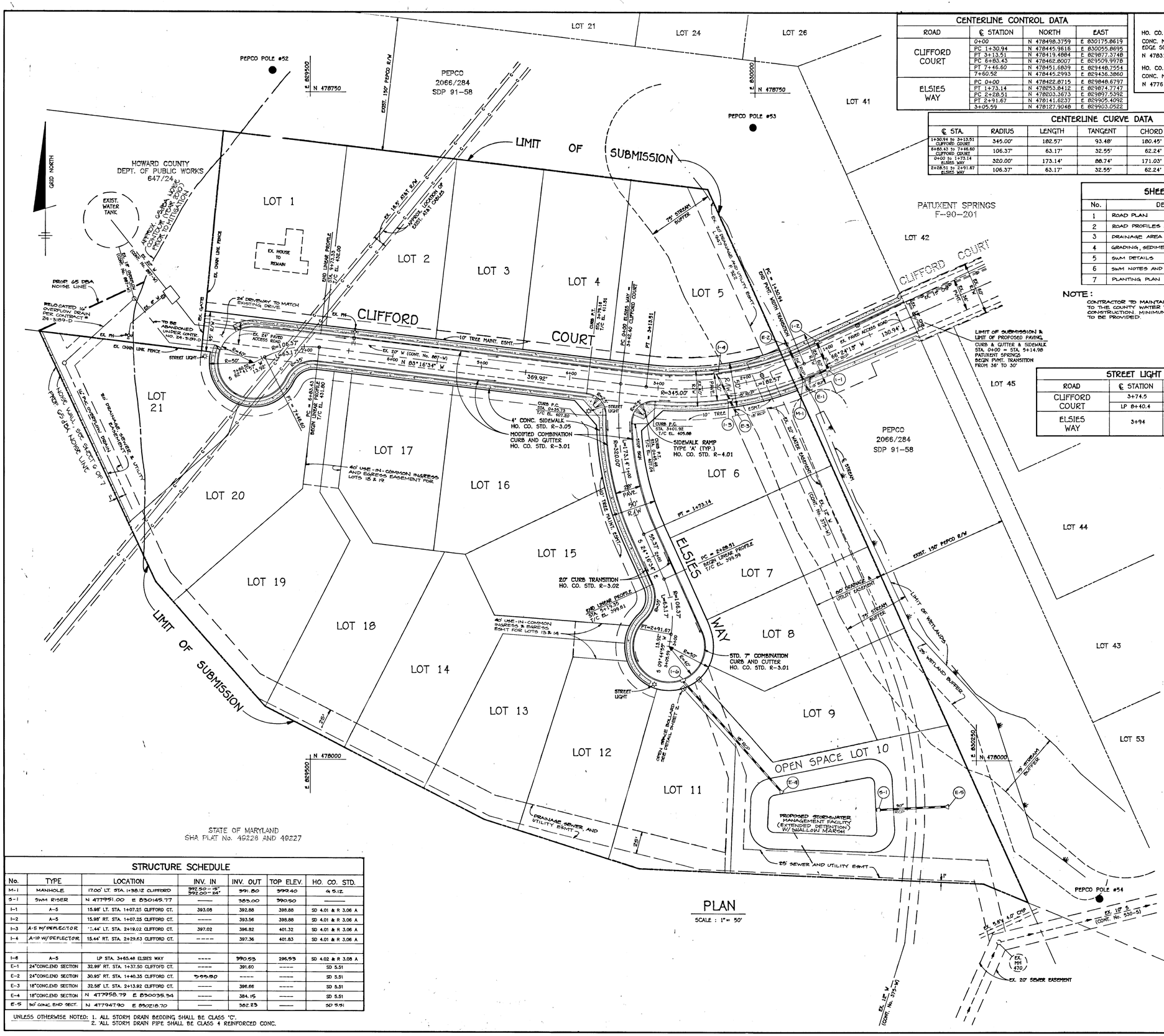


PLAN

SCALE : 1"= 50'

CENTERLINE CONTROL DATA

ROAD	℄ STATION	NORTH	EAST
CLIFFORD COURT	0+00	N 478498.3759	E 830175.8619
	PC 1+30.94	N 478445.9616	E 830055.8695
	PT 3+13.51	N 478419.4884	E 829877.5748
	PC 6+83.43	N 478462.8007	E 829509.9978
	PT 7+46.60	N 478451.6839	E 829448.7554
	7+60.52	N 478445.2993	E 829436.3860
ELSIES WAY	PC 0+00	N 478422.8715	E 829849.6797
	PT 1+73.14	N 478253.8412	E 829874.7747
	PC 2+28.51	N 478203.3673	E 829897.5392
	PT 2+91.67	N 478141.6237	E 829905.4092
	3+05.59	N 478127.9048	E 829903.0522

BENCH MARKS

HO. CO. #2038001 ELEV. 435.686
CONC. MONUMENT 23' ± NORTH OF NORTH EDGE SCAGGSVILLE RD. 0.3' BELOW SURFACE.
N 478311.283 E 826786.508

HO. CO. #2039001 ELEV. 447.251
CONC. MONUMENT 0.1' BELOW SURFACE.
N 477614.342 E 828108.318

CENTERLINE CURVE DATA

℄ STA.	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
1+30.94 to 3+13.51 CLIFFORD COURT	345.00'	182.57'	93.48'	180.45'	S 81°33'50" W	30°19'13"
6+83.43 to 7+46.60 CLIFFORD COURT	106.37'	63.17'	32.55'	62.24'	S 79°42'42" W	34°01'29"
0+00 to 1+73.14 ELSIES WAY	320.00'	173.14'	88.74'	171.03'	S 08°46'34" E	31°00'00"
2+28.51 to 2+91.67 ELSIES WAY	106.37'	63.17'	32.55'	62.24'	S 07°15'50" E	34°01'29"

SHEET INDEX

NOTE:
CONTRACTOR TO MAINTAIN A MINIMUM 12' ACCESS DRIVE TO THE COUNTY WATER TANK AT ALL TIMES DURING CONSTRUCTION. MINIMUM OF 6" CRUSHER RUN BASE TO BE PROVIDED.

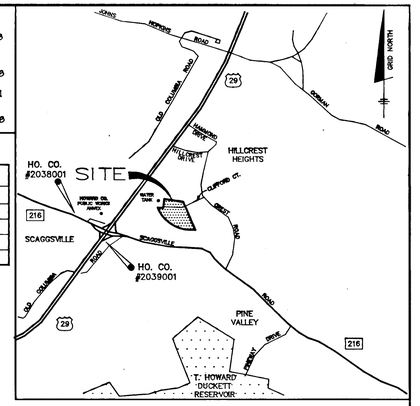
STREET LIGHT LEGEND

ROAD	℄ STATION	OFFSET	TYPE
CLIFFORD COURT	3+74.5	34.8' LEFT	150 WATT TRADITIONAIRE SODIUM VAPOR LAMP POST FIXTURE ON 16 FOOT BLACK FIBERGLASS POLE
	LP 8+40.4	15' LEFT	
ELSIES WAY	3+94	5' LEFT	

STRUCTURE SCHEDULE

No.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	HO. CO. STD.
M-1	MANHOLE	17.00' LT. STA. 1+38.12 CLIFFORD	392.50 - 15" 392.00 - 24"	391.80	399.40	M 5.12
S-1	SWM RISER	N 477951.00 E 830145.77	———	385.00	390.50	———
I-1	A-5	15.98' LT. STA. 1+07.25 CLIFFORD CT.	393.08	392.88	398.88	SD 4.01 & R 3.06 A
I-2	A-5	15.98' RT. STA. 1+07.25 CLIFFORD CT.	-----	393.56	398.88	SD 4.01 & R 3.06 A
I-3	A-5 W/ DEFLECTOR	15.44' LT. STA. 2+19.02 CLIFFORD CT.	397.02	396.82	401.32	SD 4.01 & R 3.06 A
I-4	A-10 W/ DEFLECTOR	15.44' RT. STA. 2+29.63 CLIFFORD CT.	-----	397.36	401.83	SD 4.01 & R 3.06 A
I-5						
I-6	A-5	LP STA. 3+65.48 ELSIES WAY	-----	390.53	396.53	SD 4.02 & R 3.08 A
E-1	24"CONC.END SECTION	32.99' RT. STA. 1+37.50 CLIFFORD CT.	-----	391.60	-----	SD 5.51
E-2	24"CONC.END SECTION	30.95' RT. STA. 1+40.35 CLIFFORD CT.	395.80	-----	-----	SD 5.51
E-3	18"CONC.END SECTION	32.58' LT. STA. 2+13.92 CLIFFORD CT.	-----	396.66	-----	SD 5.51
E-4	18"CONC.END SECTION	N 477958.79 E 830035.34	-----	384.15	-----	SD 5.51
E-5	90° CONC. END SECT.	N 477947.90 E 830218.70	———	382.23	———	SD 5.51

UNLESS OTHERWISE NOTED: 1. ALL STORM DRAIN BEDDING SHALL BE CLASS 'C'.
2. ALL STORM DRAIN PIPE SHALL BE CLASS 4 REINFORCED CONC.



