

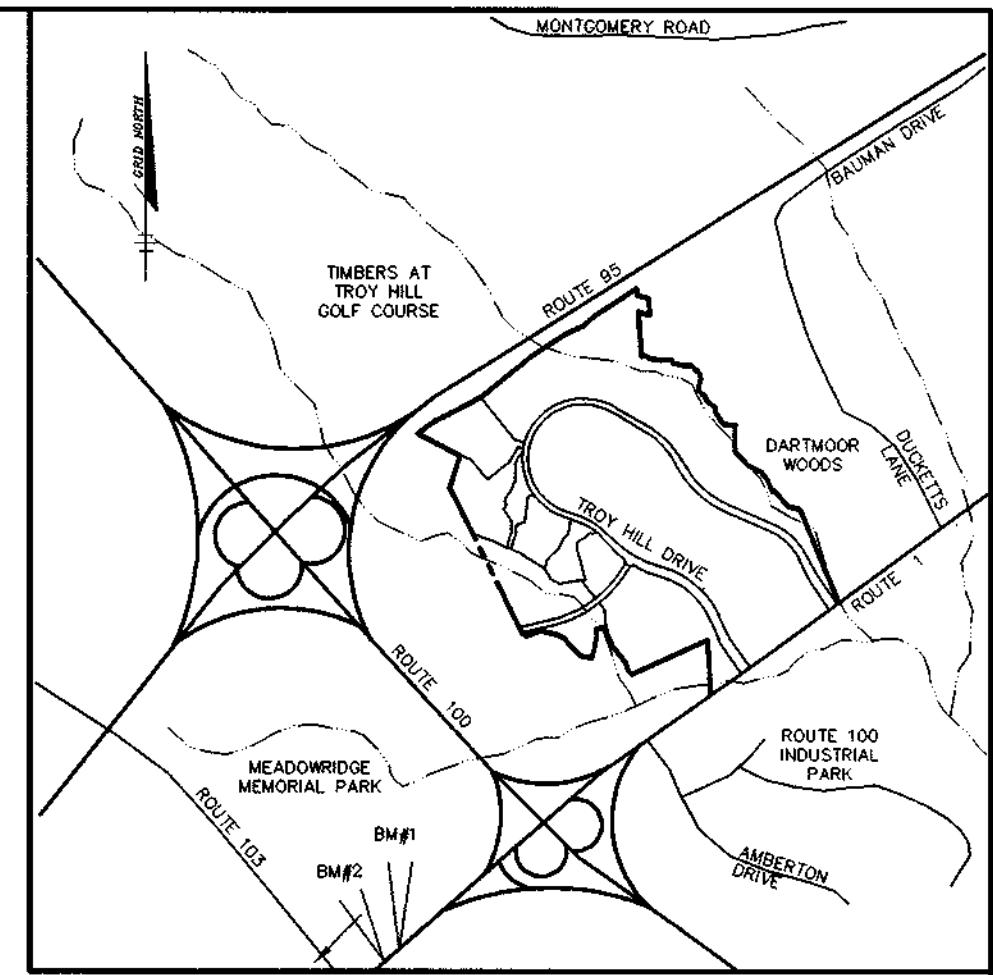
SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE OF MANSION LANE
3	GRADING AND SEDIMENT CONTROL PLAN
4	PROFILES AND DETAIL SHEET
5	SEDIMENT CONTROL DETAIL SHEET

TROY HILL CORPORATE CENTER PHASE III A

1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

GENERAL NOTES

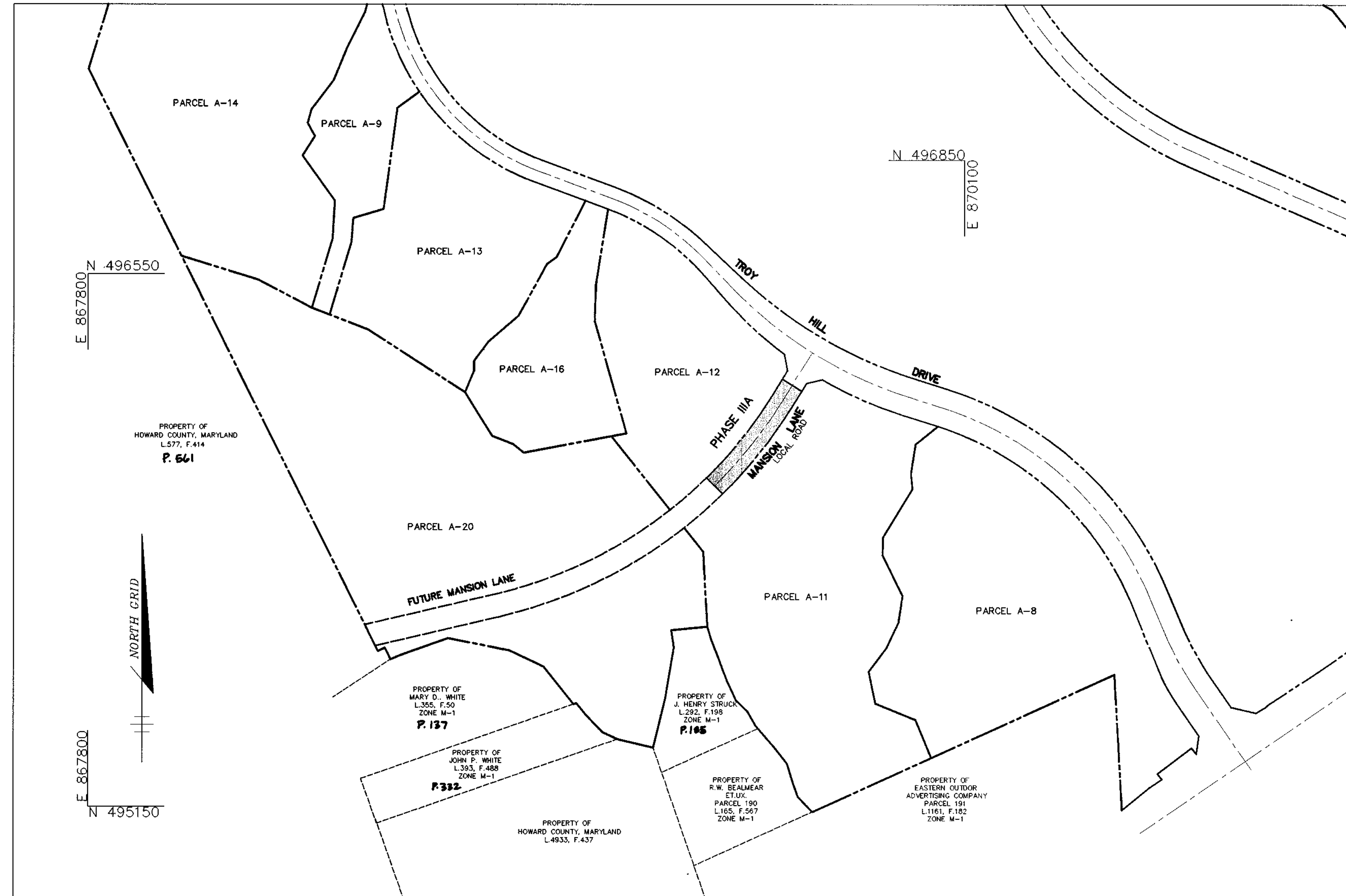
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT. CONTRACTOR TO PROVIDE WORK ZONE TRAFFIC CONTROL FOR SHOULDER WORK AT MANSION LANE PER MUTCD.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS, (JANUARY 1998)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM SDP-98-149 MAXIMUM TWO FOOT CONTOUR INTERVALS.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 371A AND 43B2 WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. CONTRACT NO. 14-3834-D.
- SEWER IS PUBLIC. SEWER DRAINAGE AREA: SHALLOW RUN CONTRACT NO. 14-3715-D.
- PARCELS A-11 AND A-12 HAVE STORMWATER MANAGEMENT PROVIDED UNDER SDP-98-143 AND SDP-98-149. THEY ARE PRIVATE EXTENDED DETENTION PONDS SUPPLEMENTED BY STORMCEPTORS. STORMWATER MANAGEMENT FACILITIES WILL BE REQUIRED FOR PARCEL A-20.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT IS FROM F98-169.
- BOUNDARY IS BASED ON INFORMATION SHOWN ON PLATS OF TROY HILL CORPORATE CENTER RECORDED AS PLAT NOS. 13838 THRU 13846, DATED AUGUST 28, 1999, AND PREPARED BY GEORGE WILLIAM STEPHENS, JR. & ASSOCIATES, INC. AND VERIFIED BY RIEMER MUEGGE AND ASSOCIATES, INC. IN MARCH, 2000.
- SUBJECT PROPERTY ZONED M-1 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S: S-90-05, P-90-23, F-91-24, F-96-136, WP-96-91, F-98-169, SDP-98-143, SDP-98-149.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS "C" AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARD:
ALL 60' RIGHT OF WAYS 30 M.P.H.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
- ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTED.
- ALL STREET LIGHTS SHALL BE LOCATED BETWEEN 2'-0" AND 4'-0" BEHIND FACE OF CURB.
- STREET TREES (14) LOCATION, TYPE AND NUMBER OF TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS INCLUDING 20' CLEARANCE OF ANY STREET LIGHT AND BUILDERS LANDSCAPE PROGRAMS. BOND RELEASE IS CONTINGENT UPON SECTION 15.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
- TRAFFIC STUDY FOR TROY HILL CORPORATE CENTER PREVIOUSLY PREPARED BY INTEGRATED TRANSPORTATION SOLUTIONS AND WAS APPROVED BY HOWARD COUNTY.
- THIS SUBDIVISION IS EXEMPT FROM PERIMETER LANDSCAPING AND FOREST CONSERVATION REQUIREMENTS BECAUSE IT IS PART OF AN INDUSTRIAL PARK LARGER THAN 75 ACRES AND HAS A PRELIMINARY PLAN (P-90-23) APPROVED PRIOR TO 12-31-92 (approved 9/19/01).



