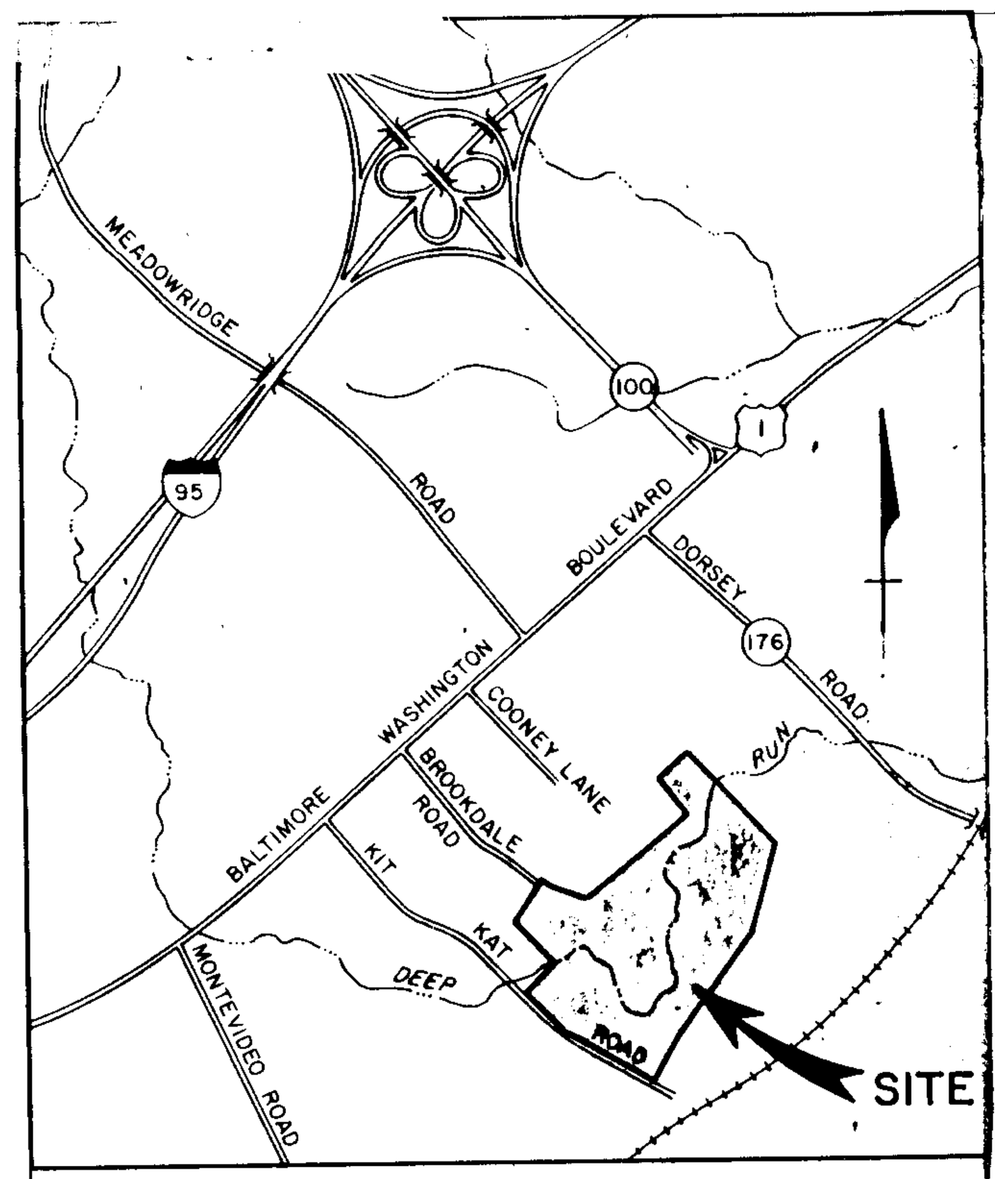
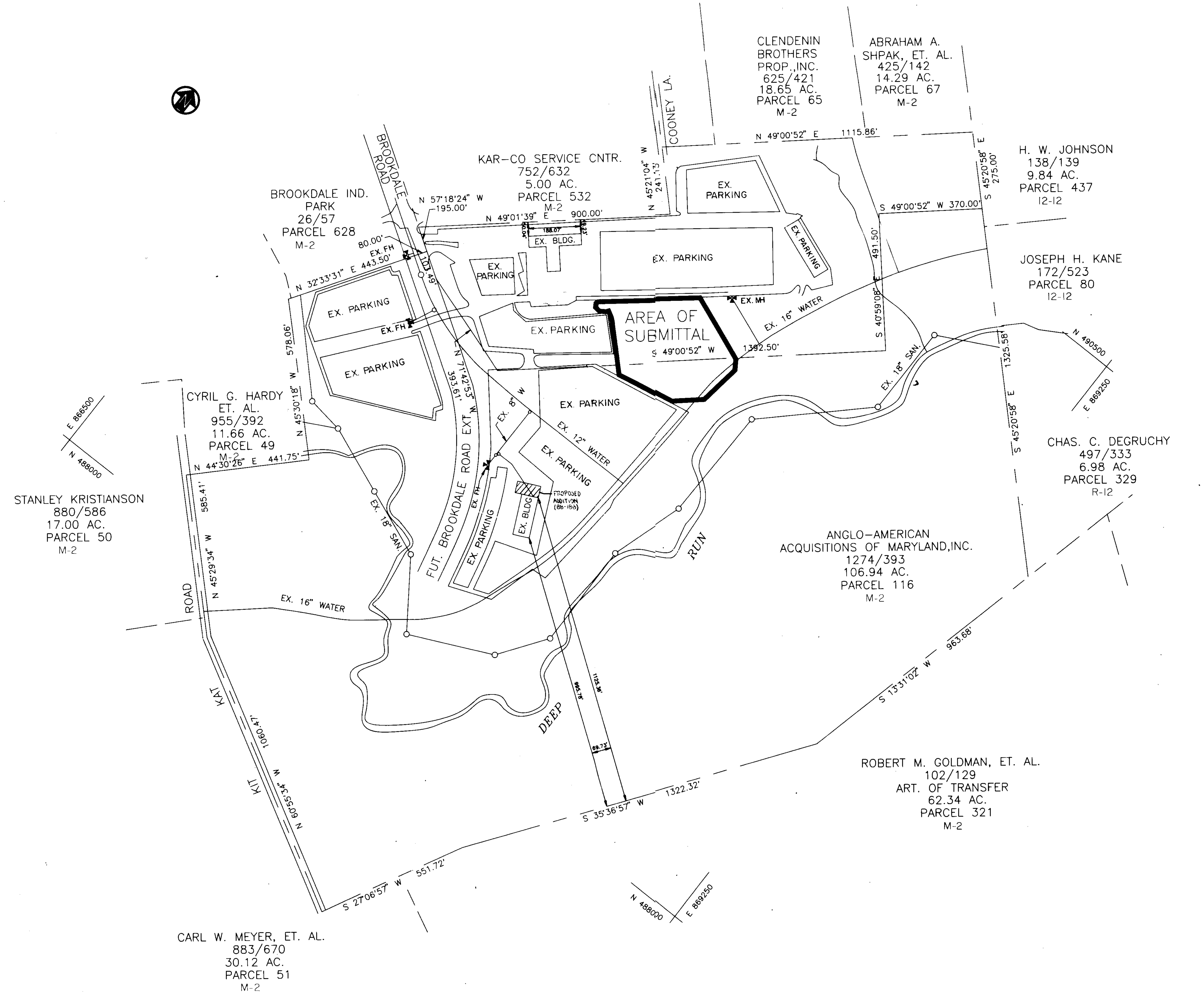