VICINITY MAP

SCALE : 1"=2000'

GENERAL NOTES

1. All construction shall be in accordance with the latest standards and specifications of Howard County.
2. The contractor shall notify the Department of Public Works/Bureau of Construction Inspection at (301) 792-7272 at least five (5) working days prior to the start of work.
3. The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
4. Project Backround :
   Location : Tax Map 46, Parcel 1. Liber 1995 Folio 677
   Zoning : R-20
   Section 1, Area 1
   Total Tract Area : 13.058 AC.
   Section Area : 13.058 AC.
   Number of Proposed Lots : 21
   Date Preliminary Plan Approved : MARCH 27, 1992
   DPZ Reference # : P-92-04
5. Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
6. Topography taken from field run survey by TSA Group, Inc. dated 9/91. Contour interval is 2 feet.
7. Howard County monuments 2038001 and 2039001 used for hortzontal and vertical datum.
8. Light poles and fixtures for street lights shall be in accordance latest Howard County Design Manual, Volume III, Roads and Bridges.
9. Water and Sewer for this subdivision is public. Drainage area is Patuxent. Contract No. 24-3189-D
10. Stormwater Management for this subdivision is extended detention.
11. Existing utilities were located by record drawings and field run survey by TSA Group, Inc. dated 9/91.
12. NOISE ABATEMENT WALL TO BE MAINTAINED BY THE LOT OWNER PER RECORDED AGREEMENT.
13. WETLAND DELINEATION DONE BY M.A. DIRCKS, INC. 2/92.
14. NOISE STUDY DONE BY TSA GROUP, INC. 5/92.
15. THERE IS NO 100 YEAR FLOODPLAIN ONSITE.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 10/13/92

CHIEF, BUREAU OF HIGHWAYS — DATE 10/5/92

CHIEF, BUREAU OF ENGINEERING — DATE 10-13-92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 10/20/92

NO	DATE	REVISION
1	12-11-95	REMOVE NOISE WALL LOTS 11-20 ; FUTURE MD RTE. 216, REVISE EX. & PROP. 65dBA LINE

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301)465-8105

STATE OF MARYLAND — JOHN E. DIRCKS — No. 10691 — REGISTERED PROFESSIONAL ENGINEER

OWNER/DEVELOPER:
SAMUEL F. LYONS
10688 SCAGGSVILLE ROAD
LAUREL, MARYLAND 20707

PROJECT: LYONS HILL
SECTION 1 - AREA 1
LOTS 1-21

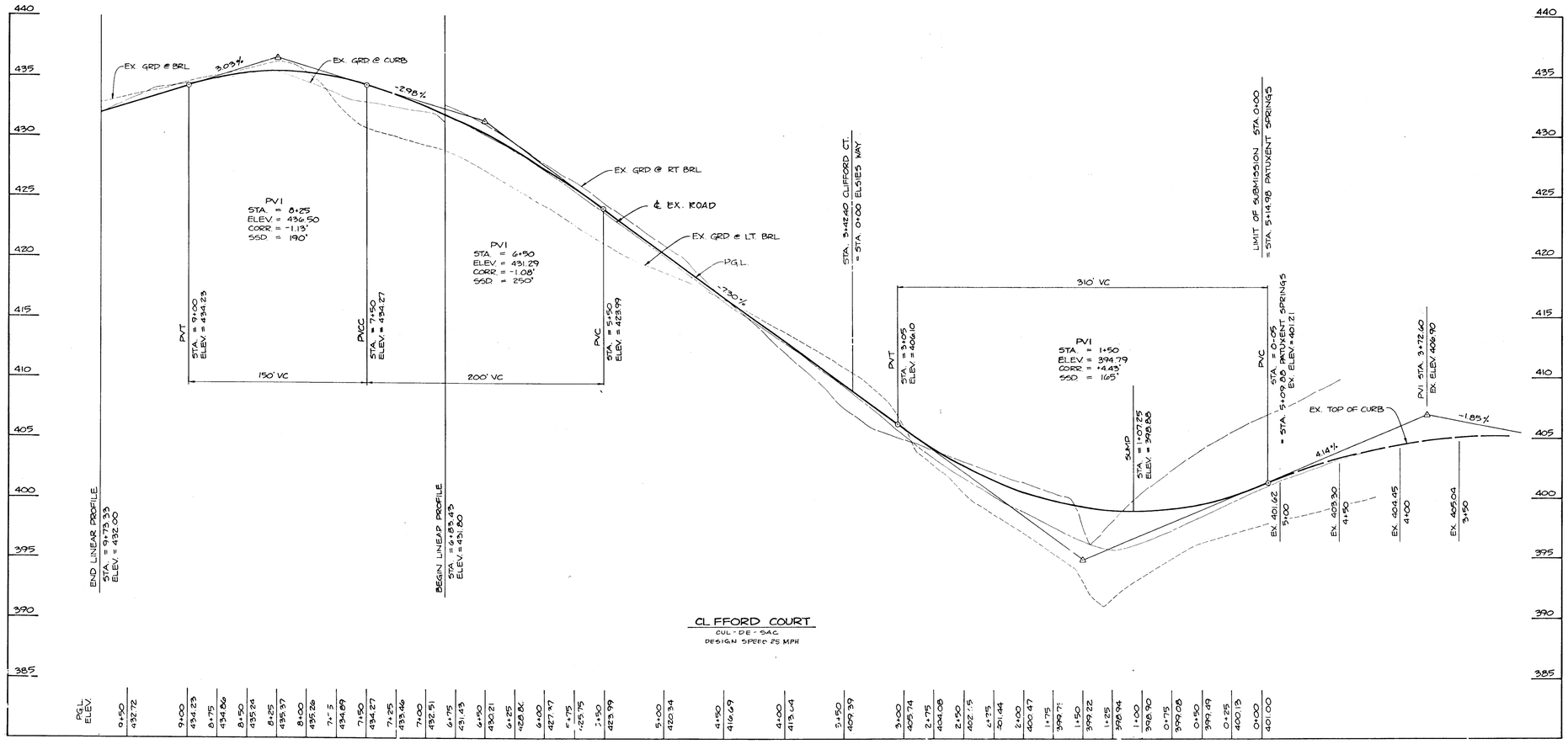
LOCATION:
TAX MAP 46 - PARCEL 1
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: PLAN OF CLIFFORD COURT AND ELSIES WAY
5-91-13 P-92-04

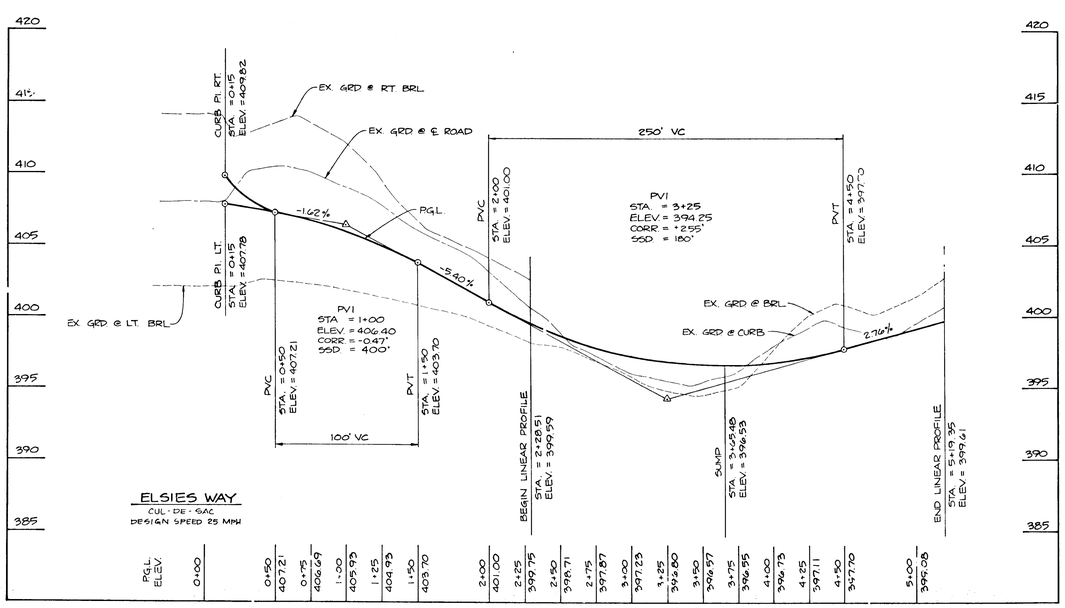
DATE: MARCH 10, 1992 / MAY 29, 1992
PROJECT NO. 0349
DES: JME/DRE DRN: DRK/DBT
SCALE: AS SHOWN
DRAWING 1 OF 7

1644

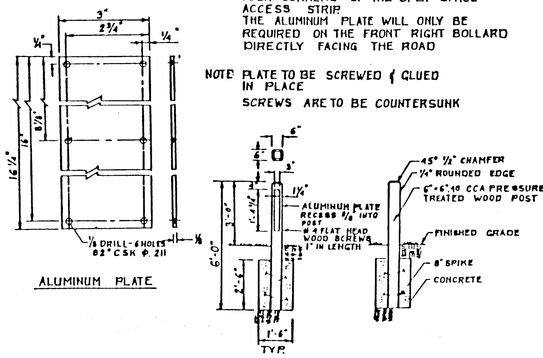
F-92-118



CLIFFORD COURT
CUL-DE-SAC
DESIGN SPEED 25 MPH



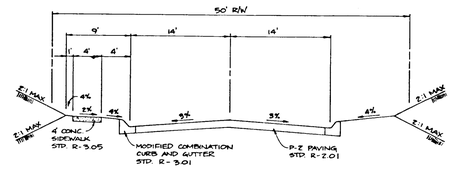
ELSIES WAY
CUL-DE-SAC
DESIGN SPEED 25 MPH



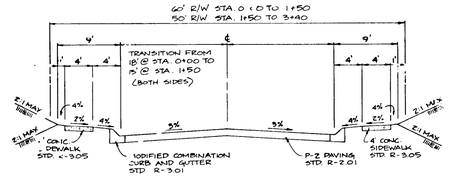
NOTE: BOLLARDS WILL BE PLACED AT THE FOUR CORNERS OF THE OPEN SPACE ACCESS STRIP. THE ALUMINUM PLATE WILL ONLY BE REQUIRED ON THE FRONT RIGHT BOLLARD DIRECTLY FACING THE ROAD

