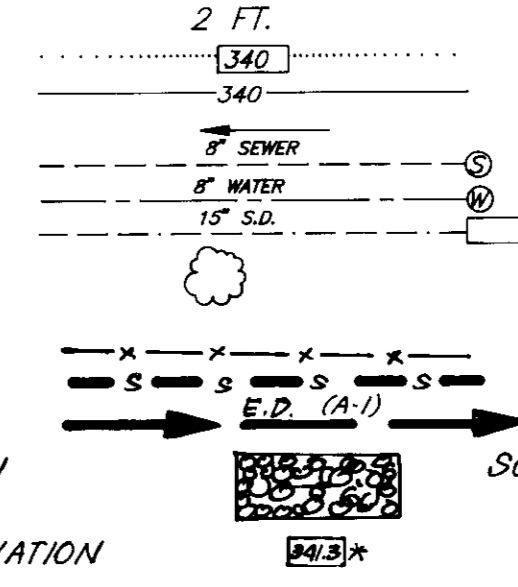


GENERAL NOTES

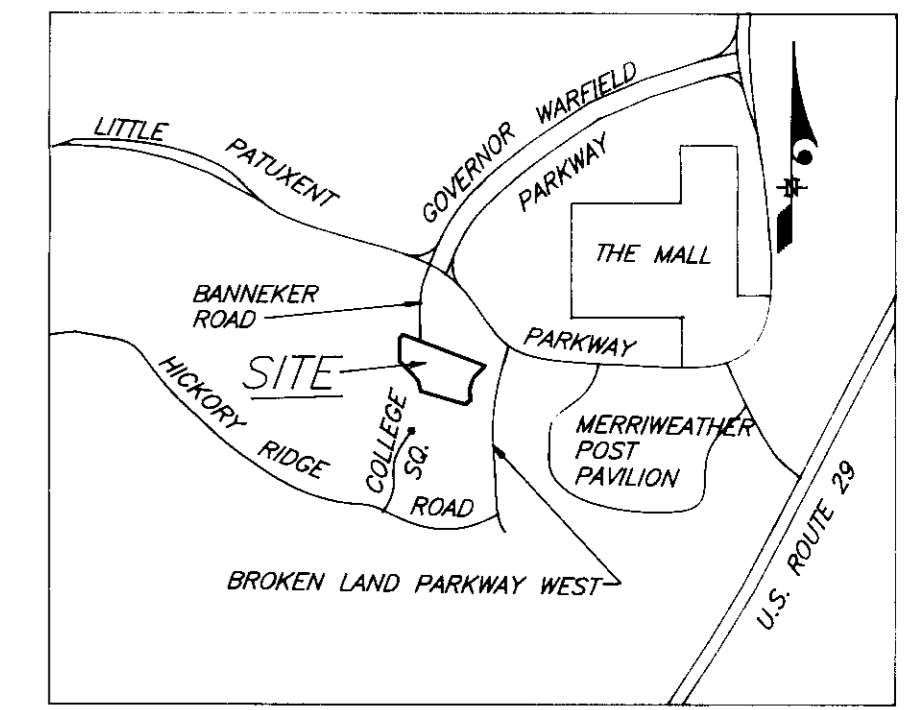
1. Subject property is zoned: NEW TOWN APTS B-2-85 Comprehensive Zoning Plan and FOP-6-A-1.
2. The coordinates shown herein are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System - Howard County Geodetic Control point nos. 2640001 & 2640002
3. All roadways are public and existing.
4. The total area included in this submission is : 8.1652 AC.
5. Any damage to county owned rights-of-way shall be corrected at the developer's expense.
6. Dept. of Planning and Zoning file reference file numbers are: S-92-05, F-91-49, FDP-61-A-1 & WP-92-46
7. The contractor or developer shall contact the Construction/Inspection Survey Division, 24 hours in advance of commencement of work at 301-792-7272.
8. The existing topography shown was field run by Clark, Finerock and Sackett, Inc. in Nov. 1991.
9. Stormwater Management is provided as per F-85-131
10. No grading, clearing, or construction is permitted within the required wetlands or stream buffers.

