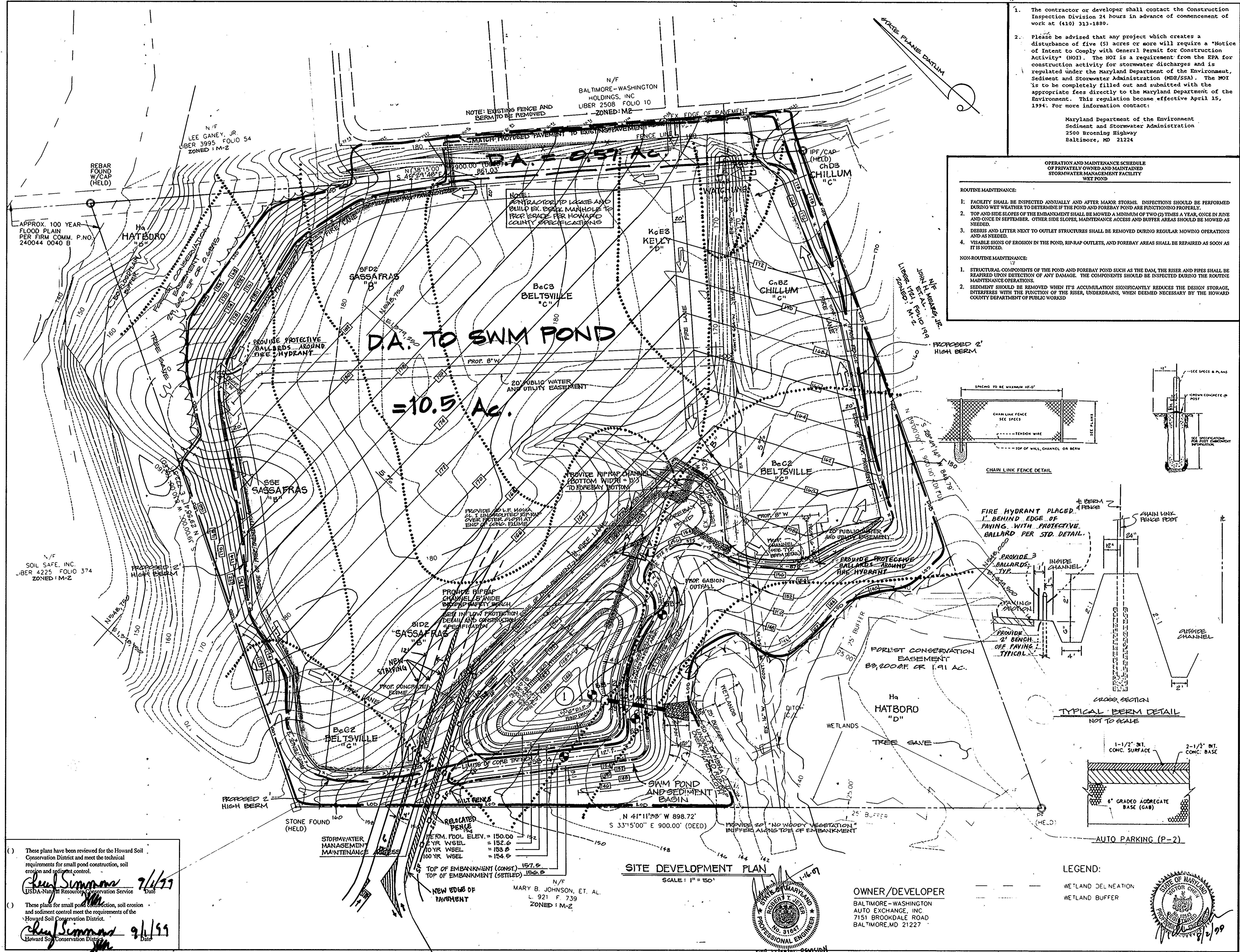
FIRST ELECTION DISTRICT
 DATE: 2-26-99
 HOWARD COUNTY, MD
 SCALE: 1" = 50' OR AS SHOWN

PHASE I
 SEDIMENT CONTROL PLAN

SDP 99-55

SHEET 7 OF 16

SDP 99-55



1. The contractor or developer shall contact the Construction Inspection Division 24 hours in advance of commencement of work at (410) 313-1880.