VICINITY MAP
SCALE: 1" = 2000'

BENCHMARKS

BM#1 ELEV. 195.728
HOWARD COUNTY SURVEY CONTROL STATION: 371A
N 553315.1578 E 1379982.11995
BM#2 ELEV. 209.665
HOWARD COUNTY SURVEY CONTROL STATION: 43B2
N 551655.0086 E 1378176.9408
(COORDINATES ARE NAD83)



PLAN
SCALE: 1" = 200'

AS BUILT CERTIFICATE

APPROVED	DATE
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. <i>Stephen M. Daniels</i> CHIEF, BUREAU OF HIGHWAYS	5-9-00 DATE
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. <i>Cindy Hamilton</i> CHIEF, DIVISION OF LAND DEVELOPMENT	5/6/00 DATE
<i>Arthur E. Muegge</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	5/12/00 DATE

DATE	NO.	REVISION

OWNER/DEVELOPER
TROY HILL BUSINESS PARK PARTNERSHIP
C/O MANEKIN CORPORATION
7165 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

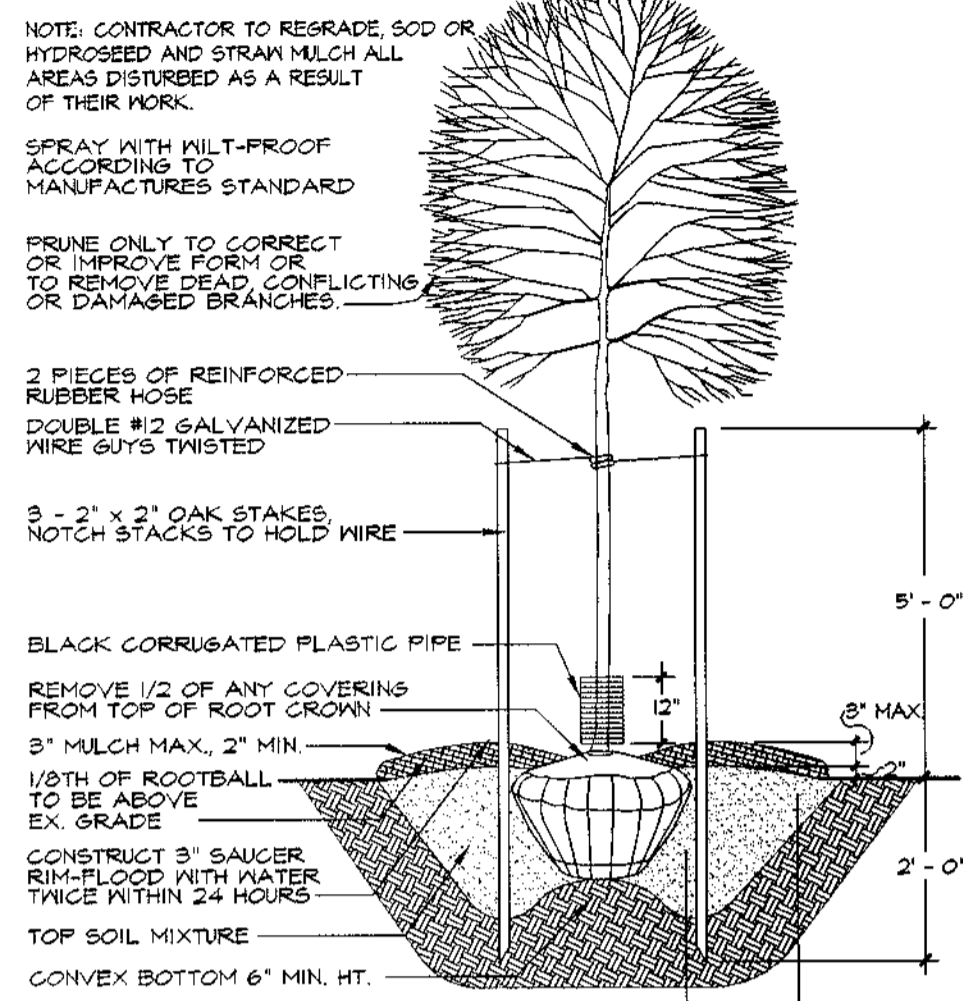
PROJECT TROY HILL CORPORATE CENTER
PHASE III A