VICINITY MAP
SCALE: 1" = 2000'



NOTE: NO WETLANDS ARE LOCATED ON, OR WITHIN 25' OF THE AREA OF SUBMITTAL.

SITE ANALYSIS

1. TOTAL AREA OF PARCEL: 116.96 AC.
2. TOTAL AREA OF SITE: 2.75 AC.
3. PRESENT ZONING: M-2
4. OPEN SPACE: 2.75 AC.
5. BUILDING COVERAGE OF SITE: 0%
6. MAXIMUM NO. OF EMPLOYEES/ TENANTS ON SITE: 0
7. NO. OF PARKING SPACES REQUIRED BY HOWARD COUNTY: 0
8. NO. OF PARKING SPACES ON SITE: 0

NOTE: STORMWATER MANAGEMENT REVISION ONLY (SEE SDP 85-172) (SDP 88-188)

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

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
116	7151 BROOKDALE ROAD

SUBDIVISION NAME		SECT/AREA		LOT/PARCEL #	
BROOKDALE INDUSTRIAL PK.		-		116	
PLAT # ORL/F	BLOCK	ZONE	TAX ZONE	ELECT. DIST.	CENSUS
850/147	5	M-2	MAP 43	1st	6012
WATER CODE			SEWER CODE		

Reviewed for Howard Soil Conservation District and meets technical requirements.
U.S. Soil Conservation Service 7/27/90 Date

This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.
Howard Soil Conservation District 7/27/90 Date

PURDUM & JESCHKE
CONSULTING ENGINEERS AND LAND SURVEYORS
1029 North Calvert Street
Baltimore, Maryland 21202 (301)837-0194

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE, AND PUBLIC ROADS
HOWARD COUNTY DEPT. OF PUBLIC WORKS
DIRECTOR DATE
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING.
DIRECTOR DATE
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

DEVELOPER'S CERTIFICATION
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT
5/30/88 DATE

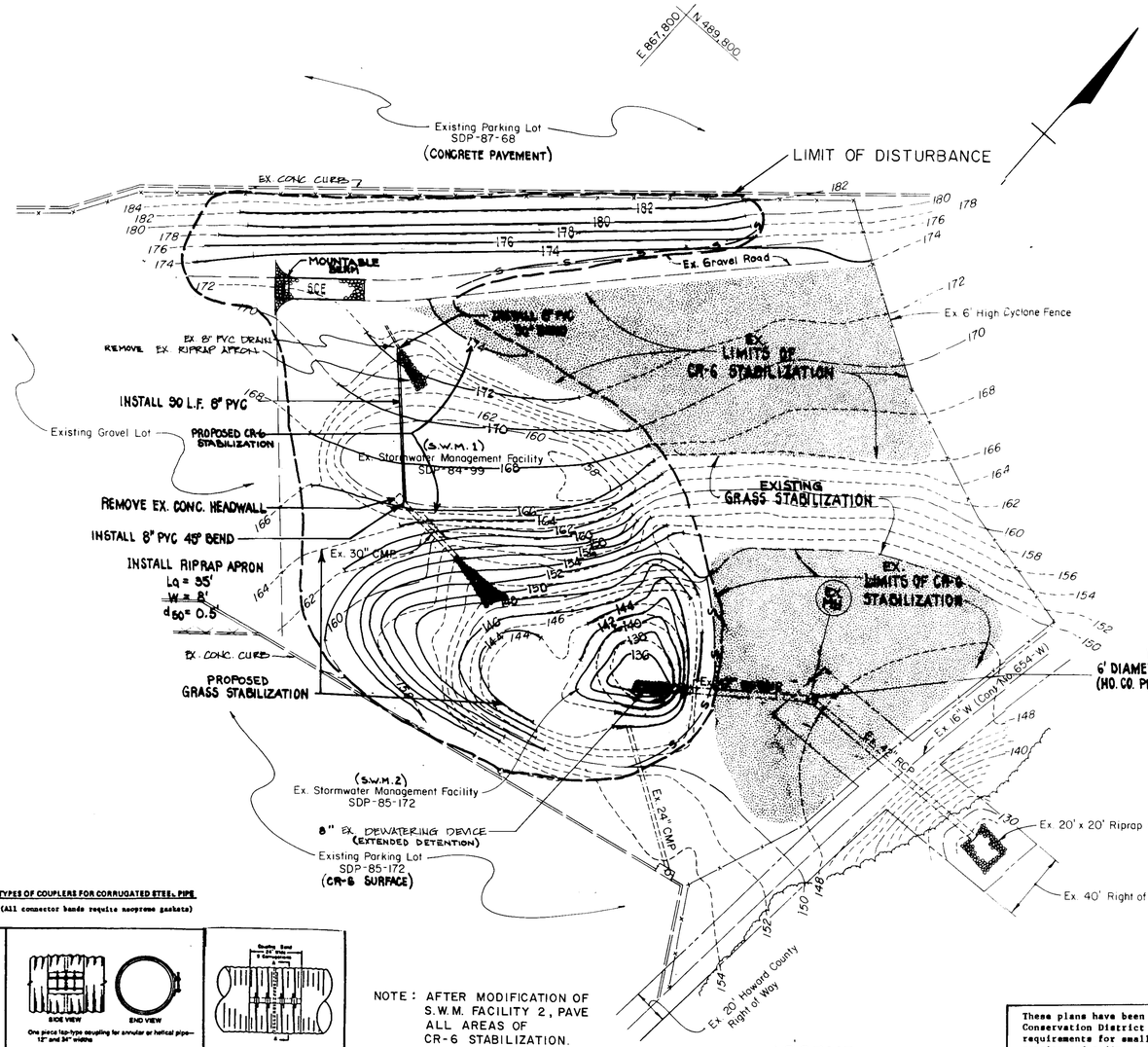
ENGINEER'S CERTIFICATION
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Richard H. Ulrich 8/12/88 DATE