2. Please be advised that any project which creates a disturbance of five (5) acres or more will require a "Notice of Intent to Comply with General Permit for Construction Activity" (NOI). The NOI is a requirement from the EPA for construction activity for stormwater discharges and is regulated under the Maryland Department of the Environment, Sediment and Stormwater Administration (HDS/SSA). The NOI is to be completely filled out and submitted with the appropriate fees directly to the Maryland Department of the Environment. This regulation became effective April 15, 1994. For more information contact:

Maryland Department of the Environment
Sediment and Stormwater Administration
2500 Broening Highway
Baltimore, MD 21224

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY WET POND

ROUTINE MAINTENANCE:

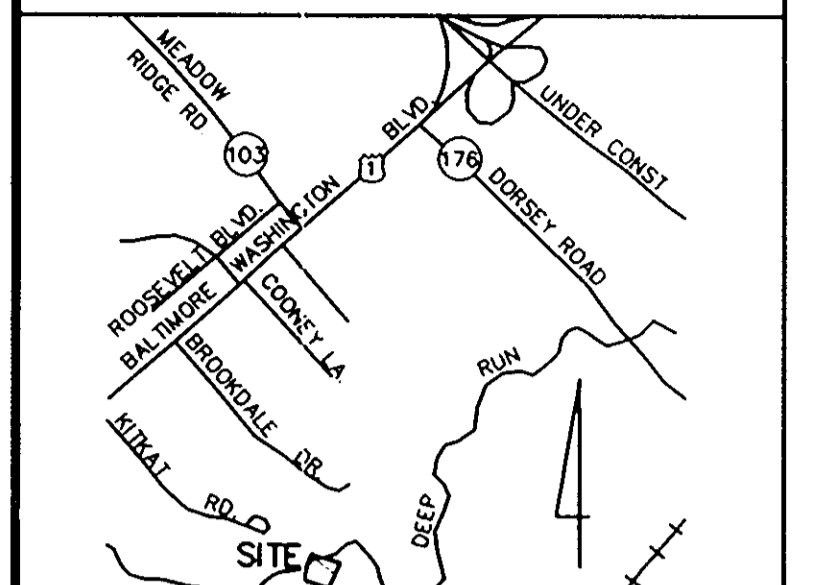
1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND AND FOREBAY POND ARE FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, MAINTENANCE ACCESS AND BUTTER AREAS SHOULD BE MOWED AS NEEDED.
3. DEBRIS AND LITTER NEXT TO OUTLET STRUCTURES SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND, RIP-RAP OUTLETS, AND FOREBAY AREAS SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

NON-ROUTINE MAINTENANCE:

1. STRUCTURAL COMPONENTS OF THE POND AND FOREBAY POND SUCH AS THE DAM, THE RISER AND PILES SHALL BE REPAIRED UPON DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING THE ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHOULD BE REMOVED WHEN ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE, INTERFERES WITH THE FUNCTION OF THE RISER, UNDERDRAINS, WHEN DEEMED NECESSARY BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

THAYER & ASSOCIATES INC.