AREA TAX MAP 37 ZONED M-1
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

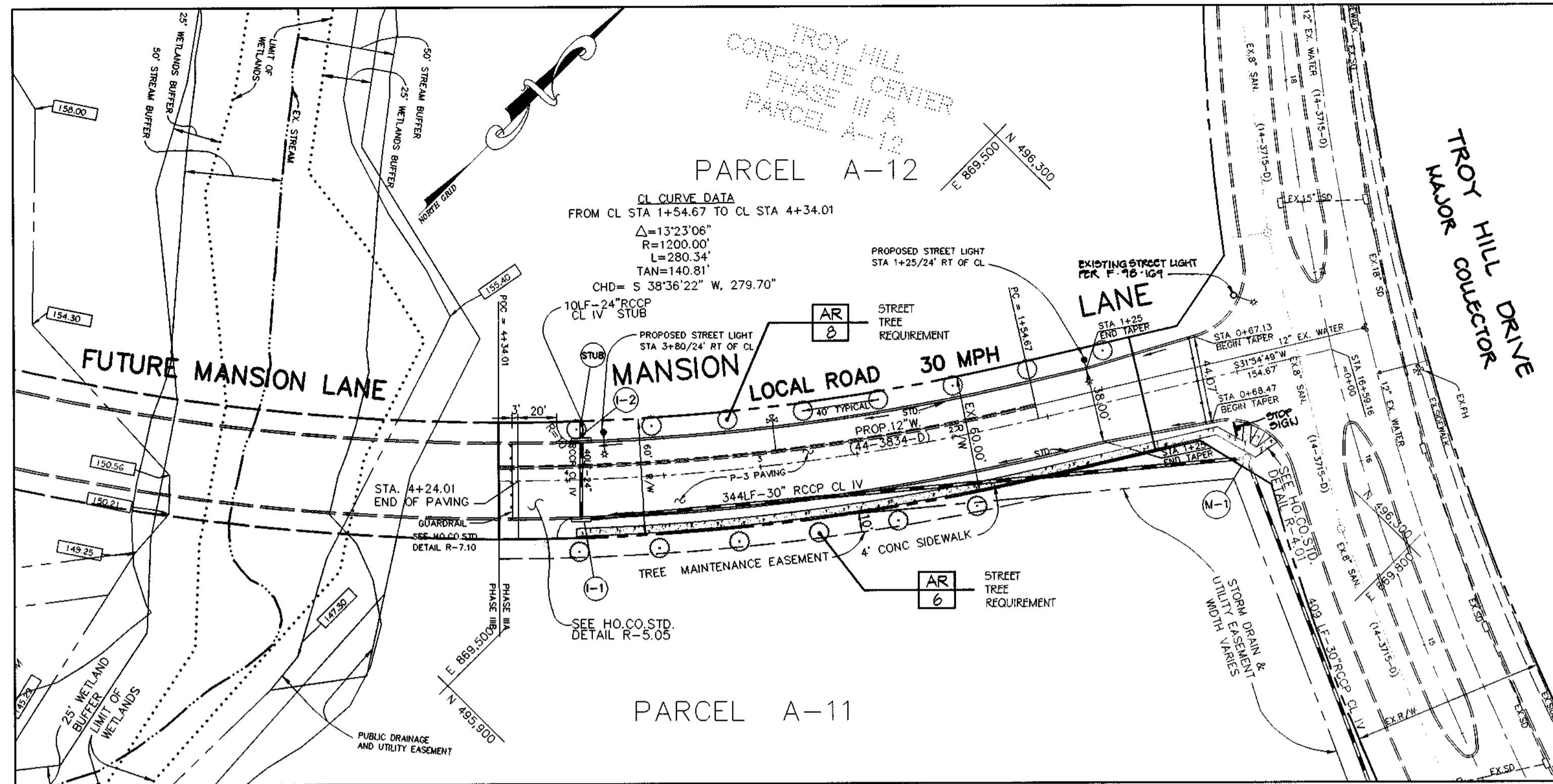
TITLE TITLE SHEET

RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21046
tel 410.987.8900 fax 410.987.9282

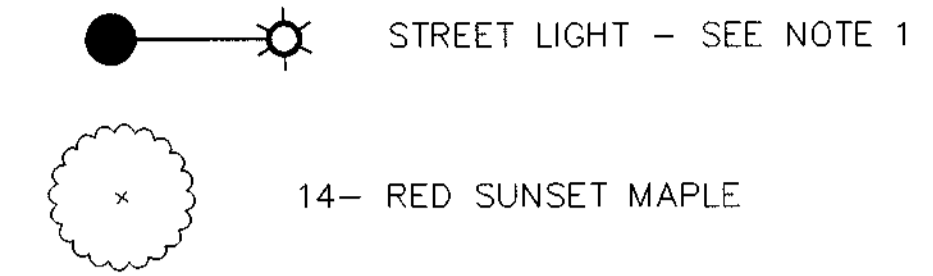
DATE	DESIGNED BY
	C.J.R.
	DRAWN BY: KCB
	PROJECT NO: 98357
	RDI.DWG
	DATE: MAY 1, 2000
	SCALE: AS SHOWN
	DRAWING NO. 1 OF 5



TREE PLANTING DETAIL
NOT TO SCALE

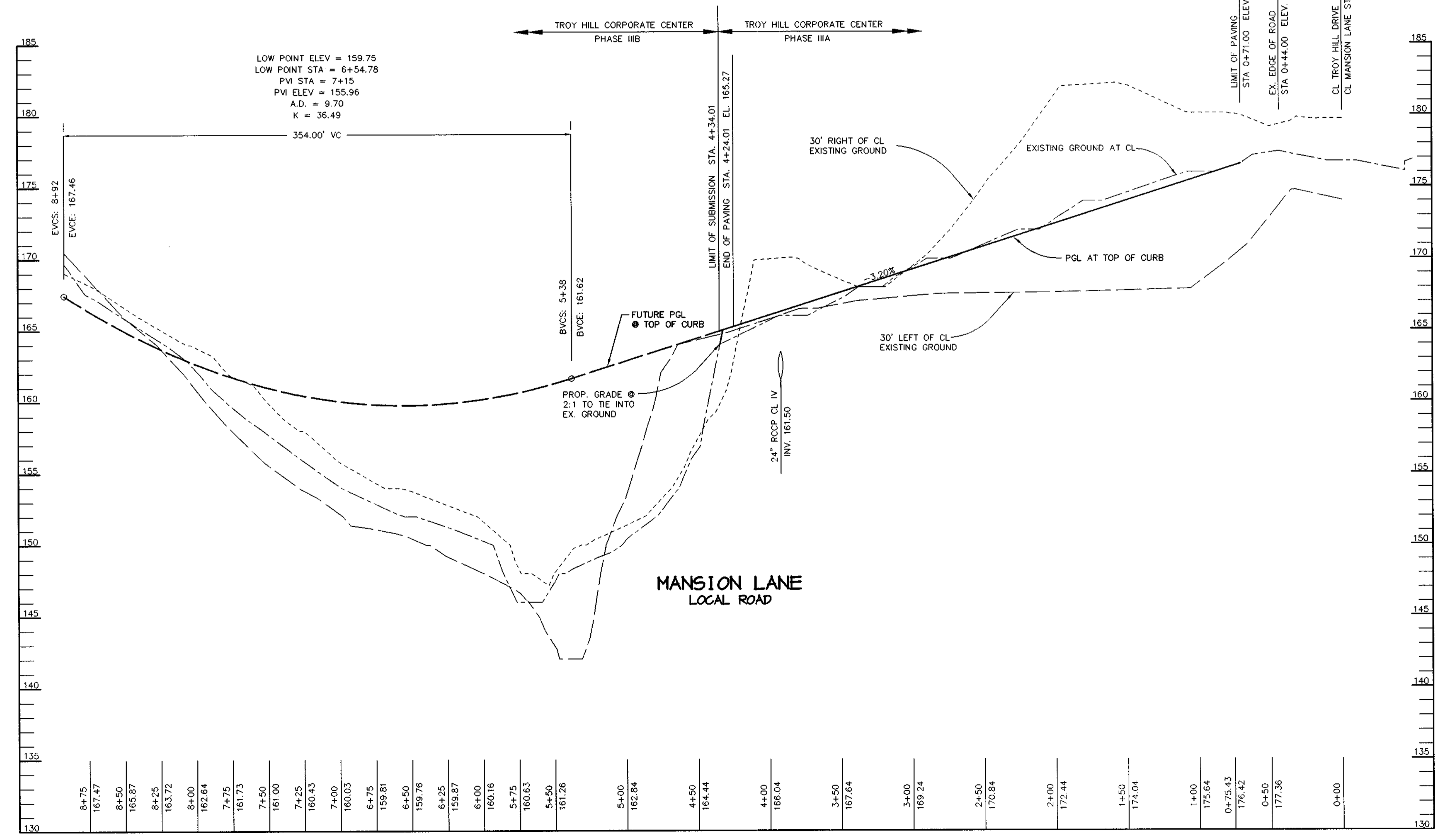


PLAN
SCALE: 1" = 50'



PLANT LIST				
KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT SPACING
MAJOR DECIDUOUS TREES				
AR	14	Acer rubrum 'Red Sunset'	2 1/2" Cal. (12'-14' Ht.)	B & B Space as shown

- NOTES:**
- STREET LIGHTS TO BE 150 WATT HPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED AT 30' ON A GALVANIZED POLE WITH A 6" ARM.