LEGEND

CONTOUR INTERVAL
EXISTING CONTOUR
PROPOSED CONTOUR
DIRECTION OF DRAINAGE
EXISTING SEWER MAIN
EXISTING WATER MAIN
EXISTING STORM DRAIN
EXISTING TREES TO REMAIN



TREE PROTECTION FENCE
SILT FENCE
EARTH DIKE
STABILIZED CONSTRUCTION
ENTRANCE
100 YR FLOOD PLAIN ELEVATION



VICINITY MAP

SCALE: 1" = 2000'

TRAP NO. 1 S.O.S.T. (ST-V)

DRAINAGE AREA:	4.0 AC.
STORAGE REQUIRED:	4.0 (100%) 1500 CF
STORAGE PROVIDED:	1500 CF
DEPTH:	3 FT.
TOP OF STONE WEIR:	342.5
CLEANOUT ELEVATION:	340.0
BOTTOM ELEVATION:	338.5
BOTTOM DIMENSIONS:	VARIABLES SEE PLAN
2:1 SIDE SLOPES:	(177.0' x 260.0')
L =	16'

TRAP NO. 2 S.O.S.T. (ST-V)

DRAINAGE AREA:	3.7 AC.
STORAGE REQUIRED:	3.7 (100%) 1500 CF
STORAGE PROVIDED:	1500 CF
DEPTH:	3 FT.
TOP OF STONE WEIR:	342.5
CLEANOUT ELEVATION:	340.0
BOTTOM ELEVATION:	338.5
BOTTOM DIMENSIONS:	7.4 x 22
2:1 SIDE SLOPES:	
L =	15'

SITE ANALYSIS:

TOTAL AREA OF SITE: 8.152 ACRES.
ZONING: NEW TOWN APARTMENTS
RECORDING REFERENCE: PLAT # 9749

STORM WATER MANAGEMENT IS PROVIDED PER F-85-131

DEVELOPER'S/BUILDER'S CERTIFICATE

I/we certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all 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 Howard Soil Conservation District or their authorized agents, as are deemed necessary.

Reviewed for HOWARD S.C.D. Name
and meets Technical Requirements
James H. [Signature] Date
Signature Date
US Soil Conservation Service

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
John [Signature] Approved Date

Signature Date 11/1/91

ADDRESS CHART

PARCEL A	6000	BANNERKER ROAD
----------	------	----------------

ENGINEER'S CERTIFICATE

I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Richard J. [Signature] 11-1-91
Signature Date

SUBDIVISION NAME:	SECTION / AREA	PARCEL #
TOWNCENTER	3 / 2	A
PLAT No 9749	BLOCK #	ZONE
1	30	NT. APTS
TAX / ZONE MAP	ELECTION DIST.	CENSUS TRACT
30	5TH	6056
WATER CODE	SEWER CODE	

CLARK • FINEFROCK & SACKETT, INC.		
ENGINEERS • PLANNERS • SURVEYORS		
7135 MINSTREL WAY • COLUMBIA MD 21045 • (301) 384-7500 BALTO • (301) 621-8100 WASH		
DESIGNED	SITE DEVELOPMENT PLAN SEDIMENT AND EROSION CONTROL PLAN PARCEL A	SCALE 1"=50'
KIWM		DRAWING
DRAWN	COLUMBIA TOWN CENTER	10F 2
CAD	SECTION 3 AREA 2	JOB NO
CHECKED	TAX MAP 36 PARCEL 81	91-061
KIWM	FIFTH ELECTION DISTRICT	FILE NO.
DATE	HOWARD COUNTY MARYLAND	91-061-8E
NOV, 1991	FOR: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA MARYLAND 21043	

