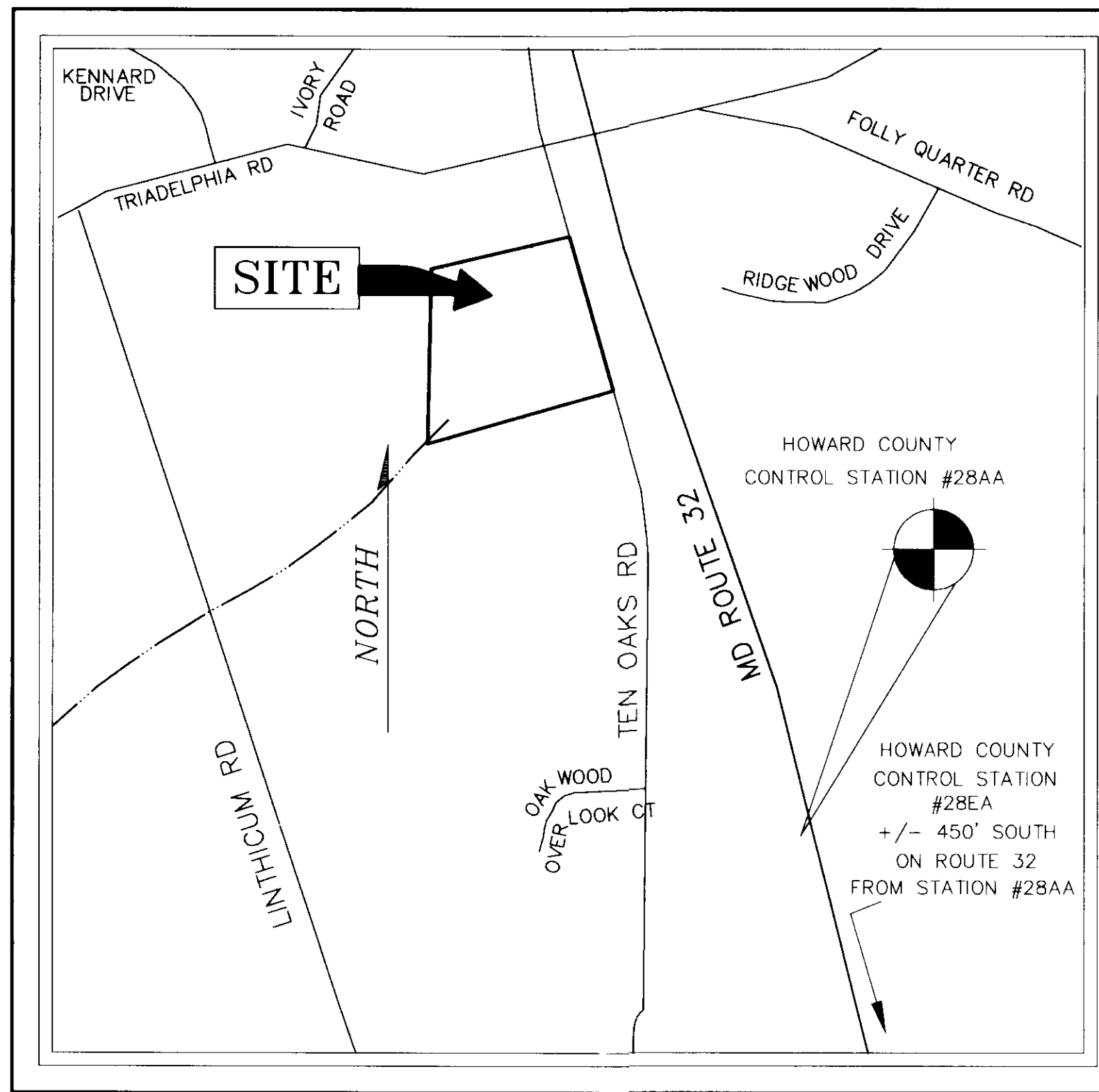


SHEET INDEX

1	TITLE SHEET
2	SITE, STORMWATER MANAGEMENT PLAN
3	DAM AND SWALE PROFILES AND DETAILS
4	SPILLWAY PROFILES AND DETAILS
5	DETAIL SHEET
6	SEDIMENT CONTROL PLAN
7	STANDARD SEDIMENT CONTROL DETAILS
8	POND SPECIFICATIONS
9	EXISTING DRAINAGE AREA MAP
10	PROPOSED DRAINAGE AREA MAP
11	LANDSCAPE PLAN

SITE DEVELOPMENT PLAN STORM WATER MANAGEMENT FOR FYOCK PROPERTY 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP

SCALE: 1" = 1000'

SITE DATA

TOTAL AREA OF SUBMISSION	33 ACRES
EXISTING ZONING	RR-DEO
PROPOSED USE	(N/A)
AREA OF 100 YR FLOODPLAIN	0
AREA OF 25% OR GREATER SLOPE	0
NET AREA	33 ACRES

NOTE: SEE DRAINAGE AREA MAPS (PAGE 9 & 10) FOR DETAILED WETLAND DELINEATION

PERMIT INFORMATION BLOCK

SUBDIVISION NAME (N/A)		SECT./AREA (N/A)	PARCEL 201		
LIBER/FOLIO 2221/0618	BLOCK # 14	ZONE RR-DEO	TAX/ZONE MAP 22	ELECT. DIST 5TH	CENSUS TRK 6051.01
WATER CODE (N/A)		SEWER CODE (N/A)			

ADDRESS CHART

LOT NUMBER	STREET ADDRESS
PARCEL: 201	3950 TEN OAKS ROAD, GLENELG, MD

GENERAL NOTES:

- THIS PLAN SUBMITTED FOR REVIEW AND APPROVAL FOR THE CONSTRUCTION OF A STORMWATER MANAGEMENT POND. THIS POND WILL REPLACE THE EXISTING SWM FACILITIES ON PARCELS 59 AND 137 AND PROVIDE SWM FOR THE COMMERCIAL AREA SHOWN ON THE DRAINAGE AREA MAP.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK.
- BOUNDARY AND TOPOGRAPHY SHOWN HEREON IS BASED ON SURVEYS CONDUCTED BY MILDENBERG, BOENDER AND ASSOCIATES ON JAN 1996 (WITH EXCEPTION OF TOPOGRAPHY FOR DRAINAGE AREA MAPS)
TOPOGRAPHY FOR DRAINAGE AREA MAPS BASED ON HOWARD COUNTY'S 200' SCALE MAPS
- HORIZONTAL AND VERTICAL DATUMS ARE BASED ON NAD '83 AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 28AA AND 28EA.

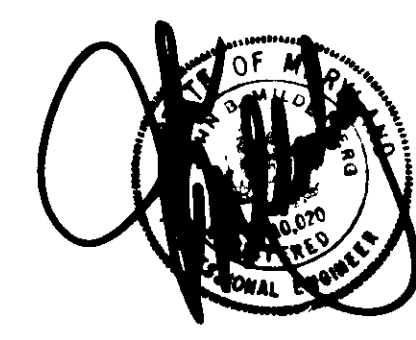
STA 28AA N 576548.4426 E 1318268.8276 EL.=567.62
STA 28EA N 572158.9453 E 1319400.6604 EL.=485.75
- STORMWATER MANAGEMENT FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
- A RETENTION POND WILL BE USED FOR STORMWATER MANAGEMENT QUALITY CONTROL.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS PRIOR TO ANY EXCAVATION WORK:
MISS UTILITY 1-800-257-7777
C&P TELEPHONE COMPANY 725-9976
HOWARD COUNTY BUREAU OF UTILITIES 313-4900
AT&T CABLE LOCATION DIVISION 393-3533
BALTIMORE GAS & ELECTRIC COMPANY 685-0123
STATE HIGHWAY ADMINISTRATION 531-5533
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/ CONSTRUCTION INSPECTION DIVISION 313-1880
- NO DISTURBANCE OF WETLAND OR FLOODPLAIN AREAS IS PROPOSED.
- THIS PROJECT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS AS PER SECTION 16.1202(b)(2)(i)(a) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS
- WAIVER PETITION NUMBER : 92-02
PARCEL NUMBER: 59
REQUEST: TO WAIVE SECTION 16.143(2) OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS
DESCRIPTION: TO INSTALL A 40'X60' PRE-ENGINEERED COMMERCIAL STORAGE BUILDING WITHOUT A SITE DEVELOPMENT PLAN SUBMISSION
ACTION: WAIVER GRANTED AUGUST 14, 1991.
- WAIVER PETITION NUMBER : 95-95
PARCEL NUMBER: 137
REQUEST: TO WAIVE SECTION 16.155(A)(1) OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS
DESCRIPTION: TO PERMIT NON-RESIDENTIAL DEVELOPMENT (50'X80' VEHICLE REPAIR BUILDING) WITHOUT AN APPROVED SITE DEVELOPMENT PLAN SUBMISSION
ACTION: WAIVER GRANTED JUNE 21, 1995
- THIS IS A REGIONAL SWM FACILITY FOR THE EXISTING COMMERCIAL/MANUFACTURING DEVELOPMENT AND WILL BE UTILIZED FOR ANY FUTURE RESIDENTIAL DEVELOPMENT WITH MODIFICATIONS TO THE POND.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION 3/4/97 DATE

 CHIEF, DIVISION OF LAND DEVELOPMENT 3/21/97 DATE

 DIRECTOR 3/25/97 DATE



OWNER/DEVELOPER
 JACK C. FYOCK
 C/O JACK FYOCK SEPTIC SERVICE, INC.
 PO BOX 89
 TRIDELPHIA ROAD
 GLENELG, MD 21737
 (410)988-9270

DATE: JUL 1996
 PROJECT: 95071
 DRAWN BY: JS
 CHECKED BY: JS
 SCALE: 1"=1000'
 DESIGNED BY: JBM

DATE: 3/25/97
 PROJECT: 95071
 DRAWN BY: JS
 CHECKED BY: JS
 SCALE: 1"=1000'
 DESIGNED BY: JBM

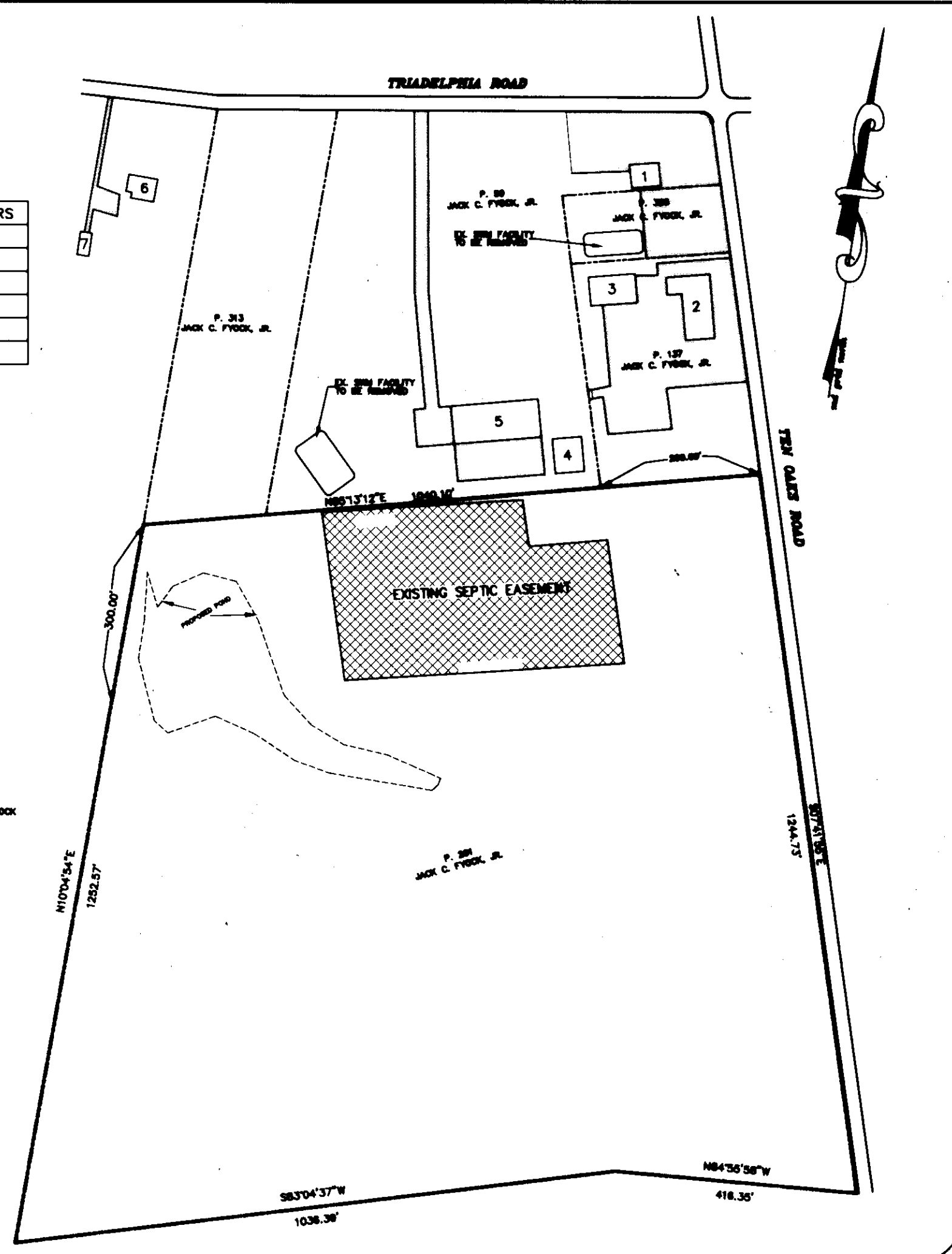
TAX MAP 22, PARCEL 201
FYOCK PROPERTY
 HOWARD COUNTY
 5TH ELECTION DISTRICT
TITLE SHEET

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 987-0286 Balt. (301) 621-5521 Wash. (410) 987-0288 Fax

PARCEL #	APPLICABLE SDP NUMBERS	APPLICABLE WP NUMBERS
59	SDP 86-184	
59	SDP 87-253	WP 92-02
59	SDP 93-08	
59	SDP 94-89	
328	SDP 94-89	
137		WP 95-95

EXISTING BUILDING NUMBER	EXISTING USE
1	CONVENIENCE STORE
2	AUTO BODY REPAIR SHOP
3	WAREHOUSE / STORAGE
4	WAREHOUSE / STORAGE
5	WAREHOUSE / STORAGE
6	RESIDENCE
7	SHED

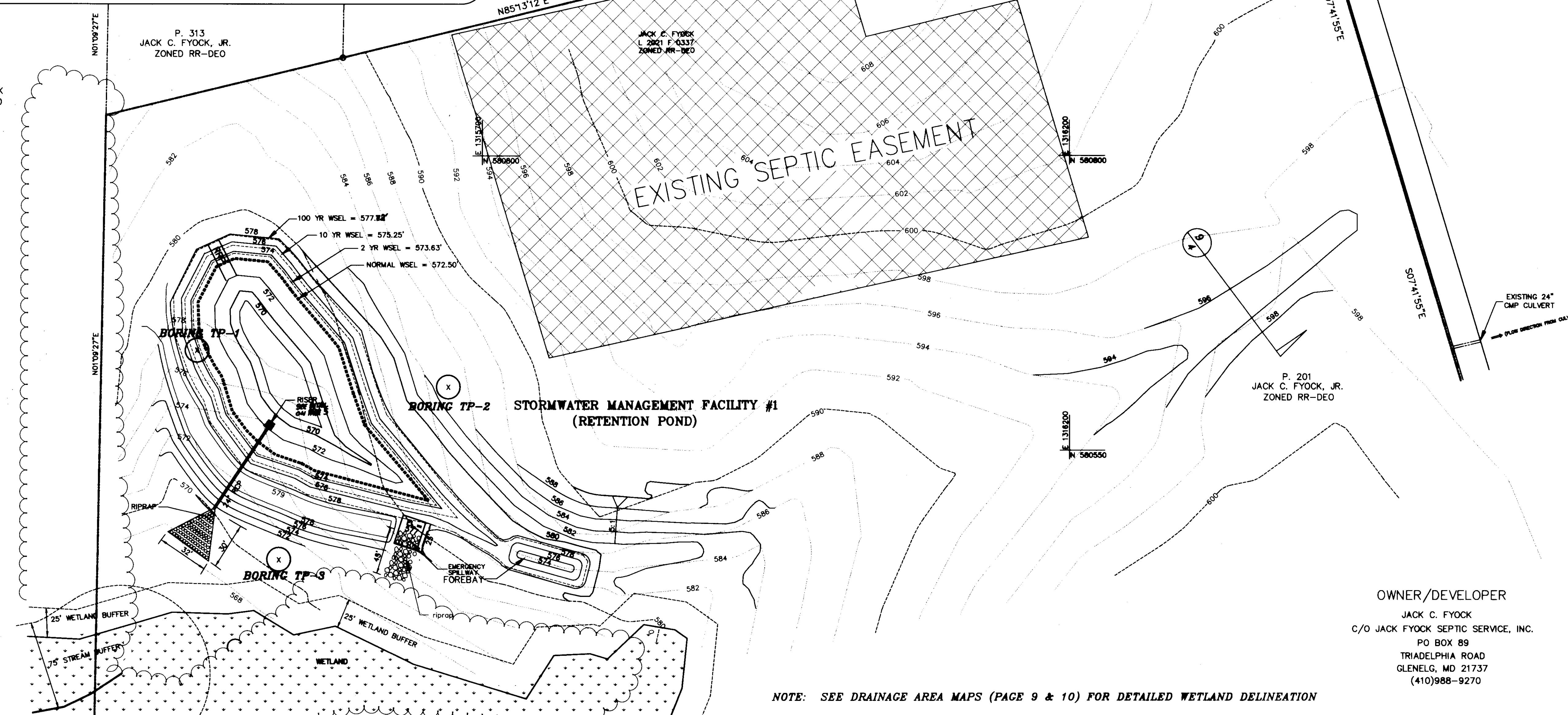
SCALE=1"=200'