PROFILE
SCALE: HOR. - 1" = 50' VERT. - 1" = 5'

AS BUILT CERTIFICATE

DATE: _____

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Daniels 5-9-00
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Andy Hamilton 5/16/00
CHIEF, DIVISION OF LAND DEVELOPMENT

Michael J. ... 5/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE	NO.	REVISION

OWNER/DEVELOPER
TROY HILL BUSINESS PARK PARTNERSHIP
C/O MANEIKIN CORPORATION
7155 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

PROJECT
TROY HILL CORPORATE CENTER PHASE III A

AREA
TAX MAP 37 ZONED M-1
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
PLAN AND PROFILE MANSION LANE

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.8282

DATE: _____
DESIGNED BY: C.J.R.
DRAWN BY: KCB
PROJECT NO: 98357 RD2.DWG
DATE: MAY 1, 2000
SCALE: AS SHOWN
DRAWING NO. 2 OF 5

STATE OF MARYLAND
ARTHUR E. MUEGGE #8707



DRAINAGE AREA DATA

INLET NO.	DRAINAGE AREA (AC.)	"C" FACTOR	% IMP.
STUB	2.10	.86	100
I-1	0.22	.86	100
I-2	0.24	.86	100

LEGEND

- CLEARWATER EARTH DIKE
- CURB INLET PROTECTION
- DRAINAGE AREA DIVIDE
- SOILS DIVIDE
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- SILT FENCE

BY THE DEVELOPER :

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

David E. Meier 5-1-00
DEVELOPER DATE

BY THE ENGINEER :

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

Robt E. Thomas 5-1-00
ENGINEER DATE

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

Chyl Smith / GS 5/1/00
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Arthur E. Muegge 5/1/00
HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Conner 5-9-00
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Cindy Hamata 5/16/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Arthur E. Muegge 5/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

OWNER/DEVELOPER

TROY HILL BUSINESS PARK PARTNERSHIP
C/O MANEKIN CORPORATION
7165 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

PROJECT TROY HILL CORPORATE CENTER PHASE III A

AREA TAX MAP 37 ZONED M-1
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE GRADING AND SEDIMENT CONTROL PLAN

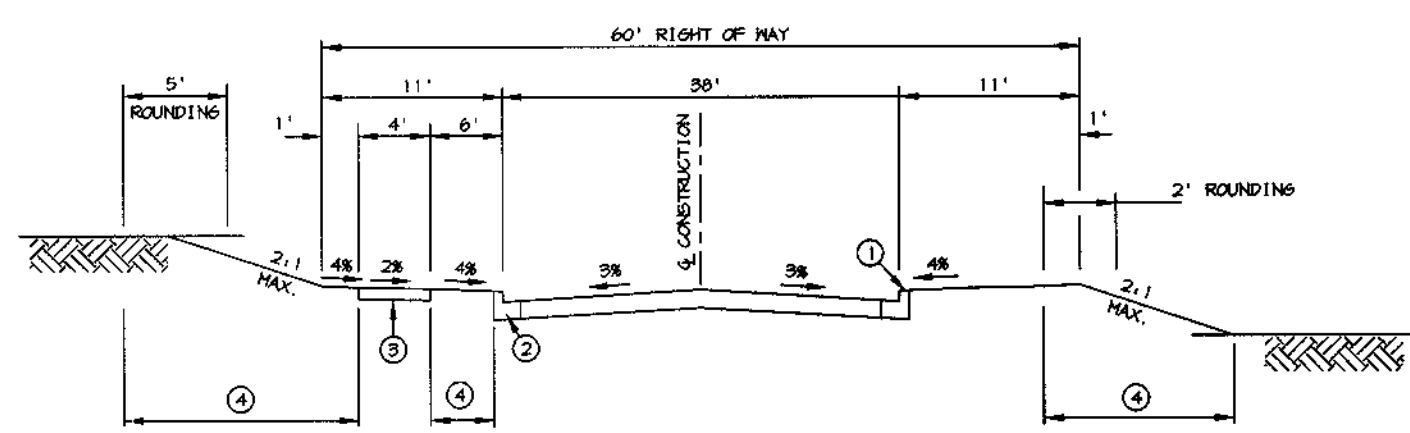
RIEMER MUEGGE & ASSOCIATES INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21046
tel 410.987.8900 fax 410.987.9282

DATE

DESIGNED BY : C.J.R.
DRAWN BY : KCB
PROJECT NO : 98357
RD3.DWG
DATE : MAY 1, 2000
SCALE : 1" = 50'
DRAWING NO. 3 OF 5

ARTHUR E. MUEGGE #8707

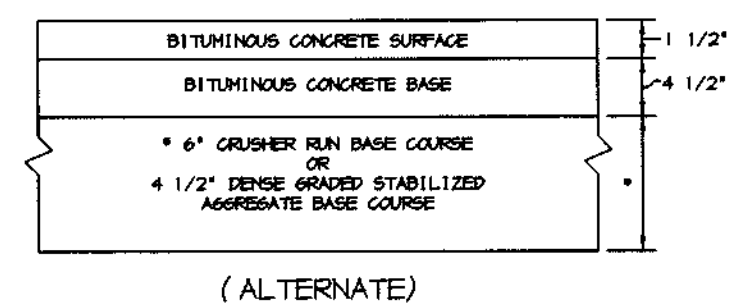
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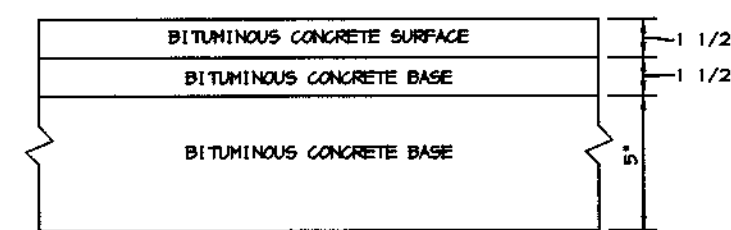
CLOSED SECTION

- ① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- ② TYPE OF CURB (STANDARD CONC. CURB).
- ③ 4' CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS.
- ④ INDICATES 2" TOPSOIL, SEED AND MULCH.
- ⑤ GUARDRAIL WHERE REQUIRED BY THE DESIGN MANUAL.

TYPICAL SECTION LOCAL ROAD
NO SCALE

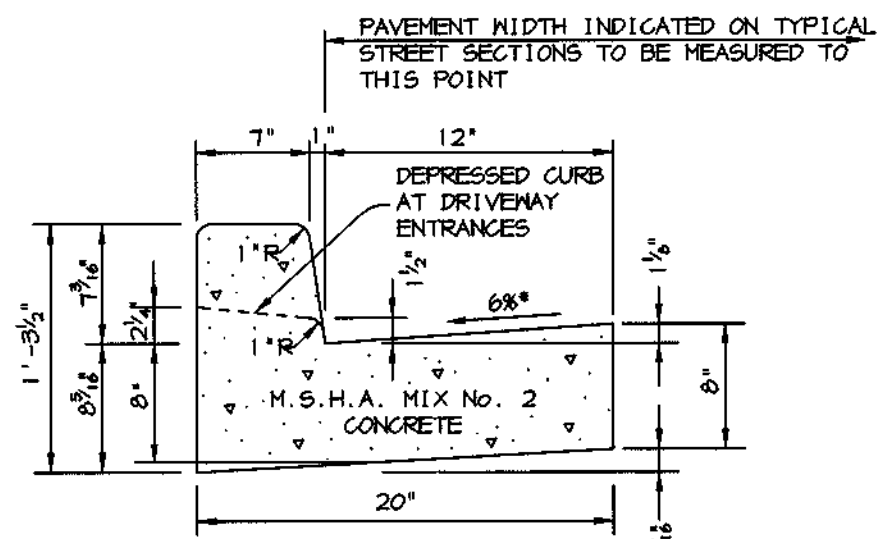


(ALTERNATE)