ANGLO AMERICAN ACQUISITION OF MARYLAND, INC.
BROOKDALE INDUTRIAL PARK
ADDITION TO SDP-88-188

SITE PLAN

FIRST ELECTION DISTRICT HOWARD COUNTY, MD
DATE : JULY 1, 1988 SCALE: 1"=200'

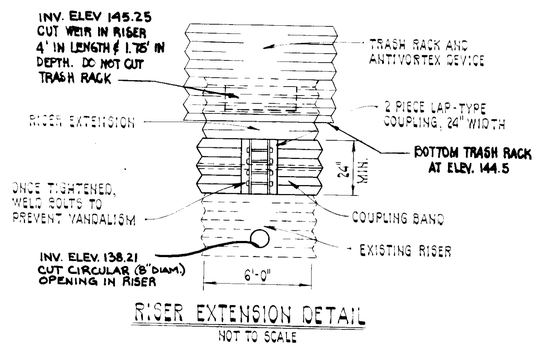
SHEET 1 OF 4
DES : REC
DRAWN : REC
CHK : RHB
SDP 89-212



NOTE: AFTER MODIFICATION OF S.W.M. FACILITY 2, PAVE ALL AREAS OF CR-6 STABILIZATION.

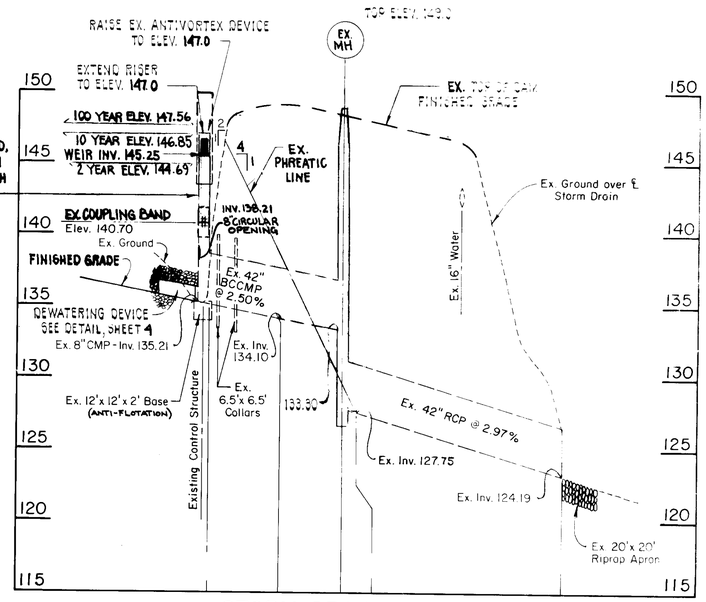
LEGEND

- —150— EXISTING CONTOURS
- —150— PROPOSED CONTOURS
- SCE STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE
- CONTROLLED FILL
- CR-6 STABILIZATION
- S —— S SILT FENCE



RISER EXTENSION DETAIL
NOT TO SCALE

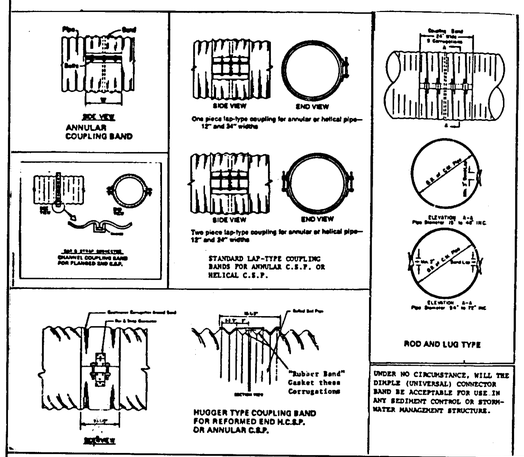
N 489,800 / E 868,200



NOTE: DISCONNECT AT COUPLING BAND, REPLACE 4.6' HIGH RISER WITH 7.0' RISER AND CONNECT TRASH RACK TO TOP OF NEW RISER. WELD AND RECOAT RISER SECTION FOR STRUCTURAL STABILITY AND WATER TIGHTNESS.

STORM DRAIN PROFILE
SCALE: HORIZ.: 1" = 40'
VERT.: 1" = 5'

TYPES OF COUPLERS FOR CORRUGATED STEEL PIPE
(All connector bands require neoprene gaskets)



UNDER NO CIRCUMSTANCE, WILL THE DIMPLE (UNIVERSAL) CONNECTOR BAND BE ACCEPTABLE FOR USE IN ANY SEDIMENT CONTROL OR STORM-WATER MANAGEMENT STRUCTURE.