	STUDY POINT 1		STUDY POINT 2		VOLUME (CF)	WSEL (FT)
	Q(CFS)-EXISTING	Q(CFS)-PROPOSED	Q(CFS)-EXISTING	Q(CFS)-PROPOSED		
2 YEAR STORM	4	1	18	11	20,067	573.63
10 YEAR STORM	11	5	50	49	25,258	575.25
100 YEAR STORM	(N/A)	(N/A)	(N/A)	145 (INTO POND)	32,968	577.42'

POND DATA

HAZARD CLASSIFICATION "a"
 DRAINAGE AREA - 29.8 ACRES
 PROPOSED RCN - 69 (FOR SWM)
 PROPOSED RCN - 74 (FOR DAM SAFETY)
 PROPOSED Tc - 0.30 hrs (FOR SWM)
 PROPOSED Tc - 0.24 hrs (FOR DAM SAFETY)
 WATER QUALITY TYPE - RETENTION



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."
 Jack C. Fyock 5/14/97
 DATE

BY THE ENGINEER:
 I CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER AND HAVE PREPARED THESE PLANS FOR THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DISTRICT OF THE PREPARATION OF THESE PLANS AND HAVE PROVIDED THE DISTRICT WITH A COPY OF THESE PLANS AND A COPY OF THE HOWARD SOIL CONSERVATION DISTRICT'S REGULATIONS AND REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 [Signature] 5/14/97
 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.
 [Signature] 5/14/97
 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature] 5/14/97
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature] 5/21/97
 DATE

APPROVED: [Signature] 5/14/97
 DATE

APPROVED: [Signature] 5/25/97
 DATE

OWNER/DEVELOPER
 JACK C. FYOCK
 C/O JACK FYOCK SEPTIC SERVICE, INC.
 PO BOX 89
 TRIADELPHIA ROAD
 GLENELG, MD 21737
 (410)988-9270

NOTE: SEE DRAINAGE AREA MAPS (PAGE 9 & 10) FOR DETAILED WETLAND DELINEATION

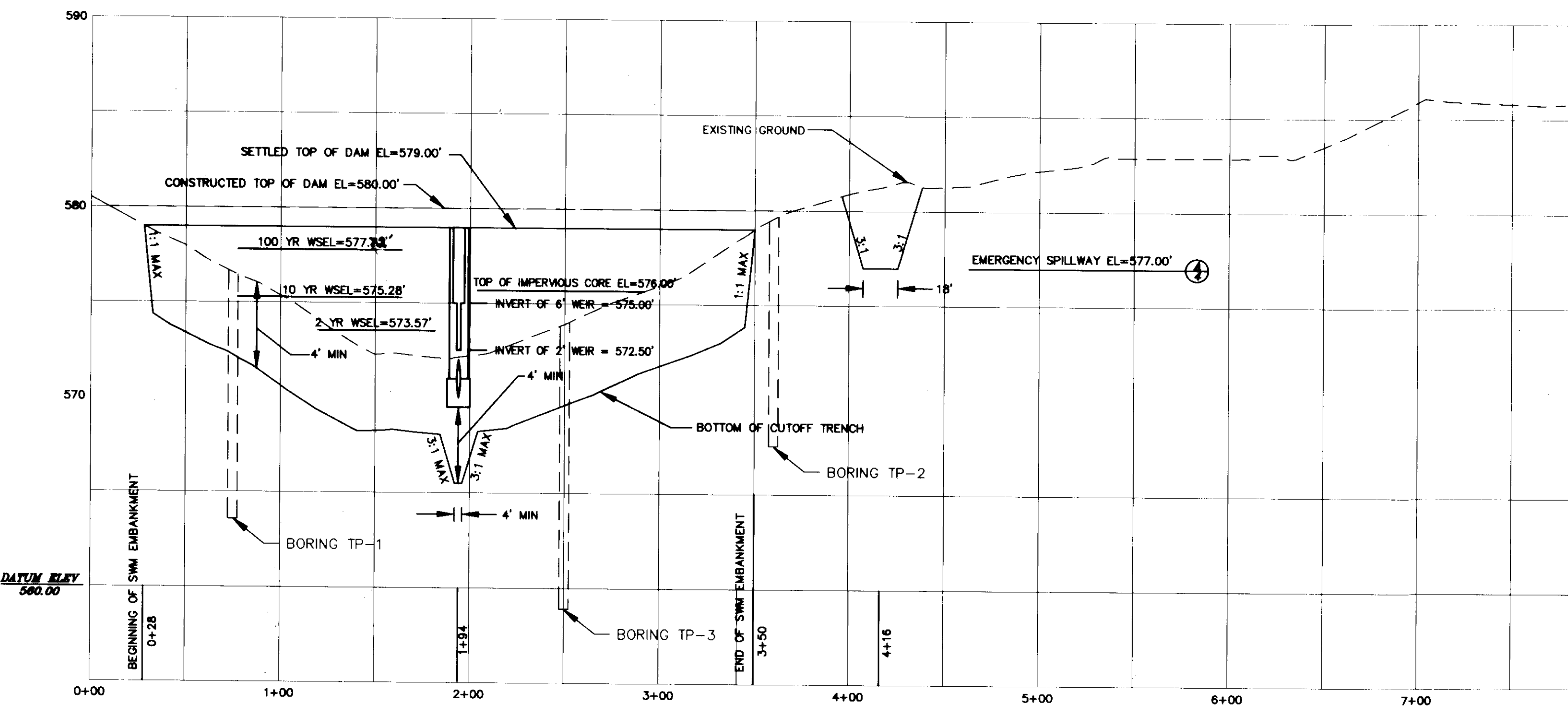
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 PROJECT: 96071
 ILLUSTRATION: [Signature]
 SCALE: 1"=50'
 APPROVAL: [Signature]

TAX MAP 22, PARCEL 201
FYOCK PROPERTY
 HOWARD COUNTY
 5TH ELECTION DISTRICT
SITE, STORMWATER MANAGEMENT PLAN

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5872 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 987-0286 Fax (301) 621-5521 Wash (410) 988-9270 Fax

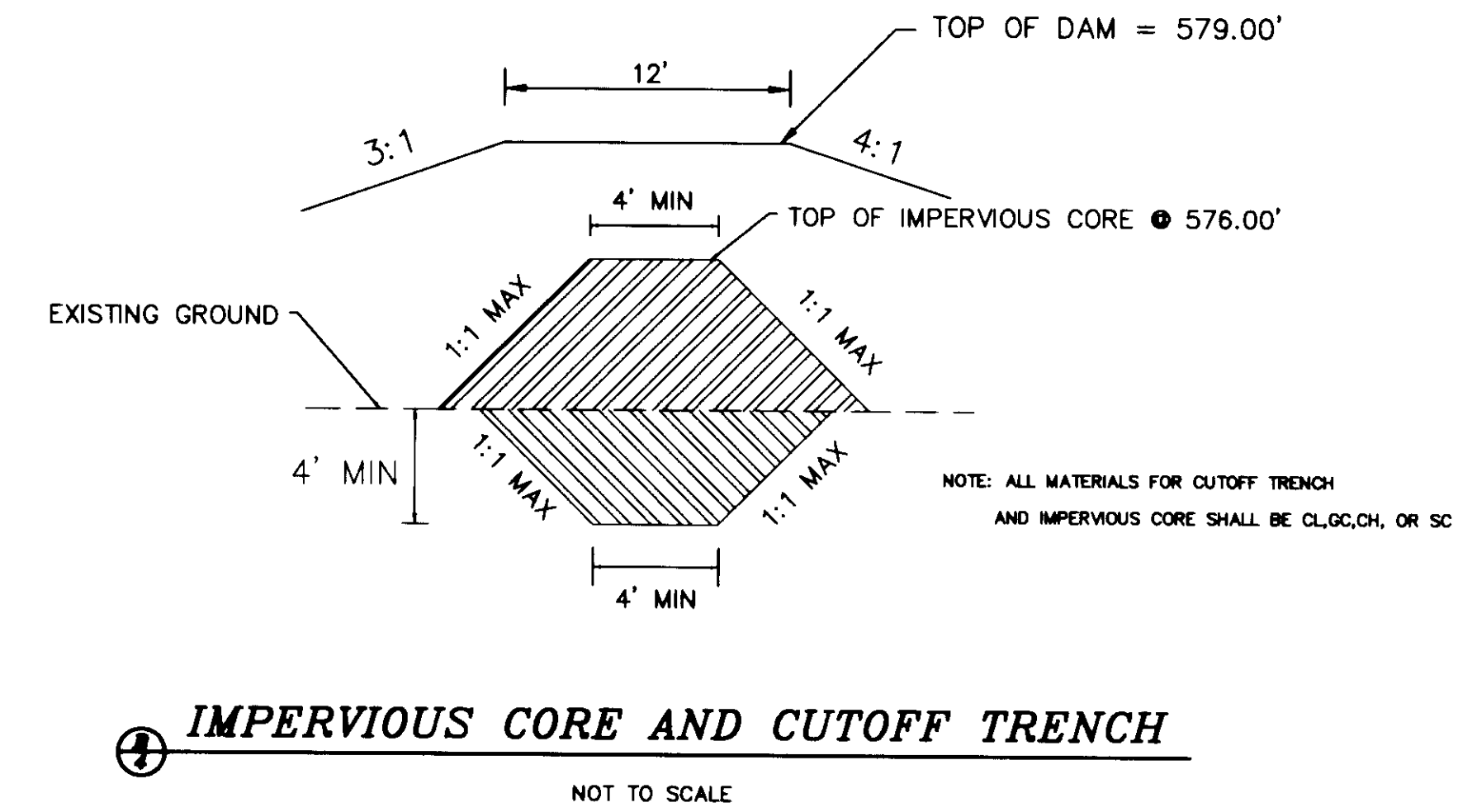
2 OF 11

SDP-96-12A



PROFILE---CENTERLINE OF DAM

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



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 EMPLOY 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 PERFORMING ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Jack C. Fyock 3/1/97
SIGNATURE OF DEVELOPER DATE
PRINTED NAME OF DEVELOPER

BY THE ENGINEER:
I CERTIFY THAT THESE PLANS FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, EROSION CONTROL MATTING AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE ADVISED THE DISTRICT OF THE PREPARATION OF THESE PLANS AND THE DISTRICT HAS ADVISED ME THAT I MUST EMPLOY 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.

Cheryl Summers 3/10/97
SIGNATURE OF ENGINEER DATE
PRINTED NAME OF ENGINEER

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 Summers 3/10/97
HOWARD SOIL CONSERVATION SERVICE DATE

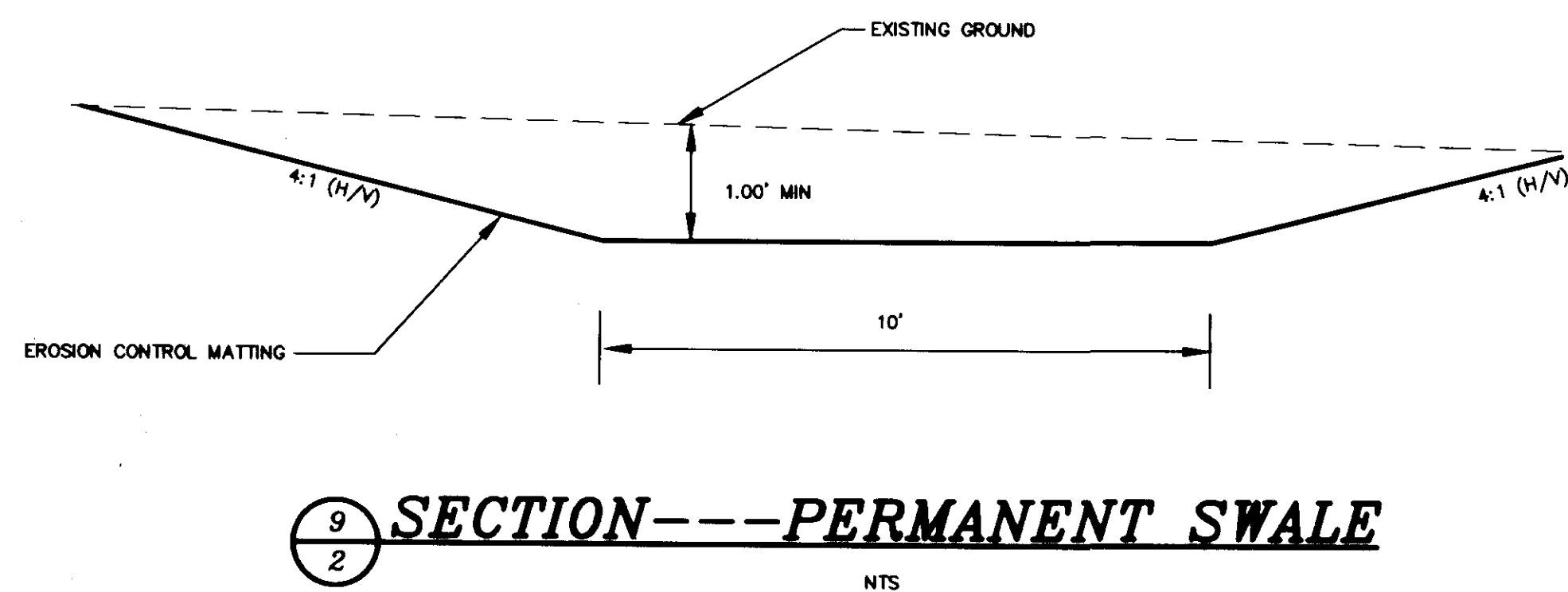
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert W. Ziden 3/10/97
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Blood 3/21/97
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Michael D. ... 3/14/97
CHIEF DEVELOPMENT DIVISION DATE