NOTE: PLATE TO BE SCREWED & GLUED IN PLACE
SCREWS ARE TO BE COUNTERSUNK

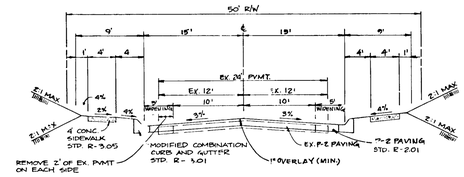
OPEN SPACE BOLLARD DETAIL
NO SCALE



CUL-DE-SAC
DESIGN SPEED 25 MPH
ELSIES WAY - TYPICAL SECTION
NO SCALE



LOCAL ROAD
DESIGN SPEED 30 MPH
CLIFFORD COURT - TYPICAL SECTION
STA. 0+00 TO 3+40
NO SCALE



CUL-DE-SAC
DESIGN SPEED 25 MPH
CLIFFORD COURT - TYPICAL SECTION
STA. 3+40 TO 6+83.43
NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 10/13/92

CHIEF, BUREAU OF HIGHWAYS — DATE 10/5/92

CHIEF, BUREAU OF ENGINEERING — DATE 10-13-92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 10/23/92

NO	DATE	REVISION

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301)465-8105

OWNER/DEVELOPER:

SAMUEL F. LYONS
10688 SCAGGSVILLE ROAD
LAUREL, MARYLAND 20707

PROJECT: LYONS HILL
SECTION 1 - AREA 1
LOTS 1-21

LOCATION: TAX MAP 46 - PARCEL 1
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: PROFILES OF CLIFFORD COURT AND ELSIES WAY
S-91-13 P-92-04

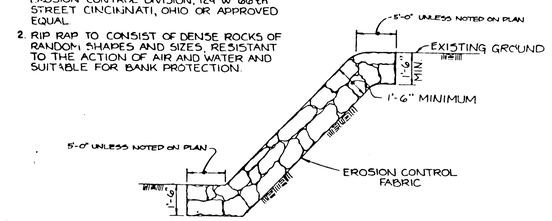
DATE: MARCH 10, 1992 / M.Y. 29, 1992 — PROJECT NO. 0349

DES: JML/DRK — DRN: DBT/JG — SCALE: 1" = 50' HORIZ. 1" = 5' VERT. — DRAWING 2 OF 7

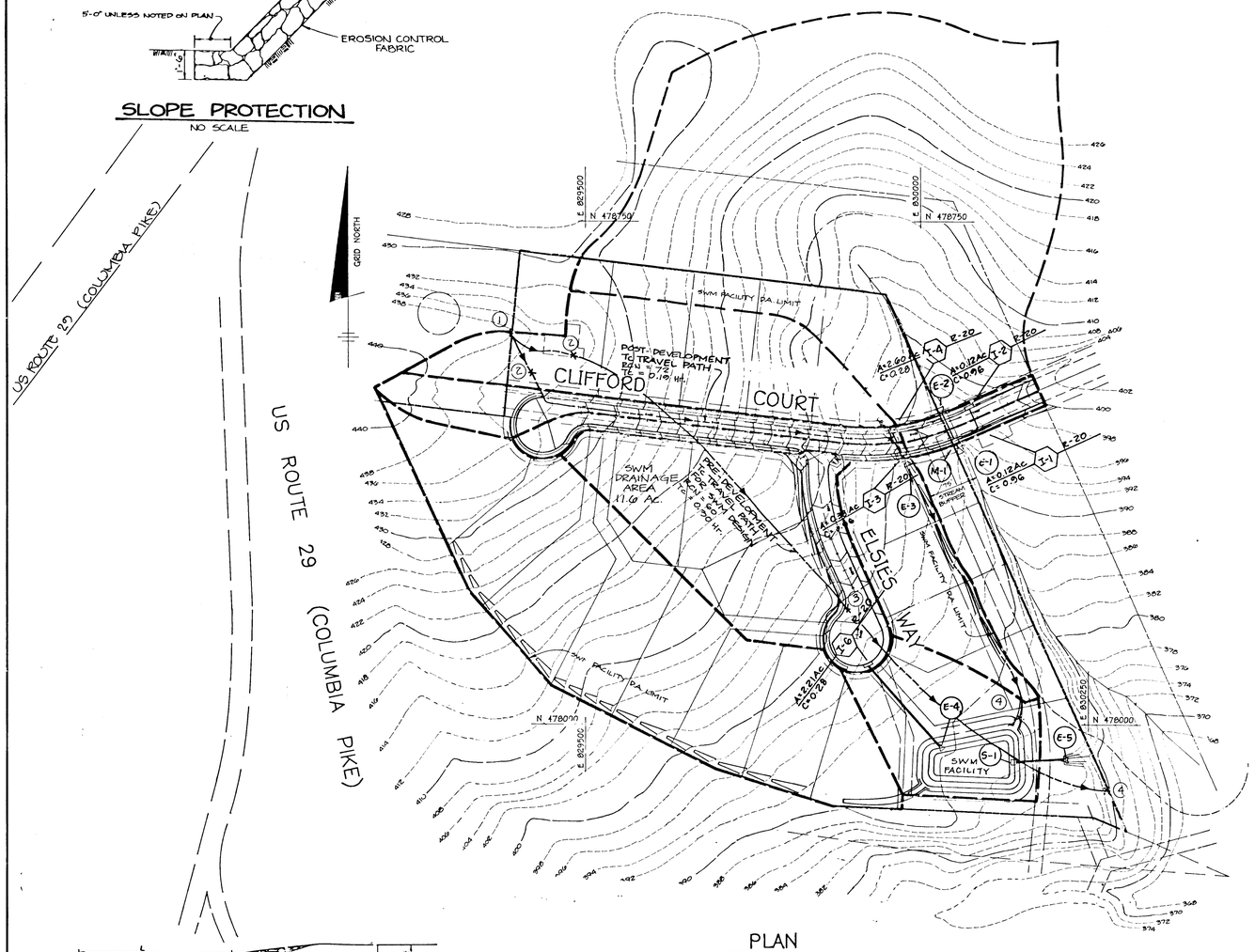
1644

F-92-118

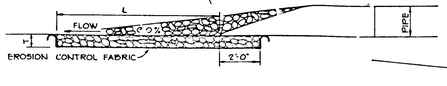
1. EROSION CONTROL FABRIC SHALL BE AS MANUFACTURED BY CARTHAGE MILLS, INC. EROSION CONTROL DIVISION, 129 W. 66th STREET CINCINNATI, OHIO OR APPROVED EQUAL.
2. RIP RAP TO CONSIST OF DENSE ROCKS OF RANDOM SHAPES AND SIZES, RESISTANT TO THE ACTION OF AIR AND WATER AND SUITABLE FOR BANK PROTECTION.



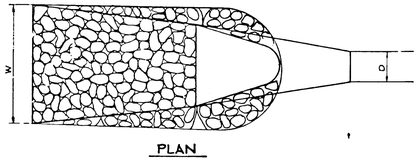
SLOPE PROTECTION
NO SCALE



PLAN
SCALE : 1" = 100'

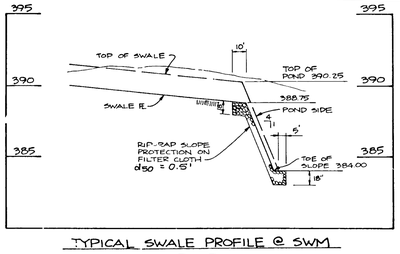


SECTION

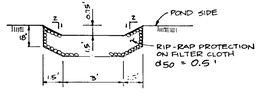


PLAN

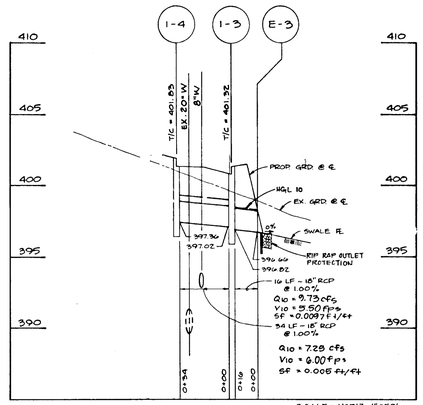
STRUCTURE	d - 50	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	0.50	8'	10'	1'-0"
E-2	0.50	5'	5'	1'-0"
E-3	0.50	10'	14'	1'-0"
E-4	0.50	6'	4'	1'-0"
E-5	0.50	30'	6'	1'-0"



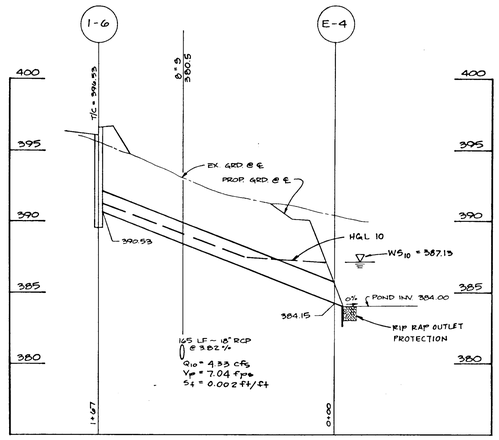
TYPICAL SWALE PROFILE @ SWM POND
SCALE: 1"=50' HORIZ.
1"=5' VERT.