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.

U.S. Soil Conservation Service — Date 7/27/90

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

Howard Soil Conservation District — Date 7/27/90

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
116	7151 BROOKDALE ROAD

SUBDIVISION NAME		SECT/AREA		LOT/PARCEL #	
BROOKDALE INDUSTRIAL PK.		–		116	
PLAT # ORL/F	BLOCK	ZONE	TAX ZONE	ELECT. DIST.	CENSUS
850/147	5	M-2	MAP 43	1st	6012
WATER CODE		SEWER CODE			

Reviewed for Howard Soil Conservation District technical requirements.

U.S. Soil Conservation Service — 7/27/90

This Development Plan is approved for soil erosion control by the Howard Soil Conservation District.

Howard Soil Conservation District — 7/27/90

PURDUM & JESCHKE
CONSULTING ENGINEERS AND LAND SURVEYORS
1029 North Calvert Street
Baltimore, Maryland 21202 (301)837-0194

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE, AND PUBLIC ROADS
HOWARD COUNTY DEPT. OF PUBLIC WORKS
DIRECTOR — DATE 8/21/90
CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 8/28/90

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING.
DIRECTOR — DATE 10.5.90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7/10/90

DEVELOPER'S CERTIFICATION
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT
C. Dennis Webster — 5/30/88 DATE

ENGINEER'S CERTIFICATION
I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Richard H. Gerich — 9/12/88 DATE

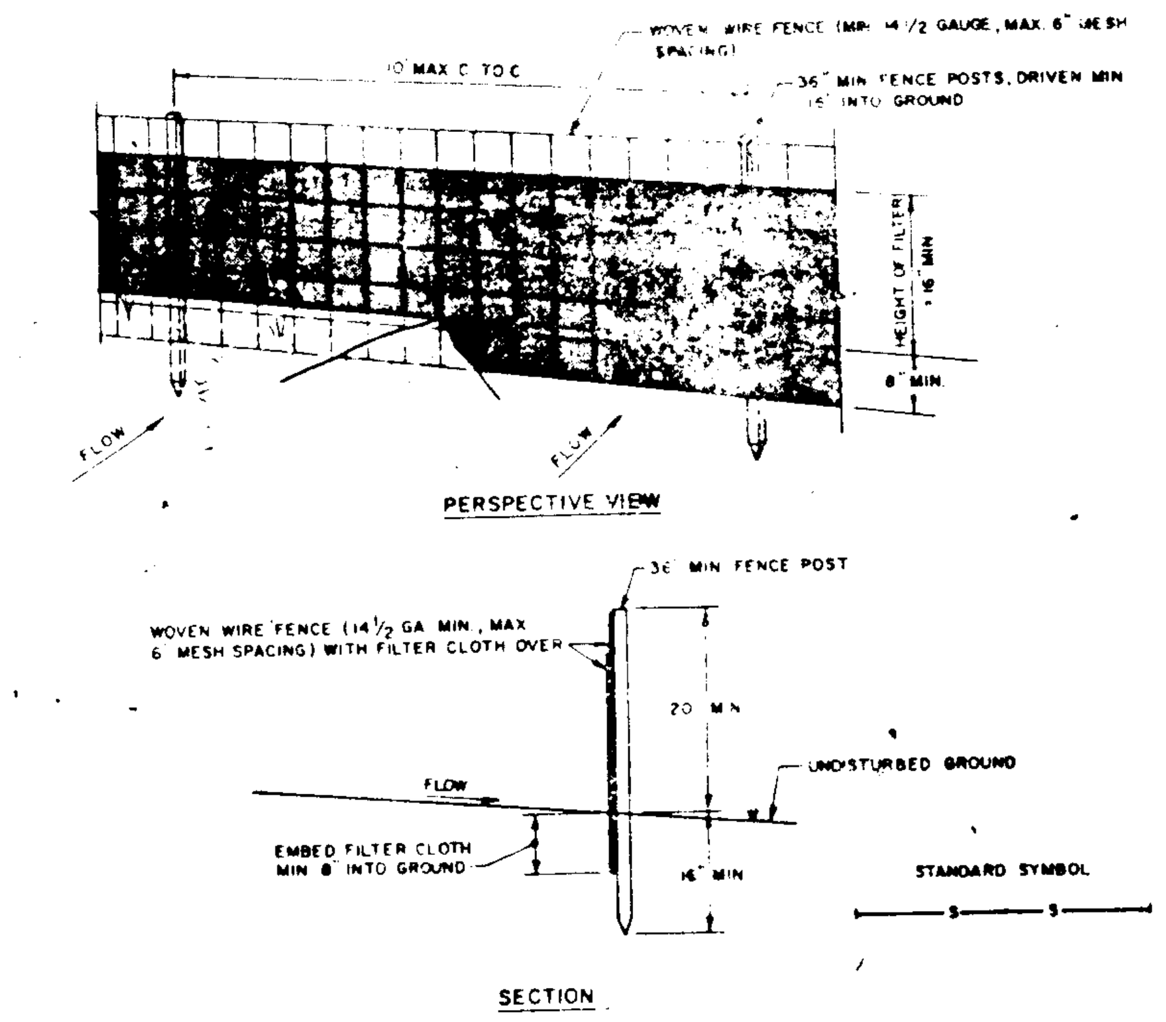
ANGLO AMERICAN ACQUISITION OF MARYLAND, INC
BROOKDALE INDUSTRIAL PARK, PARCEL 116

SEDIMENT & EROSION CONTROL AND MASS GRADING PLAN

FIRST ELECTION DISTRICT — HOWARD COUNTY, MD
DATE — SCALE 1" = 40'

SHEET 2 OF 4
SDP 89-212

SILT FENCE



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 OVER-LAPPED 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