HOWARD COUNTY DESIGN MANUAL VOLUME IV-
STANDARD SPECIFICATIONS AND DETAILS FOR
CONSTRUCTION (DRAWING R-2.01)

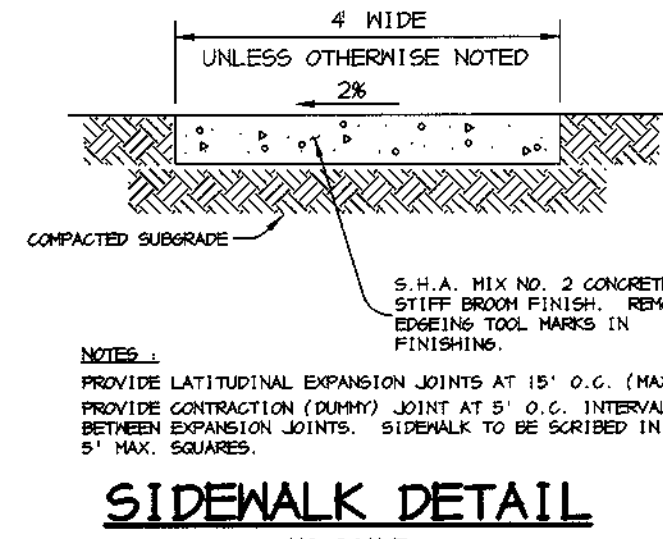
P-3 PAVING
NO SCALE



HOWARD COUNTY DESIGN MANUAL, VOLUME IV,
STANDARD SPECIFICATIONS AND DETAILS FOR
CONSTRUCTION (DRAWING R-3.01).

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE
ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED
SECTIONS SHALL BE SLOPED AT THE SAME RATE
AS THE PAVEMENT.

STANDARD 7' COMBINATION
CURB AND GUTTER
NO SCALE



SIDEWALK DETAIL

NO SCALE

STRUCTURE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	A-10	* N 496010.22 E 869489.76	161.10	161.00	166.25	HOCO STD. DETAIL SD 4.02
I-2	A-10	* N 496037.26 E 869466.02	160.40	159.90	166.25	HOCO STD. DETAIL SD 4.02
M-1	STD. PRECAST MH	N 496273.00 E 869711.00	158.20	158.10	176.00	HOCO STD. DETAIL 6 5.11
M-109	EX. BRICK MH	N 496102.00 E 870003.00	152.50	141.92	160.00	HOCO STD. DETAIL 6 5.03

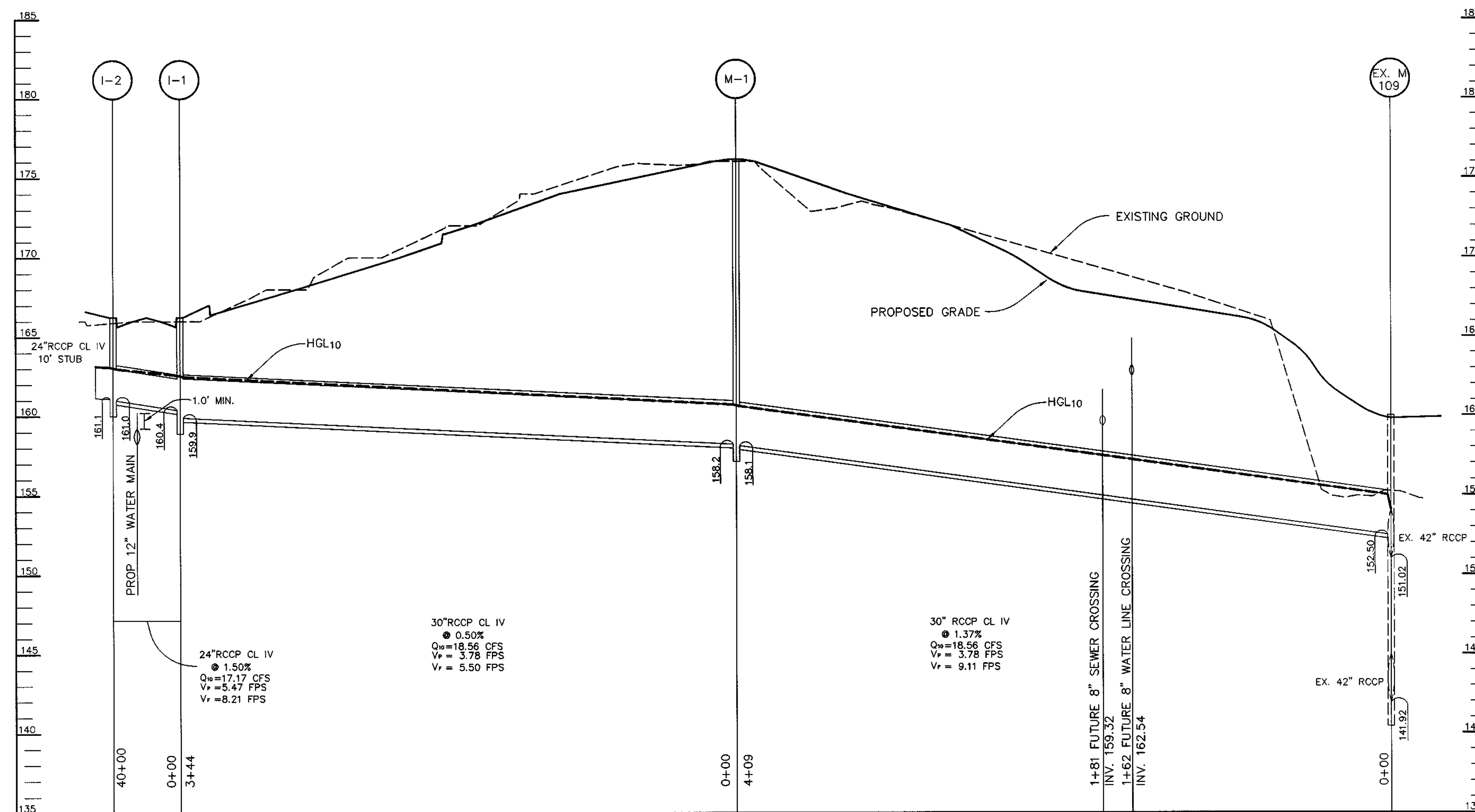
* LOCATION IS AT CENTER OF THROAT OPENING AT FACE OF CURB

PIPE SCHEDULE

SIZE	TYPE	CLASS	LENGTH
24"	RCCP	IV	40'
30"	RCCP	IV	753'

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SUPER SILT FENCE, SILT FENCE AND CLEARWATER EARTH DIKE. (1 DAY)
3. WITH PERMISSION OF HOWARD COUNTY DILP SEDIMENT CONTROL INSPECTOR, PERFORM GRADING. (1 WEEK)
4. AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL UTILITIES, WATER AND STORM DRAINS. (2 WEEKS)
5. INSTALL CURB AND GUTTER, LIGHT POLES, THEN PAVE. (1 WEEK)
6. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS AS NECESSARY IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)
7. INSTALL STREET TREES, SIGNAGE AND SIDEWALKS. (1 DAY)
8. UPON APPROVAL OF HOWARD COUNTY DILP SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)



STORM DRAIN PROFILE

SCALE
HOR. - 1"=50'
VERT. - 1"=5'

AS BUILT CERTIFICATE

DATE _____

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Richard M. Deane CHIEF, BUREAU OF HIGHWAYS 5-9-00 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Condy Hentler CHIEF, DIVISION OF LAND DEVELOPMENT 5/16/00 DATE

Chris Drummer CHIEF, DEVELOPMENT ENGINEERING DIVISION 5/12/00 DATE

7-21-00/1 REVISOR STRUCTURE LOCATION

DATE	NO.	REVISION

OWNER/DEVELOPER
TROY HILL BUSINESS PARK PARTNERSHIP
C/O MANEKIN CORPORATION
7165 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

PROJECT TROY HILL CORPORATE CENTER PHASE III A

AREA TAX MAP 37 ZONED M-1
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE PROFILES AND DETAIL SHEET

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21046
tel 410.997.8600 fax 410.997.9282

DATE _____

DESIGNED BY : C.J.R.