John S. Smith 3/25/97
DATE



071-SHWZ.DWG

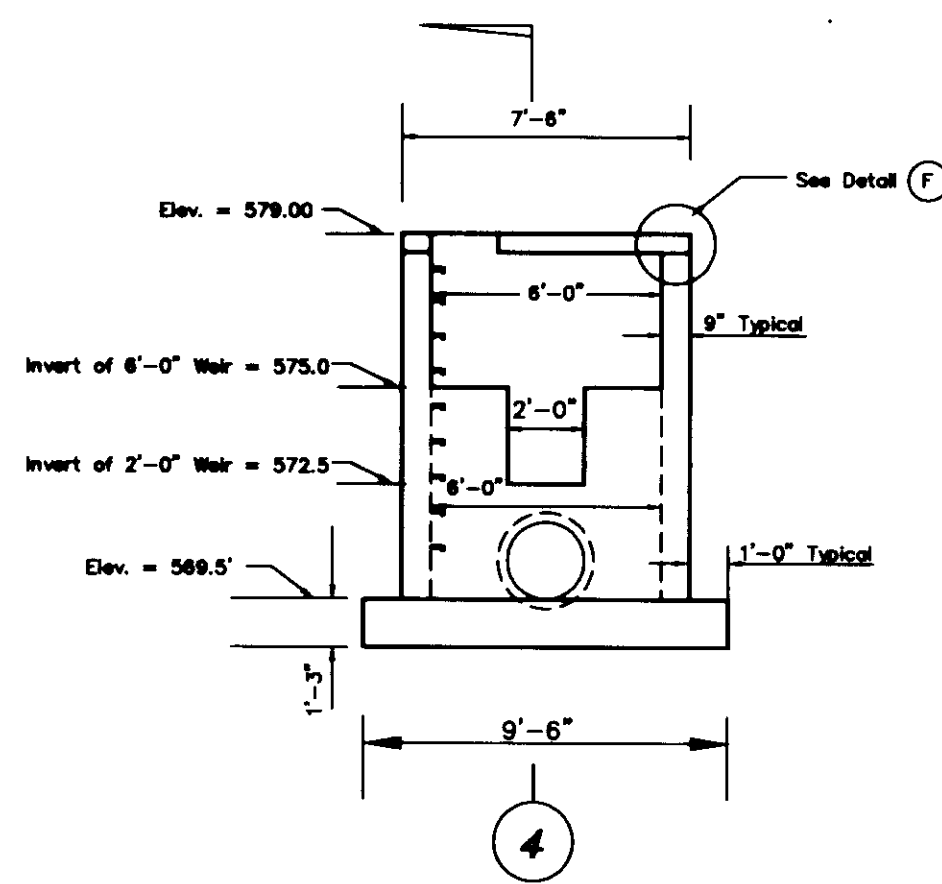
Project	95071	date	JUL 1996
Illustration	JS	engineering	JS
scale	SHOWN	approval	JBM

no.	description	revision	date
			JUL 1996

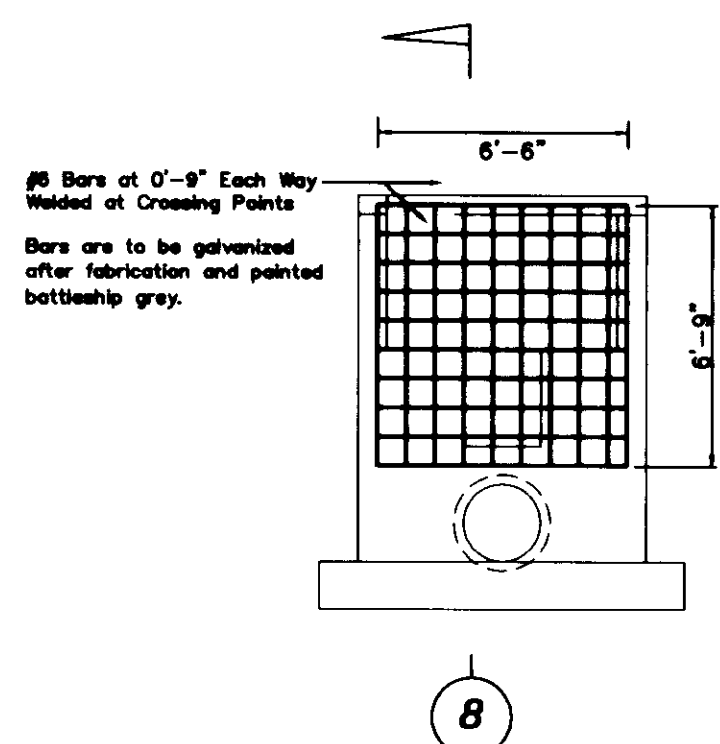
TAX MAP 22, PARCEL 201
FYOCK PROPERTY
5TH ELECTION DISTRICT
HOWARD COUNTY
DAM AND SWALE PROFILES AND DETAILS

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0286 Bldg. (301) 627-5521 Wash. (410) 997-0286 Fax.

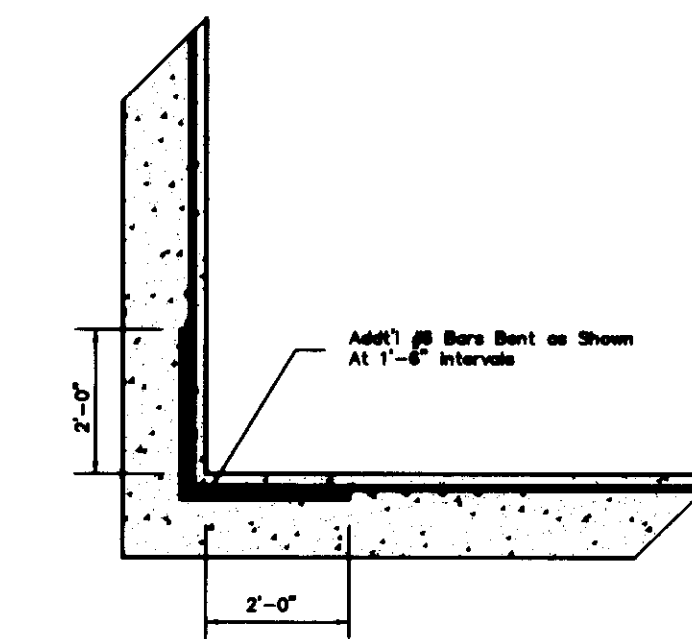
OWNER/DEVELOPER
JACK C. FYOCK
C/O JACK FYOCK SEPTIC SERVICE, INC.
PO BOX 89
TRIADELPHIA ROAD
GLENELG, MD 21737
(410)988-9270



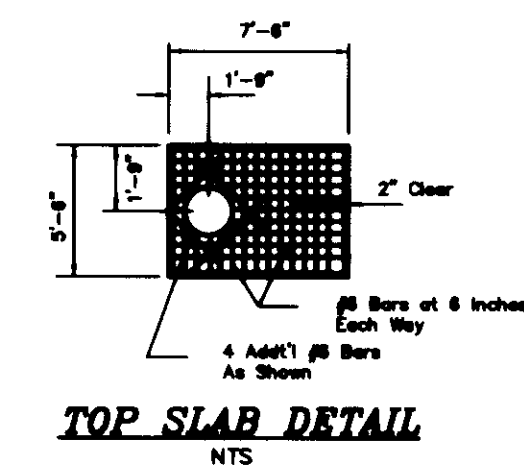
ELEVATION - RISER STRUCTURE
NTS



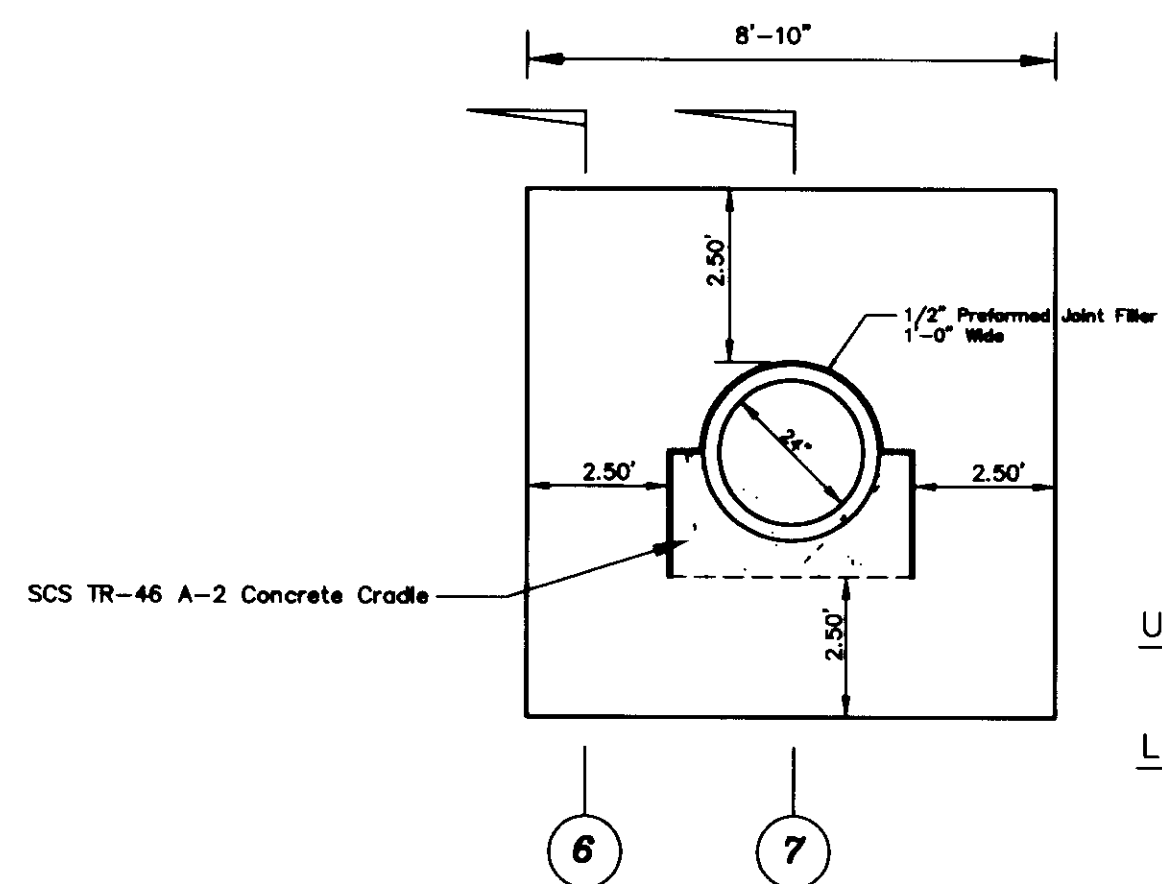
ELEVATION OF TRASH RACK RISER STRUCTURE
NTS