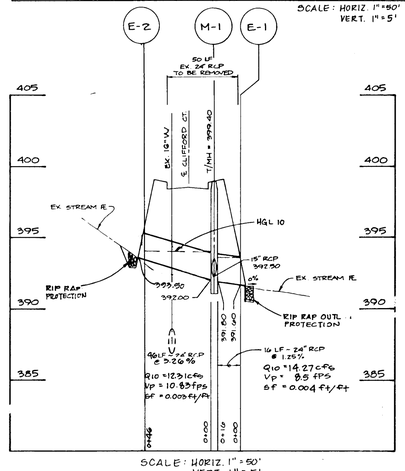
TYPICAL SWALE SECTION @ SWM POND
NO SCALE



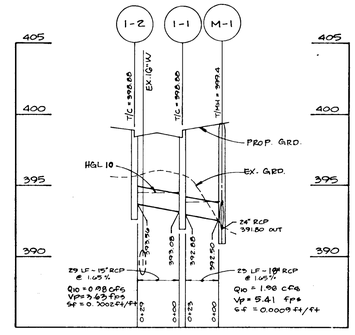
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



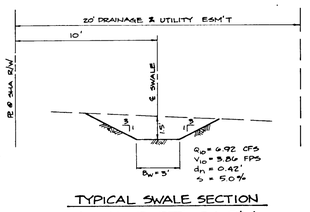
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



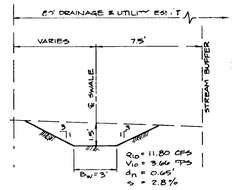
SCALE: HORIZ. 1"=50'
VERT. 1"=5'



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



TYPICAL SWALE SECTION ALONG MD RTE. 216 R/W
N.T.S.



TYPICAL SWALE SECTION ALONG 75' STREAM BUFFER
N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 10/13/92

CHIEF, BUREAU OF HIGHWAYS — DATE 10/5/92

CHIEF, BUREAU OF ENGINEERING — DATE 10-13-92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 10/22/92

NO	DATE	REVISION
1	12-11-95	REVISE LOCATION OF MD RTE. 216

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301)465-6105

OWNER/DEVELOPER:
SAMUEL F. LYONS
10688 SCAGGSVILLE ROAD
LAUREL, MARYLAND 20707

PROJECT: LYONS HILL
SECTION 1 - AREA 1
LOTS 1-21

LOCATION: TAX MAP 46 - PARCEL 1
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

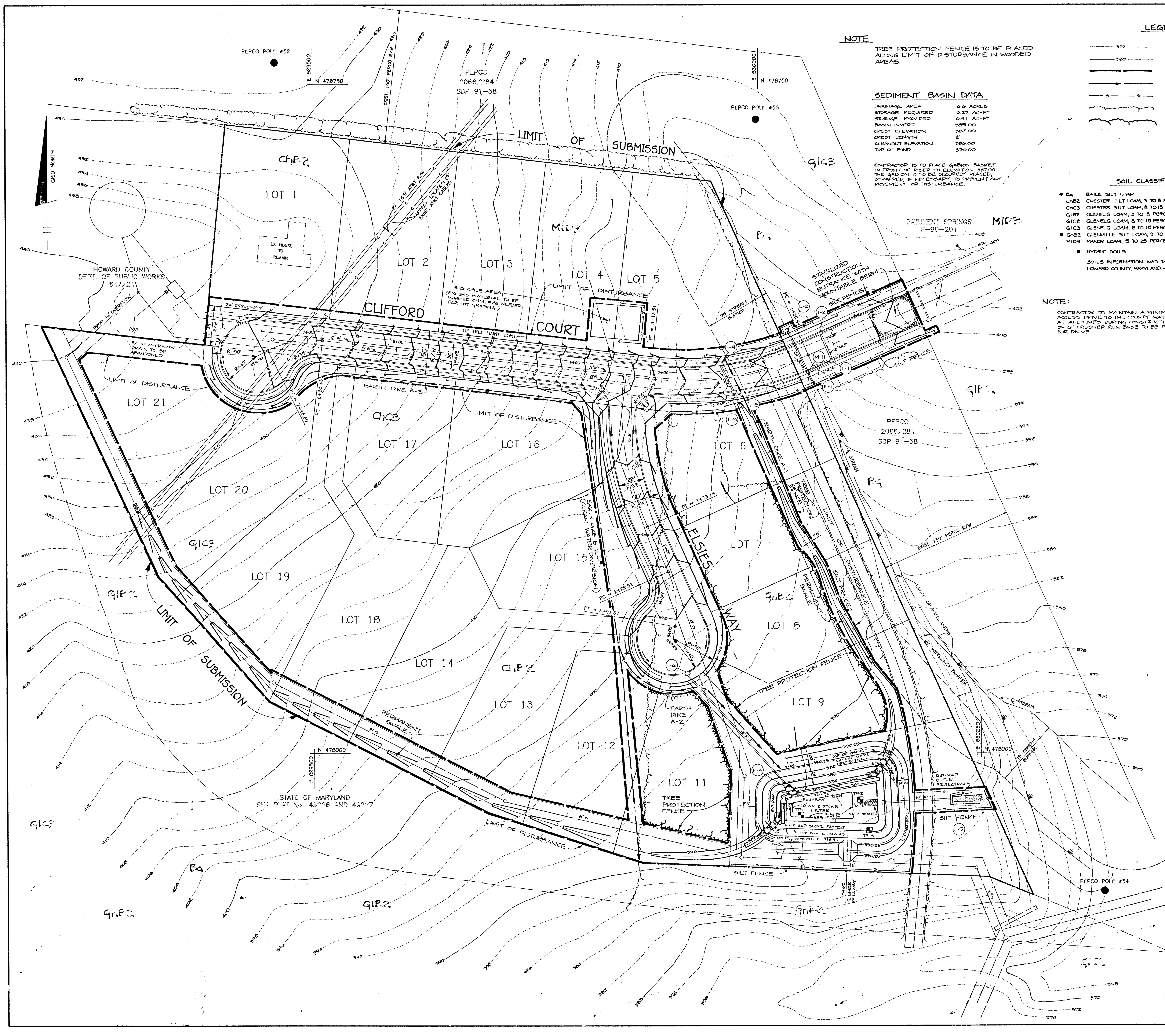
TITLE: DRAINAGE AREA MAP
STORM DRAIN PROFILES
5-91-13 P-92-04

DATE: MARCH 10, 1992
MAY 29, 1992
PROJECT NO. 0349

DES: JME DRN: DBT/JG
SCALE: AS SHOWN
DRAWING 3 OF 7

1644

F-92-118



NOTE

TREE PROTECTION FENCE IS TO BE PLACED ALONG LIMIT OF DISTURBANCE IN WOODED AREAS.

SEDIMENT BASIN DATA

DRAINAGE AREA	6.6 ACRES
STORAGE REQUIRED	0.27 AC-FT
STORAGE PROVIDED	0.41 AC-FT
BASIN INVERT	385.00
CREST ELEVATION	387.00
CREST LENGTH	2'
CLEANOUT ELEVATION	386.00
TOP OF POND	390.00

CONTRACTOR IS TO PLACE GABION BASKET IN FRONT OF RISER TO ELEVATION 387.00. THE GABION IS TO BE SECURELY PLACED, STRAPPED IF NECESSARY, TO PREVENT ANY MOVEMENT OR DISTURBANCE.

LEGEND

------ 322 ------	EXISTING CONTOURS
——— 320 ———	PROPOSED CONTOURS
▬▬ ▬▬	LIMIT OF DISTURBANCE
——→——	EARTH DIKE
—— s —— s ——	SILT FENCE
	EXISTING TREELINE
	PROPOSED TREELINE

SOIL CLASSIFICATIONS

*	Ba	BAILE SILT LOAM.
	ChB2	CHESTER SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED.
	ChC3	CHESTER SILT LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED.
	GlB2	GLENELG LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED.
	GlC2	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, MODERATELY ERODED.
	GlC3	GLENELG LOAM, 8 TO 15 PERCENT SLOPES, SEVERELY ERODED.
*	GnB2	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED
	MID3	MANOR LOAM, 15 TO 25 PERCENT SLOPES, SEVERELY ERODED.

* HYDRIC SOILS

SOILS INFORMATION WAS TAKEN FROM THE "SOIL SURVEY," HOWARD COUNTY, MARYLAND. - MAP NO. 33.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCES, SILT FENCE, TREE PROTECTION FENCE AND CLEAN WATER DIVERSION DIKE.
3. CONSTRUCT STORMWATER MANAGEMENT FACILITY/TEMPORARY SEDIMENT BASIN TO INVERT 385.0. CONSTRUCT CONCRETE RISER, BLOCK LOW FLOW ORIFICE WITH STONE DURING SEDIMENT CONTROL STAGE (SEE BLOCKING DETAIL SHEET 6). STUB-OUT EXTENDED DETENTION PIPE AND CAP. STABILIZE BASIN.
4. CONSTRUCT PERMANENT SWALE ALONG 75' STREAM BUFFER FROM CLIFFORD COURT TO SEDIMENT BASIN. INSTALL REMAINING EARTH DIKES.
5. GRADE ROADWAY TO SUBGRADE. STABILIZE ALL DISTURBED AREAS.
6. CONSTRUCT SEWER, STORM DRAINAGE AND WATER.
7. CONSTRUCT CURB AND GUTTER AND PAVING.
8. CONSTRUCT PERMANENT SWALE ALONG ROUTE 216 AND REMAINING SWALE ALONG STREAM BUFFER.
9. STABILIZE ALL AREAS IN ACCORDANCE WITH "PERMANENT SEEDBED" NOTES.
10. UPON THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE AREAS.
11. CONVERT SEDIMENT BASIN TO PERMANENT STORMWATER MANAGEMENT FACILITY AS FOLLOWS:
    1. PUMP OUT ANY IMPOUNDED WATER.
    2. DREDGE BASIN TO REMOVE ALL SEDIMENT.
    3. RETURN POND TO PLAN SHAPE.
    4. REMOVE STONE FILTER FROM LOW FLOW ORIFICE.
    5. EXCAVATE POND TO SWM PLAN INVERT 384.00.
    6. INSTALL EXTENDED DETENTION PIPE AND STONE.
    7. PERMANENTLY STABILIZE.
12. CONSTRUCT NOISE WALL

NOTE:

CONTRACTOR TO MAINTAIN A MINIMUM 12' ACCESS DRIVE TO THE COUNTY WATER TANK AT ALL TIMES DURING CONSTRUCTION. MINIMUM OF 6" CRUSHER RUN BASE TO BE PROVIDED FOR DRIVE.