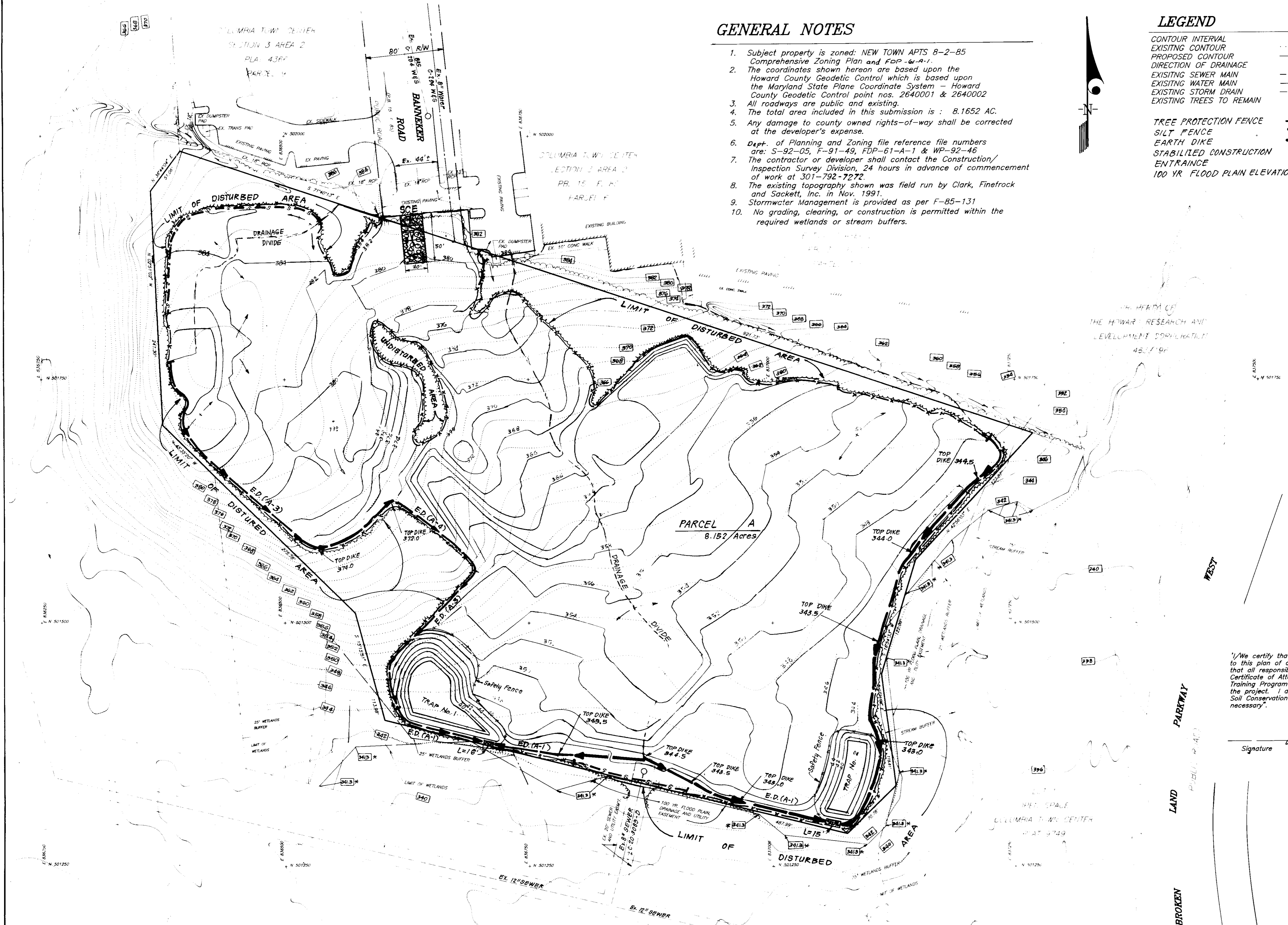
SDP-92-84

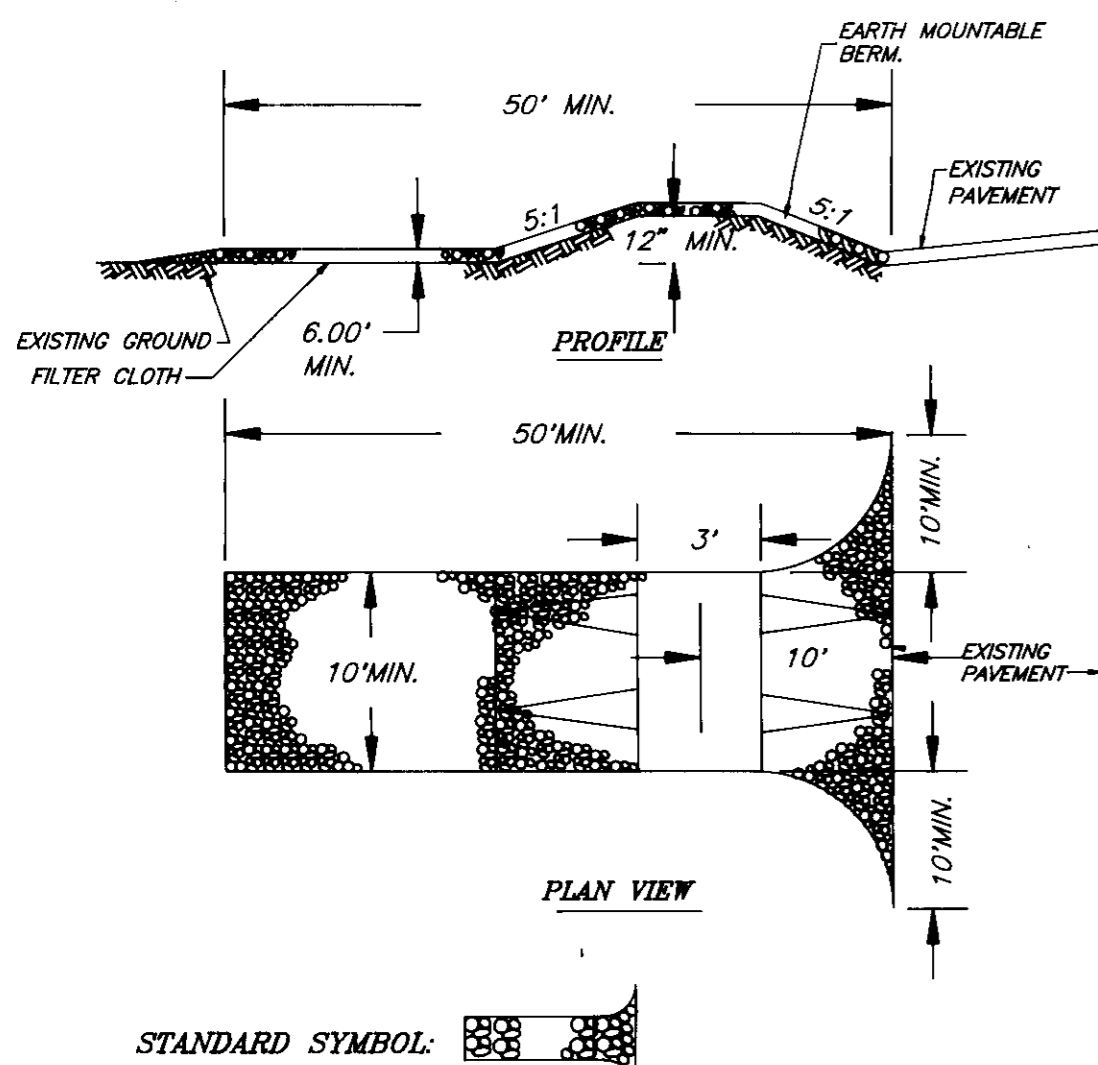
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
HOWARD COUNTY HEALTH DEPARTMENT
John [Signature] 1-13-92
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
James [Signature] 11/16/92
DIRECTOR DATE
William [Signature] 11/14/92
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE.
STORM DRAINAGE SYSTEMS AND PUBLIC ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James [Signature] 1-6-92
DIRECTOR DATE
James [Signature] 1-6-92
CHIEF BUREAU OF ENGINEERING DATE