DRAWN BY : KCB

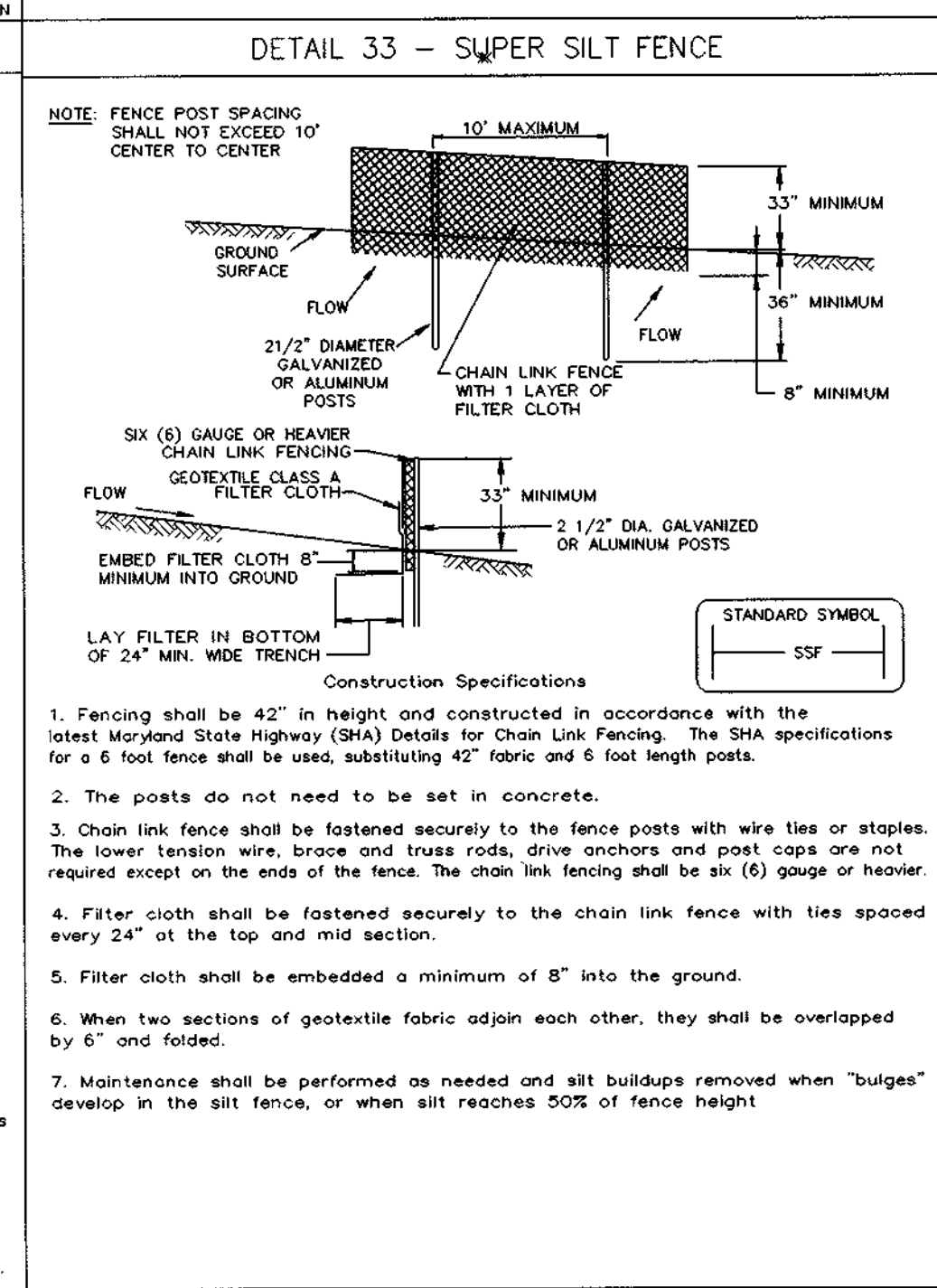
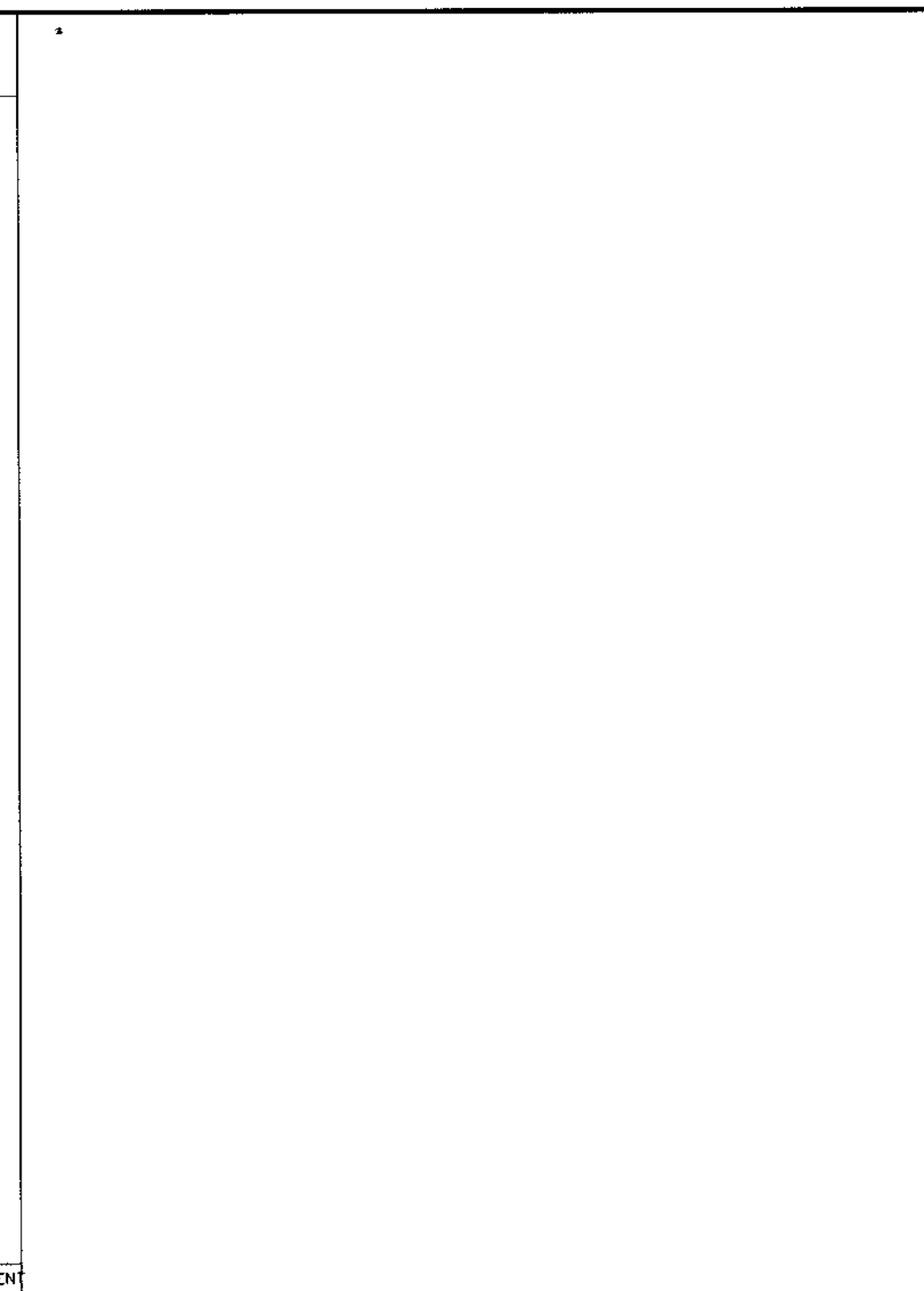
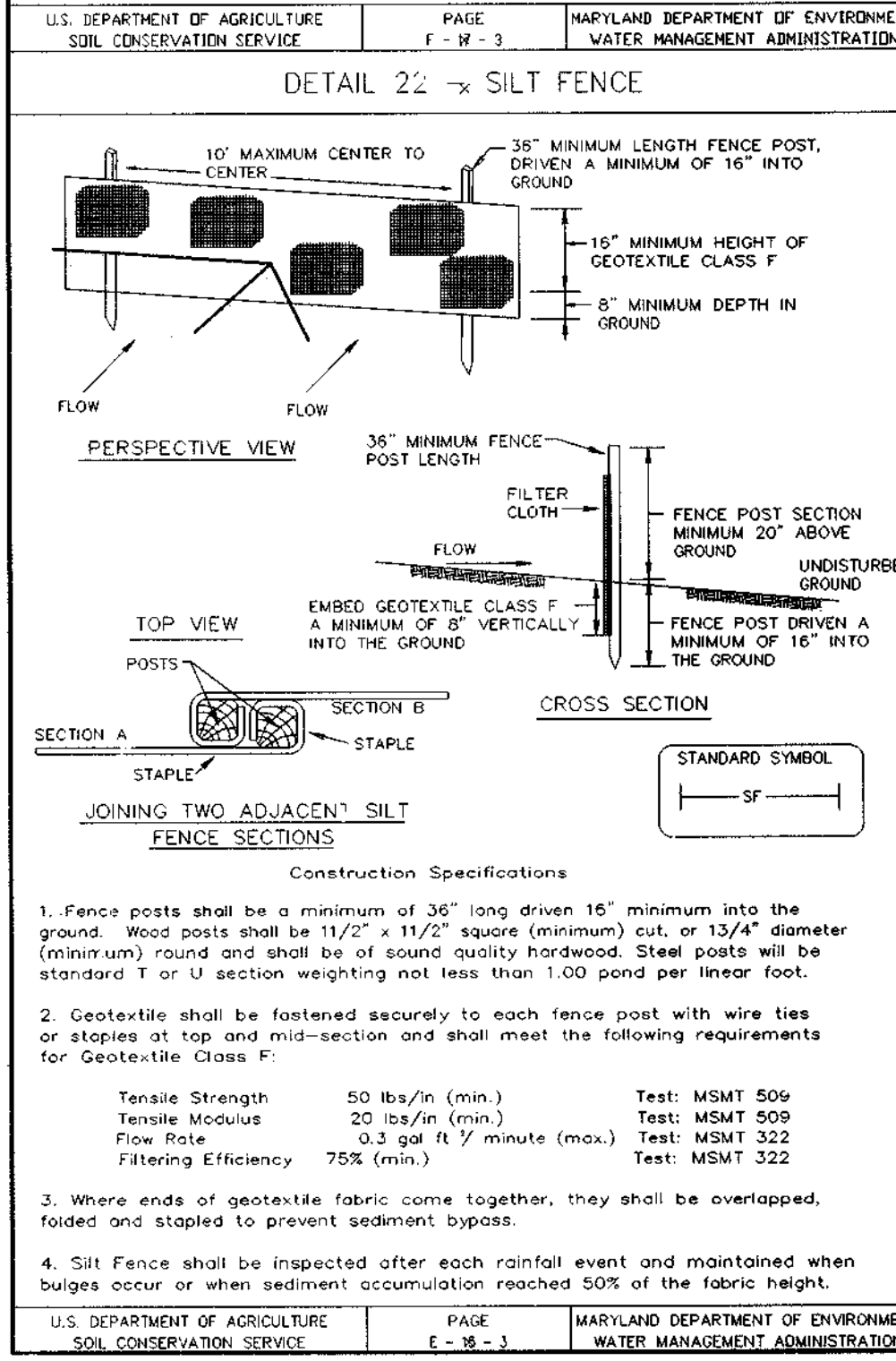