BY THE DEVELOPER:

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

Samuel F Lyons — 3/10/1992
DEVELOPER: SAMUEL F. LYONS — DATE

BY THE ENGINEER:

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

John Elorriaga — 3-10-92
ENGINEER: JOHN M. ELORRIAGA, P.E. # 16891 — 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.

James M. Helm — 9/15/92
U.S. SOIL 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. Ziehm — 9/15/92
HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — 10/13/92 DATE
CHIEF, BUREAU OF HIGHWAYS — 10/5/92 DATE
CHIEF, BUREAU OF ENGINEERING — 10-13-92 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — 10/22/92 DATE

NO	DATE	REVISION
△	12-11-95	REVISE LOCATION OF FUTURE MD RTE. 216

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301)465-6105

OWNER/DEVELOPER:
SAMUEL F. LYONS
10688 SCAGGSVILLE ROAD
LAUREL, MARYLAND 20707

PROJECT: LYONS HILL
SECTION 1 - AREA 1
LOTS 1-21

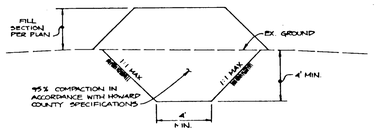
LOCATION: TAX MAP 46 - PARCEL 1
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: GRADING, SEDIMENT AND EROSION CONTROL PLAN
S-91-13 P-92-04

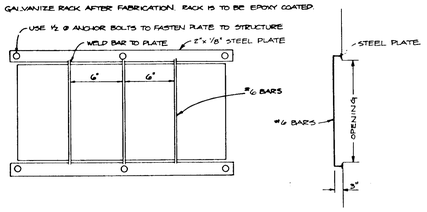
DATE: MARCH 10, 1992 / MAY 29, 1992 — PROJECT NO. 0379
SCALE: 1" = 50' — DRAWING 1 OF 7
DES: JME — DRN: DRK./DBT

F-92-118

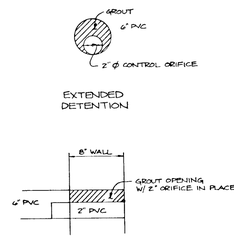
1644



CUT OFF TRENCH SECTION
NO SCALE



TRASH RACK DETAIL
NO SCALE



CONTROL ORIFICE DETAIL
NO SCALE

DEPTH (FEET)	SAMPLES #	SAMPLES DEPTH (FEET)	DESCRIPTION OF MATERIALS	REMARKS
0				Topsoil - 3 in.
1			Brown, orange, purple, moist, micaceous Sandy SILT (ML). Trace Clay, Gravel.	
2				
3	1	3.5		
4				
5				
6				
7	2	7.0		
		7.5	Terminated @ 7.5 ft.	
8				
9				
10				
11				
12				
13				WATER LEVEL: Dry

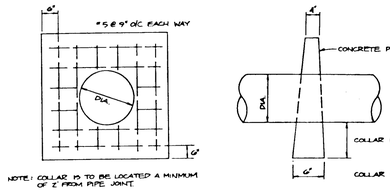
TEST PIT - 1

DEPTH (FEET)	SAMPLES #	SAMPLES DEPTH (FEET)	DESCRIPTION OF MATERIALS	REMARKS
0				
1			Purple, orange, brown, moist micaceous Sandy SILT (ML). Trace Gravel.	
2				
3				
4	1	4.0		
5				
6	2	6.0		
		6.83	Terminated @ 6.83 ft.	
7				
8				
9				
10				
11				
12				
13				WATER LEVEL: Dry

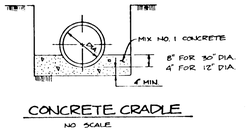
TEST PIT - 2

DEPTH (FEET)	SAMPLES #	SAMPLES DEPTH (FEET)	DESCRIPTION OF MATERIALS	REMARKS
0				
1			Purple, brown, orange, moist, micaceous Sandy SILT (ML). Trace Gravel.	
2				
3	1	3.0		
4				
5				
6				
7	2	7.0		
		7.83	Terminated @ 7.83 ft.	
8				
9				
10				
11				
12				
13				WATER LEVEL: Dry

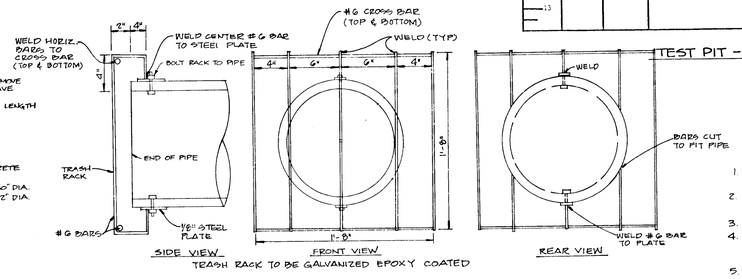
TEST PIT - 3



CONCRETE ANTI-SEEP COLLAR
NO SCALE



CONCRETE CRADLE
NO SCALE



TRASH RACK TO BE GALVANIZED EPOXY COATED

LOW FLOW DRAIN TRASH RACK
NO SCALE

NOTES

1. MATERIAL FOR EMBANKMENT CONSTRUCTION IS TO BE USCS GC, SC, CH, OR CL.
2. ONLY CL, CH, OR SC SOILS ARE TO BE USED FOR CORE TRENCH CONSTRUCTION.
3. ALL SLOPES AROUND POND ARE TO BE 3:1 MAX.
4. SHOULD WATER BE ENCOUNTERED DURING CONSTRUCTION OF CORE TRENCH, IT IS TO BE REMOVED BY PUMPING.
5. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" @ 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.

BY THE DEVELOPER:

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

Samuel F. Lyons — 3/10/1992
DEVELOPER: SAMUEL F. LYONS — DATE

BY THE ENGINEER:

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

John L. Elorriaga — 3-10-92
ENGINEER: JOHN M. ELORRIAGA, P.E. # 16891 — 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.

James M. Helm 11/1992 — 9/15/92
U.S. SOIL 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. Ziehm — 9/15/92
HOWARD S.C.D. — DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — 10/13/92 DATE
CHIEF, BUREAU OF HIGHWAYS — 10/5/92 DATE
CHIEF, BUREAU OF ENGINEERING — 10/13/92 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — 10/22/92 DATE

NO	DATE	REVISION

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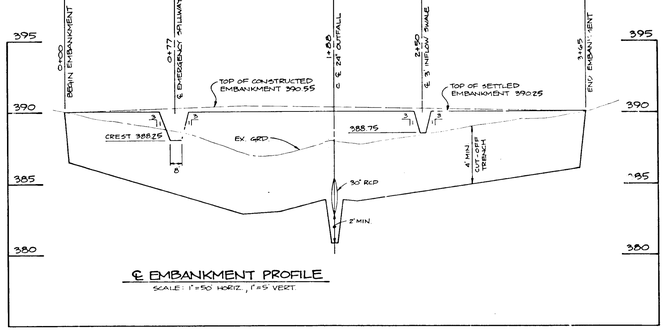
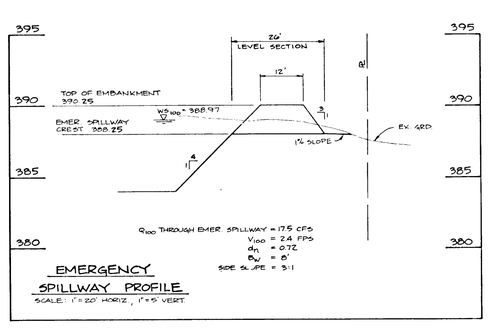
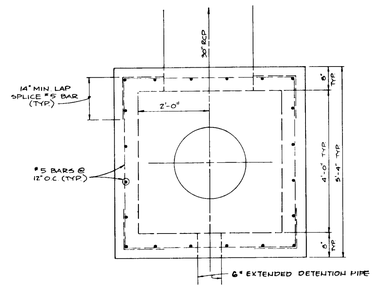


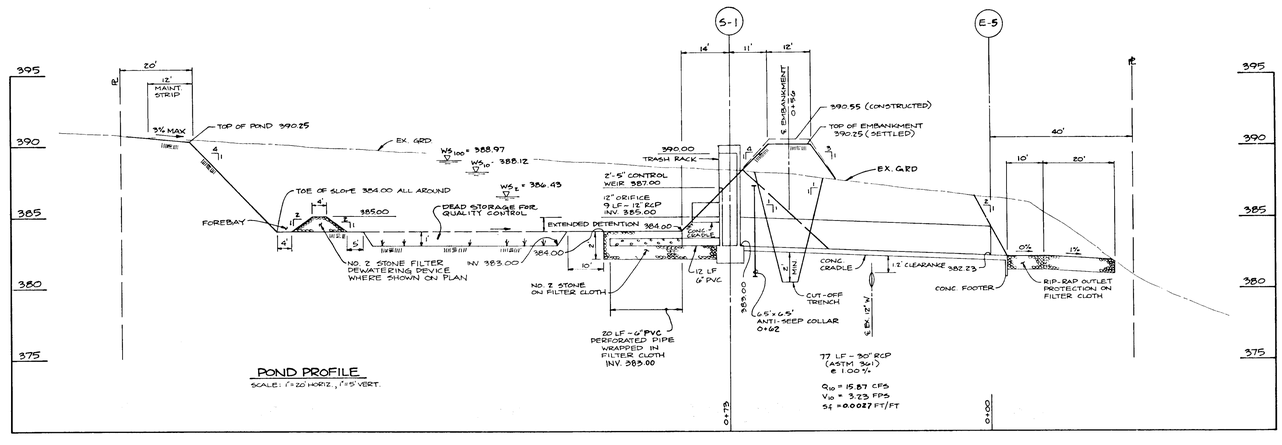
℄ EMBANKMENT PROFILE
SCALE: 1"=50' HORIZ., 1"=5' VERT.