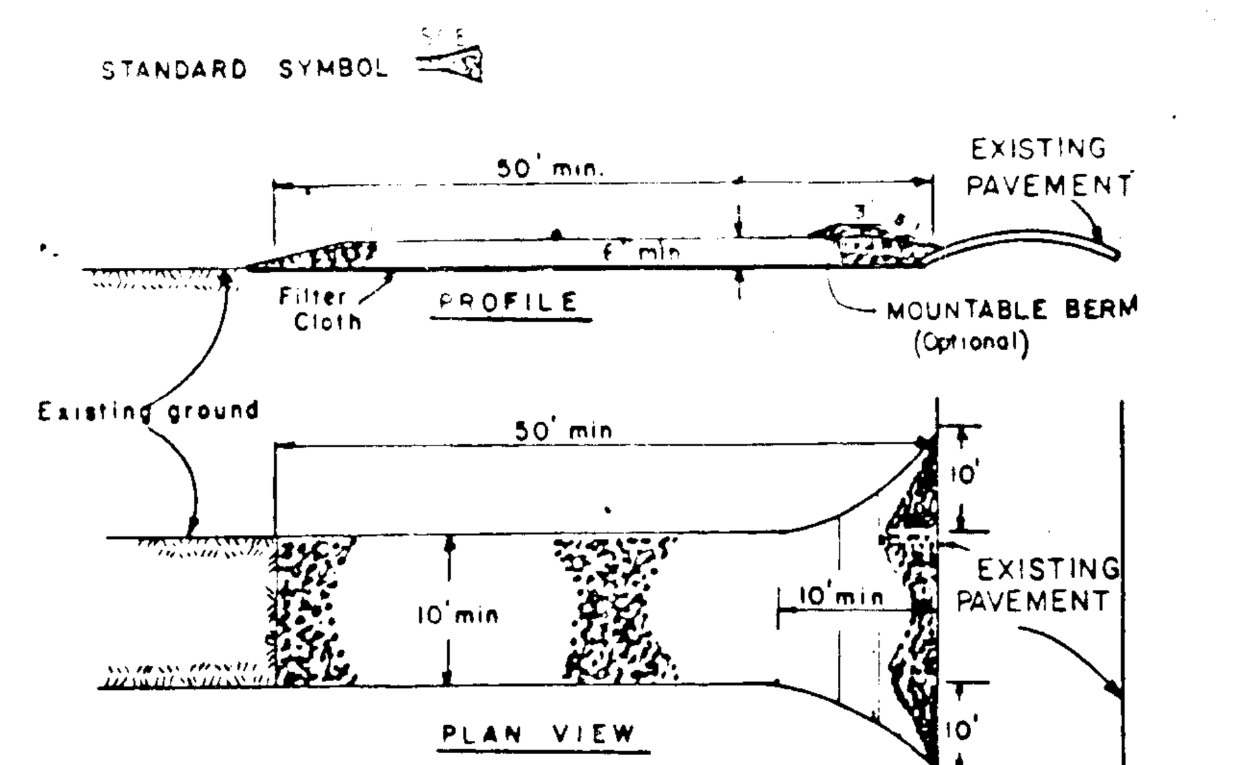
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING

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

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

STABILIZED CONSTRUCTION ENTRANCE

not to scale



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.**

PERMANENT SEEDING NOTES

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

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

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

1) Preferred -- Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square 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/1000 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 Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1½ 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 SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed, if not previously loosened

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.

Soil Amendments: Apply 60 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 Novermber 15, seed with 2½ bushel per acre of annual rye (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru 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 1½ 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 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

1) A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)

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.

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, Chaper 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	106.9	Acres
Area Disturbed	2.75	Acres
Area to be roofed or paved	0.90	Acres
Area to be vegetatively stabilized	0.60	Acres
Total Cut	1450	Cu. yds
Total Fill	3000	Cu. yds
Offsite waste/borrow area location	UNDETERMINED	

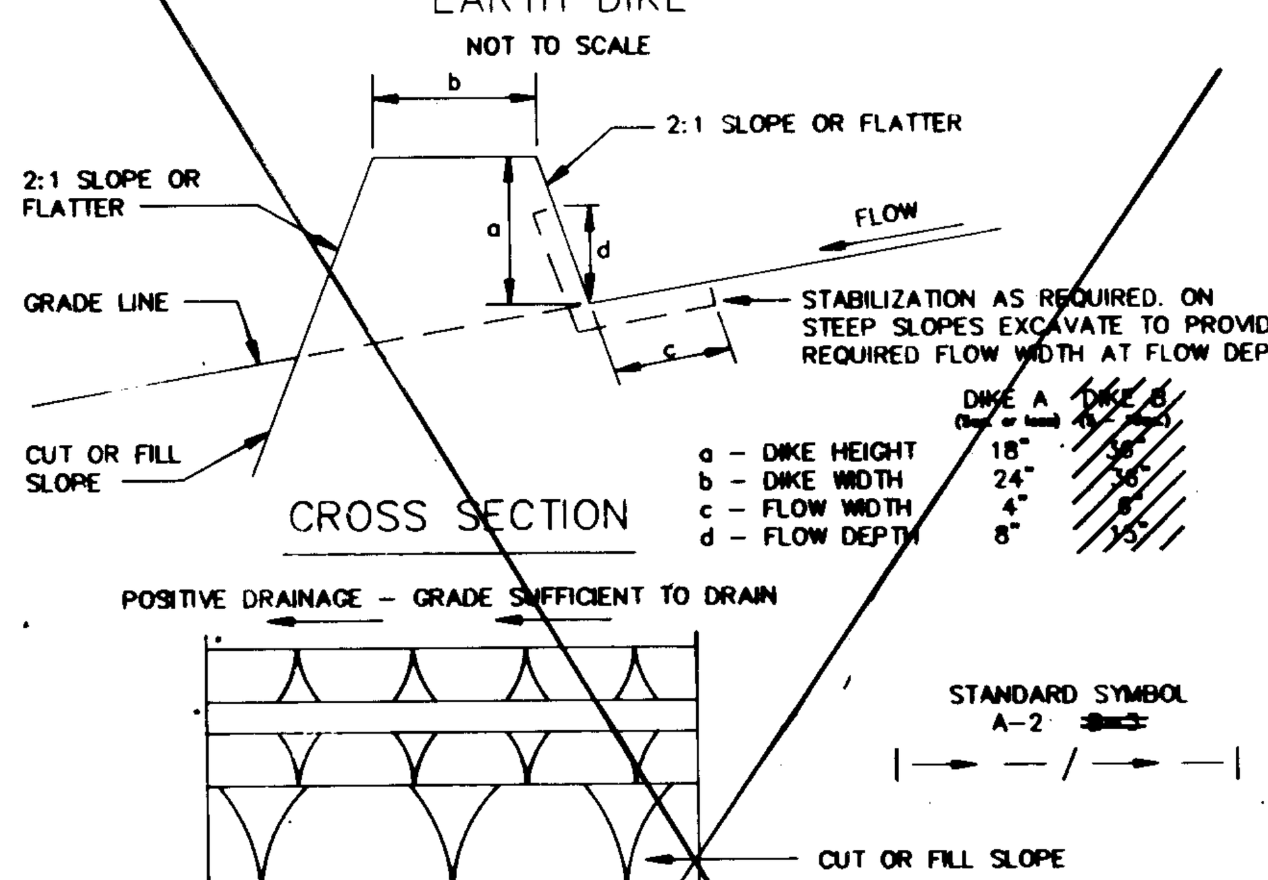
8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9) Additional sediment controls must be provided, if deemed necessary by the Howard County DPW 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.