12-17-91
fks



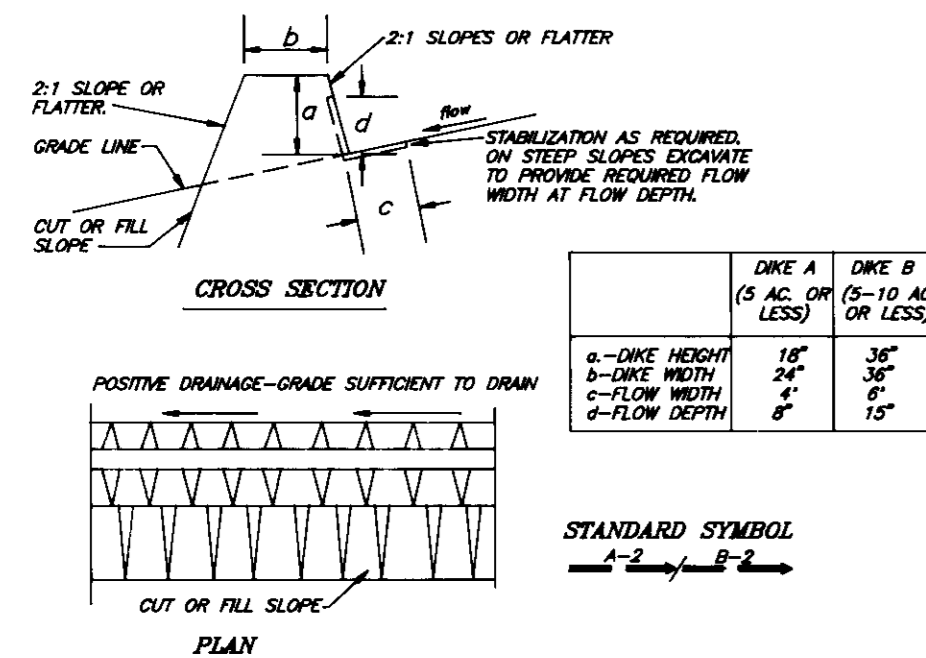


CONSTRUCTION SPECIFICATIONS

- STONE SIZE: USE 2" STONE OR RECYCLED CONCRETE EQUIVALENT.
- LENGTH: AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
- THICKNESS: NOT LESS THAN SIX (6) INCHES.
- WIDTH: TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
- FILTER CLOTH: WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE.
- 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 REQUIRED.
- 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.
- 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.
- PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAINFALL.

STABILIZED CONSTRUCTION ENTRANCE (SCE)

NO SCALE



	DIKE A (6" OR LESS)	DIKE B (6" TO 10" OR LESS)
a-DIKE HEIGHT	18"	36"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	6"	15"
d-FLOW DEPTH	6"	15"

STANDARD SYMBOL:

CONSTRUCTION SPECIFICATIONS

- All dikes shall be constructed by earth moving equipment.
- All dikes shall have positive drainage to an outlet.
- Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
- Flow location should be adjusted as needed to utilize a stabilized safe outlet.
- Each dike 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 outlet or the drainage area above the dike are not adequately stabilized.
- Disturbance shall be: (A) in accordance with standard specifications for seed and straw mulch or straw mulch if not in seeding season, (B) flow channel as per the sheet below.