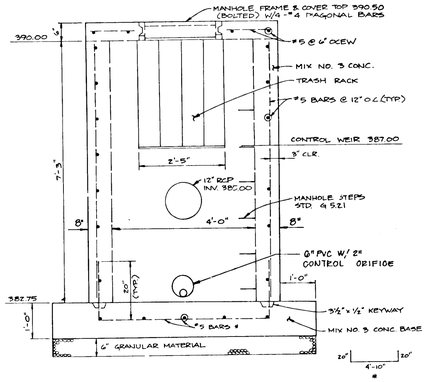
EMERGENCY SPILLWAY PROFILE
SCALE: 1"=20' HORIZ., 1"=5' VERT.



RISER DETAIL PLAN
SCALE: ½"=1'-0"



POND PROFILE
SCALE: 1"=20' HORIZ., 1"=5' VERT.



RISER DETAIL ELEVATION
SCALE: ½"=1'-0"

OWNER/DEVELOPER:	PROJECT: LYONS HILL
SAMUEL F. LYONS 10688 SCAGGSVILLE ROAD LAUREL, MARYLAND 20707	SECTION 1 - AREA 1 LOTS 1-21
	LOCATION: TAX MAP 46 - PARCEL 1 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
	TITLE: STORMWATER MANAGEMENT DETAILS S-91-13 P-92-04
	DATE: MARCH 10, 1992 MAY 29, 1992 — PROJECT NO. 0349
DES: JME — DRN: DBT/JG	SCALE: AS SHOWN — DRAWING 5 OF 7

1644

F-92-118

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 objectionable material 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 stormwater management ponds, a minimum of a 50 foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

Earth 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 center of the embankment and cut off 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 tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, 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 be 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.

Cut Off 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. At no time during the backfilling operation shall driven 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 Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe – All of the following criteria shall apply for corrugated metal pipe:

1. Materials – (Steel Pipe) – This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous 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: Nexon, Plasti-Cote, Blac-Klad, and Beth-Cu-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

   Materials – (Aluminum Coated Pipe) – This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

   Materials – (Aluminum Pipe) – This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. Connections – All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

   All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the band width. The following type connections are acceptable for pipes less than 48" in diameter: flanges on both ends of the pipe, a 12" wide standard lap type band with 12" wide by 3/8" thick closed cell circular neoprene gasket; and a 12" wide hugger type band with O-ring gaskets having a minimum diameter of 1/2" greater than the corrugation depth. Pipes 48" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and lugs. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24". Helically corrugated pipe shall have either continuously welded seams or have lock seams.

4. 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.

5. Backfilling shall conform to "Structure Backfill."

6. 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:

1. Materials – Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361. An approved equivalent is AWWA Specification C-302.

2. 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.

3. 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.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Polyvinyl Chloride (PVC) Pipe – All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

1. Materials – PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. 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.

4. Backfilling shall conform to "Structure Backfill."

5. 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

All rock shall be dense, sound, and free from cracks, seams, and other defects conducive to accelerated weathering. The rock fragments shall be angular to subrounded in shape. The least dimension of an individual rock fragment shall be not less than one third the greatest dimension of the fragment.

The rock shall have the following properties:

1. Bulk specific gravity (saturated surface-dry basis) not less than 2.5.
2. Absorption not more than three percent.
3. Soundness: Weight loss in five cycles not more than 20 percent when sodium sulfate is used.

Bulk specific gravity and absorption shall be determined according to ASTM C 127. The test for soundness shall be performed according to ASTM C 88.

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

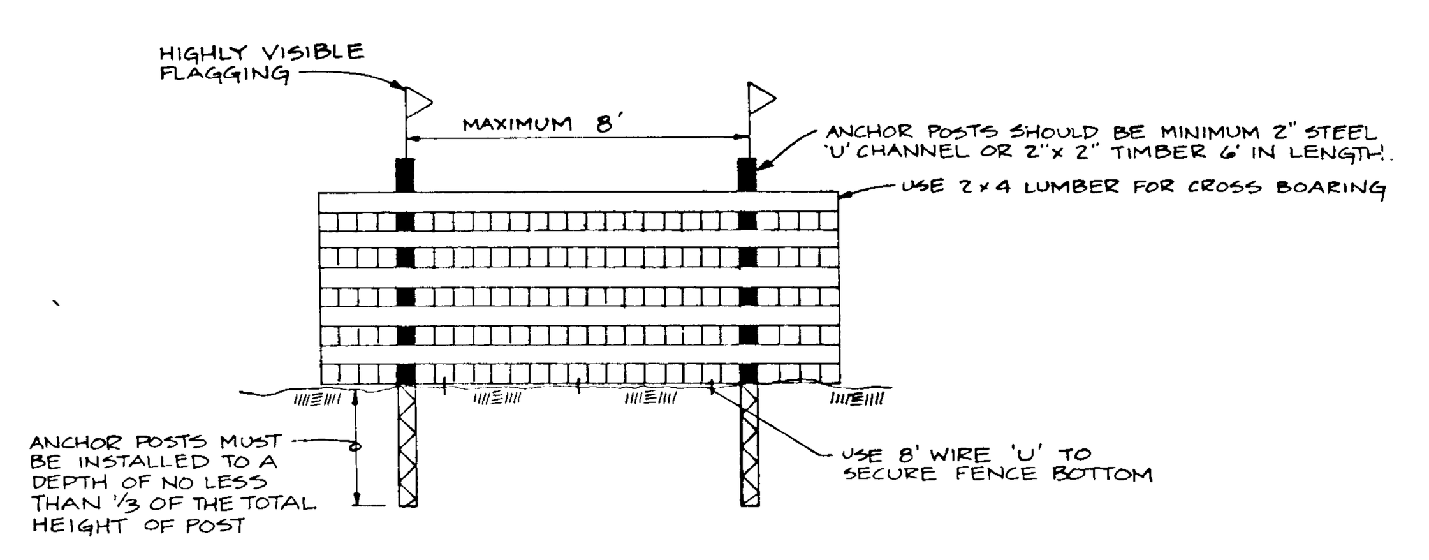
All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also 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 sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil 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.



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

TREE PROTECTION FENCE
NO SCALE

PERMANENT SEEDBED PREPARATION

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

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

1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs/1000 sq ft) AND 600 lbs PER ACRE 10-10-10 FERTILIZER (14 lbs/1000 sq ft) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 lbs/10000 sq ft)

2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 lbs/1000 sq ft) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 lbs/1000 sq ft) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30 AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 lbs/1000 sq ft) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 lbs/1000 sq ft) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF 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 SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 gal/1000 sq ft) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDBED PREPARATION

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

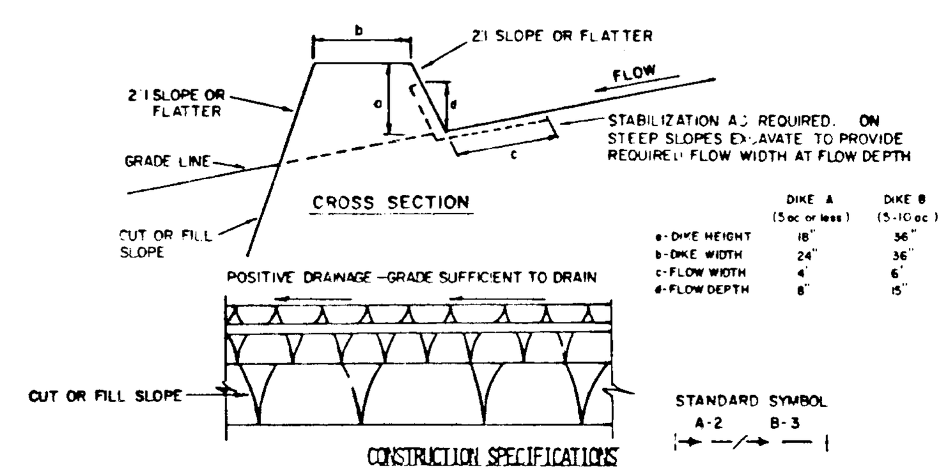
SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 lbs/1000 sq ft).

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

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 to 90 lbs/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 SLOPES, 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 gal/1000 sq ft) FOR ANCHORING.