2868 CONSTELLATION WAY
FINKSBURG, MD 21048-2068
PHONE/FAX: (410) 840-8797



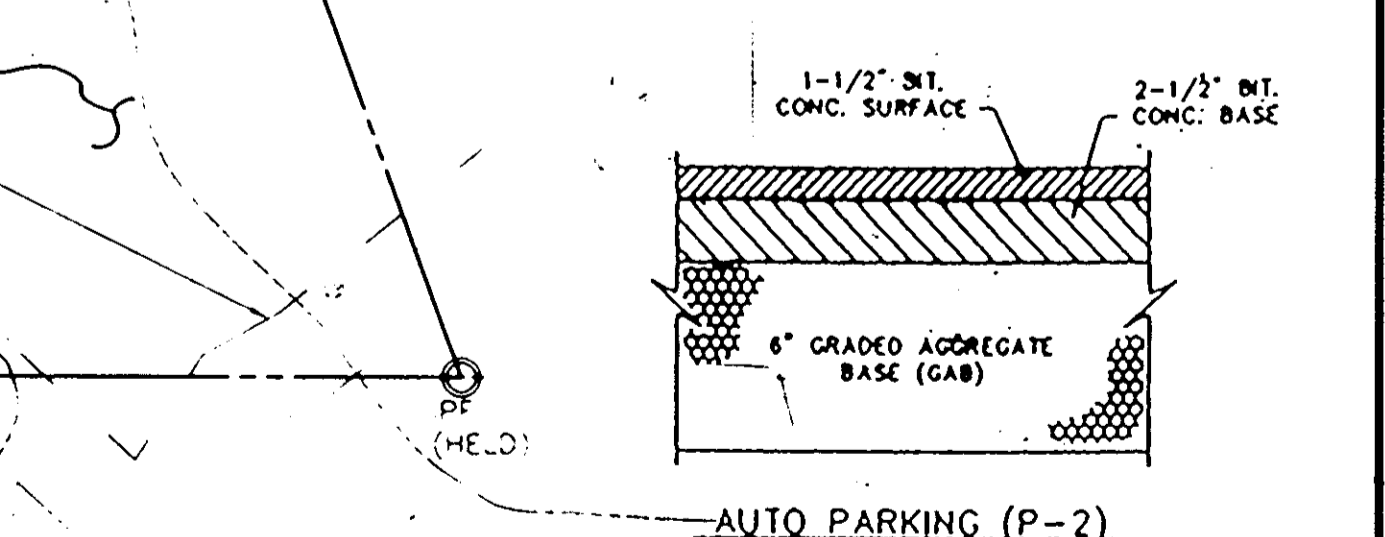
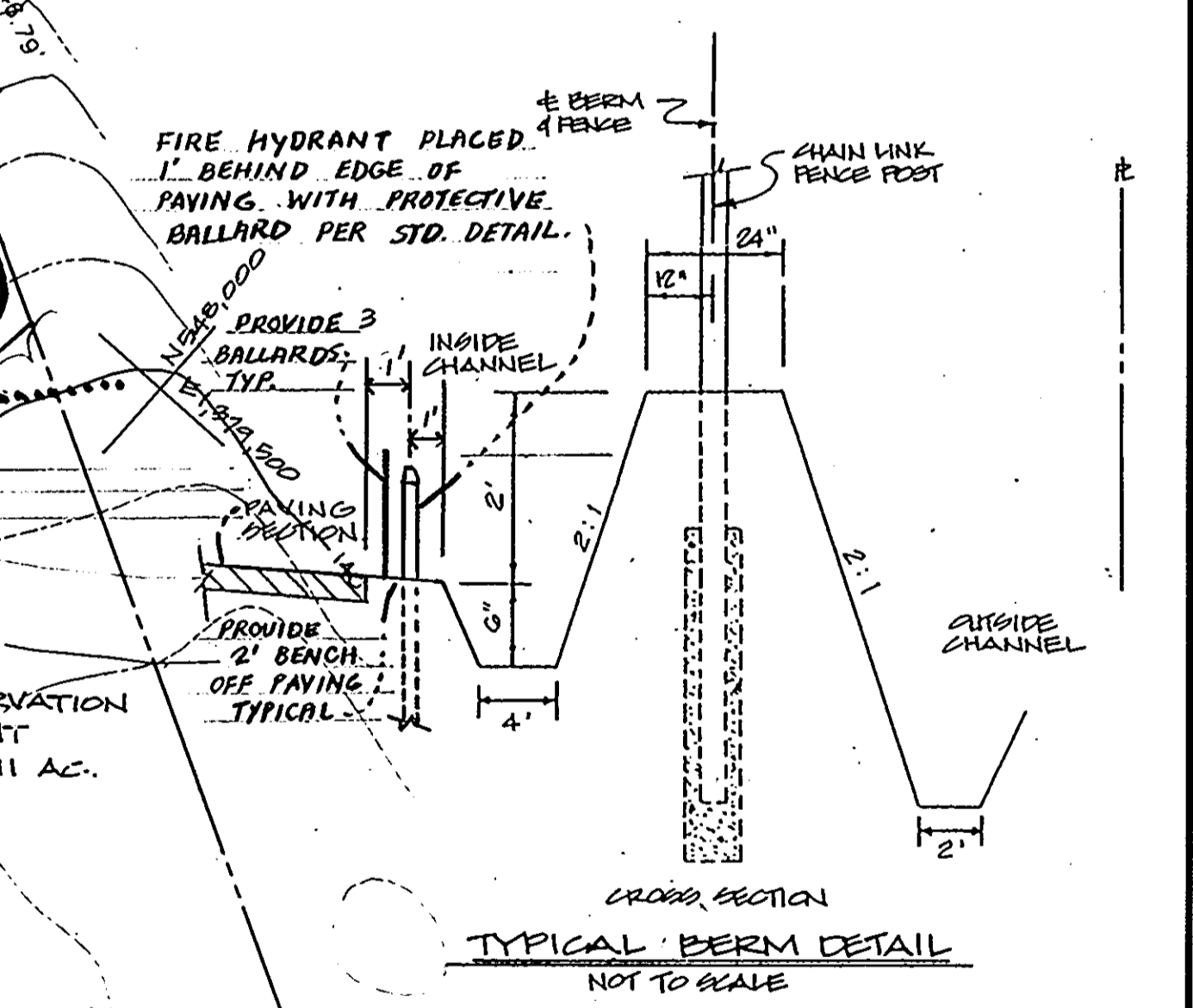