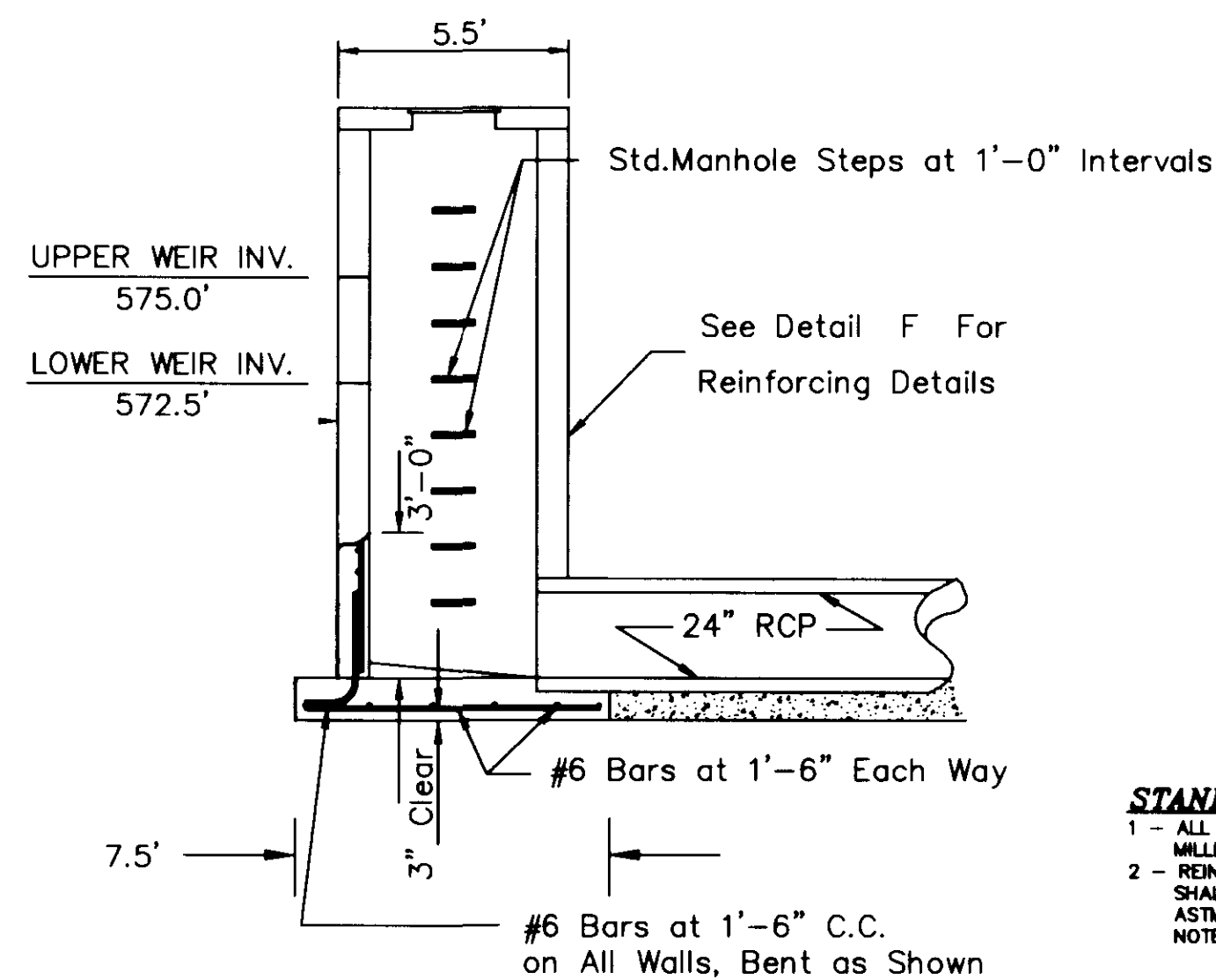
CORNER TREATMENT DETAIL
NTS



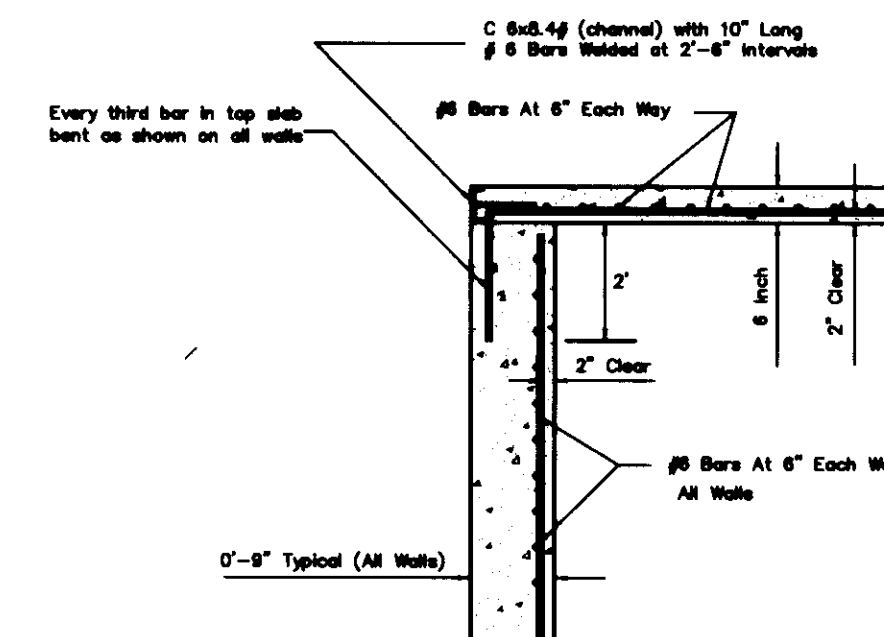
TOP SLAB DETAIL
NTS



DETAIL B
NTS

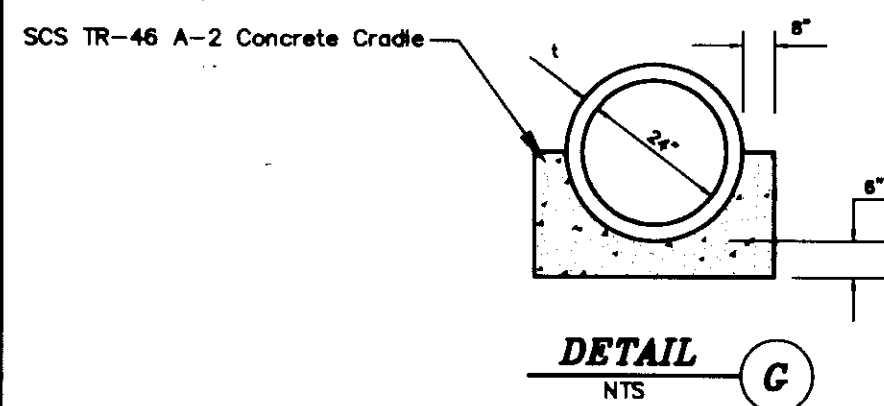


SECTION D
NTS

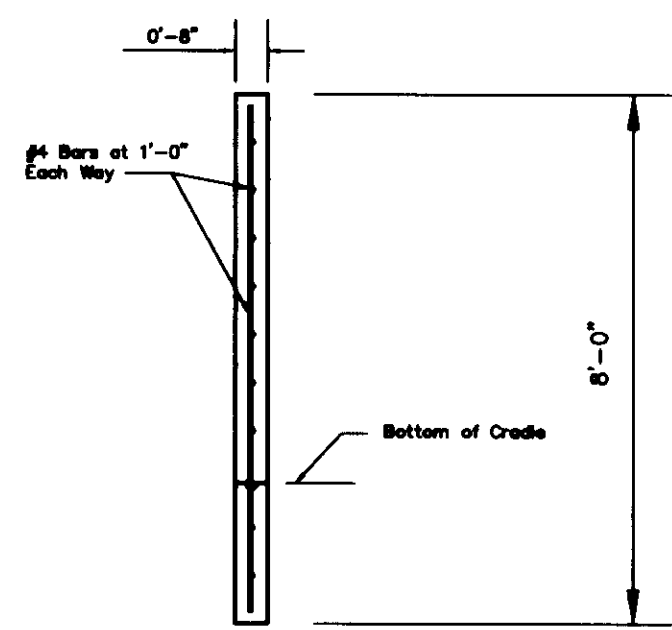


DETAIL F
NTS

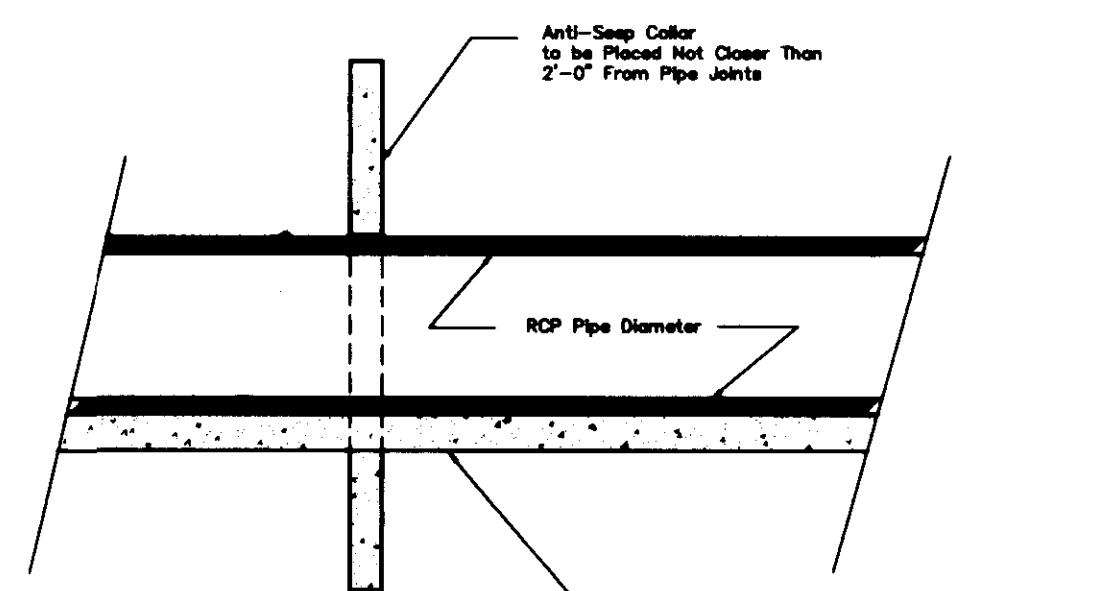
STANDARD NOTES:
1 - ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4" X 3/4" MILLED CHAMFER STRIPS.
2 - REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60. ALL SPLICES SHALL BE LAPPED AS PER BAR LAP CHARTS. STEEL ANGLES AND ANCHOR BOLTS ASTM-A-36. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED. BARS AT BOTTOM OF FOOTING SHALL HAVE A 3" MINIMUM COVER.



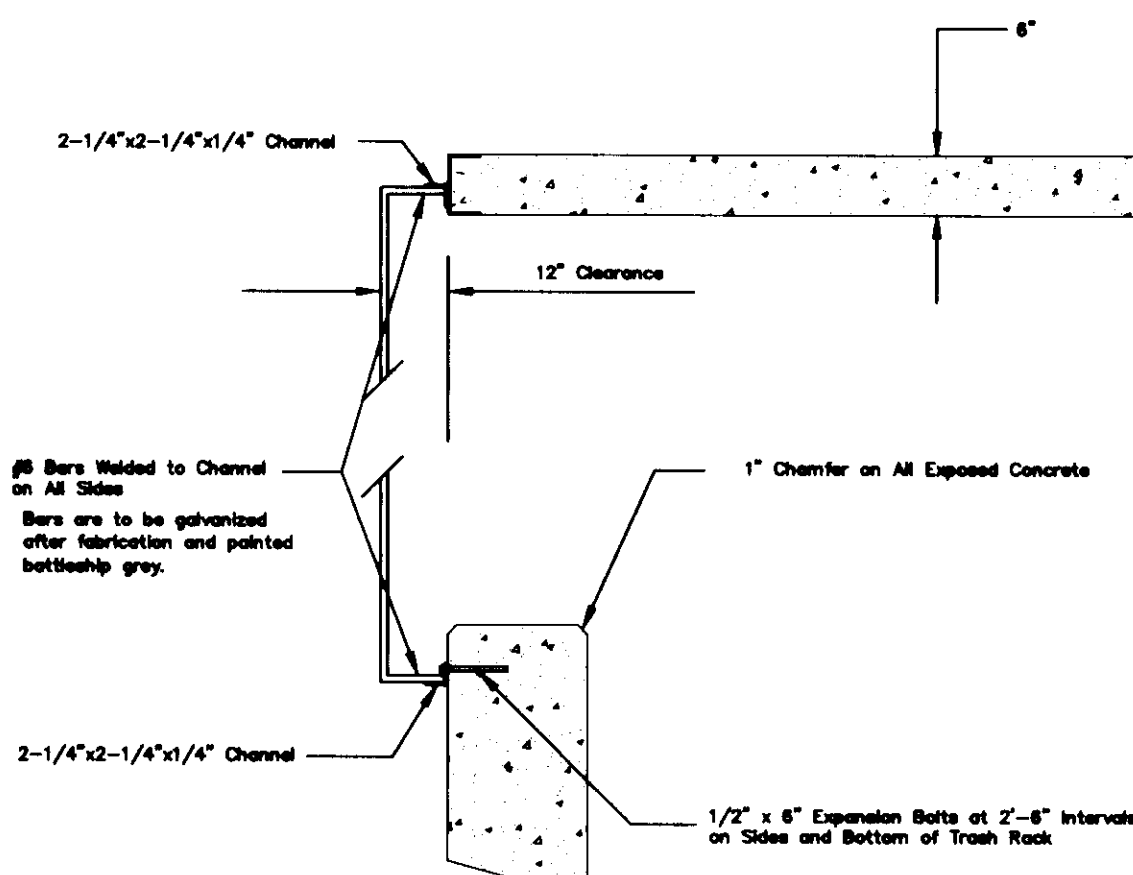
DETAIL C
NTS



SECTION 6
NTS



SECTION 7
NTS



SECTION 8
NTS

OWNER DEVELOPER
JACK C. FYDOK
C/O JACK FYDOK SEPTIC SERVICE
PO BOX 89
TRIDELPHIA ROAD
GLENELG, MD 21737
(410)886-9270

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 EMPLOY 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.

Jack C. Fydok DATE: 3/21/97
SIGNED NAME OF DEVELOPER

BY THE ENGINEER:

I CERTIFY THAT THESE PLANS FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENT A COMPLETE AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE AND THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE HOWARD SOIL CONSERVATION DISTRICT AND MUST OBTAIN A REGISTERED PROFESSIONAL ENGINEER'S SIGNATURE AND SEAL BEFORE THE HOWARD SOIL CONSERVATION DISTRICT WILL ISSUE AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Clayton Simmons DATE: 3/21/97
SIGNED NAME OF ENGINEER

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 Simmons DATE: 3/21/97
DATE - HOWARD SOIL CONSERVATION SERVICE

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

Robert W. Calver DATE: 3/21/97
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS
N/A DATE:

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard B. Blum DATE: 3/21/97
DATE

APPROVED: DIVISION OF LAND DEVELOPMENT
Richard B. Blum DATE: 3/21/97
DATE

project	95071	date	JUL 1996
illustration	JS	engineering	JS
scale	1"=50'	approval	JBM

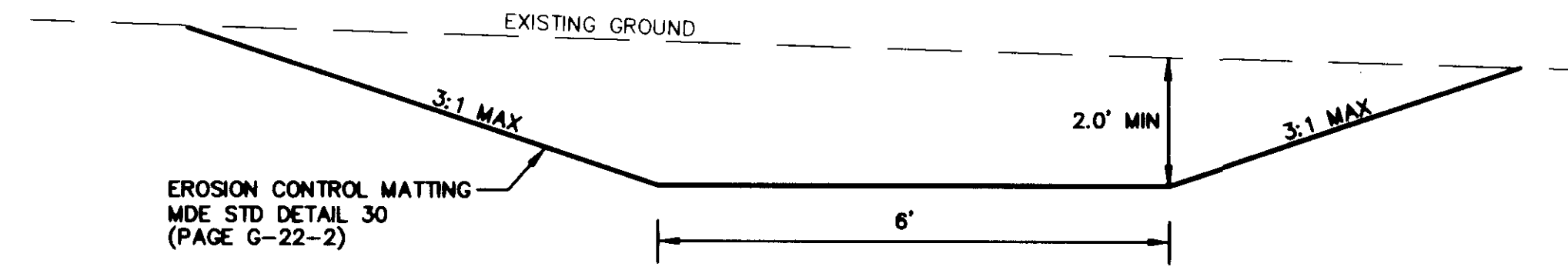
no.	1	date	JUL 1996
description	revisions		

TAX MAP 22, PARCEL 201
FYOCK PROPERTY
HOWARD COUNTY
5TH ELECTION DISTRICT
DETAIL SHEET

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 987-0286 Fax: (301) 621-5521 Wash. (410) 987-0286 Fax

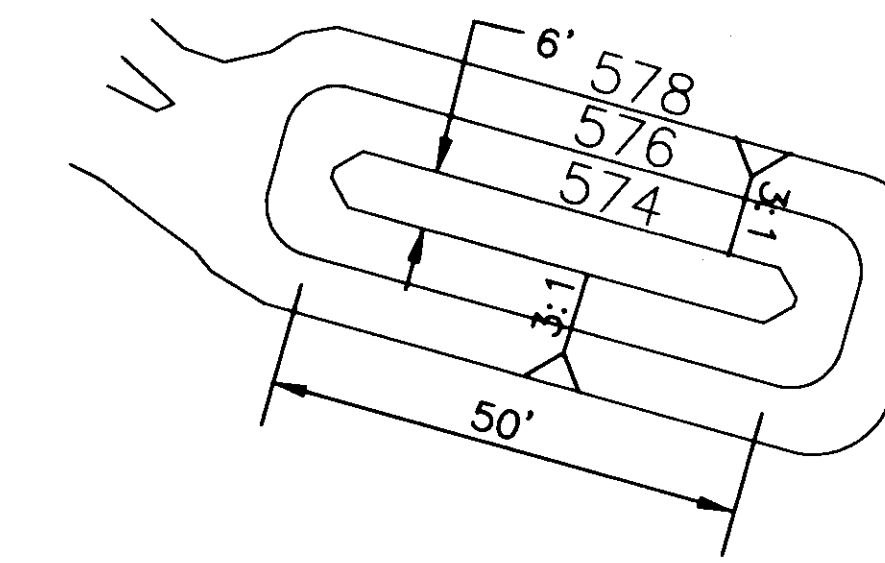
LEGEND

- SF SILT FENCE
- SSF SUPER SILT FENCE
- A-2 EARTH DIKE
- LOD LIMIT OF DISTURBANCE
- ES TEMPORARY ENGINEERED SWALE (SEE DETAIL THIS SHEET)



DETAIL--TEMPORARY ENGINEERED SWALE

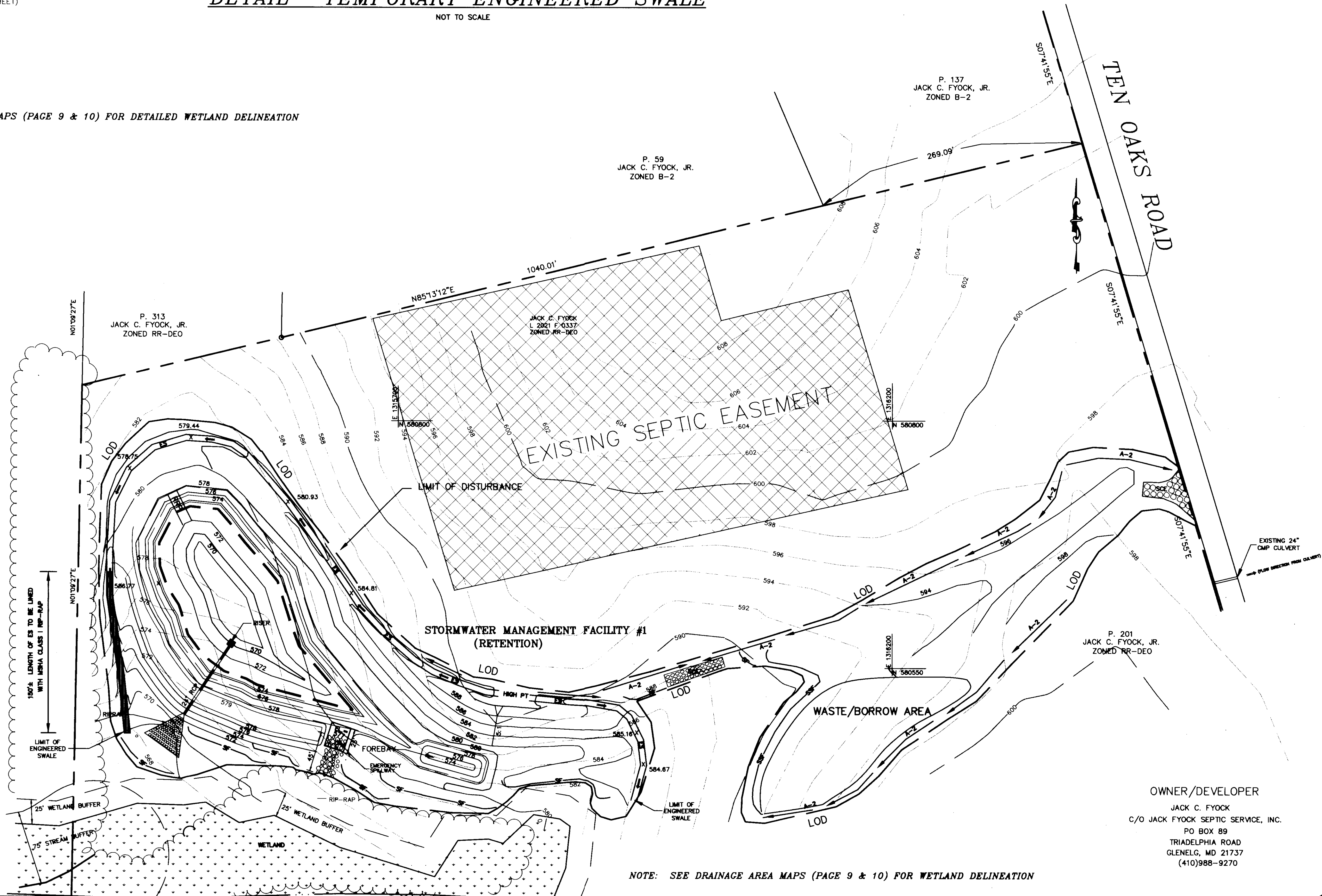
NOT TO SCALE



DETAIL--FOREBAY

SCALE: 1"=20'

NOTE: SEE DRAINAGE AREA MAPS (PAGE 9 & 10) FOR DETAILED WETLAND DELINEATION



NOTE: SEE DRAINAGE AREA MAPS (PAGE 9 & 10) FOR WETLAND DELINEATION

BY THE DEVELOPER:
I, the undersigned, certify that all development and/or construction will be done in accordance with the plans and specifications shown on these plans and that any responsible personnel involved in the construction project will have a certificate of attendance at a course of instruction and training approved by the Prince Georges County Department of Planning and Zoning. I also certify that I am a duly licensed Professional Engineer in the State of Maryland and that I am the author of the plans of the project shown on these plans. I also authorize the use of the plans of the project shown on these plans on-site by the Howard Soil Conservation District.

Jack C. Fyock 4/12/92
DATE

BY THE ENGINEER:
I, the undersigned, certify that I am a duly licensed Professional Engineer in the State of Maryland and that I am the author of the plans of the project shown on these plans. I also authorize the use of the plans of the project shown on these plans on-site by the Howard Soil Conservation District.