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



CONSTRUCTION SPECIFICATIONS

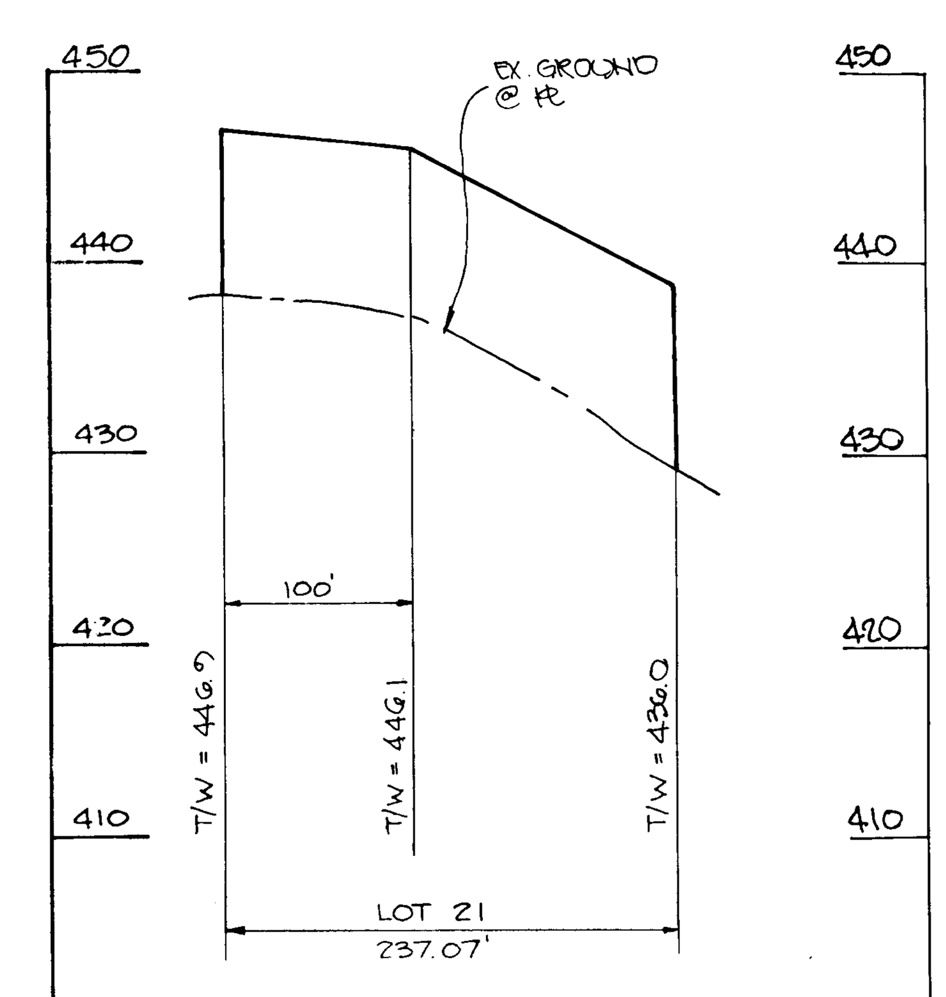
1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

EARTH DIKE
NO SCALE



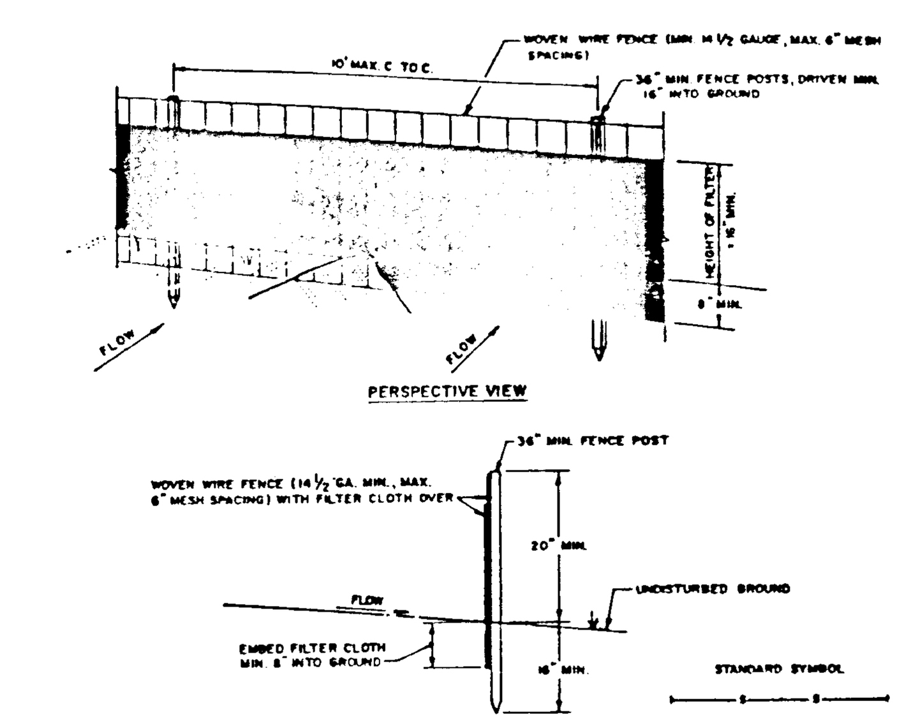
NOISE WALL PROFILE
SCALE: HORI.: 1" = 100'
VERT.: 1" = 10'

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL AREA OF SITE	13.06	ACRES
AREA DISTURBED	4.1	ACRES
AREA TO BE ROOFED OR PAVED	1.1	ACRES
AREA TO BE VEGETATIVELY STABILIZED	3.0	ACRES
TOTAL CUT	2500	CU YDS
TOTAL FILL	800	CU YDS
OFFSITE WASTE/BORROW AREA LOCATION	ONSITE	

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

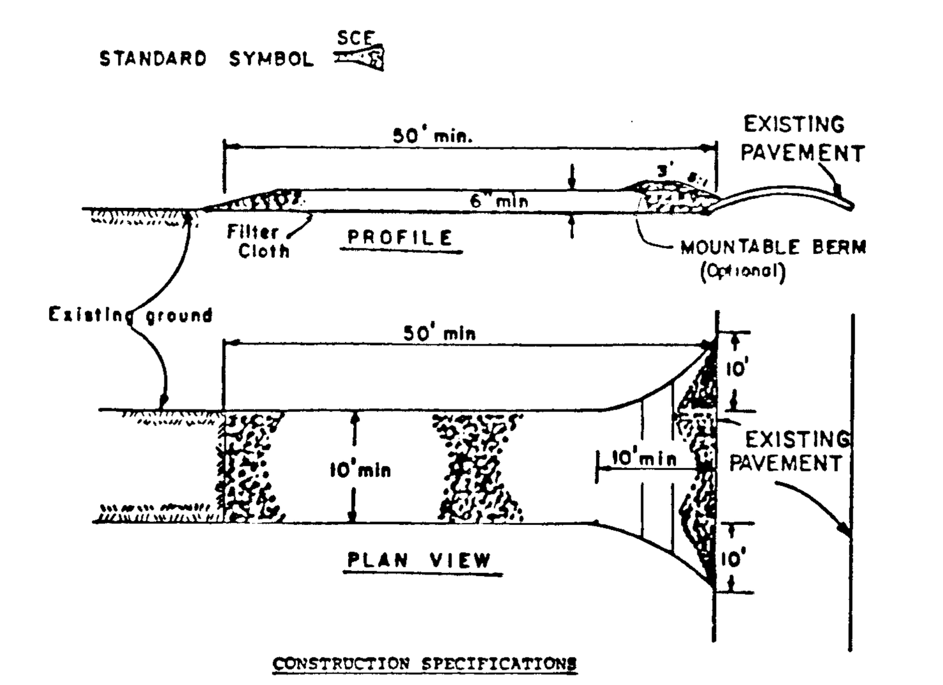
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

SILT FENCE
NO SCALE

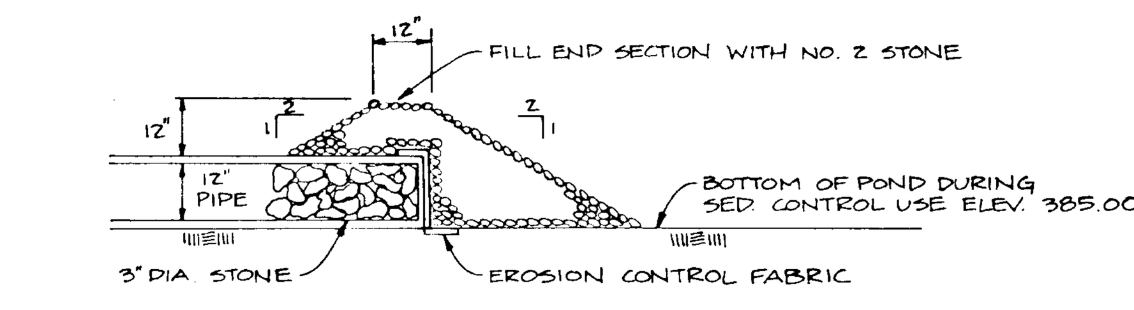
STANDARD SYMBOL SCE



CONSTRUCTION SPECIFICATIONS

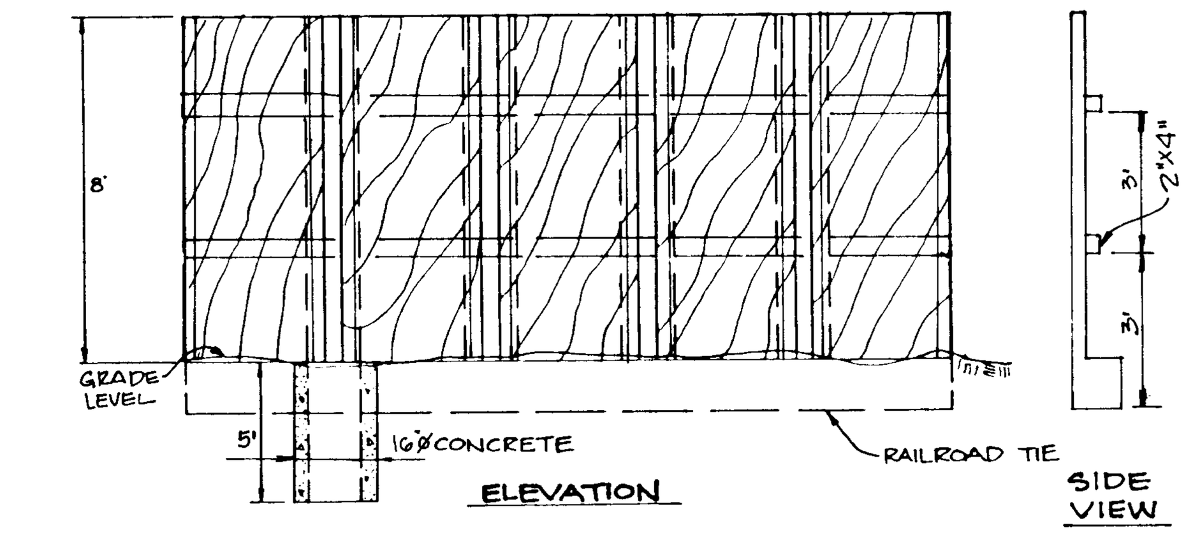
1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