EARTH DIKE

NOT TO SCALE



CONSTRUCTION SPECIFICATION

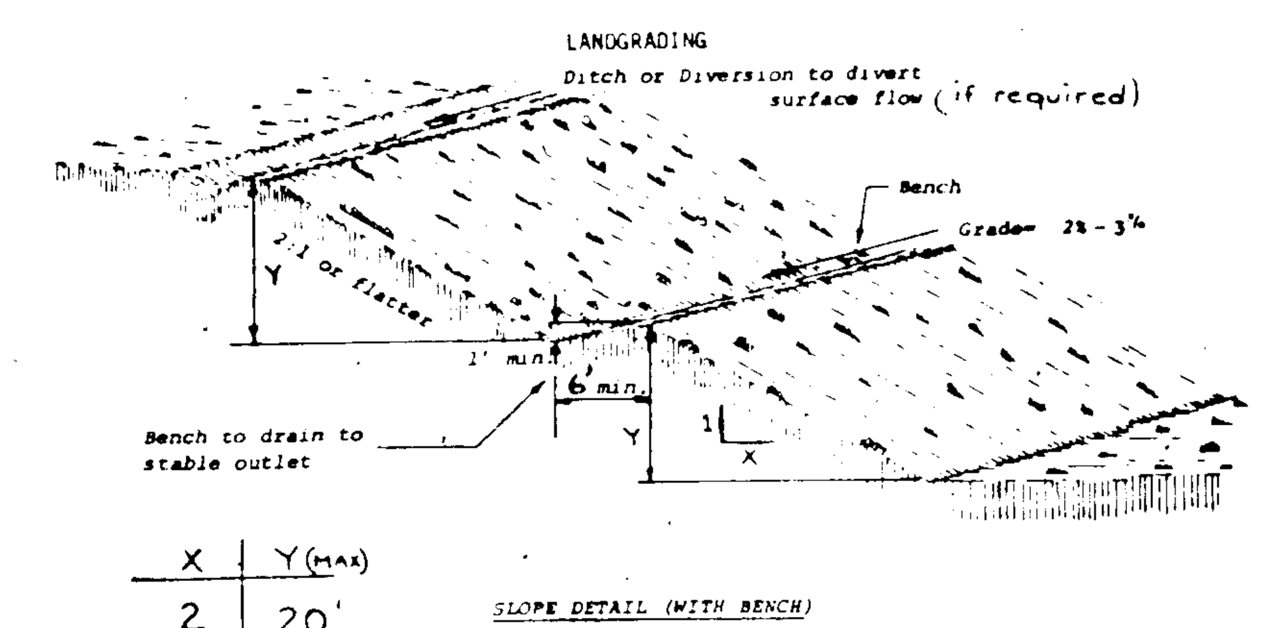
1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED 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 SPECIFICATION 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 RIPRAP 4 - 8"
4	8.1 - 20%	LINED RIPRAP 4 - 8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLE CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIPRAP TO BE 4 - 8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENT CAN BE SUBSTITUTED FOR ANY OF THE MATERIALS.