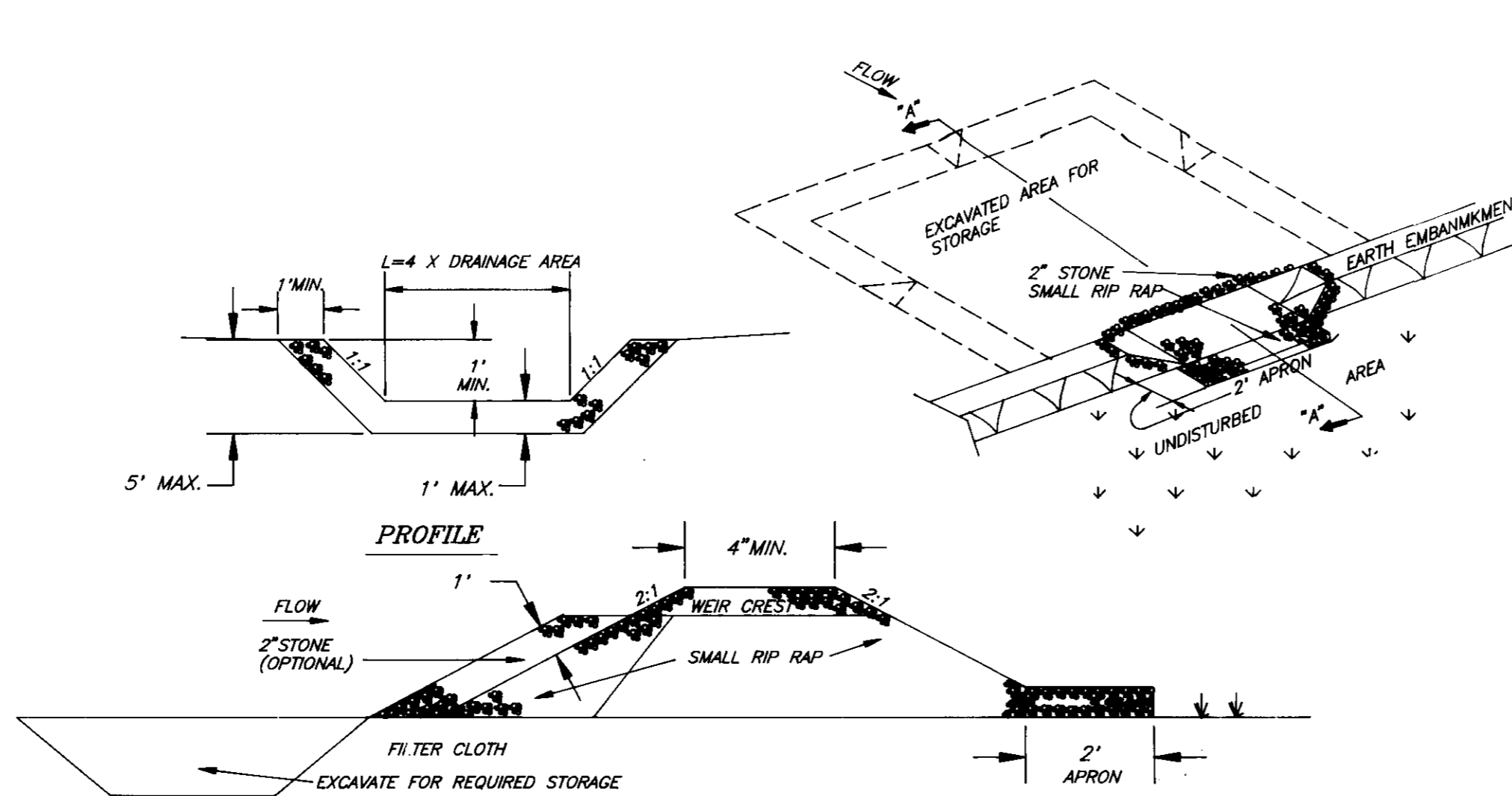
FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCESSIVE SOIL, 2" STONE
3	5.1-8.0%	SEED WITH ALF, OR SOG; LINED RIP-RAP 4"-8" STONE	LINED RIP-RAP 4"-8" ENGINEERING DESIGN
4	8.1-20%	LINED RIP-RAP 4"-8" ENGINEERING DESIGN	ENGINEERING DESIGN

- Stone to be 2 inch stone, or recycled concrete equivalent, in a layer of least 3 inches thickness and be pressed into the soil with construction equipment.
- Rip rap to be 4-8 inches in a layer of least 8 inches thick and pressed into the soil.
- Approved equivalents can be substituted for any of the above materials.
- Periodic inspection and required maintenance must be provided after each rain event.

EARTH DIKE (ED)

NO SCALE



CROSS-SECTION "A"-A"