John J. [Signature] 4/12/92
DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT'S REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Carol [Signature] 7/12/92
DATE

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

Robert W. Zickler 3/12/92
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard [Signature] 3/21/92
DATE

APPROVED: CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] 3/14/92
DATE

APPROVED: CHIEF, DEVELOPMENT ENGINEERING SECTION
[Signature] 3/25/92
DATE

Project	95071	Illustration	JS	Scale	1"=50'
Date	JUL 1998	Engineering	JS	Approval	jhm

No.		Description	Revisions

TAX MAP 22, PARCEL 201
FYOOCK PROPERTY
5TH ELECTION DISTRICT
HOWARD COUNTY
SEDIMENT CONTROL PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 987-0288 Ext. (801) 821-5521 Wash. (410) 987-0288 Fax

STANDARD AND SPECIFICATIONS FOR TOPSOIL

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

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

Conditions Where Practice Applies

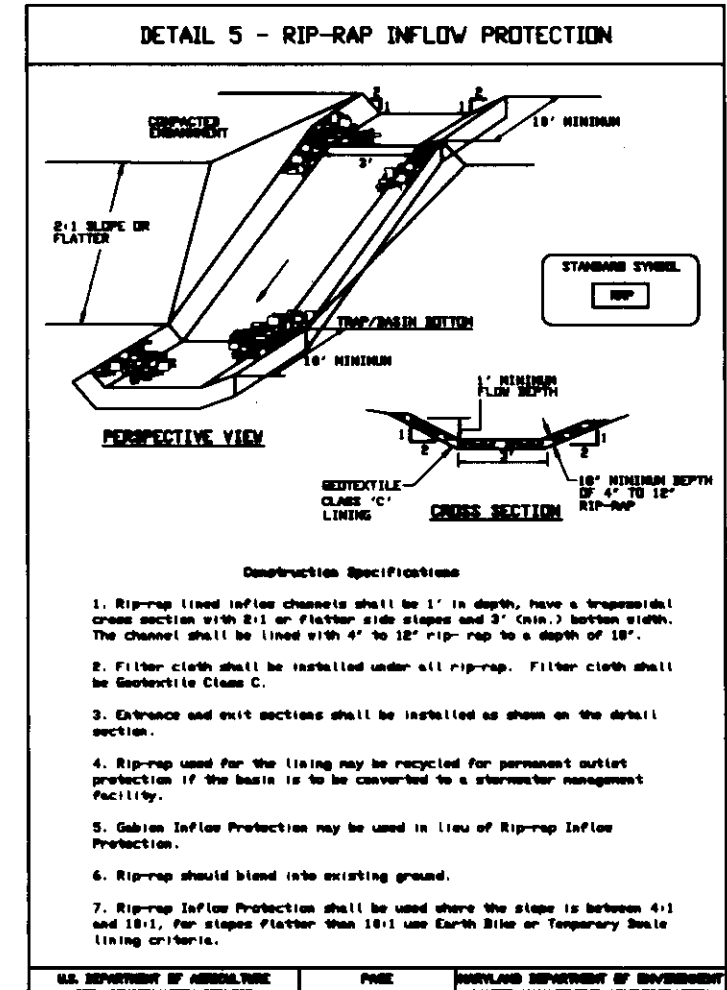
- This practice is limited to areas have 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards set forth in these specifications. Typically the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, trash, or other materials larger than 1 1/2" in diameter.
 - Topsoil must be of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

- Where the subsoil is either highly acidic or composed of heavy clay, 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. Limestone shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

- For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and add soil amendments as specified in 20.0 Vegetative Stabilization Section 1 - Vegetative Stabilization Methods and Materials
- For sites having disturbed areas over 5 acres:
 - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - Organic content of soil shall be not less than 1.5% by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No soil 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.



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.

SEEDING PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RANING, DIGGING 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 SOLUBLE LIME (80 LBS./1000 SOLT) AND 80 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SOLT) BEFORE SEEDING.
 2) ACCEPTABLE - APPLY 2 TONS PER ACRE SOLUBLE LIME (80 LBS./1000 SOLT) AND 80 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SOLT) BEFORE SEEDING.
 3) ACCEPTABLE - APPLY 2 TONS PER ACRE SOLUBLE LIME (80 LBS./1000 SOLT) AND 80 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SOLT) BEFORE SEEDING.
 4) ACCEPTABLE - APPLY 2 TONS PER ACRE SOLUBLE LIME (80 LBS./1000 SOLT) AND 80 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SOLT) BEFORE SEEDING.

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 80 LBS. PER ACRE (14 LBS./1000 SOLT) OF REDGRASS IN TALL PRAIRIE. FOR PERIODS MAY 1 THRU JULY 31, SEED WITH 80 LBS. PER ACRE (14 LBS./1000 SOLT) OF REDGRASS IN TALL PRAIRIE. FOR PERIODS OCTOBER 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. OPTION (1) - USE 500, OPTION (2) - SEED WITH 80 LBS./ACRE HAYSTACK 3 TALL PRAIRIE AND MULCH WITH 2 TONS/ACRE WELL-ANCHORED STRAW.

MALCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 80 LBS./1000 SOLT) OF UNMULCHED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 2 1/2 GALLONS PER ACRE (5 GALS./1000 SOLT) OF DENSESPREAD ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 3 1/2 GALLONS PER ACRE (7 GALS./1000 SOLT) 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 RESTORED WITH A SHORT-TERM VEGETATIVE COVER IS NEEDED.

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

SOIL AMENDMENTS: APPLY 400 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SOLT).

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30, AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUCKLE PER ACRE OF ANNUAL RYE (12 LBS./1000 SOLT). FOR PERIODS MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WINTER RYE (12 LBS./1000 SOLT). FOR PERIODS NOVEMBER 1 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 500.

MALCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 80 LBS./1000 SOLT) OF UNMULCHED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 2 1/2 GALS. PER ACRE (5 GALS./1000 SOLT) OF DENSESPREAD ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 3 1/2 GALS. PER ACRE (7 GALS./1000 SOLT) FOR ANCHORING.

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

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTING, LICENSING AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (313-1605)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS HERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDEVELOPMENT, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 2 CALENDAR DAYS FOR ALL PERMANENT SEDIMENT CONTROL STRUCTURES, DICES, PERMITS, SLOPES AND ALL SLOPES GREATER THAN 3:1, (B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAP 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, STRUCTURAL DIVISION.
- 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 SEEDING (SEC. 50) AND MALCHING (SEC. 54). TEMPORARY SEEDING (SEC. 50) AND MALCHING (SEC. 54) SHALL BE COMPLETED WITHIN 14 DAYS OF THE DATE OF THE INITIAL SOIL DISTURBANCE OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL DIVISION.

SITE ANALYSIS:
 TOTAL AREA OF SITE: 31.0 ACRES
 AREA DETERMINED: 2.0 ACRES
 AREA TO BE ROOFED OR PAVED: 0.0 ACRES
 AREA TO BE VEGETATIVELY STABILIZED: 3.0 ACRES
 TOTAL CUT: 1.0 CU. YDS.
 TOTAL FILL: 1.0 CU. YDS.
 TOTAL WASTE/BORROW AREA LOCATION: "SEE PLAN" ON SITE

ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL DIVISION.

ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERMANENT EROSION AND SEDIMENT CONTROL, 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.

WORKERS FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE FIVE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNATURE: _____ DATE: _____ PE NO: _____

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DESIGNED, SUPPORTED AND APPROVED BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATION RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER LEGAL OBLIGATIONS, INCLUDING MEETING COMMONLY ACCEPTED INDUSTRY PRACTICES.