7. PERIODIC INSPECTION AND REQUIRED MAINTAINANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

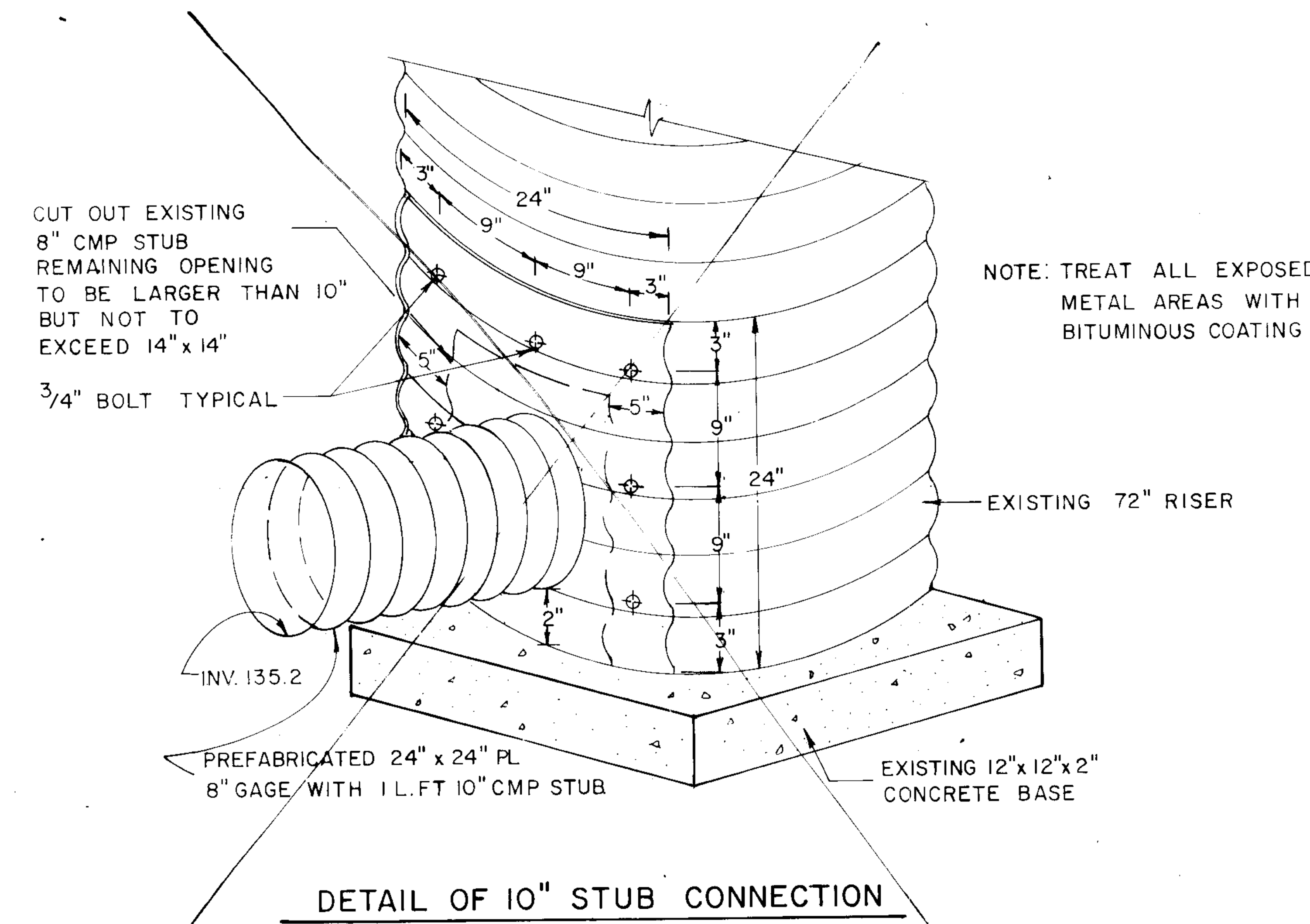


X	Y (MAX)
2	20'
3	30'
4	40'

SLOPE DETAIL (WITH BENCH)

Construction Specifications

1. All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved sediment control plan until they are permanently stabilized.
2. All sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved sediment control plan and the "Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas".
3. Topsoil required for the establishment of vegetation shall be stockpiled in amount necessary to complete finished grading of all exposed areas.
4. Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable material.
5. Areas which are to be topsoiled shall be scarified to a minimum depth of three inches prior to placement of topsoil.
6. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.
7. All fill to be placed and compacted in layers not to exceed 8 inches in thickness.
8. Except for approved landfills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of satisfactory fills.
9. Frozen materials or soft, mucky or highly compressible materials shall not be incorporated into fills.
10. Fill shall not be placed on a frozen foundation.
11. All benches shall be kept free of sediment during all phases of development.
12. Seeps or springs encountered during construction shall be handled in accordance with the Standard and Specifications for Subsurface Drain or other approved method.
13. All graded areas shall be permanently stabilized immediately following finished grading.
14. Stockpiles, borrow areas and spoil areas shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.



DETAIL OF 10" STUB CONNECTION

NTS.

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.

U.S. Soil Conservation Service — 7/27/96 — Date

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

Howard Soil Conservation District — 7/27/96 — Date

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE — HOWARD COUNTY HEALTH DEPARTMENT

COUNTY HEALTH OFFICER

APPROVED: HOWARD COUNTY OFFICE OF PLANNING & ZONING

DIRECTOR

CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS — HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DIRECTOR

CHIEF BUREAU OF ENGINEERING

Reviewed for Howard Soil Conservation District and meets technical requirements.

Howard Soil Conservation District

This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District

Howard Soil Conservation District

SUBDIVISION NAME	SECT/AREA	LOT/PARCEL #			
BROOKDALE INDUSTRIAL PK.	–	116			
PLAT # ORL/F	BLOCK	ZONE	TAX ZONE	ELECT. DIST.	CENSUS
850/147	5	M-2	MAP 43	1st	6012
WATER CODE			SEWER CODE		

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
116	7151 BROOKDALE ROAD

PURDUM & JESCHKE
CONSULTING ENGINEERS AND LAND SURVEYORS
1029 North Calvert Street
Baltimore, Maryland 21202 (301)837-0194

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE, AND PUBLIC ROADS
HOWARD COUNTY DEPT. OF PUBLIC WORKS
DIRECTOR — DATE
CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — 8/23/90 — DATE

APPROVED: HOWARD COUNTY DEPT OF PLANNING AND ZONING.
DIRECTOR — 10.5.90 — DATE
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — 9/10/90 — DATE

DEVELOPER'S CERTIFICATION

I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE H.S.C.D. WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLEATION

C. Dennis Webster — 5/30/88 — DATE

ENGINEER'S CERTIFICATION

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MOST PROVIDE H.S.C.D. WITH ON AS-BUILT WITHIN 30 DAYS OF COMPLEATION.

Richard H. Bersch — 8/12/88 — DATE

ANGLO AMERICAN ACQUISITION OF MARYLAND, INC.
BROOKDALE INDUSTRIAL PARK, PARCEL 116

SEDIMENT & EROSION CONTROL DETAILS AND SPECIFICATIONS

FIRST ELECTION DISTRICT — HOWARD COUNTY, MD.
DATE: — SCALE: NONE

SHEET 3 OF 4
DES. AHK
DRAW CAD, REC
CHK RHB

SDP 89-212

SOIL CONSERVATION SERVICE
MARYLAND
CONSTRUCTION SPECIFICATIONS
FOR
PONDS

These specifications are appropriate to ponds within the scope of the Standard for practice 378.