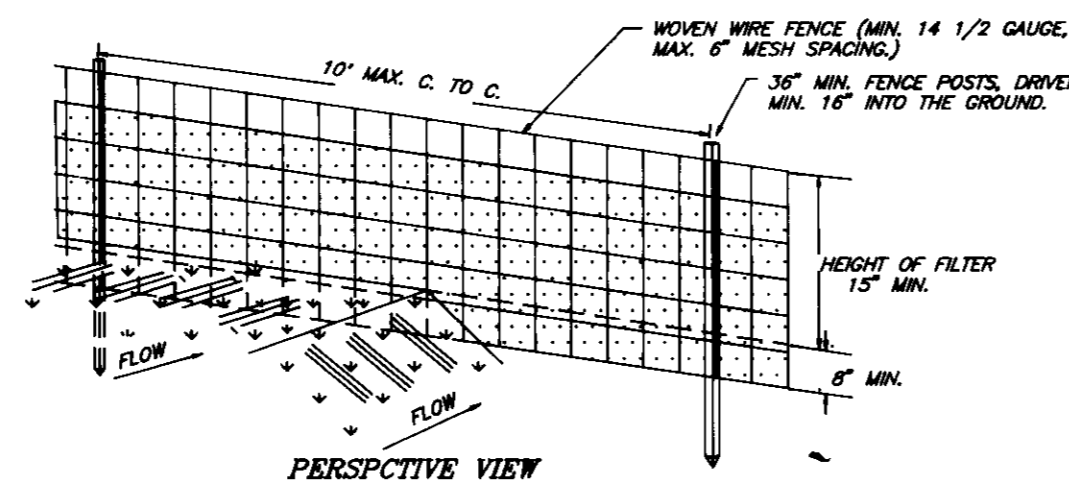
OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

CONSTRUCTION SPECIFICATIONS FOR ST-V

- Area under embankment shall be cleared, grubbed and stripped of any vegetation and a root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. All cut and fill slopes shall be 2:1 or flatter.
- The stone used in the outlet shall be riprap 4"-8" along with a 1" thickness of 2" aggregate placed on the up-grade side on the small riprap or embedded filter cloth in the riprap.
- Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

STONE OUTLET SEDIMENT TRAP (ST-V)

NO SCALE



PERSPECTIVE VIEW

SECTION

STANDARD SYMBOL:

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

- WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "CLOSEST DEVELOP" OF 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, MIRAF 100X, STABILINKA T140N, OR APPROVED EQUAL.
PREFABRICATED UNIT: GEOPAB, ENVIROFENCE, OR APPROVED EQUAL.

SILT FENCE (S)

NO SCALE

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 schedules:
1) Preferred- Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs./1000 sq ft.) before seeding. Harrow or disc into upper three inches of soil. At the 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 60lbs 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 well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

MULCHING: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (9 gal./1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (9 gal./1000 sq ft) for anchoring.

MAINTENANCE: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

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

SOIL AMENDMENTS: Apply 600 lbs per acre 10-10-10 fertilizer (14lbs/1000 sq ft).

SEEDING: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 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 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (9 gal./1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (9 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.