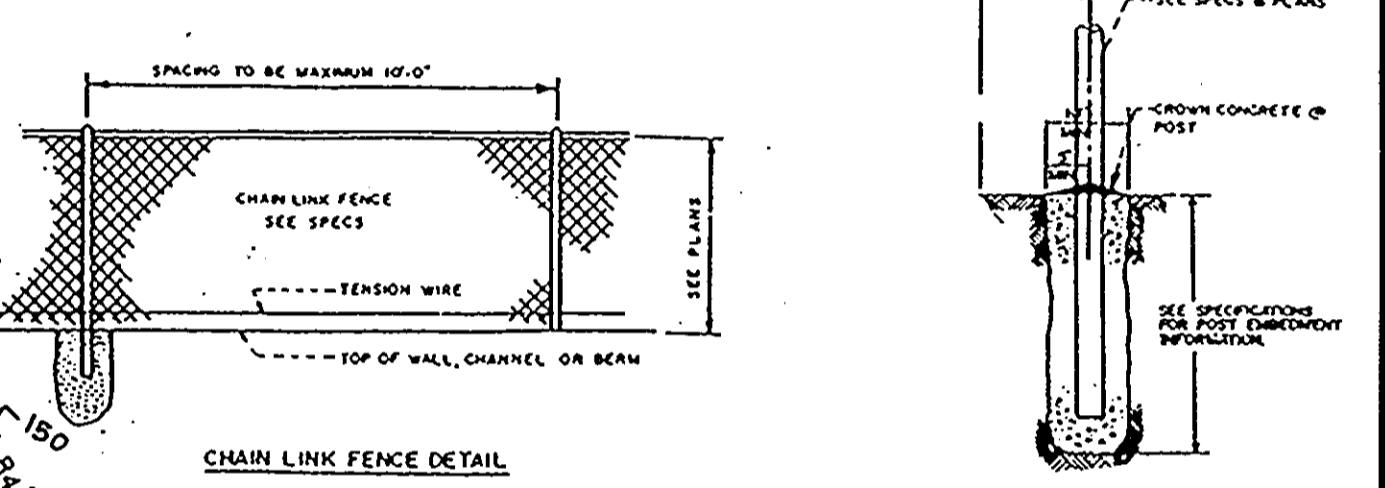
VICINITY MAP
SCALE: 1"=2000'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