I. 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 pond or 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.

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.

II. EARTH FILL

Material

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.

Placement

Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of 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 can be obtained with the equipment used.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

Cutoff Trench

Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. STRUCTURAL BACKFILL

Backfill material 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 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 twenty-four inches or greater over the structure or pipe.

IV. PIPE CONDUITS

All pipes shall be circular in cross section.

A. 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 are commercially available: 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 - (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-79I with watertight coupling bands or flanges.

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. 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. 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 less than 9 and greater than 4.

2. 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. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to the completely watertight. Dimple bands are not considered to be 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. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

5. Backfilling shall conform to structural backfill as shown above.

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

B. Reinforced Concrete Pipe

1. Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is AWWA Specification C-301.

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", 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.

4. Backfilling shall conform to structural backfill as shown above.

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

C. For pipes of other materials, specific specifications shall be shown on the drawings.

V. CONCRETE

1. Materials

a. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.

b. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.

c. Sand - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.

d. Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.

e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

2. Design Mix - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-1/2 to 6 U.S. Gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-1/2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.

3. Mixing - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.

4. Forms - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed.

Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.

5. Reinforcing Steel - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.

6. Consolidating - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be auplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

7. Finishing - Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry-patching mortar.

8. Protection and Curing - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compunds may also be used.

9. Placing Temperature - Concrete may not be placed at temperatures below 370 F with the temperature falling, or 340 with the temperature rising.

VI. STABILIZATION

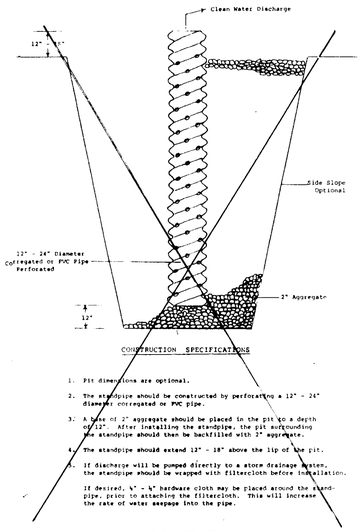
All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

VII. EROSION AND SEDIMENT CONTROL

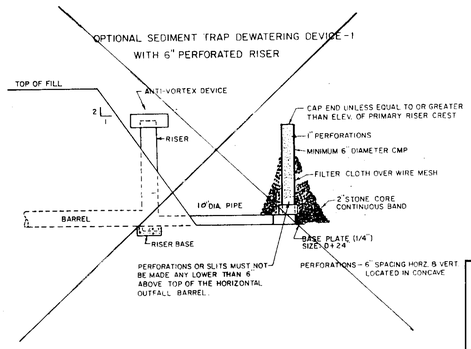
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction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

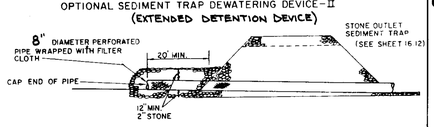
CONSTRUCTION SEQUENCE

1. Obtain Grading Permit.
2. Install stabilized construction entrance and silt fence.
3. Disconnect existing risers at coupling band, replace 4.8' riser extension with 7.0' riser extension and connect trash rack to top of new extension. Weld and recoat riser section for structural stability and water tightness.
4. Excavate in the vicinity of S.W.M.2 and NW area of site.
5. Continue fill operation until S.W.M.1 is brought to proposed grade. Maintain 95% density when backfilling.
6. Stabilize disturbed areas as shown on plan.
7. Remove sediment control devices when authorized by the Sediment Control Inspector.



SUMP PIT





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.

U.S. Soil Conservation Service — Date 7/27/90

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

Howard Soil Conservation District — Date 7/27/90

Reviewed for Howard Soil Conservation District and meets technical requirements

U.S. Soil Conservation Service — Date

This Development Plan is approved for soil erosion and sediment control by the Howard Soil Conservation District

Howard Soil Conservation District — Date

ADDRESS CHART	
PARCEL NO.	STREET ADDRESS
116	7151 BROOKDALE ROAD

SUBDIVISION NAME		SECT/AREA		LOT/PARCEL #	
BROOKDALE INDUSTRIAL PK.		-		116	
PLAT # ORL/F	BLOCK	ZONE	TAX ZONE	ELECT. DIST.	CENSUS
850/147	5	M-2	MAP 43	1st	6012
WATER CODE		SEWER CODE			

PURDUM & JESCHKE
CONSULTING ENGINEERS AND LAND SURVEYORS
1029 North Calvert Street
Baltimore, Maryland 21202 (301)837-0194

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE, AND PUBLIC ROADS
HOWARD COUNTY DEPT. OF PUBLIC WORKS
DIRECTOR — DATE 8/21/90
CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — DATE 8/23/90

APPROVED: HOWARD COUNTY DEPT OF PLANNING AND ZONING.
DIRECTOR — DATE 10.5.90
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 8/10/90

DEVELOPER'S CERTIFICATION
I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND ANY RESPONSIBLE PERSONNEL INVOVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF ANY SEDIMENT EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE H.S.C.D. WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLEATION
C. Dennis Webster — DATE 5/30/88

ENGINEER'S CERTIFICATION
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MOST PROVIDE H.S.C.D. WITH ON AS-BUILT WITHIN 30 DAYS OF COMPLEATION.
Richard H. Resch — DATE 8/12/88

ANGLO AMERICAN ACQUISITION OF MARYLAND, INC.
BROOKDALE INDUSTRIAL PARK, PARCEL 116

SEDIMENT & EROSION CONTROL CONSTRUCTION SPECIFICATIONS

FIRST ELECTION DISTRICT — HOWARD COUNTY, MD.
DATE — SCALE: 1" = 40'

SHEET 4 OF 4
DES: AHK
DRAWN: ARW
CHK: RHB

SDP 89-212