OPERATION, MAINTENANCE AND INSPECTION

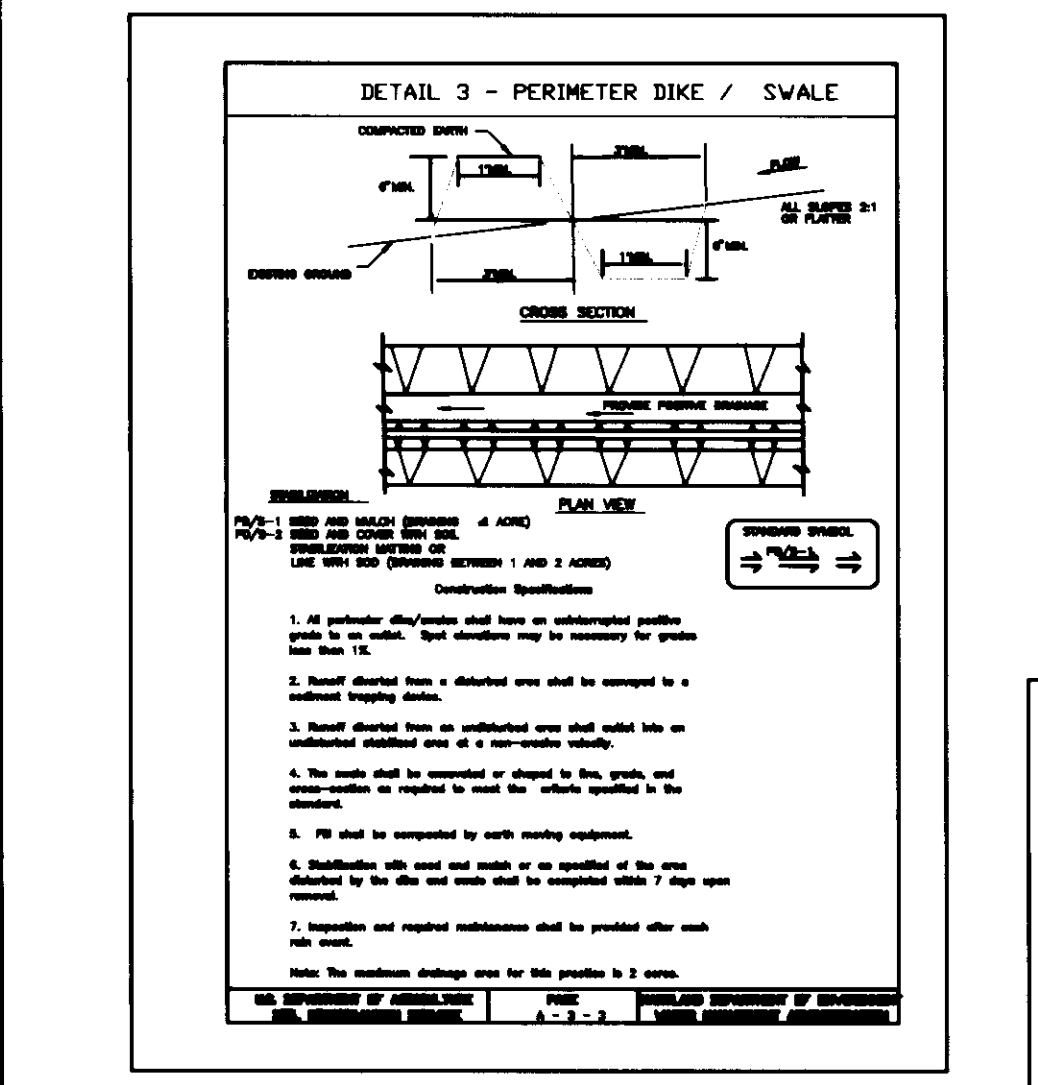
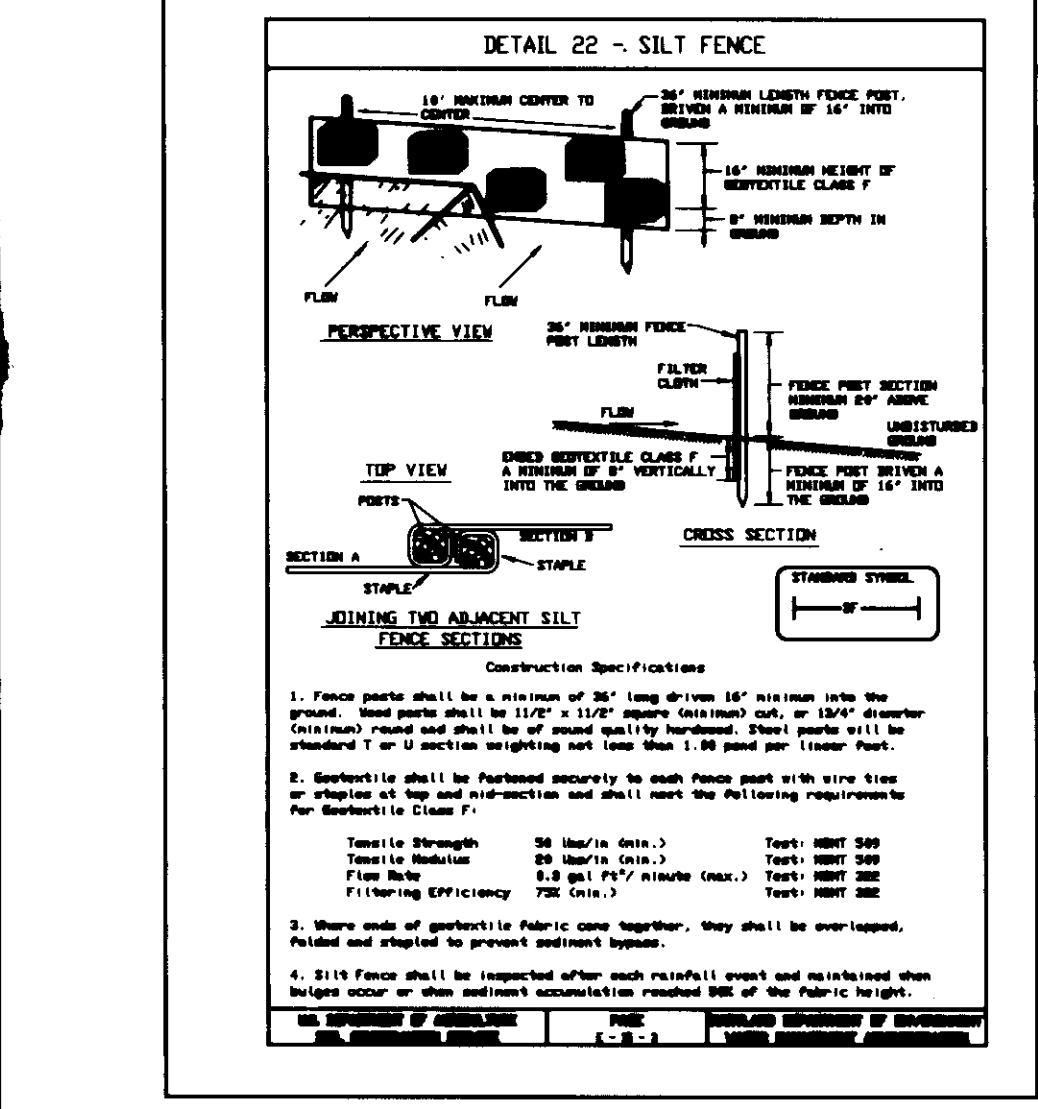
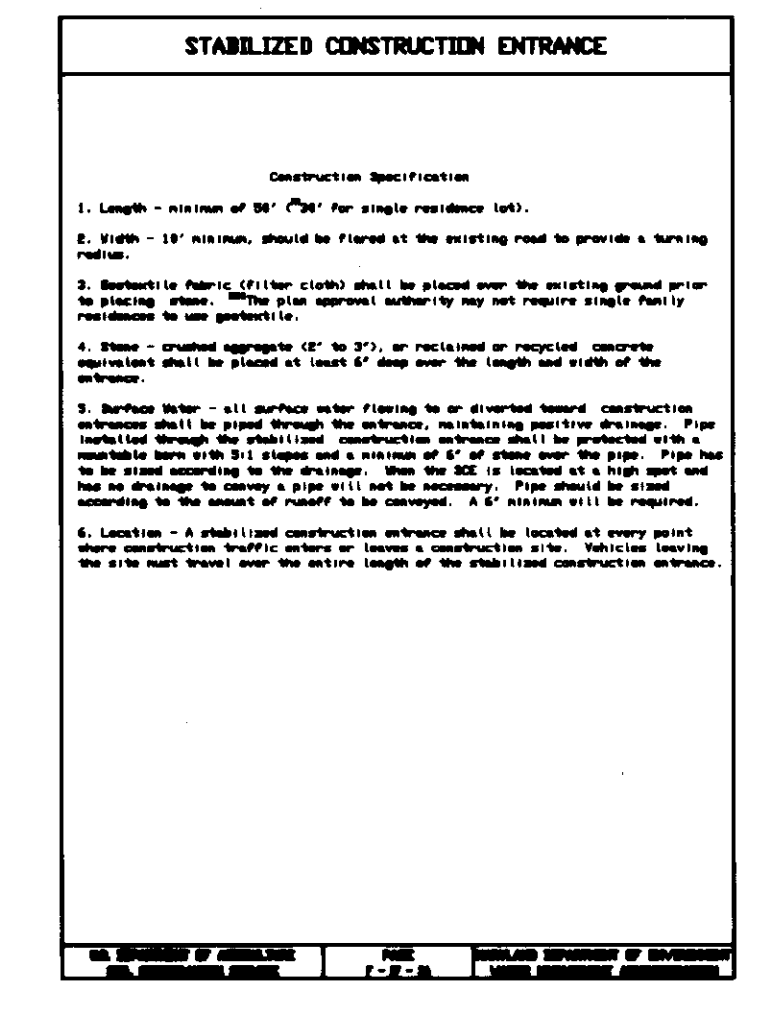
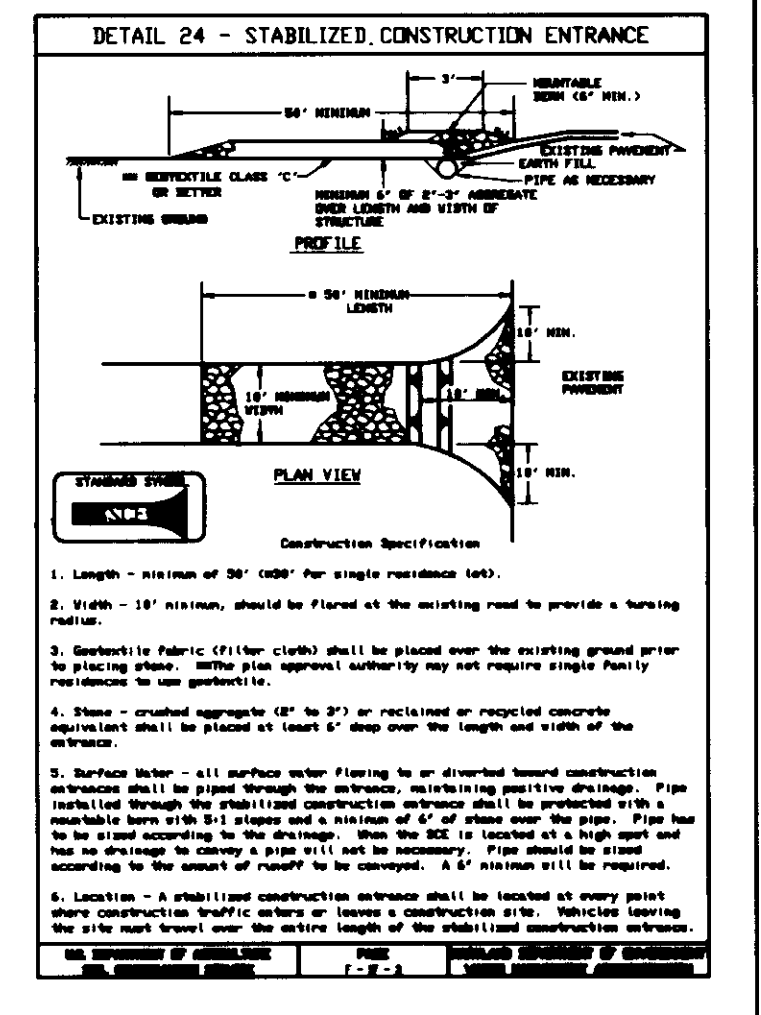
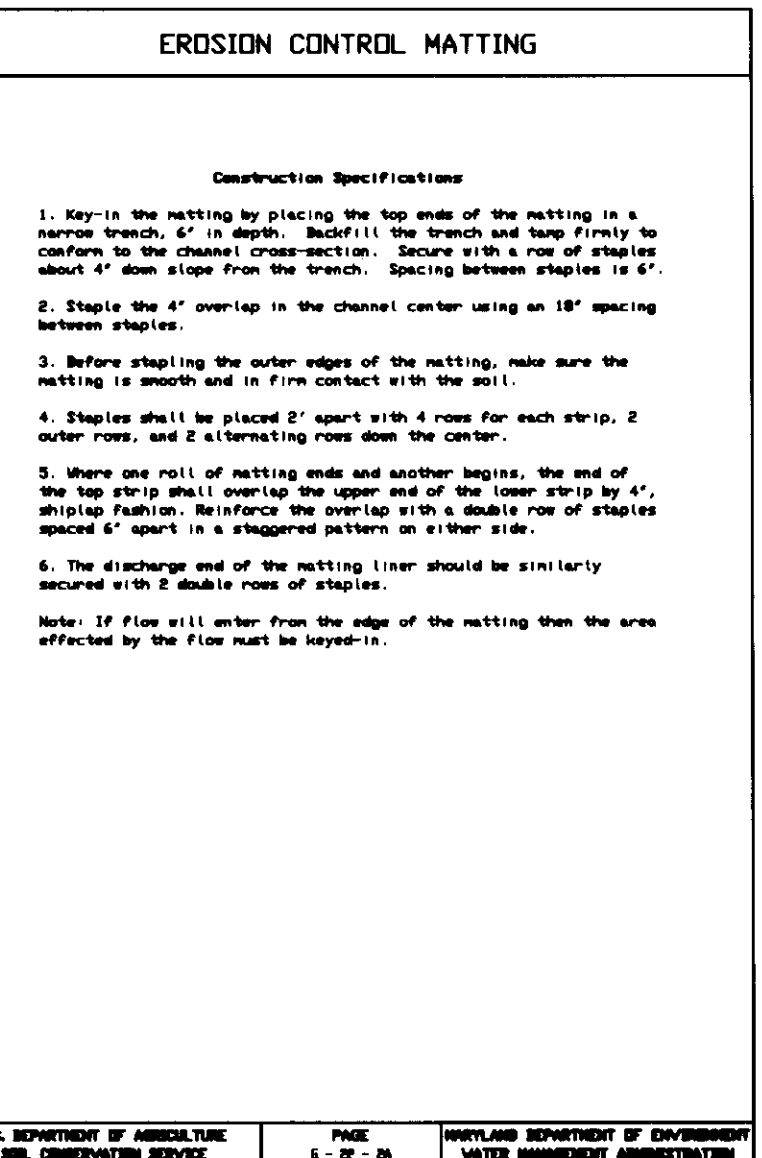
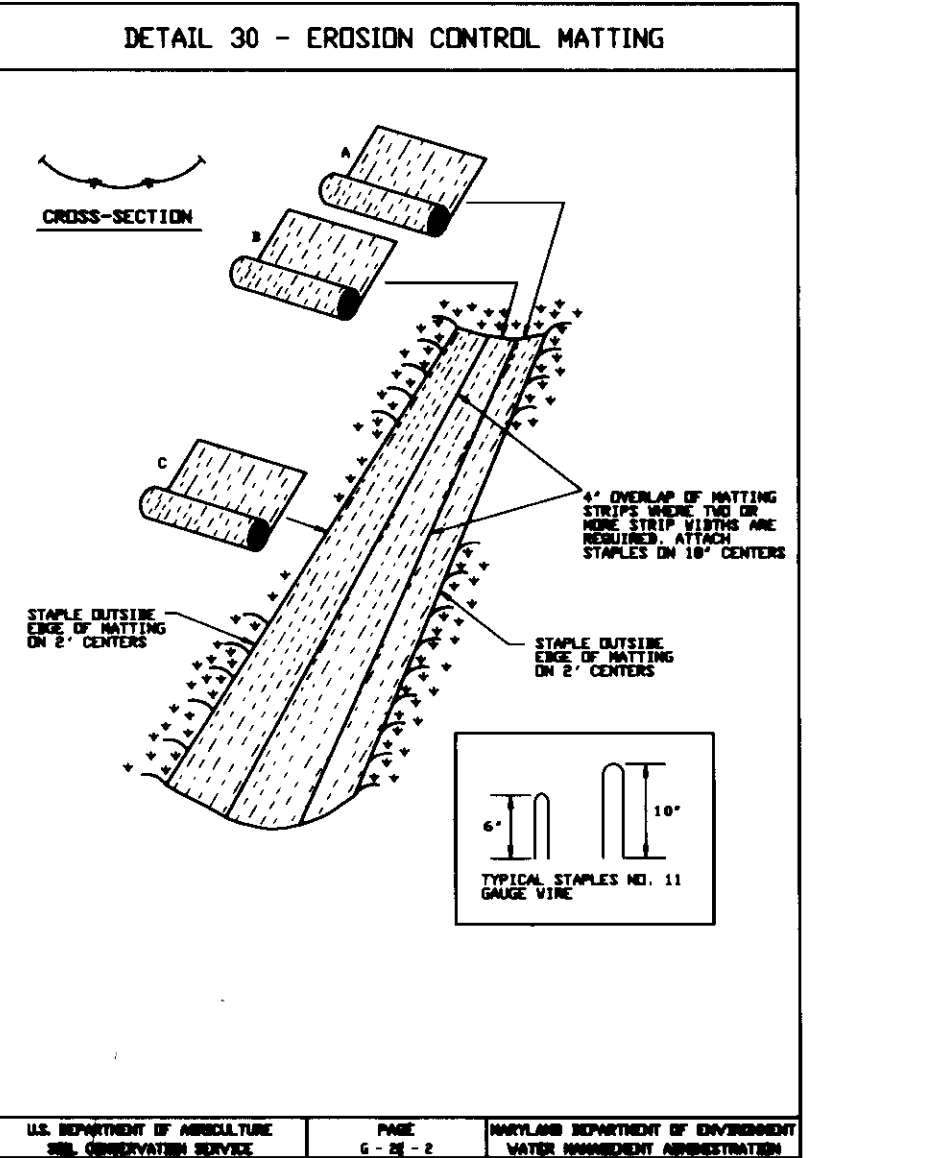
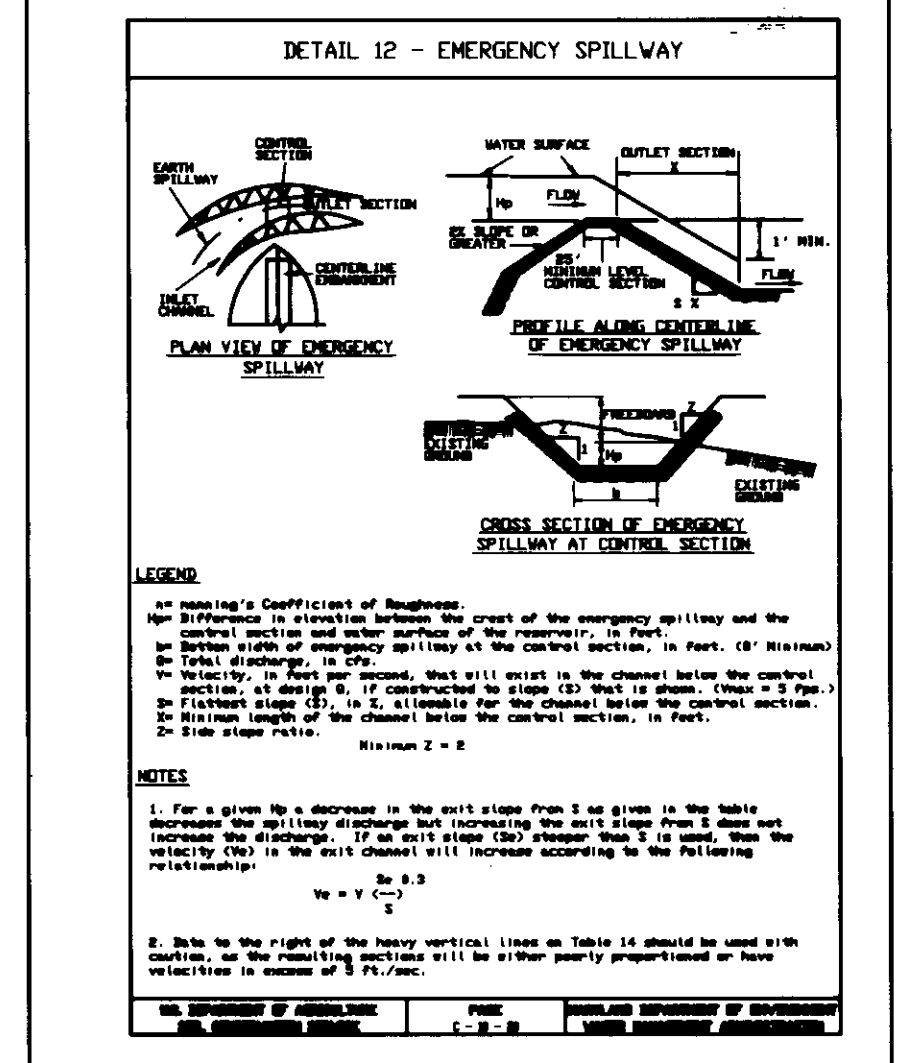
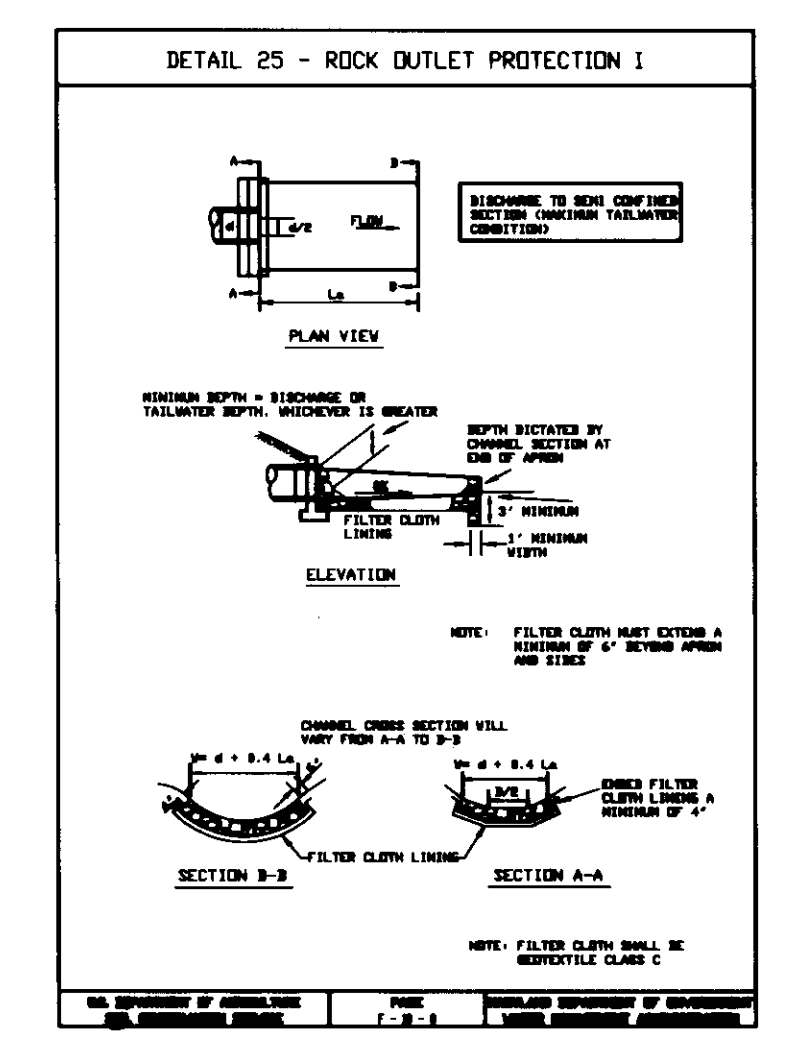
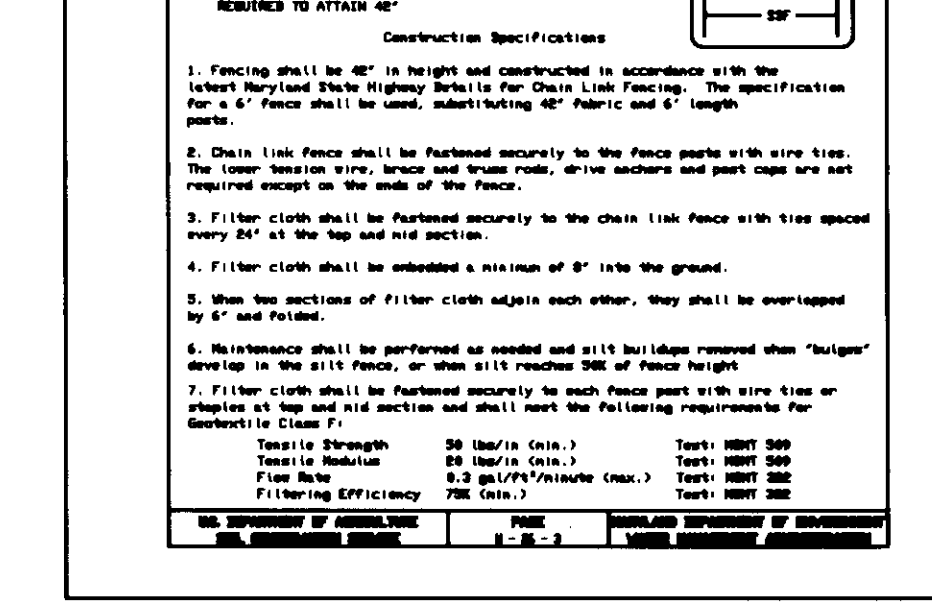
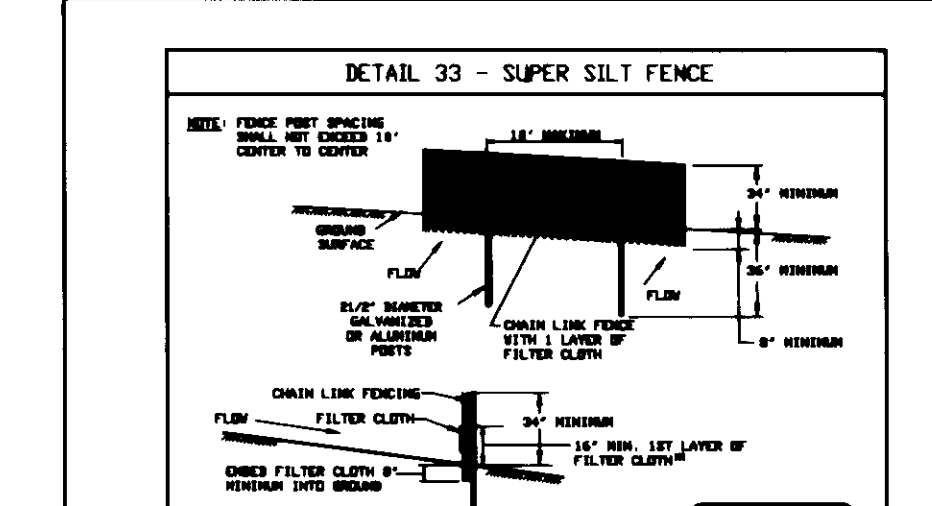
INSPECTION OF THE POND(S) SHOWN HEREIN SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITH THESE STANDARDS AND SPECIFICATIONS FOR PONDS (MCS-378). THE POND OWNER(S) AND HIS/HERS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, MAINTENANCE, INSPECTION, AND MAINTENANCE HEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNDESIRABLE OPERATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEDIMENT, TURBID SEDIMENT, SLUDGING OR SLUMPING.