James J. Smith 9/2/99
DIRECTOR DATE

Charles H. Smith 9/15/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION OF LAND DEVELOPMENT DATE

Chris D. Smith 9/15/99
CHIEF, DIVISION OF LAND DEVELOPMENT ENGINEERING DIVISION DATE



(1) These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

Cheryl Simmons 9/1/99
USDA-Natural Resources Conservation Service Date

(2) These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Cheryl Simmons 9/1/99
Howard Soil Conservation District Date

SITE DEVELOPMENT PLAN
SCALE: 1"=50'

MARY B. JOHNSON, ET. AL.
L. 921 F. 739
ZONED: M-2

OWNER/DEVELOPER
BALTIMORE-WASHINGTON AUTO EXCHANGE, INC.
7151 BROOKDALE ROAD
BALTIMORE, MD 21227

LEGEND:
--- WETLAND DELINEATION
--- WETLAND BUFFER

DATE	REVISIONS
12-21-06	REDLINE REVISION #1 - ROAD WIDENING

BALTIMORE - WASHINGTON AUTO EXCHANGE STORAGE YARD VEHICLE STORAGE ADDITIONS

PARCEL "D"

FIRST ELECTION DISTRICT
DATE: 2-26-99
HOWARD COUNTY, MD
SCALE: 1"=50' OR AS SHOWN

SITE DEVELOPMENT PLAN

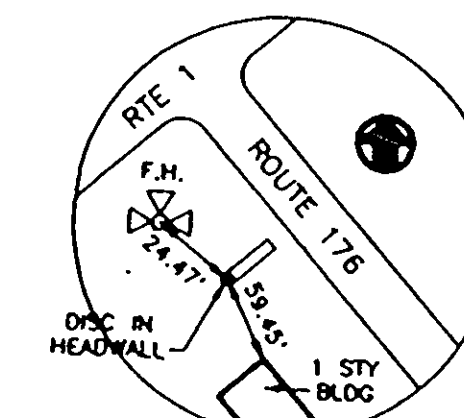
SDP 99-55

SHEET 2 OF 16

SDA 99-55

ADDITION TO BALTIMORE - WASHINGTON AUTO EXCHANGE, INC.

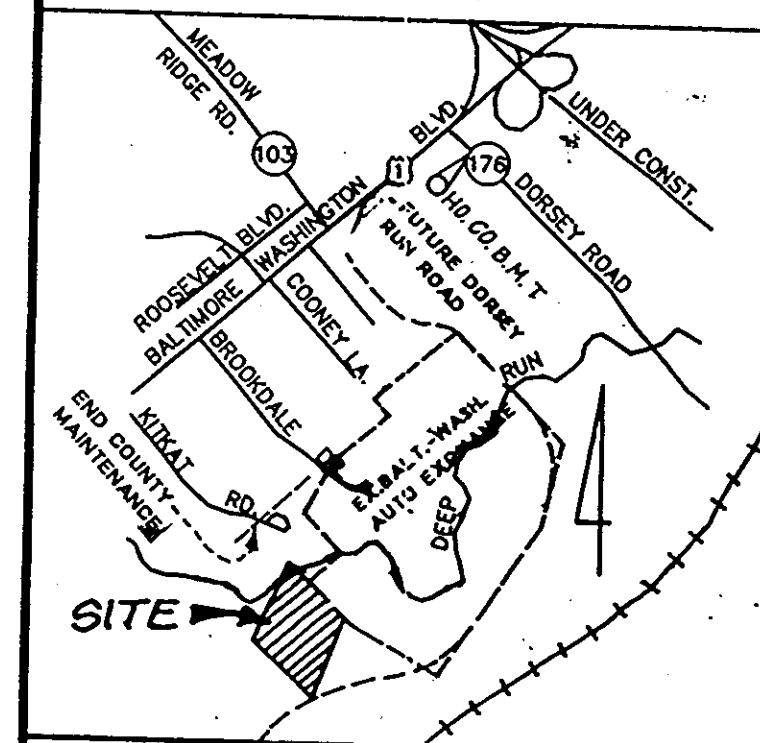
VEHICLE STORAGE ADDITIONS HOWARD COUNTY, MARYLAND