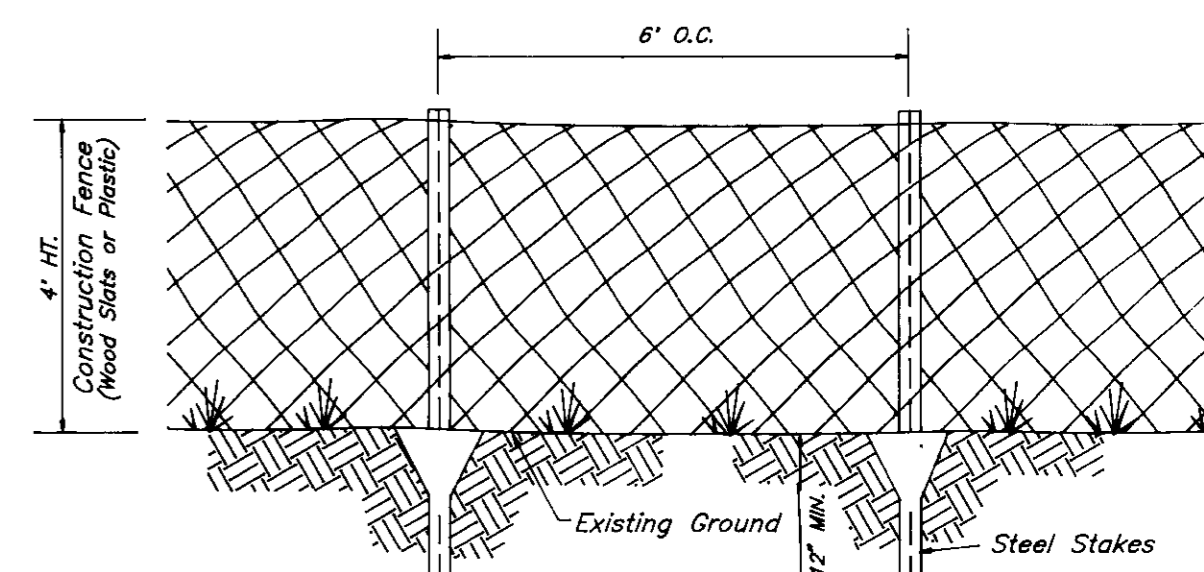
SEDIMENT AND EROSION CONTROL NOTES

- 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).
- 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 SPECS. FOR SOIL EROSION AND SEDIMENT CONTROL.
- 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.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeters in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- 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.
- 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.
- SITE ANALYSIS:
Total Area of Site: 8.152 Ac
Area Disturbed: 6.94 Ac
Area to be roofed or paved: 0 Ac
Area to be vegetatively stabilized: 6.94 Ac
Total Cut: 11.622 C.Y.
Total Fill: 27.714 C.Y.
Offsite Waste/Borrow Area Location: _____
- 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 DPM Sediment Control Inspector.
- 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.
- If houses are to be constructed on an "as sold" basis, at random, Single Family Sediment Control, as shown below shall be implemented.
- All pipes to be blocked at the end of each day (see detail this sheet).
- The total amount of silt fence= 400 LF

*It is the responsibility of the contractor to identify the spoil/borrow site and notify and gain approval from the sediment control inspector of the site and it's grading permit number at the time of construction.

CONSTRUCTION SEQUENCE:

	NO. OF DAYS
A. Obtain grading permit and install sediment and erosion control devices and stabilize.	7
B. Rough grade site.	30
C. Final grade and stabilize in accordance with Stds. and Specs.	14
D. Upon approval of the sediment control inspector, remove sediment and erosion control devices and stabilize.	7



TYPICAL TREE PROTECTION FENCE DETAIL

NO SCALE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 1-13-92
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 DIRECTOR: *[Signature]* DATE: 1/18/92
 CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: *[Signature]* DATE: 1/14/92
 APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 DIRECTOR: *[Signature]* DATE: 1-6-92
 CHIEF BUREAU OF ENGINEERING: *[Signature]* DATE: 1-6-92

12-17-91
[Signature]

Reviewed for HOWARD S.C.D. Name: *[Signature]*
 and meets Technical Requirements of US Soil Conservation Service
 Signature: *[Signature]* Date: 12/17/91

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Approved: *[Signature]* Date: 12/24/91

DEVELOPER'S/BUILDER'S CERTIFICATE

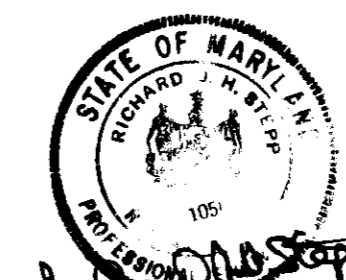
"We certify that all development and construction will be done according to this plan of development and plan for sediment and erosion control and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District or their authorized agents, as are deemed necessary."

Signature: *[Signature]* Date: 11/1/91

ENGINEER'S CERTIFICATE

I hereby certify that this plan for Sediment and Erosion Control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Signature: *[Signature]* Date: 11-1-91



CLARK • FINEFROCK & SACKETT, INC.
 ENGINEERS • PLANNERS • SURVEYORS
 7135 MINSTREL WAY • COLUMBIA MD 21045 • (301) 381-7500 - BALTO. • (301) 621-8100 - WASH.
 DESIGNED: K/WM
 DRAWN: CAD
 CHECKED: K/WM
 DATE: Nov, 1991
 SITE DEVELOPMENT PLAN & SEDIMENT AND EROSION CONTROL PLAN PARCEL A
COLUMBIA TOWN CENTER
 SECTION 3 AREA 2
 TAX MAP 36 PARCEL 81
 FIFTH ELECTION DISTRICT
 HOWARD COUNTY MARYLAND
 FOR: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA MARYLAND 21043
 SCALE: AS SHOWN
 DRAWING: 20P2
 JOB NO: 01-061
 FILE NO: 01-061 SE