MAINTENANCE REQUIREMENTS

- REMOVAL OF SILT WHEN ACCUMULATION EXCEEDS SIX (6) INCHES IN FOREBAY (IF APPLICABLE)
- REMOVAL OF ACCUMULATED PAPER, TRASH AND DEBRIS AS NECESSARY
- VEGETATION GROWING ON THE EMBARMENT TOP AND FACES OF THE FOREBAY OF BASIN IS NOT ALLOWED TO EXCEED 18 INCHES IN HEIGHT AT ANY TIME
- ANNUAL INSPECTION AND REPAIR OF THE FACILITY

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT. (1 DAY)
- INSTALL STABILIZED CONSTRUCTION ENTRANCES (2 DAYS)
- CONSTRUCT ENGINEERED SWALE AS SHOWN ON PLAN (7 DAYS)
- CONSTRUCT EARTH DIKES AS SHOWN ON PLAN (2 DAYS)
- CONSTRUCT SILT FENCES AS SHOWN.
- UPON APPROVAL FROM SEDIMENT CONTROL INSPECTOR, CONSTRUCT STORMWATER MANAGEMENT POND TO GRADES INDICATED AND STABILIZE THE SITE (30 DAYS).
- UPON APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR, PERMANENT SWALE IS NOT TO BE CONSTRUCTED UNTIL TEMPORARY ENGINEERED SWALE IS REMOVED.
- WHEN ALL CONTRIBUTING AREAS HAVE BEEN STABILIZED AND UPON APPROVAL FROM SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING AREAS.



BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY NECESSARY 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 BEGINS THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING WITH A PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *Jackie Z. York* DATE: 8/14/97
 PRINTED NAME OF DEVELOPER: Jackie Z. York

BY THE ENGINEER:
 I CERTIFY THAT THESE PLANS FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENT A TRUE AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THAT THESE PLANS WERE PREPARED IN ACCORDANCE WITH THE RELEVANT SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE OR SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD COUNTY DEPARTMENT OF ENVIRONMENT AND PLANNING WITH A PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: *Robert W. Zichner* DATE: 8/14/97
 PRINTED NAME OF ENGINEER: Robert W. Zichner

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

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

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Signature: *Robert W. Zichner* DATE: 8/14/97
 CHIEF, DIVISION OF LAND DEVELOPMENT
 Signature: *Robert W. Zichner* DATE: 8/14/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 Signature: *Robert W. Zichner* DATE: 8/14/97

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 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, RUBBISH AND OTHER OBJECTIONABLE MATERIAL UNLESS OTHERWISE DESIGNATED TO 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 CC, 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 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 AND SPREADING EQUIPMENT OVER THE FILL SHALL BE CONTROLLED SO THAT THE ENTIRE SURFACE OF EACH LIFT SHALL BE TRAVERSE 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 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN +2% OF THE OPTIMUM. EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO 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 CUT OFF 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 OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADJOINING FILL MATERIAL. THE FILL MATERIAL 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 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 WATER TIGHT 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, PLASTICOTE, BLAC-KLAD, AND BETH-CU-LOY. 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 WATER TIGHT 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 WATER TIGHT 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 RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24 MILS IN THICKNESS.

3. CONNECTIONS- ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATER TIGHT. 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 WATER TIGHT. DIMPLE BANDS ARE NOT CONSIDERED TO BE WATER TIGHT.

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE ROLLED AND ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BAND WIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPE LESS THAN 24" 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 MINIMUM DIAMETER OF 1/2" GREATER THAN THE CORRUGATION DEPTH. PIPES 24" 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 WITH INTERNAL CAULKING OR A NEOPRENE BEAD.

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.

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 WATER TIGHT.

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 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 REPLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 919.12.7.

CARE OF WATER DURING CONSTRUCTION

ALL WORK ON THE 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 THE REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL AND CONSTRUCTION OPERATIONS. DURING THE PLACING AND COMPACTION 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 SLIGHTLY 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.

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

Project Name: Fyock Property Location: Test Pit # TP-1 Job # 8588A

ELEV.	SOIL DESCRIPTION	DEPTH	SCALE	SAMPLE		BORING & SAMPLING NOTES
				NO.	REC.	
328	SURFACE	0.0				4" Asphalt 4" Topsoil
325	Light brown to gray brown, very moist to wet, loam to medium loam micaceous sil. loess (see also 1.0' - 1.5')	1.5				No groundwater encountered while drilling Bag samples from 1.0' to 3.0'
322	Bottom of Hole at 13.0'	13.0				Backfilled at completion

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
 SAMPLE CONDITIONS: D-DISTURBED AT COMPLETION; U-UNDISTURBED AFTER
 GROUND WATER DEPTH: AT COMPLETION; AFTER
 BORING METHOD: HAND-HOLLOW STEEL AUGER; CO-COART PLANT AUGER; DC-DRAWING CASING; HD-HAND DRILLING

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

Project Name: Fyock Property Location: Test Pit # TP-2 Job # 8588A

ELEV.	SOIL DESCRIPTION	DEPTH	SCALE	SAMPLE		BORING & SAMPLING NOTES
				NO.	REC.	
328	SURFACE	0.0				4" Asphalt 4" Topsoil
325	Light brown, very moist to wet loam to medium loam micaceous sil. loess (see also 1.0' - 1.5')	1.5				No groundwater encountered while drilling Bag samples from 1.0' to 3.0'
324	Bottom of Hole at 12.0'	12.0				Backfilled at completion

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
 SAMPLE CONDITIONS: D-DISTURBED AT COMPLETION; U-UNDISTURBED AFTER
 GROUND WATER DEPTH: AT COMPLETION; AFTER
 BORING METHOD: HAND-HOLLOW STEEL AUGER; CO-COART PLANT AUGER; DC-DRAWING CASING; HD-HAND DRILLING

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

Project Name: Fyock Property Location: Test Pit # TP-3 Job # 8588A

ELEV.	SOIL DESCRIPTION	DEPTH	SCALE	SAMPLE		BORING & SAMPLING NOTES
				NO.	REC.	
328	SURFACE	0.0				4" Asphalt 4" Topsoil
325	Light brown to gray brown, very moist to wet, loam to medium loam micaceous sil. loess (see also 1.0' - 1.5')	1.5				No groundwater encountered while drilling Bag samples from 1.0' to 3.0'
324	Bottom of Hole at 13.0'	13.0				Backfilled at completion

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
 SAMPLE CONDITIONS: D-DISTURBED AT COMPLETION; U-UNDISTURBED AFTER
 GROUND WATER DEPTH: AT COMPLETION; AFTER
 BORING METHOD: HAND-HOLLOW STEEL AUGER; CO-COART PLANT AUGER; DC-DRAWING CASING; HD-HAND DRILLING

DEVELOPER'S CERTIFICATE

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

Jack C. Fyock 1/14/97
 SIGNATURE OF DEVELOPER DATE
 JACK C. FYOCK
 PRINTED NAME OF DEVELOPER

ENGINEER'S CERTIFICATE

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

Richard Blood 3/24/97
 SIGNATURE OF ENGINEER DATE
 RICHARD BLOOD
 PRINTED NAME OF ENGINEER

THESE PLANS HAVE BEEN REVIEWED FOR THE SOIL CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Cheryl Simms 1/65 3/12/97
 USDA-NATURAL RESOURCE 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. Zick 1/65 3/12/97
 HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATION

ENGINEER'S SIGNATURE DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Richard Blood 3/24/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Richard Blood 3/24/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Richard Blood 3/25/97
 DIRECTOR DATE



project	date	approval
85071	JUL 1996	JS
illustration	engineering	approval
scale	NTS	JBM

date	description	revisions
JUL 1996		
no.		

TAX MAP 22-PARCEL 201
 FYOCK PROPERTY
 HOWARD COUNTY
 5TH ELECTION DISTRICT
 POND SPECIFICATIONS

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5075 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
 (410) 997-0236 Balt. (301) 821-5521 Wash. (410) 997-0288 Fax

THIS MAP IS FOR THE PURPOSE OF DELINEATING DRAINAGE AREAS ONLY

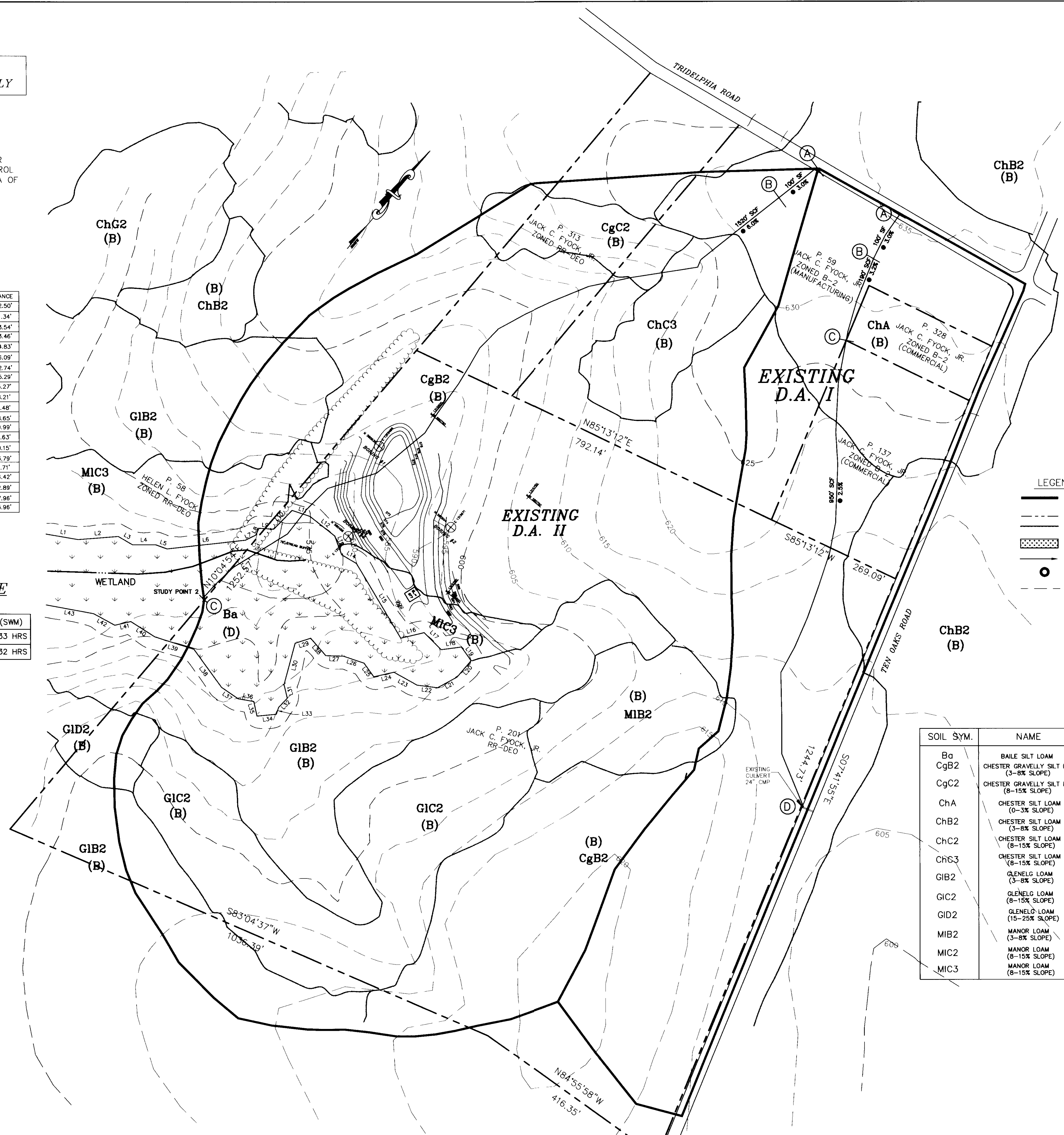
NOTE: PROPOSED POND WILL PROVIDE STORMWATER MANAGEMENT QUALITY AND QUANTITY CONTROL FOR ALL AREAS WITHIN THE DRAINAGE AREA OF THE PROPOSED POND.

WETLAND DELINEATION TABLE

	BEARING	DISTANCE		BEARING	DISTANCE
L1	N59°28'10"E	65.07'	L23	S78°58'50"W	52.50'
L2	N43°09'05"E	79.97'	L24	S36°57'08"W	41.34'
L3	N79°52'22"E	32.84'	L25	N75°15'43"W	33.54'
L4	N49°44'54"E	45.81'	L26	S68°10'18"W	43.46'
L5	N69°32'05"E	24.34'	L27	S51°15'17"W	34.83'
L6	N43°24'44"E	157.63'	L28	N81°14'33"W	46.09'
L7	N23°11'55"E	22.53'	L29	S31°49'54"W	32.74'
L8	N15°13'12"W	15.16'	L30	S25°18'38"E	85.29'
L9	N53°19'20"E	29.38'	L31	N03°17'56"E	25.27'
L10	N04°03'37"E	52.46'	L32	S53°23'40"E	28.21'
L11	N68°10'18"E	37.66'	L33	S21°48'19"E	14.48'
L12	N88°15'35"E	63.23'	L34	S44°18'42"W	38.65'
L13	S60°21'34"E	39.98'	L35	N52°35'56"W	29.99'
L14	S80°25'52"E	34.09'	L36	S59°44'59"W	31.63'
L15	S70°55'10"E	172.44'	L37	S84°30'29"W	40.15'
L16	N36°30'59"E	48.00'	L38	N78°07'59"W	93.79'
L17	S85°16'16"E	47.92'	L39	S67°21'34"W	81.71'
L18	N41°59'28"E	40.69'	L40	S82°07'50"W	56.42'
L19	S75°15'43"E	33.54'	L41	S36°52'54"W	32.89'
L20	S00°29'58"W	43.51'	L42	S78°15'19"W	47.96'
L21	S21°03'31"W	43.87'	L43	S60°11'35"W	95.96'
L22	S57°20'16"W	41.59'			

DRAINAGE AREA DATA TABLE

D.A.	AREA	RCN (DAM SAFETY)	Tc (DAM SAFETY)	RCN (SWM)	Tc (SWM)
I	13.9 Ac	60	0.33 HRS	60	0.33 HRS
II	38.0 Ac	60	0.32 HRS	60	0.32 HRS



LEGEND

- DRAINAGE AREA DIVIDE
- - - PROPERTY LINE
- - - SOIL TYPE DIVIDE
- ▨ WETLAND
- TIME OF CONCENTRATION PATH
- STUDY POINT
- - - 25' WETLAND BUFFER

SOIL SYM.	NAME	HYDROLOGIC GROUP
Ba	BAILE SILT LOAM	D
CgB2	CHESTER GRAVELLY SILT LOAM (3-8% SLOPE)	B
CgC2	CHESTER GRAVELLY SILT LOAM (8-15% SLOPE)	B
ChA	CHESTER SILT LOAM (0-3% SLOPE)	B
ChB2	CHESTER SILT LOAM (3-8% SLOPE)	B
ChC2	CHESTER SILT LOAM (8-15% SLOPE)	B
ChC3	CHESTER SILT LOAM (15-25% SLOPE)	B
GIB2	GLENELG LOAM (3-8% SLOPE)	B
GIC2	GLENELG LOAM (8-15% SLOPE)	B
GID2	GLENELG LOAM (15-25% SLOPE)	B
MIB2	MANOR LOAM (3-8% SLOPE)	B
MIC2	MANOR LOAM (8-15% SLOPE)	B
MIC3	MANOR LOAM (15-25% SLOPE)	B

BY THE DEVELOPER:

I, **Jack C. Fyock**, 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.