"WESELY Az. 1962"
N 492468.27 E 868676.61
BENCH MARK REFERENCE
HO. CO. B.M. T-25 1957 EL. 276.958

SITE DEVELOPMENT GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/DIVISION OF CONSTRUCTION INSPECTION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- SITE ANALYSIS DATA CHART
 - TOTAL PROJECT AREA: 679,536 SQ. FT. = 15.6 AC.
 - AREA OF PLAN SUBMISSION: ENTIRE SITE
 - LIMIT OF DISTURBANCE: 576,734 SQ. FT. = 13.24 AC. → REDLINE REVISION #1
 - SITE ZONING: M-2
 - SITE USE: AUTOMOBILE STORAGE YARD
 - TREE SAVE AREA: 112,829 SQ. FT. = 2.59 AC.
 - OPEN SPACE ON SITE: 102,366 SQ. FT. = 2.35 AC.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNINGS 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.
- THERE IS NO SEWER PROPOSED WITH THIS DEVELOPMENT. THERE IS A PUBLIC 16 INCH WATER MAIN (CONTRACT # 654-W) THROUGH SITE NORTHSOUTH. OFF THE MAIN WILL BE TWO (2) CONNECTIONS TO FIRE HYDRANTS THAT WILL BE PRIVATE.
- THE 100-YEAR FLOOD PLAIN DELINEATION SHOWN ON THIS PLAN IS PROVIDED PER F.I.R.M. COMMUNITY PANEL NO. 240044-0040 B.
- THE STORMWATER MANAGEMENT FACILITY PROPOSED WILL BE A RETENTION POND THAT IS PRIVATELY OWNED AND MAINTAINED.



VICINITY MAP

SCALE: 1"=2000'

APPROVED: HOWARD COUNTY
DEPARTMENT OF PLANNING AND
ZONING.

James J. Suttler 9/20/99
DIRECTOR DATE

Cinda Harshbarger 9/15/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John DeWitt 9/13/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

12-29-04 Redline Revision #1 - Road widening
DATE REVISIONS

BALTIMORE - WASHINGTON
AUTO EXCHANGE STORAGE YARD
VEHICLE STORAGE ADDITIONS
PARCEL 'D'

FIRST ELECTION DISTRICT
DATE: 1-4-99
HOWARD COUNTY, MD
SCALE: 1"=50' OR AS SHOWN

COVER SHEET

BDP 99-55

SHEET 1 OF 16

BDP-99-55

LEGEND

- 100--- EXISTING CONTOUR
- 100- PROPOSED CONTOUR
- EXISTING CURB
- PROPOSED CURB
- ⊕ EXISTING HYDRANT
- ⊕ PROPOSED HYDRANT
- WATER VALVE
- PROPOSED STORM DRAIN
- PROPOSED WATER MAIN
- EXISTING MANHOLE
- PROPOSED MANHOLE
- PROPERTY LINE
- EXISTING FENCE
- PROPOSED FENCE
- SOIL TYPE BOUNDARY

SITE ANALYSIS DATA CHART

GROSS SITE AREA: 15.6 AC. = 679,536 SQ. FT.
LIMIT OF DISTURBANCE: 13.24 AC. = 576,734 SQ. FT. → REDLINE REVISION #1
TREE SAVE AREA: 2.59 AC. = 112,829 SQ. FT. LOD=0.51 AC
SITE ZONING: AUTOMOBILE STORAGE
OPEN SPACE ON SITE: 2.35 AC. = 102,366 SQ. FT. LOD=23,407 SF

STORMWATER MANAGEMENT PROPOSED:
RETENTION POND

CERTIFICATION BY OWNER
I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THERE ARE NO EXISTING BURIAL GROUNDS OR CEMETERIES ON THE PROPERTY BEING DEVELOPED.

James J. Suttler 3-21-98
OWNER DATE

GENERAL SURVEY NOTES:

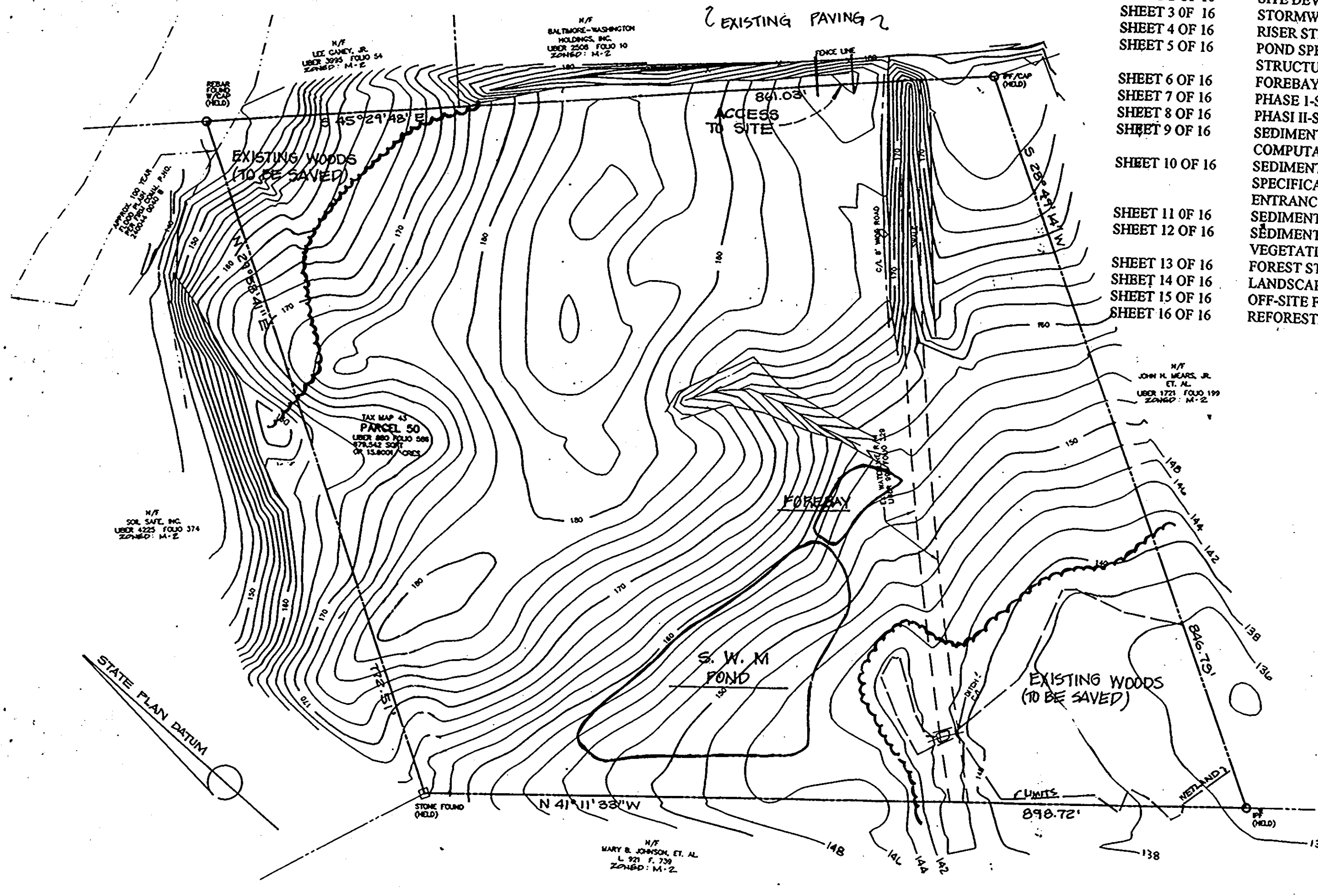
- THE BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A FIELD RUN A.L.T.A. BOUNDARY SURVEY AS PREPARED BY CAPITOL DEVELOPMENT DESIGN, INC.
- ALL UNDERGROUND UTILITIES SHOWN HEREON WERE TAKEN FROM AVAILABLE RECORDS, FIELD CHECKED AND VERIFIED WHERE POSSIBLE.