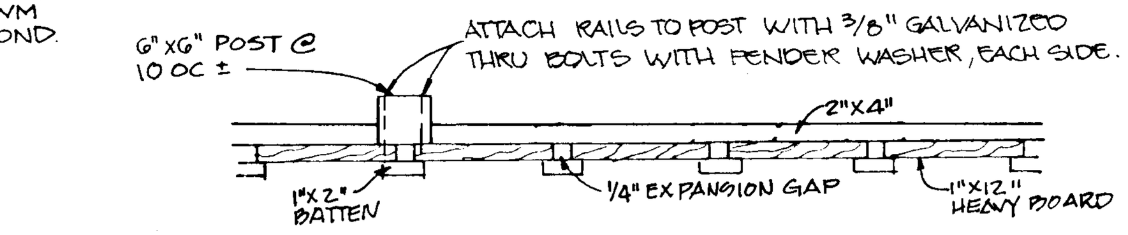
STABILIZED CONSTRUCTION ENTRANCE
NO SCALE



1. POND TO INV. 385.00 RISER, OUTFALL DRAIN, AND EXTENDED DETENTION DRAIN ARE TO BE CONSTRUCTED PRIOR TO ANY OTHER SITE DISTURBANCE.
2. UPON COMPLETION AND ACCEPTANCE OF ALL SITE DISTURBANCES, SEDIMENT BASIN IS TO BE CLEANED OUT, EXCAVATED TO SWM INV., PERMANENTLY STABILIZED AND CONVERTED TO SWM POND.

STONE FILTER BLOCKING DETAIL
NO SCALE





NOISE WALL DETAIL
NO SCALE

BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Samuel F. Lyons 3/10/1992
DEVELOPER: SAMUEL F. LYONS 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 MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[illegible] 3-10-92
ENGINEER: JOHN M. ELORRIAGA, P.E. # 16891 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.

James M. Helm / [illegible] 9/15/92
U.S. SOIL CONSERVATION SERVICE DATE

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

[illegible] 9/15/92
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

[illegible] 10/13/92
CHIEF, LAND DEVELOPMENT DIVISION DATE

[illegible] 10/5/92
CHIEF, BUREAU OF HIGHWAYS DATE

[illegible] 10-13-92
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[illegible] 10/22/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

NO	DATE	REVISION
1	12-11-95	REVISE NOISE WALL PROFILE & DETAIL

TSA GROUP, INC.
planning • architecture • engineering
8480 Baltimore National Pike • Ellicott City, Maryland 21043 • (301)465-6105

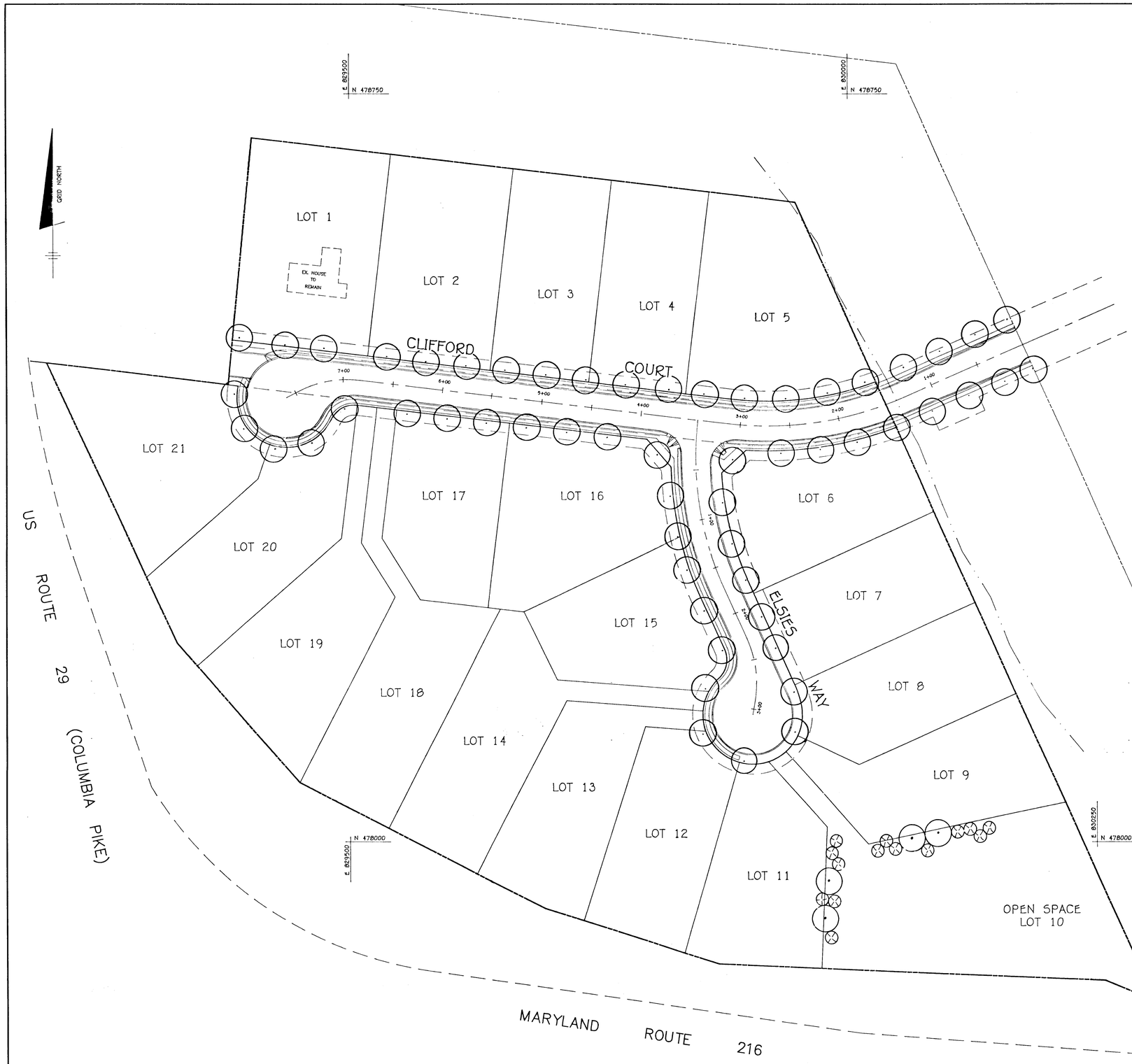
[illegible]

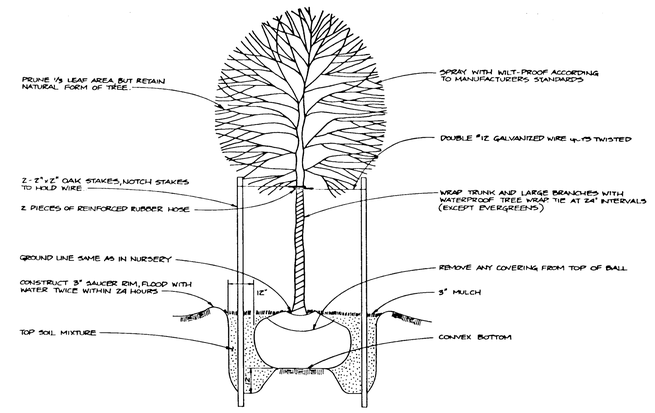
OWNER/DEVELOPER: SAMUEL F. LYONS, 10688 SCAGGSVILLE ROAD, LAUREL, MARYLAND 20707	PROJECT: LYONS HILL, SECTION 1 – AREA 1, LOTS 1-21
	LOCATION: TAX MAP 46 – PARCEL 1, 6th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
	TITLE: STORMWATER MANAGEMENT NOTES AND SEDIMENT CONTROL DETAILS 5-91-13 P-92-04
	DATE: MARCH 10, 1992 / MAY 29, 1992 — PROJECT NO. 0349
DES: JME — DRN: DRK/DBT/JG	SCALE: AS SHOWN — DRAWING 6 OF 7

F-92-118

1644

PLANT LIST			
SYMBOL	QUANTITY	NAME	REMARKS
•	60	ACER RUBRUM RED MAPLE	2½" MINIMUM CALIPER B&B FULL HEAD
⊗	14	PINUS STROBUS White Pine	5'-6' UNSHEARED
TOTAL	74		





TREE PLANTING DETAIL
NO SCALE

NOTE : TREES ARE TO BE A MINIMUM 4' OFF SIDEWALK.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 10/13/92

CHIEF, BUREAU OF HIGHWAYS — DATE 10/5/92

CHIEF, BUREAU OF ENGINEERING — DATE 10-13-92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 10/22/92

NO	DATE	REVISION

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OWNER/DEVELOPER:

SAMUEL F. LYONS
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PROJECT: LYONS HILL
SECTION 1 – AREA 1
LOTS 1-21

LOCATION: TAX MAP 46 – PARCEL 1
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: PLANTING PLAN
5-91-13 P-92-04

DATE: MARCH 10, 1992
MAY 29, 1992

PROJECT NO. 0349

DES: JME DRN: DRK/JG/DBT

SCALE: 1" = 50'

DRAWING 7 OF 7

1644

F-92-118