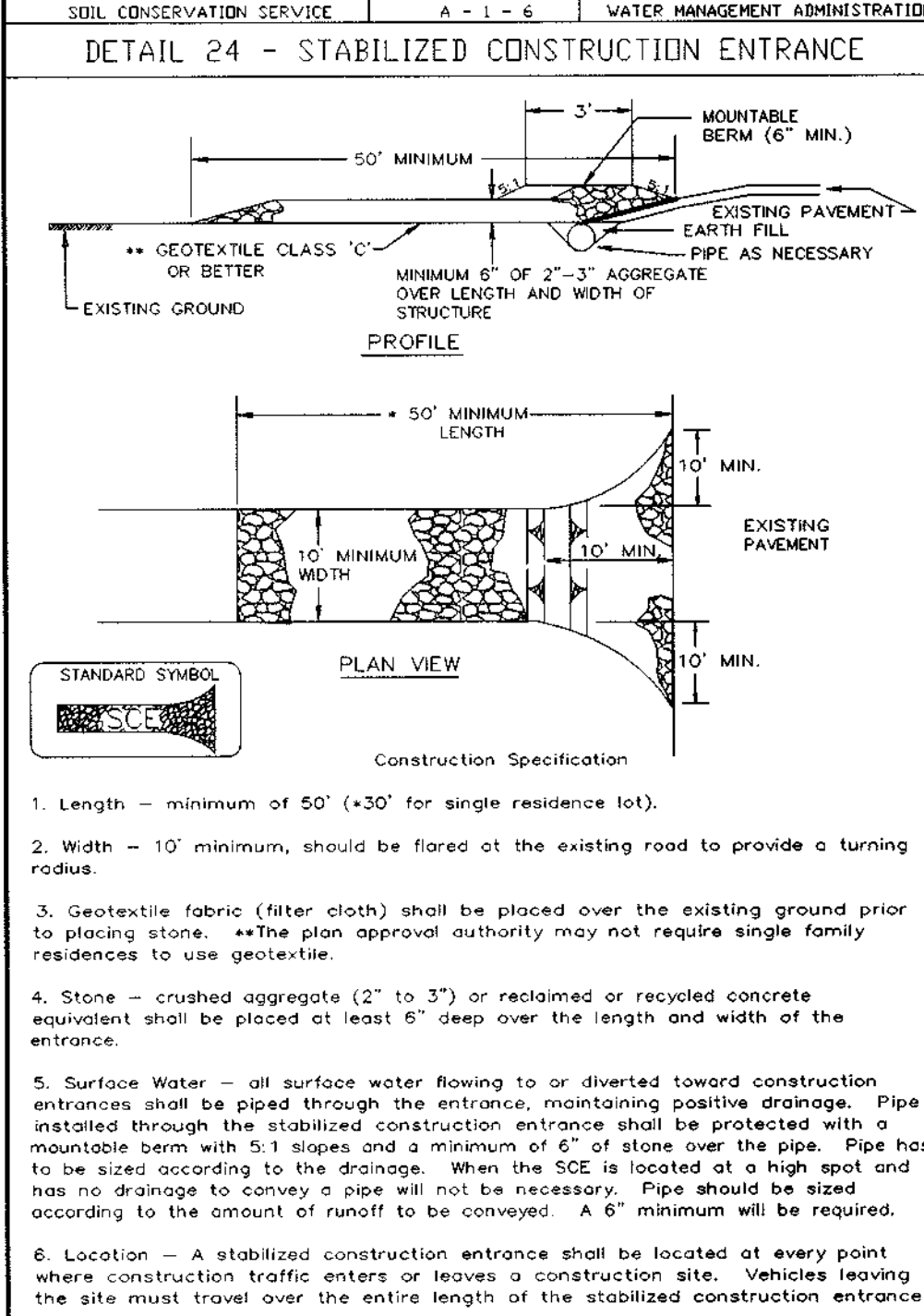
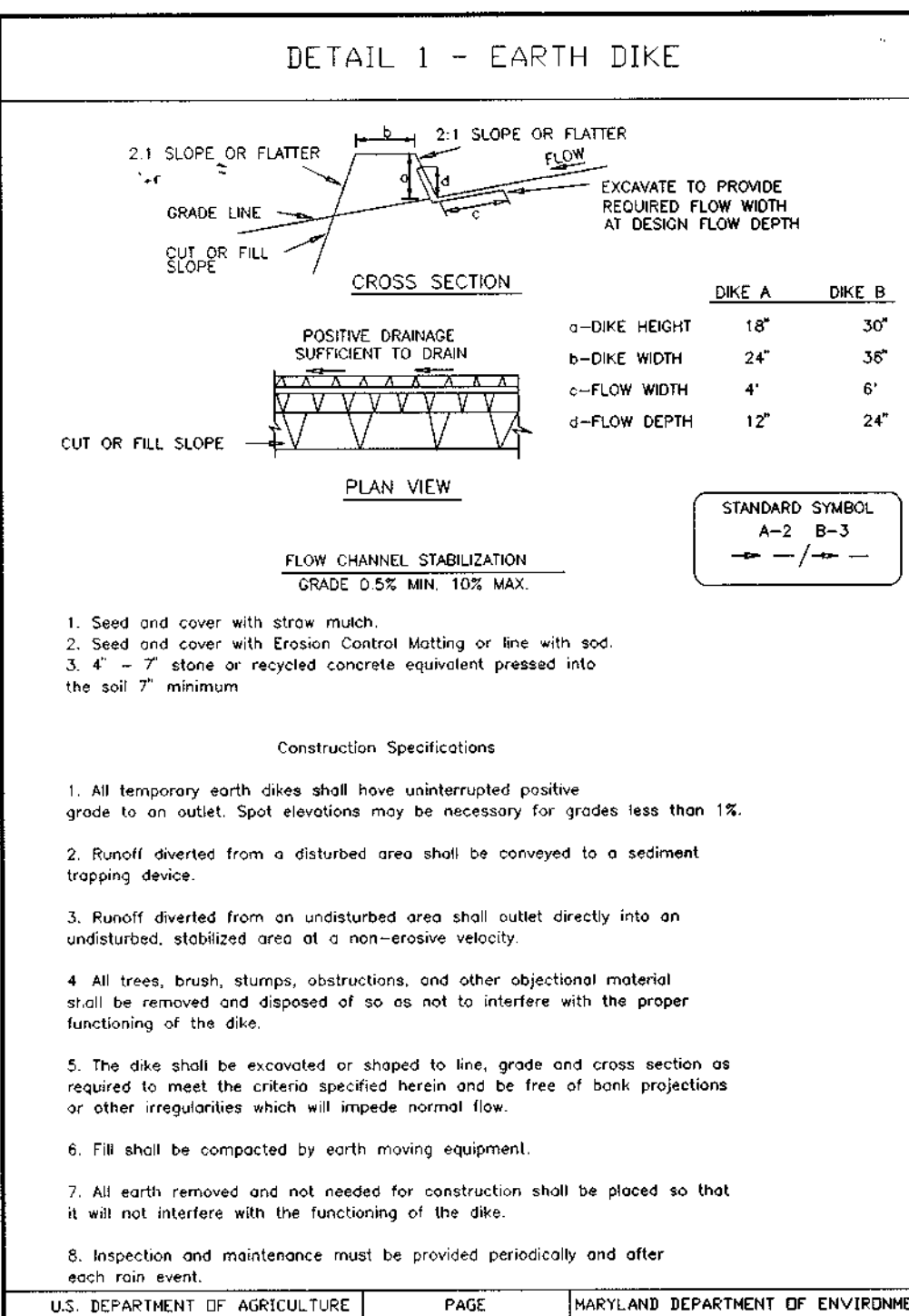
PROJECT NO : 98357
RDS.DWG