Jack C. Fyock 4/1/97
 SIGNATURE OF DEVELOPER DATE
 JACK C. FYOOCK, JR.
 PRINTED NAME OF DEVELOPER

BY THE ENGINEER:

I, **Charles L. Zichy**, certify that this plan for pond construction, erosion and sediment control, and site plan, and any other plan based on my personal knowledge of the site conditions, was prepared in accordance WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE 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.

Charles L. Zichy 4/1/97
 SIGNATURE OF ENGINEER DATE
 CHARLES L. ZICHY
 PRINTED NAME OF ENGINEER

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.

Charles L. Zichy 3/12/97
 WDA - 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 L. Zichy 3/12/97
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Robert L. Zichy 3/21/97
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Robert L. Zichy 3/14/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Robert L. Zichy 3/25/97
 DIRECTOR DATE

OWNER/DEVELOPER
 JACK C. FYOOCK
 C/O JACK FYOOCK SEPTIC SERVICE, INC.
 PO BOX 89
 TRIADDELPHIA ROAD
 GLENELG, MD 21737
 (410)988-9270

Project	95071	date	JUL 1996
Illustration	JS	engineering	JBM
Scale	1"=100'	approval	JS

Project	95071	date	JUL 1996
Illustration	JS	engineering	JBM
Scale	1"=100'	approval	JS
Revisions		description	
NO.			

TAX MAP 22-PARCEL 201
FYOOCK PROPERTY
 HOWARD COUNTY
 5TH ELECTION DISTRICT
 EXISTING DRAINAGE AREA MAP

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0286 Fax: (301) 621-5821 Wash. (410) 997-0288 Fax.

NOTE: PROPOSED POND WILL PROVIDE STORMWATER MANAGEMENT QUALITY AND QUANTITY CONTROL FOR ALL AREAS WITHIN THE DRAINAGE AREA OF THE PROPOSED POND.

NOTE: TOPOGRAPHY FOR D.A. MAPS BASED ON HOWARD COUNTY 200' SCALE TOPOGRAPHY MAPS

THIS MAP IS FOR THE PURPOSE OF DELINEATING DRAINAGE AREAS ONLY

WETLAND DELINEATION TABLE

	BEARING	DISTANCE		BEARING	DISTANCE
L1	N59°28'10"E	65.07'	L23	S78°58'50"W	52.50'
L2	N45°09'05"E	79.97'	L24	S36°57'08"W	41.34'
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L22	S57°20'16"W	41.59'			

DRAINAGE AREA DATA TABLE

D.A.	AREA	RCN (DAM SAFETY)	Tc (DAM SAFETY)	RCN (SWM)	Tc (SWM)
I	3.1 Ac	65	0.21 HRS	61	0.23 HRS
IIA	29.8 Ac	74	0.24 HRS	69	0.30 HRS
IIB	18.5 Ac	67	0.30 HRS	61	0.32 HRS

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.

Jack C. Fyock 3/1/97
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 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.

Robert L. Zichynski 3/12/97
DATE

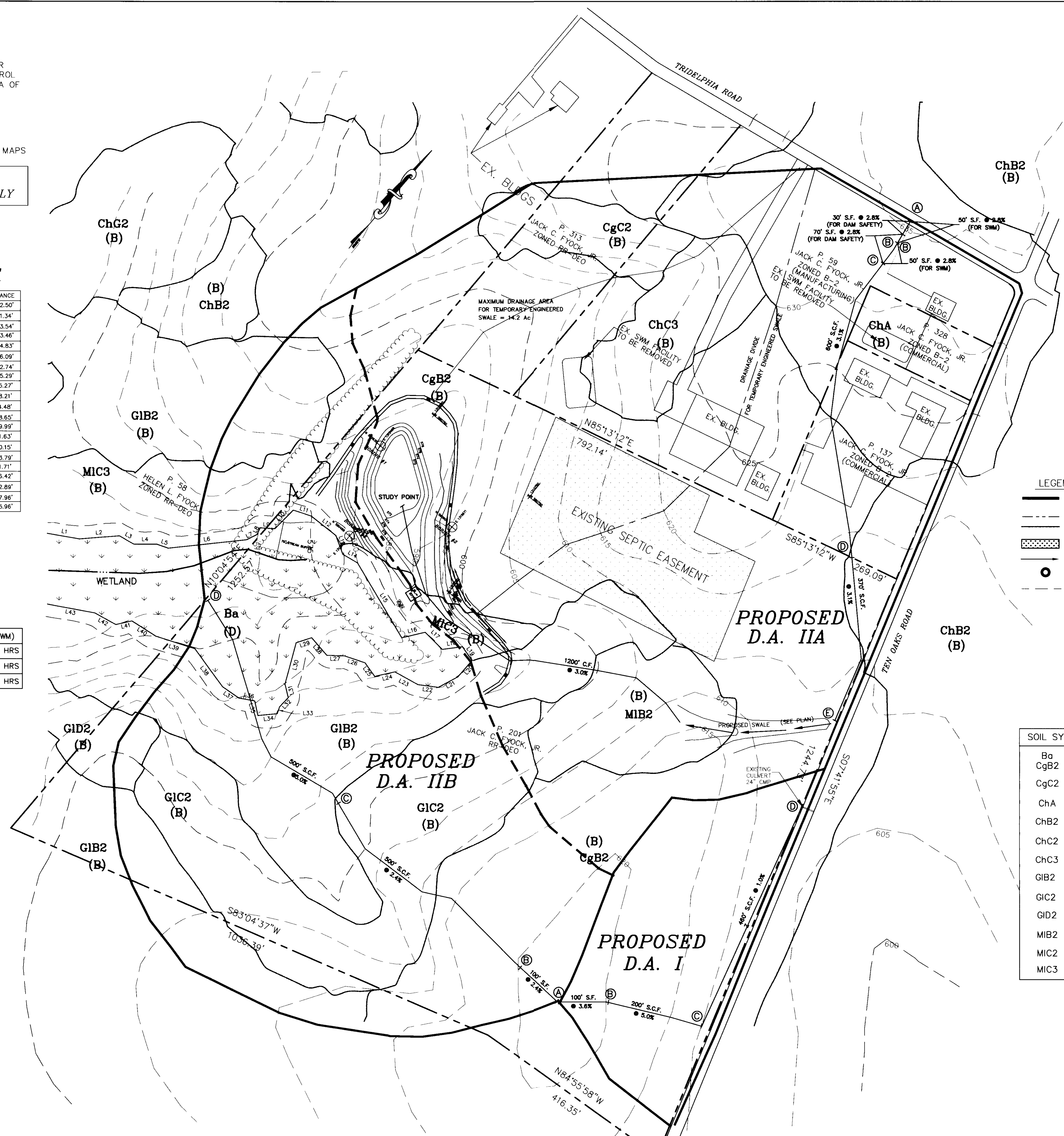
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

Robert L. Zichynski 3/12/97
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Richard Board 3/21/97
DATE

Robert L. Zichynski 3/14/97
DATE

Robert L. Zichynski 3/25/97
DATE



LEGEND

- DRAINAGE AREA DIVIDE
- - - PROPERTY LINE
- - - SOIL TYPE DIVIDE
- ▨ WETLAND
- TIME OF CONCENTRATION PATH
- STUDY POINT
- - - 25' WETLAND BUFFER

SOIL SYM.	NAME	HYDROLOGIC GROUP
Ba	BAILE SILT LOAM	D
CgB2	CHESTER GRAVELLY SILT LOAM (3-8% SLOPE)	B
CgC2	CHESTER GRAVELLY SILT LOAM (8-15% SLOPE)	B
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ChC3	CHESTER SILT LOAM (8-15% SLOPE)	B
GIB2	GLENELG LOAM (3-8% SLOPE)	B
GIC2	GLENELG LOAM (8-15% SLOPE)	B
GID2	GLENELG LOAM (15-25% SLOPE)	B
MIB2	MANOR LOAM (3-8% SLOPE)	B
MIC3	MANOR LOAM (8-15% SLOPE)	B
MIC3	MANOR LOAM (8-15% SLOPE)	B

OWNER/DEVELOPER
JACK C. FYOCK
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PO BOX 89
TRIADELPHIA ROAD
GLENELG, MD 21737
(410)988-9270

project	95071	date	JUL 1996
illustration	JS	engineering	JS
scale	1"=100'	approval	JBM

no.		date	JUL 1996
description		revisions	

TAX MAP 22, PARCEL 201
FYOCK PROPERTY
HOWARD COUNTY
5TH ELECTION DISTRICT
PROPOSED DRAINAGE AREA MAP

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

SCHEDULE D : STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	775 LF (TYPE B BUFFER)
NUMBER OF TREES REQUIRED	8 SHADE TREES 10 EVERGREEN TREES
CREDIT FOR EXISTING VEGETATION (NO, YES AND LINEAR FEET)	YES, 380 LF
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	N/A
NUMBER OF TREES PROVIDED	8 SHADE TREES 10 EVERGREEN TREES 0 TREES (0 SUBSTITUTION EVERGREEN TREES)

- NOTES: 1) A LANDSCAPE BUFFER WAS NOT PROVIDED ALONG THE NORTH AND EAST EDGES OF THE SWM FACILITY DUE TO THE DISTANCE AND VISIBILITY OF THE FACILITY FROM RESIDENTIAL STRUCTURES OR ROADWAYS. THE FACILITY IS OVER 850 FT FROM TEN OAKS ROAD ON THE EAST AND OVER 150 FT FROM THE PROPERTY LINE TO THE NORTH (SAME OWNERSHIP).
- 2) SEE DRAINAGE AREA MAPS (PAGE 9 & 10) FOR DETAILED WETLAND DELINEATION
- 3) THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.121 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- 4) FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$1,800.

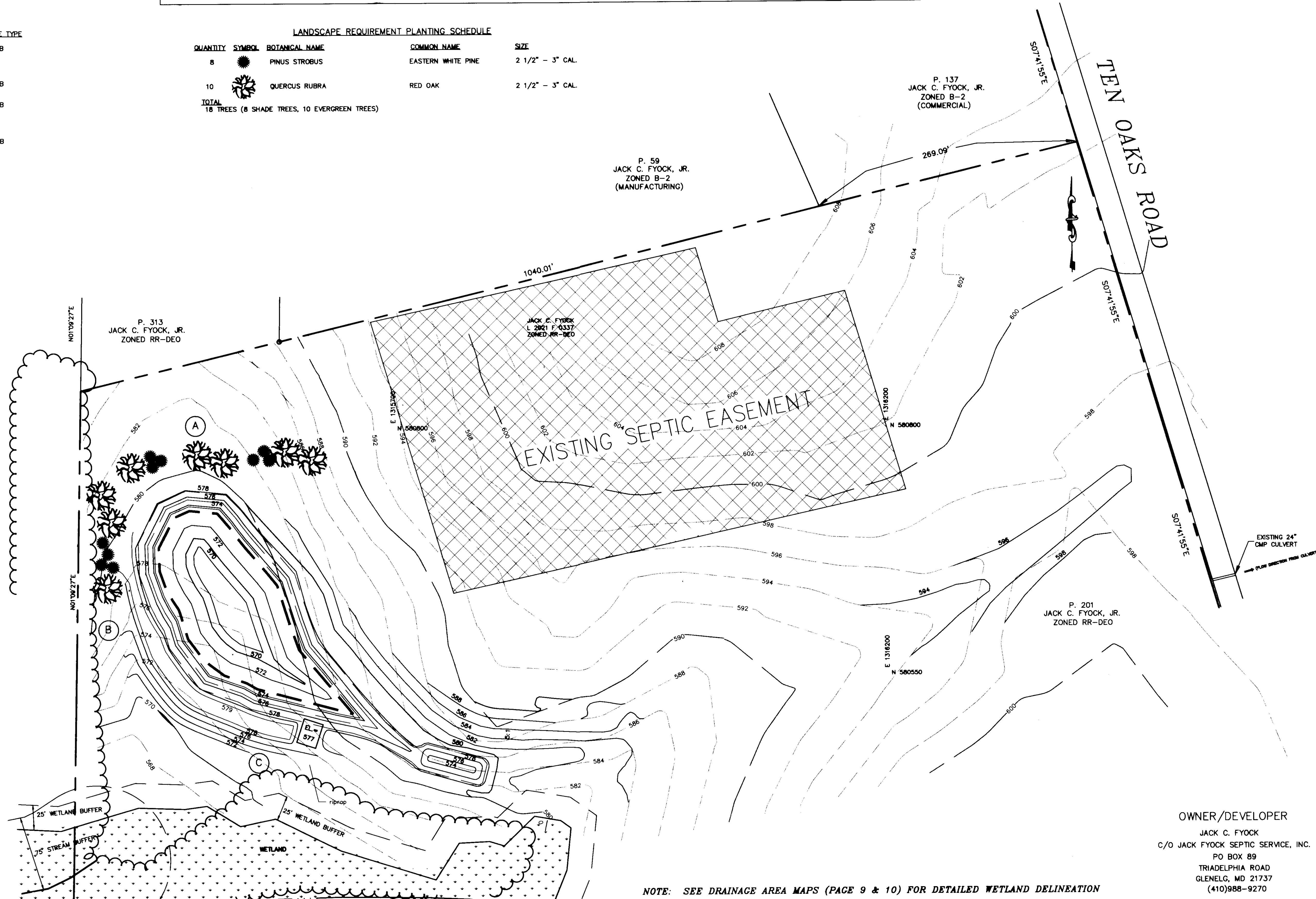
NOTE : THIS PLAN IS TO BE USED FOR THE PURPOSE OF LANDSCAPING ONLY.

THIS PLAN IS FOR THE PURPOSE OF LANDSCAPING ONLY

SWM PERIMETER	EDGE TYPE
SWM PERIMETER A	B
SWM TO SFD - 250 LF	
1 SHADE TREE / 50 LF	5
1 EVERGREEN / 40 LF	6
SWM PERIMETER B	B
SWM TO SFD - 95 LF	
EXISTING TREES TO REMAIN	
SWM TO SFD - 145 LF	
1 SHADE TREE / 50 LF	3
1 EVERGREEN / 40 LF	4
SWM PERIMETER C	B
SWM TO SFD - 285 LF	
EXISTING TREES TO REMAIN	
TOTAL PLANTING OBLIGATION	
SHADE TREES	8
EVERGREEN TREES	10
SHRUBS	0

LANDSCAPE REQUIREMENT PLANTING SCHEDULE

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
8		PINUS STROBUS	EASTERN WHITE PINE	2 1/2" - 3" CAL.
10		QUERCUS RUBRA	RED OAK	2 1/2" - 3" CAL.
TOTAL				
18 TREES (8 SHADE TREES, 10 EVERGREEN TREES)				



BY THE DEVELOPER:
I, THE DEVELOPER, 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 EMPLOY 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.

Jack C. Fyock 3/1/97
DATE

PRINTED NAME OF DEVELOPER

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A FEASIBLE AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE PROJECT. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DISTRICT OF MY PLANNING AND EMPLOYED 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.

Robert W. Zehn 3/1/97
DATE

PRINTED NAME OF ENGINEER

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. Zehn 3/1/97
DATE

HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Robert W. Zehn 3/21/97
DATE

CHIEF, DIVISION OF LAND DEVELOPMENT

Robert W. Zehn 3/14/97
DATE

CHIEF, DEVELOPMENT SERVICES DIVISION

Robert W. Zehn 3/21/97
DATE

CONTRACTOR

NOTE: SEE DRAINAGE AREA MAPS (PAGE 9 & 10) FOR DETAILED WETLAND DELINEATION

OWNER/DEVELOPER
JACK C. FYOCK
C/O JACK FYOCK SEPTIC SERVICE, INC.
PO BOX 89
TRIADELPHIA ROAD
GLENELG, MD 21737
(410)988-9270

Project	95071	date	JUL 1996
Illustration	SD	engineering	SD
Scale	1" = 50'	approval	jbm

no.	description	revisions

TAX MAP 22, PARCEL 201
FYOCK PROPERTY
HOWARD COUNTY
5TH ELECTION DISTRICT
LANDSCAPE PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 997-0296 Ext. (301) 621-5521 Wash. (410) 987-0296 Fax