GENERAL STORM DRAIN NOTES:

- ALL STORM DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE GENERAL CONDITIONS AND STANDARD SPECIFICATIONS OF HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS AND MARYLAND STATE HIGHWAY ADMINISTRATION (MSHA), UNLESS OTHERWISE NOTED.
- TYPES OF STRUCTURES REFER TO THE LATEST STANDARD DETAILS OF MSHA AND MDE (SOIL EROSION AND SEDIMENT CONTROL), UNLESS OTHERWISE NOTED.
- INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING, IF THE CLEARANCES ARE LESS THAN SPECIFIED ON THIS PLAN OR TWELVE INCHES (12") WHICHEVER IS LESS, CONTACT THE ENGINEER AND THE OWNER OF THE OTHER INVOLVED UTILITY, BEFORE PROCEEDING WITH THE CONSTRUCTION.
- ALL STORMS DRAINS SHALL HAVE A MINIMUM OF ONE (1) FOOT OF COVER.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

WETLAND NOTE:

It is the applicant's responsibility to obtain any state permits, if required, for any construction activity covered by this plan which impacts a State regulated wetland. Any changes to plans for this development whether required by the State or initiated by the applicant to meet State requirements, must be approved by THE DEPARTMENT OF PLANNING AND ZONING.



EXISTING CONDITION
SITE GRADING MAP
SCALE: 1" = 100'

OWNER/DEVELOPER
BALTIMORE-WASHINGTON
AUTO EXCHANGE, INC.
7151 BROOKDALE ROAD
BALTIMORE, MD 21227

SHEET INDEX

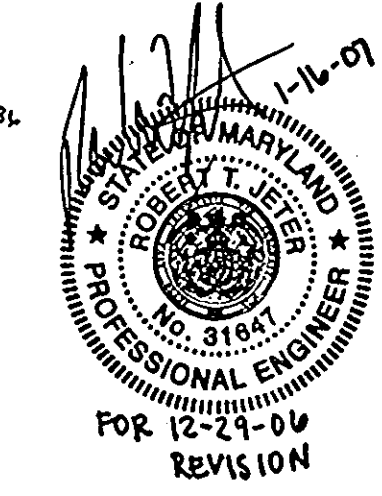
- SHEET 1 OF 16 COVER SHEET
- SHEET 2 OF 16 SITE DEVELOPMENT PLAN
- SHEET 3 OF 16 STORMWATER MANAGEMENT DETAILS
- SHEET 4 OF 16 RISER STRUCTURE DETAILS
- SHEET 5 OF 16 POND SPECIFICATION NOTES, PIPE AND STRUCTURE SCHEDULES AND POND DETAILS
- SHEET 6 OF 16 FOREBAY DETAILS AND LOCATION MAPS
- SHEET 7 OF 16 PHASE I-SEDIMENT CONTROL PLAN
- SHEET 8 OF 16 PHASE II-SEDIMENT CONTROL PLAN
- SHEET 9 OF 16 SEDIMENT CONTROL BASIN NOTES AND COMPUTATIONS
- SHEET 10 OF 16 SEDIMENT CONTROL TRAP NOTES AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION
- SHEET 11 OF 16 ENTRANCE AND TREE PROTECTION
- SHEET 12 OF 16 SEDIMENT CONTROL NOTES AND TABLES
- SHEET 13 OF 16 SEDIMENT CONTROL NOTES AND TABLES FOR VEGETATIVE STABILIZATION
- SHEET 14 OF 16 FOREST STAND DELINEATION PLAN
- SHEET 15 OF 16 LANDSCAPE PLAN AND TREE CONSERVATION PLAN
- SHEET 16 OF 16 OFF-SITE FOREST MITIGATION PLAN
- REFORESTATION PLANTING DETAILS AND SPECIFICATIONS

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 road within 30 day of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District."
James J. Suttler 3-21-98
DATE

By the Engineer:
"I certify that this plan for pond construction, erosion and sediment control presents 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."
Victor Chen, P.E. 9/2/02
DATE

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
Robert W. Johnson 9/1/99
USDA, National Resources Conservation Service Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Robert W. Johnson 9/1/99
Howard Soil Conservation District Date



ADDRESS CHART					
LOT/PARCEL #	STREET ADDRESS				
000/000 - PARCEL 50	7151 BROOKDALE ROAD				
SUBDIVISION NAME SECT. AREA LOT/PARCEL #					
1/1 50					
PLAT # DRL/P	BLOCK	ZONE	TAX ZONE	ELECT. DIST.	CEHSUS
880/580	5	M-2	43	1ST	6012
WATER CODE		SEWER CODE			
801					