DATE : MAY 1, 2000

SCALE : AS SHOWN

DRAWING NO. 4 OF 5

ARTHUR E. MUEGGE #8707



STANDARD SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1285).
 - ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER 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 THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, "STORM DRAINAGE."
 - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. 6.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED 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.
7. SITE ANALYSIS:
- | | |
|------------------------------------|---------------|
| TOTAL AREA OF SITE | 89,842 ACRES |
| AREA DISTURBED | 1,122 ACRES |
| AREA TO BE ROOFED OR PAVED | 0,569 ACRES |
| AREA TO BE VEGETATIVELY STABILIZED | 0,754 ACRES |
| TOTAL CUT | 100 CU. YARDS |
| TOTAL FILL | 100 CU. YARDS |
| OFFSITE WASTE/BORROW AREA LOCATION | |
- TRUCKS FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
 - SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
 - SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
 - CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

- 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 having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil (parent material) is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish 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-SSC in cooperation with Maryland Agricultural Experimentation 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 a mixture of contrasting textured subsoils and shall contain less than 5% by volume of clinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
 - Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
 - For sites having disturbed areas over 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - 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:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
- Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.
- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- V. Topsoil Application
- When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
 - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedling preparation.
- VI. Alternative for Permanent Seeding - Instead of applying the full amount of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
- Composted Sludge Material For use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:
 - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMA 26.26.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.
- References: Guideline Specifications, Soil Preparation and Seeding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

TEMPORARY SEEDING NOTES

- Apply to graded or cleaned areas likely to be redistributed where a short-term vegetative cover is needed.
- Seedbed Preparation** - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
- Soil Amendments** - Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq. ft.).
- Seeding** - For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs. per 1000 sq. ft.). For the period May 1 thru August, seed with 5 lbs. per acre of creeping lovegrass (0.07 lbs. per 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. per 1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 219 gal. per 1000 sq. ft. of amulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq. ft.) for anchoring.
- Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR rate and methods not covered.

PERMANENT SEEDING NOTES

- Apply to graded or cleaned areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
- Seedbed Preparation** - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
- Soil Amendments** - In lieu of soil test recommendations, use one of the following schedules:
- Preferred - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1000 sq. ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 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 (4 lbs. per 1000 sq. ft.).
 - Acceptable - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (25 lbs. per 1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil.
- Seeding** - For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 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 (0.05 lbs. per 1000 sq. ft.) of creeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options:
- 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
 - Use sod.
 - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.
- Mulching** - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 219 gal. per 1000 sq. ft. of amulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq. ft.) for anchoring.
- Maintenance** - Inspect all seeded areas and make needed repairs, replacements and reseedings.

BY THE DEVELOPER:

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

Dan E. Meiner 5-1-00
DEVELOPER DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL PRESENTS 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.

Mike Nuy 5-1-00
ENGINEER DATE

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

Cheryl Sanyal 6/5/00
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Arthur E. Muegge 5/11/00
HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Quaker 5-9-00
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Chris Hamilton 5/11/00
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William J. ... 5/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

OWNER/DEVELOPER

TROY HILL BUSINESS PARK PARTNERSHIP
C/O MANEIN CORPORATION
7165 COLUMBIA GATEWAY DRIVE
COLUMBIA, MARYLAND 21046

PROJECT TROY HILL CORPORATE CENTER PHASE III A

AREA TAX MAP 37 ZONED M-1
1st ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE SEDIMENT CONTROL DETAIL SHEET

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21046
tel 410.997.9800 fax 410.997.9282

DATE

DESIGNED BY: C.J.R.

DRAWN BY: KCB

PROJECT NO. 98357
RD6.DWG

DATE: MAY 1, 2000

SCALE: AS SHOWN

DRAWING NO. 5 OF 5

ARTHUR E. MUEGGE #8707